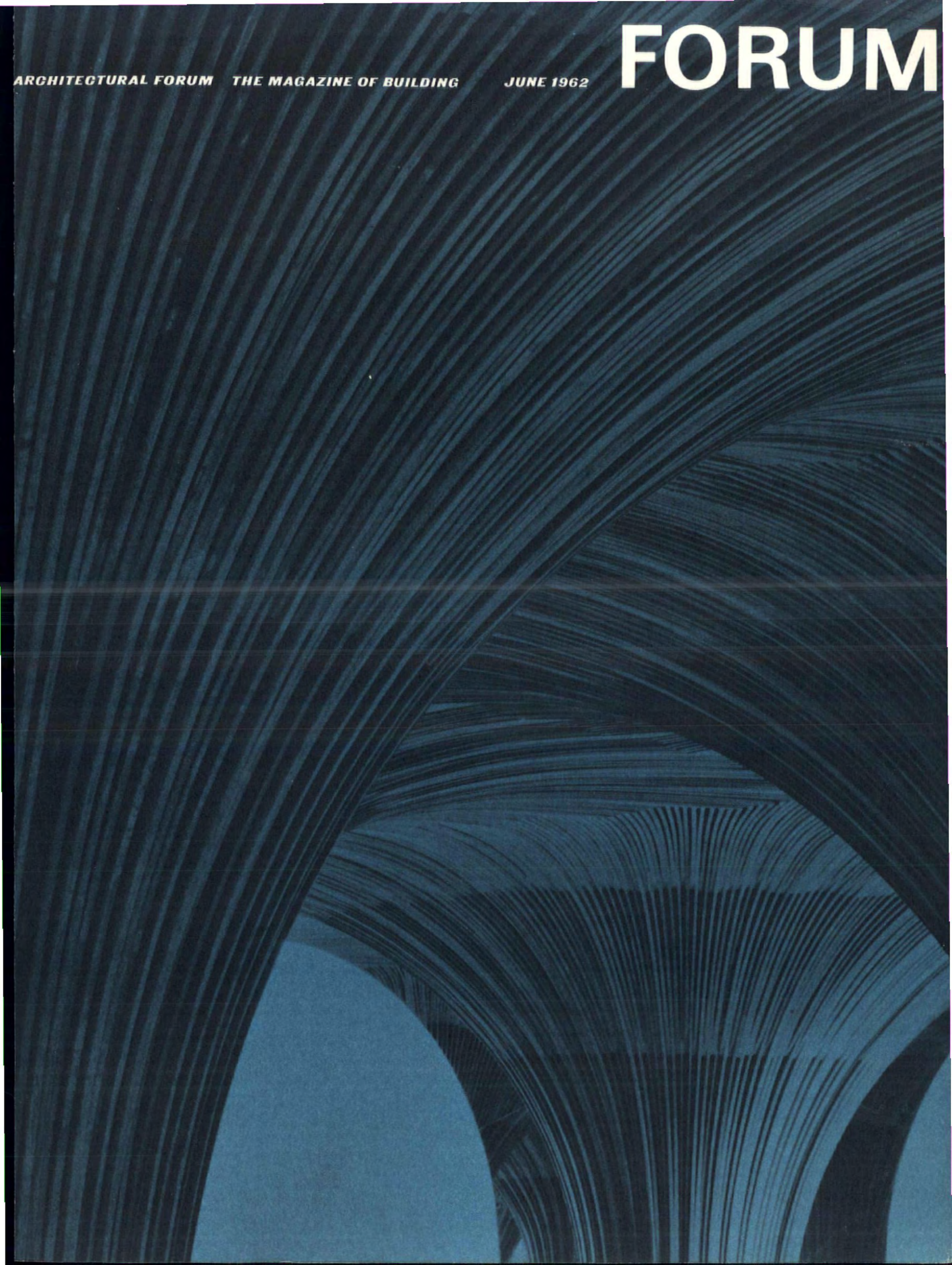
ARCHITECTURAL FORUM THE MAGAZINE OF BUILDING JUNE 1962

FORUM



W. S. TYLER **elevator cars and entrances** equip the new Equitable Building, New York City. The 38th floor is shown below. Architects: Skidmore, Owings & Merrill. General Contractor: Turner Construction Company. Elevators by Westinghouse.
The W. S. Tyler Company, Cleveland, Ohio; St. Catharines, Ontario. Offices in principal cities.

PUBLISHER'S NOTE

The easy way to publish a magazine is to print articles contributed by manufacturers and trade associations—and many magazines do. Mostly technical in nature, these articles are often quite informative, for who should know more about brick, for example, than the brick industry? There are other advantages to publishing these contributed articles: for one, they provide a handy escape hatch for editors who want to duck responsibility for what is printed in the magazine.

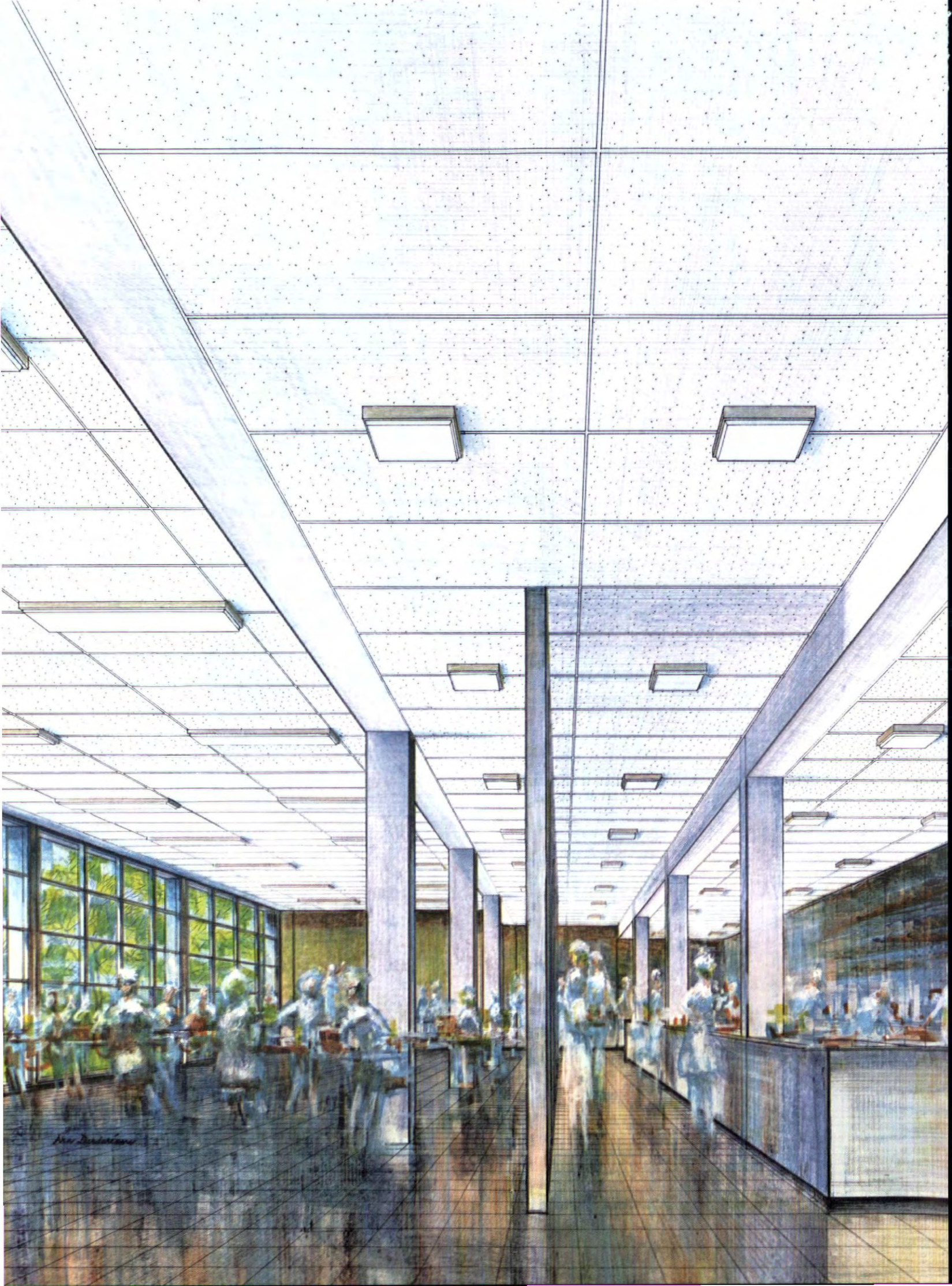
FORUM prefers to do it the hard way. All of its editorial material is staff written, except for an occasional article assigned to an independent technical expert or professional free-lance writer—and paid for. The editors select their subjects on the basis of timeliness, significance to the industry, and their judgement of reader interest—not on the basis of what comes in through the transom. They believe that information independently and objectively reported gains the trust of their readers, and although the editors are pleased to share this trust with advertisers, they will not sell it to anyone.

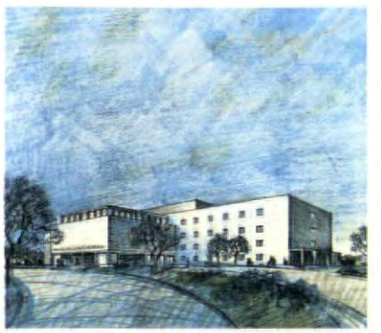
That's why FORUM readers never see an article in the magazine written by someone with a commercial axe to grind or a product to sell. That's why they never see a product's trade name mentioned in an article—even though generic terms like melamine plastic laminate or cement asbestos board may be awkward substitutes for commonly used trade names. That's why these readers see only discriminating reports in the "Products" department (page 55) about items which are really new and significant—not about minor modifications of existing products. (The XYZ company's press release may be ecstatic about its new 85 - foot - long centrifugal compressor, but the editors are unimpressed if, with the introduction of this "new product," the XYZ company is merely catching up competitively with the ABC company or outdistancing it by a foot or two. Nor are the editors impressed with publicity about a new "miracle" acoustical product, if independent acoustical experts advise the editors that the product has in fact no sound-conditioning properties.)

Responsible journalism, to which FORUM is dedicated, requires competent researchers and writers. They try to cover every side of every subject they report, but they know that that they cannot learn everything about every subject. They therefore run the risk of slighting something or someone. This, the editors believe, is better than risking their editorial prerogatives. Readers who take umbrage (as well as those who applaud) are welcome to a hearing in the "Letters" department (page 19). Please write soon—J.C.H.JR.

Published monthly by TIME INC., Time and Life Building, Rockefeller Center, New York 20, N.Y.
This issue is published in national and separate editions. Additional pages of separate editions numbered or allowed for as follows: Western edition W-1–W-6.
Entered as second-class matter at New York, N.Y. and at additional mailing offices.
Subscription price $7.00 a year.

Member, Audit Bureau of Circulations and Associated Business Publications.





NEW ARMSTRONG CEILINGS FOR RIDDLE MEMORIAL HOSPITAL ARE ACOUSTICAL, FIRE-RETARDANT AND FACED WITH MYLAR* FOR EXTRA HYGIENE

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RENDERINGS BY ARA DERDERIAN

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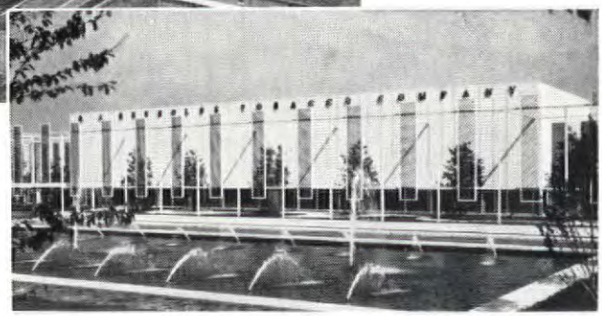
consulting architect

R. J. REYNOLDS TOBACCO COMPANY ENGINEERING DEPARTMENT
general and mechanical contractor

ATLAS SUPPLY COMPANY
plumbing wholesaler

Original factory of R. J. Reynolds Tobacco Company, opened in 1875, is in striking contrast to the Company's new Whitaker Park factory, the largest and most modern cigarette manufacturing plant in the world.



Performance records of millions of Sloan Flush Valves indicate that when this new R. J. Reynolds Tobacco plant is 50 years old its Sloan Flush Valves will still provide dependable service.

Moreover, Sloan Flush Valve maintenance costs are likely to be among the lowest in the building maintenance budget...
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AIA CONVENTION TALKS EXPANDED SERVICES

The 1962 AIA Convention, held in Dallas May 4–11, was a time more for questions than for answers. Chief questions: how can architects offer expanded services to do the complex job of modern building, and what exactly is the position of the architect in an increasingly specialized society?

Asked keynote speaker Charles R. Colbert, Dean of Columbia University's School of Architecture: "Are we as individuals and as a professional group capable of formulating a response to an ever-crowding world that is changing at an ever-greater pace?" The answer, said Colbert, was to be found "in a new and deeper concern for the individual, in the acceptance of help from other disciplines, and in the complete elimination of artistic and esthetic snobbery."

Colbert was followed by FORUM Consultant Jane Jacobs, who had a different slant. While the architect's need to expand is undoubted, she said, "a vacuum now exists that nobody can very well fill except architects. This vacuum is in the analysis . . . and the organization of function."

Less self-preoccupation, more functional analysis

"Architecture with a capital 'A,'" continued Mrs. Jacobs, "has become more and more preoccupied with itself, less and less concerned with the tangible workings of the world that uses it. . . . The growth of whole professions of functional consultants is perhaps . . . a symptom of . . . disinterest with function on the part of architects. . . ."

Nashville's Mayor Ben West also took a critical view: "It has been said that imitation is the sincerest form of flattery. Then quit flattering one another and exercise your imaginations in design and its related arts. . . . The value of design must inevitably be proved in the crucible of utility, convenience, and cost." West pointed to the population explosion that will create a demand for some 43 million new housing units before the end of the century; the growth of the 215 standard metropolitan areas in the nation; and the larger role of government in urban architecture—all of which topics, he said, should be part of the architect's field of interest.

Much the same approach was picked up during the following general sessions in Dallas' big Memorial Auditorium Theater. Panels led by Editors Douglas Haskell (FORUM), Emerson Goble (*Architectural Record*), and Thomas Creighton (*P/A*) took up three topics: the first, "New Dimensions of Architectural Knowledge," concerned itself with the interrelated revolutions in design, technology, and financing. The architect has mastered all but the latter revolution, said Haskell. And Panelist Architect William L. Pereira continued: "There is one thing that even the best-intentioned entrepreneur is not equipped to provide and that is *continuity* of leadership."

In "Case Histories of Community Services" (the subject of the second panel), three cities afforded examples of architects working to improve the core area of their own particular communities. The last panel, "Case Histories of Expanded Services," investigated the experiences of several architects who had gone beyond their usual role.

More business—and pleasure

The social high point of the convention, which drew 2,290 architects, wives, and guests, was a "Fiesta of Six Flags" dinner dance held in the spectacular, four-story Dallas Trade Mart, remodeled by Harwell Hamilton Harris.

The serious climax, however, came the following evening with the posthumous presentation to Eero Saarinen of the 1962 Gold Medal (photo left). The honor was accepted by his widow, Aline, in the presence of his mother, Loja Saarinen.

Two resolutions were postponed: One related to admitting affiliates, such as engineers, to enlarge chapter organizations in which architects might be the leading force. The other resolution concerned the setting up of specialized councils within the AIA to strengthen the architect's hand in meeting the competition of commercial operators. A proposal to mortgage new land for the AIA's headquarters was turned down—due to lack of a quorum.

Elected to lead the AIA through 1962–3 were: Henry Lyman Wright of Los Angeles, who replaced President Philip Will; J. Roy Carroll Jr., first vice president; Arthur Gould Odell Jr., second vice president; Clinton Gamble, secretary. Raymond S. Kastendieck was re-elected treasurer.

WINNING DESIGN FOR BOSTON'S CITY HALL

The results of one of the most important U.S. competitions of the past few years were announced last month. The winning submission (model photo below) for the design of Boston's City Hall,

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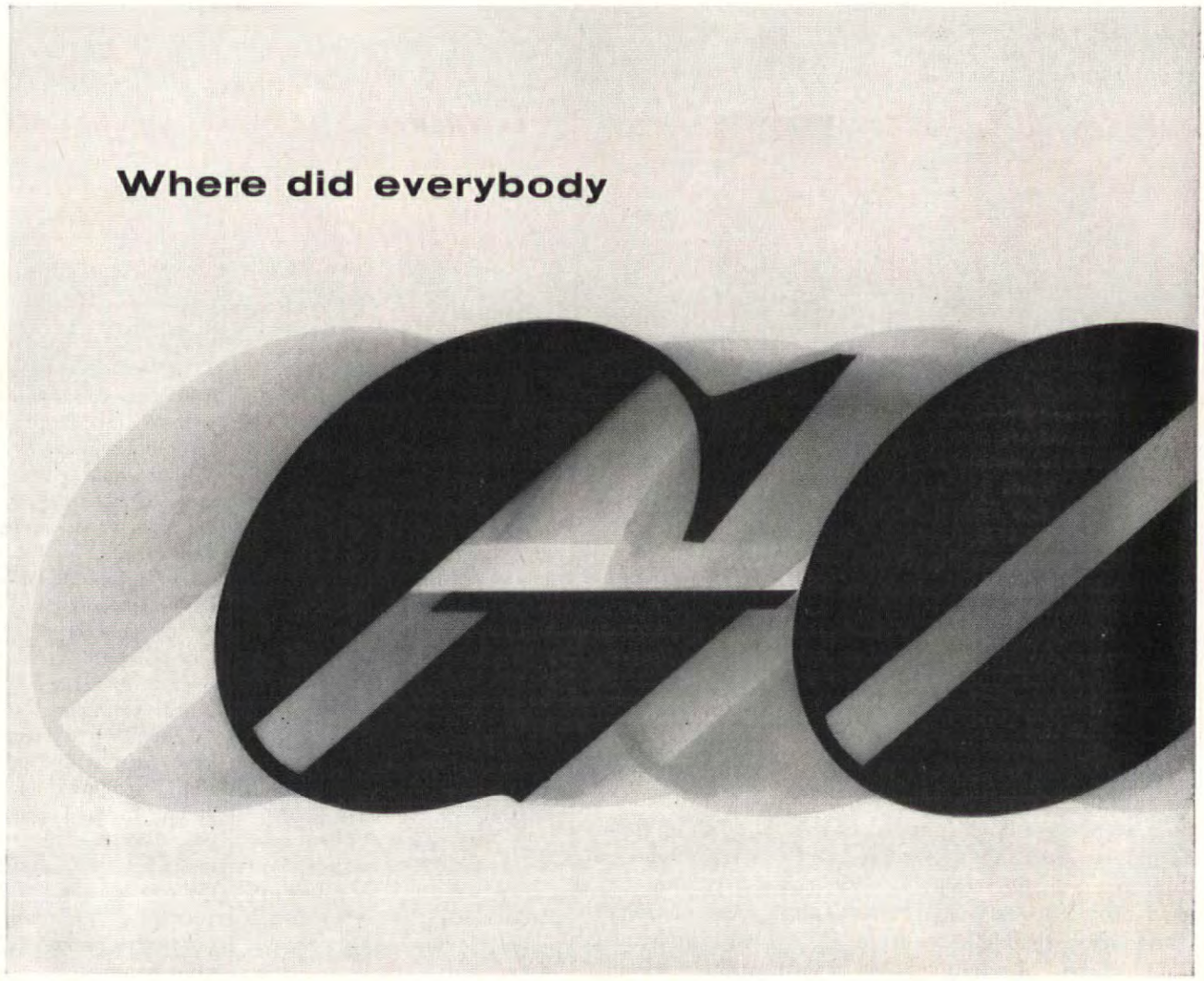
ALESSANDRO MACONI, INC.



The owners can get awfully lonely with an air conditioning system that has been put together with a variety of major components from different manufacturers.

They may even have saved a few dollars—with refrigeration equipment from one source, cooling and heating coils from another and fans from somewhere else. But then when they try to fix responsibility for performance, where did everybody go?

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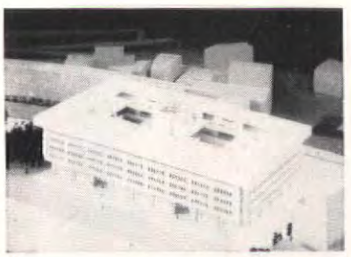

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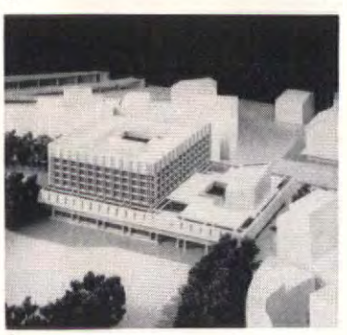

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chosen from 256 entries, was that of Architects Kallmann, McKinnell & Knowles of New York. Not shown in the photograph is the sloping, terraced plaza.

Of the winning design, the jury (Architects William W. Wurster, Walter A. Netsch, Ralph Rapson, and Pietro Belluschi, with Businessmen Harold D. Hodgkinson, O. Kelly Anderson, and Sidney R. Rabb) stated: "At a distance the building achieves great monumentality, drama, and unity; and in detail the contrasting textures, the play of light and shade, the richness of forms and spaces, culminate in a series of dramatic terraces which provides a strong focus for the symbol of city government. It is a daring yet classical architectural statement, contained within a vigorous unified form."

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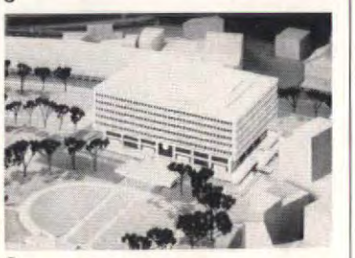

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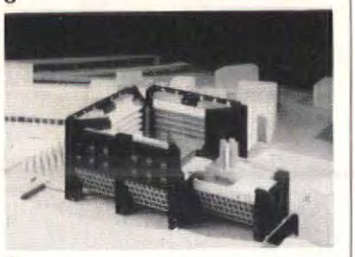

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The new City Hall will be the focal point in Boston's proposed multimillion dollar Government Center, which, in turn, has a major objective of revitalizing the downtown district.

The runners-up

Seven other designs reached the finals of the competition. (See above for pictures). Excerpts from the judges' comments:

1) Bruck & Galantay: "sound, logical, straightforward solution . . . Yankee sparseness"; 2) Wong, Chang, Kerbis, Stark & Sit: "elegant, refined building"; 3) Progressive Design Associates: "dynamic concept . . . more expensive than most"; 4) Hsiung, Johnson, Ruffing, Waterman, Fuge & Associates, Inc.: "clear understanding of overall planning requirements"; 5) Joseph J. Schiffer: "simple . . . compact . . . circulation problems"; 6) Zwack, Rueter & Gadau: "recognizes grandeur of the space"; 7) Mitchell & Giurgola Associates: "highly original and imaginative . . . poetic."

WILL THERE BE A CONDOMINIUM BOOM?

Although Section 234 of the National Housing Act of 1960 permitted FHA to insure mortgage financing of condominiums (FORUM, Sept. '61), the first such project in the continental U. S. was insured only last April. Located in Hallandale, near Miami, Fla., the building will contain 60 dwelling units each costing between $23,000 and $25,000. Apartment buyers will be able to hold clear title to their specific units together with an undivided interest in the common areas and facilities serving the entire project.

Condominium ownership differs in some respects from ownership in a cooperative: instead of buying shares in a corporation which owns and manages the building, condominium purchasers simply buy their unit as they would their own house. Said one builder: "In effect we're selling homes. But instead of one home being alongside of the other, they are on top of each other." Thus, owners gain both flexibility in payment terms and ease in resale. As in cooperative ownership, maintenance and management are usually handled by agreement among occupants and real-estate taxes are directly paid (and written off) by the individual unit holders.

Because of these features and the availability of FHA mortgage insurance, condominiums promise to become extremely popular throughout the U. S. Long used in Europe, South America, and Puerto Rico, condominium ownership is especially applicable to urban areas with high land costs.

Stated a builder: "We welcomed condominium as a means to stimulate and actually revive home-building construction in cities." A banker added: "Such projects are expected to revolutionize the building industry in the U.S." Already seven states have passed enabling legislation, and several others have expressed interest in passing laws to encourage condominium development by defining tax angles.

OFFICE BUILDING FOR INSURANCE COMPANY ON THE WAYS

This structure is not a ship in dry dock but a building being constructed in Hartford, Conn. by the George A. Fuller Co. The elliptical 13-story tower rests on a one-story rectangular office building. Designed by Harrison & Abramovitz to be the headquarters for Phoenix Mutual Life Insurance Co., the $7.5 million edifice forms part of the downtown Constitution Plaza renewal project which was especially cited when Hartford was named an "All-American City" several weeks ago. Although company officials were at first somewhat sensitive about hearing their new building described as a "boat," they have come to like the design so much that they are reportedly contemplating "launching" their ship with a magnum of champagne.

COURTESY BETHLEHEM STEEL CO.

continued on page 9

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Schutte Phillips Mochon, Inc., Architects and Engineers

Prag Construction Company, General Contractors

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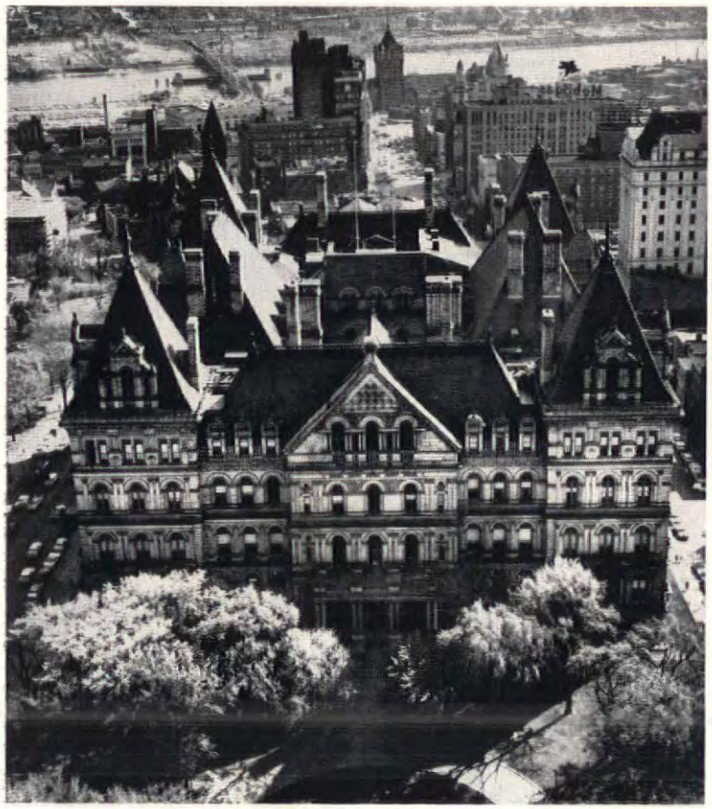

ANDREAS FEININGER—LIFE

THE CITY OF ALBANY VS. NEW YORK STATE

Albany, N.Y., like most capital cities, is highly dependent on the state government (which employs some 28 per cent of the total labor force). Thus, when Governor Rockefeller announced at the end of last year that the government would remain in the city and would not move out to its suggested suburban campus location, the city was relieved (FORUM, Jan. '62). The decision having been made, however, two large questions arose immediately: 1) what could be done with Albany's decaying downtown to take best advantage of the state government's presence? and 2) who should determine what should be done, the city or the state?

Private citizens had already formed the Downtown Albany Development Committee and joined with the municipality under Democratic Mayor Erastus Corning 2nd to draw up a plan to stimulate the stagnant area. Their scheme, designed by the planning firm of Candeub, Fleissig & Associates, would rehabilitate the core they call the "Central Business District," integrating government offices.

Meanwhile, unbeknown to this group, the state of New York had made its own plans for a 98.5-acre 40-block tract which overlaps slightly with the Central Business District. In late March, the State Commission on the Capital City, chaired by Lt. Gov. Malcolm Wilson, approved the state's plan to take over this once genteel area. No developed scheme had been defined, but the general intention of the Commission was clear: after the existing buildings (which include sound residences, churches, business, and schools as well as many ramshackle structures) were razed, a government center was to be created. The state government, in short, would come back to downtown Albany in a big, new way.

The Mayor dissents

On the whole, the over 3,000 families and 350 businesses in the 40-block area did not express any violent opinions for or against the state's action. But Mayor Corning did when he saw that the state's seemingly unpremeditated move would have little effect on the city's revitalization plans. In a dissenting letter to the Commission he raised several immediate objections: 1) the "human rights" of families in the area would be violated by expelling them over an undefined period of time; 2) relocation problems were completely unsettled; 3) the estimated figure of $20 million for purchase of the land and buildings was low; 4) the city would lose some $500,000 annually in taxes; 5) the whole project could have been better handled in other ways. He promised to take the issue to the courts, and, on April 4, won a temporary stay in the state's plan.

Criticism of the state's action went deeper than the Mayor's initial comments. In essence, the state did have the land, but did not yet have a plan. The state, however, has employed three planning groups: Rogers, Taliaferro, Kostritsky, Lamb; Maurice E. H. Rotival and Assocs.; John Calbreath Burdis Assocs.

Nonetheless, there is some question of how the state's project would affect Albany. Planner Isadore Candeub commented that it could turn the 40-block area into a cold, monumental enclave within the city. Although he proposed to integrate the state project with the Downtown Albany Development Committee's plan, nothing has come of the suggestion so far.

PHILADELPHIA PRESERVATIONISTS LOSE

On May Day, a special meeting sponsored by the Philadelphia Chapter of the AIA was held in a 94-year-old building. Purpose: to forestall the tearing down of 55 old houses in the Society Hill redevelopment district, and to pass a resolution against urban renewal projects in historic areas.

Preservationists, led by Architect Charles E. Peterson, presented their case persuasively; however, one of their prime targets, the Philadelphia Planning Commission, boycotted the meeting. Peterson showed slides in his illustrated lecture, criticized (with others) the city's Redevelopment Agency for not preserving more old buildings in Society Hill, for permitting high-rise apartments, and for other violations of the historic character of the area.

Nonetheless, the resolution to censure the city planners and redevelopers was defeated by a voice vote among the 150 persons present—many from resident associations and historic groups. Apparently, some of the residents of the area were less nostalgic about the older buildings than were the preservationists. Having the old, vacant structures in the neighborhood for extended periods (while awaiting someone to buy and restore them) did not appeal to them. One resident urged that those who are dismayed about old buildings being torn down should buy and restore the buildings, and live in them.

ART AND ARCHITECTURE IN WASHINGTON

▶ Last month the General Services Administration came out with a ten-year construction program for government buildings in Washington. It will also allow the razing of all temporary federal structures by the end of the ten-year period (about 54 years after some of them were to have been razed in the first place). There is, of course, a rub: only when the site is needed for other purposes does a "tempo" get demolished.

Still, the plan fits in with plans for a more unified government district in Washington. Several weeks ago, the Senate Public Buildings Subcommittee approved a new $60 million FBI building. Also planned: a new Federal Records Center, and additions to, or renovation of, several other federal buildings.

▶ One half of one per cent (0.005) of all government building construction funds in the national capital region might be freed for the purchase of art and decoration. This would be true if the Senate passes a bill already approved by the Senate Public Works Committee. The bill is intended to make public buildings less "drab." Expenditure of a "moderate amount for art or symbols of our national heritage" is entirely justified, said the committee, courageously.

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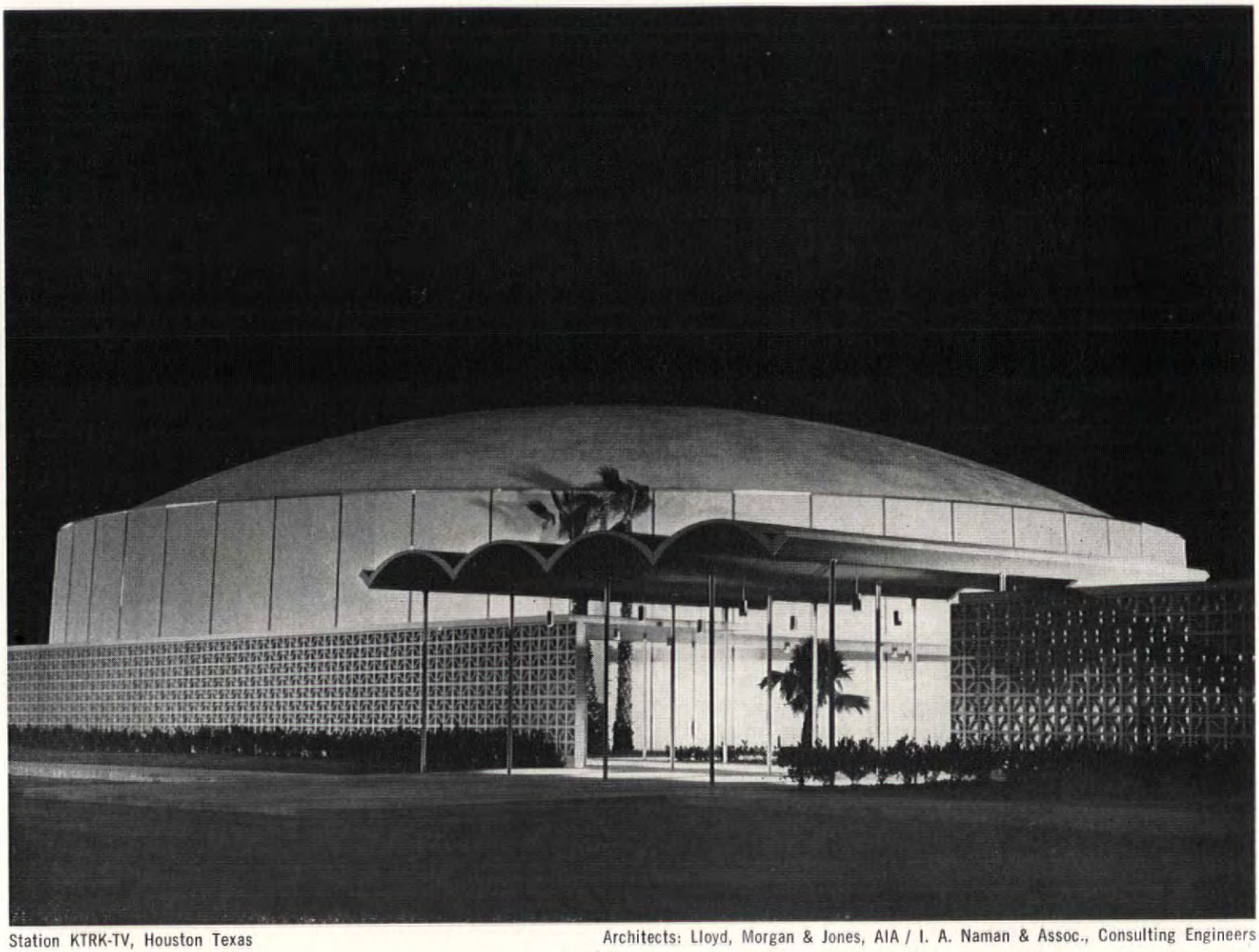

Station KTRK-TV, Houston Texas

Architects: Lloyd, Morgan & Jones, AIA / I. A. Naman & Assoc., Consulting Engineers

See what dramatic lighting can do!

This striking building, "the television station of tomorrow," is the first round television studio building in the United States, and sets a trend that's sure to be followed.

Its unusual shape, like all good designs, was dictated by the function of the building. The curved outer walls eliminate wasted corners and encircle two fan-shaped studios 53 feet across, with viewing rooms and control rooms in a central hub.

To capitalize on the sparkling beauty of its white onyx and blue tile building, Station KTRK-TV chose Wide-Lite floodlights for its decorative lighting. And as General Manager Willard E. Walbridge says, "It has been an unprecedented traffic stopper from the first moment we turned on our Wide-Lites."

Why does the Wide-Lite floodlight give such outstanding decorative lighting?

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COLUMBIA DESIGN UNDER STUDENT FIRE

"That building (photo above) contradicts everything we've been taught," commented one young student at Columbia's School of Architecture. "If we designed something like that," said another, "they'd throw us out of school." Still another was more specific: "It is mock monumental, eclectic, mannerist, and awkward."

The target of these jibes: Columbia University's proposed new Graduate School of Business. Named Uris Hall (after two of its major donors), the building will be ready for occupancy in 1964. At ground-breaking ceremonies on April 17, however, the protests began. A group of Columbia's architectural students quietly displayed signs reading, "Ban the Building," "No more Uglies," and "Columbia, the Fluke of the Ocean" (below). This touched off a controversy that involved architectural students and their professors, business school officials, Architects Moore & Hutchins, and various outside commentators.

Supporters of the building claim that it is entirely compatible with the rest of the campus (opponents counter by saying that the campus is hardly compatible with itself). Architect William Platt, a member of Columbia's Advisory Committee on Architecture and Planning, made this defense: "It should not be the kind of building the architectural students have in mind. Rather, it should be a nonentity, an efficient building that fits in." But even this description falls short, say the students. With eight stories, they add, the building is too tall to be a nonentity.

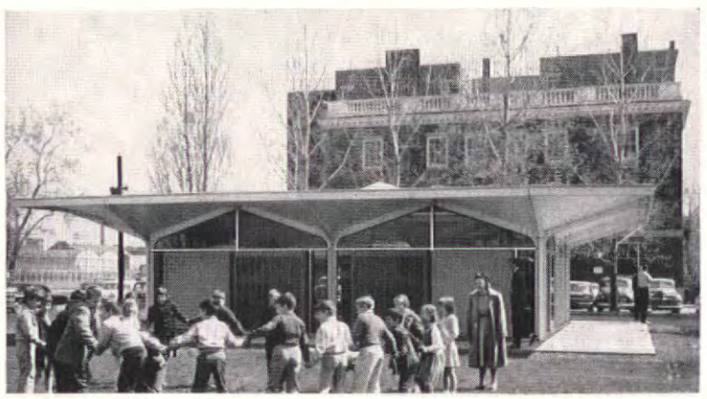
ACADEMY PLANS AROUSE ANNAPOLITANS

Annapolis citizens woke up one day a few weeks ago and found that the U.S. Naval Academy, with a plan by the nine-man Moreell Commission, wanted to annex three adjacent blocks of old Annapolis. There, they learned, a $35 million complex is to be built —including an auditorium, a mess hall-barracks, and a science building by Architect Edward Durell Stone. The Naval Academy, with no land into which to expand easily, picked on the 9.5-acre area which contains such historic buildings as the Peggy Stewart, Lockerman-Tilton, and Glebe Houses. This in itself irked many Annapolitans who have formed committees and joined associations to oppose the expansion. Business groups and the daily newspaper, on the other hand, have backed the Navy's $68.4 million plan.

Significantly, of the 58 home owners in the tract, 50 are prepared to fight the Moreell Commission's plan. Compromise suggestions, such as Navy offers to dismantle and rebuild the historic houses elsewhere, or antiproject proposals of alternate areas for the expansion, have been offered. The prospect: a long, hard hassle with the Navy a probable winner.

SHELL-STRUCTURE CONFERENCE PLANNED

Summaries of 120 papers submitted from countries around the world have been received in anticipation of an international conference on shell structures. To be held in San Francisco on October 1 to 4, the conference is sponsored by the University of California (Berkeley), and more than 1,000 architects, engineers, researchers, and builders are expected to attend.



M.I.T. PHOTO

VERSATILE, PACKAGED, INSTANT SCHOOLHOUSE

A four-year study sponsored by the Educational Facilties Laboratories of the Ford Foundation and designed to meet the need for more classroom space has resulted in a complete, prefabricated school. The demonstration classroom (pictured above) was opened on the M.I.T. campus last month. Designed by Architects Marvin E. Goody and Joseph Schiffer of M.I.T., the prefabricated school can be adapted to community needs by adding to it, converting it, or even taking it apart for reassembly at a new location (FORUM, *Nov. '61*).

Made of eight-foot-square sandwich panels of thin glass-fiber outer skins bonded to a core of plywood and bolted to eight steel "trees," the building forms a 32-foot square. According to Goody, the room (including roof, walls, joints and bolts, lighting, and air conditioning) can be manufactured, packed, and shipped to the site and erected for the same cost as a conventional air-conditioned, New England classroom. With present limited production, costs run between $16 and $18 per square foot; this figure, presumably, could be lowered with mass production. Erection time, however, is reportedly one-tenth the time of that for a standard classroom of the same size. "A room that is built for thirty children now," said Goody, "can be expanded for 300 later. It is designed to deal with new ways of thinking about schools and new ways of teaching."

continued on page 13

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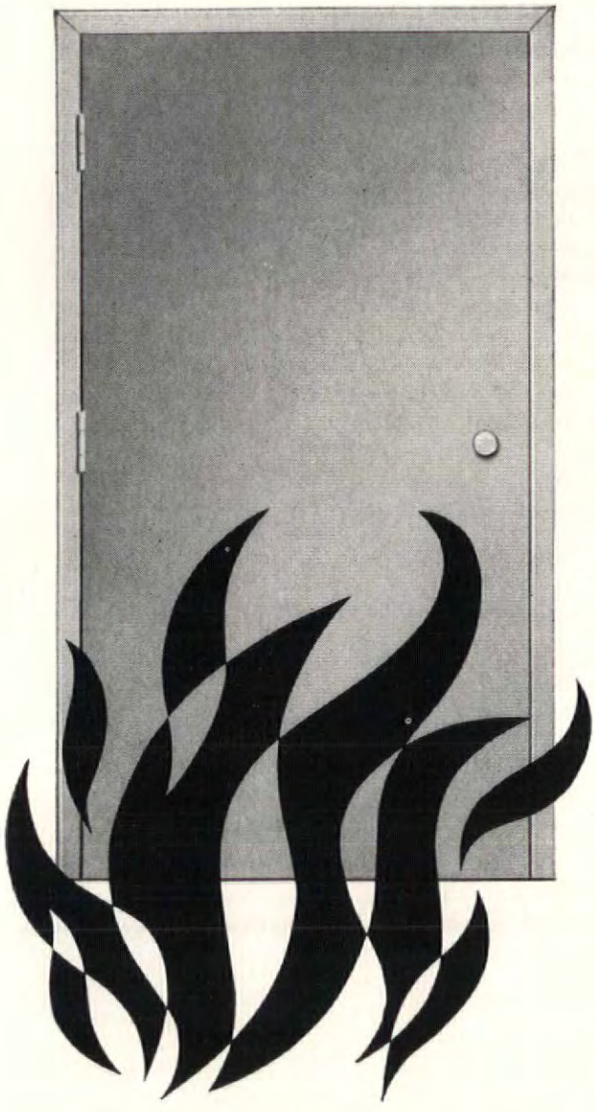

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continued from page 11

WARREN BALLARD

Merrywood project on McLean, Va. wooded estate

CONTROVERSIAL PROPOSALS STIR CAPITAL

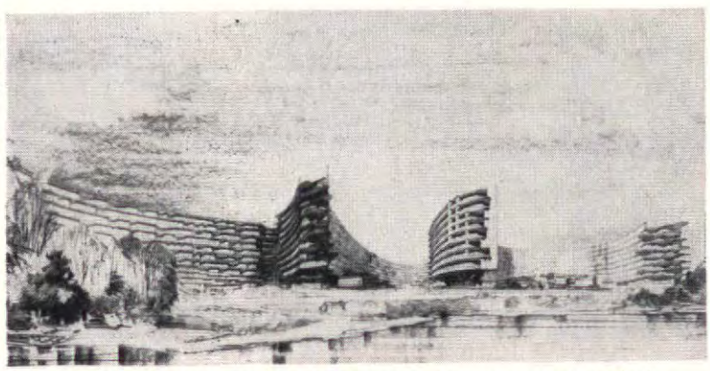
The Potomac River flows past the intended sites for two of the Washington, D.C. area's most controversial projects. Both schemes have been criticized for their excessive height; both involve designs by the local architectural firm of Corning, Moore, Elmore & Fischer. But there the similarities end.

In McLean, Va., across the Chain Bridge from Washington, the Merrywood development (FORUM, March '62) is a neatly involuted affair. The fuss revolves around the proposed use of the 46-acre estate recently sold by Hugh D. Auchinchloss to the Magazine Brothers, developers. Seething McLeanites object strongly to letting the estate be used for three high-rise apartment towers and two rows of townhouses (model photo above).

Local residents, including Secretary of the Interior Stewart Udall, denounce the size of the 17-story buildings, which they say would deface the still-unspoiled Potomac Palisades. They further claim, in a lawsuit, that the zoning changes that permitted the development are "arbitrary, capricious, unreasonable, illegal and void." Meanwhile, as rumors of corruption and dirty dealing flew about the neighborhood, a Fairfax County grand jury girded to conduct a late-May investigation of the case.

Down river, on a 10-acre site next to the projected National Cultural Center and not far from the Lincoln and Washington monuments, the $50 million Watergate Towne urban renewal development (FORUM, Nov. '61) was having its own problems. One hurdle had been passed in early February when the National Capital Planning Commission approved, by a split vote, the free-form design by Rome Architect Luigi Moretti (with Milton Fischer of Corning, Moore, Elmore & Fischer) for the Italian development firm of Società Generale Immobilieri di Roma.

DEL ARTERS



Architect Moretti's controversial Watergate Towne renewal project

The next test was not so successful. Washington's Commission of Fine Arts did not like the privately financed project, which contains three apartment buildings, a residential hotel, and an office building (rendering below). To the Commission, it looked too high (130 feet), too curved, and too big. Moreover, it would dominate the shore line, overbearing the Cultural Center and nearby monuments. Members agreed that to depart from the existing zoning limitations "is to invite a chaotic disharmony to the architectural growth of the city plan. . . . In short, it will begin to erode and destroy the qualities that give Washington its particular beauty." Accordingly, on April 18, the Commission won a delay in the proposed zoning action. Architect members Ralph Walker and Douglas W. Orr then met in New York with representatives of the project. The upshot: Professor Moretti would come to the U.S. in late May to discuss changes wanted by the Commission.

In the interim, the White House disclosed that it would prefer the building height to be held to "around 90 feet"—the present zoning's maximum height. And the *Washington Post* came to the aid of the project. Said the *Post:* "If the city [wants open, green space and] makes the mistake of rejecting the Italians' designs of high buildings covering less than half the site, then we shall get . . . a complex of boxy brick apartments covering . . . virtually all of the site. The land is too expensive for a builder to do otherwise."

COURTS PRESS REAPPORTIONMENT ISSUE

When the Supreme Court handed down the Tennessee Case Decision on March 26, most commentators predicted that it would be a long time before the composition of state legislatures would change (FORUM, May '62). Not so. Outvoted residents of cities and suburbs in 22 states have already filed suits to obtain a more representative vote in their legislatures, and court action is planned or threatened in at least six other states. In others, there have been political moves towards redistricting through special sessions of the legislatures.

Among the plethora of suits, those in Maryland, Georgia, and Michigan stand out—although they represent only variations on Tennessee's theme.

Michigan's case led the way. It involved an April 23 Supreme Court decision which allowed the state courts to rule on claims that distribution of state legislative seats violates the Federal Constitution. The result of these cases: state and federal courts have instructed various states to reapportion. And if the states do not do so, the courts will.

In Maryland, where 25 per cent of the voters, living in rural areas, reportedly control the legislatures, the highest court instructed the state to reapportion its districts before the November voting. Unusual is the fact that Maryland's constitution makes no provision for periodic reapportionment. The case, then, turns on the question whether the state's constitution violates the right of urban voters to equal protection under the Federal Constitution.

Georgia's suit has yet another slant. In that state as in others, votes are cast under the unit system—each of the state's 159 counties has between two and six unit votes for state officials in the Democratic primaries. Thus, the smallest county has two unit votes while the largest has six. (Consequently, voters in the smallest county have about 99 times the voice of voters in the largest.) With the Tennessee decision's stress on the Fourteenth Amendment as precedent, reformers would like to elect candidates by popular vote—not by counties.

While these three cases are somewhat more interesting legally than the others, they point in the same direction as the others: city problems will be heard on a state level, which means that they will finally receive attention commensurate with their importance.

continued on page 15

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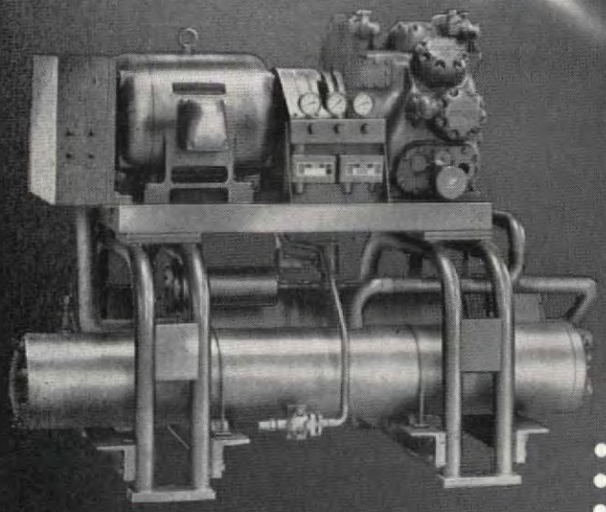

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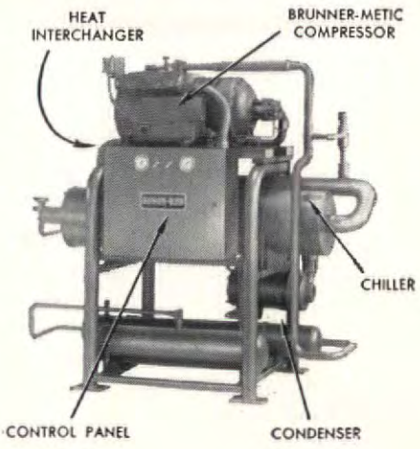

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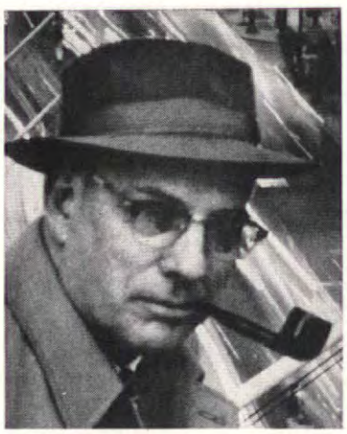
People in the News

BILL ELDRIDGE—LIFE



Henry M. Barnes

BARNES AND SNARLS

Traffic expert HENRY A. BARNES has proved his ability to untangle traffic snarls in Denver and Baltimore, plans to do equally well in New York City where he was appointed Traffic Commissioner in January of this year. Moreover, he wants to do the job his way. Following no precedent, he began by criticizing the doctors and diplomats whose ticket-immune cars cluttered the streets of congested Manhattan. Next, he turned his guns on the city's Budget Bureau when he found he needed more funds than allocated.

Although Barnes did not always have his way, he managed to attract attention. His "Barnes Dance," which allows pedestrians to cross intersections simultaneously from any corner, was applauded by everyone. And his squabbles with other city officials were memorable.

The most memorable of these took place last month, when Barnes started swinging at ROBERT MOSES, New York's stentorian jack-of-all-trades. Barnes began by disputing Moses' objections to the use of express buses on city parkways, and Moses' ideas about the proposed mid-Manhattan elevated crosstown expressway. Random quotations from the prolonged hassle:

BARNES: "Moses brought the parkways and cars to the edge of town and . . . forgot them."

MOSES: "Barnes is 100 per cent ignorant about parkway problems . . . He ought to stick to his dances."

BARNES: "I do not think that anyone has a corner on intelligence . . . I do not think that Moses is God."

MOSES: "Most of Barnes' spare time has been devoted to blowing his own horn. . . . There are apparently no limits to this man's cleverness and gall."

BARNES: "I feel a little like Dorothy in *The Wizard of Oz.* There was this great, mighty voice which everybody feared, but when Dorothy pulled aside the curtain there was just a meek, little old man. I wonder what would happen if we pulled aside the curtain here."

Exit Moses, temporarily.

Enter City Investigation Commissioner Louis I. Kaplan, peering

Robert Moses

into proposed contracts for the purchase of 47,000 vandal-proof parking meters.

BARNES: "Intolerable harassment! . . . . Gestapo!"

KAPLAN: "If the man is in need of mental treatment, what is there to say?"

BARNES: "Mr. Kaplan is right. You have to be crazy to take this job."

Enter the New York Herald Tribune's *editorial writer, wringing his hands.*

EDITORIALIST: "The Traffic Commissioner . . . is being mishandled. . . . Let's support the man and lay off the senseless needling."

Exeunt omnes, reluctantly (promising to return).

TWO NEW APPOINTMENTS

On September 1, ROBERT H. DIETZ will replace ARTHUR HERMANN as Dean of the University of Washington's College of Architecture and Urban Planning. Dietz, a partner in the Seattle architectural firm of Waldron & Dietz, will retain his post as national secretary of the National Architectural Accrediting Board (which accredits architectural schools). His firm, in which he will continue to practice on a part-time basis, has designed the Domestic Commerce and Industry Building at the Seattle World's Fair as well as numerous schools, residences, churches, and industrial buildings in the Seattle area.

KENNELL-ELLIS

Robert H. Dietz

The third president of the Rhode Island School of Design will be DR. ALBERT BUSH-BROWN. Currently Associate Professor of Architectural History and executive officer of the Department of Architecture at M.I.T., he will succeed DR. JOHN R. FRAZIER, who retires on June 30. Bush-Brown is best known for his writings on architecture, and, with coauthor DR. JOHN E. BURCHARD, M.I.T.'s Dean of the School of Humanities and Social Studies, received much praise for *The Architecture of America,* published last year.

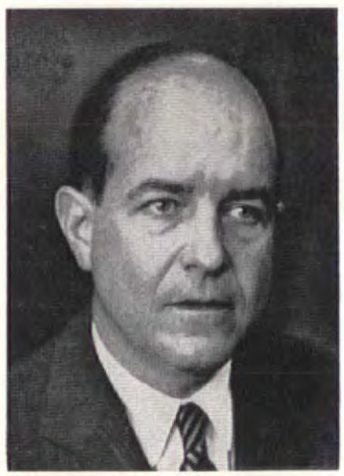
AIA NAMES HONORARY FELLOWS

Last month, the AIA elected ten well-known architects from eight countries to the status of Honorary Fellowship. They are: PROFESSOR J. H. VAN DEN BROEK (Netherlands); AMANCIO WILLIAMS (Argentina); HECTOR MAESTRE (Mexico); PROFESSOR STEEN EILER RASMUSSEN and ARNE JACOBSEN (Denmark); HERNAN LARRAIN-ERRAZURIZ and EMILIO DUHART H. (Chile); JERZY HRYNIEWIECKI (Poland); NGO-VIET-THU (Vietnam); and JOHN B. PARKIN (Canada). Their investiture took place during the AIA Convention at Dallas.

JENNEY VS. CONGESTION

"Ever-growing traffic congestion ... threatens to choke mobility to a standstill," read the full-page public-service advertisement. "Overloaded highways are pouring more cars into Boston than the confined area can handle. . . . The solution: fast, comfortable, and convenient rapid-transit extensions." Sponsoring the ad that appeared in all Boston papers on April 17 and 18 was, surprisingly enough, the Jenney Manufacturing Co., a New England oil and gasoline firm.

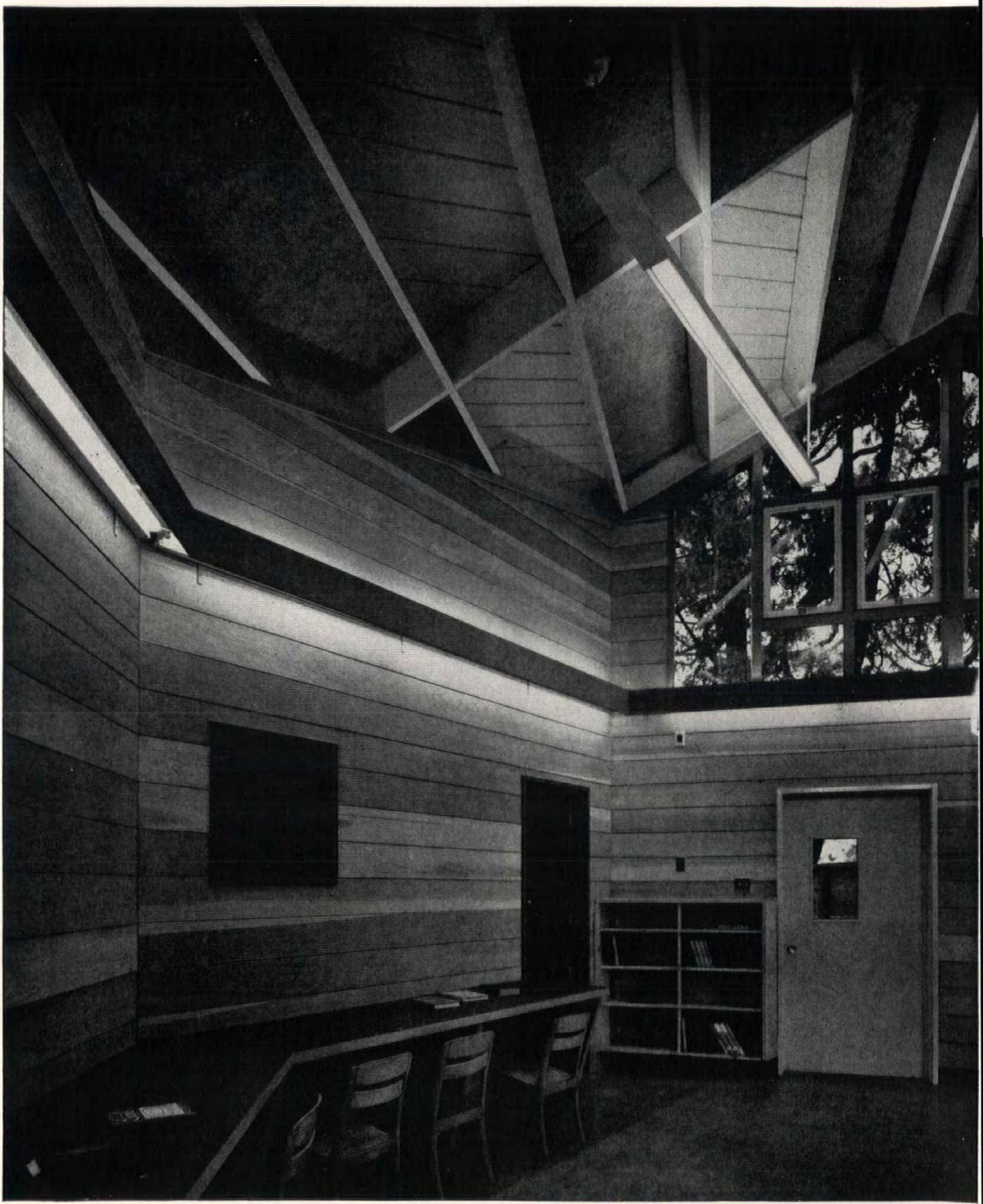
ROBERT M. JENNEY, the company's president, was sincere about the ad although his company sells gas through some 600 stations in New England. He said, "Mass transportation is important



Robert M. Jenney

to downtown Boston. If the city does not do well, all business will suffer. The new expressways will bring even more cars into Boston's narrow streets. This trend cannot continue or the city will be stifled." Jenney knows whereof he speaks; his company makes careful studies of long-range population trends. The studies are designed to indicate favorable locations for gas stations, but they also show that the traffic problem is going to get a lot worse before it gets better.

continued on page 18



A continuous counter of wood with overhead cove lighting efficiently takes the place of desks. Planked walls, tongue-and-groove ceiling with exposed supports facilitate maintenance—a job performed by students, teachers, and parents in this unique progressive school.

For schools with flexibility to grow

use WOOD... and your imagination

No two rooms are alike in this school. Design flexibility allows unusual freedom with sliding wood walls that open into a lab, close to make a blackboard. Bright interiors are maintained with sizable skylights.

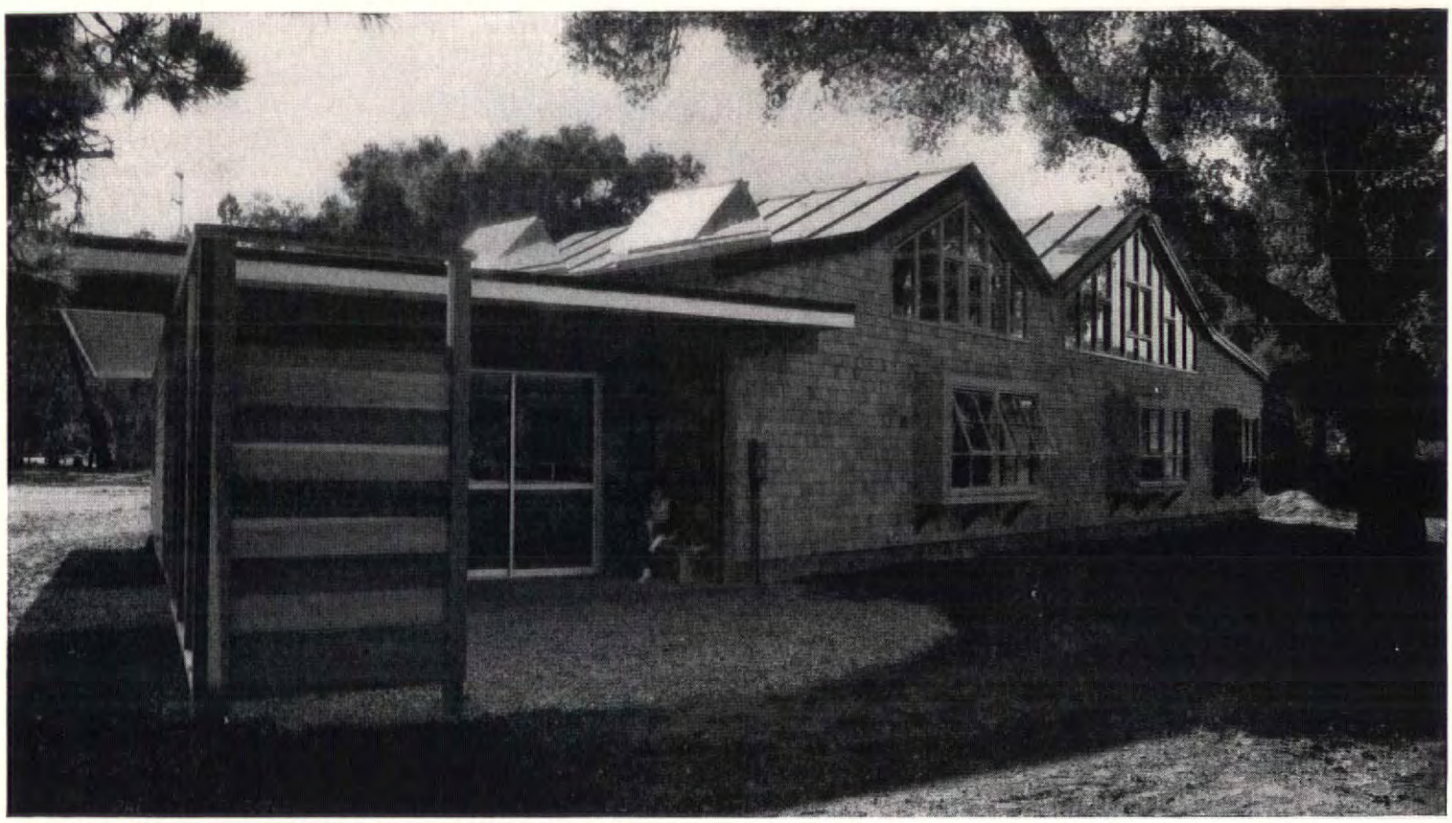
New schools of thought are reflected in a progressive school of wood. In any design, the adaptability and economy of wood permit continuous alterations with ease, superior structural qualities within uncompromising community budgets.

The familiarity of wood creates a comfortable environment for learning. Its inherent strength is proved in sweeping laminated beams, sturdy supporting posts, and many other remarkable forms that are solely, solidly wood's. Its acoustical characteristics help contain the sounds of a cheer-ridden gymnasium, maintain the silence for study under the same roof. Wood, too, has a natural capacity to insulate, the ability to endure through decades of class reunions. For more information on designing schools with wood, write:

NATIONAL LUMBER MANUFACTURERS ASSOCIATION
Wood Information Center, 1619 Massachusetts Ave., N.W., Washington 6, D.C.

nlma

find the better way with **wood**

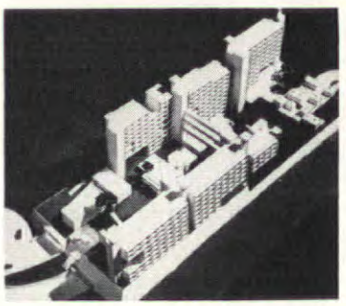


Tree-shaded, this shingle-sided school of wood suits its site naturally. Overhanging laminated beams, an extended multi-toned panel-and-post entranceway, a twin-peaked, wood-sheathed roof with generous skylights—all permit greater economies, home-like qualities in the Peninsula School, Menlo Park, Calif. Gillis & Forell, architect and structural engineer.

continued from page 15

KOPPERS SCHOLARSHIPS

Winners of the $1,000 scholarships in the fifth annual Student Architectural Design Competition sponsored by the Tar Products Division of Kopper Co., Inc. were announced last month. This is not a national or open competition. Each participating school determines the project to be designed and then selects a group of finalists. Sole stipulation: each design must have a predominantly flat, built-up roof. A jury then chooses a winner from each group. This year's jury (Architect Philip Johnson, Professor Paul Schweikher, and FORUM Editor Douglas Haskell) chose the following winners:

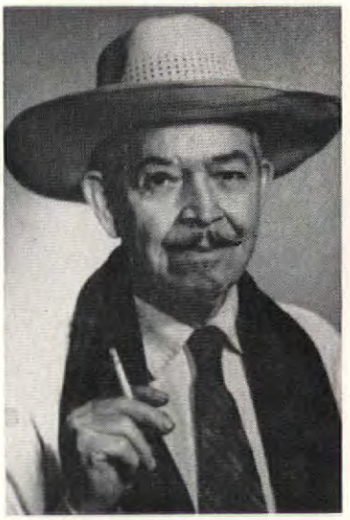


ASSOCIATED PHOTOGRAPHERS

JULIAN D. WEISS of Pennsylvania State University (model picture above); CHARLES L. MCMURRAY of North Carolina State College; JARED I. EDWARDS of Yale University; RICHARD P. LA CROIX of Syracuse University; ILMAR REINVALD of the University of Illinois; and LEROY B. RIDDLE JR. of the University of California at Berkeley.

OBITUARIES

DAVID REICHARD WILLIAMS, FAIA, died several weeks ago at the age of 71 in Lafayette, La. His credo, propounded in the early thirties, stated that "a logical regional architecture has for its origin the simple, early forms of building native to its own locale, and grows by purely functional methods into an indigenous form of art." The popular ranch-style house evolved from this regional idea, although Williams did not approve of many ranch houses. Practicing almost entirely in the Southwest, he was architect for many government projects during F.D.R.'s presidential terms. In 1941–3, Williams designed



CALVIN & INEZ BLUE

David R. Williams

emergency defense housing under the PWA, and developed the "multimax" and "hutment" structures that were widely used during the war. Over the years, he built thirteen prominent projects in association with other architects, including ELIEL and EERO SAARINEN and RICHARD NEUTRA.

Painter FRANZ JOSEF KLINE, 51, died last month in his adopted city, New York. Internationally acclaimed as one of America's leading abstract expressionist painters, his works have been shown abroad and several paintings have become part of collections in leading U.S. museums. Much of his later work was done on vast canvases, usually in black against white. This caused one critic to write that some of the paintings were reminiscent of "a huge Chinese laundry ticket." But another critic compared his energetic style and bold, broad brush strokes to "the thundrous magnitude of falling trees." His death occurred when he was at the height of his career. END

Franz Kline

EERO SAARINEN

Forum: I would like to congratulate you on your marvelous article about Eero Saarinen (April, '62).

It is a very great tribute to a very great architect, and I know it will serve as an inspiration for all of us in the profession.

MINORU YAMASAKI
Birmingham, Mich. *Architect*

Forum: As a subscriber and a regular reader of FORUM, I enjoyed immensely your excellent article on Eero Saarinen. Of course I was quite pleased to see that you had printed the letter from Eero which poked gentle fun at furnishing a board of directors' room.

WILLIAM A. HEWITT
Moline, Ill. *President, Deere & Co.*

Forum: I wanted to tell you how much I value the Saarinen piece. It rang true and is a landmark of understanding of what he did and what he was after. I have since had the Dulles airport tour, a tremendous experience.

HARRY WEESE
Chicago *Architect*

Forum: A most perceptive and thorough job. You have caught Eero's spirit, his concerns, and his drives in a way which earns you the thanks of all his friends.

IRWIN MILLER
Columbus, Ind.

Forum: Your story on Saarinen seems to me such an excellent job that I cannot let a day pass without telling you. I believe it far superior to almost any story I can think of on architecture—not only because of the subject —but because of the story itself. I felt that I knew something about Saarinen's work after reading it, but more important, I also knew something about the man. This, I am afraid, is too often overlooked in our profession.

RALPH JACKSON
Los Angeles *Welton Becket and Associates*

COLLEGE PLANNING

Forum: I would like to compliment you for the very fine article on the Jeffersonian segments of the University of Virginia (Feb. '62). George Cserna is to be commended for the photographs that capture so much of the spirit of the place.

I would also like to request reprints of "Cornell Rediscovers Architecture" and "Dormitories: Designs for Campus Life" in the same issue.

ARTHUR N. TUTTLE, JR.
Chapel Hill, N. C. *Director of Planning*
University of North Carolina

COVERS AND CONTENTS

Forum: I would like to express my satisfaction with the latest issues of FORUM; it is without a doubt the only big architectural magazine with value and a sense of the esthetic. I was exceptionally pleased with the article by Craig Ellwood in the January issue. Thanks and keep up the fine work.

J. REX POGGENPOHL
Chicago

Forum: Your latest covers are superb. I now take off the brown slip cover each month with real excitement—you produce a truly worthy magazine.

SHELDON YALE SILVERT
Winnipeg, Manitoba

Forum: The pictures in FORUM are less attractive than the advertising. The lack of color is a handicap to good pictures.

ED ELMORE
Belmont, Calif.

Forum: Enclosed please find my check in the amount of fifty cents for one copy of your reprint on the work of Frank Lloyd Wright.

I would also like to take this opportunity to congratulate you on your new format. I have always been a subscriber to FORUM. However, as a reservist called back to active duty my only contact with the profession has been through your magazine. In this context the changes have added meaning to me personally.

ROBERT J. PISCIONERI
Fayetteville, N. C.

Forum: Enclosed is a money order for your Frank Lloyd Wright issue. Congratulations for offering this memorial to America's most brilliant architect.

Congratulations also for publishing a magazine of unequaled stature in the architectural field.

G. WILSON
Yonkers, N. Y.

C.L.A.S.P. IN ITALY

Forum: I have read with great interest the enquiry into school building published in your November issue.

It might be of some interest to your readers to know how C.L.A.S.P. is operated in Italy.

A private company (Costruzioni Modulari S.p.A., Milan) was formed last year by the licensees of the C.L.A.S.P. system (Brockhouse Steel Structures, Ltd. of England).

Costruzioni Modulari assists the architect in the designing process, supplying all the necessary assembly drawings, doing all the structural and mechanical calculations and most of the specifications work, and carrying on through site supervision to completion of the building.

Costruzioni Modulari has also entered into a series of agreements with the suppliers of all the prefabricated components (about 40 per cent of the value of each contract). Under these agreements, the supplier undertakes to sell the erecter his components at a price which has been agreed on with Costruzioni Modulari, not on a single job but on a yearly program. This ensures the benefits of bulk purchase which the Consortium obtained in Great Britain.

Our building program for 1962 is small (about $1 million) but even at this early stage the cost of C.L.A.S.P. building in Italy already equals that of traditional buildings with a similar standard of finishes, and we can easily foresee substantial cuts in our program.

FRANCESCO GNECCHI-RUSCONE
Architect, Managing Director
Milan, Italy *Costruzioni Modulari, S.p.A.*

LIFE AND DEATH OF CITIES

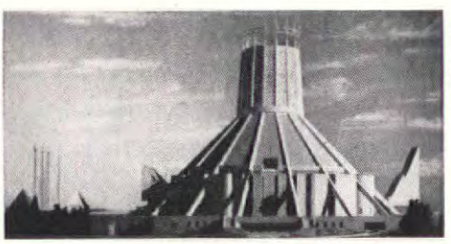
Forum: Mr. Logue's criticism of Mrs. Jacobs' excellent book was well answered by Mr. Chase (March '62). In the main Mr. Logue's criticism seems to have been based upon an incomplete reading of the book, while his own critique of city planning echoes many of the themes in Mrs. Jacobs' book.

PETER AMBLER
Cambridge, Mass.

CAPSULES AND CATHEDRALS

Forum: I wonder if other of your readers found a great likeness between Glenn's "Friendship 7" capsule and Architect Frederick Gibberd's revised design for the Metropolitan Cathedral of Christ the King in Liverpool ("Abroad," Feb. '62, and below).

SCHUYLER ROYAL
Glendale, Calif.



ELKE ENDER

PLANNED GROWTH

Forum: In "New Growth Patterns for U. S. Cities?" (April '62 "News"), you suggest that the dramatic Northland expansion which has converted it into an urban subcenter just happened by chance. The facts are that the entire area surrounding the Northland Shopping Center was master planned before Northland ever opened. At that time, our office developed, in cooperation with the economic consultant firm of Larry Smith and Company, a land-usage plan which indicated by street patterns, sites, and building types the program which by now has to a large degree become reality.

Northland and Southdale, for which we did planning of a similar nature, are gratifying proof that sound master planning brings about sound growth.

VICTOR GRUEN
New York City *Architect*

continued on page 20

continued from page 19

"POOR MAN'S" OFFICE BUILDING

Forum: Harry Weese's project for a precast office building (FORUM, Jan. '62) is impressive architecturally, though I'm not sure it is as attractive from either an economic or practical point of view: the cost per square foot, even if it is accurate, is not as cheap as you may think when compared with the cost of typical rental buildings. The layout would, I think, meet with great resistance from tenants who don't want to walk up or down even half a flight of stairs to elevators and toilets. The corridor arrangement seems excessively wasteful. The hollow slab construction could prove impracticable where tenants need connecting stairs, dumb-waiters, pneumatic tubes, executive toilets, etc.; and this slab construction may also present a problem in terms of carrying capacity for heavy business machines and concentrated file areas. Finally, there may be mechanical problems in providing both the flexibility and quality of air conditioning that most tenants demand—especially where there is a concentration of private offices. In addition I am sure that the elimination of toilets on the floor they are serving would provoke a long battle with the Board of Standards and Appeals.

B. H. FRIEDMAN
New York City — *Pres., Uris Building Corp.*

Forum: 1) If the building cannot be brought in for less money than a conventional structure, we would not be recommending it.

2) The advantages of the half flight of stairs is well worth the pains. It puts the stairs into use, which is all right with Dr. Paul Dudley White, an authority on stairs.

3) The hollow slab construction is ideal for ordinary utilities but would cause difficulties for building special connecting stairs or dumb-waiters. It is ideal for piping up executive toilets and it is designed to carry heavy business machines and concentrated file areas as any floor should be.

4) The design permits all kinds of air-conditioning systems as well as the very special one it exploits which provides the ultimate in flexibility.

I think Mr. Friedman's misgivings are natural and surmountable.

HARRY WEESE
Chicago — *Architect*

GUSTAVINO'S VAULTS

Forum: About the dome of the Cathedral of St. John the Divine ("News," Feb. '62), there were actually two Rafael Guastavinos, father (1842-1908) and son (1872-1950). Both were born in Spain where the elder contributed to the remarkable development of thin-shell tile vaulting in Catalonia—a tradition which had its eventual consequences in the structures of Antonio Gaudi. The father devised and patented the "Guastavino System" of fireproof construction shortly after emigrating to this country in 1881. The son was responsible for erecting the dome of St. John's.

Their firm had a hand in many important buildings. The University of Virginia Rotunda pictured in the same issue of FORUM has a Guastavino dome.

GEORGE R. COLLINS
New York City — *Columbia University*

Forum: Rafael Gustavino was not Italian, but a native of Spain, an architect and engineer who developed a system of vault building based upon ancient examples (see reconstruction of St. John the Divine, FORUM "News," Feb. '62).

The Gustavino Company built vaults on many buildings at Columbia University, and the vaults on New York's Pennsylvania Station.

He was in Asheville, N. C. when the Vanderbilt house was built and he designed Saint Lawrence Catholic church in Asheville and the Catholic church in Wilmington, N. C.

F. W. KERVICK
Fort Lauderdale, Fla.

CITY REBUILDING

Forum: In all your fine articles on city planning, no one has yet emphasized the role played by the landlords of city buildings.

Quite often a "face lifting" of the interior and exterior of a sound building is enough to keep its tenants and to attract higher rentals. The face lifting may consist of no more than tasteful repainting and lighting.

If revitalization of our cities can be begun on this level, I feel that more drastic and costly measures can be avoided.

LOIS DEAN
Cambridge, Mass. — *Designer*

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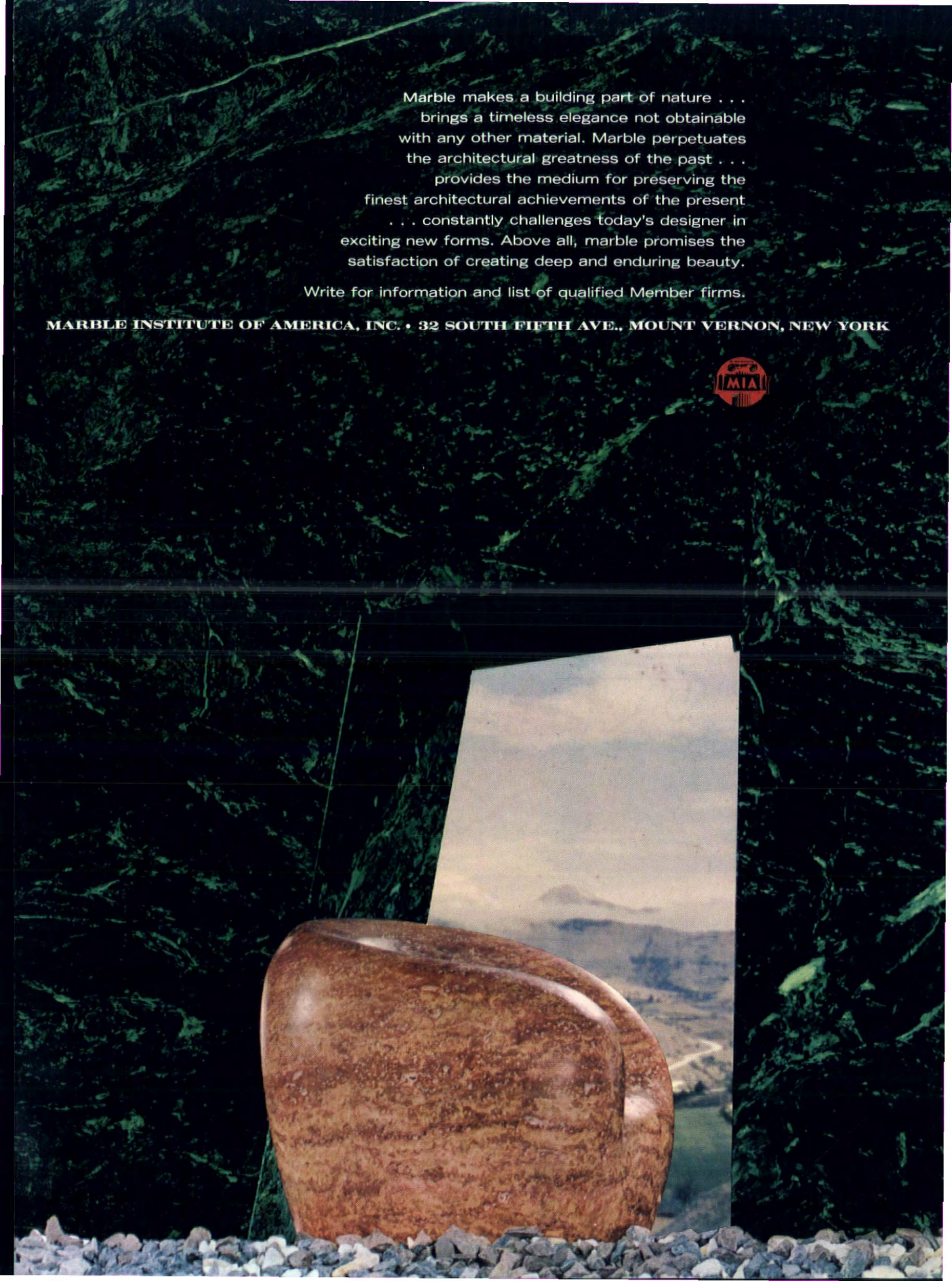
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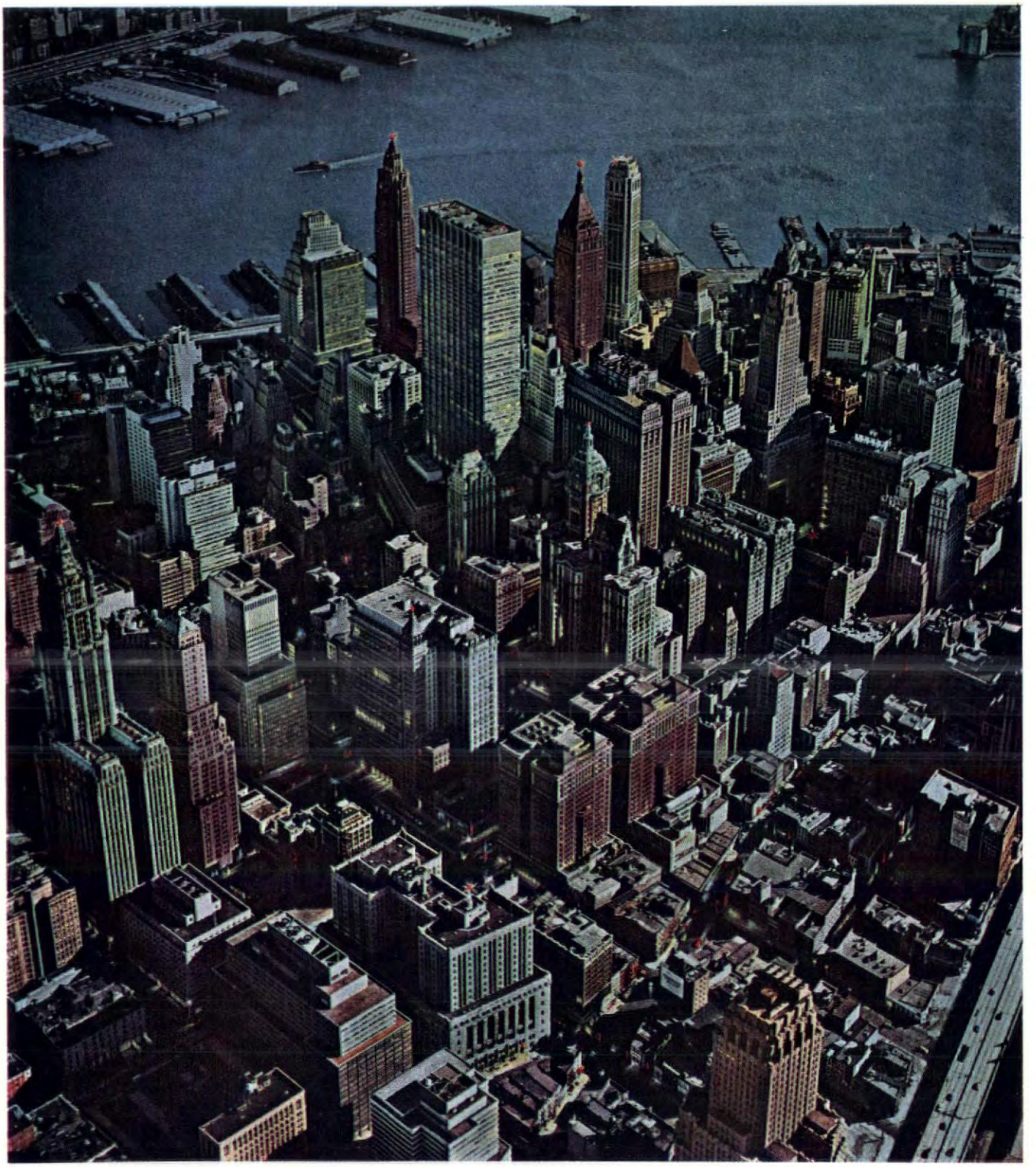

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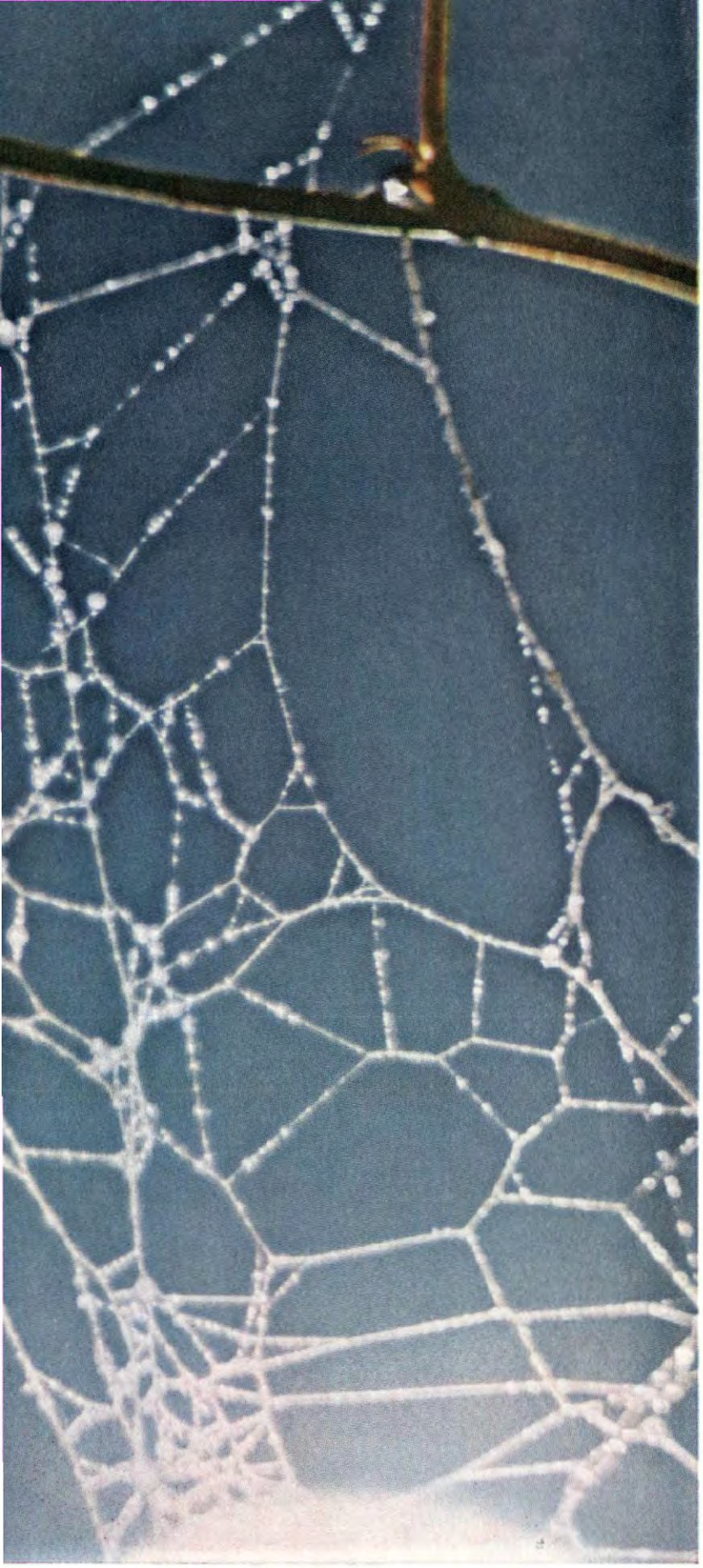

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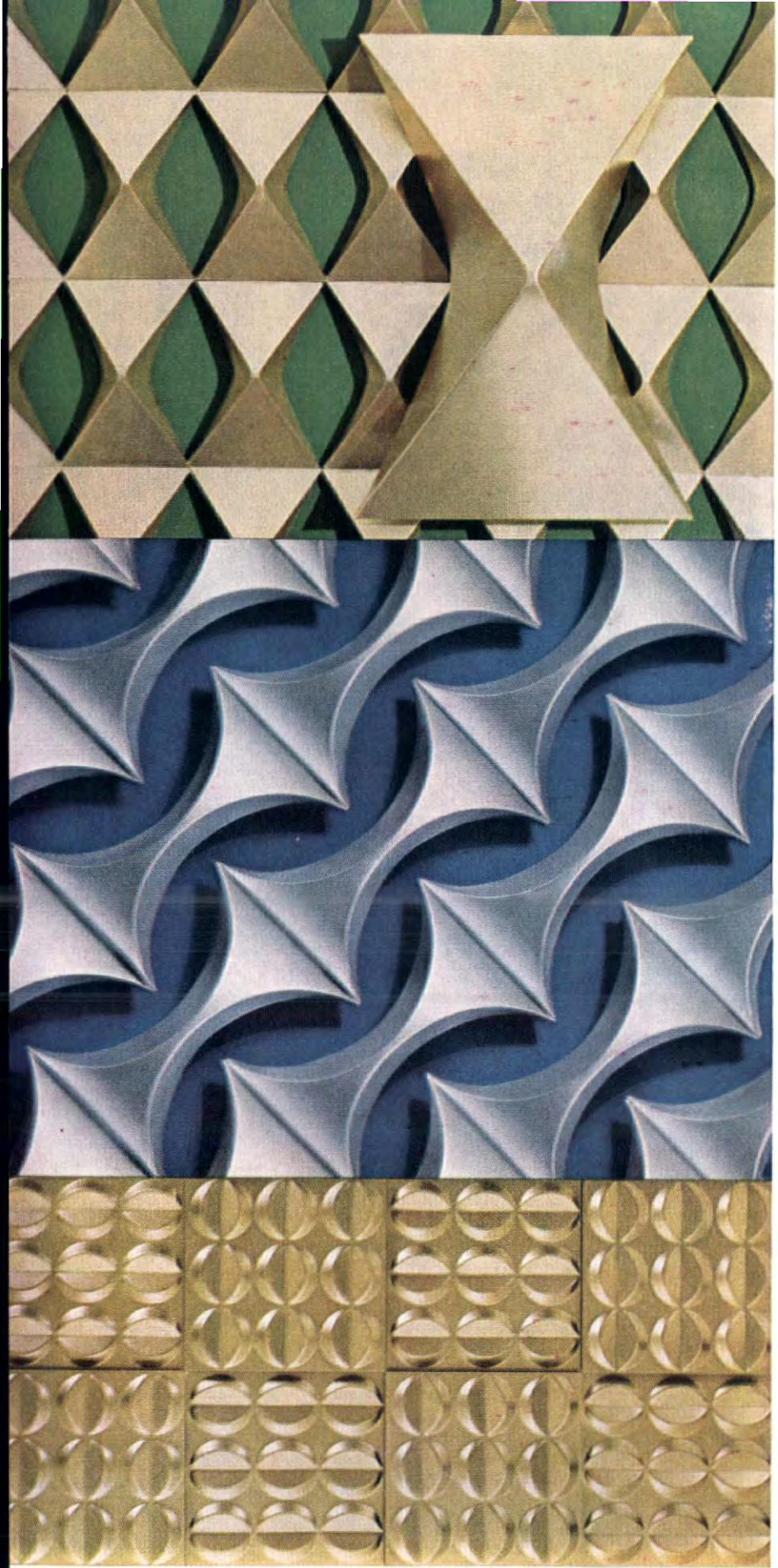

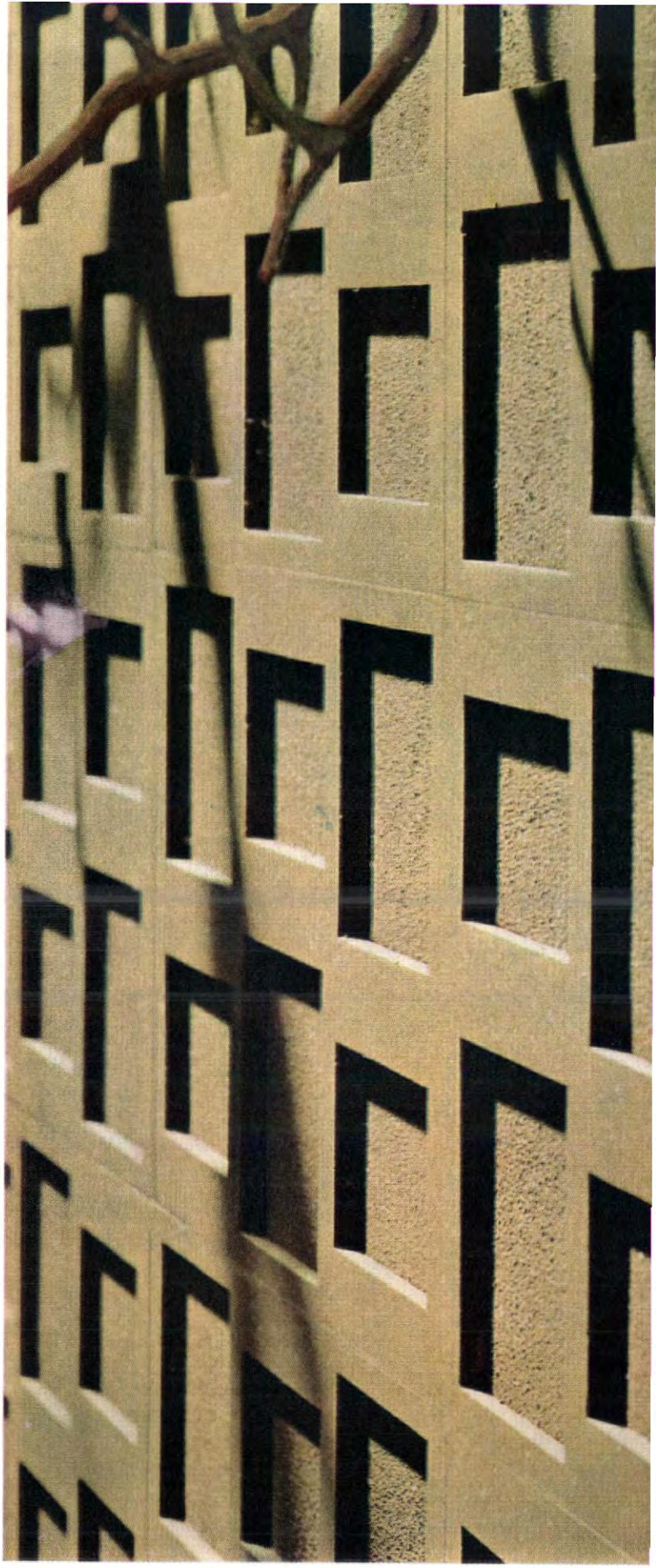

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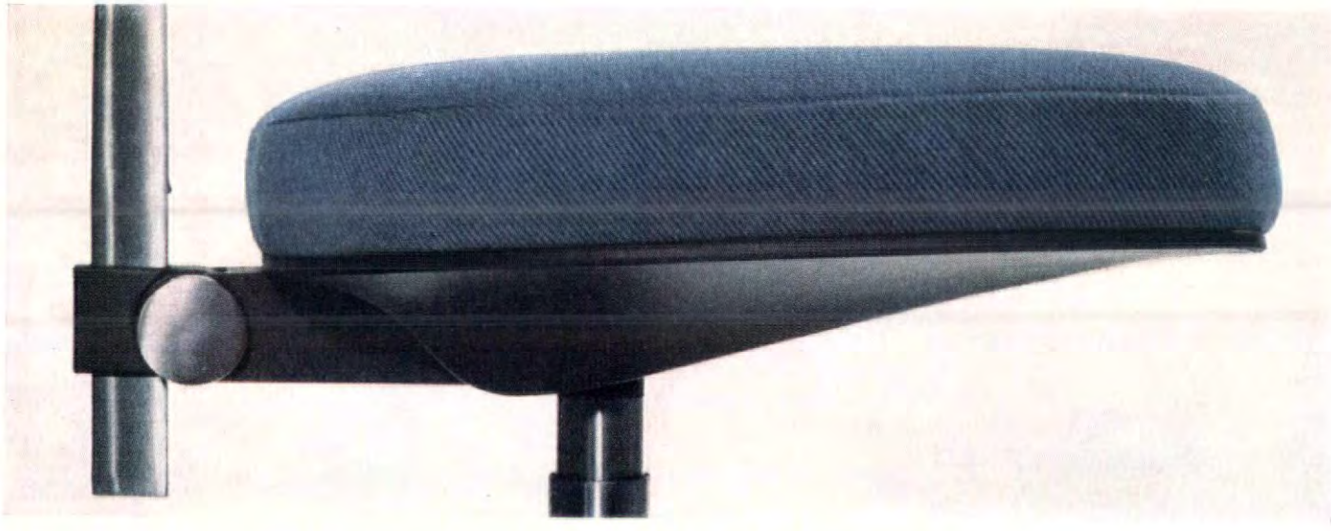

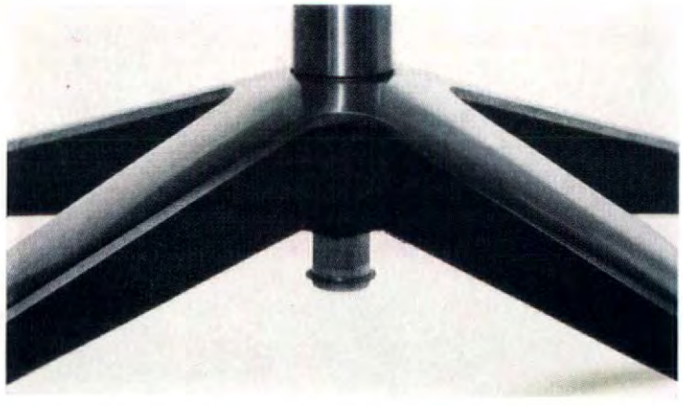

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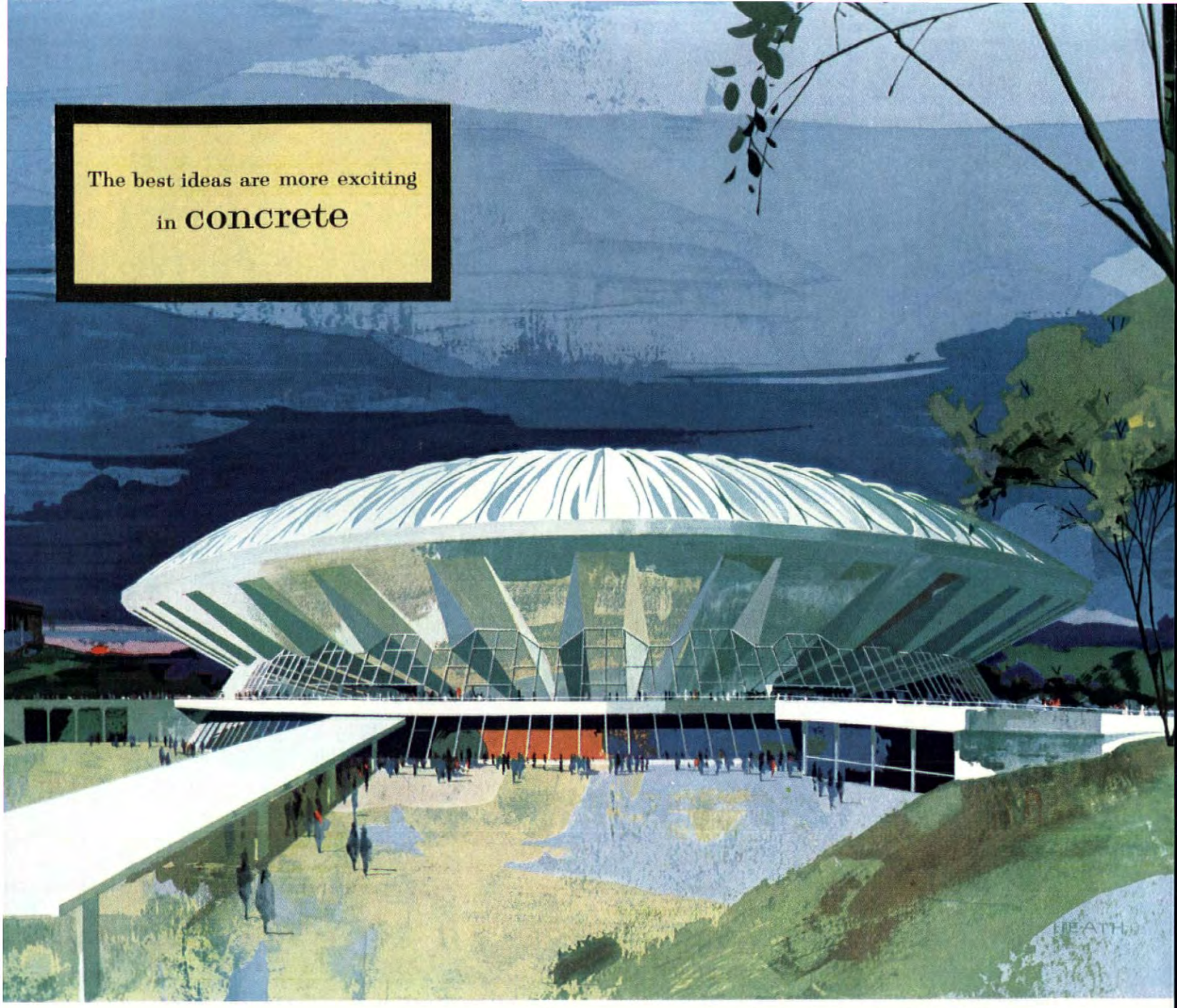


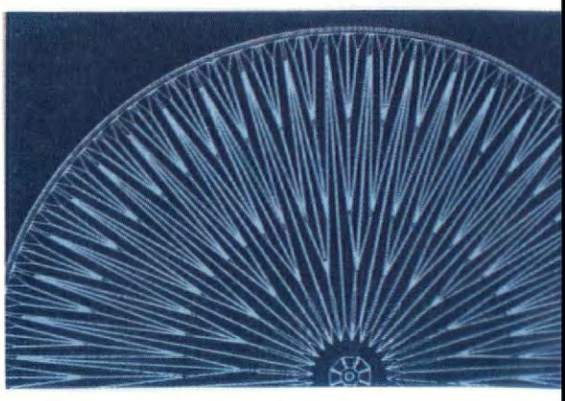
University of Illinois Assembly Hall, Urbana, Illinois. Architects: Harrison & Abramovitz, New York. Engineers: Siska & Hennesy, New York. University architect: Ernest L. Stouffer. General contractor: Felmley-Dickerson Company, Urbana, Illinois.

"Floating saucer" of folded concrete roofs 3 acres

Free of any supporting columns, the roof of the new University of Illinois Assembly Hall will seem to "float" over the spectators. This is the world's largest concrete dome, 400 feet across and weighing 5,000 tons. It is borne entirely by a peripheral ring of prestressed concrete resting on 48 concrete buttresses.

There's an unobstructed view from every seat in the house for sports events. Seating arrangements and staging are readily adaptable for theatricals and concerts. For insulation and acoustical control, the underside of the roof will be lined with cement-wood fiber panels.

The use of concrete to effect such architectural and engineering achievements is seen more and more today. Everywhere architects are turning to versatile concrete to create designs of outstanding beauty and functionality.



***Intricate design pattern of roof** is shown in this detail sketch. The webs of the interlacing folded plate segments of concrete are as thin as 3½ inches. The center of the dome is 128 feet above the floor.*

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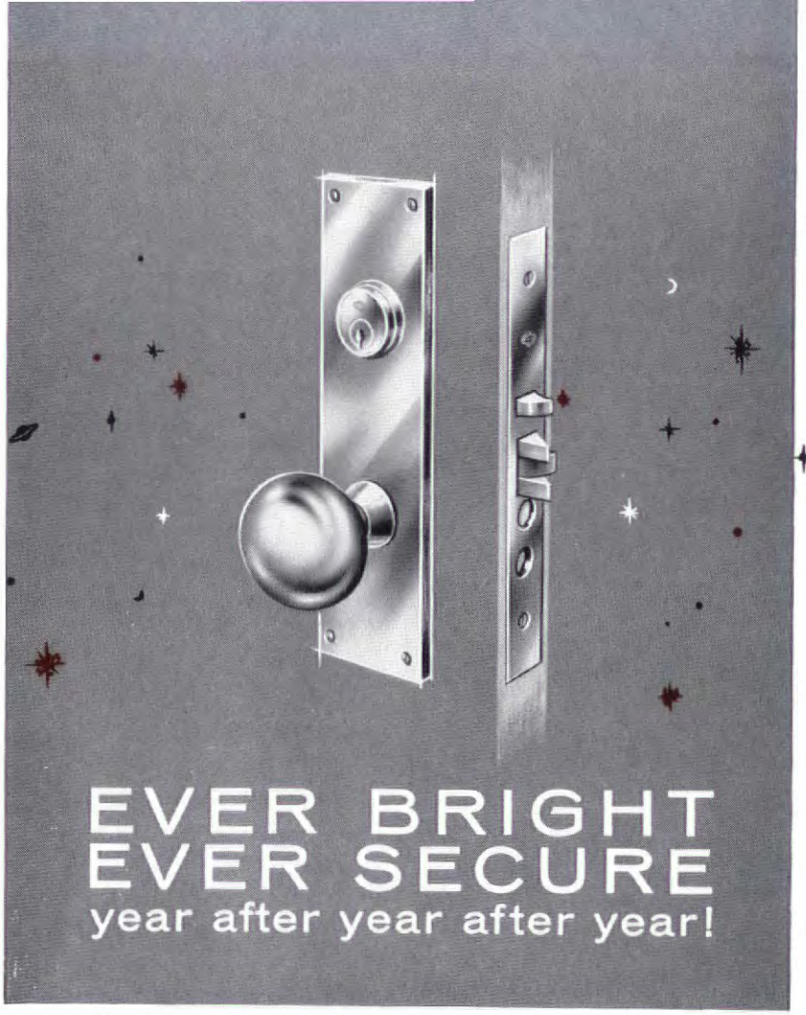

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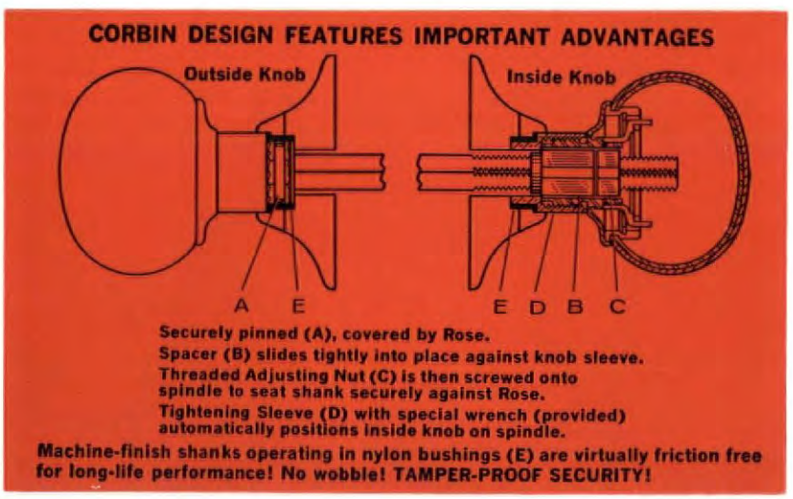

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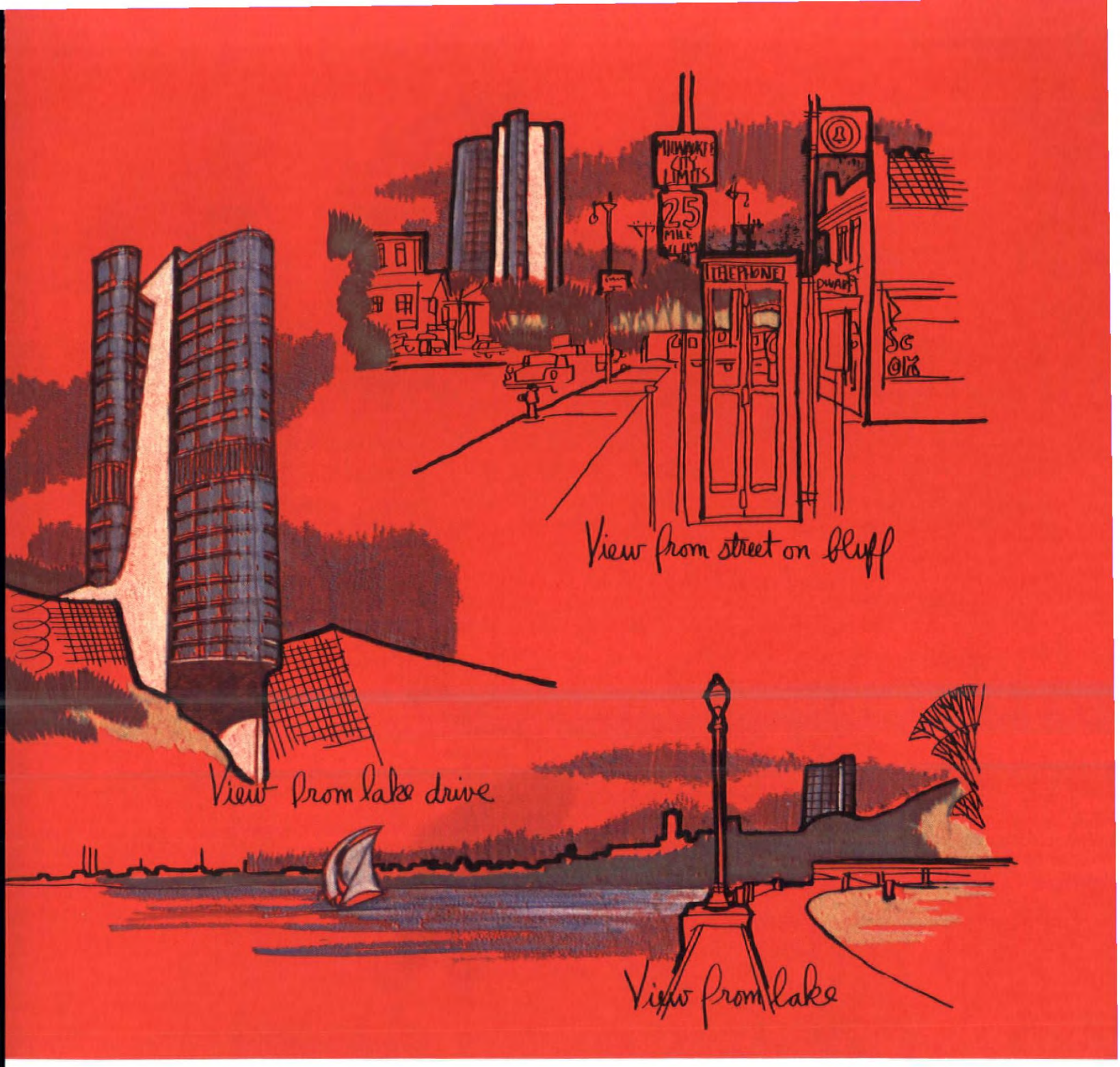

Richard R. Bergmann designs an Open World office building

Every young architect has a dream project. So has talented Richard R. Bergmann. We commissioned him to put his "dream" down on paper. Dick, a recent graduate of the University of Illinois, is now an architectural designer with Urbahn & Brayton, Architects, New York City.

He envisions a high-rise office building that would enhance and enliven the low sky line of Milwaukee's wooded shore line. This is a semi-commercial area. Perched on the top of a 60-foot bluff, the building would command a towering view of the Bay of Milwaukee and Lake Michigan.

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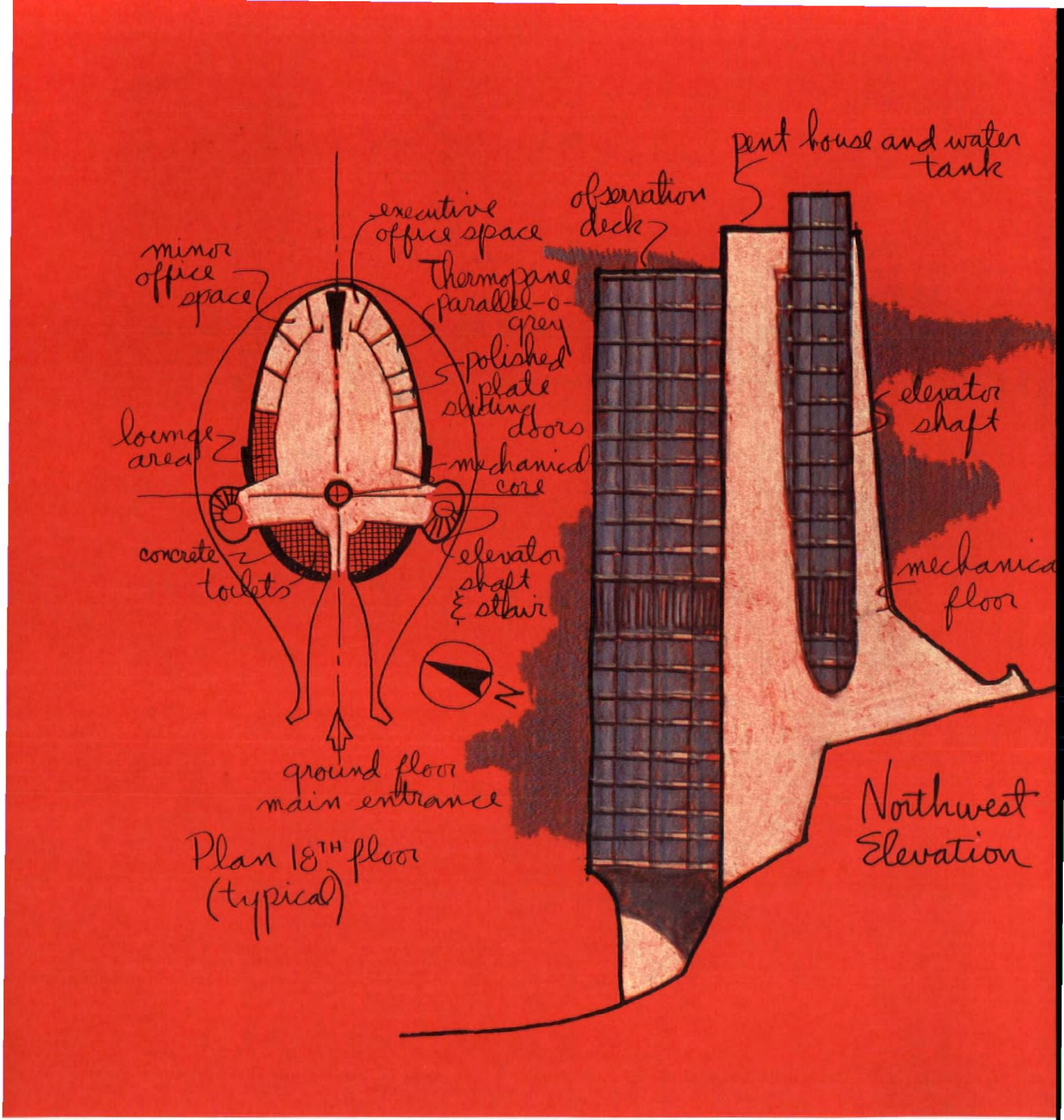
LOF GLASS



Since "full advantage should be taken of the view", glass is the major element in the building's design. Even the elevator shafts, which are located on each side of the building, would have wired glass walls. And Bergmann also envisions elevator cabs made with laminated *Tuf-flex*® glass so passengers can enjoy the view.

Executive offices would be in the outermost point of the building, which would be glazed with *Thermopane*® insulating glass and look out on the most exciting views. Staff employes would be in the building's core. So that daylight can penetrate deep into this area, the walls of the "buffer" lounge areas would be *Parallel-O-Plate*® Glass.

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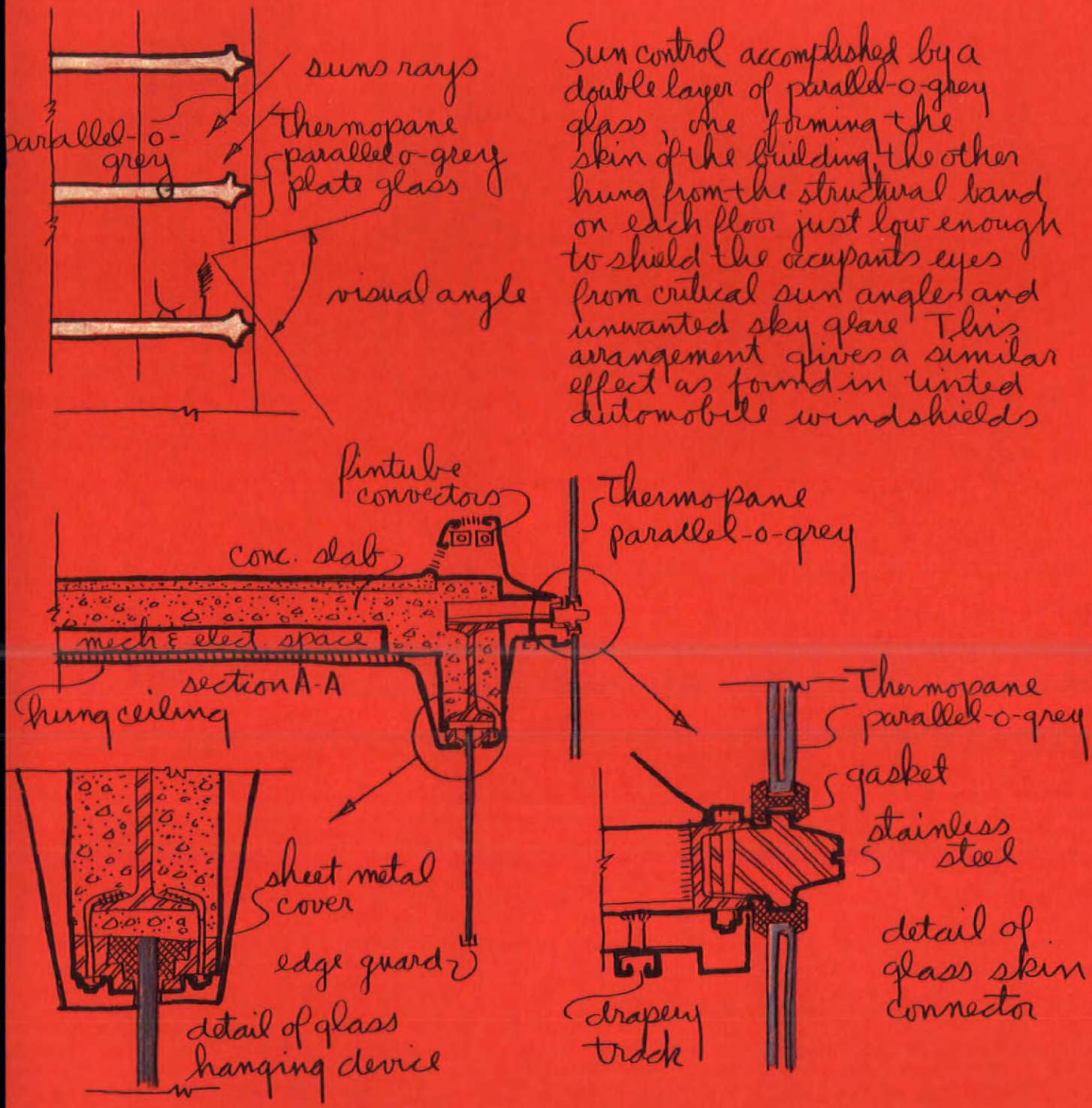
LOF GLASS



The problems of sky glare and heat gain have been considered. Liberal areas of concrete would be used in the walls facing southwest and southeast. In other areas, *Thermopane* with ¼" *Parallel-O-Grey*® Plate Glass as the outer pane would be specified. Colors seen through this tinted glass remain true. But it excludes approximately 40% of the solar energy (heat) to reduce load on air conditioning. It also transmits only about 44% of average daylight to reduce sky glare. As an extra precaution, Dick Bergmann recommends a second sky shade of *Parallel-O-Grey* hung from the ceilings back of the window areas. See details and explanation above.

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Sliding glass doors

View of lobby area (first floor) looking through to lake

Rough plate partitions

Typical executive office showing glazing and view of lake

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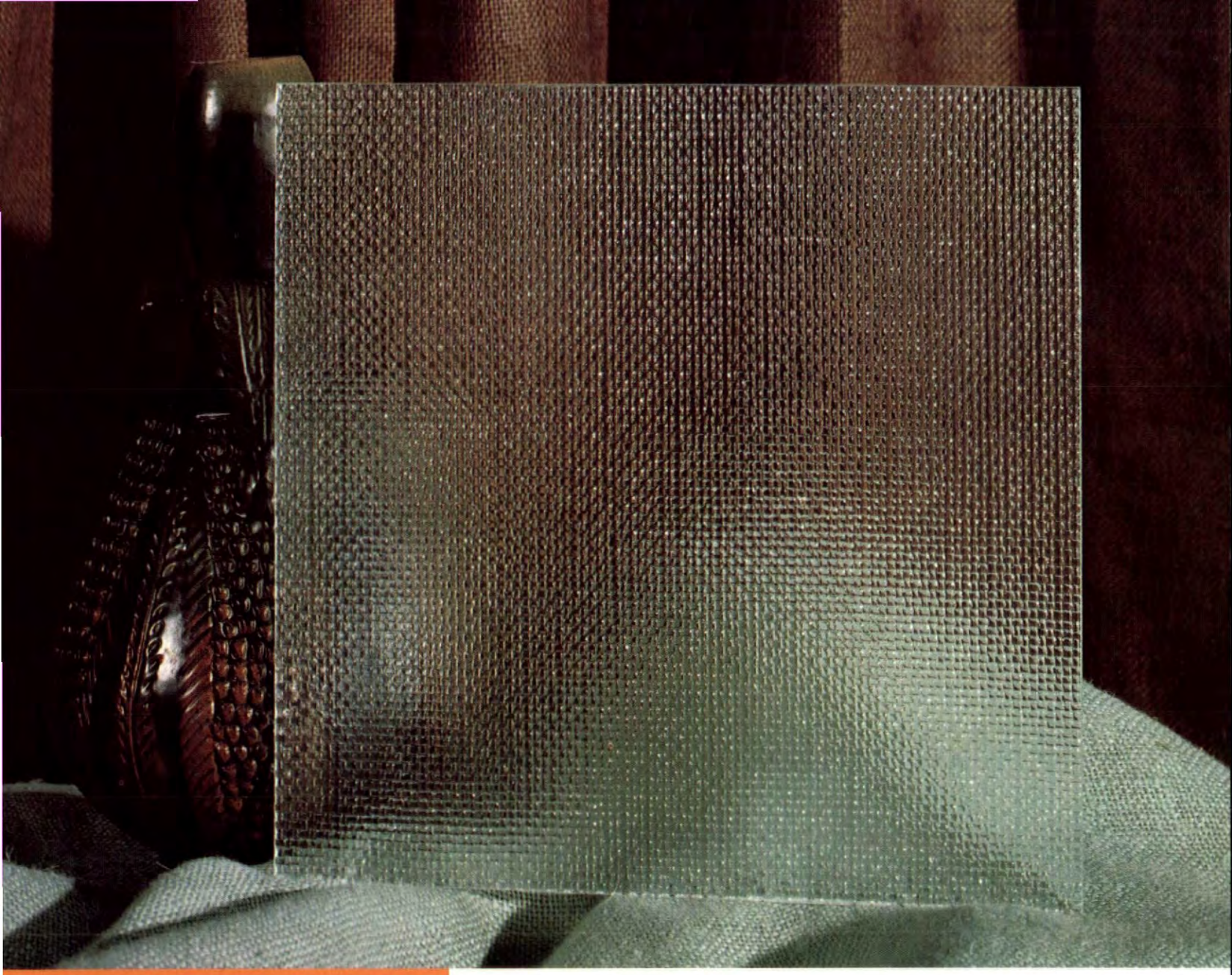

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Suspended floors in a Montreal hotel (below)
Slab towers and townhouses in Detroit (page 51)
Moon flight center, Houston (page 53)

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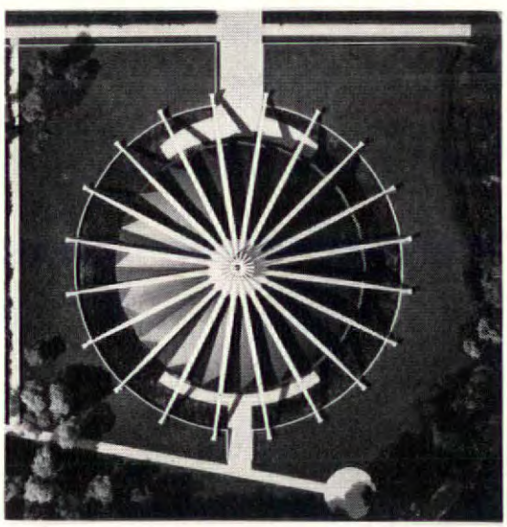

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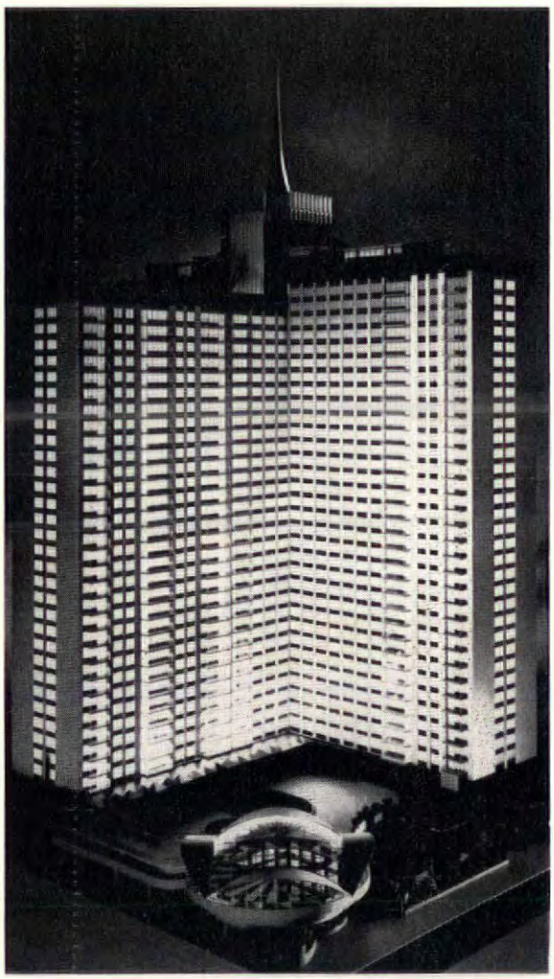

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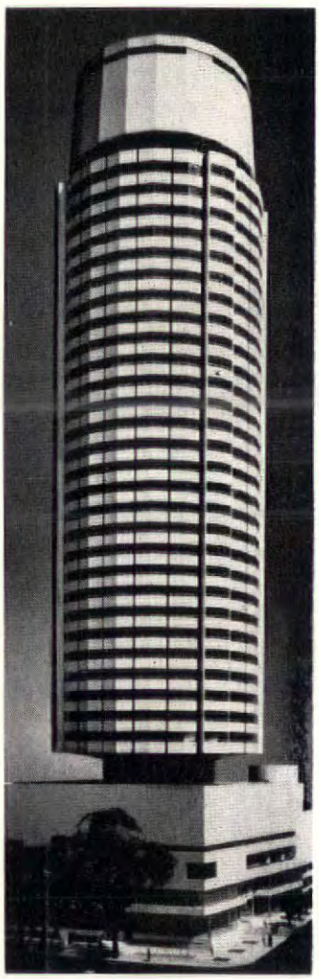


4

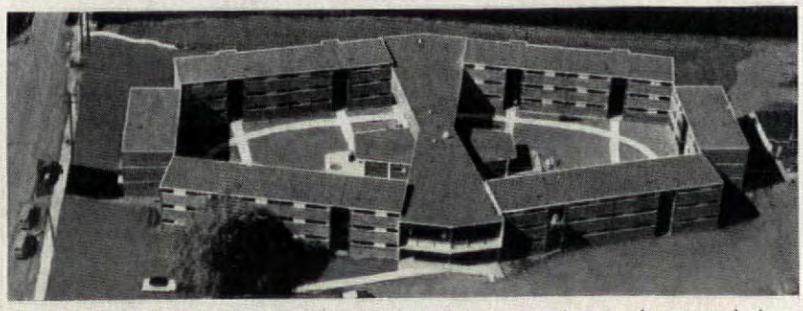
1. PASADENA OFFICES. Own-your-own-office is the idea of this small office building in Pasadena's Civic Center, for which Ladd & Kelsey are architects and developers. One share of stock in the building corporation entitles the purchaser to one square foot of office space and a portion of land. Ladd & Kelsey's offices will be on the ground floor, set back beneath the façade of glass and concrete.

2. CALIFORNIA CHURCH. This astronaut's view of the model for St. Peter's Church in Linda Mar clearly shows the umbrella shape of the roof. From a peak above the altar, the ribs of reinforced concrete drop to the ground, enclosing within the circle a suspended plywood dome and a sunken garden. Mario J. Ciampi is the architect of the church, part of a center for the Catholic Archdiocese of San Francisco.

3. CHICAGO APARTMENTS. The first unit of Jupiter Center, a vast hotel-office-apartment complex (and possibly a church, hospital, and cultural center) to be built on the Illinois Central Railroad's air rights along Lake Shore Drive, is this apartment tower. Its developer, the Jupiter Corp., claims that it is the biggest apartment building in the world: 940 apartments stacked into a bulky T shape, 40 stories high. The structure will be of reinforced concrete and the exterior walls of black and white brick. Among the auxiliary services offered tenants is the dome-topped swimming pool in the foreground. Architects: Hirschfeld, Pawlan & Reinheimer. Cost: $27 million.

4. MONTREAL SHERATON. This new hotel in downtown Montreal, the Sheraton-Cartier, will hang its floors from a system of steel trusses built atop a reinforced concrete service core. All rooms in the tower will be wedge shaped, and four on each floor will have bay windows. At the base of the tower, the hotel's public rooms will be arranged in a six-story block. The late Peter Dickinson designed the hotel; another Montreal firm, René Menkès, is preparing drawings and will supervise construction. Cost: $20 million for 38 stories, 560 rooms, parking for 200 cars.

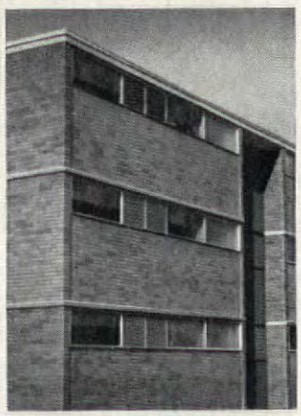
continued on page 51



Men's dormitories consist of six three-story units grouped around a central three-story office and lounge building, with total area of 48,094 square feet. They provide a total of 57 four-student housing units, plus apartments for student counselors.

promising future for students and structure

With the construction of these attractive new dormitory buildings, Central Washington College of Education has taken a long step forward in insuring the kind of pleasant, comfortable surroundings that will encourage its students to their best efforts. ¶ At the same time, abundant care was taken to give the buildings themselves a good start in life. All brick and block were laid up with Lone Star Masonry Cement. Lone Star Portland Cement was used for all concrete requirements. ¶ Lone Star Masonry Cement is the best way to launch any masonry structure on a long and useful career. It combines all the essential ingredients (except sand and water) in just the right proportions . . . makes it easy to get mixes of highest quality and uniformity every time. Lone Star Masonry Cement makes smooth, workable mortars that speed work, save time and labor on the job. ¶ Why not take a lesson from Central Washington College and use Lone Star Masonry Cement on your next job? You'll find it pays off now and for years to come. LONE STAR CEMENT CORPORATION, 100 PARK AVENUE, NEW YORK 17, NEW YORK



Student Housing, CENTRAL WASHINGTON COLLEGE OF EDUCATION, Ellensburg • Architect: COWAN & PADDOCK, Yakima • General Contractor: VANDIVORT CONSTRUCTION COMPANY, Wenatchee • Masonry Contractor: BROWN & WALKER, Yakima • Masonry Cement & Concrete by: ELLENSBURG CEMENT PRODUCTS COMPANY, Ellensburg • All of Washington.

Lone Star Masonry Cement

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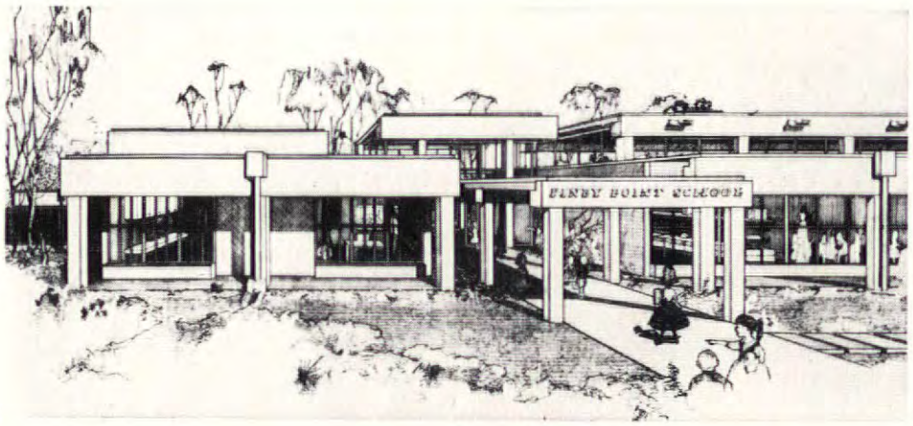

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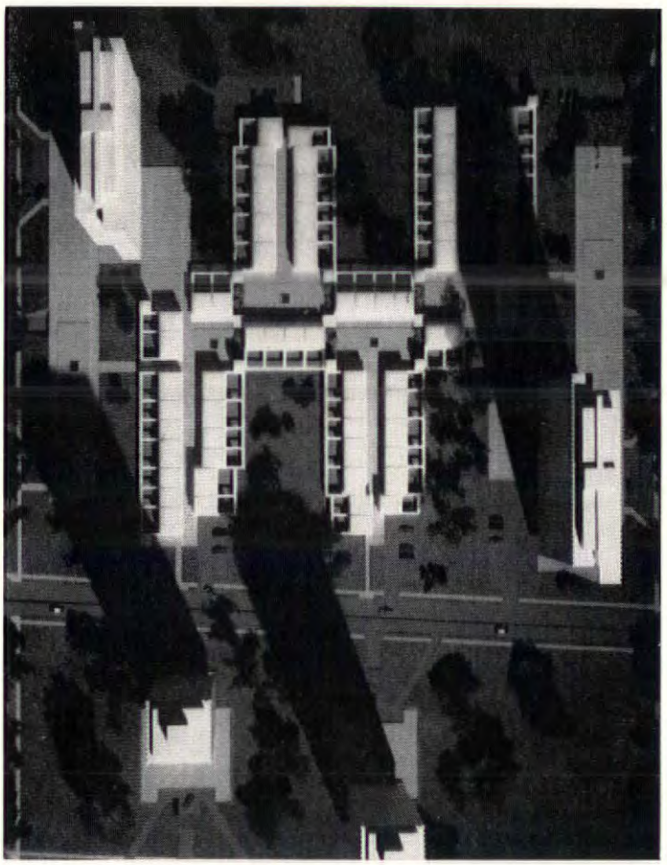

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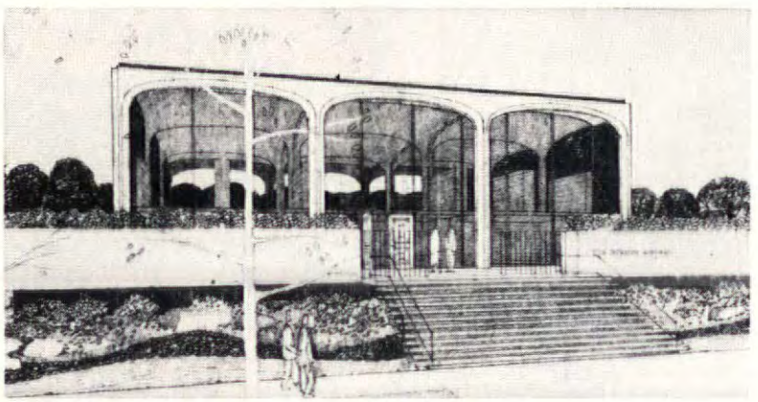

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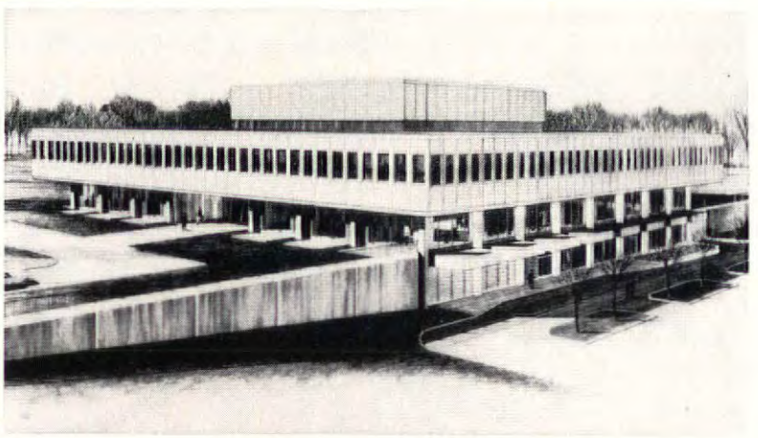

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5. HOUSTON SCHOOL. The Piney Point Elementary School, to open this fall in Houston, is the first school by Howard Barnstone & Partners, and the first in the area built entirely of precast concrete parts. Economy of construction and minimum maintenance were the aims: the contract cost is under $11 per square foot, including kitchen equipment, and materials finished in themselves or unlikely to need upkeep were chosen. Examples: fascias which are exposed, load-bearing concrete beams, gunite exterior walls, washable clay-block interior walls, Formica doors.

6. DETROIT LIVING. For Detroit's Lafayette Park project, Architects Birkerts & Straub propose two apartment buildings (left and right in the model photograph) and 70 townhouses (cubes in the center), across the street from Mies van der Rohe's apartments. The schedule is to begin one tower this year, then the second, and the townhouses last. Both towers are to be reinforced concrete slabs offset on either side of open-end corridors. Room spacing will determine where the tapered structural columns on the exterior will be placed.

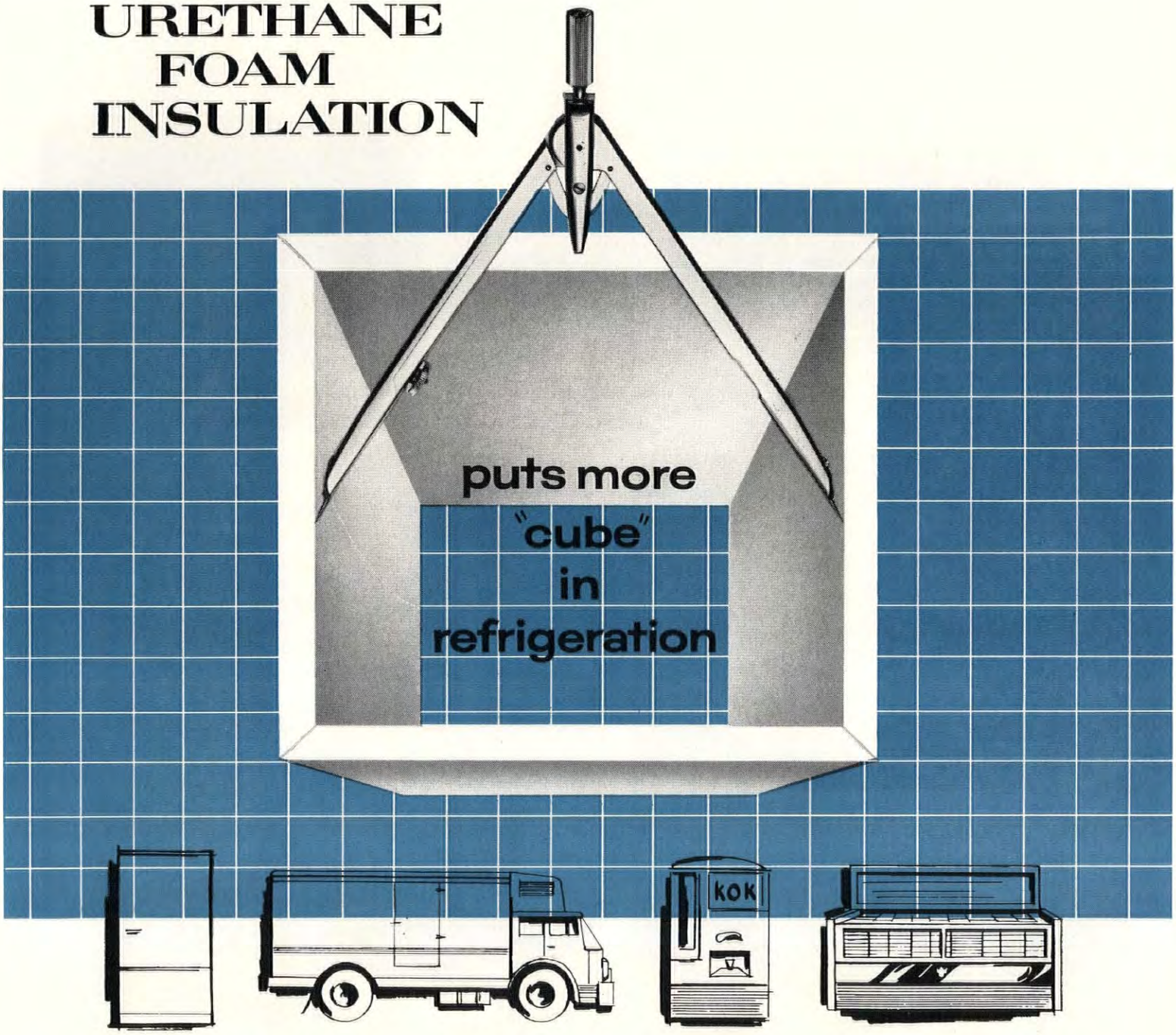
7. WASHINGTON WINNER. Winning over 17 contestants, this scheme by Morris Lapidus, Harle & Liebman for the Southwest Urban Renewal Area in Washington, D.C. won the architectural jury but still has several hurdles to go. The plan for apartments, townhouses, and maisonettes is sponsored by the D.C. Realty & Development Corp.

8. CONNECTICUT LIBRARY. A small glass-and-concrete pavilion in Norwalk, Conn., designed by Sherwood, Mills & Smith, will house a technical library and a collection of rare scientific books and instruments.

9. MICHIGAN OFFICES. The international headquarters for the Maccabees Mutual Life Insurance Co. will move into this new building in Southfield, Mich., in 1963. The three-level-and-penthouse structure, for which Harley, Ellington, Corwin & Stirton, Inc. are architects and engineers, will be framed in steel and faced in precast quartz aggregate panels.

continued on page 53

URETHANE FOAM INSULATION



Wherever space-and-weight savings are desirable, rigid urethane foam offers maximum low-temperature insulating efficiency. With k-factors as low as 0.11, urethane can provide one-third better insulation with only one-half the thickness of the next best insulator. It has excellent dimensional stability, low moisture pick-up and high strength-to-weight ratios.

It's more versatile than other insulations as well. Slabstock is handled the same way as any board material. Prefab panels, made to required sizes and shapes, add structural support and permit service lines to be built-in, completely surrounded by foam.

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STONE AND STECCATI

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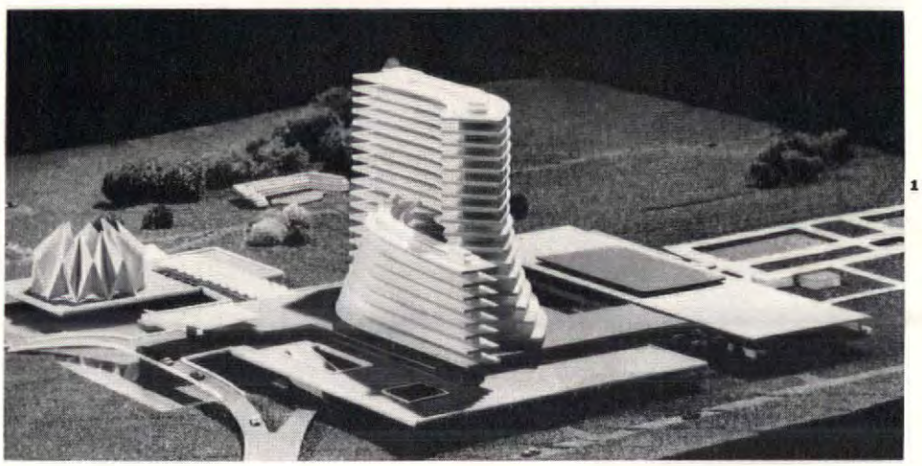

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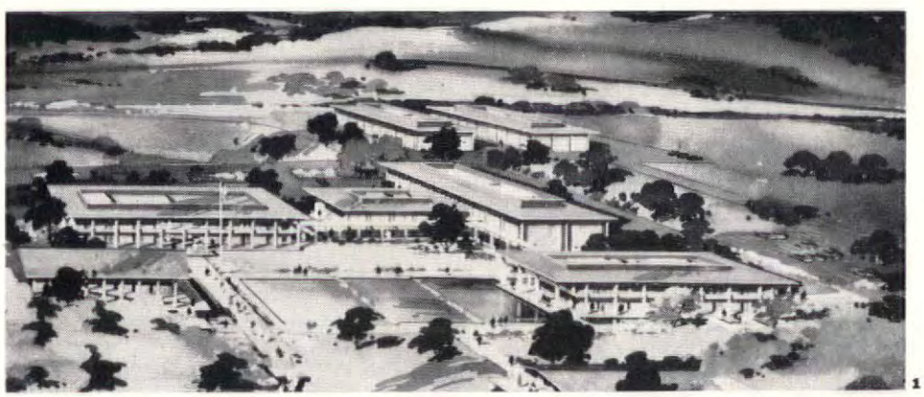

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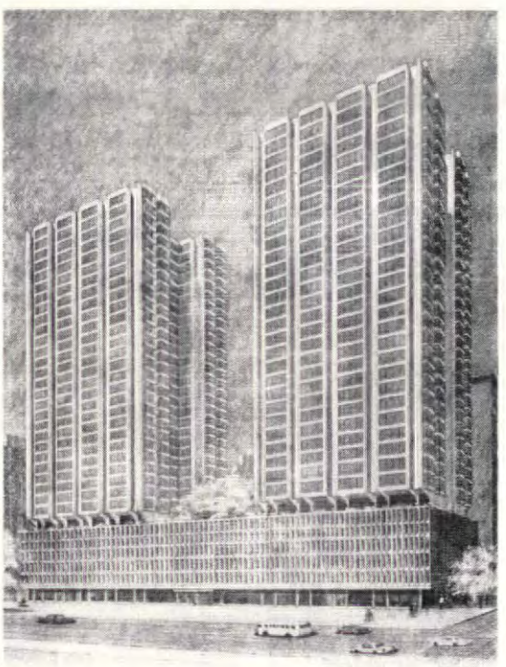

10. *SPACE CENTER IN TEXAS.* Shown above is the first official sketch of the $90 million Manned Spacecraft Center outside Houston, headquarters for the National Aeronautics and Space Administration's Apollo Moon Shot. In this center, NASA will duplicate conditions anticipated on the moon and train astronauts in landing, control, and blast-off. Part of their training will take place in a 12-story flight project center, the tallest building in the complex. Architects: Charles Luckman Associates, Brooks & Barr, Harvin C. Moore, MacKie & Kamrath, Wirtz, Calhoun, Tungate & Jackson; contractor, Brown & Root.

11. *NEVADA RESORT.* Like the oyster around the pearl, this Reno hotel will wrap a gambling casino between two curved slabs. Other attractions: a theater-restaurant over a moat, convention facilities in the long rectangle behind the hotel, three pools. Architect: Tallie B. Maule of San Francisco.

12. *STANFORD ACCELERATOR.* Another project under the aegis of Charles Luckman Associates is the Stanford Linear Accelerator Center, to be built and operated by Stanford University, and sponsored and paid for by the Atomic Energy Commission. Eventually there will be 20 buildings in the center, both underground and aboveground, but the biggest structure will be the housing for the accelerator, its 10,000-foot length shielded by concrete and earth to a thickness of 35 feet.

13. *CALIFORNIA OFFICES.* William L. Pereira & Associates' design for Irvine Tower in Newport Beach, Calif., is a 200-foot shaft of slim white columns and gray glass; at its foot, banks and brokers' offices will spread over a broad platform inlaid with pools. High above the offices, at the top of the tower, will be a luncheon club caged in steel bents.

14. *PHILADELPHIA APARTMENTS.* Twin towers of 34 stories, a seven-level garage, a swimming pool, and an ice skating rink are the features of Academy House, an apartment project in Philadelphia, expected to cost $23 million. Milton Schwartz & Associates designed it for the National Land & Investment Co. END

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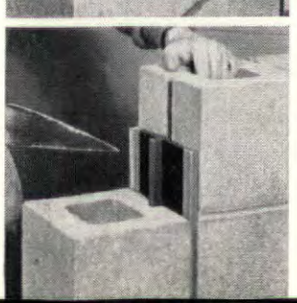
- Dur-O-waL Ltd., 789 Woodward Avenue, **HAMILTON, ONTARIO, CANADA**



Strength with flexibility—the two basic factors for a repair-free masonry wall are assured by these engineered companion products. Dur-o-wal reinforcement, top left, increases flexural strength 71 to 261 per cent, depending on weight Dur-o-wal, number of courses, type of mortar. The ready-made Rapid Control Joint, beneath with its neoprene compound flange flexes with the wall, keeps itself sealed tight.

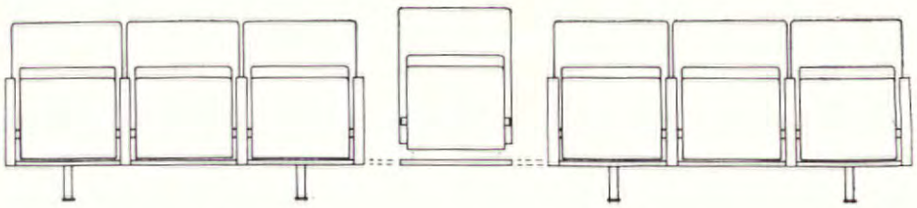
PLUG-IN BUILDING BLOCKS

Among the attractions of the Seattle World's Fair is a house made up of four large boxes, one of them shown here as it was being unloaded near the Space Needle. Although used in Seattle to form a residence, the modular "building blocks" could be used also to create schools, motels, or small offices.

Each module is 12 by 24 feet; in the floor are its own heating, cooling, plumbing, and electrical facilities. The various utilities can be "plugged" into the nearest outlets. Walls and roof are stressed-skin plywood panels, insulated against sound and weather. The whole unit is assembled in the factory and delivered to the site with glass in place, ready to be set on piers.

Robert Martin Engelbrecht, the architect who designed the prototypes for U. S. Plywood, estimates that mass-produced modules would cost $2,000 to $3,000 each.

Manufacturer: Panelbild Systems Div., U. S. Plywood Corp., 7010 196th St., S. W., Lynnwood, Wash.



LINCOLN CENTER CHAIR

These two chairs—which are samples of the 2,612 seats going into Philharmonic Hall in Manhattan's Lincoln Center—may very well be the most painstakingly designed theater seats ever built.

Their design has absorbed two years and a host of experts, including the hall's architect, Max Abramovitz, Designer Don Wallance, Acoustical Consultants Bolt, Beranek & Newman, Graphic Consultants Chermayeff & Geismar Associates and Lustig & Reich, and the designers and testing facilities of fabric and chair manufacturers. The sum of their expert labors is a chair deceptively simple in appearance, yet complex in function.

Naturally, the concertgoer's first concerns are comfort, good sight lines, and good acoustics. The slimmed-down lines of the new chair and upholstery satisfy all three. Interestingly enough, the polyurethane foam used as padding is porous, "soft" to sound, and close to the human body's absorptive capacity, so that the hall does not have to be filled to function well acoustically.

To make cleaning easier, the designers eliminated most legs: instead, groups of seats rest on a horizontal steel beam, supported at intervals by pedestals. This arrangement also makes the seats easier to move. For small concerts, rows of seats may be removed in sections by separating a single back and seat and pulling out the groups on either side (see drawing).

Statistics: chair seats, 22 inches wide; seat backs, 19¾ inches from seat to top; height from floor to top edge of the seat, 17¼ inches; row-to-row spacing, 34 to 42 inches. Upholstery colors are four shades of gold, a different shade for each section of the hall.

Manufacturer: American Seating Co., Grand Rapids 2, Mich.

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STACKING CHAIRS

These molded plastic chairs, sitting in each other's laps, are from Schoolco's new line of school furniture called *Nyflex*. Related chairs in this line will sprout tablet arms and desk tops, some of them with lift-up lids. The seat and back, injection molded in one piece, is Monsanto's Lustran I, a styrene-based plastic. An X frame of tapered steel tubing fastens underneath the seat, its tips encased in rubber-cushioned glides for quiet movement.

Although the chair is manufactured in three heights, 16, 17, and 18 inches from the floor, sized for children from grades 4 through 12, the seat size is standard: 15 inches wide, 16¼ inches deep, with a back 15¼ inches high. Colors: coral, gray, or green for the seat; sand-gray enamel or chrome for the underpinnings. Cost: $16.60 and $18.50 each for the enamel and chrome finishes, respectively.

Manufacturer: Schoolco, Inc., Beckley-Cardy Co., 1900 N. Narragansett St., Chicago 39.

CONTRACT CEILING

Overshadowed by its well-known movable walls, Hauserman's ceilings of steel pans have long been manufactured quietly for sale to other manufacturers to market under their own names.

Now, however, Hauserman is offering a full line of incombustible ceiling products plainly identified by the name *Hauserman Criterion,* and the company is thus entering the acoustical contracting business as well.

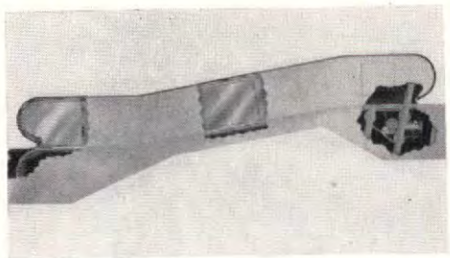
The shift came about in part because Johns-Manville dropped out of the ceiling contracting business, a decision which allowed Hauserman to add a number of J-M-trained

people to its staff; and in part because Hauserman sees a large market for a whole interior system bought and installed under a single contract.

Manufacturer: E. F. Hauserman Co., 5711 Grant Ave., Cleveland 5.

MOVING SIDEWALK

Westinghouse will produce its first *Electric Walk*—a moving sidewalk—early next year in two versions: completely flat or angled to a 15-degree incline. Either may be installed (indoors or out) in airport terminals, railroad stations, department stores, and shopping centers.



The walk's standard speed is 120 feet per minute, but it can be speeded up to 180 if the incline is not more than 8 degrees. Installation requires a pit about 3½ feet deep at both ends of the treadway, but the walkway needs only 12½ inches between the tread surface and the bottom of the walk.

Manufacturer: Westinghouse Electric Corp., Elevator Div., 150 Pacific Ave., Jersey City, N. J.

MARINE COATING

Shell Chemical Co. has developed an epoxy compound—*Epon resin/polyamide*—to protect steel, concrete, and wood under water and prevent corrosion in the "splash zone," the area closest to the water's surface, where a particularly damaging array of forces is at work. In this zone, debris and dissolved organic matter in the water scrape up and down as tides and waves rise and fall; and air rich in oxygen, as well as salt deposits exposed at low tide, combine to make corrosion an acute problem.

The new coating was developed for Shell's own offshore drilling and production platforms in the Gulf of Mexico, where it proved to be far more effective in the splash zone than any other treatment; but it can be used on virtually any marine structure, including dams and swimming pools. Best of all, it can be applied without first drying the surface.

The application technique is an underwater version of finger painting, performed by divers in full scuba regalia. They simply smear on the compound to a thickness of ⅛ to ¼ inch, usually starting with a thick mass at the top of the area to be covered and sliding it down into the water to whatever depth is necessary. The only preparation the surface needs is a good cleaning,

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preferably by sandblasting, which Shell says is not difficult even under water. A curing agent in the compound migrates to the substrate and dries it enough so that the compound sticks. The compound is made up of two parts, which have to be mixed just prior to use and must be applied within 45 minutes to an hour. The movement of water during the curing process does not seem to affect the placement of the compound. Almost any color can be produced.

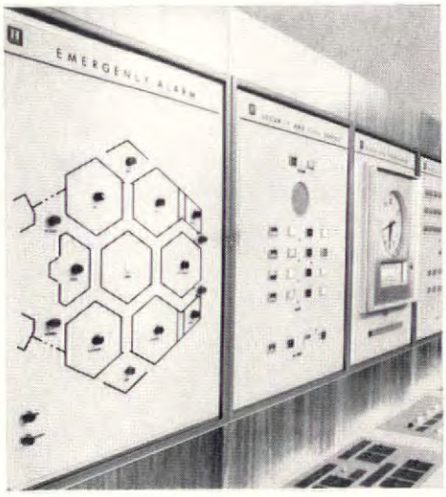
Suppliers: Cook Paint & Varnish Co., 1412 Knox St., Kansas City, Mo.; Napko Paint Stores, 5106 Richmond Rd., Houston; Pittsburgh Plate Glass Co., Paint Division, Pittsburgh 22.

AUTOMATIC STUD DRIVER

Gregory Industries and its Nelson Stud Welding Division have developed a new heavy-duty stud driver, the *Nelson Hi-V*. Simpler and easier to operate than the first powder-actuated gun Nelson put on the market two years ago, the new one automatically ejects cartridges from both barrels, adapts to different materials by changing the position of the guard plate on the nozzle, and stands upright on a ledge or shelf only when the breech is open, to prevent accidental firing. The trigger is large so that it can be pulled without removing gloves in cold weather. The handle is shockproof and made of nylon. The gun can be taken apart and reassembled without any special tools.

List prices: $137.95 for a gun with a single barrel of ¼ or ⅜ inch, $148.95 for the double-barreled gun, one of each size. Caps with plastic tops, a different color for each charge, cost $6.20 per hundred.

Manufacturer: Gregory Industries, Inc., Lorain, Ohio.



SCHOOL MONITOR

These automatic controls for schools, designed by Minneapolis-Honeywell, take attendance, keep track of key people, turn on mechanical equipment, sound alarms in case of fire or illegal entry, and indicate which rooms are in use. The chances are that no school needs all ten control panels, for some combine two or three functions, but the line-up shows the range of information available at a glance from a central control point.

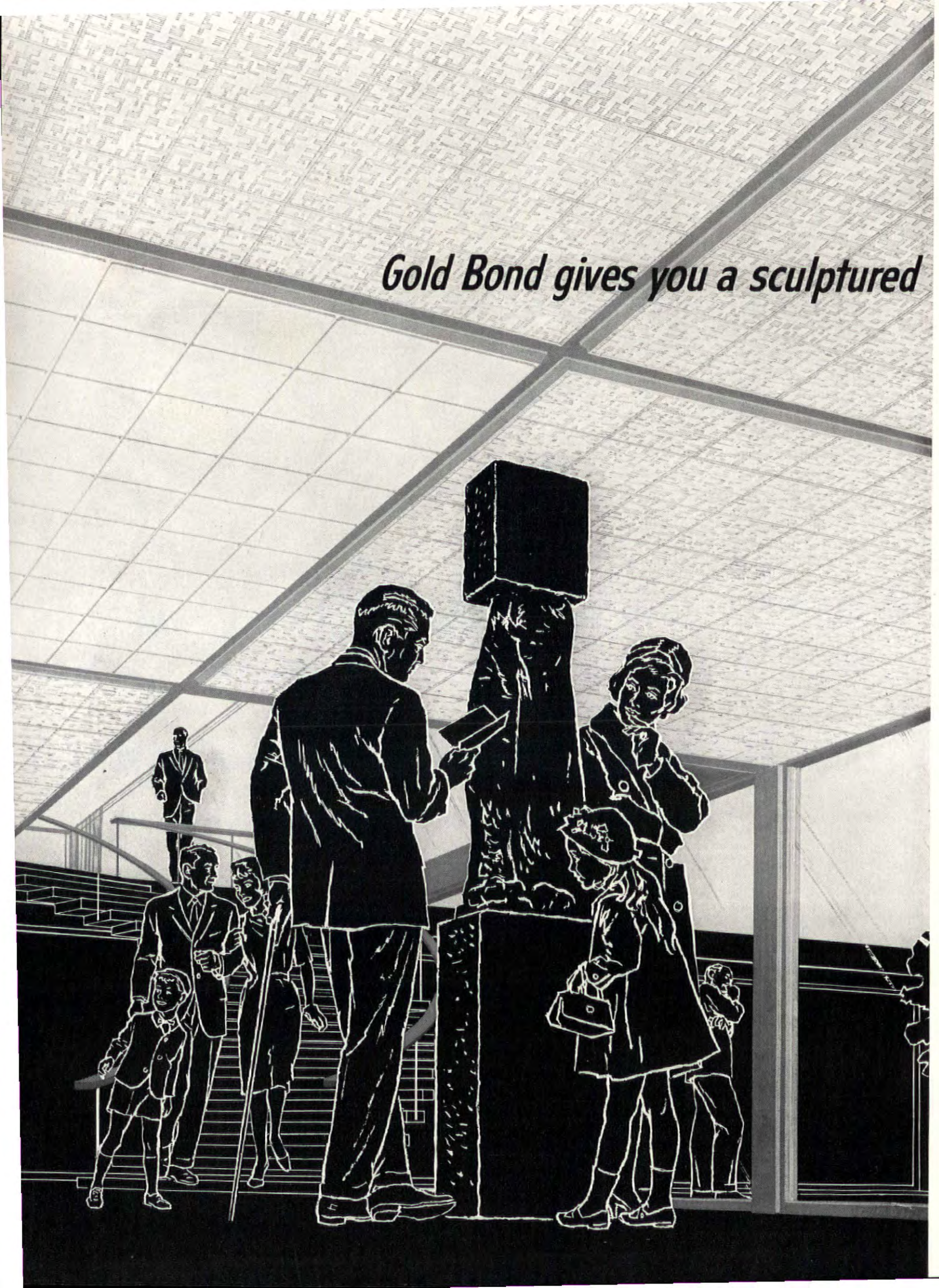
Manufacturer: Minneapolis-Honeywell Regulator Co., 2747 Fourth Ave. South, Minneapolis 8.

PREVIEWS

Inorganic foam coatings made from porous silica and sprayed onto steel members may prevent them from buckling in case of fire. Their insulation value is so high, says Pittsburgh Plate Glass Co., that heat from a blow torch at 5200 degrees Fahrenheit toughens the surface without destroying it. *Porecrete* compounds of silica are furthest along in laboratory testing, but PPG is also making and testing zirconium and titanium oxide foams. Porecrete is roughly a year away from commercial production.

A new formula for concrete prestresses it chemically, a technique which could go a long way toward making slabs, tilt-up wall panels, and concrete roads crackproof. The trick to forming such large pieces is compensated shrinkage: the new formula makes concrete expand in curing just as much as it shrinks in drying, so that it ends up precisely the same size as the form.

Richard Pegram, research director for T. Y. Lin & Associates, now testing the new formula, says that compensated shrinkage allows them to make tilt-up walls that never crack. Alexander Klein at the University of California invented the formula, for which a patent application has been filed. His research was supported by the Permanente Cement Co., likely to be the first to market the new formula. END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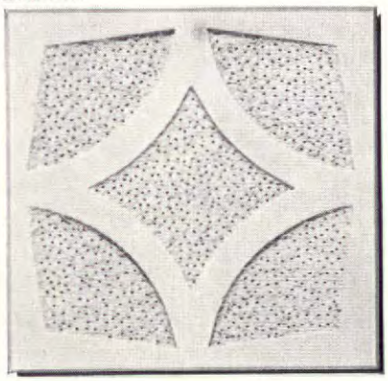

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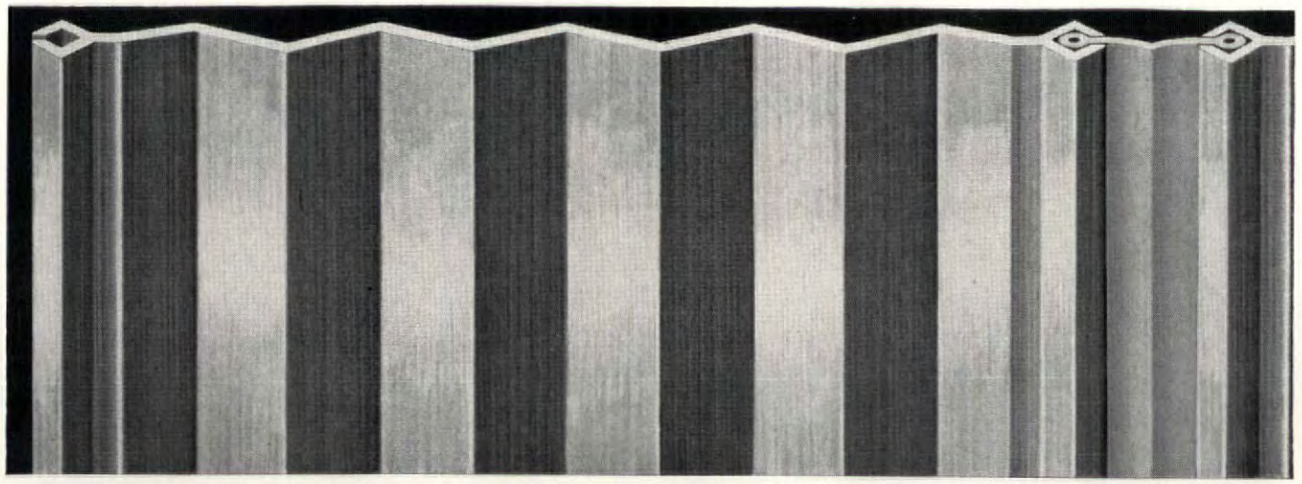

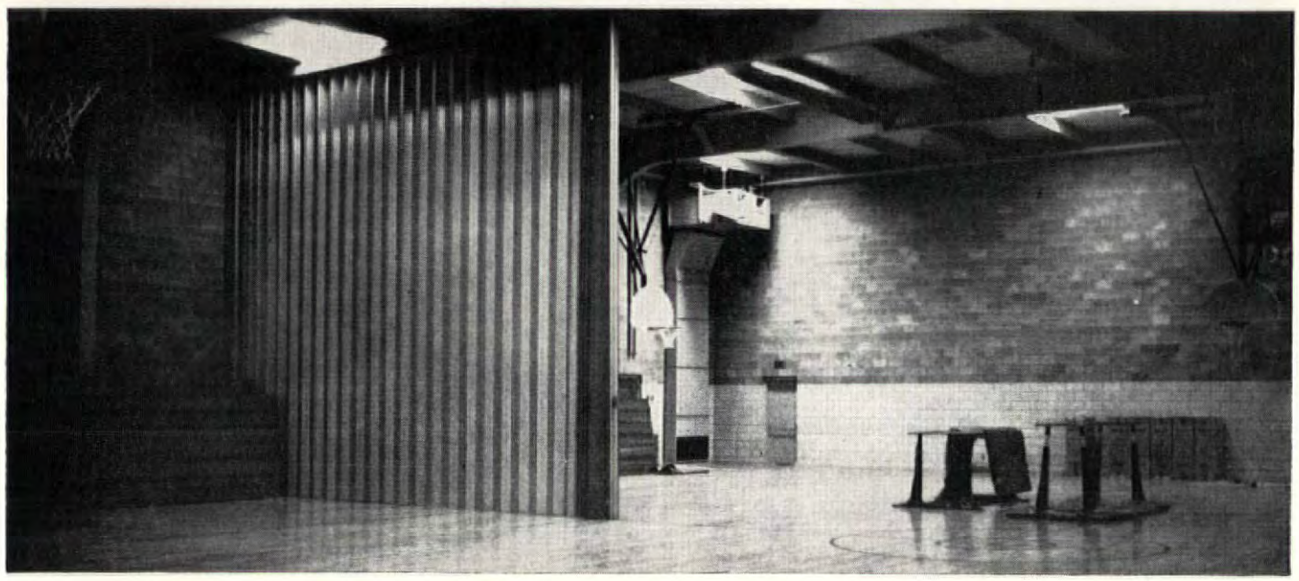

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AIR DISTRIBUTION • AIR CLEANING • AIR EXHAUST

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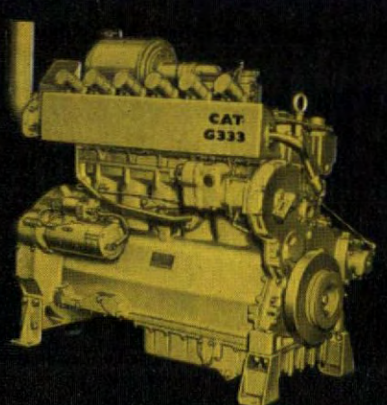
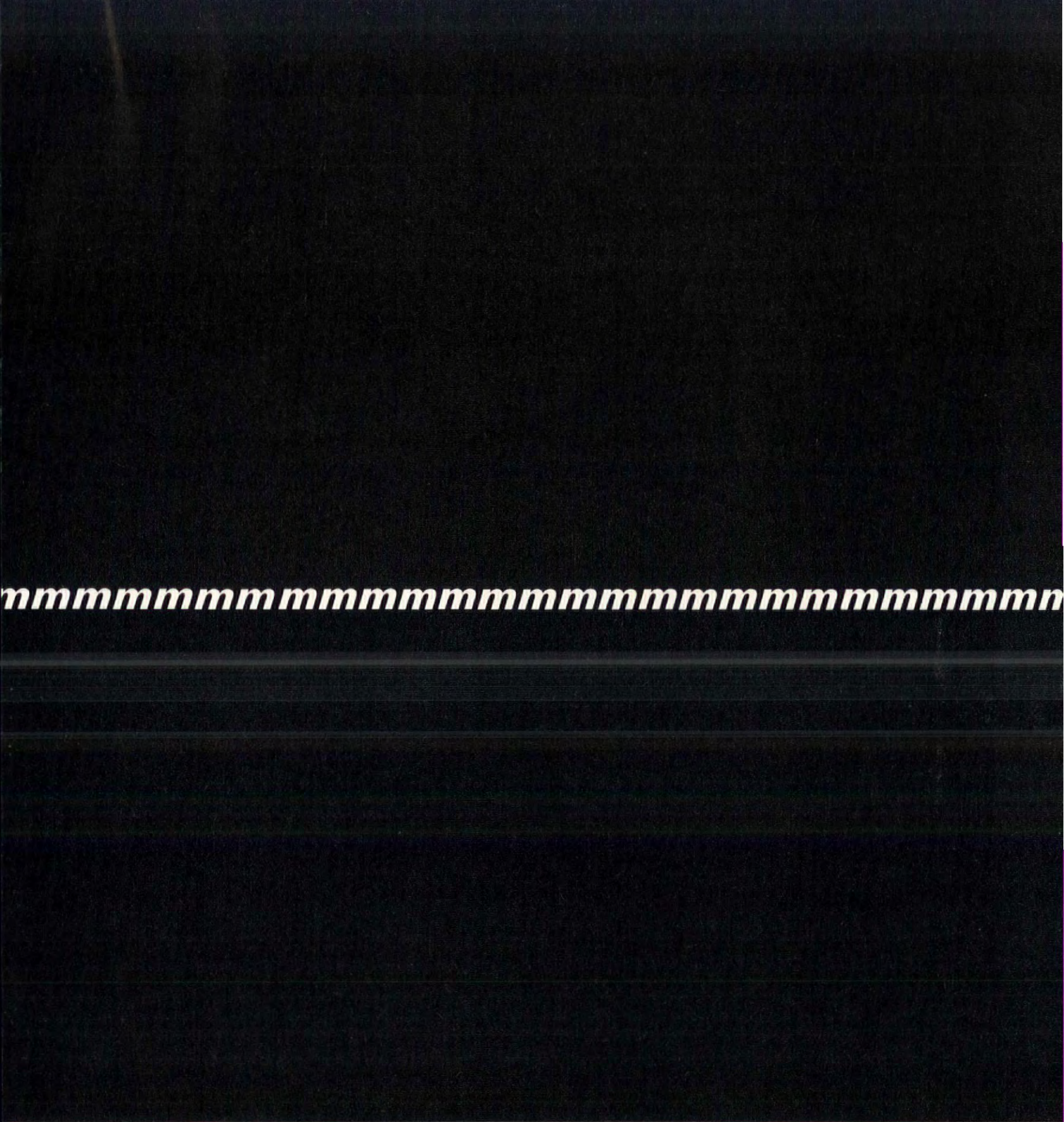


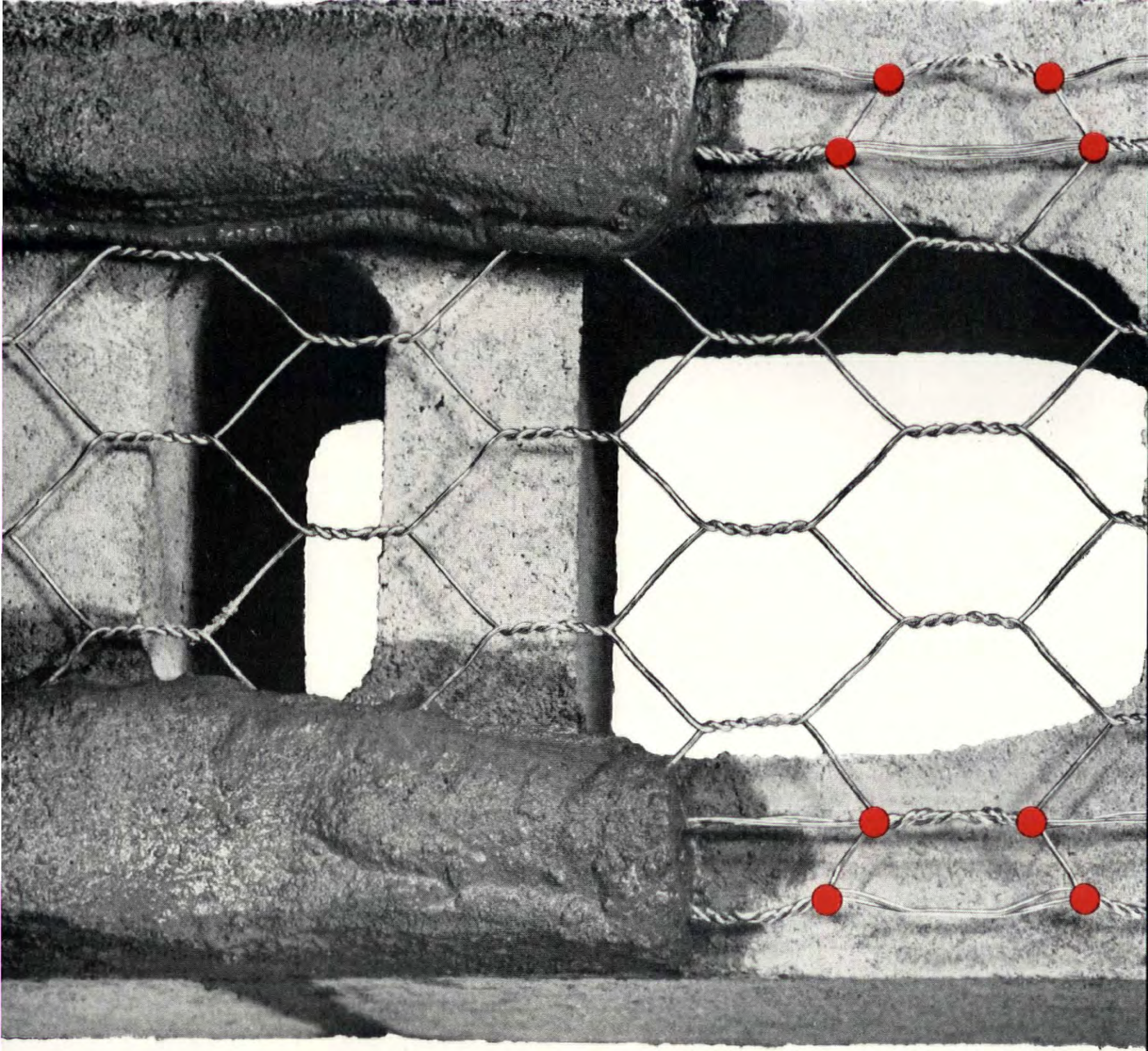
Visit the spectacular Gas Pavilion at the Seattle World's Fair.

the only sound you'll hear from this proven, compact Cat Gas Engine

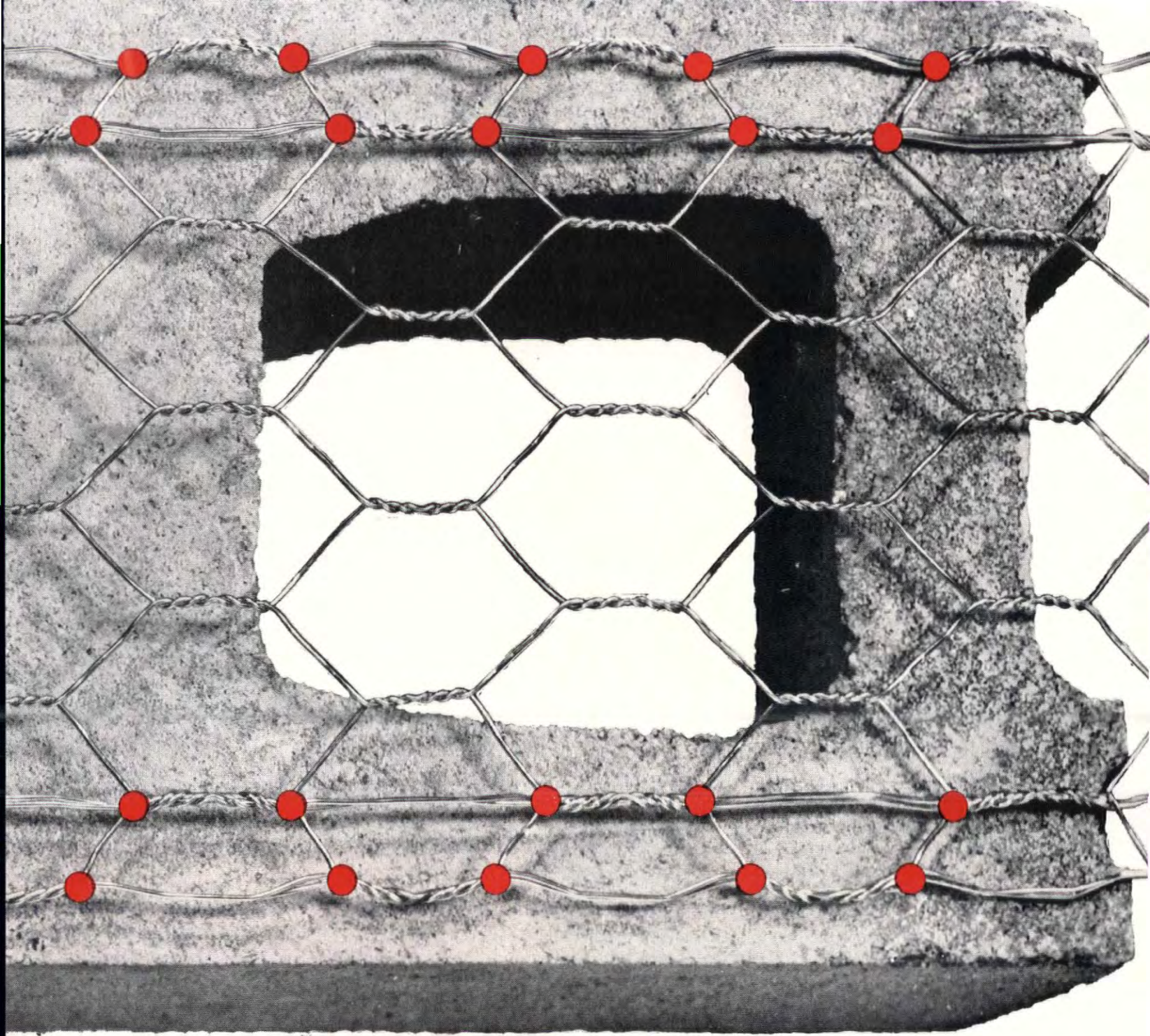


Now for gas cooling! The compact Cat G333 Natural Gas Engine *hums up to 25,000 hours before it needs a major overhaul. Even under constant full loads! Fact is, the Cat G333 is the longest-lasting small gas engine ever made. (It's the only one built like a husky diesel.) Most economical, too... thanks to low-cost gas. Two compression ratios, 12:1 and 8.5:1 give you peak efficiency with type of gas available. Before you pick the power source for your gas air conditioning system, get all the facts about the new Cat G333. Call your Caterpillar Dealer, local Gas Company, or write: Engine Division, Caterpillar Tractor Co., Peoria, Ill., for full color brochure on the entire line of Cat Natural Gas Engines.* ***For Heating and Cooling... Gas Is Good Business***

AMERICAN GAS ASSOCIATION



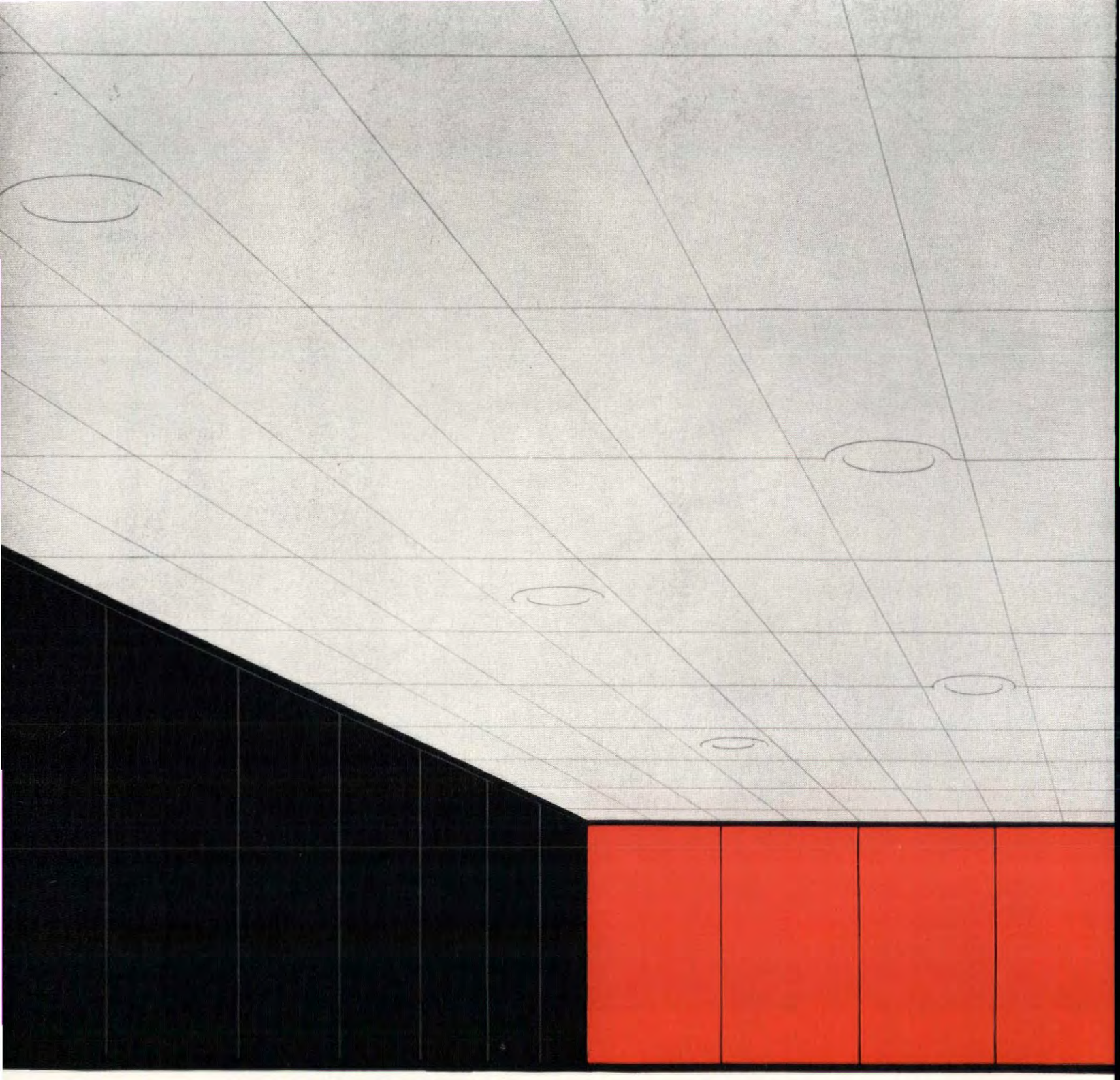
KEYSTONE STEEL & WIRE COMPANY Peoria, Illinois



28 mortar locks to the block foot with Keywall reinforcement. The more locks, the more resistance to cracks resulting from shrinkage. Movement is restrained at each of Keywall's mortar locks. No one lock has to restrain more than the movement in ¾″ of block. That's the kind of reinforcement that works.

MORE LOCKS TO THE BLOCK WITH KEYWALL

MAKERS OF KEYCORNER • KEYSTRIP • KEYWALL • KEYMESH® AND KEYMESH PAPERBACKED LATH • WELDED WIRE FABRIC • NAILS



New from Hauserman

Criterion

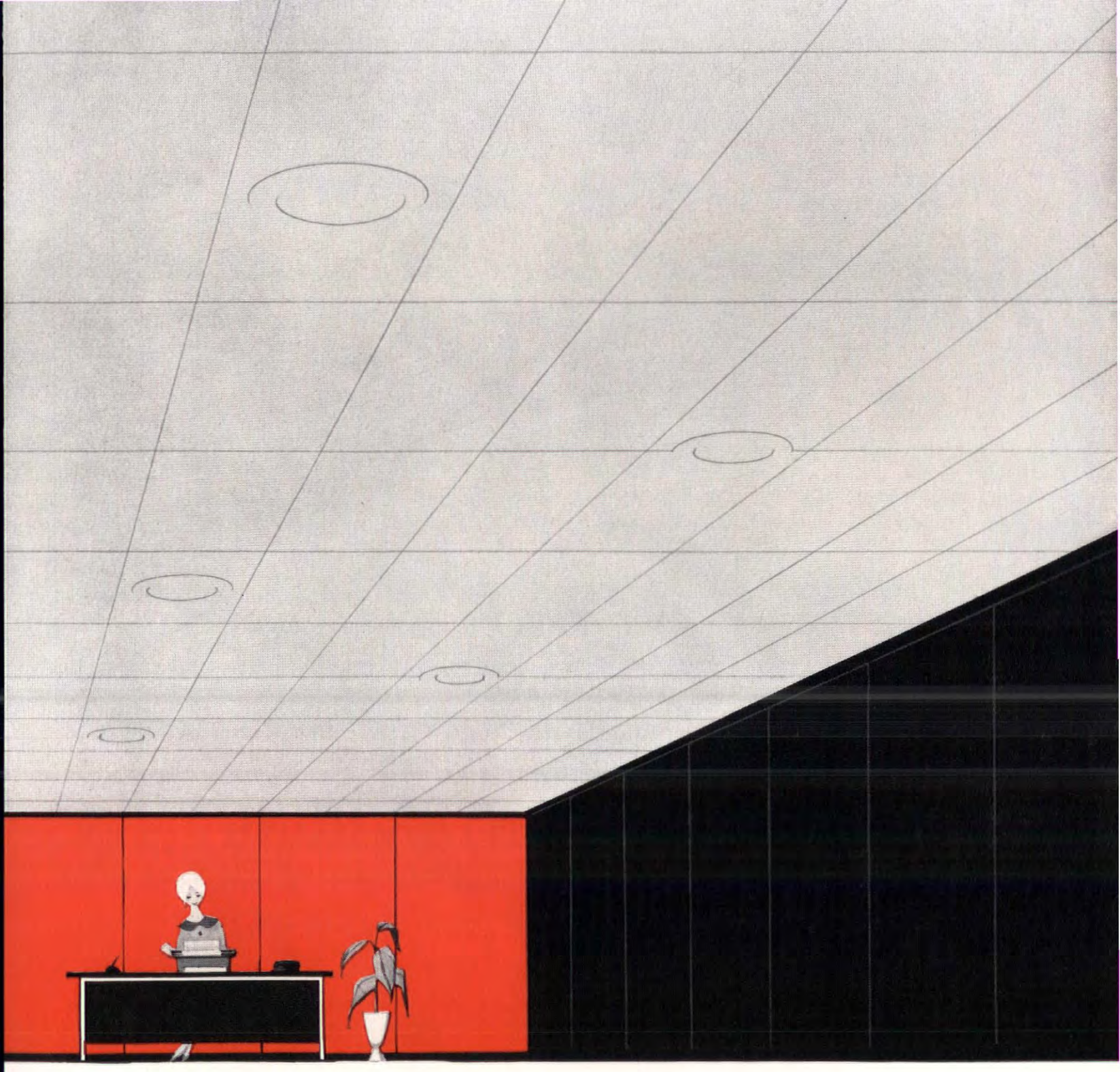
a series of incombustible ceiling products

...an idea ...a pledge

THE PRODUCTS: In the Hauserman Criterion line you can choose exactly the right ceiling material for the job —fiber glass, asbestos fiber, mineral wool fiber, perlite, metal pan ... Hauserman offers them all.

THE IDEA: Hauserman single contract responsibility for every detail of your job from initial order to completion, eliminates expensive delays and scheduling headaches, assures an integrated installation by Hauserman's payroll employees.

THE PLEDGE: Fifty years of Hauserman experience,



skills and reputation to guarantee a completely satisfactory installation. A Hausermanaged approach that sees Criterion not as a simple series of products but as a total ceiling concept.

Whether you're interested in Criterion ceilings; Hauserman movable walls; or an integrated, single-source package of both, there's no "or equal" when you specify Hauserman.

And, now both acoustical ceilings and movable walls can be included in Hauserman's unique capital-extending leasing plan.

THE E. F. HAUSERMAN COMPANY
7588 Grant Avenue, Cleveland 5, Ohio

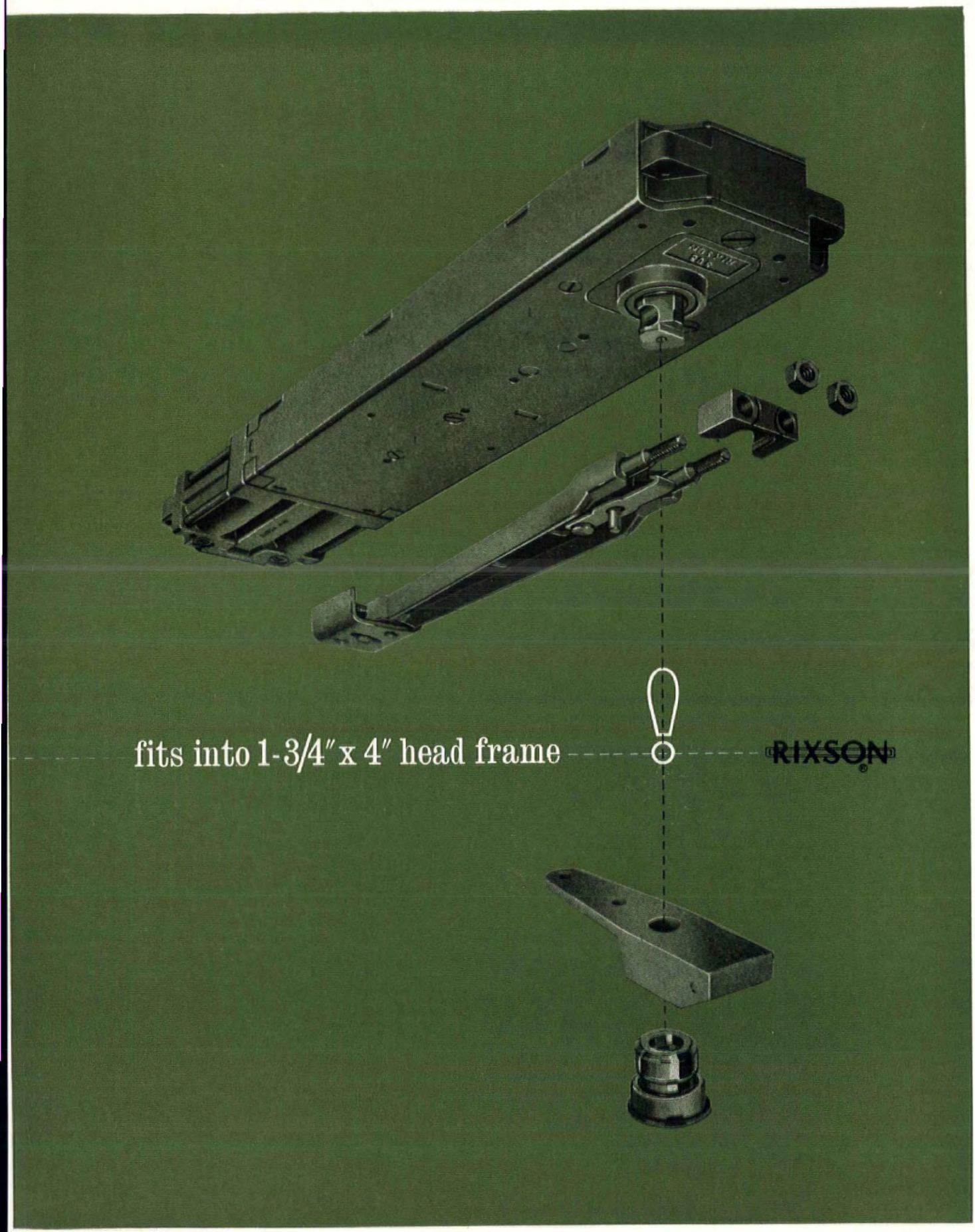
☐ Please send me your booklet on Criterion ceiling systems.
☐ Please send information on Hauserman's Leasing Plan.
☐ Please include full information on Hauserman Movable Walls.

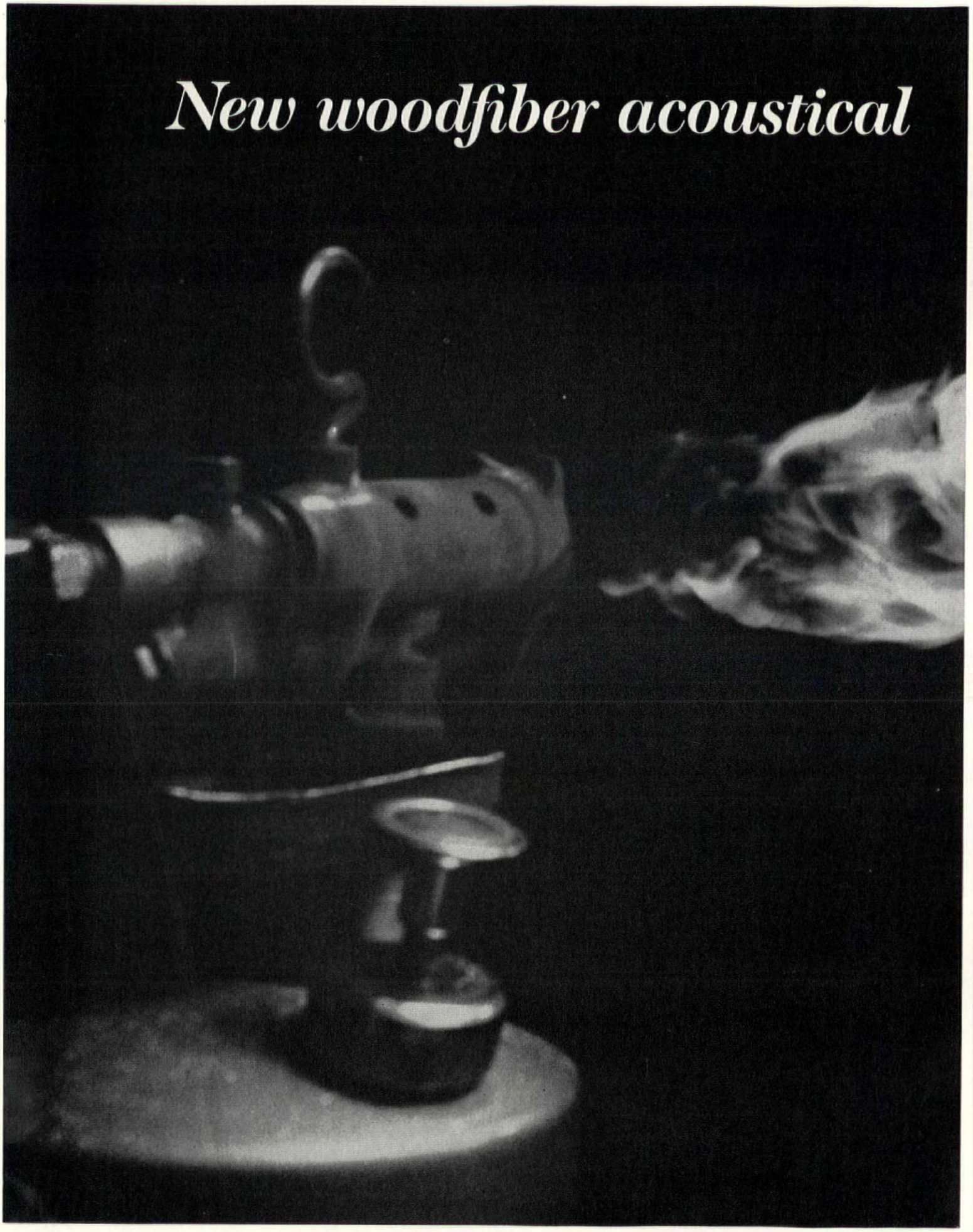
Name_____
Title_____
Firm_____
Street_____
City_____ State_____

THE E. F. HAUSERMAN COMPANY

7588 Grant Ave., Cleveland 5, Ohio

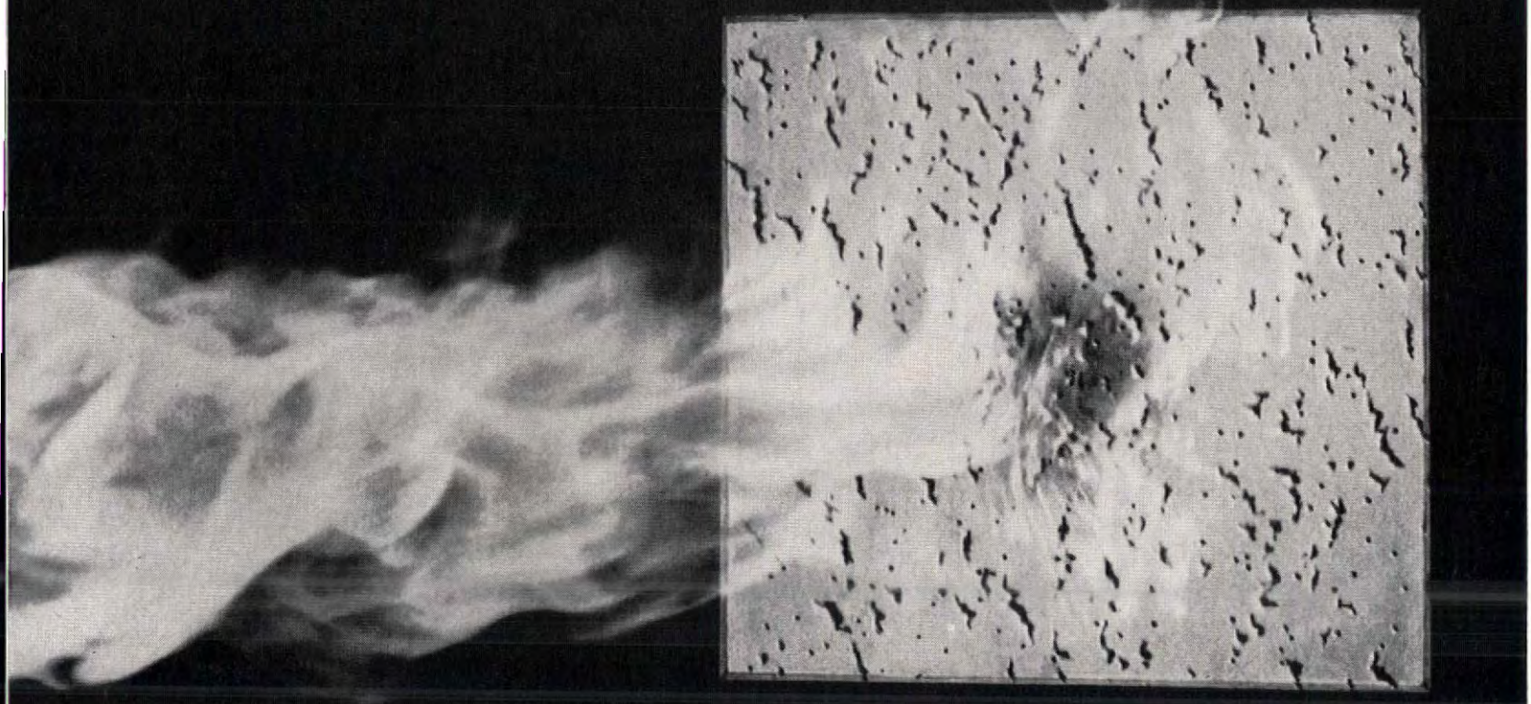

808
CONCEALED OVERHEAD
CENTER HUNG
single or double acting closer
RIXSON®
Fully descriptive literature on request
The OSCAR C. RIXSON CO., Franklin Park, Illinois / Canada: Rexdale, Ontario


fits into 1-3/4″ x 4″ head frame
RIXSON


New woodfiber acoustical

tile that can't spread fire

UL LISTED



First time ever! Incombustible tile safety at "woodfiber tile" prices!

Underwriters' Laboratories, Inc., inspects and labels Simpson PCP ceiling tiles. Like mineral tile, Simpson PCP has a Type 1 flame spread rating of less than 25.

In many ceiling installations PCP woodfiber tiles are now replacing mineral tiles that cost up to 50% more.

Pyro-Chem Protection is an exclusive Simpson process. Not just a surface treatment, every fiber throughout the tile is impregnated with special PCP fire-proofing chemicals.

Simpson PCP Acoustical tiles are not only safe and economical, they are acoustically efficient: NRC ratings up to 70. Room-to-room attenuation factors average 37.6-41.5 db. Available in 4 beautiful Forestone® sculptured textures and 2 perforated designs.

Check the Yellow Pages under "Acoustical" for your nearest Simpson Certified Contractor. Or write today for PCP samples and detailed information.

Simpson PCP PYRO-CHEM PROTECTION

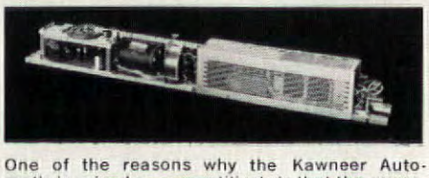
Simpson CERTIFIED Simpson ACOUSTICAL CONTRACTOR

Simpson Timber Company, 2085-3 Washington Building, Seattle 1, Washington

The only automatic entrance you can trust a child around...

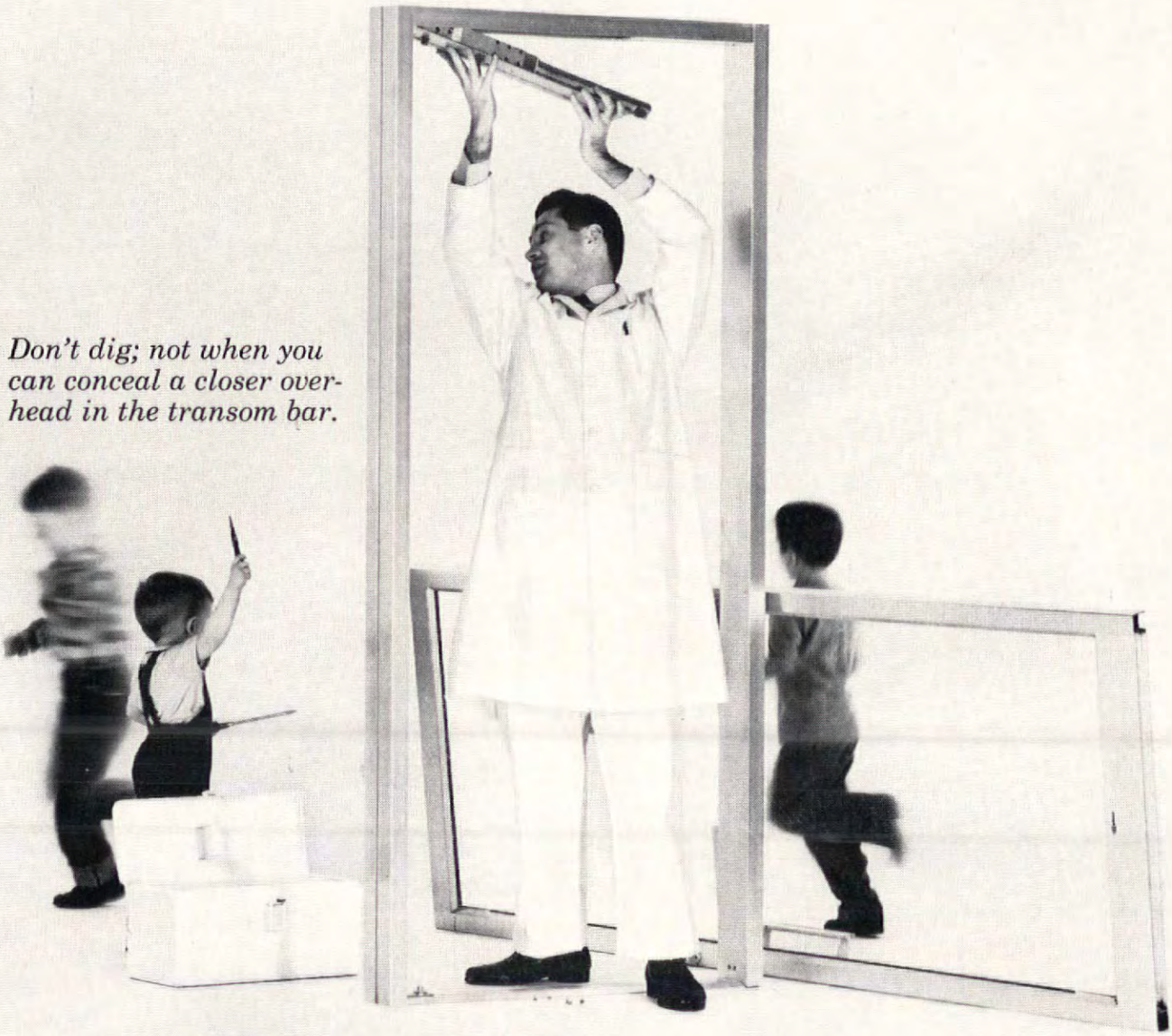
Kawneer, the SAFE automatic entrance

☐ In an accident analysis for two supermarket chains, an insurance company found that each chain had 98 accidents per year involving automatic entrances (53% struck by the door, 36% hands or arms caught in closing door). Children from 2 to 5 were involved in 60% of the accidents. Cost of settling the 196 accidents studied: $26,000. (No Kawneer Automatics were involved.) ☐ Specifying the safe Kawneer automatic entrance spares a great many innocent people injury and pain, and saves your client considerable money. ☐ The Kawneer Automatic is safe because it provides finger and hand protection at both jambs. It is well-nigh impossible for the door to swing back and hit those who go through it the wrong way, because when the door is pushed through the wrong way, the power cuts off. This also serves as a panic breakaway. ☐ The new Kawneer A5 Automatic is most reliable . . . it is the only automatic in which the whole entrance—operator, mat, door and frame—carries the UL and CSA labels. Service is now excellent, and being improved upon every day by a growing network of service agencies. ☐ But first and foremost, remember that when you specify Kawneer, you specify the *safe* automatic entrance.



One of the reasons why the Kawneer Automatic is priced so competitively is that the operator is so easy to install . . . it slips right into the transom bar.

Don't dig; not when you can conceal a closer overhead in the transom bar.

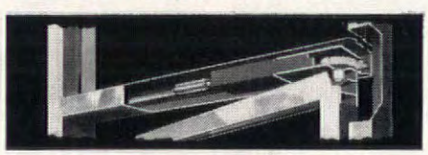


Kawneer's ECONOMICAL way to conceal a closer

☐ It costs time and money to locate a cement case for a floor closer in exactly the right spot. And it costs even more when, in spite of all precautions, the cement case ends up located in the wrong spot. Not to mention the fact that ripping into the cement with a jackhammer in an effort to correct the mistake can be dangerous . . . broken reinforcement or ruptured waterproofing. ☐ Kawneer provides a simple, easy solution; a closer concealed overhead in the transom bar. ☐ Consider the advantages. The architect gets a clean looking entrance—same as with a floor closer, but doesn't have to allow for the reinforcement and waterproofing being placed deep into the slab. ☐ Contractors can pour floors faster, without waiting for cement case forms to be built and located. ☐ The sub-contractor saves because his installation costs are much lower than with floor closers. ☐ Yet, even though it offers all these advantages, The Kawneer Concealed Overhead Closer sells for the same or less than floor closers. ☐ The Kawneer Concealed Overhead Closer comes complete with door and frame. ☐ Specify a Kawneer Concealed Overhead Closer entrance package; it's the economical way to conceal a closer.

Kawneer

KAWNEER CO., Niles, Mich., Richmond, Calif.
KAWNEER CO. CANADA, LTD., Toronto, Ontario.



The Kawneer Concealed Overhead Closer fits neatly into the 1¾" x 4½" transom bar. It is the only concealed overhead closer that has been time and work-proved for over four years.

Beautifully Washable...

Vinyl Faced
Fiber Glass Ceiling Board

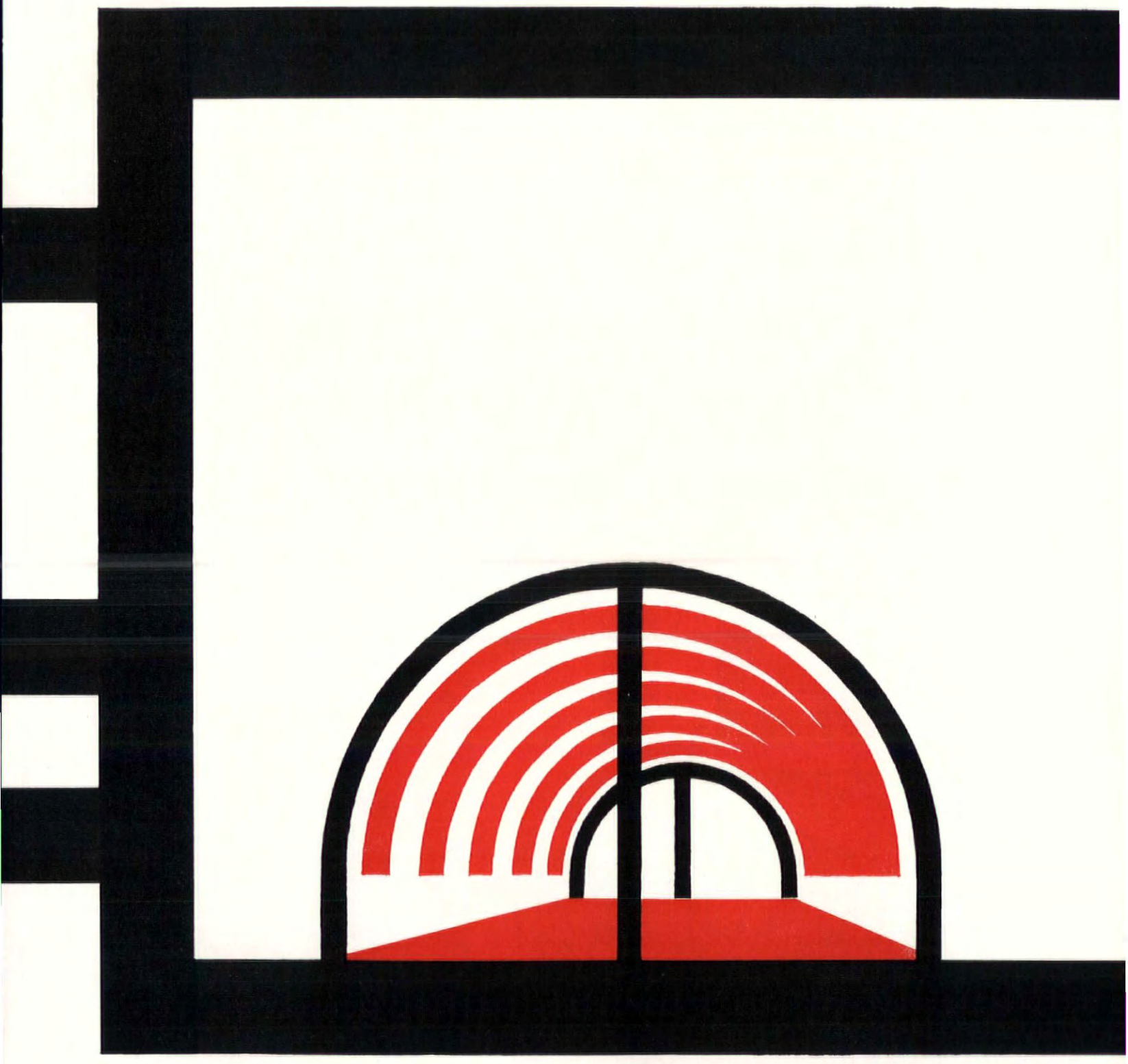
for suspended acoustical ceilings

Now you can design suspended ceiling systems that are as practical as they are beautiful. Specify G-B Vinyl Faced Ceiling Board, the molded fiber glass ceiling panel that is covered with a pleasing off-white, embossed vinyl film. Specially designed for areas where smoke, dirt, and grease are a problem, G-B Vinyl Faced Ceiling Board is completely washable with soap and water—comes out looking like new every time.

G-B Vinyl Faced Ceiling Board provides high acoustical performance (.75 NRC) at an installed cost similar to wood fiber tile. It has a light reflection rating of 80%. Lightweight panels are easy to install, convenient to remove to provide access to mechanical elements concealed above the ceiling. Sizes available: 1″ thick, 24″ x 24″, and 24″ x 48″.

Write today for a new, fully-illustrated brochure on Vinyl Faced Ceiling Board and the complete new line of G-B ULTRACOUSTIC® Ceiling Boards.

GUSTIN-BACON
Manufacturing Company
206 W. 10th ST., KANSAS CITY, MO.

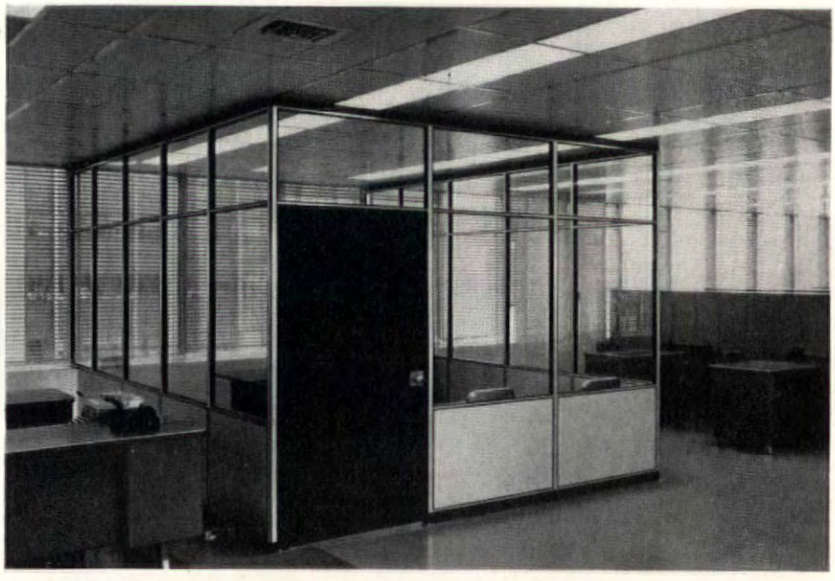


Overly

Batten Roof Systems

AETNAWALL®

EQUITABLE BUILDING, NEW YORK.
ARCHITECTS: SKIDMORE, OWINGS & MERRILL
GENERAL CONTRACTOR: TURNER CONSTRUCTION COMPANY
PARTITIONING: AETNAWALL, MANUFACTURED AND
INSTALLED BY AETNA STEEL PRODUCTS CORPORATION.



THIS IS THE LARGEST SINGLE-TENANT, OWNER-OCCUPIED OFFICE BUILDING IN THE WORLD AND IT HAS 6.6 MILES OF AETNAWALL PARTITIONING IN IT.

WRITE FOR NEW AETNAWALL CATALOG. **AETNA STEEL PRODUCTS CORPORATION, 730 FIFTH AVENUE, NEW YORK 19, N. Y.**

Colors: V-423 Autumn Haze, V-427 Romany Beige

Vina-Lux® PREMIERE *Series*

elegant floor beauty that won't "walk off"

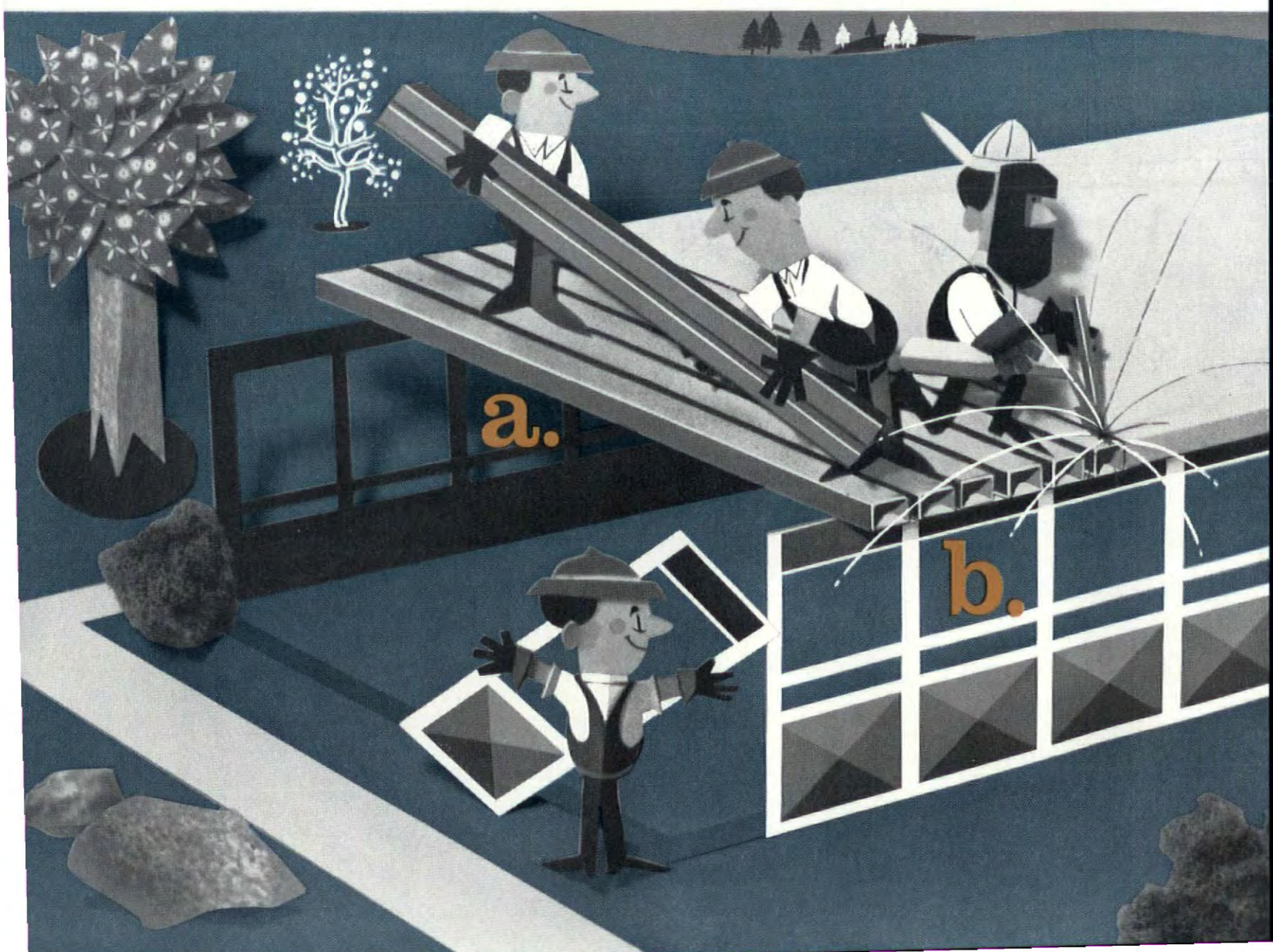
. . . because the travertine patterning is distributed through the full thickness of the tile. Premiere Series in Vina-Lux vinyl asbestos tile is a unique combination of subtle styling and rugged resistance to maximum traffic loads . . . delivers so much more value and performance than surface patterns . . . yet costs no more. Specify Vina-Lux Premiere Series, for installation over concrete — above, on or below grade, or over wood or plywood subfloors. Consult Sweet's Catalog — or let us send you samples, color charts and detailed architectural specifications. Azrock Floor Products Division, Uvalde Rock Asphalt Company, 503A Frost Building, San Antonio, Texas.

Magnified view shows pattern distribution through **full** thickness of tile. Available in 1/8", 3/32", 1/16" gauges.

another fine floor by AZROCK®

Look!
A loadbearing curtainwall

It's as simple as ABC . . . and it's a proven system. **a . . . Long-span panels —up to 32′ clear span—form the roof.** Fenestra's light-gauge steel structural "D" panels can actually perform 5 different functions. (1) They serve primarily as a cellular beam roof, (2) providing a flush finished ceiling (3) that can be perforated for acoustical control. (4) Troffer units may be added for flush lighting. And (5) the top of the panel is flat, ready to lay insulation and roofing. **b . . . Fenestra Steel Curtainwall (Fenmark III) completely supports "D" panels and roof loads.** No structural steel is needed. There are other advantages, too. Mullions can be narrow without sacrificing needed strength. You get a completely



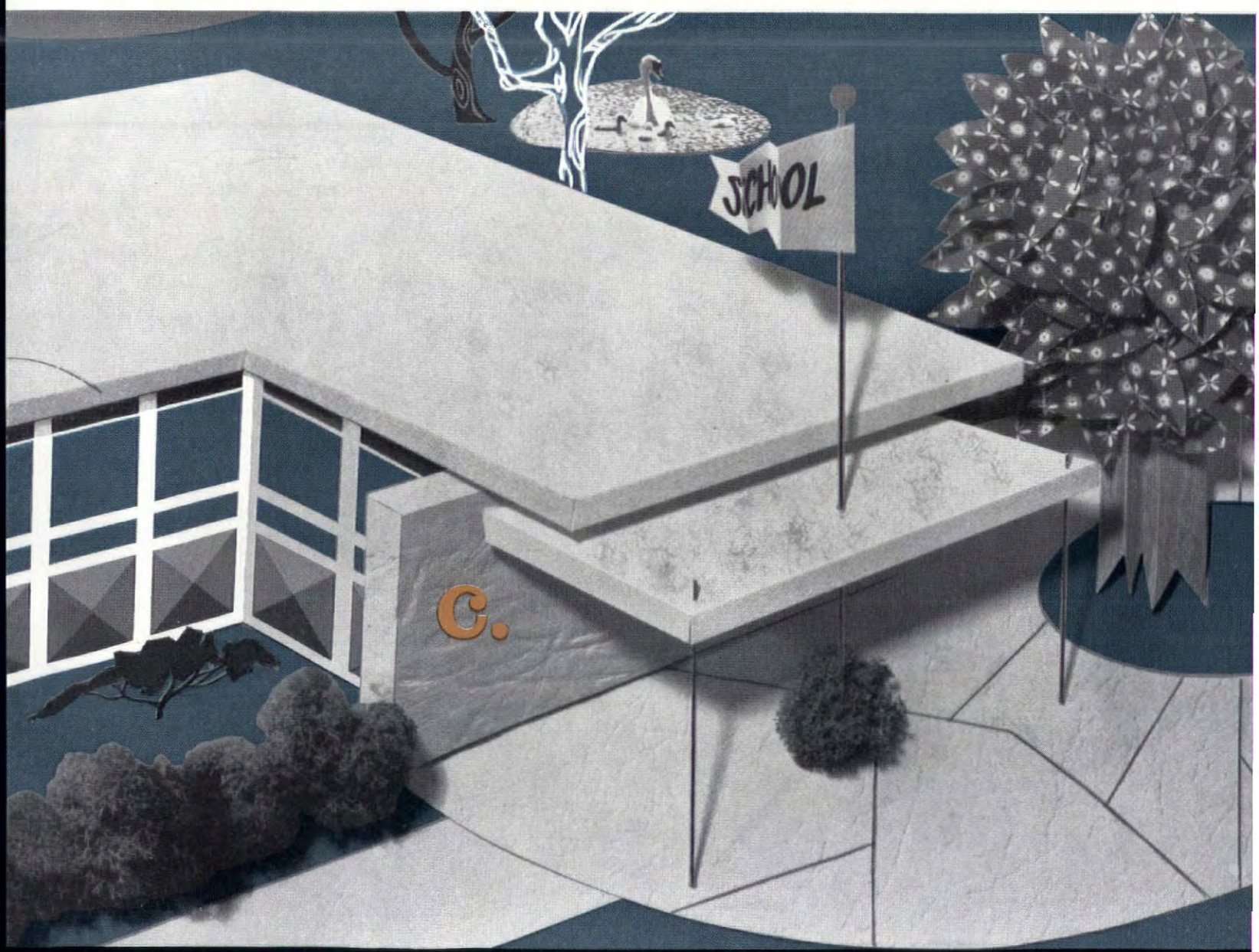
watertight building (because steel expands at half the rate of aluminum, greatly simplifying sealing). Fenestra steel curtainwall can also be capped with aluminum, porcelainized aluminum, or stainless steel. **c . . . Shear walls take lateral loads.** Spacing may be as long as 120 feet. No other structural element is needed. With this revolutionary type of construction, the designer can, for the first time, build irregular shapes economically using the shear walls for partition walls. You get these extra economies: design time is reduced and on-the-job labor costs are cut. In fact, the entire shell can be engineered, fabricated, and erected by one responsible source—Fenestra Incorporated.

Look into this new structural system. Call your Fenestra representative (he's in the Yellow Pages), see Sweet's File Catalogue 3b/Fe, or write to: Fenestra Incorporated, Dept. AF-62, 220 Delaware Ave., Buffalo 2, N. Y.

Fenestra

INCORPORATED

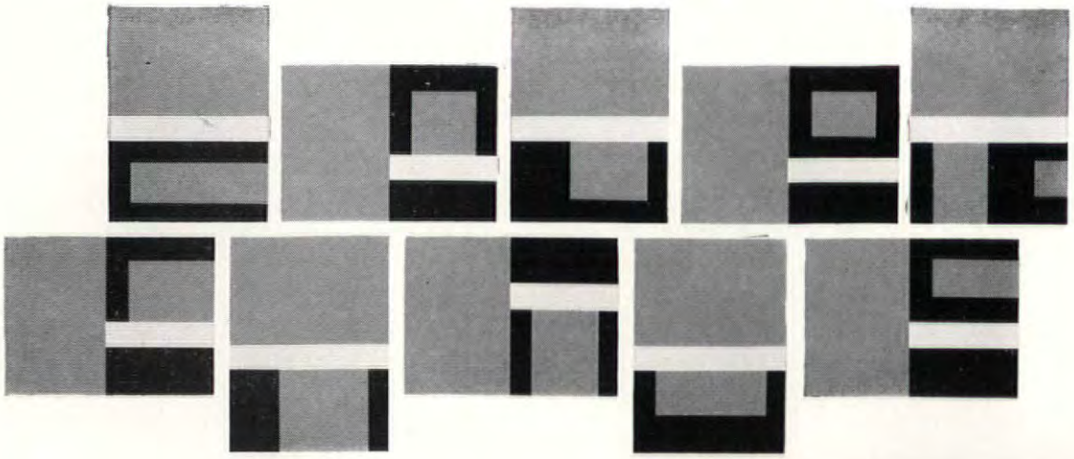
STEEL CURTAINWALL SYSTEMS • CELLULAR STEEL ROOFS, FLOORS, WALLS • METAL DOORS • GUARD SCREENS

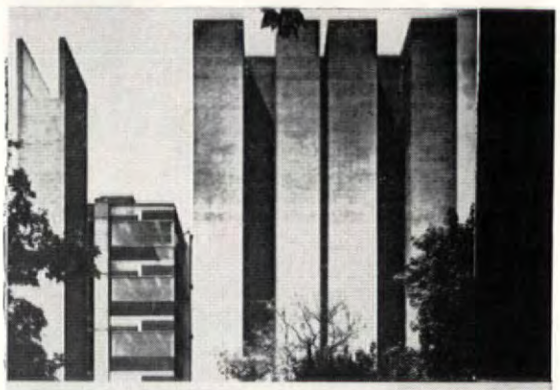


what's different about the CLASSIC 1000 BY GF?

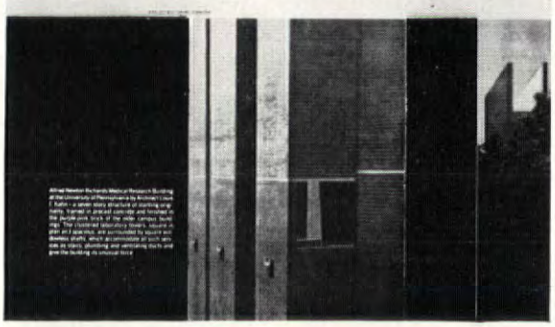
The answer is wood — handsome matched-grain oiled Walnut or Teak. In Classic 1000 you'll find the same superb styling and quality as in the now famous 1000 Series. But Classic 1000 — its warm wood tones, tastefully accented with bright chrome — lends new dimension and luxury to business living. See it at your nearby GF branch or dealer. Or write **Dept. AF-19** *for a color brochure. The General Fireproofing Company, Youngstown 1, Ohio.*

GF
BUSINESS FURNITURE





GREAT ARCHITECTURE FOR THE SIXTIES



A GRAPHIC EXHIBIT
FOR BETTER PUBLIC UNDERSTANDING
AND APPRECIATION
OF MODERN ARCHITECTURE

GREAT ARCHITECTURE FOR THE SIXTIES

The editors of Architectural FORUM recently selected ten new buildings* around the world which have contributed significantly to the developing art of architecture.

FORUM is now producing for public exhibition a limited edition of color posters, incorporating handsome photographs of these buildings and brief explanations of their unique features.

Designed by Walter Allner, one of America's leading graphic artists, the ten posters are particularly suitable for display in schools, colleges, libraries, museums and other public areas such as convention halls, banks and department stores.

Each poster measures 19" x 26"; but the full set is designed to hang handsomely as a unit in an area 5' x 12' (as suggested in the above diagram).

Cost: $5.00 per set post paid while the supply lasts. Address all inquiries to Architectural Forum, Room 1939, Time & Life Building, Rockefeller Center, New York 20, New York.

*ABBEY CHURCH OF ST. JOHN'S UNIVERSITY BY MARCEL BREUER / ART MUSEUM FOR MUNSON-WILLIAMS-PROCTOR INSTITUTE BY PHILIP JOHNSON ASSOCIATES, / BRASILIA SENATE AND ASSEMBLY BUILDINGS BY OSCAR NIEMEYER AND LUCIO COSTA / GREEK ORTHODOX CHURCH OF THE ANNUNCIATION BY FRANK LLOYD WRIGHT / INDUSTRIAL LABOR EXPOSITION HALL BY PIER LUIGI NERVI / PEPSI-COLA HEADQUARTERS BY SKIDMORE, OWINGS & MERRILL / RICHARDS MEDICAL BUILDING, UNIVERSITY OF PENNSYLVANIA BY LOUIS KAHN SANTA MARIA DE LA TOURETTE MONASTERY BY LE CORBUSIER / TWA TERMINAL BUILDING BY EERO SAARINEN / UNITED AIR LINES HANGAR BY SKIDMORE, OWINGS & MERRILL

At Seattle's Century 21 World's Fair

Hamilton Science Laboratory Equipment selected for U.S. Science Pavilion

We're proud. We're pleased. Proud to help showcase American progress. Pleased to play a supporting role in the all-important field of science. Here, there should be *no* compromise. Only the best is good enough.

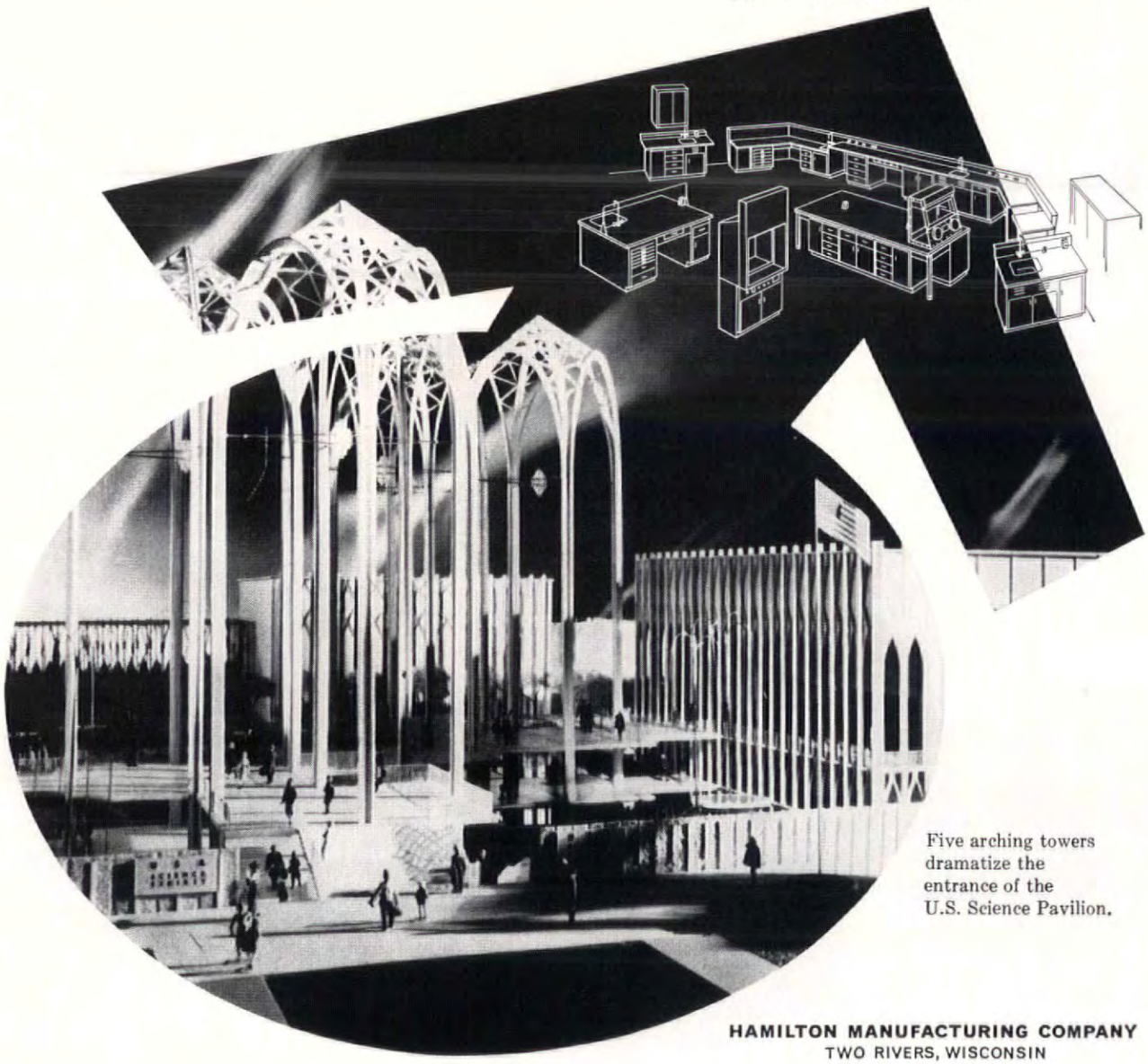
The Hamilton equipment specified for this complete installation . . . fume hood, controlled atmosphere enclosures, service facilities, work and storage areas . . . *is* the best. And that's the only quality Hamilton makes.

You will find the same integrity, the same quality, the same design features in the Hamilton equipment you order for your laboratory.

CENTURY 21 EXPOSITION

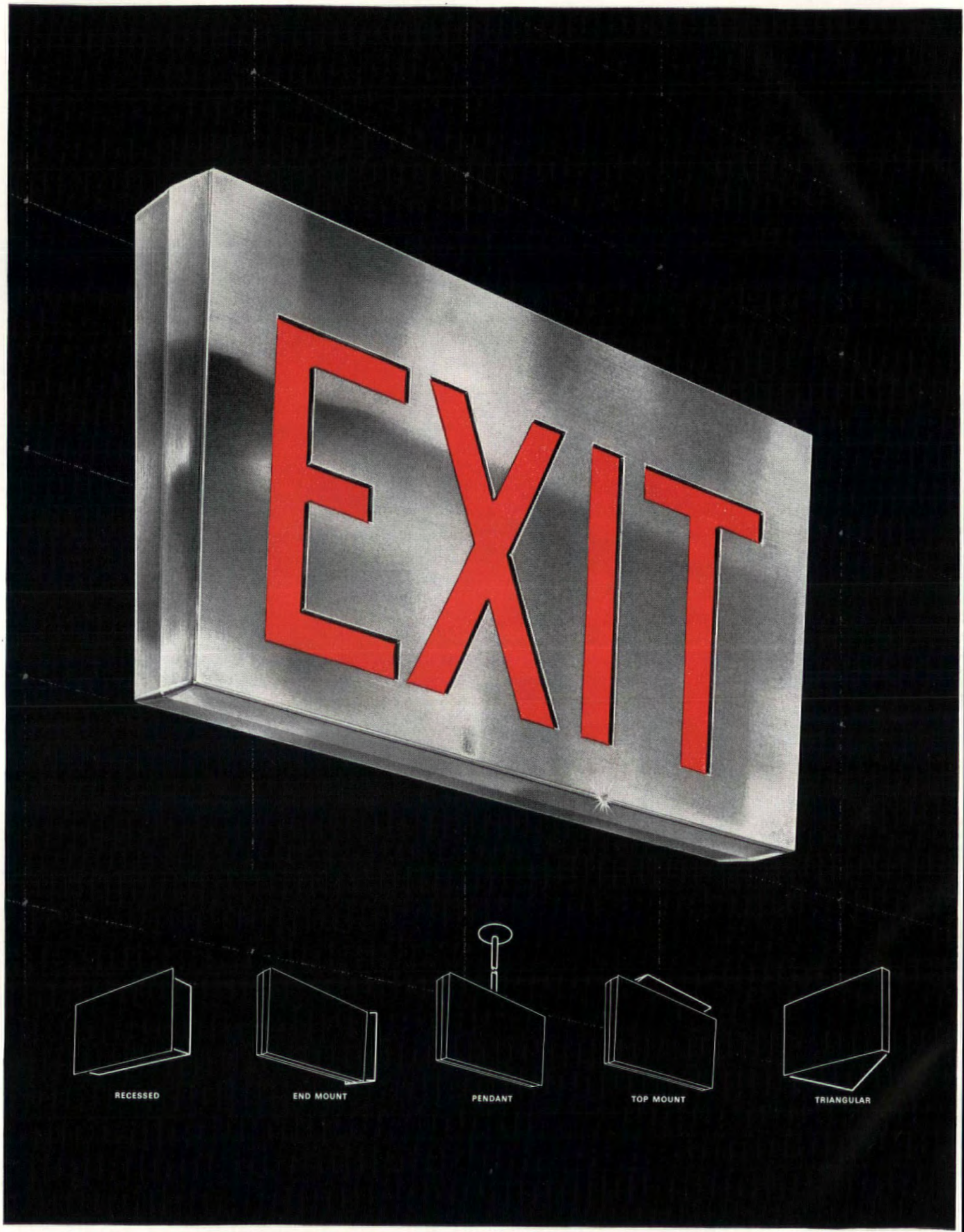
Hamilton®

OF TWO RIVERS



Five arching towers dramatize the entrance of the U.S. Science Pavilion.

HAMILTON MANUFACTURING COMPANY
TWO RIVERS, WISCONSIN


EXIT
RECESSED
END MOUNT
PENDANT
TOP MOUNT
TRIANGULAR

miller ANNOUNCES miller PATHFINDER* 50,000 HOURS GUARANTEED

Now, a completely new concept in lighted directional signs . . . the Miller PathFinder. This new line is made of die-cast aluminum with a satin finish that adds beauty to function. Taper-slim and shallow, PathFinder surface type units have the styling appeal of recessed units without the costly installation. Prices are surprisingly low. Before specifying exit signs on your next project, compare these features with conventional units. **LONGER LIFE** almost six years of continuous burning (50,000 hour lamp life) is guaranteed. **CUTS POWER AND LAMP REPLACEMENT COSTS** four 7-watt filament lamps operating at reduced voltage save $5.93 per year over conventional signs. Lamp replacement in PathFinder averages only 9c annually—or a savings of $2.52 over conventional units. Total *PathFinder savings per sign $8.45* **PLUS** *the labor savings achieved by eliminating as many as seven lamp replacements per year in a standard unit.* **MAINTENANCE FREE** install PathFinder now and forget costly lamp replacement until 1968. **COMPLETE LINE** both stencil and luminous field units are available for six different mountings: recessed, back, end, top (ceiling), pendant and triangular. All models offer a choice of red or green letters or background to meet local code requirements. Directional arrows can be furnished at no added cost. **MORE COMPACT** housings for all PathFinder units are 13″ x 9″. Surface type units have a thickness of less than two inches at the top, tapering to less than one inch at the bottom. For complete information and a fully illustrated brochure on the Miller PathFinder line, including directional arrows and downlight that are available, write: PathFinder, The Miller Company, Meriden, Connecticut.

*TM (Patents 2,821,800 and 2,886,911 other patents pending.)

LIGHTING BY miller SINCE 1844

THE miller COMPANY
MERIDEN, CONNECTICUT • UTICA, OHIO

The congregation of this church chose Par-Tile for its rich warmth of texture, low initial cost, and because it isn't damaged by women's spike heels. Par-Tile is guaranteed for 15 years.

Forrest Par-Tile was used to hold the line on building cost in this school multi-purpose room. Par-Tile is not damaged by women's spike heels, kids boots, roller skates, heavy furniture. Will not check or splinter.

In this family room Forrest Par-Tile provides a warm, clean, durable floor for kids to play on. Par-Tile makes an excellent dance floor, too.

PROBLEM HOW TO HOLD THE LINE ON COST AND STILL PROVIDE A QUALITY WOOD-BLOCK FLOOR

SOLUTION SPECIFY **FORREST PAR-TILE*** WOOD-BLOCK FLOORING... IT'S BEAUTIFUL, YET COSTS ONLY ABOUT 40c PER FOOT, APPLIED

The pressure is on you every day to design a quality school or home or office building, but to **hold the line on cost.** You know, too, that, in nearly every instance, when quality is improved, cost jumps.

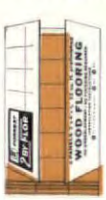
However, in the case of wood-block flooring this is not necessarily true. Forrest Par-Tile wood-block flooring is a quality product . . . yet it can be applied for approximately 40c per square foot. And—it is prefinished at the factory. No sanding or finishing on the job.

True, it lacks the conventional wood grain. But look at the advantages: • When applied, it is rich and warm. Really beautiful • Par-Tile is uniform, smooth, harder than oak or maple. Women's spike heels, which ruin other floors, won't leave the slightest dent • Par-Tile is tongue and groove, forms one solid floor • Easy and fast to lay • Prefinished at the factory with twin coats of vinyl • **Par-Tile is guaranteed for 15 years** • Exceeds FHA requirements.

Par-Tile is proving successful in churches, schools, offices, bowling alleys, ballroom floors. In homes for family room, and party room, Par-Tile is perfect.

Builders tell us that Par-Tile in the family room, study, party room, make it much easier to sell "spec" homes.

OTHER FORREST FLOORING



FORREST
2BY2FLOR®

2′ x 4′ panels, 4 to a carton, nails included. Easy to handle. Easy to put down over old floor or on new construction.

FORREST
QUIK-FLOR®

4′ x 4′ panels for fast application over old floor. Goes down fast on new construction. Makes ideal new floor.

FORREST
RANDOM PLANK®

The same quality material as Forrest Par-Tile in plank width and random lengths. Tongue and groove. Simulated wood pegs optional.

For complete information, ask your floor covering or building material dealer, refer to **A.I.A. File No. 19-E-92,** or write to Forrest Industries, Inc., P. O. Box 78, Dillard, Ore.

*Pat. No. 3001902

FORREST INDUSTRIES

QUOTE . . . UNQUOTE

"It is a sad commentary that prisons, army barracks, and university residence halls have so much in common."—*Stanford University Dean of Men William G. Craig.*

"Judging from what we see around us it would seem that the most important product in America is junk."—*Architect-Designer George Nelson.*

"This is the money-gett, Mechanick Age!
To plant the Musick where no eare can reach!
Attyre the Persons as noe thought can teach
Sense, what they are! which by a specious fyne
Terme of the Architects is called Designe!" —*Poet Ben Jonson.*

"We are on a collision course with barbarism. We have misused the automobile and wrecked the one chance we have had for civilization, our cities."—*Historian Albert Bush-Brown.*

"In the Meditation Room at the UN, visitors are called upon to contemplate a lump of iron, which may lead us to the conclusion that we should meditate upon the Iron Age."—*Canon Edward N. West of St. John the Divine.*

"Never before has there been a greater need for personal concern—and action—about the need to stop directionless urbanism."—*Senator Harrison A. Williams, Jr.*

"Today general contractors, in an indirect manner, have more influence in determining what products go into a building than in past years. . . .Because economics today plays a greater part in the design and construction of buildings."—*Construction company president H. J. Feldman.*

"The architect, as patron [of the other arts], is often all too patronizing!"—*Architect John C. Parkin.*

"There is no art without intoxication! Let reason teeter! Delirium! The highest degree of delirium! Plunged in burning dementia!"—*Artist Jean Dubuffet.*

Responsibility in building.

President Kennedy's recent skirmish with U.S. Steel has thrown all labor-management considerations into a new perspective. Last month, for instance, building industry employers on both coasts were looking toward Washington for succor as the annual round of wage haggling got underway.

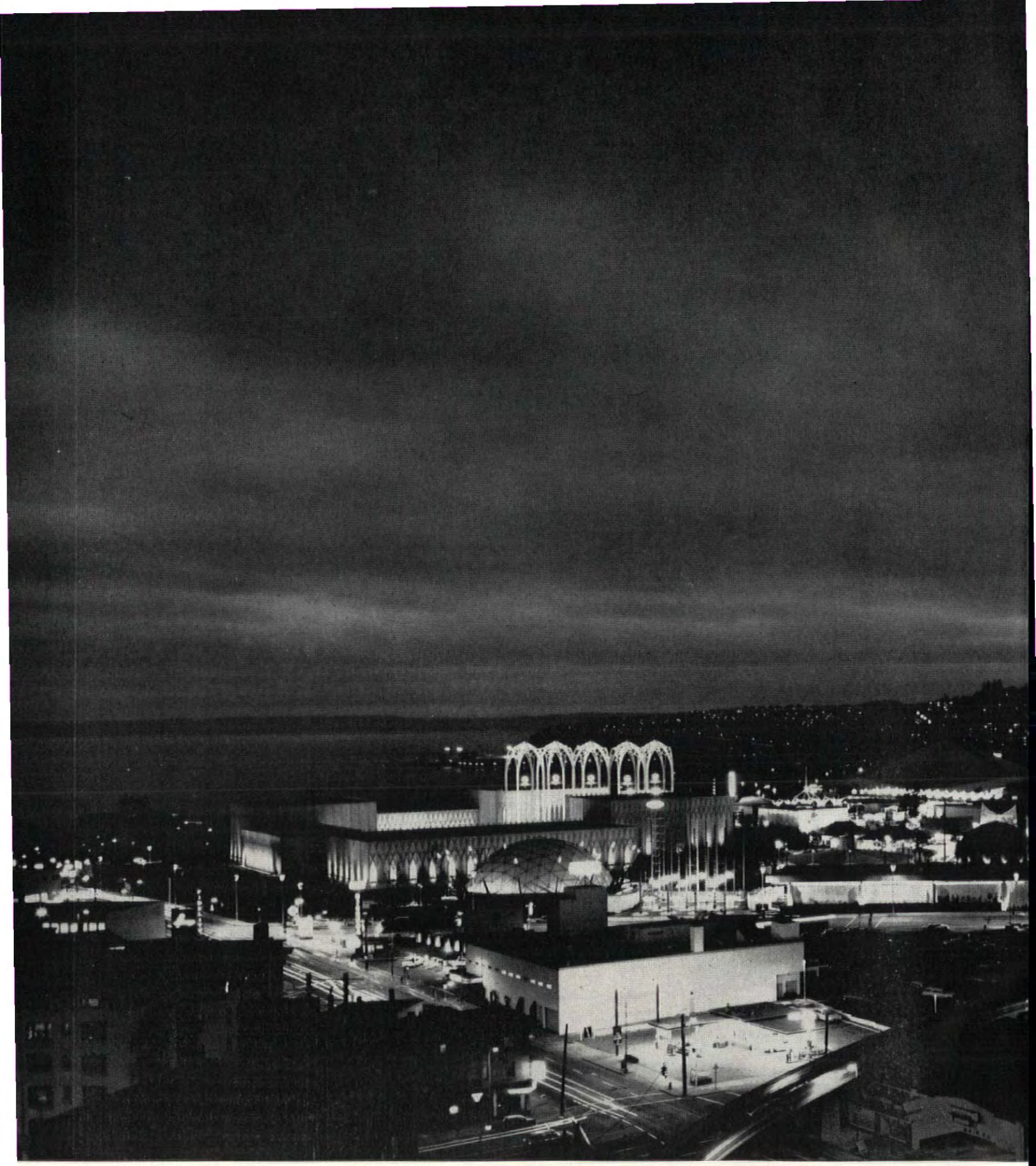
In Westchester and Putnam Counties, New York building contractors asked both the President and Governor Rockefeller to investigate local building unions which, they claimed, were making "intolerable demands." The contractors maintain that construction has declined 40 per cent in their area since 1955 because of exorbitant labor costs, while union spokesmen, pressing for increases of 12 to 36 per cent in wages and fringe benefits, say they need more pay because "our taxes have gone up and everything we buy costs more than it did last year." And in New York City, plumbers were holding out for a five-hour day, with the same pay for their present seven-hour day.

In California, building workers began walking off jobs in a dispute that could put a serious crimp in the West Coast's $8 billion building boom. Laborers there wanted a one-third boost in pay and fringe benefits, while contractors were hewing close to the administration's suggested 3 per cent raise, matching wage gains to productivity increases. As a result of sporadic walkouts, mostly in northern California, contractors currently at work on over $3.5 million of building closed down jobs employing 130,000 workers. A spokesman for the contractors said plaintively, "I don't want the President to set prices and wages . . . but I think he should tell us one more time what our responsibilities are."

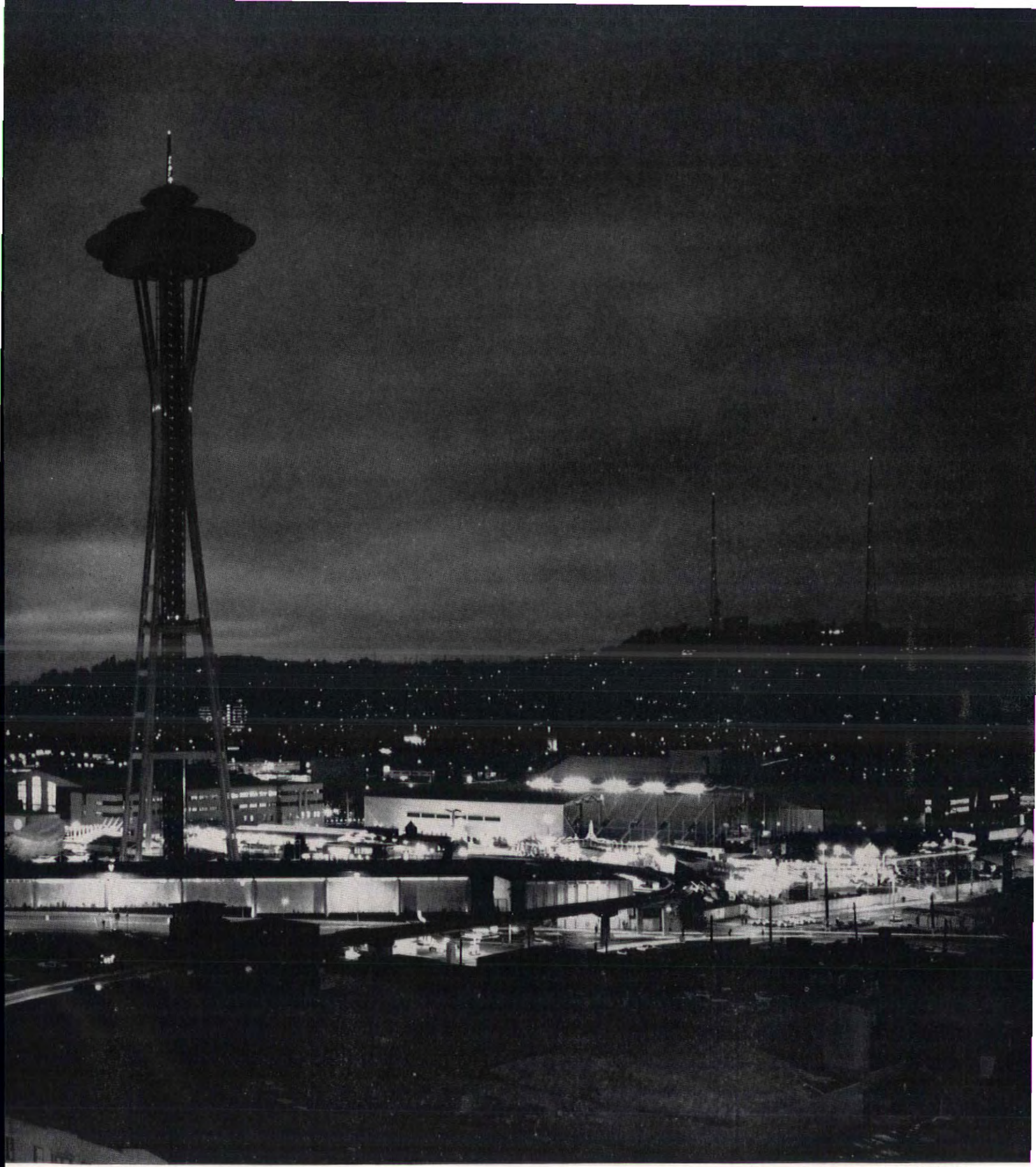
This the President has already done, and both labor and management in the construction industry would do well to listen more closely, for so far they have largely ignored administration pleas. Just three weeks ago, the President told the autoworkers, in much the same language he used when speaking to the steelworkers during the 1960 presidential campaign, that "the sense of responsibility of organized labor and of management is the foundation upon which our hopes rest in the coming great years."

Many observers throw up their hands when they consider responsibility in the construction industry, where some 2,760,000 workers and nearly 12,000 separate locals comprise a labor-management jungle. But the construction industry cannot slough off its responsibilities just because there is no single group upon which the President might focus his determination to hold the wage-price line.* This sense of responsibility must be felt in every local bargaining session. The nation, much less the construction industry, can afford no further irresponsible settlements, such as that fashioned recently by New York's electrical workers, who succeeded in getting a basic 25-hour week. (FORUM, March '62).

** Building has made some real gains in the past three years, in one sense: Output per worker (in constant dollars) has risen about 4 per cent a year (after three years of decline), compared to about 3 per cent for the economy as a whole. But labor cost increases have risen somewhat more than that (costs of materials have actually declined since 1958) and thus building's higher productivity has been offset by wage increases.*



SEATTLE FAIR

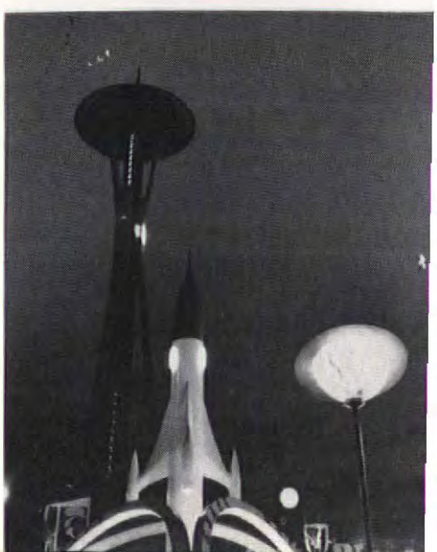


R. CRANE—LIFE

Under the surface glitter lies a unique and solid accomplishment in civic planning

PHOTOS ABOVE AND PAGE 98: TED BRONSTEIN

The Glitter: Exhibits and Exhibitionism



Seattle calls its $77 million effort a "jewel box" fair, and gems are there among the pasteboard and rhinestones. One is the long pavilion of thin concrete shells joined like flowers on slender stems—and all but lost in the clutter of flags, sky-ride buckets, and exhibits shown opposite against the jumbled housing of Seattle's Queen Anne Hill. (Note also the upswept concession umbrellas in the foreground, a standard item that is better fair design than shelter.)

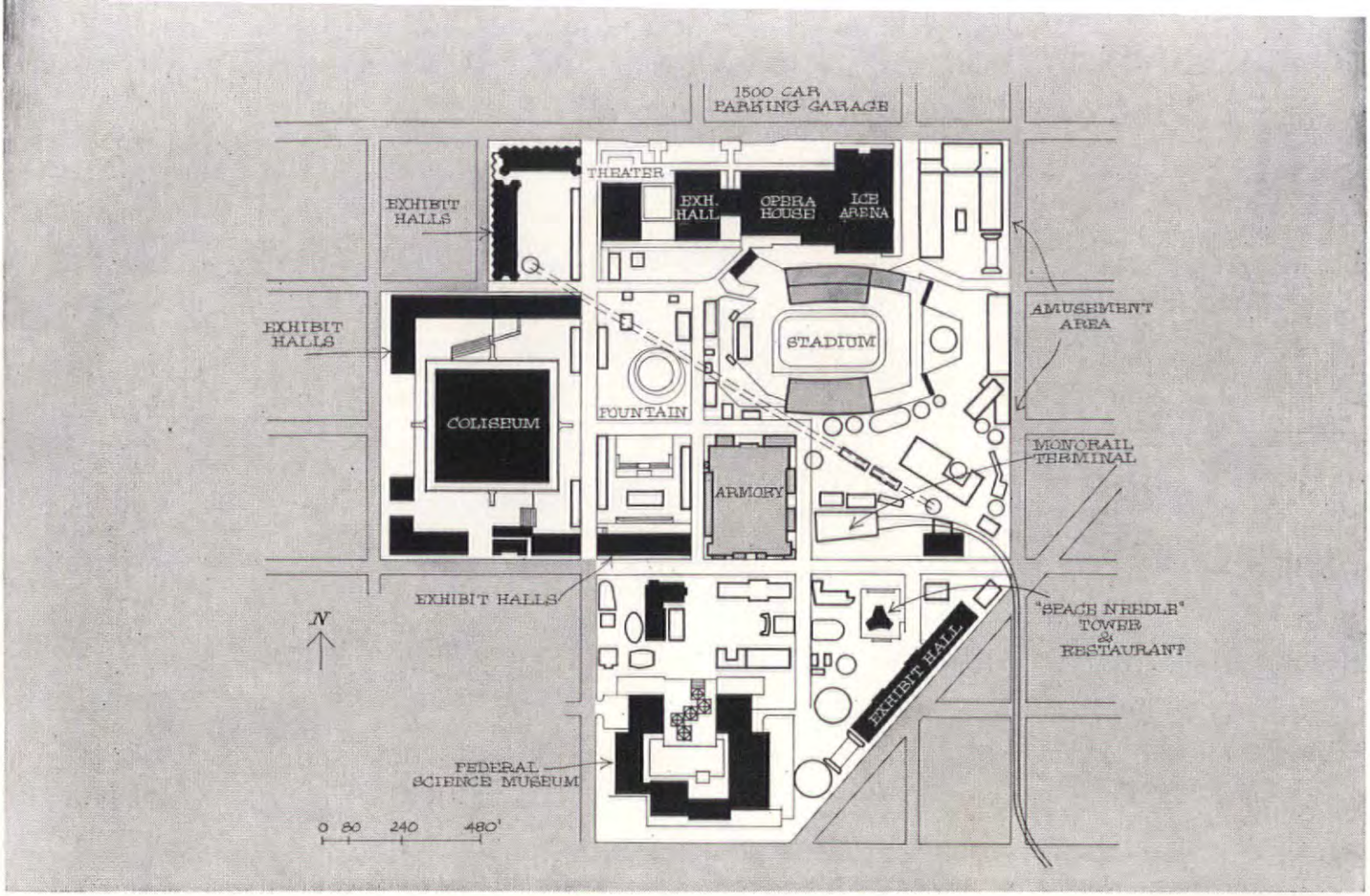
Other sights (right): IBM's usual fine graphics, including a colorful children's maze (top); Seattle's new mile-long monorail — the smoothest ride to, or at, the fair; Mexico's warm and well-made crafts exhibit—a good place to relax; and one of the more imaginative exhibit techniques—Donald Deskey Associates' winding, floating grotto of 4-foot aluminum cubes, which light up in sequence to tell the unfolding story of "Century 21."

Photo credits (from top left):

Peter Stackpole—Life; Ted Bronstein; Schiller-Cravens—Life; Ralph Crane—Life; Schiller-Cravens—Life; Schiller-Cravens—Life; Josef Scaylea; Ted Bronstein; Ted Bronstein; Schiller-Cravens—Life.

From open exhibit pavilions, which will remain, fairgoers look across Sculptor Everett Du Pen's fountain to the Coliseum and "Space Needle"

The Accomplishment: A Permanent Civic Center



Civic-center fairgrounds, cleared from 23 city blocks, total 74 acres. Previous buildings are shown in grey, new permanent structures in black.

Some of its sights recall Coney Island; others are pure Disneyland. But appearances, in this case, are misleading; for Seattle this summer is putting on a very different kind of fair—a fair that will change the skyline and plan of its city for a long time to come.

To the casual visitor, "Century 21" is just another slam-bang exposition: everything from satellites to skin shows, all crammed onto a compact, 74-acre plot only a mile from the center of downtown (a plot that may seem even more compact when attendance rises from an early 25,000 to an expected 125,000 a day).

But while the fair has produced some diverse and spectacular exposition architecture, the most notable fact is that three-quarters of it was planned to remain as a useful civic asset after the gates close October 21. This is a statement few other fairs can make—including the 646-acre extravaganza scheduled two years from now in New York.

Project with two purposes

By now, much of the Seattle story is well enough known: how it started as a modest gleam in the eyes of three businessmen, and how it grew beyond county-fair proportions and managed to get official international sanction. Not so well known is how Seattle's World's Fair Commission, with the blessing of the City Council, joined forces with a Civic Center Commission to bring to Seattle a range of permanent cultural and convention facilities that many a city might envy.

Virtually the first act of the Century 21 Exposition Corp. in 1957 was to appoint a Design Advisory Board—a group which has had a much more effective voice than its short-lived counterpart for the New York fair. Its members: Paul Thiry, later chosen by his fellows as primary architect for the joint project; other leading Seattle architects such as Perry Johanson, John Detlie, and Robert Dietz; and City Planning Director John Spaeth. Consultants included Detroit Architect Minoru Yamasaki, a Seattle native, and San Francisco Landscape Architect Lawrence Halprin, who later worked together on the fair's elegant U.S. Science Pavilion (page 101).

Renewal for a fair

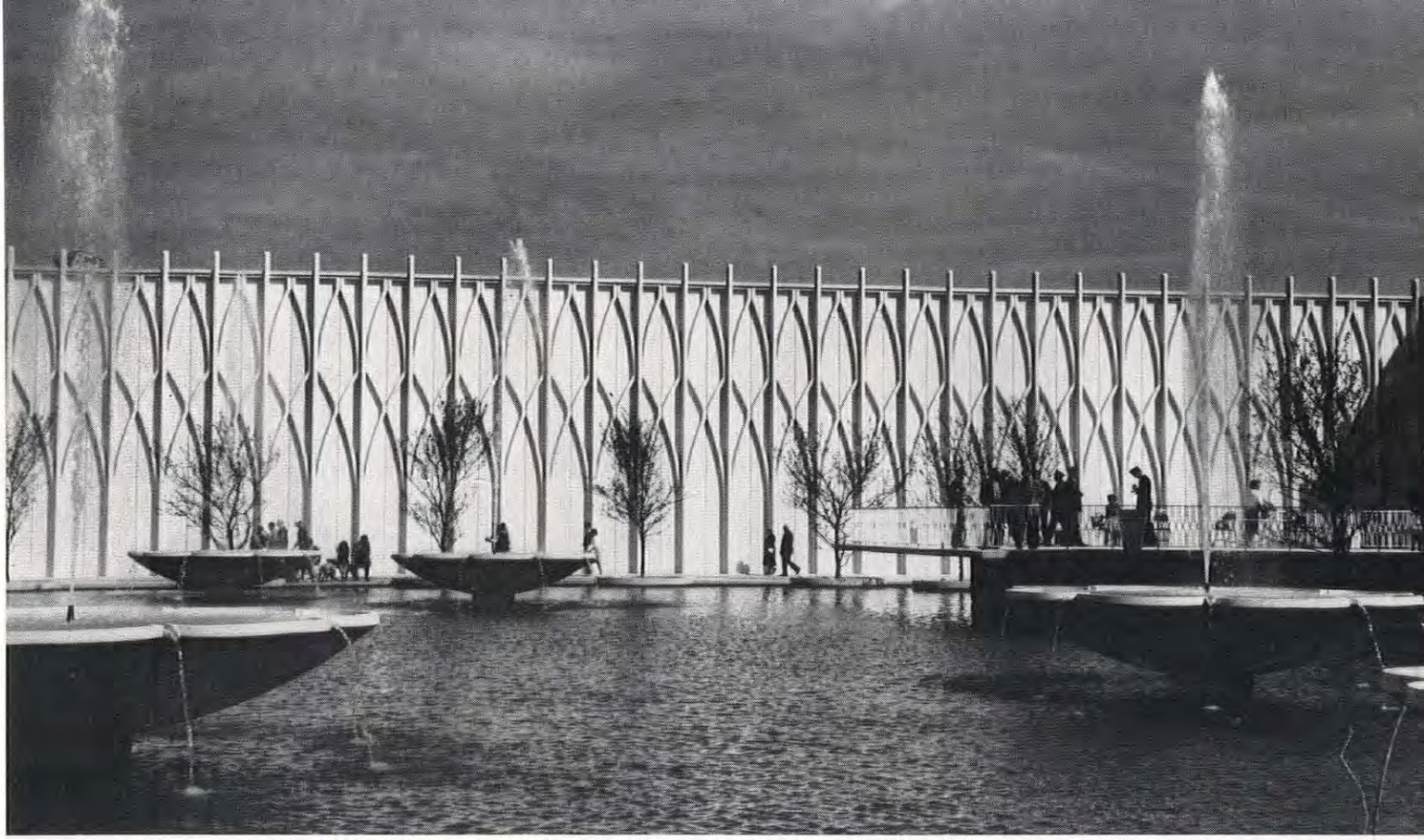
After some months of study—which included schemes for a wooded water park, a multilevel "city," and a fair under vast plastic domes—a final scheme was approved, and eventually parceled out in large and small commissions involving nearly all of Seattle's many architectural firms. The main idea (plan, above) was to remodel Seattle's drab old Civic Auditorium into a first-class, 3,100-seat concert hall and opera house, to retain a high-school stadium and a National Guard armory on nearby blocks, and to acquire and clear surrounding blight for other new open spaces and structures on a total of 23 closed-off city blocks. Thiry and his technical consultants made good use of the existing street grid and utilities, while closing the streets themselves to all but pedestrians and fair vehicles, and getting all wires underground.

Architect John Graham and others put up the fair's trademark, the restaurant-topped "Space Needle," as a long-term private investment. Meanwhile, Thiry's design board determined to hold an open competition for the project's centermost element, a $250,000 civic fountain. The winning design (overleaf), by Japanese Architects Kazuyuki Matsushita and Hideki Shimizu, stands as a considerably more graceful—and gracefully achieved—solution than the tired and arbitrary

SCHILLER-CRAVANS—LIFE

Aerial view looking north shows the three major permanent building groups in white. At the far end of the site is the remodeled Opera House, flanked by a new parking garage, theater, and fine arts exhibition-banquet hall with a folded-plate concrete roof (seen across entrance court in photo, below; Architects: Kirk, Wallace & McKinley). At the west end of the site is Paul Thiry's tent-shaped Coliseum and attendant exhibit halls; these face in toward the International Fountain designed as the centerpiece of the grounds (photo left). In the foreground of the air view is Minoru Yamasaki's now-celebrated U.S. Science Pavilion, six buildings, grouped around splashing fountain pools (photos opposite and overleaf). The Space Needle, a private investment, will also remain as Seattle's "Eiffel Tower."

TED BRONSTEIN



OGDEN TANNER

Elegant fretwork of columns and arches adorn the Science Pavilion's precast walls of dazzling white, seen here across the inner fountain pool

steel ball that New York's "Unisphere" promises to be.

In other respects as well, Seattle has listened to its architects and planners; and while its post-fair civic center may not exactly match the Acropolis once the temporary stuff is gone, it will contain a set of carefully grouped facilities that not many cities can boast. Priteca & Chiarelli's remodeled Opera House, remarkably plain in its new brick shell compared to the new old-world opulence inside, has already been pronounced near perfect by such opening nighters as Pianist Van Cliburn. Kirk, Wallace, McKinley's adjoining exhibition-banquet hall and 800-seat theater, nicely adorned with colonnades and sculpture courts—and linked over the street with a new 1,500-car municipal garage—is already in heavy use by local groups and out-of-towners alike. Thiry's own $4 million, 129,000-square-foot Coliseum, which the city plans to acquire from the state, will be cleared of exhibits and excavated inside to seat up to 18,000 for conventions and sports events. Across the fountain plaza, which is to be paved and planted end to end, the blocky old Armory will also remain (now partially screened by concessions, it is the one building crying for remodeling or removal in the future civic-center scene).

Seattle's "crystal palace"

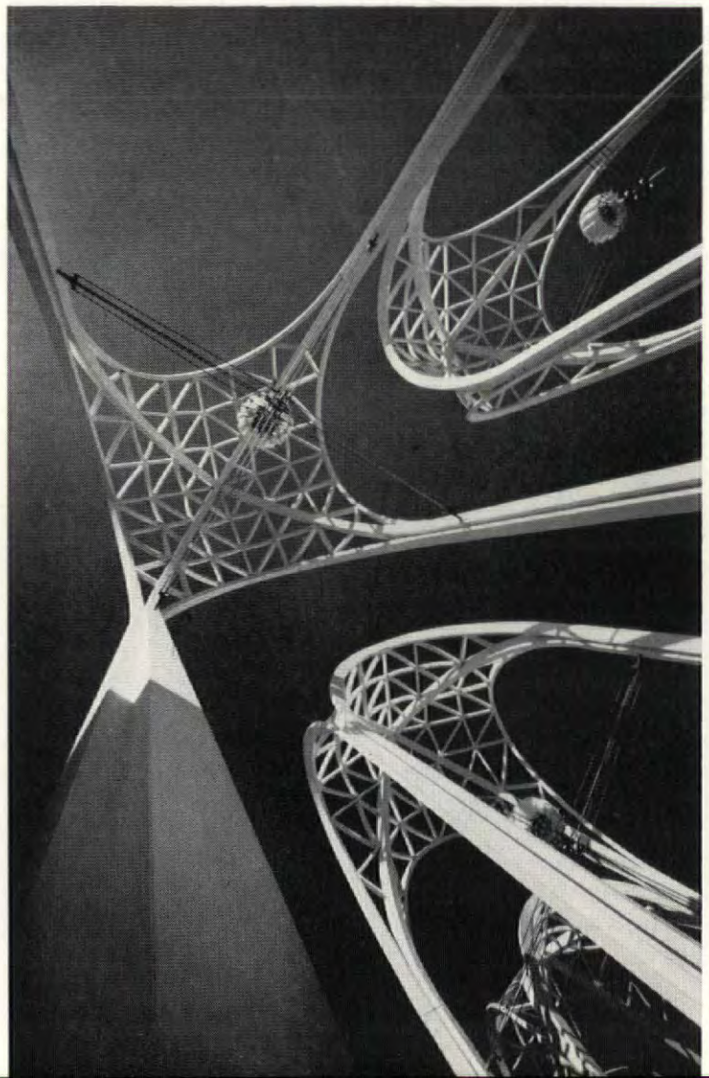
Thiry's sound concept was to keep all major buidings on the periphery of the site, for easy street access but also to screen out the surrounding city jumble and define the center's new superblock of malls and plazas. On the high point of the grounds to the south, some had hoped to break the pattern and open that axis to a magnificent view of Puget Sound and the snowcapped Olympics. In his design for the $3.5 million U.S. Science Pavilion, however, Yamasaki carried the concept to its conclusion, arranging his six white buildings around a fountain court that opens in toward the fair grounds but screens the one fine outward view.

With this minor reservation, Yamasaki's confection is the architectural hit of the fair. There are impressive exhibits inside, from Charles Eames' six-screen movie introduction, to a Boeing-Cinerama ride through space. But it is almost more welcome as a dazzling oasis for the footsore, complete with chairs and benches, splashing water, delicate balconies, a pair of intimate walled gardens, and good furnishings inside and out (overleaf). When the fair is over these great white boxes are hoped for as a permanent museum, to be taken over from the federal government and locally administered.

To some, Gothic arches and Moorish filigree might seem a strange setting for space-age science; and it remains to be seen whether such frankly romantic structures will look appropriate to other, future times and uses. Meanwhile, Seattle's "crystal palace" is the icing on its cake.

But perhaps more important to Seattle than any single building is the overall potential of its fair. Beyond the considerable promotion value for the region, and the continuing attraction of the civic center, the fair has already stimulated some local action. Stores have been remodeled and trees planted downtown, and both a downtown plan and a 10-acre private renewal project are in the wind. The demonstration stretch of monorail has suggested reviving the city's old interurban transit in preference to massive, creeping, new highways alone, and a $1.4 million, four-county transportation study is underway. If it keeps its momentum—and a more respectful eye on its natural endowments—Seattle might even become the beautiful city it should be. OGDEN TANNER

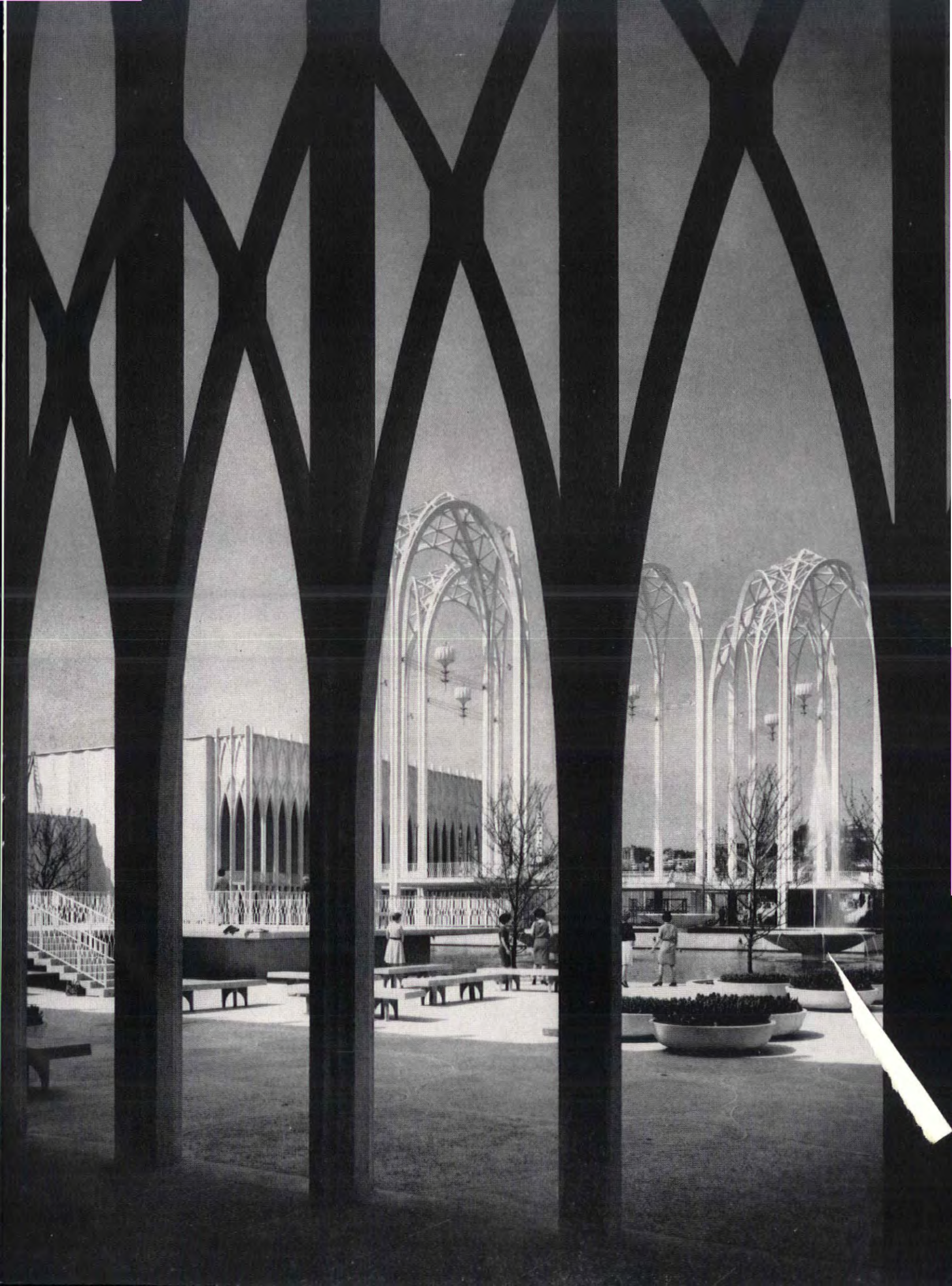
PHOTOS ABOVE AND BELOW, TED BRONSTEIN; OPP. GORDON SUMMERS



From the lower level of terraces near the entrance to the pavilion, the stiffening of the overhead balcony slabs appears as an echo of Gothic fan vaults (above)—just as the entrance towers recall in skeletal form the soaring rib vaults of cathedrals (left). The cross ties seen here hold giant lanterns in the focus of the vaults.

The structure of the main buildings consists of precast wall panels (white quartz aggregate) with built-in fretwork and bracing studs up to 54 feet high, tilted up to receive prestressed concrete T beams weighing up to 28 tons and spanning 112 feet. The joint angles are welded and the end walls take the shear stresses. The structural system has produced great, simple, barnlike spaces inside. (Associated architects for the $3.5 million group were Naramore, Bain, Brady & Johanson; structural engineers, Worthington, Skilling, Helle & Jackson; contractor, Purvis Construction Co.)

At the far end of the fountain pool, one building is open to the breeze through a wall of tracery in precast concrete (photo opposite). Here the foot- and eyesore can sit down in a subdued and comfortable lounge, or wander out among the tulips, fountains, and benches. END

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America's most imaginative builder of shopping centers discusses the mistakes he made in developing these facilities in the past—and how he is trying to avoid similar mistakes in the future.

MUST SHOPPING CENTERS BE INHUMAN?

BY JAMES W. ROUSE

The members of a typical suburban American family probably spend more total hours in their regional shopping center than in any other physical environment except home and school—more time than in the churches, the libraries, or the parks that are provided in their communities. In our unplanned, disorganized cities, the regional shopping center is the largest, most dramatic, and most numerous product of planning and design.

If these shopping centers are sensitively designed with concern for people, beautifully landscaped, well maintained, and managed with a warm awareness of their potential service to the community, then the centers will help dignify and uplift the families who use them. But if a center is ugly, cheap, and disorderly or if it is cold, oppressive, and inhuman, it is bound to affect the attitudes of families exposed to the center day in and day out.

When viewed as institutions with a potential for enhancing our community life, are our shopping centers a success? The answer is "not yet." Substantial progress is being made. We have moved a long way from the earliest strip centers to the new landscaped malls (see comparisons, below). But even the best that we are building fall far short of what we ought to expect of these important new centers.

The frequent user of a shopping center should feel warmed by its beauty and comfortable in its scale. He should enjoy a sense of being served by it rather than being "promoted" into it. He should have a true sense of possession of the center and a sense of pride in that possession. In its design, the center should relax and refresh the families who use it, and promote friendly contact among the people of the community. And in its management, the center should fulfill its enormous opportunity to enrich the community life.

It should be a lively meeting place as well as market place. Through imaginative use of its halls, gardens, and spaces it should expose the community to art, music, crafts, and culture. It should recognize the obvious: that there is no natural conflict between profits and people, and that the soundest economic base for a "main street" is to make it an indispensable servant of the community.

GOOD TRAFFIC PATTERNS ARE NOT ENOUGH

Where are we falling short? Clearly, the new regional centers are the product of thoughtful planning. There has been earnest and intelligent attention to the requirements of the shopper and enormous effort to meet those requirements. First, the emphasis was on convenience: the center moved into the middle of the parking area. The stores were brought close together across a mall in order to reduce walking distances and related to one another so as to distribute their need for parking evenly around the center.

Shopping center developer James W. Rouse is president of Community Research and Development, Inc. He is, also, a prominent member of the Mortgage Banker's Association, served on President Eisenhower's Advisory Committee on Housing, and is past-president and now chairman of ACTION. A resident of Baltimore (where he worked with the FHA in the early 1930s), Mr. Rouse has pioneered farsighted real estate development in his home town and all over the U.S.

SOL LIBSOHN—FORTUNE

Garish strip shopping center typical of many built along U.S. highways

BEN SCHNALL—FORUM

Mondawmin Center, Baltimore, represents a new, imaginative approach

Then came some fresh and welcome attention to beauty. Building design improved, landscaping became important. Fountains, bird cages, gardens have become standard elements in the best new centers.

But despite the emphasis on convenience and design—or perhaps because of it—the centers have become oppressively out of scale with people. The huge parking areas, the massive factory-like buildings, the enormous unbroken spaces, the store fronts and signs all add up to a big project imposed on a community rather than a warm and friendly market place growing out of the community.

RON PARTRIDGE

Town & Country Shopping Center in Palo Alto is a lively market place

At this point in the evolution of the shopping center, there is more to be learned from Farmers Market in Los Angeles, Country Club Plaza in Kansas City, and the Town & Country Center in Palo Alto (above), all of which were built more than fifteen years ago, before the days of the planned regional center. Each of these market places is lively, gay, and warmly human, full of individuality in stores and building masses. There is a de-emphasizing of signs, store fronts, and other conspicuous commercial trappings and a strong emphasis on small individual stores and small spaces that speak out with warmth and friendliness.

WE HAVE LEARNED FROM THE PAST

Our own company, Community Research and Development, Inc., has built seven shopping centers, the last five of which have been planned around enclosed, heated, and air-conditioned malls. Our sixth enclosed-mall center is under construction. We are in the planning or site-negotiations stage on six additional major centers. We are encouraged by our progress but we are very much aware of our mistakes and failures. It is these that occupy most of our attention in our future planning.

Some of the inadequacies of our centers—so hindsight tells us—are the result of unresolved conflicts between our knowledge of what ought to be, and the reasonable limitation imposed by economics. Other mistakes derive from the complexity of the shopping center as a development project and the pressures which seem inevitably to surround its construction. Ours are big projects—large in land coverage, in square-foot area of building, and particularly in the number of individual decision makers who are involved in the process. In addition to the developer and his architect and engineer, there are 50 to 75 tenants who share responsibility for the end result. Marshaling these details is an important part of the shopping-center problem.

Here are some examples of how we are trying to remedy our past mistakes:

Center Entrances. In a reaction against screaming highway signs, we have—in the past—played down the identification of the center itself; and in our concern with the traffic engineering of our entrances and exits, we have underemphasized the importance of a gracious entrance into the center.

The scale of the site is so large, and the approaching highway is usually so wide, that it takes a strong, well-designed "gate post" sign to give appropriate identification to the center. At Cherry Hill we have done our best job to date, but we have everywhere fallen short of the big opportunity that exists to mark the center with force, dignity, and beauty.

The width and activity at the entrances requires much stronger handling to give a sense of delight upon entering the center. The massiveness of the approach highway and the parking area to which the entrance leads demand tall trees, rich planting, and imaginative lighting if there is to be a real feeling of "entrance" upon leaving the highway.

Plants used to break up parking

Parking Area. Here is perhaps the biggest unresolved challenge of shopping-center planning. Parking areas must be big in order to accommodate the number of cars using the center. Shoppers ought to be as close as possible to the stores. This tends to concentrate the parking in a huge ring around the center. Every attempt to introduce landscaped areas (left) to relieve the asphalt desert is opposed by a desire for maximum close-in parking. Landscaped areas, to be effective in breaking up the parking, must be large—which means that parking will be less compact.

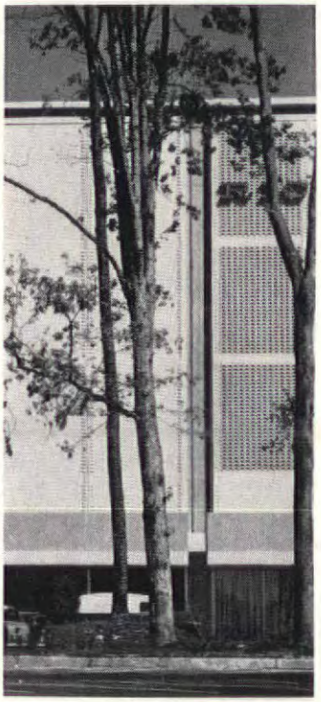
We look forward to planning a center on a site that is large enough to permit the "waste" of substantial areas for small forests of trees (perhaps even a lake or

a pond) to break up the massiveness of the parking area. The gain in warmth and beauty may prove more profitable to the center in the long run than the loss of some close-in parking spaces.

A footnote to this point is our discovery that some centers have provided too much parking. We used to plan for eight to ten car spaces per 1,000 square feet of store area. We now believe this is an oversupply of parking and that it results in long periods of time when the parking areas seem empty and dull. Many centers are outstandingly successful with parking indexes as low as five cars per 1,000 square feet of gross area. We are satisfied now to open a center with a parking index of six.

The lighting of our parking areas continues to be unimaginative. We have alternated between the unhappy choice of glaring brightness which is cold but convenient, and softer light which raises complaints from shoppers about the security of moving from car to stores. A better answer is needed than we have discovered so far.

Building Mass. Regional centers are large (300,000 to 1.3 million square feet). Most of the space is one story high. The stores turn their backs on the highway and the parking area, and front on a pedestrian mall. This results in a huge, low, sprawling building with extensive blank and lifeless walls facing the outside world. The extension is relieved only by a few signs, show windows, entrances, and landscaping. It must be made lovelier than we have so far been able to make it. In our next center, we are trying glazed brick in a variety of colors to give greater liveliness (for another attempt, see detail,



Brick patterns relieve blankness

above); but there needs to be more interest in the building mass itself and in the approach to it. Planning theory opposes office buildings at the heart of regional centers because the all-day parkers using the offices tend to preempt the parking spaces which would otherwise be available to the shoppers. Has convenience been overemphasized? Should it be sacrificed for the sake of the variety and of the esthetic values that would be introduced by the presence of one or more taller buildings in the center? Perhaps even apartment buildings or a small hotel might some day be added to a regional center.

Mall Entrances. The entrances should speak out strongly for what they are. They should be obvious, simple, colorful, gay, and inviting. The shoppers should have no question about their location. Our entrances have been underemphasized. Canopies, flags, planting have been inadequate.

Entrance Corridors. We try hard to avoid placing shops along entrance corridors, as these are necessarily secondary locations which can at best enjoy only a fraction of the traffic that is available on the main mall. The trick then is to keep these entrance corridors short in order to avoid a long dull walk from the parking area into the mall itself.

Courts and Malls. We have steadily improved the quality of the mall and, in some cases, with dramatic and wonderful results. Cherry Court is a warm and uplifting experience. The space itself is majestic. The garden, the fountain, the bridges, stream, the waterfalls, and the teahouse bring the huge space into pleasant human scale. The people who shop at Cherry Hill clearly show their delight in Cherry Court (below). But its strength is so great that it makes the rest of the center appear somewhat weak. We need to achieve a better balance of landscaping and physical features throughout the center.

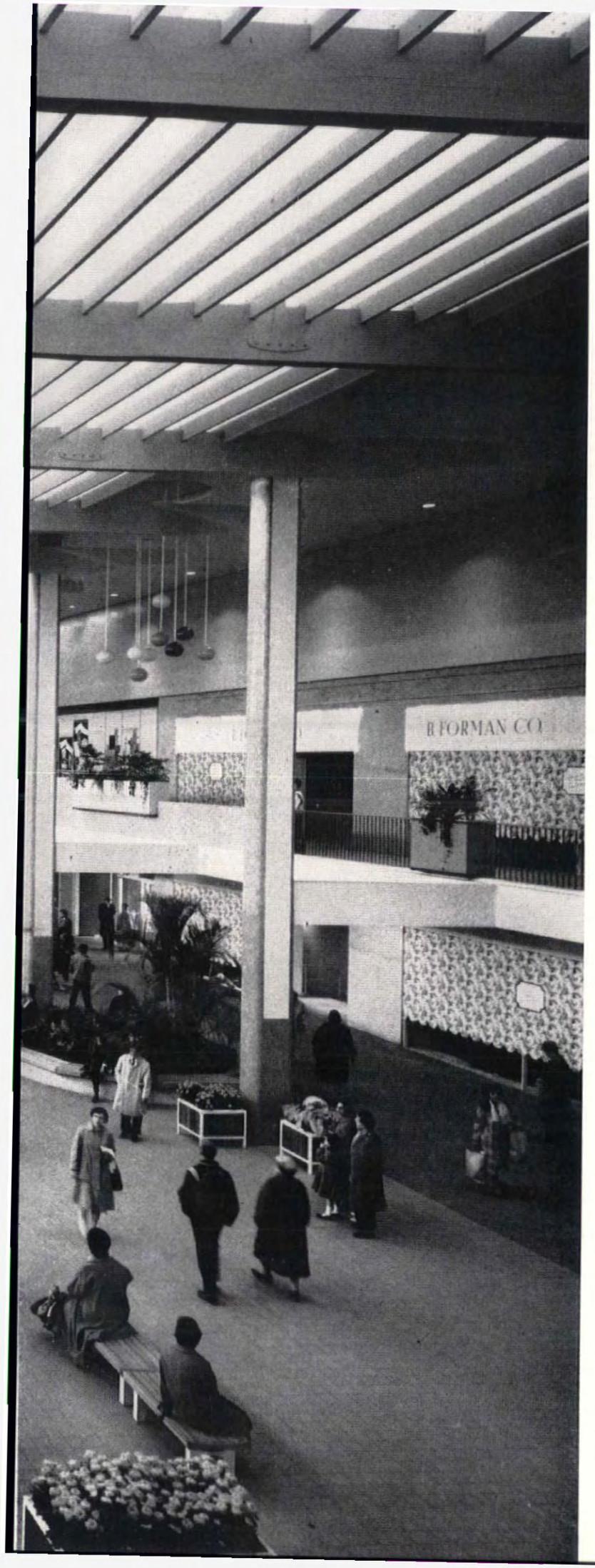
We are tremendously pleased with the results that we have achieved with tropical planting, water features, birds, and benches. However, we can do better. We need more surprises, more changes of pace, more liveliness, more color. Some of this has been accomplished at the mall which we opened in March in Louisville. A play area in the middle of the mall (with a sliding board and concrete turtles for climbing) has tremendous appeal for little children and its use adds enormously to the gaiety of the center.

We introduced here what may be the world's largest chessboard: it is 15 feet square, built into the main court, with chessmen 30 inches high. There are benches on two sides. This quiet and peaceful symbol is in wonderful contrast with the busy pace that is associated with shopping. We also used more and stronger color in the mall ceilings and building areas above the stores.

continued on page 196

ROBERT LAUTMAN; PHOTO LEFT, ARDYZ, GABRIEL BENZUR

Cherry Hill Center, N. J., contains a skylit court with tropical plants



LOUIS DUZZO

Far-sighted business and government combine to prove downtown is not dead

CENTER FOR ROCHESTER

Last month, an afternoon shopper in Rochester, N.Y.'s Midtown Plaza took another look around the gleaming new mall and sighed: "I know I ought to go home but I just can't seem to tear myself away." Keeping that lady and thousands like her tantalized and downtown is the result of six years of careful plotting and planning by Architect Victor Gruen, Rochester merchants, and the city government.

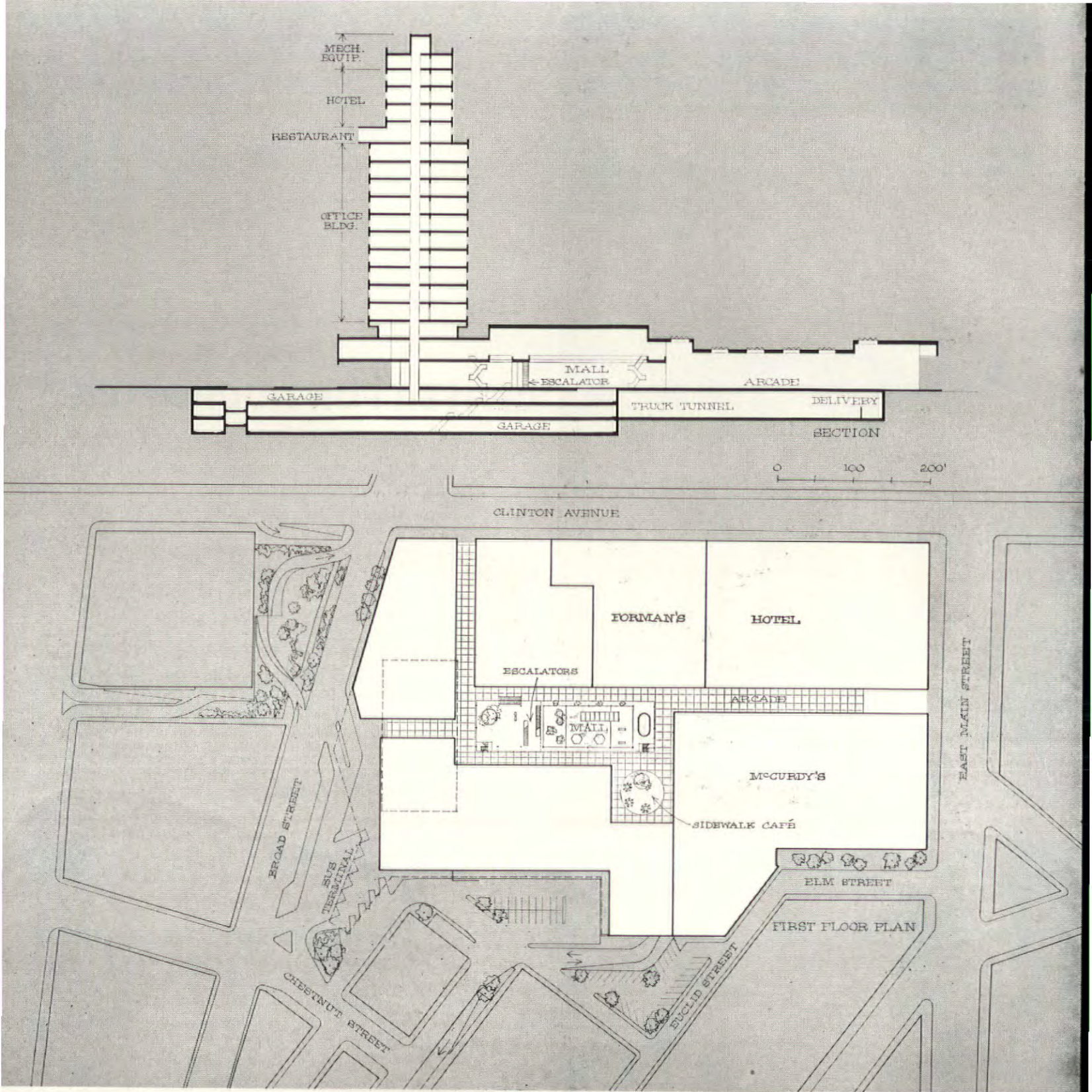
Midtown Plaza, the downtown urban renewal project produced by all this joint planning, is a 1.3 million-square-foot complex of office, hotel, and retail space—some new, some remodeled, all linked together on a 7½-acre site by an enclosed and air-conditioned shopping mall. There are two existing department stores and a hotel. Victor Gruen Associates have also designed a new 18-story office-hotel building, telephone building, bus terminal, 50 stores, and a 2,000-car underground garage.

REMODELING WAS NOT ENOUGH

Until a few years ago, the 7½ acres of Midtown Plaza looked like many another city's aging commercial district. To shop downtown meant searching endlessly for surface parking lots. The situation might have seemed hopeless elsewhere, but Rochester's city-manager government is exceptional in more ways than one: it had already put the city's finances on a firm footing, created a downtown traffic loop, and started building parking ramps around the commercial and business districts (FORUM, July '59).

In 1956, encouraged by the city's new prospects, two department store presidents (Gilbert McCurdy of McCurdy's Department Store and Maurice Forman of B. Forman Company) got together and decided it was time for private initiative to revitalize downtown Rochester. They quickly realized that remodeling their neighboring stores was not enough. Remembering Victor Gruen's Fort Worth Plan (FORUM, May '56), they called in the architect for a long-term evaluation of the whole southeastern core of the city.

The result of a number of studies by Victor Gruen Associates was to convince not only McCurdy and Forman but the city government as well that a project such as Midtown Plaza would be economically advantageous, in terms of new tax revenues and increasing real-estate values in the area. But what really spurred the merchants' decision to build the $20 million Plaza was Gruen's conclusion that a new urban center would revitalize the whole city core. The municipal government agreed with him, decided to help by building a $9 million, three-level public parking garage directly beneath the


MECH. EQUIP.
HOTEL
RESTAURANT
OFFICE BLDG.
MALL
ESCALATOR
ARCADE
GARAGE
TRUCK TUNNEL
DELIVERY
GARAGE
SECTION
0
100
200'
CLINTON AVENUE
FORMAN'S
HOTEL
ESCALATORS
ARCADE
MALL
McCURDY'S
SIDEWALK CAFÉ
EAST MAIN STREET
BROAD STREET
SUB TERMINAL
ELM STREET
FIRST FLOOR PLAN
CHESTNUT STREET
EUCLID STREET

Lighted globes give outdoor feeling to the sidewalk café although mall temperature is controlled at 75 degrees all year. In daytime, natural light filters through suspended wood trellis from clerestory windows. The 130-seat café is furnished with white plastic-topped tables, chairs, custom-built planters, and a central fountain.

PHOTOS: BEN MARTIN—TIME

In the mall center is the Clock of the Nations. Twelve countries are represented by figurines spaced around clock on drumlike stages. Every hour, a stage is lighted and the music and dance of one of the nations are performed. The clock's design by the Gruen office was based on former Associate George Doczi's concept.

project, by extending Broad Street into a new access, by closing off one street, and by partially closing another.

DOWNTOWN'S CAPTIVE AUDIENCE: OFFICE WORKERS

Part of Midtown's success is due to its placement between two major anchor points at opposite ends of the Plaza: two well-established (and now remodeled) stores and the 500-room Manger Hotel form one anchor on the northern end of the 295-foot mall. And the new Midtown Plaza Tower, Rochester's tallest building and the first skyscraper built there in 30 years, forms a second anchor to the south. The first 14 floors of the tower hold 259,000 square feet of office space. The top floors are occupied by the 78-room Midtown Tower Hotel, a restaurant, and a bar. The office floors below are faced with brick; the hotel floors above are sheathed in gold anodized aluminum.

Nonretailing activities take up more than half of the whole complex. Thus the owners intend to capitalize fully on their central location and attract downtown office workers to the new retailing facilities.

THE MALL: SOPHISTICATION ABOVE, PARKING BELOW

The 50 new stores on the mall have been carefully screened to attract a more sophisticated audience than most suburban shopping centers. There are, for example, more high-quality clothing stores and no five-and-tens.

In addition to the two-level landscaped mall where they can meet, have lunch, and take care of a multitude of errands usually reserved for hectic weekends, office workers have access to the Plaza's new post office, the bus terminal with both intracity and suburban connections, and an auditorium (on the upper mall level) with stage and sound system, seating 300 people.

For those who still want to drive downtown, the city-owned

Cantilevered stairs above reflecting pool lead to second-level balconies.

Kiosks add color to mall. Moving stairs rise to upper shopping level

PHOTOS LEFT, LOUIS OUZER; OPP. BEN MARTIN

and operated garage can handle 12,000 cars a day and, at a peak rate, 1,200 cars in 30 minutes.

MALLS ARE ALSO FOR DANCING

Midtown Plaza does have at least one feature in common with the suburban regional shopping center. The covered pedestrian mall is its main artery. "We wanted to create a town square with urbane qualities," says Architect Gruen. "At the same time, the Plaza is important as a setting for cultural and social events—concerts, fashion shows, balls, and those activities which one connects with urban life. We had to create an architectural unity which would be strong enough to hold it all together and yet allow free expression by the individual merchants." Rochester merchants have evidently approved of Gruen's democratic approach. By last month, about 75 per cent of all retail space on both upper and lower mall levels was rented.

FACTS AND FIGURES

Midtown Plaza, Rochester, N.Y. Owner: Midtown Holdings Corp. Architects: Victor Gruen Associates. Partner-in-charge: Edgardo Contini. Consultants: Ladislas Segoe (planning for city of Rochester); Larry Smith & Co. (economic); Wilbur Smith (traffic); B. K. Hough (site); L. M. Sanford (engineering); Construction Advisors, Inc. (construction). General Contractor: John B. Pike & Sons.

Midtown Plaza Garage. Owner: city of Rochester. Architects: Victor Gruen Associates. Supervising Architects: Bohacket & Flynn. General Contractors: Perini Corp.; M. S. Kelliher.

Total cost: approximately $30 million. Cost of land: $5 million. Construction costs: $15 million for the Plaza complex. City contributed $9 million for the garage and an additional $1 million for utilities and street redevelopment.

Building area: 1.3 million square feet. Financing: (Plaza complex) 20-year, $11 million mortgage loan by New York State Teachers Retirement System to Midtown Holdings Corp. Remainder from equity investment and private financing. Financing (city garage): Municipal bond issue.

Construction details: 60-foot-high mall is built of structural steel with spray-on fireproofing and acoustical-plaster finish. Floor is 12- to 15-inch reinforced concrete slab, also serving as garage roof.


NO WAITING
BARBER SHOP
OFFICE SUPPLIES

MARKET IN MEXICO CITY

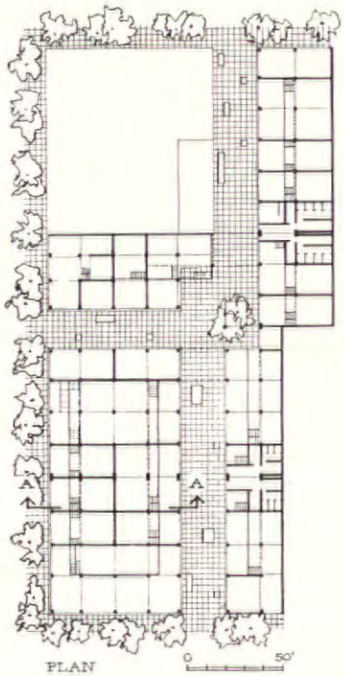
The Centro Comercial Jacaranda is the result of a successful collaboration among owners of three deep and badly proportioned lots on the same Mexico City block. By replacing 28 small houses, Architects Ramon Torres and Hector Velazquez Moreno built an intimate, cohesive shopping center. Since the frontage of the three lots onto existing streets was limited, the architects decided to cut through the block with open arcades that intersect in a central garden plaza. As a result, they doubled the available store frontage; moreover, the arcades and plaza are so attractive (see above) that interior store space is most in demand.

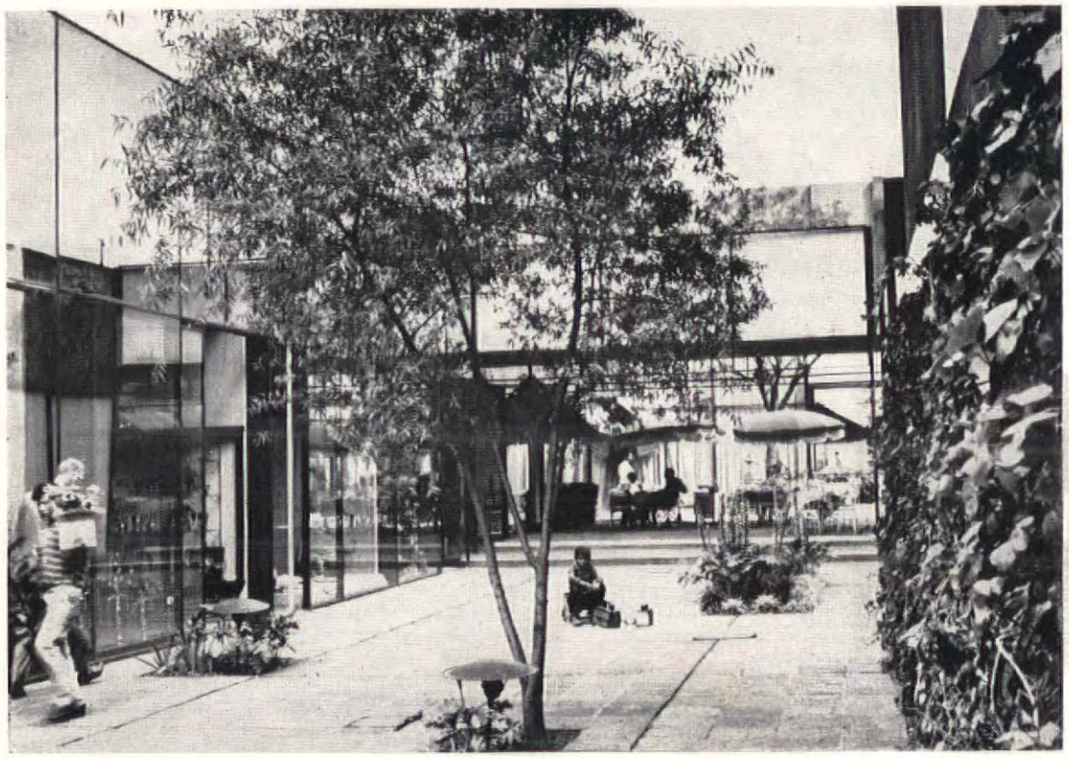
The elegant buildings, the prime location, and the sophisticated stores have combined to make the Jacaranda Center a fashionable place to shop, eat, or meet friends. The tenants are chic dress and gift shops, one furrier, a book store, a bar, and two restaurants. Alfredo's, an upper-bracket Italian restaurant, and the bar have outdoor tables which are occupied day and evening. The atmosphere is convivial and shop owners report many new customers among the diners.

Reinforced concrete forms the foundations and structure of the small shopping center. The glass façades are framed in aluminum. A parking area on the roof is paved with macadam asphalt and holds 100 cars. They are driven up on two ramps and concealed behind parapets.

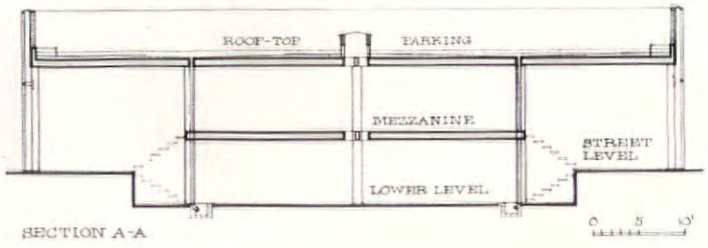
FACTS AND FIGURES

Centro Comercial Jacaranda, Mexico City. Owners: Mrs. Dolores C. de Estrada, Mrs. Magdalena C. de Carral and Mr. Mauricio-Campos. Architects: Ramon Torres and Hector Velazquez Moreno. Engineers: DIRAC (structural); Electro-Equipos, S.A. (mechanical and electrical). General Contractor: Sergio Torres and Eduardo Vazquez. Land and site development cost: $372,000. Construction Cost: $240,000. Building area: 43,160 square feet. Cost per square foot: $5.95.

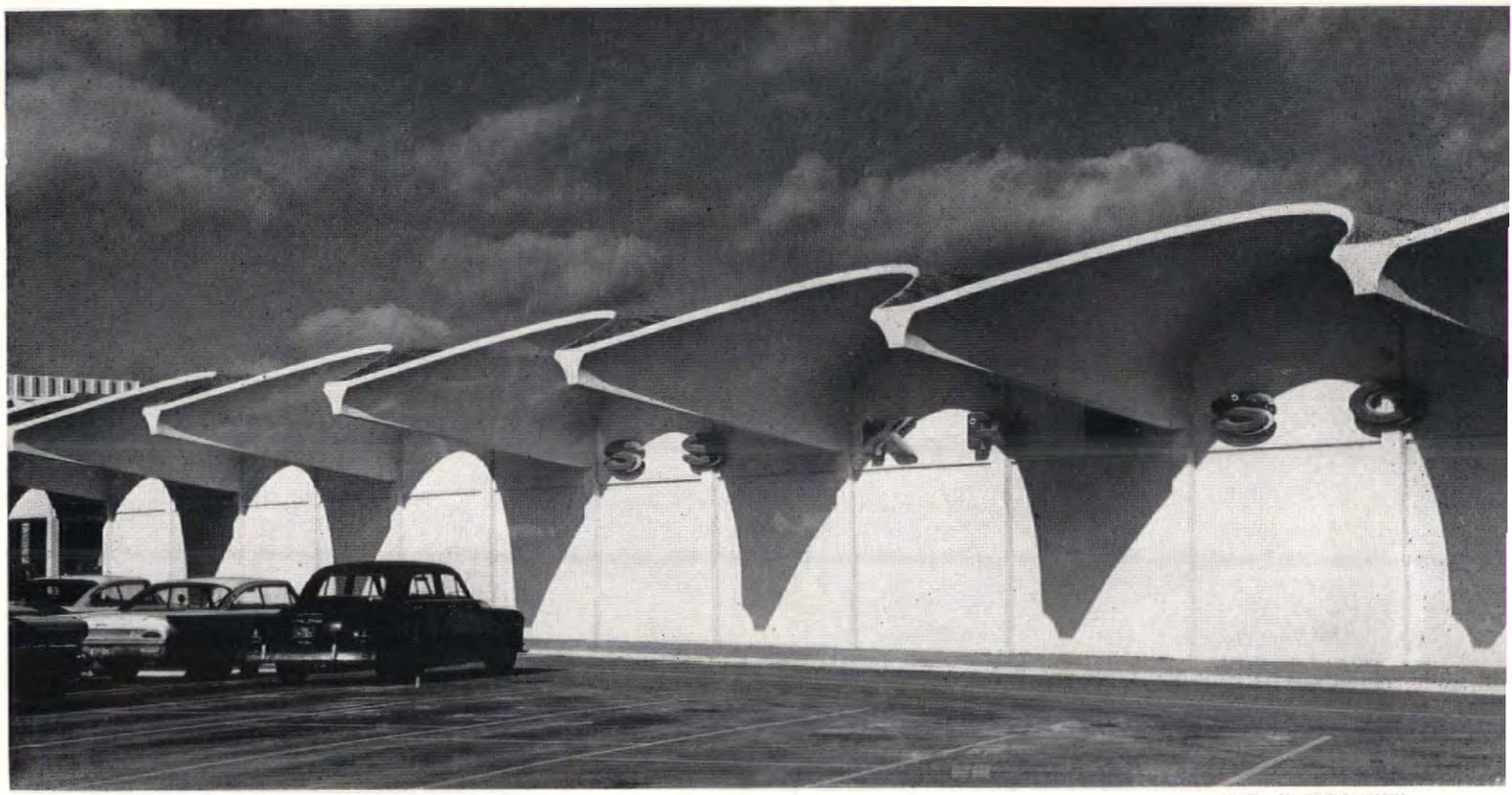




CHRISTINA SMITH



Store tenants find the split levels (see section above) an unusually flexible layout for displaying merchandise. Unlike U.S. shopping center signs, these are hung behind glass façades at a standard height of 11 feet, giving the center a homogeneous appearance. Black anodized aluminum frames for glass fronts and gray volcanic-rock pavement on the malls give a neutral background. Spots of color come from bright canvas awnings added by stores for sun protection. Two full-sized trees and plants provide oases in arcades.



PHOTOS BY GEORGE CSERNA

ROOFS AND A MALL FOR A CENTER IN TENNESSEE

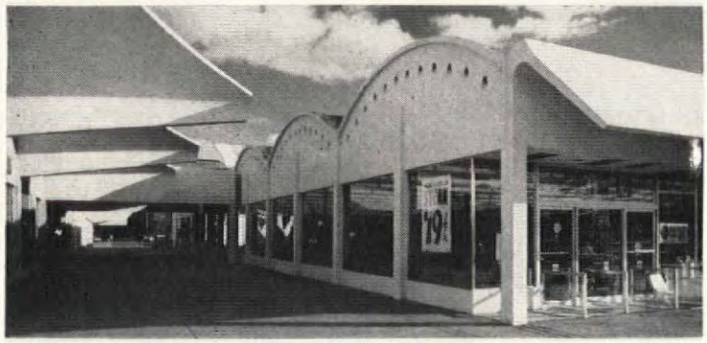
Merchandising considerations played an important part in the design of the new Village Shopping Center in Cleveland, Tenn. But so, too, did a strong desire on the part of its architects, Toombs, Amisano & Wells, to relieve the oppressiveness of a center necessarily surrounded by acres of asphalt —at the same time avoiding the garishness of the typical U.S. strip shopping center.

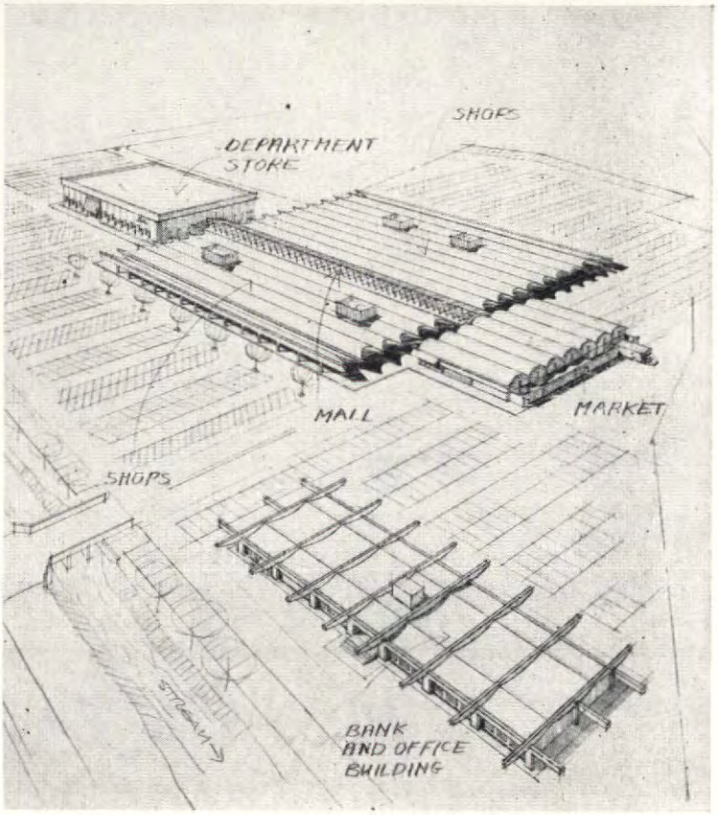
Two features of their design stand out: a covered mall 385 feet long (opposite), and a collection of unusual roof shapes (above, and pages 118–119).

The mall, according to the architects, is designed to function as a "street without cars," permitting shoppers to criss-cross back and forth without impediment. A lamella structure in concrete spans the mall, using the buildings on either side as buttresses but supported also by columns in the center. Inexpensive (it cost less than $1 per square foot), this trellis casts interesting shadow patterns which give the mall a bazaar-like feel. Ultimately, it will be covered with sheet plastic and the mall will be air conditioned.

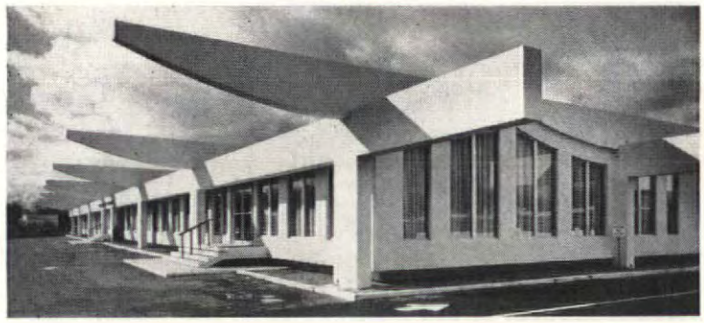
Five buildings comprise the center which serves a light industrial community (mills, stoveworks) in the Tennessee Valley. Vaulted roofs of thin shell concrete cover three of them—an economical ($1.25 per square foot) way of achieving big spans and flexibility of column placement to suit individual tenant needs. The roof is extended beyond the façades of the two buildings which flank the mall (above). The scalloped overhangs shelter pedestrians but they also create strong shadows—the architect's way of compensating for a virtually nonexistent landscaping budget.

The bank and office building created a special problem

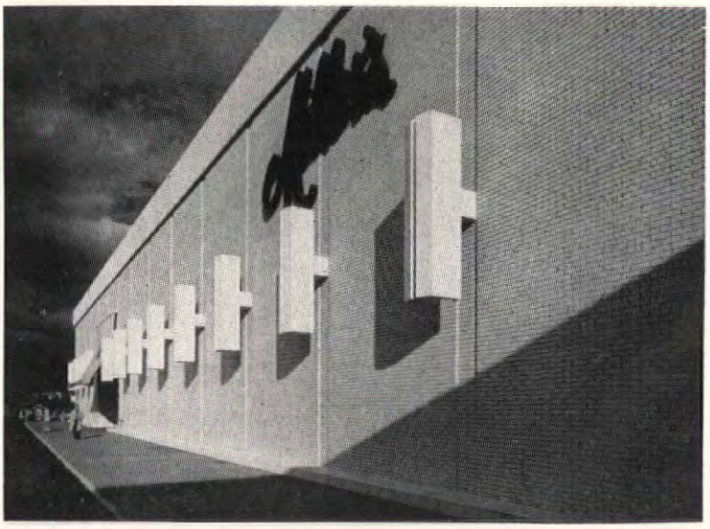




Scalloped overhangs (above) shelter pedestrians. They also create strong shadows to make up for the lack of a landscaping budget. Bank and office building (below) stands apart. Surrounded by asphalt, it uses dramatic roof beams to draw attention away from the ground.



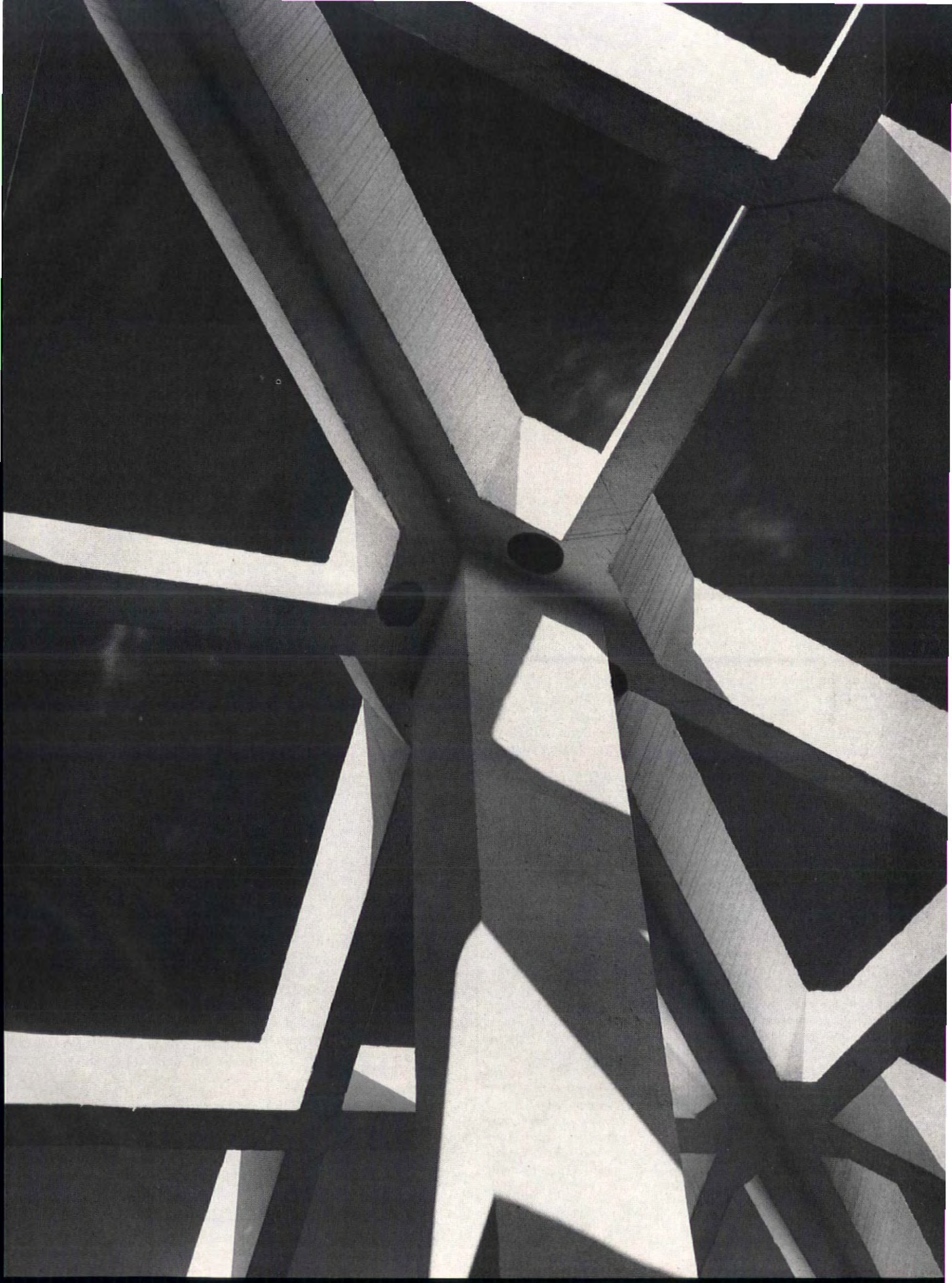
because it stands aloof from the rest in a sea of pavement. To draw attention away from the paving, the architect devised an eye-catching roof whose curved arch beams recall, without repeating, the vaults which surround the mall.



FACTS AND FIGURES

Village Shopping Center, Cleveland, Tenn. Owner: Jafco, Inc. Architects: Toombs, Amisano & Wells. Engineers: D.A. Polychrone & Associates (structural). Landscape consultants: Sasaki, Walker & Associates. General contractor: Rea Construction Company.

Cost (excluding land and furnishings); $244,643. Building area: 190,478 square feet. Cost per square foot: $11.78. Permanent financing by Life and Casualty of Tennessee. Construction details: floor and roof decking are metal pan systems with reinforced concrete joist construction; exterior surfaces are exposed common brick and concrete; foundations are concrete footings and drilled concrete caissons; construction is slab on grade with concrete roof vaults, except for the department store (standard concrete frame with pan joist slabs); vaulted roof is tied together and supported by tension cables strung through the columns at the spring of the vaults.



100 BIGGEST BUILDING CONTRACTORS IN THE U. S.

In 1961 the 100 biggest contractors in the U.S. put in place $2.9 billion worth of new construction. This figure represents 7.1 per cent of the $40.6 billion total for all U.S. construction excluding dams, highways, bridges, and other nonbuilding items. And, since $26.5 billion of the $40.6 billion total was spent on one- and two-family houses (a field in which the 100 biggest are not very active), their actual share, eliminating houses as well as heavy construction, jumps to 21 per cent.

Both in total volume and in share of the market, the 100 biggest registered gains since FORUM last surveyed the field in 1959. Dollar volume is up 7.4 per cent from the $2.7 billion reported in the earlier survey. And the 7.1 per cent share of all building construction (including houses but not heavy construction) compares favorably with a 6.5 per cent share three years ago.

As in 1959, there were nine contractors responsible for at least $50 million each—but only four of them (Darin & Armstrong, George A. Fuller Co., Robert E. McKee, and Turner Construction Co.) had reported this much volume in the earlier survey. Biggest single volume reported by any firm was $165 million, almost half of which was in office building construction. The second highest total was $146 million and, again, half of it was in offices. The third largest firm, however, which reported a volume of $110 million, accounted for its biggest share in industrial buildings. Together, the top nine accounted for over $800 million.

There were 24 contractors each reporting $25–50 million of construction put in place. This group, which included six newcomers to FORUM's list, did $900 million of work.

Thus, the top 33 contractors were responsible for $1.7 billion—59 per cent of the total. The remaining 67 firms are divided by volume as follows: $20–25 million (19); $17–20 million (15); $15–17 million (18); $13–15 million (15).

Specialization by building type: the breakdown

Specialization by building type is clearly indicated in the survey results: 72 of the 100 reported at least 50 per cent of their volume to be in one of FORUM's seven categories. This specialization was divided fairly evenly. Industrial buildings accounted for 21 per cent of the total. The other percentages: offices (18); residential (15); educational (10); medical (8); retail (5); other (23).

The breakdowns for offices, residential, and retail match closely those of the 100 biggest architects (FORUM, May '62). The architects had twice as much volume in educational building (much school construction is decentralized and therefore done by smaller contractors) but, surprisingly, only 4.2 per cent more in medical facilities. Conversely, contractors had almost twice as much volume in industrial buildings, which often rise without benefit of an architect, and 9 per cent more in "other."

Of the 100 firms, 19 reported that at least 50 per cent of their volume consisted of "other." Largest ingredient in this category was government work, particularly missile bases and related defense facilities. One- and two-family houses form a smaller segment but a few firms did all, or almost all, their work in this field. Airport facilities and parking garages were among the other components of this category.

The list reveals 44 newcomers, indicated in the chart by an asterisk. Most of them have joined the group toward the bottom of the list. There are no newcomers among the top nine firms ($50 million and above) although six of the 24 in the second-highest grouping ($25–50 million) appear on the list for the first time.

Slim gains forecast for 1962

Of the 100 contractors who submitted estimates of the construction volume they anticipate for the current year, 56 expect to do better than in 1961. The biggest increase (+115 per cent) is anticipated by Roscoe-Ajax Construction Co., Inc. of Washington which last year did 80 per cent of its work in office buildings. Five others expect to gain 50 per cent or more.

Predicting a smaller volume in 1962 were 41 contractors (three of the 100 reported no change). None expected a reduction of as much as 50 per cent and only four predicted decreases of 40 per cent or more. Overall, the 100 biggest contractors estimate that they will again put in place just over $2.9 billion worth of new construction in 1962, up a slim $2 million or 0.8 per cent.

The biggest contractors are concentrated in 27 of the 50 states —and heavily in five. Predictably, the two most populous states, New York and California, have the largest share: 20 and 19 respectively. Illinois has nine; Michigan and Texas, six each.

Six general contractors who probably did sufficient volume in 1961 to qualify for FORUM's list are not represented because they supplied incomplete information. They are: Caristo Construction Corp. (Brooklyn), Daniel Construction Co. (Greenville, S.C.), Peter Kiewit Sons Co. (Omaha), John Lowry, Inc. (New York), Carl N. Swenson Co. Inc. (San Jose), and Del E. Webb Construction Co. (Phoenix).

Absent also from the 100 biggest are "package builders," firms which are capable of taking a job from design and engineering right through the final construction phases. Fourteen of these builders replied to FORUM's questionnaire. They are: Badger Co. Inc., Bank Building & Equipment Corp. of America, Catalytic Construction Co., Chemical Construction Corp., H. K. Ferguson Co. (subsidiary of Morrison-Knudsen), Fluor Corp., Kaiser Engineers, M. W. Kellogg Co., Lummus Co., F. H. McGraw & Co., Procon, Inc., Stearns-Roger Manufacturing Co., Wigton-Abbott Corp., and Western-Knapp Engineering Co. All of them reported volumes which would qualify them for the list. But, since many of the companies included costs of process equipment and land acquisition as well as construction in calculating their volume, their figures are not strictly comparable and were not included in the list.

Together, the fourteen package builders did $704 million worth of building in 1961. Of this, $188 million or 27 per cent was done abroad (the 100 biggest, by contrast, did only an additional 1.4 per cent or $42 million abroad). One firm, Lummus Co. of New York, did 63 per cent of its work overseas (all industrial construction) and at least two others, the Badger Co., Inc. of Cambridge, Mass. and Procon, Inc. of Des Plaines, Ill., accounted for 50 per cent of their volume abroad.

The list of building's biggest clients will appear in the July issue. Combined reprints of the three lists may be had after August 1 for 50 cents each prepaid.

Construction put in place	Type of Construction as a per cent of 1961 Total							
Firm (home office)	Offices	Educational	Industrial	Residential †	Medical	Retail	Other	Forecast '62
$50,000,000 or more**								
Darin & Armstrong, Inc. (Detroit)	5	2	78	—	7	3	5	−14%
Diesel Construction Co., Inc. (New York)	57	—	—	43	—	—	—	+27
George A. Fuller Company (New York)	48	12	19	5	3	11	2	+ 6
Huber, Hunt & Nichols, Inc. (Indianapolis)	30	20	50	—	—	—	—	−23
McCloskey & Company (Philadelphia)	66	4	—	5	2	—	23	+25
Robert E. McKee, General Contractor, Inc. (El Paso)	9	10	43	1	22	1	14	−27
Gust K. Newberg Construction Company (Chicago)	12	3	10	58	9	—	8	−21
Sumner Sollitt Company (Chicago)	14	—	16	27	40	—	3	−45
Turner Construction Company (New York)	51	1	14	6	10	7	11	−23
$25,000,000 to $50,000,000								
*Joseph P. Blitz, Inc. (New York)	—	—	—	80	—	—	20	+30
Blount Brothers Construction Company (Montgomery)	11	17	36	—	—	—	36	+58
Frank Briscoe Company, Inc. (Newark, N. J.)	40	—	50	—	—	—	10	+ 5
*H. L. Coble Construction Company (Greensboro, N.C.)	2	1	9	—	3	—	85	− 6
Dinwiddie Construction Co. (San Francisco)	70	18	—	—	—	12	—	+13
Fruin-Colnon Contracting Co. (St. Louis)	10	—	60	—	—	—	30	+15
Gilbane Building Company (Providence)	5	15	25	5	5	20	25	+20
HRH Construction Corp. (New York)	13	12	1	42	27	5	—	+17
Haas and Haynie Corporation (San Francisco)	15	—	30	50	5	—	—	+13
Hilp & Rhodes (San Francisco)	2	—	15	—	—	75	8	+ 7
A. L. Jackson Company (Chicago)	70	—	—	—	—	—	30	−21
*Johnson, Drake & Piper, Incorporated (Minneapolis)	1	11	5	—	20	—	63	−32
*J. A. Jones Construction Co. & Subsidiaries (Charlotte, N.C.)	23	3	5	5	12	3	49	−27
C. H. Leavell & Company (El Paso)	33	—	12	—	3	6	46	− 8
MacDonald Construction Company (St. Louis)	10	—	36	—	4	—	50	−11
Malan Construction Corp. (New York)	—	—	73	1	7	—	19	+ 3
John McShain (Philadelphia)	—	25	25	—	45	—	5	− 4
C. L. Peck Contractor (Los Angeles)	40	—	22	38	—	—	—	+ 4
*Frank J. Rooney, Inc. (Miami)	5	—	—	60	1	34	—	+ 7
Swinerton & Walberg Co. (San Francisco)	18	—	64	1	7	9	1	+ 8
*Robert L. Turchin, Inc. (Miami Beach)	5	—	—	74	13	8	—	−10
Arthur Venneri Company (Westfield, N.J.)	20	5	5	50	20	—	—	+20
Walsh Construction Company (New York)	51	10	39	—	—	—	—	−35
Williams & Burrows, Inc. (Belmont, Calif.)	18	30	4	9	11	2	26	−18
$20,000,000 to $25,000,000								
*Alcan Pacific Co. (North Sacramento)	—	11	18	16	—	—	55	+16
Barton-Malow Company (Detroit)	5	—	60	—	—	5	30	−13
Henry C. Beck Company (Dallas)	58	2	21	4	4	—	11	+12
Bryant & Detwiler Co. (Detroit)	50	40	5	—	5	—	—	NC
Diversified Builders, Inc. (Paramount, Calif.)	36	—	51	7	—	4	2	+12
Martin K. Eby Construction Co., Inc. (Wichita)	5	1	24	—	1	—	69	+54
Heftler Construction Company (Beverly Hills)	—	—	—	—	7	—	93	+12
*The Hunkin-Conkey Construction Company (Cleveland)	1	4	64	14	10	—	7	− 2
*Kesk, Inc. (New Orleans)	—	—	—	10	—	—	90	+35
S. N. Nielsen Company (Chicago)	5	—	22	52	10	—	11	− 6
F. D. Rich Company, Inc. (Stamford, Conn.)	25	—	—	15	30	5	25	+18
*Wm. E. Schweitzer & Co. (Evanston, Ill.)	4	—	—	—	4	—	92	−27
S. S. Silberblatt, Inc. (New York)	—	—	—	27	—	—	73	− 1

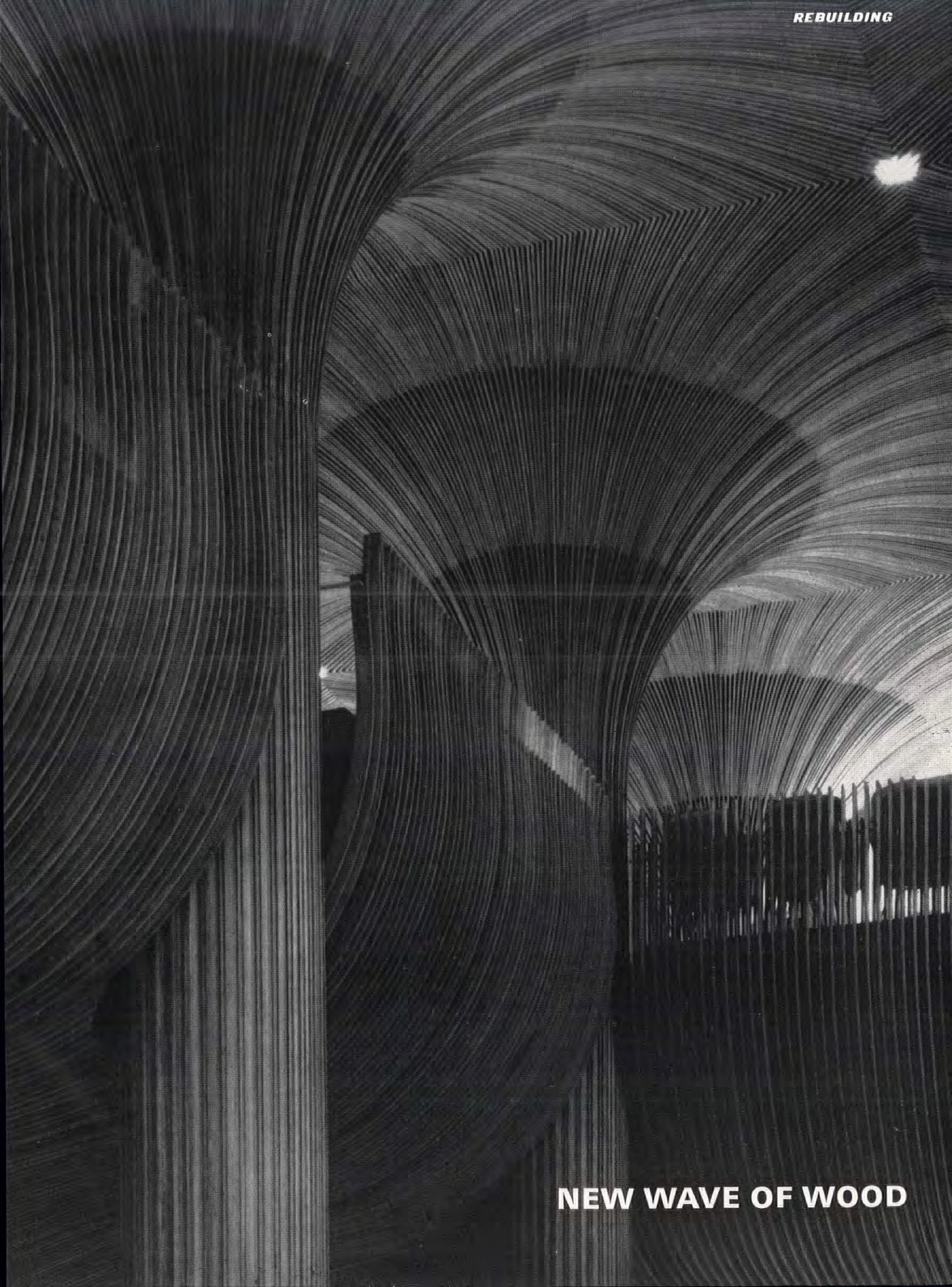
* Newcomers to list of 100 since 1959 survey

** Firms are listed alphabetically within ranges given

† Apartments, hotels, motels—does not include houses

NC = No change

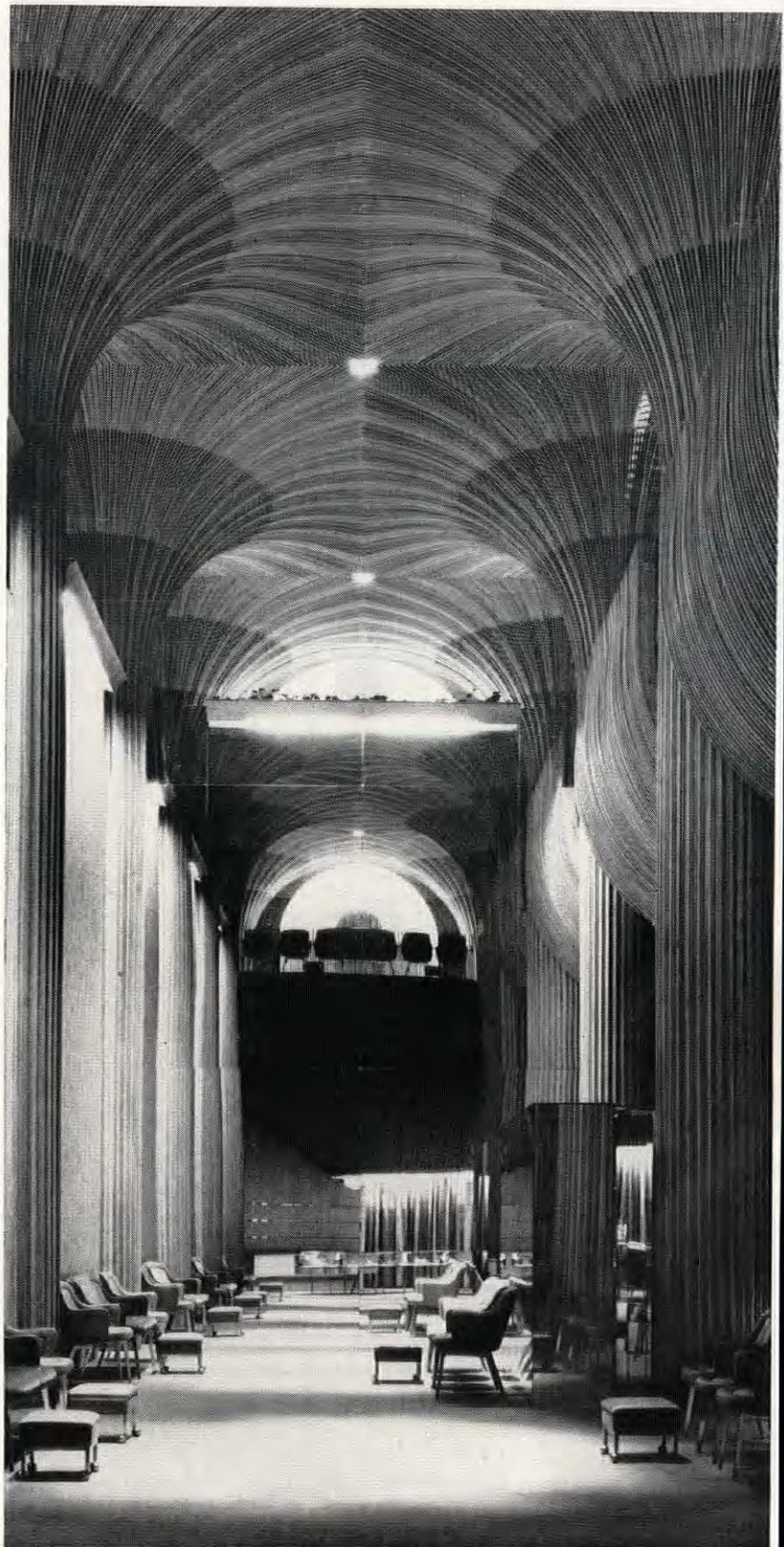
Construction put in place	Type of Construction as a per cent of 1961 Total							
Firm (home office)	Offices	Educational	Industrial	Residential †	Medical	Retail	Other	Forecast '62
$20,000,000 to $25,000,000 *(continued)*								
Stolte, Inc. (Oakland)	4	33	3	14	21	—	25	NC%
Terminal Construction Corp. (Wood-Ridge, N.J.)	10	—	—	55	20	—	15	+46
Paul Tishman Company, Inc. (New York)	25	25	—	—	50	—	—	+24
Twaits-Wittenberg Co. (Los Angeles)	17	—	68	—	—	—	15	— 9
Virginia Engineering Company, Inc. (Newport News, Va.)	8	5	51	—	25	2	9	+69
John A. Volpe Construction Co., Inc. (Malden, Mass.)	5	36	2	—	55	—	2	— 9
$17,000,000 to $20,000,000								
Blake Construction Company, Inc. (Washington)	6	15	—	38	38	—	3	+32
O. W. Burke Company (Detroit)	24	10	25	—	4	—	37	—18
Centex Construction Company, Inc. (Dallas)	—	—	—	11	—	3	86	+51
The John W. Cowper Company, Inc. (Buffalo)	5	17	46	—	24	1	7	—15
*D. & L. Construction Co. & Assoc. (North Hollywood)	—	—	—	25	—	—	75	—44
Fusco-Amatruda Co. (New Haven, Conn.)	25	25	—	7	5	20	18	—17
*Inland Construction, Inc. (Morton Grove, Ill.)	—	—	1	—	—	99	—	—49
*H. A. Lott, Inc. (Houston)	11	44	—	—	9	1	35	+15
*Mars Assoc. Inc. & Normel Const. Corp. (New York)	—	80	—	—	20	—	—	+11
*Miller-Davis Company (Kalamazoo, Mich.)	1	36	21	8	4	18	12	—12
*Pozzo Construction Co. (Los Angeles)	65	—	20	—	15	—	—	+39
*Sanderson & Porter, Inc. (New York)	—	—	—	—	—	—	100	— 1
*Signature Development Company (Beverly Hills)	—	—	—	—	—	—	100	+ 1
*J. A. Utley Co. (Royal Oak, Mich.)	5	18	74	—	1	—	2	+11
*Winn-Senter Construction Company (Kansas City, Mo.)	29	4	4	51	6	2	4	+22
$15,000,000 to $17,000,000								
*Allen Bros. & O'Hara, Inc. (Memphis)	12	—	2	79	—	4	3	+22
*Beacon Construction Co. of Massachusetts, Inc. (Boston)	10	—	10	—	10	10	60	—39
*Bellows Construction Corp. (Houston)	70	—	15	—	—	—	15	+19
*Corbetta Construction Co., Inc. (New York)	—	—	47	—	3	—	50	— 7
*Crane Construction Company, Inc. (Chicago)	40	—	4	56	—	—	—	+25
*William L. Crow Construction Co. (New York)	15	—	85	—	—	—	—	— 1
*Crown Construction Company (Los Angeles)	10	55	—	25	—	—	10	+10
*Leon D. DeMatteis & Sons, Inc. (Elmont, N.Y.)	—	8	—	30	—	—	62	— 5
Depot Construction Corp. (Long Island City)	40	25	—	—	35	—	—	+ 3
*General Builders Corp. (Babylon, N.Y.)	—	—	—	68	—	7	25	+25
*Hoffman Construction Co. (Portland, Ore.)	3	—	93	—	—	2	2	—27
Lembke Construction Co., Inc. (Albuquerque)	—	60	30	2	—	—	8	+17
B. J. Lucarelli & Co., Inc. (Newark, N. J.)	—	25	14	41	3	—	17	+25
*Millstone Construction, Inc. (St. Louis)	52	—	8	23	—	17	—	— 3
*Jos. L. Muscarelle, Inc. (Maywood, N. J.)	10	—	80	—	—	10	—	+46
Myers Bros. Construction Co., Inc. (Los Angeles)	22	1	14	11	11	—	41	—27
Howard S. Wright Construction Co. (Seattle)	—	—	82	4	—	—	14	—28
*Philip Yousem (Venice, Calif.)	15	—	—	—	—	15	70	—33
$13,000,000 to $15,000,000								
*Foster & Creighton Company (Nashville)	4	43	47	—	5	1	—	+10
The Frouge Corporation (New York)	—	11	—	—	—	—	89	+ 9
*The Edward Gray Corporation (Chicago)	1	32	33	23	3	8	—	+50
*Albert M. Higley Co. (Cleveland)	7	55	32	—	6	—	—	—47
*S. Jon Kreedman & Co. (Beverly Hills)	66	—	—	13	21	—	—	+ 3
*Krilich Builders, Inc. (Chicago)	—	—	—	33	2	20	45	+13
*McDevitt & Street Company (Charlotte, N. C.)	17	5	35	—	2	—	41	+ 9
*Mead & Mount Construction Co. (Denver)	58	25	—	—	17	—	—	+ 9
*Stewart M. Muller Construction Co., Inc. (White Plains, N. Y.)	30	45	—	—	—	—	25	+ 2
Pickens-Bond Construction Company (Little Rock)	—	10	85	—	—	4	1	+13
*Roscoe-Ajax Construction Co., Inc. (Washington)	80	—	—	8	—	—	12	+115
Cedric Sanders Co. (Santa Ana, Calif.)	30	—	—	80	—	—	20	NC
The William Simpson Construction Co. (Los Angeles)	30	—	30	—	10	30	—	+ 4
*Tandy & Allen Construction Co., Inc. (New York)	—	—	—	95	—	5	—	—11
*Chas. H. Tompkins Co. (Washington)	10	3	5	19	—	—	63	+ 4



NEW WAVE OF WOOD

PHOTOS: GEORGE CSERNA

Exterior was simplified with glass; interior, glorified with wood



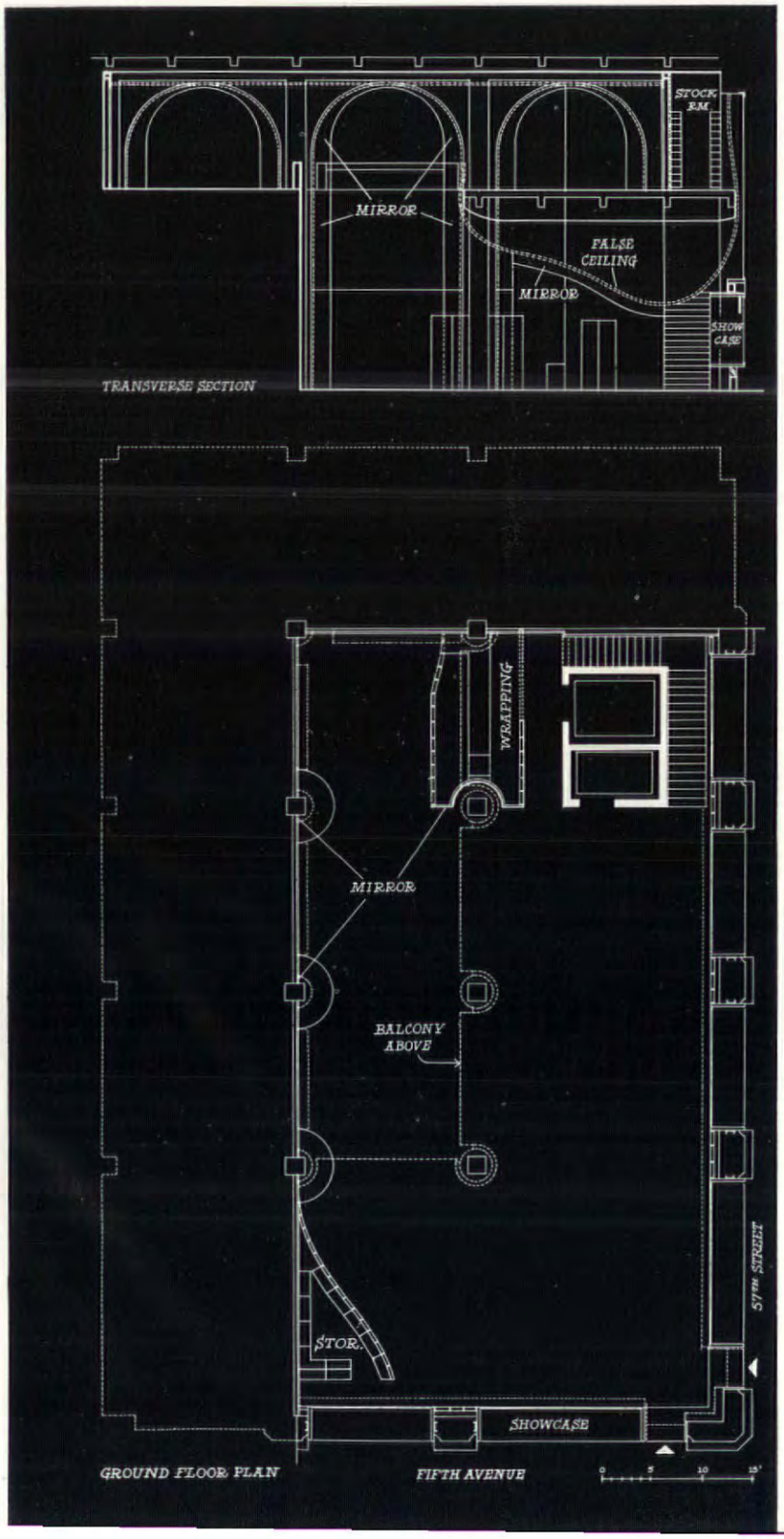
Soaring shoe salon replaces staid old china shop

The Southwest corner of Fifth Avenue and Fifty-seventh Street in Manhattan used to be occupied complacently by an old-line china and housewares store called Plummer. If a wedding present came from Plummer, you knew it was good, even if you did not know what to do with it.

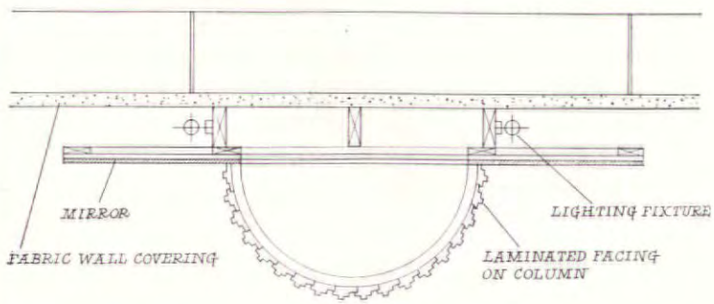
Now an equally famous tenant, in a much more fantastic trade, occupies Plummer's old haunts. The space, with approximately a half million dollars added, has been turned into the queenly salon of a ladies' shoe duchy begun by a man who made a specialty of selling fine footwear to actresses. I. Miller, now dead, (his company has become a part of the giant General Shoe Co. empire) would surely have appreciated the *socko* sumptuousness of the new store; the newer management, who aim at a wider and wealthier market, are equally pleased with its concept.

To design the store they picked an architect, Victor A. Lundy, who had never done a commercial interior in Manhattan before, asking for high style with genuine, tasteful originality. When he got the job, Lundy was about to leave for a trip to India; he recalls making the conceptual sketch in a bus jolting along a dusty road on the way to see the Ellora caves.

"I had been thinking I wanted to do an abundant, wonderful thing, put a beautiful experience on that corner, a royal thing. I wanted a sense of make-believe, to make the women



PHOTOS: GEORGE CSERNA



Wall detail uses mirrors to make the space sensation inside the shoe salon mysterious. Where the pedestal column grows into the ceiling (above) a mirror follows its curve, repeating the column visually. But the person who sees, in the mirror, what seems to be the opposite side of this half column, almost never sees himself too, which would destroy the illusion. The mirror is kept narrow to avoid this. Behind it are set lights which illuminate the panels of handprinted silk fabric set still farther back (see plan, above). Very little lighting is thrown directly on the lattice-like laminations in the salon.

shopping for shoes feel like great ladies—the Versailles Hall of Mirrors, without the chandeliers and the frippery. . . ."

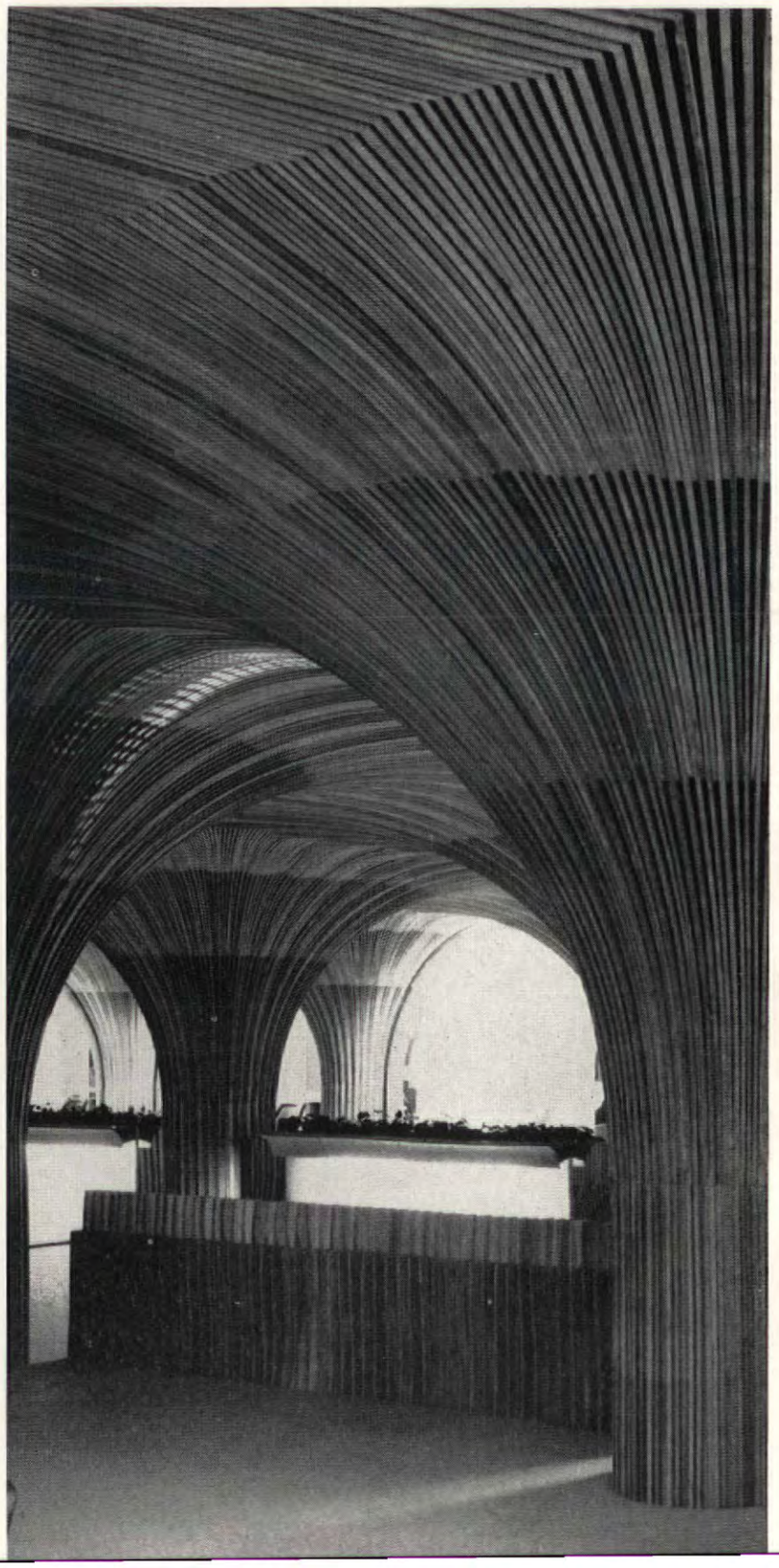
His first move when he got back to New York was to ask if he could break through the central bays of the ceiling above the first floor, making a 35-foot-high space, with a mezzanine around it. Because the high-priced shoe salon would need more selling area than could be put on the street level, the client agreed.

The columns were very stocky, but Lundy made graceful pedestals of them by encasing them in decorative lattices of laminated hemlock strips which curve gracefully into the soaring ceiling. He used the same system of laminations to take control of the underside of the new mezzanine, starting a great curve near the first-floor exterior wall and sweeping it upward to culminate in a railing for the mezzanine.

"To make the space burst its boundaries," the architect then set mirrors carefully so that all the wood elements would run into them and be repeated visually—but without reflecting the people observing the effect, keeping the trick a secret (see photo and detail).

Unlike some proprietors of shoe stores, the I. Miller people did not want a showroom for pedestrians to stare into from the street, but a secluded space, with only a few display boxes for street viewing. Rich fabric hangings mask the first floor. The second floor is also masked. Although the exterior walls of the new store are among the largest sheets of glass ever installed in Manhattan (12 feet, 6 inches wide; 19 feet high), the architect curved the laminations of the mezzanine ceiling upward to stand like a wave of wood just behind the glass.

Rich as the salon is, it has the quality of restraint too. It is a background selling tool, not a foreground gimmick. Says Lundy, "It is make-believe . . . fun. It was created out of nothingness. Commercial interiors, it seems to me, are a 'make-believe' process. Don't take it too seriously, just go in and enjoy it." Hundreds of shoppers are, of course, doing just that every day.



FACTS AND FIGURES

I. Miller Salon, corner of Fifth Avenue and 57th Street, New York. Architect and interior designer: Victor A. Lundy. Consulting engineers: Structural, Severud-Elstad-Krueger Associates (Fred Fischer Jr., partner in charge); Mechanical, Fred S. Dubin Associates (Harold L. Mindell, partner in charge). Lighting consultant: William Lam. Fabrication and erection of laminated wood interors: Timber Structures, Inc. General contractor: John Gallin & Son, Inc.

Total cost, excluding fees, $544,160.61, including: general contract, $295,640; woodwork contract, $134,960.; elevator, $40,405.; fabric, $7,322.40; furniture, $24,354.30; carpet, $15,606.64; display cases, cabinets, and tables, $17,066.50. Square feet of building area, approximately 14,600 (including one basement floor of stock space).

Mezzanine salesroom surrounds open well to street level

In recent months the Architectural League of New York and The Museum of Modern Art sponsored five symposia under the collective title "The Building Boom: Architecture in Decline." At the end of the series, a summary was given by Peter Blake, FORUM*'s managing editor, who had moderated the symposia. At the suggestion of the sponsors, the gist of his remarks is reproduced herewith. The views expressed are personal, but* FORUM *reproduces them as being provocative.*—ED.

THE BUILDING BOOM: ARCHITECTURE IN DECLINE

The fundamental, practical, political question is whether or not we can build a civilized city in a free-for-all society.

That question was not answered at any point during these five evenings. Instead, it was often garbled, confused, misunderstood, and, on occasion, deliberately obscured. Yet the answers are all around us, all the time—if only we care to look.

But instead of getting those answers, we have had some astonishing performances:

We have had one of the architects of the new Pan American Building tell us, with the utmost frankness, that he deplored that building; we have had the Planning Commissioner of the city of New York tell us, with the same utmost frankness, that he deplored that building too; we have had an impassioned historian, Vincent Scully, tell us that he deplored it, and everybody else has been deploring it. So we now find that everyone—even its builder, I suspect—is really against this huge clod rising in the middle of one of Manhattan's worst bottlenecks—but nobody seems to be able to stop it.

So the obvious question is: what creates such buildings? And the answer is, I think, that such buildings are produced because unrestricted private speculation with land creates such enormous pressures that no land in our cities will remain undefiled unless we, as a nation, decide that our land belongs to all the people—not just to a few of them.

HIGH LAND COST SHAPES MOST OF OUR BUILDINGS

Let me be specific: the present price of land in the Grand Central area is about $250 per square foot. The Pan American Building will stand on a site measuring around 150,000 square feet. So, a builder in the Grand Central area must spend close to $40 million to get a piece of land of that size. He must spend this either by borrowing the money and paying it back as rent to a bank, or by renting it directly from the New York Central.

If this is what you have to spend before you put up so much as a stick, then you are forced to build the biggest building that can possibly go up on your site. If you were to build a small building surrounded by park areas and plazas, you would have to charge enormous rentals for your office space—two or three times the amount charged by other office buildings all around you. So you would be bankrupt in a week—except, of course, that no investor would ever let you put up such a silly building with his money in the first place.

But if the basic cost of land were nominal, then every site in the city could be developed in the best interests of the people—and that includes the builders—and in the best interests of the city as a whole. Indeed, many builders have a terrible time raising the money needed to build these huge buildings which they are being *forced* to build by land speculators: Mr. Wolfson, for example, took in Jack Cotton, a wealthy British investor, to get enough cash to put up the Pan American Building—in other words, it would have been much easier for Mr. Wolfson to put up a small building. So he, I suspect, isn't too happy with that building, either.

AT THE BRINK

We have had some other remarkable performances at these symposia: one of the most impressive was put on by Mr. Zeckendorf, who came out for architecture. I couldn't agree with him more. The fact is, however, that the only reason Mr. Zeckendorf is able to produce so much good architecture is that his projects are either heavily subsidized by federal or local governments, which, in effect, pay for most of the land on which they are built; or because Mr. Zeckendorf has nerves of steel and is not afraid of economic brinkmanship. It should perhaps be a part of the record that a very few days after Mr. Zeckendorf spoke up for architecture he escaped once again from the brink—this time by the intervention of the British Philip Hill Investment Trust, Ltd. Whether they will now permit Mr. Zeckendorf to continue to do good architecture remains to be seen. One of his new British partners has said "anything we don't like won't happen."

It should also be said that when Mr. Zeckendorf is not subsidized by the U.S. government or by the British—who seem to be buying back what they lost in 1776—he builds things that are, let us say, not always distinguished.

In short, Mr. Zeckendorf demonstrated—though he did not mean to—that just about the only way you can get good architecture in a free-enterprise society is by having the government control the land on which you build.

And Mr. Bob Friedman, the representative of the much maligned Brothers Uris, demonstrated (though he did not say so) that given a free society in which profit is the perfectly legitimate motive, then the good builder is the one who makes money—not the one who has to be bailed out by British financiers. The obvious question that was posed by that particular evening was not whether Mr. Zeckendorf was a nicer or more idealistic citizen than Mr. Friedman, but whether anyone with a few dollars to invest would invest those dollars in Webb & Knapp or in Uris Brothers.

We had some other, pretty fascinating performances: we have had planners saying that architecture was a silly profession; we have had architects saying that planning was a silly profession; we had Jane Jacobs saying, in effect, that slums can be charming, racial tensions don't really exist, and that architecture can be produced by public opinion survey. (I am not being fair to her, but then I am not being fair to anybody else, either.)

Finally, we have had George Nelson make one of the most cynical—and realistic—statements of all, when he said, in effect, that today's typical investment building is designed as follows: first, the plan is determined by rental experts; second, the exterior shape is determined by zoning and building codes; third, the floor-to-floor height is determined by structural and mechanical engineers; fourth, the exterior is de-

termined by competitive bidding among curtain-wall manufacturers; fifth, the square-foot cost is determined by mortgage bankers; and—oh yes!—sixth, the stamp is put on the necessary drawings and specifications by some architect. His client may, also, let him design the front door and the lobby.

Mr. Nelson was trying to shock us, and I hope he succeeded; for his description of how many buildings are created today is accurate.

SUBSIDY ARCHITECTURE

The only exceptions to these rules are three: there are a few buildings put up by institutions and some of these institutions are government subsidized by way of tax exemptions; second, there are some buildings put up by single corporations, as headquarters for themselves. When corporations build these "corporate images," the basic economic decision is made not by rental experts and so on, but by public-relations men (who decide how much Seagram's 100-foot-deep plaza might be worth, "public-relations-wise"), and by tax accountants who figure out how the corporation can work it so that the U.S. government really foots the bill for the building. So these buildings are also government subsidized. For the simple fact is that anybody who builds buildings to make money out of them would be crazy to build Lever House, or Seagram, or Union Carbide. These are wonderful buildings, but they make little economic sense today.

Finally, there is a third type of building, the kind put up by local, state, or federal government. When this kind of building is public housing, we try to make it look ugly because we still think that it is sinful to be poor, and immoral to be beautiful. When it is a school, we can sometimes get architecture—because you can get voters to shed a tear or two (and a dollar or two) for the kiddies.

This has been a thoroughly depressing recital. But unless architects and artists are willing to face up to the grim facts of today's building boom, they will all be left behind. The only time the average investment builder calls upon a good architect is when he thinks this may pay off in terms of publicity, or when he thinks this may pay off in heaven.

So I think the lessons of these evenings are three:

First, there will be no great urban architecture in America until there is an end to unrestricted speculation with the price of land. This is the one fundamental truth—there's no way of getting out of it.

A famous Republican, Abraham Lincoln, said a hundred years ago: "The land . . . should never be the possession of any man, corporation, or society . . . any more than the air or water." And another famous conservative said 40 years ago: "Unearned increments in land . . . are derived from processes which are not merely not beneficial, but positively detrimental to the general public." That famous Conservative was Winston Churchill.

In short, there will be no urban design in America until we radically change our present policy toward the control of land.

The second lesson of these evenings, I think, is this: at present, most laws—such as the tax laws governing real-estate syndicates—encourage the man who manufactures buildings the way he might manufacture buttons: fast, cheaply, and for a quick sale to the highest bidder. The man who builds buildings slowly, carefully, well, and for keeps is actually penalized in terms of taxes.

Until we decide, as a nation, that buildings differ from buttons, we will not have decent cities. Vincent Scully has said that the buildings along a street belong to all the people who use that street. I agree. Buildings radically change the face of the earth; they are not only a part of our civilization—they really *are* our civilization. We cannot continue to treat them as if they were throwaway products that are consumed and end up on the junk pile the next day.

And the third lesson of these evenings, I think, is this: there will not be any great urban design in America until local, state, and federal governments demonstrate leadership in the commissioning of good architecture. The record, to date, is disgraceful.

The city of New York has commissioned no building worth mentioning since the New York City Hall was constructed in 1812. In recent months, there have been a few timid efforts to retain good architects. But the bulk of the work is still handed out to hacks.

The state of New York, despite its civilized Governor, has done virtually nothing for architecture, and a great deal against architecture—in the field of housing, public works, state universities, state buildings. The state of New York is no worse in this respect than most other states—but why, with all this talent around, isn't it a lot better?

Finally, the federal government, until recently, and with one exception, has done everything in its power, it would seem, to set back the cause of architecture in this country instead of advancing it. The one exception, of course, has been the State Department's program of building outstanding embassies and consulates abroad, where the government's General Accounting Office would not be likely to find them: Upper Volta, Gabon, and so on.

Fortunately, we now seem to have a new sort of attitude in Washington: the other day, the President's Special Advisor, Arthur Schlesinger, denounced the new State Department Building as a "monstrosity"; and a month ago, the President himself appointed August Heckscher to be his cultural advisor—a cause for rejoicing.

NEEDED: LAND CONTROL, TAX INCENTIVES, LEADERSHIP

These, then, are the three lessons: we must change our land policy; we must change our tax policies that encourage bad building and penalize good building; and we must demand leadership on every governmental level.

Not all is lost—but an awful lot is: New York is an infinitely uglier city today than it was 15 years ago. Our suburbs and countrysides are an appalling mess. We are, indeed, headed for a new kind of culture—a junk culture—if we don't watch out.

If we believe that we deserve something better, and are capable of doing something better, then we should stop talking nonsense and start taking action. If the Bird Watchers of America can put pressure on politicians, partisans of our civilization can, too.

PHOTOS: ROY FLAMM

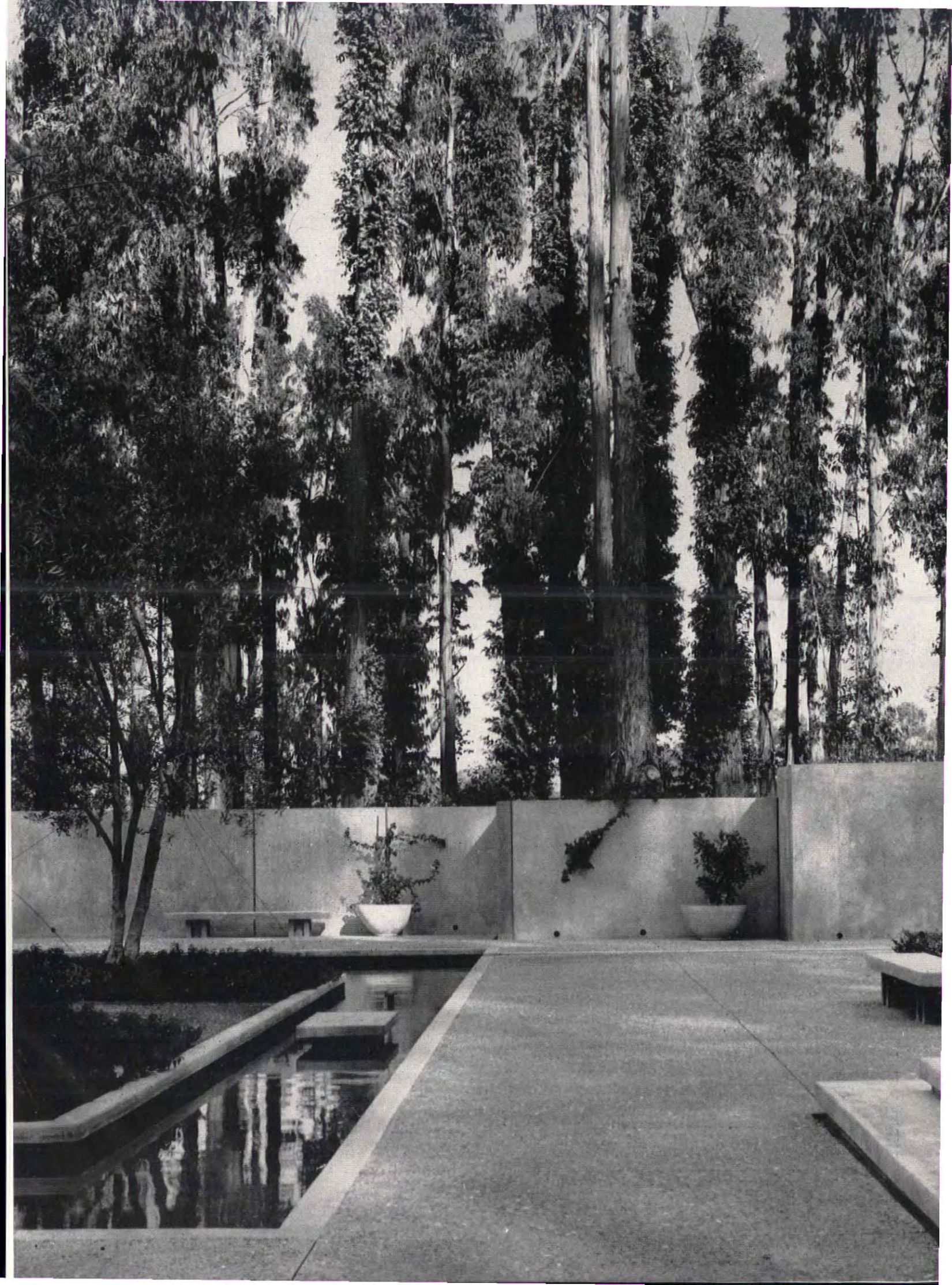
WALLS, WATER AND EUCALYPTI

This California garden is in immense contrast to the usual West Coast embrace of nature. It is walled, it is very formal, and it uses more concrete surfacing than sod. It is a beautiful piece of sculpture of walk-in dimensions.

Says its designer, Landscape Architect Lawrence Halprin: "From the owners' point of view it could be, and is, a sort of abstraction. Like me, they are interested in the gardens of India, Spain, Persia, and the Near East, which close themselves off from nature rather than participate in it."

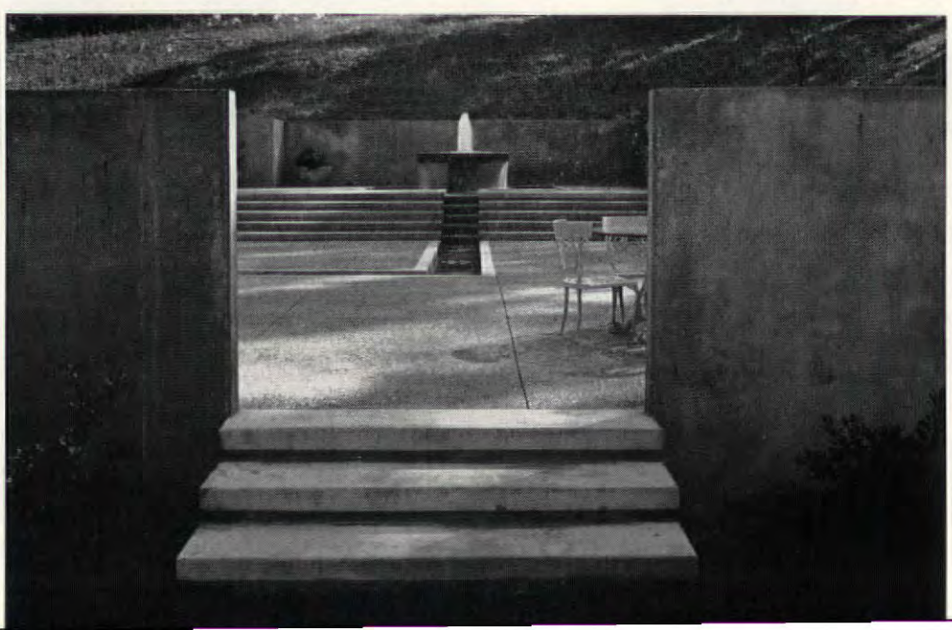
Nature, however, does look over the walls into the McIntyre Garden, in the form of a green height of eucalypti, a very important part of the design. Also shown in the photographs, but not to be fully felt, is the playing with water in this unusual garden. The water does various things, visibly: pours, oozes, slides, sprays in jets, or lies still in the main pool in the center of the garden. Sometimes it disappears behind the low wall which separates one of the low runnels from the main view. But it is also almost verbal. It gushes when it comes out of the fountain, gurgles as it comes over the steps, and ripples quietly as it runs down the runnels —it is the magician who lives in this special enchantment.

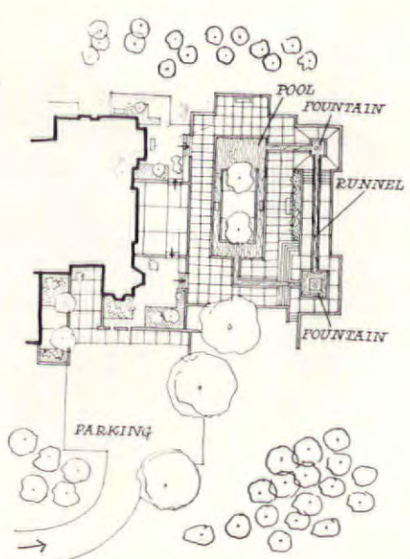
As to construction: all the walls of the garden were cast on the ground and lifted into place on previously poured footings. The fountains were cast in place. Halprin kept a unity of materials throughout by using concrete, but varied the concrete in texture. The walls are smooth; the paving is pebbled; the insides of the fountains have stones pressed into the surfaces; and the pots are cast.

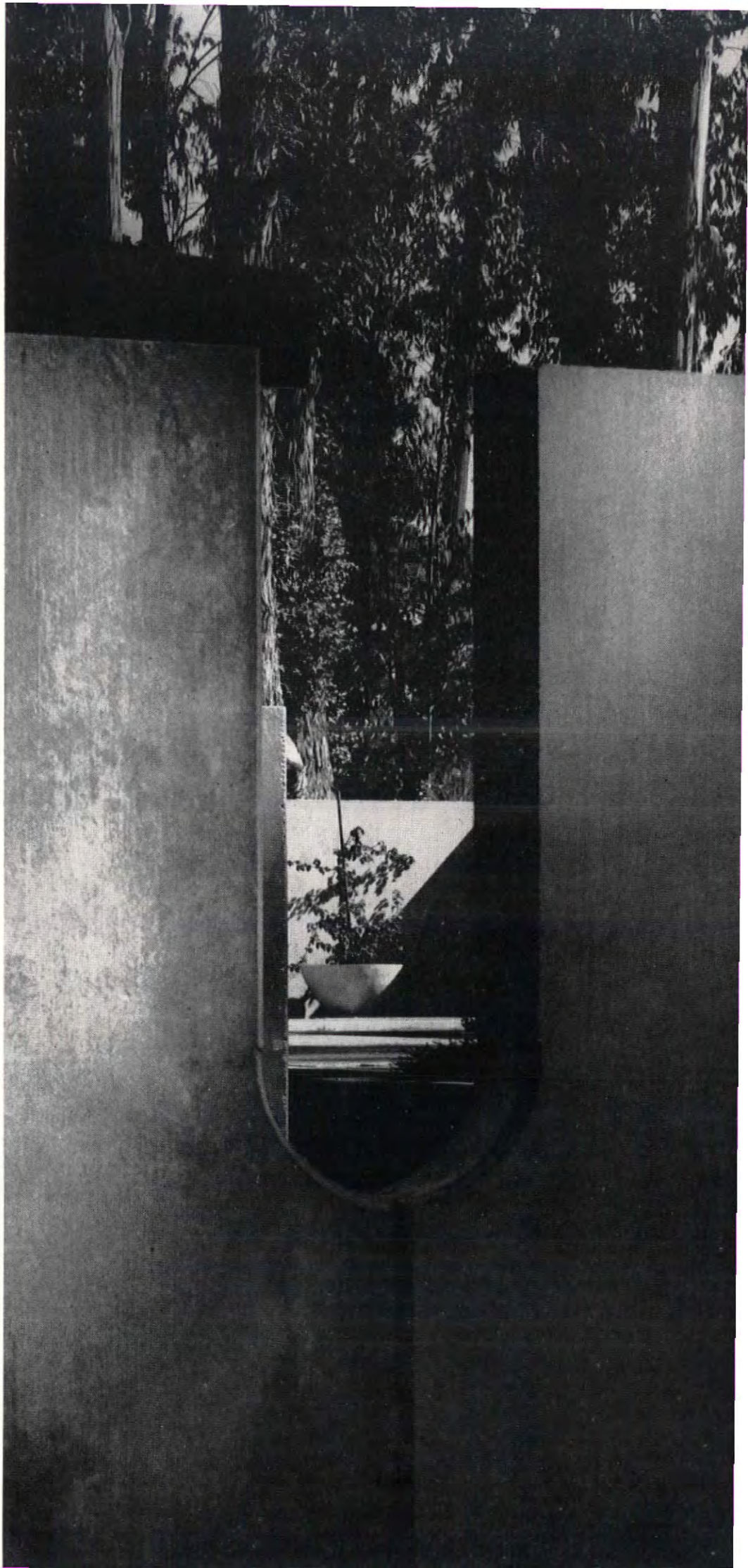


Drama of levels, smaller gardens stepping up to the large one, is played before the eucalyptus back curtain.

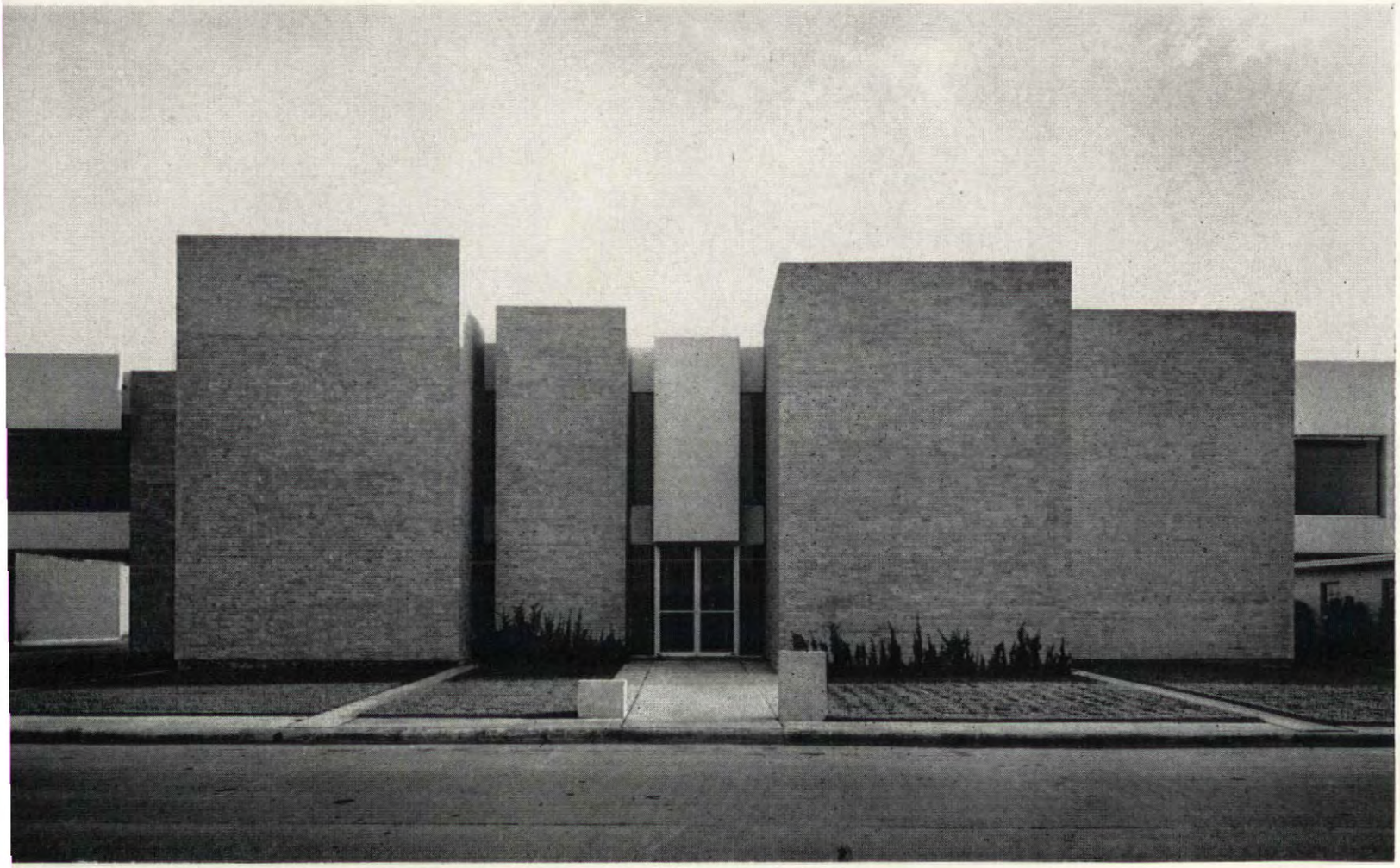
PHOTOS: ROY FLAMM







Notch reveals another garden over the wall.



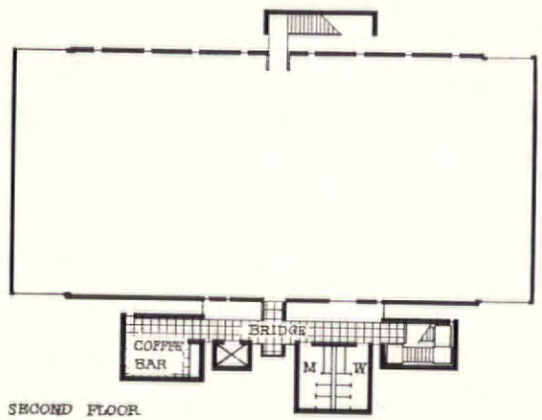
A FAÇADE OF SEPARATED, BRICKED-IN SERVICES

The usual rental office building is sleeping space waiting for a tenant to come along and awaken it. But most of the time the only awakening is a bare one—the turning on of lights behind the glazed curtain wall.

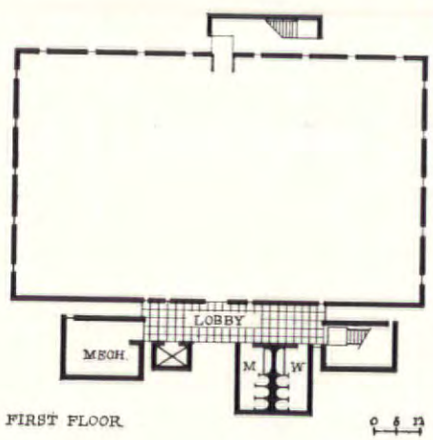
The owner, H. R. Houck, however, sensed something else might be possible when he decided to build 16,000 square feet of rental office space in a typical commercial neighborhood of Houston, Texas. He asked Architect Burdette Keeland to design a small office building which would have a memorable face of its own, rather than the usual cosmetic skin job—though he also cautioned Keeland not to sacrifice flexibility (with a resultant decline in rentability).

Keeland immediately acted on the opportunity and came up with this impressive design. His rental space is, if anything, even more fluid than the usual anonymous floor area; he achieved this flexibility by extracting almost all the services from the office areas proper. These services—mechanical equipment, elevators, stairs, coffee bar, and toilets—were pulled out in front of the package of rental space, and then dramatically gift wrapped in a handsome gray brick for the passerby's eye. At the ends of the façade the second-story office space does become visible (above), cantilevered out and protected by sun shields.

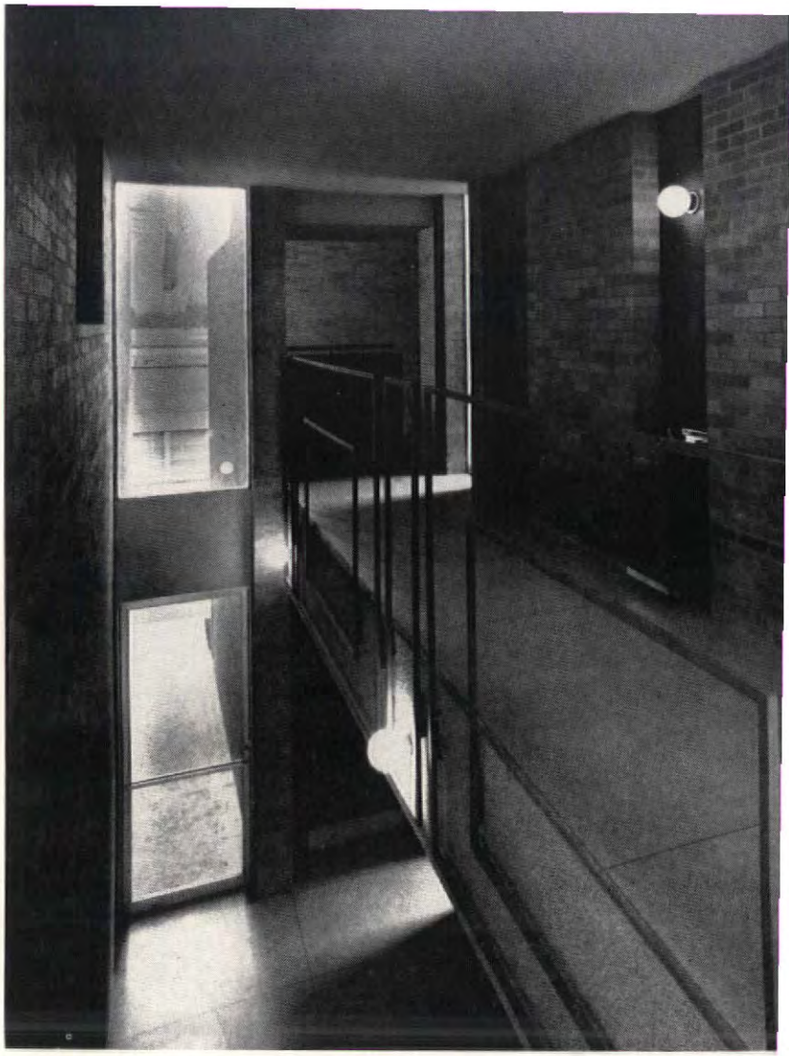
Both the service package and the actual office structure are



SECOND FLOOR



FIRST FLOOR

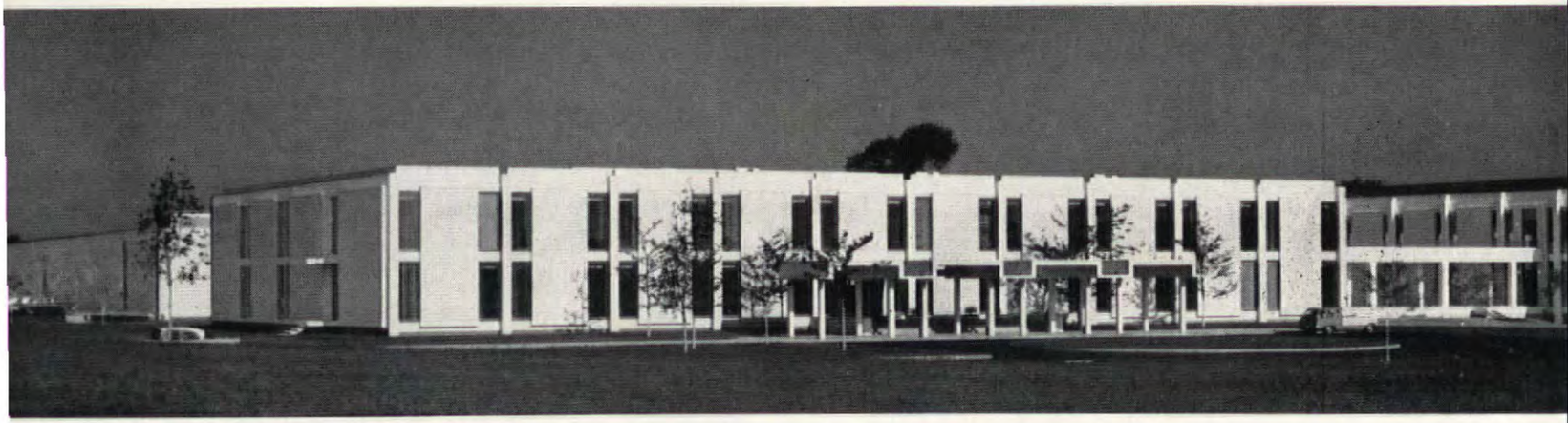


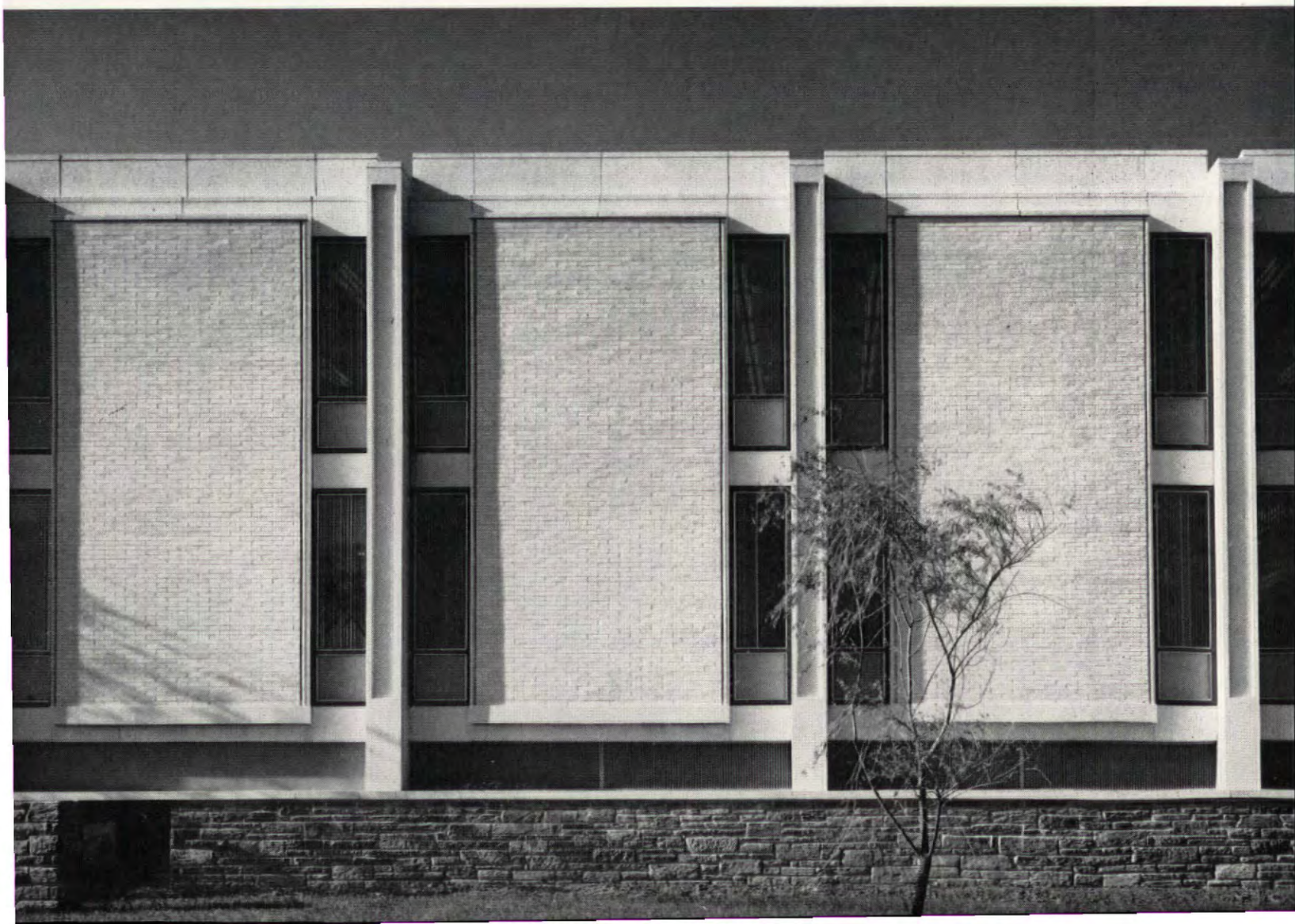
Windowed link connects fortress-like front and windowed rear block

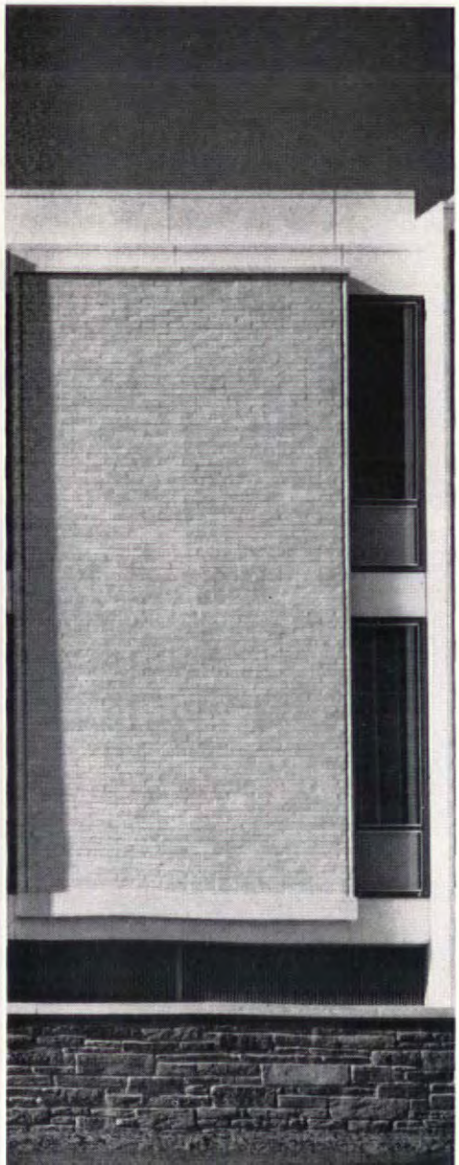
two stories high, with 11-foot ceilings. The lobby in the service area is given the benefit of the full two-story ceiling height (see photos at right), and is connected to the offices in the rear by a neatly designed bridge. Also—and importantly—the parking space is in back, to keep the shiny automobile shapes from jarring the calm strength of this design.

FACTS AND FIGURES

Essex-Houck Building, 3917 Essex Street, Houston, Texas. Owner: H. R. Houck. Architect and landscape architect: Burdette Keeland, Jr. Engineers: Vogt & Clouse (structural). General contractor: Spaw-Glass, Inc. Building area, 18,000 square feet (16,000 rentable). Size of plot, 150 feet by 280 feet. Cost per square foot (without partitions) $10.80. No mortgage, financed by owner. Steel frame construction with masonry load-bearing brick towers on street elevation. Parking space for 48 cars in rear. Rents: $4.20 per square foot.







PHOTOS: LAWRENCE S. WILLIAMS, INC.

PHARMACEUTICS PLANT

Happy choice of materials, razor-sharp detailing, and thoughtful consideration of future expansion help set this suburban industrial complex apart from its more mindless cousins which dot the environs of most U.S. cities.

The industrial complex is the new home for McNeil Laboratories, Inc., a subsidiary of Johnson & Johnson, manufacturers of ethical pharmaceuticals. It is located on a 90-acre site just outside Philadelphia. At present there are three buildings—one each for administration, research, and manufacturing. The architect, Vincent G. Kling, arranged them in campus fashion and linked them together by canopied walkways. The three buildings provide a total floor area of 235,000 square feet.

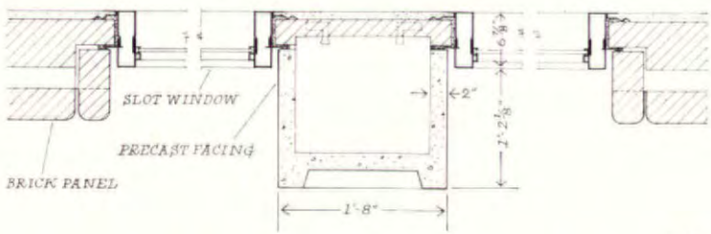
The two-story administration building and the research facility to its east (photo, left) share the same structure and wall system but differ radically in plan. Both are of reinforced concrete with exterior walls crisply detailed in off-white brick panels, precast structural facing, and glass window slits on each side of the columns (see details, below). The wall system cost $6.10 per square foot in place.

The administration building, a rectangle 120 feet wide by 200 feet long (with typical bays 20 by 28 feet), serves as the entrance to the complex. It is marked as such by a bold concrete canopy set out from the building's face. An open, landscaped court, measuring 42 by 65 feet and placed symmetrically in the center of the building, brings natural light and views to interior offices and corridors.

The adjoining research building is narrower (75 by 200 feet with typical bays 20 by 33 feet) and swaps the open court for a central corridor. Complicated utilities and mechanical services demanded by the various research departments (chemistry, biology, pharmacology) are grouped along the central corridors in efficient units leaving the perimeter free for individual laboratories, each with natural light from the windows.

The third building of the group, where the company's line of pharmaceuticals is manufactured and stored, sits behind the other two, connected to the administration wing by

Strongly patterned walls (photos, left; details, right) consist of off-white brick panels, precast structural facing, and vertical slot windows on each side of the columns. Cost of the wall in place was $6.10 per square foot.

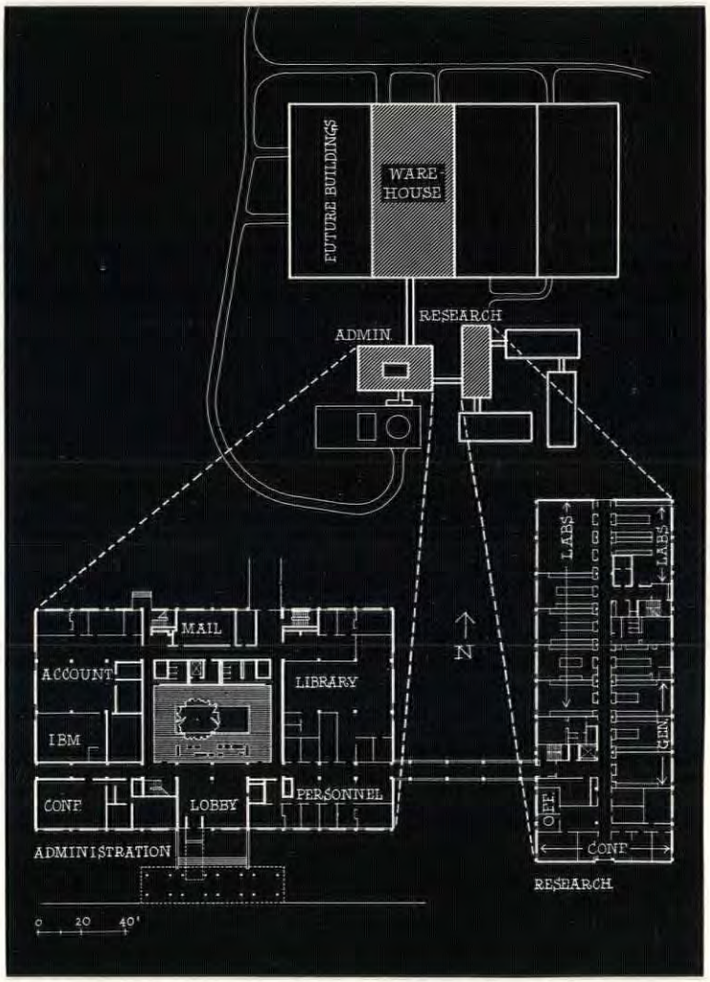


another covered link. Steel framed, the building is 219 feet wide by 475 feet long (bays are 36½ feet square) and houses the firm's many diverse production processes such as pill coating (below, right).

The concept of separate buildings for separate functions, technically referred to as "Integrated Functional Unit Planning," provided the impetus for the campus-like arrangement. The clients, in addition to desiring an expression of dignity and prestige—to which end they suggested the vertical windows, heavier coping, and a more substantial base—also required a long-range master plan permitting independent expansion of manufacturing, research, and administration areas. The campus-like plan has resulted, according to Kling, in "a facility which . . . allows future expansion of any one of the units without disrupting the others."

Just how this future expansion might work has been anticipated in detail (see site plan, right). Both the administration and manufacturing buildings will grow by the simple addition of regular repetitive units following their uniform bay sizes. Research facilities will grow instead by construction of separate buildings, again linked by sheltered walkways. Ultimately, four of these units, grouped in a pinwheel, will enclose a landscaped quadrangle. Close analysis by the client of program needs for the next 15 to 20 years indicated that the greatest growth will occur in manufacturing. Consequently, the long walls of the manufacturing building are of simple block construction to facilitate horizontal expansion. When this takes place, production lines will be rotated 90 degrees to match the building's new east-west orientation.

This complex has been honored twice recently, once with a Silver Medal from the Society of Pennsylvania Architects, once with a Gold Medal from the Philadelphia Chapter of the American Institute of Architects. Both awards testify to the uncommon concern and skill which the architect has brought to bear on a problem that is usually treated in the most perfunctory way.



Master plan for future expansion (above) calls for simple additions to manufacturing and administration buildings. Research facilities will grow by construction of separate, linked buildings to form a quadrangle. At right: the central court of the administration building.

PHOTOS: LAWRENCE S. WILLIAMS, INC.

FACTS AND FIGURES

Manufacturing, research, and administration center for McNeil Laboratories, Inc., Whitemarsh Township, Pa.
Architect: Vincent G. Kling.
Engineers: McCormick-Taylor Associates (structural); A. Ernest D'Ambly (electrical, mechanical); Roy F. Weston, Inc. (waste treatment).
General contractor: Hughes-Foulkrod Company.
Total area of all three buildings: 235,000 square feet. Administration: 55,743 square feet; Research: 46,134 square feet; Manufacturing: 133,600 square feet (connecting links prorated in).
Construction details: reinforced concrete frame (administration and research buildings); steel frame (manufacturing building); walls of off-white brick panels, precast structural facing and glass; quartz aggregate precast concrete used as form liner; precast granite mosaic paving in court.

RALPH CRANE—LIFE

WHAT'S NEW IN PAINTS?

Paint selection can be one of the most bewildering problems facing the architect or builder and his client today. No construction material has been subject to more rapid change nor proliferated into so many products.

The major changes began when the alkyd paints started to supplement conventional oil-based paints in the 1930s. By the late 1940s there was one water-thinned paint. There are now two more. And in the last few years plastic coatings have started to take over some of the jobs formerly assigned to paints. Today, new products appear almost every week; it is estimated that scarcely 15 per cent of the paints and coatings now in use are the same as those specified for the same job ten years ago.

While these new paints and plastic coatings promise to become still more important on the job, the trend to prepainting is equally significant. More and more building components are showing up at the site, if not completely painted, at least fully primed. Siding, concrete block, interior partitions, doors, and windows can all be obtained completely finished, right out of the warehouse.

The two trends are not entirely isolated phenomena. To a large extent the rush to prefinishing is due to developments in paint and application techniques.

As any do-it-yourselfer knows, a major advance has been the development of water-thinned paints. These differ from the conventional linseed-oil-based and alkyd varieties in two of the three major components: 1) the binder, which forms the film; 2) the solvent or thinner which gives the paint the proper flowing consistency and allows easy application; and 3) the pigments which supply color and opacity and with the binder make up the solids. (There are, in addition, various additives such as emulsifiers, dryers, and extenders which are tailored to give particular characteristics as needed.)

The binders for the water-thinned paints are synthetic rubber or plastics; for the alkyds the binders are synthetic resins, and for conventional oil paints, natural resins. In oil-based and alkyd paints, the solvent is a thinner or turpentine. Both alkyds and water-thinned paints, however, form their films by evaporation of the solvent and polymerization rather than primarily by oxidation, as in oil paints.

The three principal types of water-thinned paints are latex or *styrene-butadiene,* vinyl or *polyvinyl-acetate,* and the *acrylic plastics.* In each case the name distinguishes the particular type of binder. All form their film the same way: evaporation of the water pulls the binder and the particles of pigment together into a tight film which cannot be re-

emulsified or dissolved in water. The styrene-butadiene type, the first to appear, is still primarily an indoor paint, but the vinyls and particularly the newer acrylic-based paints are moving into the exterior paint field.

Compared with conventional oil and alkyd paints, water-thinned paints have one disadvantage: when applied to a surface, the water penetrates the material, but unlike the oil in oil-based paints, it does not carry the binder and pigments along with it. These tend to filter out and remain close to the surface. As a result, the water-thinned, synthetic-resin paints do not usually adhere as well as oil-based paints to a powdery or dirty surface, such as is commonly encountered in repainting. This can, however, be largely overcome by careful preparation and proper priming.

On the other hand, water-thinned paints have much to recommend them. They are generally odorless, and, being alkali resistant when properly pigmented, are particularly suited for use on plaster. (Alkalinity tends to soften the film of linseed-oil paint.) Since they "breathe" more readily than oil paints (that is, allow water vapor to pass through), there is much less tendency for them to blister or crack. They are highly fadeproof. The life span of exterior water-thinned paints should be six to ten years, but few have been in service that long.

From a labor standpoint, water-thinned paints are extremely easy to brush or roll on, and they dry so quickly that a second coat can often be applied almost immediately after the first. They also touch up easily and wash well.

Because of the speed of application, it costs about half as much to apply a coat of water-thinned paint as to apply a coat of oil-based paint. But it often takes two coats of water-thinned paint to achieve the same film thickness. Labor costs, therefore, generally total about the same for the same job. In the opinion of independent testing organizations, the exterior water-thinned paints may, under favorable conditions, prove as durable as that of the old, oil-based paints.

WATER-THINNED BUT OIL-BASED

Within the last few months a water-thinned, linseed-oil paint has appeared which, it is claimed, combines most of the good qualities of both water- and solvent-thinned paints. It is available in a glossy finish, can be used over old, chalky, shiny, or damp surfaces, and like other water-thinned paints can be washed off brushes and equipment with soap and water. This paint has seen almost no field use as yet.

Whether or not water-thinned paints will completely replace solvent-thinned paints within the next ten years, as some industry spokesmen believe, is largely a matter of conjecture. At present, however, such people as Thom Noyes of Turner Construction Co. still consider solvent-thinned paints superior to water thinned for use on steelwork, wood trim, and repainting over old oil paint.

COATINGS INSTEAD OF PAINTS

While these two basic types of paint compete for favor, another kind of coating threatens to replace them for many uses. Plastic and synthetic coatings, only now beginning to make themselves felt, are not really paints in the conventional sense. The plastics rely on chemical action or catalytic change, rather than oxidation or evaporation, to form their films. Almost all these coatings are extremely hard and durable and, because they are also good adhesives, can bond to almost anything—glass, metal, wood, concrete. Epoxies, urethanes, and polyesters are at present the three most important.

Epoxy coatings' principal architectural uses so far have been indoors on wood, metals, and concrete, although, according to Noyes, they are now being used outdoors on aluminum also. They are extremely hard, have good chemical and fume resistance, and their durability far surpasses that of the conventional finishes. In fact, it is necessary to chip the concrete itself away to remove an epoxy coating from concrete. They may be applied with brush, roller, or spray and can even be used on damp concrete with the proper primer. Almost any color is available. There are two types: a premixed variety and a two-part formula for use immediately after mixing.

Urethane coatings, also used primarily for floor and industrial finishes, were developed in Germany before World War II. They resist abrasion, alkalinity, and solvents very well, but tend to chalk. It is claimed that they outlast alkyd floor enamels about three to one and are more durable than the epoxies under conditions of extreme chemical contamination. They are proving especially useful as coatings for industrial storage tanks. Urethanes can provide a tilelike finish at low cost (about 35 cents per square foot). Like the epoxies, the urethanes are available in either two-component formulas or premixed. The two-part types are recommended for more severe service loads. Again, like the epoxies, they may be applied by brush, roller, or spray. Urethanes are available either pigmented or clear, both with glossy finishes.

Polyester coatings are the most recent to arrive on the architectural market. Their high-gloss, porcelain-like finish can be pigmented. Spraying is the preferred means of application. Polyesters are sometimes combined with urethanes. Like epoxies and urethanes, polyesters are being used primarily on indoor surfaces subject to extremely hard wear.

All of these plastic coatings, however, are so new that much

is to be learned about their qualities and possible applications. "No one," says one large New York paint contractor, "seems to know what he is talking about."

Asphalt–aluminum roof paints are another fairly recent development. These are used mainly for new roofs or over existing roofing materials. They add to the life of the roof and cut down summer heat gain by increasing reflectivity.

Silicone coatings appear to be well on their way to solving many of the traditional masonry maintenance problems. Those who have used them report extremely good results: almost no spalling, cracking, or efflorescence. Silicones provide a clear coating which is almost completely impervious to water for five to ten years. In fact, the silicone coating must wear off the surface before paint will adhere. Similarly, clear *plastic or butyrate lacquers* are providing durable protection for aluminum. Their life span is three to five years.

If these new coatings and paints can be applied in the field, and seem to offer so much, why then the move to more and more prefinishing? There are a number of reasons. With shop-applied finishes—both primers and final coats—it is easier to control dust, humidity, and temperature, and, hence, the quality of the work. Assembly-line techniques reduce painting time and cut labor costs. The latter is a particularly important aspect, since labor costs can account for as much as 85 per cent of the overall cost of painting. Furthermore, finishes may be baked on or laminated in the shop. Bad weather, spillage, and cleaning up cease to be problems. Parts of a product which may be extremely difficult to reach once in place in a building are readily accessible in the shop. (Prefinished components are, of course, more susceptible to shipping and handling damage than their naked counterparts, but this can be overcome by wrapping or protective coatings.)

APPLICATION BY MACHINE

The same is true of many of the most efficient methods of applying paints and primers. Mechanical roller coating, curtain coating (in which the material is run through a stream of paint), and dip coating must all be done in the shop.

Spray painting has been vastly improved with the development of airless, hot, and catalytic spraying. With *airless spraying,* as with the common garden hose, liquid under pressure is forced through a nozzle which breaks it into particles. Unlike conventional spraying, there is no air stream, so there is far less overspray—the fog of paint which often accompanies spraying—and, accordingly, a substantial increase in the number of square feet covered by a gallon of paint.

In *hot spraying,* the paint is heated. As the temperature goes up, paint becomes less viscous and yet may be sprayed with a higher ratio of solids to liquid. It therefore requires less air pressure to spray than a comparable paint at room temperature. Quality is very high as the paint may be built into a thick, even film.

Catalytic spraying utilizes two fluid nozzles, one for each component of a chemical formulation, such as a two-part epoxy. Blending is done during the spraying operation itself.

Spray painting is extremely fast: on structural steel, for example, almost three times as many square feet can be sprayed per hour as can be brushed.

SPRAY PAINTING AND STRAY PAINT

In spite of the fact that all these new methods can be used in the field, spray painting is still largely a shop operation. The main reason is the elaborate preparation often required. Because of overspray, anything not to be painted must be carefully covered or masked. This is much less of a problem in the shop where stray paint is little or no problem. On the job site, particularly on repainting jobs, preparation problems generally rule out spray painting altogether.

There is still another reason why shop finishing is so economical: union restrictions. Roller application of paint can give savings of up to 50 per cent on large, clear surfaces. Rollers are also easier to use than brushes on uneven surfaces such as brick, concrete block, or grillwork. But, according to Louis Elkins, past president of the Painting and Decorating Contractors of America in New York State, union restrictions against the use of rollers in field painting still exist in many parts of the country. These were triggered by fears that the do-it-yourself craze and the introduction of the roller and the water-thinned paints would mean less work and money for professional painters. Restrictions are now being relaxed as painters have learned to handle rollers and it has been found that the market for professional painting has actually increased. (The restrictions on spray painting, on the other hand, are largely health rules governing ventilation and the use of respirators. Many painters charge a premium for certain types of spray painting, but since the quality is usually high and surfaces can be covered so quickly, this premium is often justifiable.) There are also many parts of the country where water-thinned paints are not so popular with professional painters as oil based, although their use is increasing.

Almost no restrictions exist as to type of paint or application in factory or shopwork, although union labor is often used. This and the other advantages of shop application, plus the slowness of professional painters to take advantage of the new techniques and products for improving field application, are giving prefinishing a powerful boost.

WARREN COX

A GUIDE TO THE PAINTS AND COATINGS DISCUSSED IN THE TEXT

Type	Surface	Base coat	Drying time	Cost: Application only
LINSEED OIL	Concrete and concrete block (exterior)	Linseed-oil primer	Overnight	2 cents per sq. ft. and up. Per gal.: about $4 and up.
	Brick (exterior)	Linseed-oil primer		
	Wood (exterior)	Linseed-oil primer		
	Stucco (exterior)	Linseed-oil primer		
	Structural steel, iron (exterior)	Red lead, blue lead, or zinc chromate		
	Galvanized metal	Special primer		
	Aluminum	Zinc chromate primer		
ALKYD	Concrete and concrete block (interior)	Block filler or alkyd primer	Overnight	3 to 25 cents per sq. ft. Per gal.: about $6.50 and up.
	Cinder block (interior)	Block filler		
	Brick (interior)	Alkyd primer		
	Wood (exterior)	Linseed-oil primer		
	Wood (interior)	Alkyd primer		
	Plaster	Alkyd primer or polyvinyl-acetate		
	Dry wall	Acrylic primer		
	Structural steel, iron (exterior)	Red lead, blue lead, or zinc chromate		
	Structural steel, iron (interior)	Alkyd metal primer		
	Galvanized metal	Special primer		
	Aluminum	Zinc chromate		
STYRENE-BUTADIENE	Concrete and concrete block (exterior)	Polyvinyl-acetate or styrene-butadiene paint	3–4 hrs.	3 cents per sq. ft. and up. Per gal.: about $6.30 and up.
	Concrete and concrete block (interior)	Polyvinyl-acetate or styrene-butadiene paint		
	Brick (exterior)	Polyvinyl-acetate paint		
	Brick (interior)	Styrene-butadiene paint		
	Stucco	Polyvinyl-acetate or styrene-butadiene paint		
	Plaster	Polyvinyl-acetate or styrene-butadiene paint		
	Dry wall	Polyvinyl-acetate or styrene-butadiene paint		
POLYVINYL-ACETATE	Concrete and concrete block (exterior)	Polyvinyl-acetate paint or linseed-oil primer	1 hr.	3 to 25 cents per sq. ft. Per gal.: about $7.35 and up.
	Concrete and concrete block (interior)	Polyvinyl-acetate paint or linseed-oil primer		
	Cinder block (exterior)	Polyvinyl-acetate paint		
	Brick (exterior)	Polyvinyl-acetate paint or linseed-oil primer		
	Brick (interior)	Polyvinyl-acetate paint or acrylic primer		
	Wood (exterior)	Linseed-oil primer		
	Wood (interior)	Alkyd primer		
	Stucco	Polyvinyl-acetate paint		
	Plaster	Acrylic primer		
	Dry wall	Acrylic primer		
	Structural steel, iron (interior)	Alkyd primer		
ACRYLIC	Concrete and concrete block (exterior)	Acrylic paint	20 min.	3 to 25 cents per sq. ft. Per gal.: about $5.00 and up.
	Concrete and concrete block (interior)	Acrylic paint		
	Cinder block (exterior)	Block filler		
	Cinder block (interior)	Block filler		

Note: This is a check list, not a final guide, and may, in places, differ from some manufacturer's recommendations. Cost figures are based on New York area estimates at time of publication. Application is field application, including labor, but not preparation.

A GUIDE TO THE PAINTS AND COATINGS DISCUSSED IN THE TEXT *continued*

Type	Surface	Base coat	Drying time	Cost: Application only
ACRYLIC *(contd.)*	Brick (exterior)	Acrylic paint	20 min.	3 to 25 cents per sq. ft. Per gal.: about $5.00 and up
	Brick (interior)	Acrylic paint		
	Wood (exterior)	Alkyd or acrylic primer		
	Wood (interior)	Alkyd or acrylic primer		
	Stucco	Acrylic paint		
	Plaster	Acrylic paint		
	Dry wall	Acrylic paint		
EPOXY	Concrete and concrete block (interior)	Epoxy-latex primer if damp	Tack-free in 2–3 hrs. Hard in 24 hrs.	5 cents per sq. ft. and up. Per gal.: about $9 and up.
	Wood flooring	Epoxy stain and filler		
	Structural steel, iron	No primer		
URETHANE	Concrete and concrete block (interior)	No primer	Tack-free in 45 min. Hard in 2–3 hrs.	5 cents per sq. ft. and up. Per gal.: about $6 and up.
	Brick (interior)	No primer		
	Wood (interior)	No primer		
	Structural steel, iron (exterior)	Wash primer and epoxy-urethane primer		
	Structural steel, iron (interior)	Wash primer and epoxy-urethane primer		
POLYESTER	Concrete and concrete block (interior)	Acrylic block filler	Tack-free in 2–4 hrs. Hard overnight.	Cost per square foot: Not available. Per gal.: about $8 and up.
	Cinder block (interior)	Acrylic block filler		
	Brick (interior)	Acrylic block filler		
	Wood (interior)	Polyester		
	Structural steel, iron (interior)	Polyester		
SILICONE WATERPROOFING	Concrete and concrete block (exterior)	No primer	20 hrs. or less.	5 cents per sq. ft. and up. Per gal.: about $2.25 and up.
	Brick (exterior)	No primer		
	Stonework (exterior)	No primer		
ACETATE BUTYRATE LACQUER	Wood (exterior)	No primer	20 min.	Cost per square foot: Not available. Per gal.: about $1.20 and up.
	Wood (interior)	No primer		
	Aluminum	No primer		
ASPHALT-ALUMINUM ROOF PAINT	Asphalt	No primer	4–6 hrs.	8 cents per sq. ft. and up. Per gal.: about $2 50 and up.
	Coal tar	No primer		
	Metal	No primer		

PREPARATION:

Wood: All knots, pitch streaks, and sappy spots must be cleaned and touched up with shellac. Fill holes and cracks. If repainting, remove paint which is loose, peeling, or in poor conditon.

Concrete and concrete block: Remove dirt, grease, and loose or excess mortar. Fill holes and cracks. If salts are present, treat with muriatic acid.

Cinder block: Same as for concrete and concrete block.

Brick: Same as for concrete and concrete block.

Stucco: Same as for concrete and concrete block.

Plaster: Surfaces must be clean and—for solvent-thinned paints—dry. Prime patched areas, Fill cracks, abrasions, and scratches. Sand gloss enamels and undercoats before applying another coat.

Dry wall: As above.

Structural steel, iron: Remove grease and oil. Remove scale, rust, and loose paint by wire-brushing or blasting.

Galvanized metal: Remove grease and oil.

Aluminum: Remove grease and oil. Age one month or roughen with steel wool.

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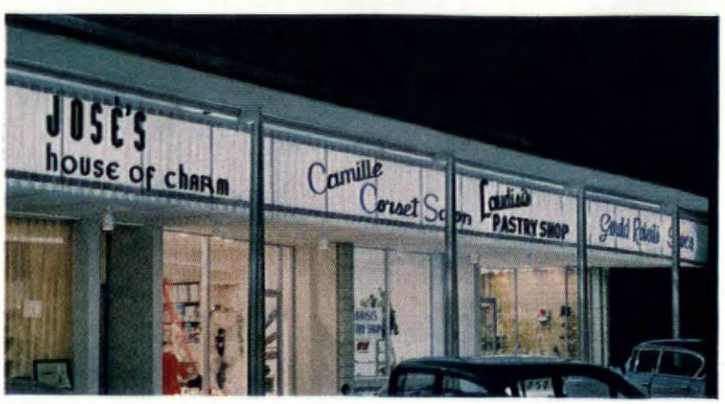
The versatility of UVEX plastic sheet for outdoor signs, specially styled for individual shop owners, may be judged from these photographs. Sign letters were vacuum-formed to customer design by Lyman Associates, Inc., Wolcott, Conn., manufacturers for the sign trade, using UVEX sheet extruded by Rowland Products, Inc., Kensington, Conn.



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UVEX Sheet is a High-Quality Material

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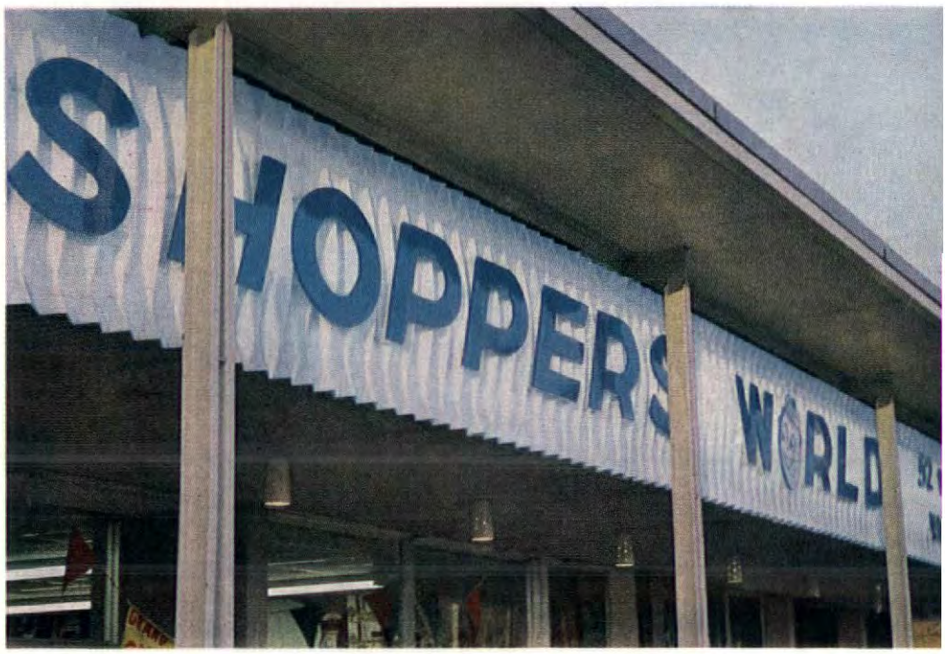
For a comprehensive guide to the use of UVEX sheet for signs, and for information on sources of supply, write to EASTMAN CHEMICAL PRODUCTS, INC., subsidiary of Eastman Kodak Company, KINGSPORT, TENNESSEE.



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Summit Hotel/New York, N.Y. 3
Architect: Morris Lapidus, Harle & Liebman

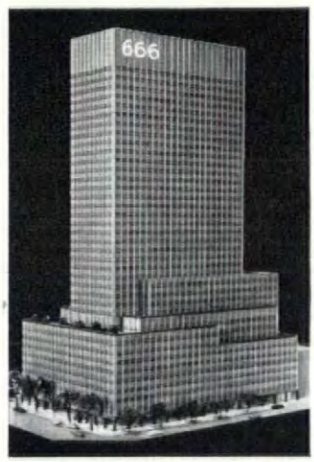
Bank for Savings & Trusts/Birmingham, Ala. 4
Architect: Lawrence S. Whitten & Son

500 Jefferson Building, Cullen Center, Inc./Houston, Texas 5
Architect: Welton Becket & Associates

Americana of New York Hotel/New York, N.Y. 6
Architect: Morris Lapidus, Harle & Liebman

The Bell Telephone Company of Pa./Philadelphia, Pa. 7
Architect: Maurice Fletcher

University of Pittsburgh, Men's Dorms 8
Architect: Deeter & Ritchey, Pittsburgh, Pa.



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666 Fifth Avenue
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BMA Tower, Business Men's Assurance Co./Kansas City, Mo. 9
Architect: Skidmore, Owings & Merrill

Standard Plaza/Portland, Ore. 10
Architect: Skidmore, Owings & Merrill

Home Federal Savings & Loan Assoc. of Chicago, Ill. 11
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Architect: Mies van der Rohe

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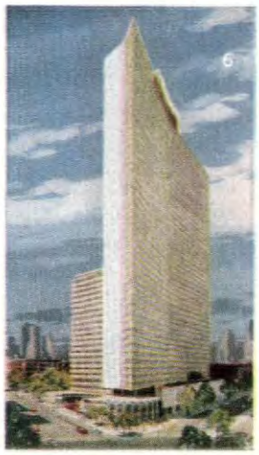

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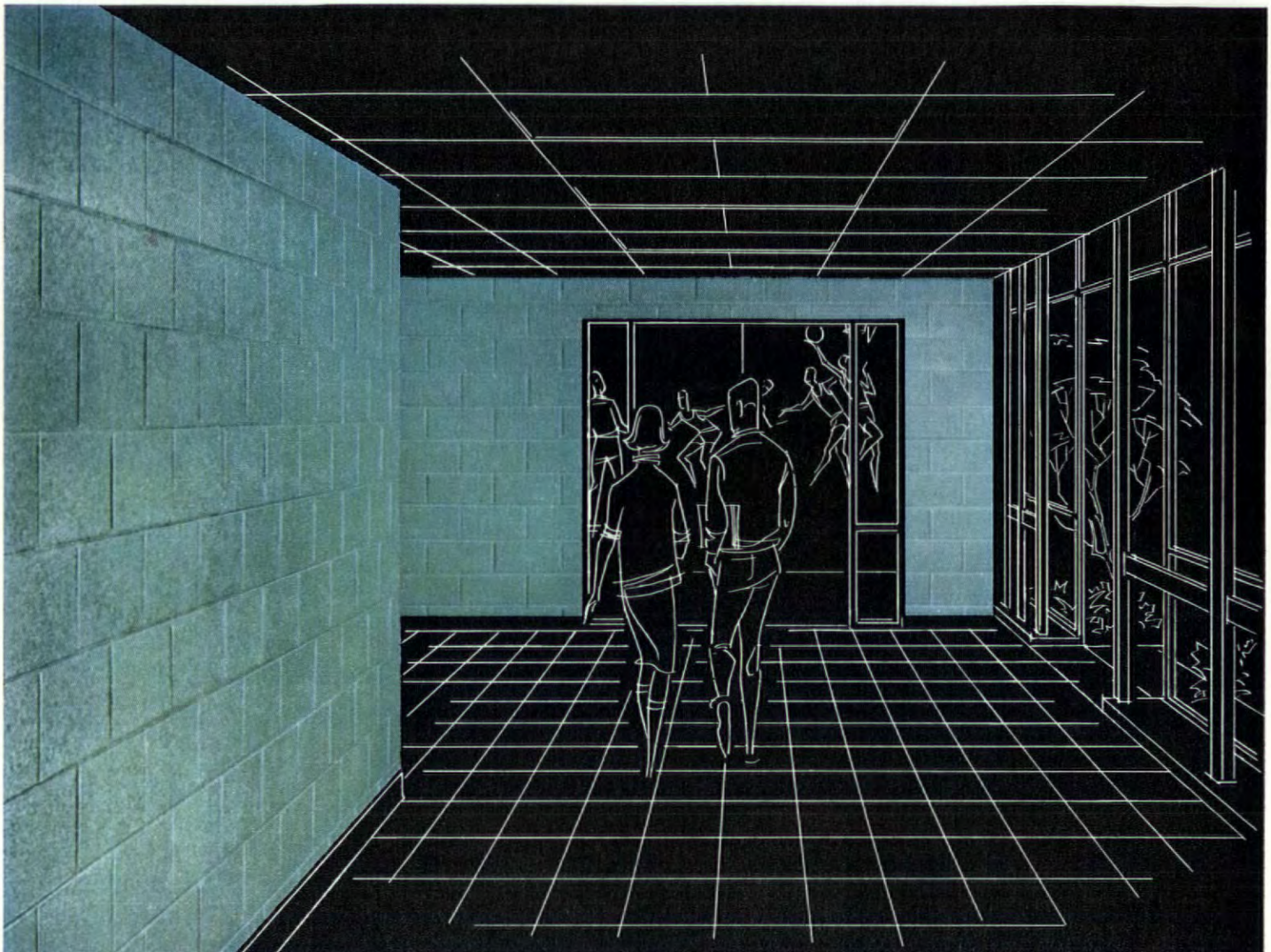

Colorful, glistening, tile-hard surfaces...applied like paint!

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Now, replace drabness with drama . . . achieve outstanding design treatment, without excessive expense, without special materials! GLID-TILE sprays, brushes, or rolls on like paint. Protects masonry with an immaculate, colorful glaze.

Tough, too. In fact, impervious to the kind of scuffing and scrubbing you know it will have to take, and then an added measure of toughness to resist the hardest knocks. GLID-TILE has excellent chemical resistance, too.

A wide range of colors . . . opens up an entire new dimension of practical, decorative possibilities. Write for descriptive literature.

QUALITY Glidden PRODUCTS

THE GLIDDEN COMPANY

COATINGS AND RESINS DIVISION

900 Union Commerce Building • Cleveland 14, Ohio

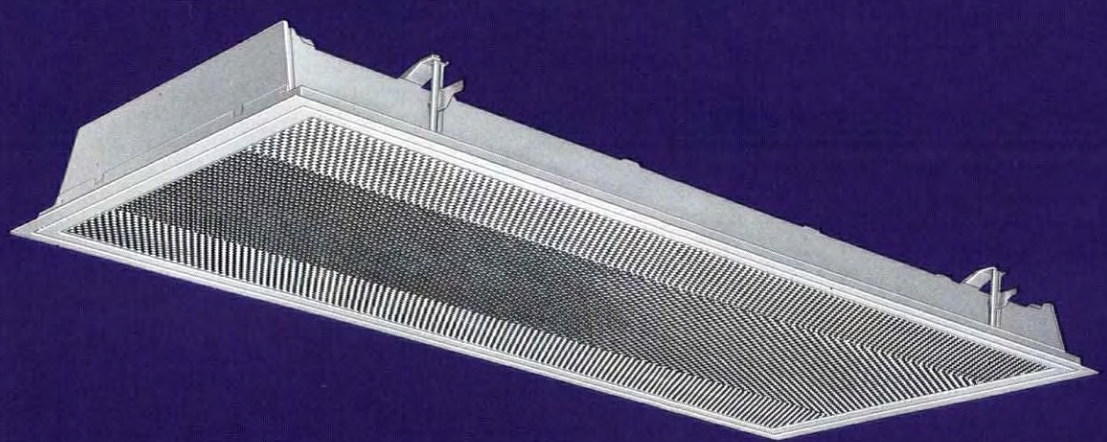
In Canada: The Glidden Company, Ltd., Toronto, Ont.

New from Westinghouse: six ideas in lighting systems

New Mainliner Mark II gives you unlimited design possibilities for any interior... any plan

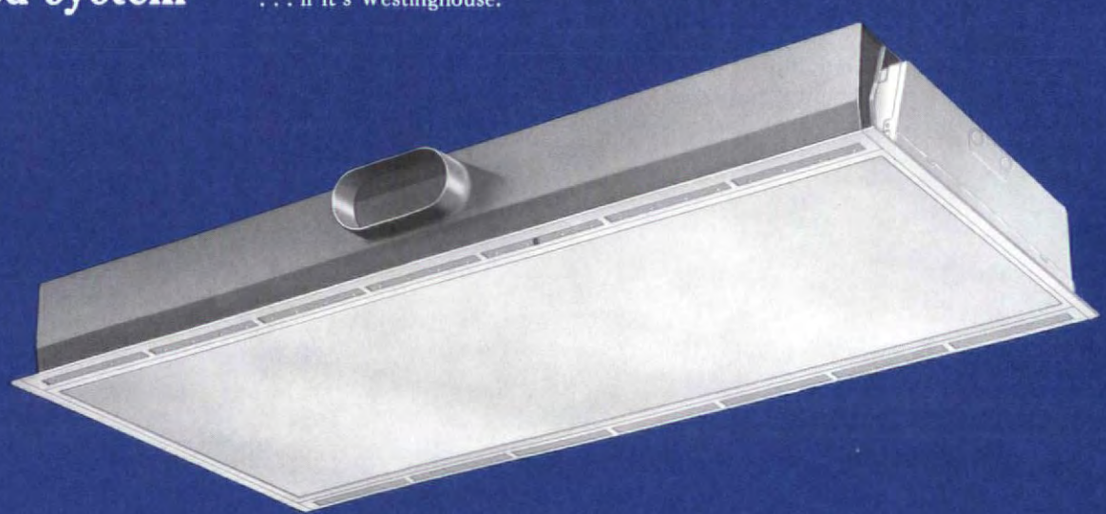
A modern recessed luminaire for coordinated ceiling systems, the Mainliner Mark II is available in three basic types—wide flange, grid and T-bar—and 30 sizes. There are hundreds of possible combinations of luminaire and shielding, including the new PolRized* panels that reduce glare and increase visual effectiveness up to 100 per cent. They all fit together and match. Put them in rows, patterns, checkerboards or what-have-you. However used, the Mainliner is sturdy and easy to install. Its rigid, no-sag construction permanently assures close fit and absence of light leaks—even after years of repeated cleaning and relamping. (There's a coupon ahead for more information.) You can be sure . . . if it's Westinghouse.

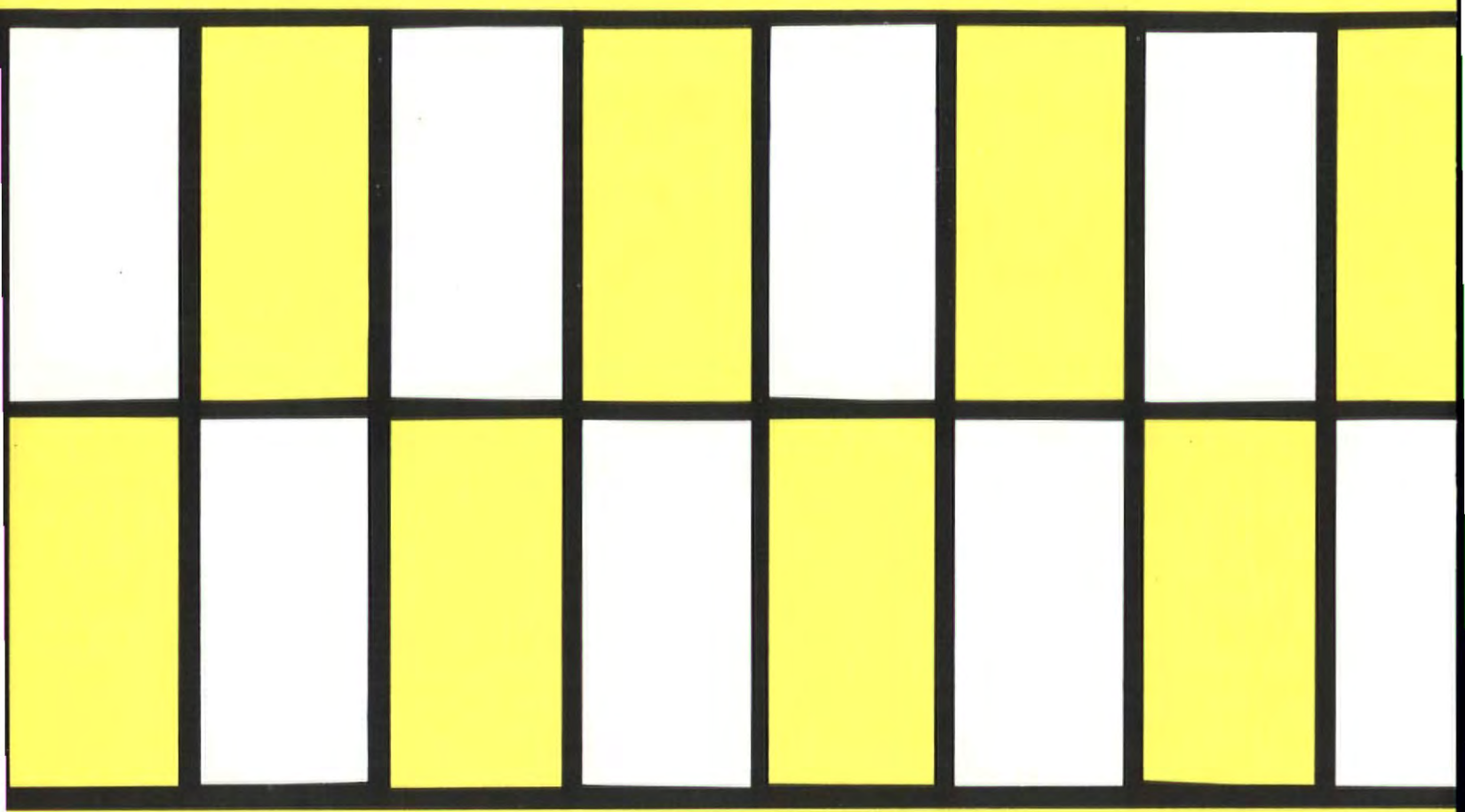
*Trademark—PolRized Panel Corporation

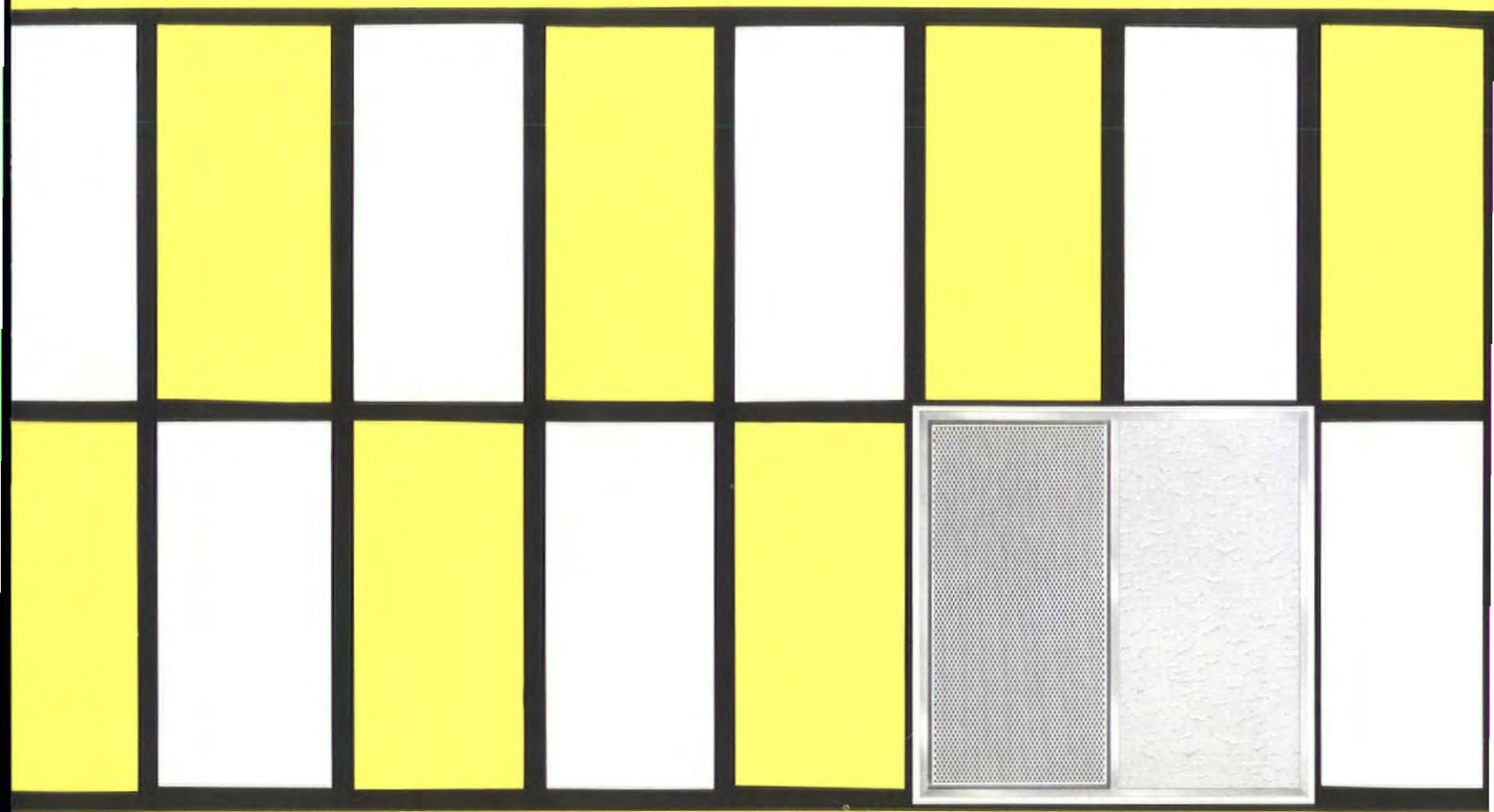


New Westinghouse Airliner Mark II provides efficient lighting and draftless air distribution in a single, coordinated system

Combining the Mainliner Mark II with the Anemostat CLD Air Diffuser, the Airliner provides in a single ceiling fixture the vital functions of lighting, heating and cooling. The Anemostat CLD Air Diffuser assures draftless air distribution, mixing low-velocity supply air with room air in a horizontal plane. Since fewer diffusers and other components are required, the Airliner is more efficient and costs less than ordinary systems for equivalent air conditioning and lighting. Units are designed to be installed separately to avoid any conflict in trades. (There's a coupon ahead for more information.) You can be sure . . . if it's Westinghouse.

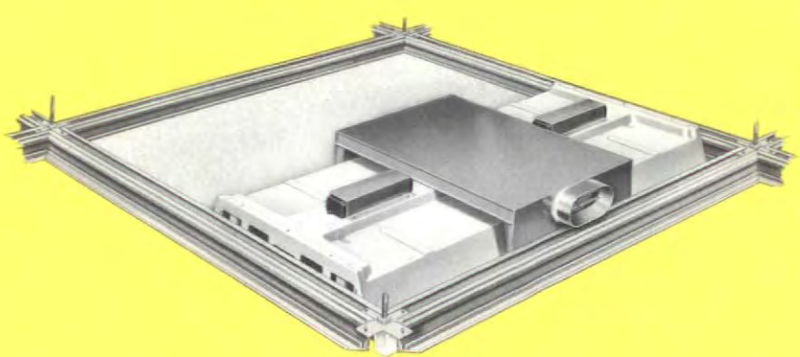


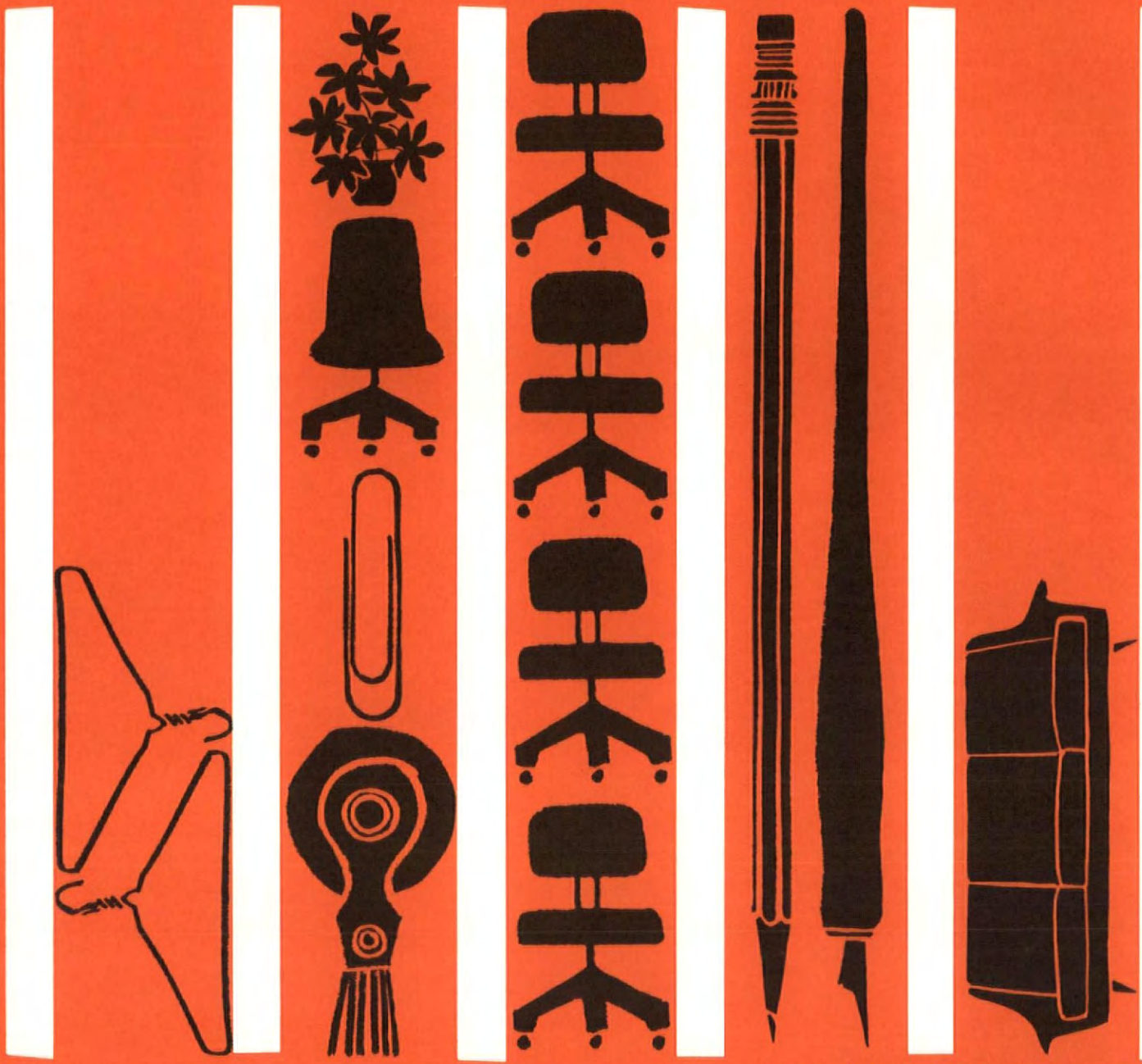




New Westinghouse Colamar Mark 50 controls air, acoustics and lighting

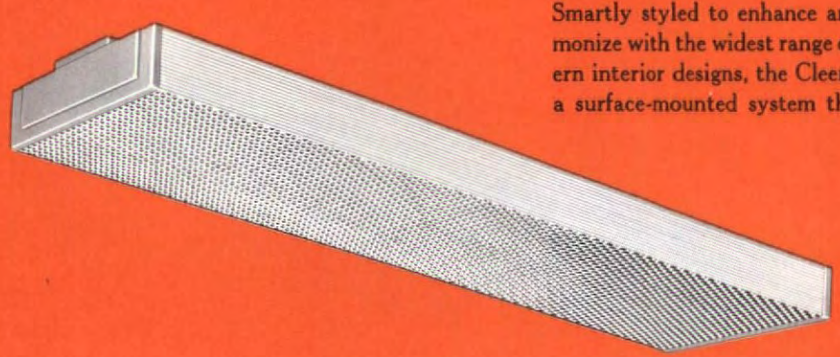
Now you can provide for efficient lighting, adequate ventilation and controlled acoustics—all in one space-saving ceiling system. Westinghouse Colamar Mark 50 gives you complete freedom of design, too. You select the module, specify the ventilation, the desired sound attenuation, the color and the foot-candle requirements. Westinghouse will deliver the complete Colamar ceiling package, tailored to your design in every detail. A unique feature of the Colamar system is an infrared shield that reduces heat radiation into occupied areas. Lamp efficiency is 10 to 15 per cent greater than ordinary lighting systems. (There's a coupon ahead for more information.) You can be sure . . . if it's Westinghouse.





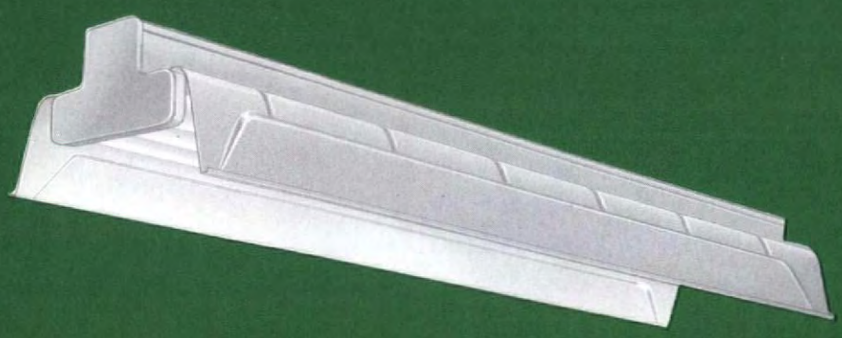
New Westinghouse Cleer-vue gives you economy with styling

Smartly styled to enhance and harmonize with the widest range of modern interior designs, the Cleer-vue is a surface-mounted system that can be installed as individual units or in continuous rows. The basic unit has a fully luminous, one-piece enclosure that can be opened from either side. Easily installed, the Cleer-vue is available in 4-ft. and 8-ft. lengths. It is an excellent choice for commercial and institutional lighting where cost is an important factor. You get the quality you expect from Westinghouse at a price comparable to that of ordinary suspension louvered units. (There's a coupon ahead for more information.) You can be sure . . . if it's Westinghouse.



New Westinghouse Herculiner meets every requirement for good lighting in industrial environments

The Herculiner is a fluorescent luminaire that is versatile, rugged and long-lasting. Channel and reflector are heavy gauge steel with deep-drawn cross ribs and apertures for maximum strength. Square ends permit joining units in a continuous, unbroken line. A new latch design provides easy access to the channel and wiring, and the Herculiner can be equipped with louvers that open from either side for relamping. Each ballast is fused, and the unit is shipped with lampholders in place to simplify installation. Design of the Herculiner system offers maximum versatility in sizes, lamps, reflectors, escutcheons, shielding and mounting methods. (There's a coupon ahead for more information.) You can be sure . . . if it's Westinghouse.



GET MORE DETAILS ON WESTINGHOUSE LIGHTING SYSTEMS

Westinghouse Electric Corporation
Lighting Division, Edgewater Park, Cleveland, Ohio
Please send me more information on:
☐ Mainliner Mark II ☐ Cleer-vue
☐ Airliner ☐ Herculiner
☐ Colamar Mark 50 Ceiling System ☐ Frink Downlights ☐ Lighting Lease Plan
I am also interested in new Westinghouse systems for
☐ streetlighting; ☐ airport lighting.

Name.....
Company.....
Street.....
City.....Zone.....State.....

New Westinghouse-by-Frink downlights give you custom quality in a standard line

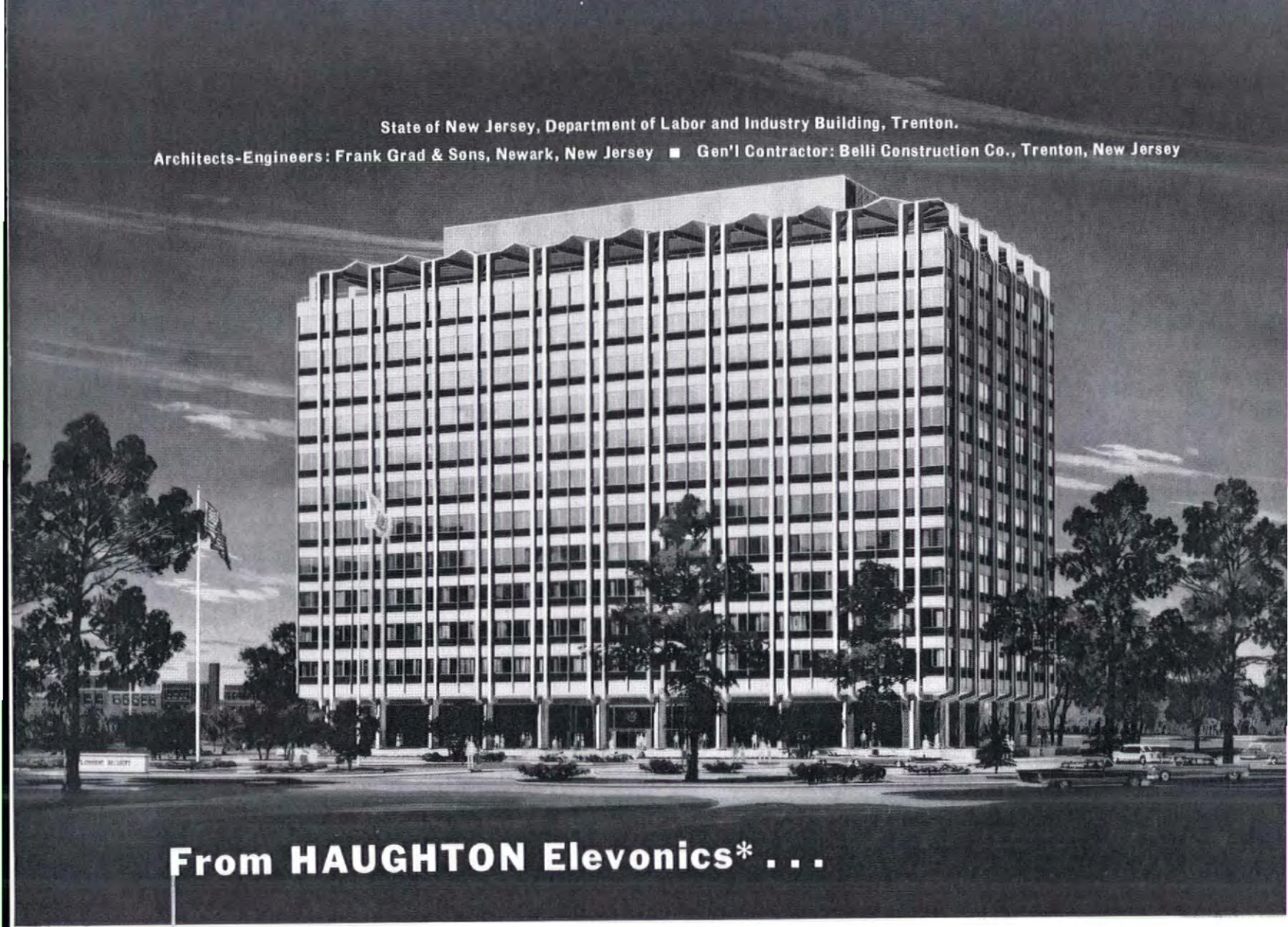
Traditional Frink fixture quality is now available in a new line of Westinghouse incandescent downlights. Heavy gauge steel and special finishes insure long life. Snap-on wiring boxes, adjustable mounting brackets, snap-in frame assemblies and other special features guarantee fast, easy mounting. Maintenance is easy, too, because there's no loose hardware to handle during cleaning or relamping. There are four basic types—square frame, round frame, eyeball and low-brightness aperture—and 44 styles in the Westinghouse-by-Frink line, all in 75 to 300 watt sizes. Wide choice of shielding, too. (For complete information use the coupon.) You can be sure . . . if it's Westinghouse.

JI-04486 Printed in U.S.A.

ALL THESE SYSTEMS ARE AVAILABLE ON WESTINGHOUSE "LIGHTING LEASE PLAN"

Westinghouse

Westinghouse Electric Corporation
Lighting Division,
Edgewater Park, Cleveland, Ohio



State of New Jersey, Department of Labor and Industry Building, Trenton.
Architects-Engineers: Frank Grad & Sons, Newark, New Jersey ■ Gen'l Contractor: Belli Construction Co., Trenton, New Jersey

From HAUGHTON Elevonics* . . .

exciting new concept in elevatoring for an exciting new building

Buildings are for people. ■ And people who use the elevators in Trenton's new Department of Labor and Industry Building will enjoy speed, comfort and convenience that can be provided only by Haughton Elevators under fully-automated electronic control. ■ Not even peak demands at "coffee breaks" or rush hours can cause service to deteriorate. ■ An automatic electronic computer constantly receives and analyzes data pertaining to amount and character of traffic, and makes adjustments to match traffic needs exactly. ■ Such is the magic of Haughton Elevonics*, key to superior elevator performance in new buildings and old. ■ For complete information on our design, modernization and maintenance capabilities, contact your Haughton sales office (listed in the Yellow Pages), or write: Haughton Elevator Company, Division of Toledo Scale Corporation, Toledo 9, Ohio. ■ Passenger and Freight Elevators, Escalators, Dumbwaiters.

EMBLEM OF EXCELLENCE IN VERTICAL TRANSPORTATION

* *Haughton's advanced program in systems research and engineering with specific emphasis on the creative application of electronic devices and instrumentation for betterment of systems design and performance. Registered in U. S. Patent Office.*

FIAT

. . . THE TOILET ENCLOSURE INSTALLED BY THE AIRLINES FOR JET-AGE DESIGN AND DEPENDABILITY!

O'Hare International Airport, like many more outstanding jet-age structures, finds Fiat Toilet Enclosures (with "years-ahead" engineering) installed to serve tenants dependably for countless years to come. Major airlines at Chicago's new terminal made Fiat practically their unanimous choice . . .

CONTINENTAL AIRLINES

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NORTH CENTRAL Airlines

EASTERN AIR LINES

NORTHWEST Orient AIRLINES

Good reasons for specifying Fiat starts with the patented nylon hinge and adds the advantages of *Life-Line* hardware with each component made of a selected solid alloy, tested and proved to be best for its specific purpose. Underscore these points with expert engineering, superior finish and years of experienced know-how and you'll see why leaders are depending on Fiat for dependability. See Sweets $\frac{22b}{Fi}$ or write for catalog E-620.

FIRST-ON-THE-JOB FROM FIVE STRATEGIC PLANT LOCATIONS

NEW YORK
Plainview, Long Island

CHICAGO
Franklin Park, Illinois

LOS ANGELES
City of Industry, Calif.

SOUTHEAST
Albany, Georgia

CANADA
Orillia, Ontario

FIAT METAL MANUFACTURING COMPANY, INC.

Visual drama in glass

THE SCENE: Four Gateway Center Building, Pittsburgh, Pa.
ARCHITECTS: Harrison and Abramovitz, New York, N. Y.
GENERAL CONTRACTOR: George A. Fuller Co., New York, N. Y.
CURTAIN-WALL GLASS: PPG Solex® Heat-absorbing Glass • PPG Spandrelite® Glass

Curtain-wall elegance in **GLASS**

...with PPG SOLEX® and SPANDRELITE®

When the Equitable Life Assurance Society asked their architects to design an office building that would be handsome, pleasant to work in and economical to maintain, *glass* was the material they chose. Clean-lined and colorful, the glass-clad Gateway Four Building is an impressive example of combined beauty and utility that architectural imagination is achieving with glass—the building material of limitless design possibilities and unsurpassed durability.

Gateway Four is a fine example, too, of close cooperation between architects and PPG. Notice the color harmony between the opaque spandrel areas and window areas. To achieve this esthetic effect, PPG supplied a special green shade of SPANDRELITE®—heat-strengthened glass with ceramic color fused to the back—to blend with the soft green of the glare-reducing, heat-absorbing PPG SOLEX® Glass in the window areas.

PPG PRODUCTS USED:

SPANDRELITE® GLASS

The colorful SPANDRELITE glass panels in Four Gateway Center will *stay* good looking. The ceramic color endures because it is fused to the back of the glass. Available in 18 standard colors, it can also be ordered in the color of your choice for custom designs. Heat-strengthened SPANDRELITE comes in Polished or Twill finishes. It withstands severe impact—does not warp, pit or corrode.

SOLEX® HEAT-ABSORBING GLASS

This green-tinted plate glass used in the window areas helps reduce air-conditioning costs—it absorbs about 50% of direct solar radiation. SOLEX also lets in an abundance of light, while filtering out the harsh rays of the sun. Makes work a pleasure at Four Gateway Center.

WEST DOORS

34 PPG West Tension Doors are installed in this modern building. These rugged glass doors, framed with stainless steel provide clean lines of design. They are also available in aluminum or bronze frames. Sturdy construction and precise sections provide a solid unit that won't sag. The ½-in. thick glass is held under compression within the metal frame.

HERCULITE® DOORS

HERCULITE Tempered Plate Glass is four times stronger than ordinary glass of the same thickness. This specially tempered glass is used in all PPG HERCULITE Doors to withstand abuse of daily traffic. HERCULITE Doors are available in a wide variety of standard sizes and styles that will adapt to any structural requirement.

Pittsburgh Glass

. . . a basic architectural material

For low-rise construction, too

GLASS *in color*

glamorizes and vitalizes

Glass is an architectural material of unexcelled design flexibility, capable of creating buildings that will be welcomed in any community. An excellent example of colorful, functional low-rise design with a feeling of "importance" is the Motorola Western Military Electronics Center in Scottsdale, Arizona.

The architects have achieved arresting visual interest by using Romany Blue, Twill Pattern PPG SPANDRELITE® Glass in combination with green-tinted PPG SOLEX® Polished Plate Glass. Enhancing this rich harmony is the gold-anodized PITTCO® 82-X metal framing system.

Farm Bureau Mutual Building, Concord, New Hampshire
Architect: Alonzo J. Harriman, Inc., Auburn, Maine
General Contractor: Gilbane Building Co., Providence, Rhode Island

Motorola Western Military Electronics Center, Scottsdale, Arizona
Architect: Edward L. Varney—Associates, Phoenix, Arizona
Contractor: T. G. K. Construction Co., Inc., Phoenix, Arizona

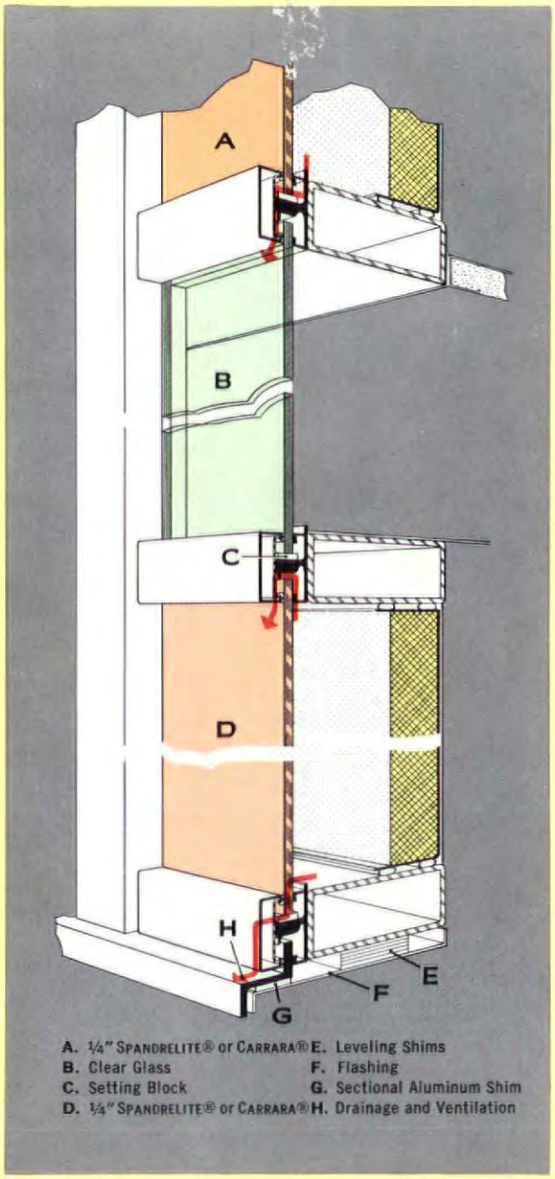
Another fine example of how glass can achieve both beauty and utility is the new home of Farm Bureau Mutual Insurance Company in Concord, New Hampshire. The soft green of the glass spandrels—PPG SPANDRELITE—makes this building blend gracefully with the wooded New England setting.

For the window areas, SOLEX® and TWINDOW® Insulating Glass were combined to provide wall-to-wall insulation and glare-control. The framing system is gleaming PITTCO® Architectural Metal, creating a curtain-wall system that effectively keeps out weather and holds down maintenance.

When you design with glass you open up new design possibilities—more opportunities to make your structures "fit in." And when you specify architectural products from Pittsburgh Plate Glass Company, you get products that are colorful, dependable and durable. For assistance on any glass problem, phone or write your nearby PPG Architectural Representative.

For complete information about PPG products, see Sweet's Architectural File, Sections 3e, 7a, 13e, 16a, 16e, 19e, 21.

Pittsburgh Glass
. . . a basic architectural material



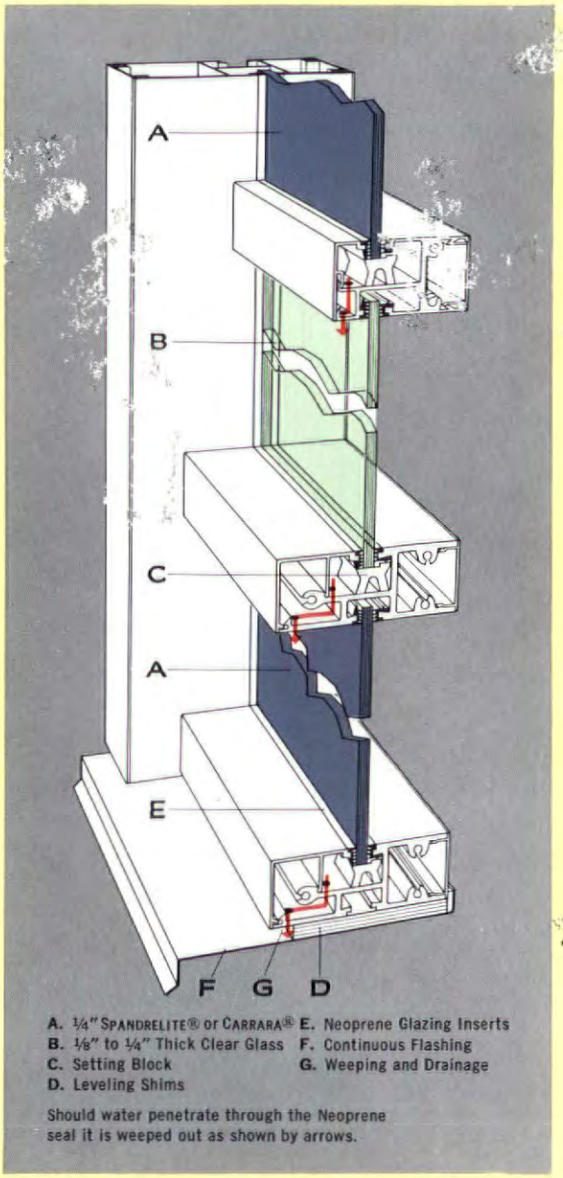
A. ¼" SPANDRELITE® or CARRARA®
B. Clear Glass
C. Setting Block
D. ¼" SPANDRELITE® or CARRARA®
E. Leveling Shims
F. Flashing
G. Sectional Aluminum Shim
H. Drainage and Ventilation

PITTCO 82-X

Weep-vent system and flexible, metal joint sealing compound assure leak-proof construction. Prefabricated components shrink on-site installation costs.

PITTCO "900"

Interchangeable, all-aluminum mullions and muntins mean greater design potential for high-rise, as well as low-rise buildings. Clean, simple lines of sections add good looks to durability.



A. ¼" SPANDRELITE® or CARRARA®
B. ⅛" to ¼" Thick Clear Glass
C. Setting Block
D. Leveling Shims
E. Neoprene Glazing Inserts
F. Continuous Flashing
G. Weeping and Drainage

Should water penetrate through the Neoprene seal it is weeped out as shown by arrows.

PITTCO® curtain-wall framing systems from PPG offer you design flexibility plus reliability

You will find the *widest variety* of rolled and extruded components in the PITTCO Architectural Metal line—sash, jambs, sills, facing moldings and division bars. What is more you can work with *several* curtain-wall framing systems—82-X, 25-X, "900" series and the new "670," all precisely engineered to meet the most rigid architectural requirements.

The related components of the 82-X and 25-X systems come in aluminum, bronze and stainless steel. The all-aluminum mullions and muntins of the "900" series are interchangeable. Every PITTCO curtain wall has the unique weep-vent system that drains water condensation. Where double glazing is required, the PITTCO 25-X provides a framing system especially designed to accommodate TWINDOW Insulating Glass. All PITTCO curtain walls have the structural rigidity to withstand high wind loads.

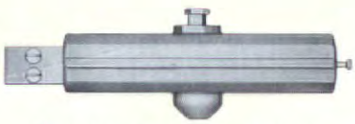
Whether for large projects or small ones, you will find a greater degree of design flexibility when you specify PITTCO Architectural Metal. What is more—PPG will assume full responsibility for providing a complete curtain-wall job—from your design to job completion. Pittsburgh Plate Glass Company, 632 Fort Duquesne Blvd., Pittsburgh 22, Pennsylvania.

PITTSBURGH PLATE GLASS COMPANY
Paints • Glass • Chemicals • Fiber Glass
In Canada: Canadian Pittsburgh Industries Limited

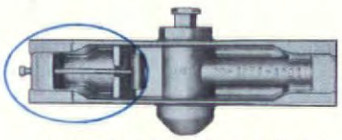
EXCLUSIVE NORTON PERMA-HOLD PLATE • *the key to invisible mounting*

The new Norton Perma-Hold system provides dependable closer mounting with maximum styling and easy, fool-proof installation.

Perma-Hold is mounted to the door with four flathead screws.

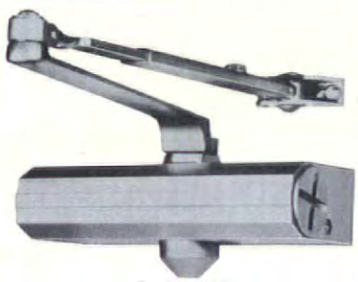


Closer slips on Perma-Hold plate and locks into place.

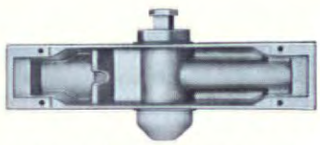


A combination dove-tail slot and taper-acting locking anvil provides the binding force to secure the closer to the Norton Perma-Hold mounting plate.

Series 1600
Exposed Mounting



Series 1630
Back Mounting



Norton Series 1630 Tri-Style closer offers the advantage of invisible mounting using through-bolts installed from the opposite side of the door.

Tri-Style features

■ **COMPLETELY NON-HANDED**—The pinion shaft extends through both sides of the closer. Either side will receive and operate the arm assembly. All Norton Tri-Style closers, except those having the fusible link feature are non-handed.

■ **UNIVERSAL REGULAR OR PARALLEL ARM**—All Norton Tri-Style closers are furnished with adapter plates allowing either regular or parallel arm installation. This feature is provided on both hold-open and non-hold open arm styles.

■ **ADJUSTA-POWER SHOE**—The exclusive Norton adjustable power shoe allows a total adjustment of closer power of 15%. Adjustment can be made without removing closer, shoe or arm.

SIZING CHARTS: NEW RANGE OF SIZES—Select from five closely graduated closers. Engineered to your requirements.

REGULAR ARM

Norton Catalog Number			Maximum Door Size		
Standard Mount	Backmount	Invisible Mount	Interior Door	Exterior Door	
				In-Swing	Out-Swing
1602	1632	1652	2′ 8″		
1603	1633	1653	3′ 2″	2′ 6″	3′ 0″
1604	1634	1654	3′ 8″	3′ 0″	3′ 6″
1605	1635	1655	4′ 2″	3′ 6″	4′ 0″
1606	1636	1656	4′ 8″	4′ 0″	4′ 6″

PARALLEL ARM

Norton Catalog Number			Maximum Door Size	
Standard Mount	Backmount	Invisible Mount	Interior Door	Exterior Door
1602	1632	1652	2′ 6″	
1603	1633	1653	3′ 0″	2′ 6″
1604	1634	1654	3′ 6″	3′ 0″
1605	1635	1655	4′ 0″	3′ 6″
1606	1636	1656	4′ 6″	4′ 0″

NORTON® DOOR CLOSERS

for Complete Architectural Compatibility 372 Meyer Road, Bensenville, Illinois

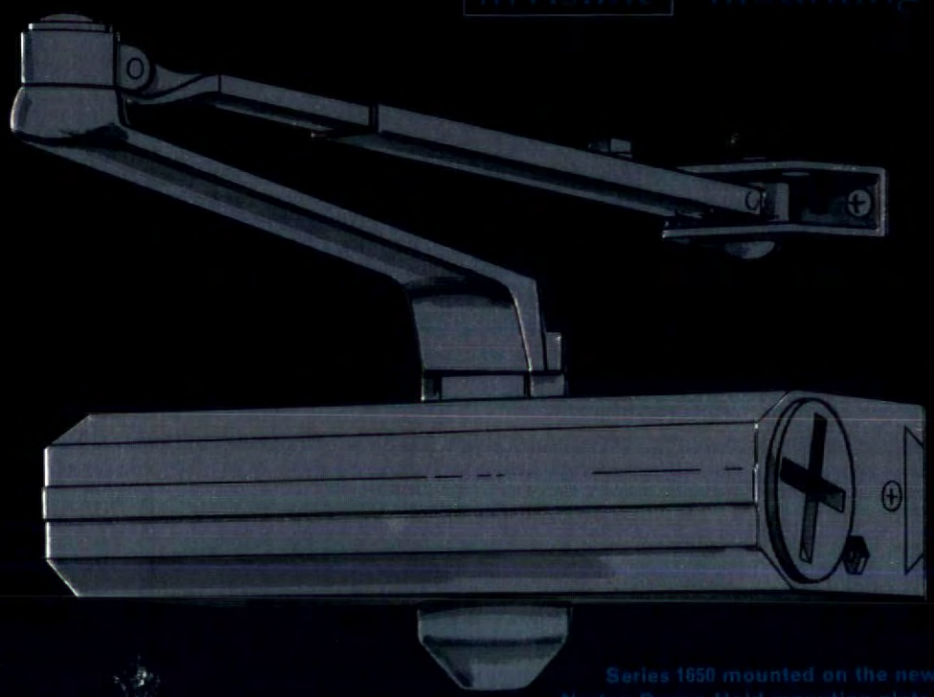
Form T4-295M—562

Printed in USA

NORTON®

Tri-Style

something really new
in door closer styling!
invisible mounting



Series 1650 mounted on the new Norton Perma-Hold mounting plate. No visible mounting screws to mar the esthetic quality of your architectural design.

One Norton Tri-Style closer offers these exclusive features in one style.

- NON-HANDED
- UNIVERSAL REGULAR OR PARALLEL ARM
- ADJUSTA-POWER SHOE
- THREE DISTINCT MOUNTING METHODS

Series 1650 Surface Mounting

Series 1630 Back Mounting

TURN THE PAGE FOR THE KEY TO NORTON INVISIBLE MOUNTING.

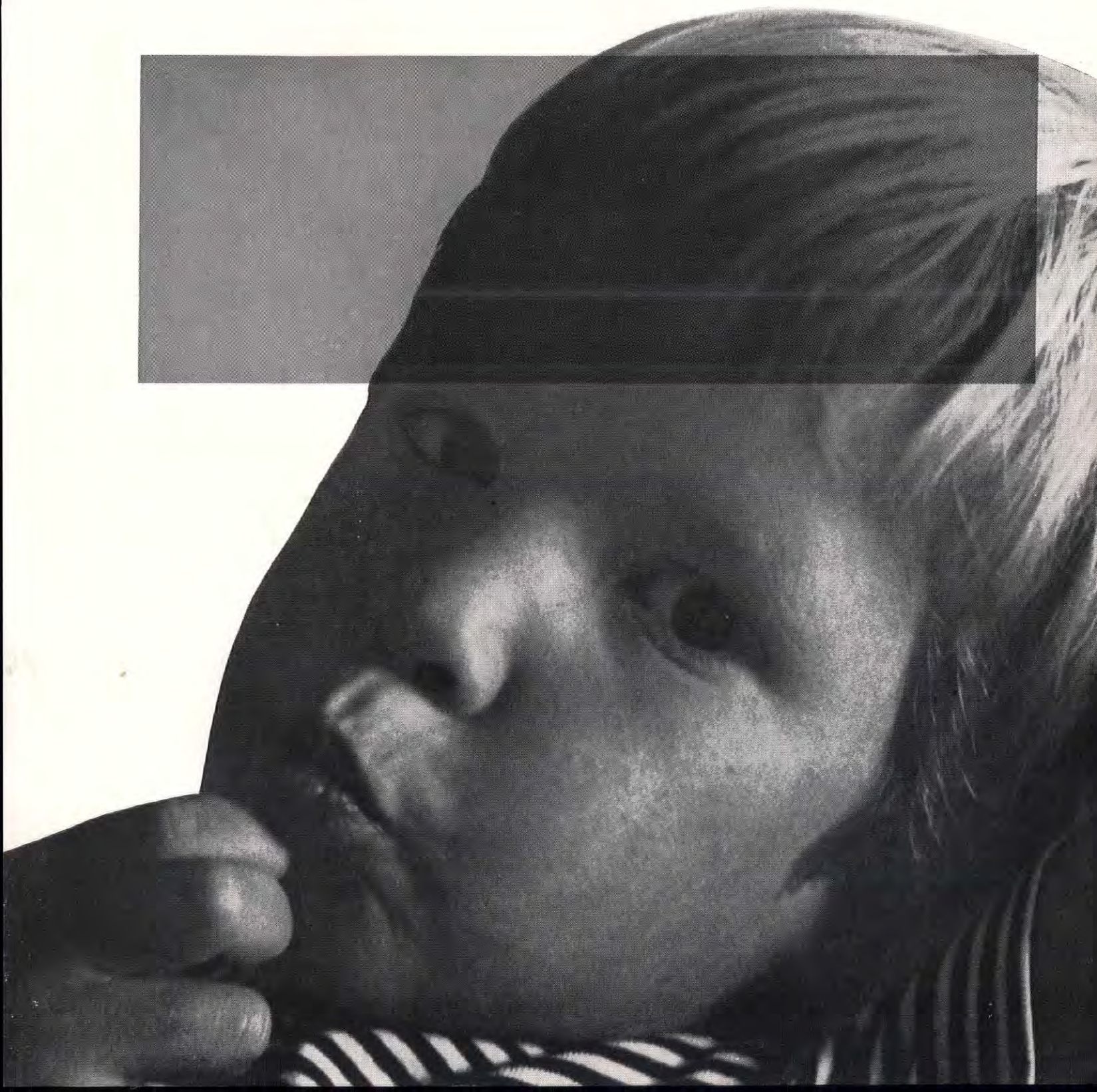
***WHY* IS A WALL?** *Who made it? Was it meant to separate windows? To hold up pictures? To sit against? It can stop rain and snow from coming in. My ball bounces off it. Does it keep chairs from falling over backward?*

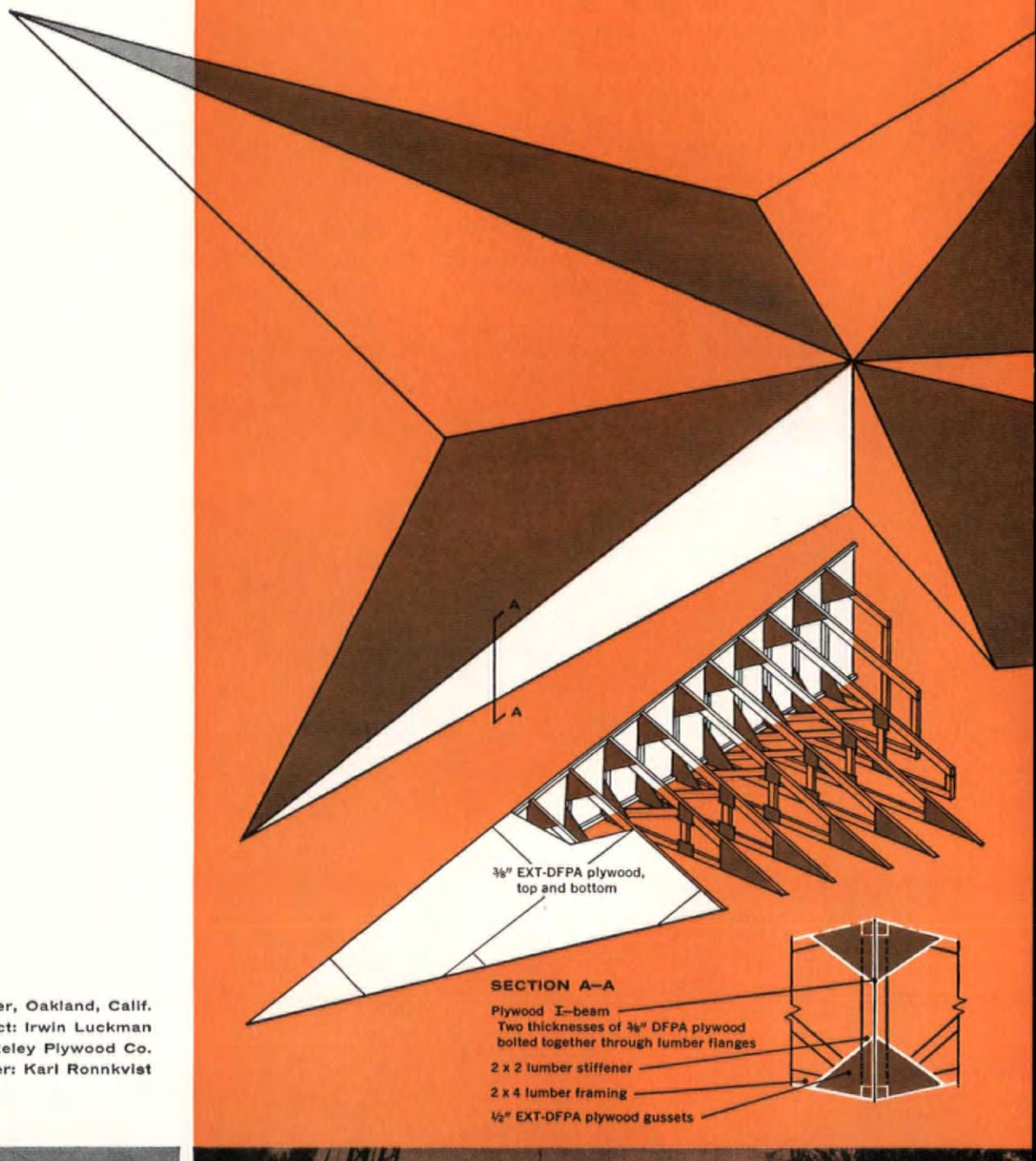
The child's mind is full of inquiry, question, wonderment as she grows. In our special way we constantly ask questions about our own products, pursue research to make them better, more effective, more easily used, of greater benefit.

For us a Wall of Bestwall glass fibered Gypsum Lath and Plaster can protect against fire, add strength to the house, insulate, insure against excessive noise, offer the base for all kinds of decorative treatment. The use of glass fibers with gypsum is further evidence that we are constantly seeking to improve our quality products as we anticipate new uses and techniques from inquiring minds. Bestwall Gypsum Company, Ardmore / Pennsylvania.

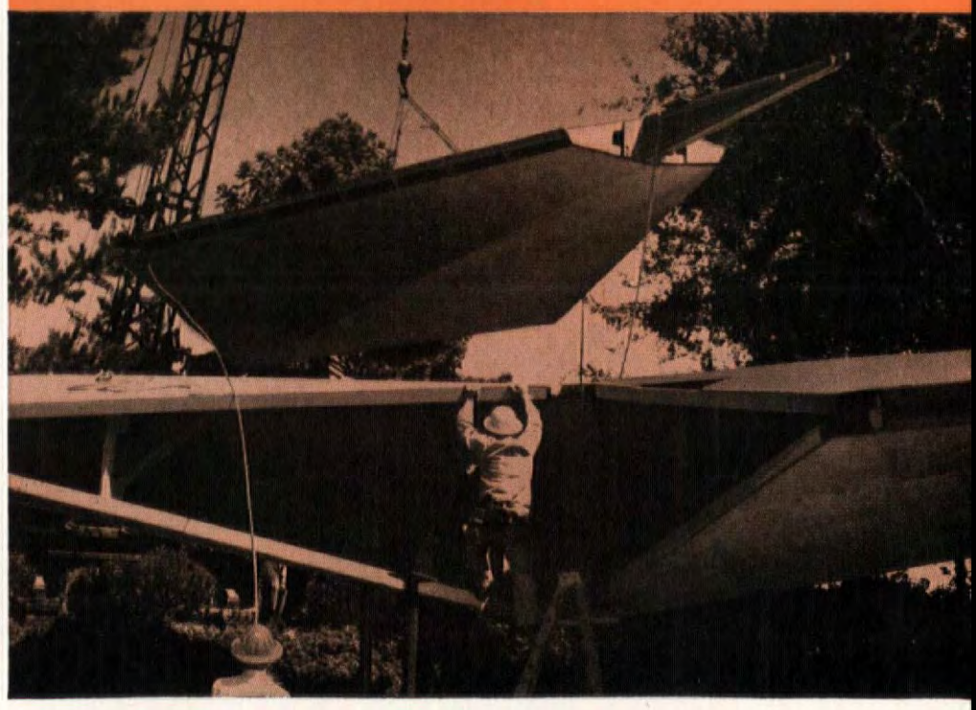
FIREPROOF GYPSUM
BESTWALL
BUILDING PRODUCTS

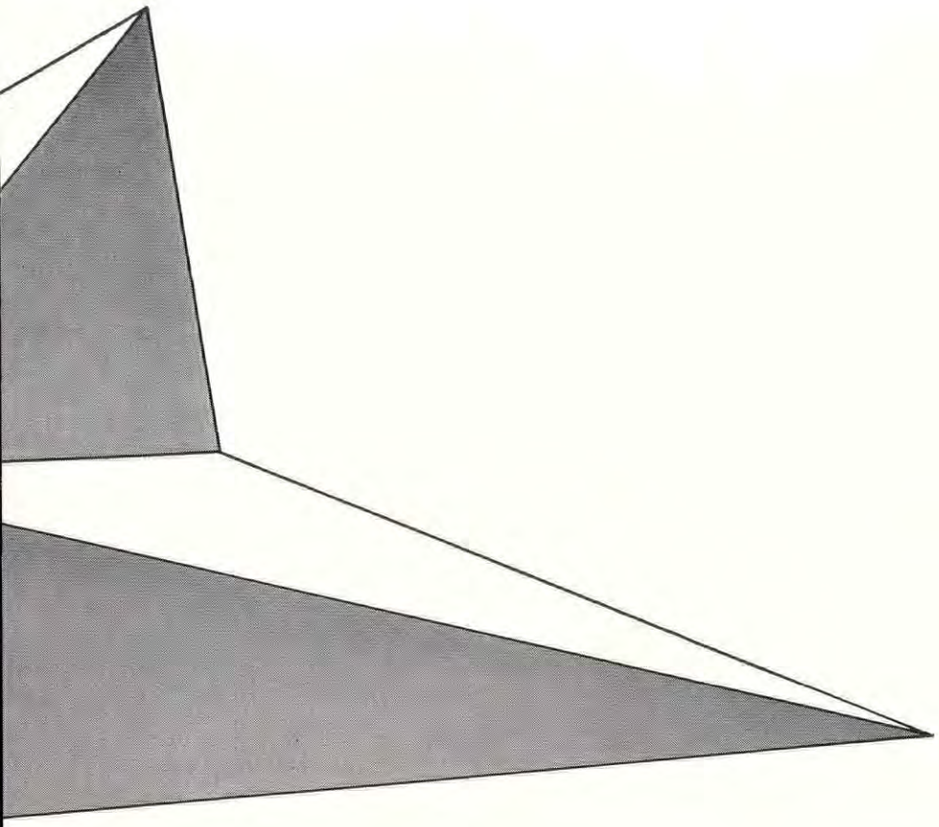
Plants and offices throughout the U.S.



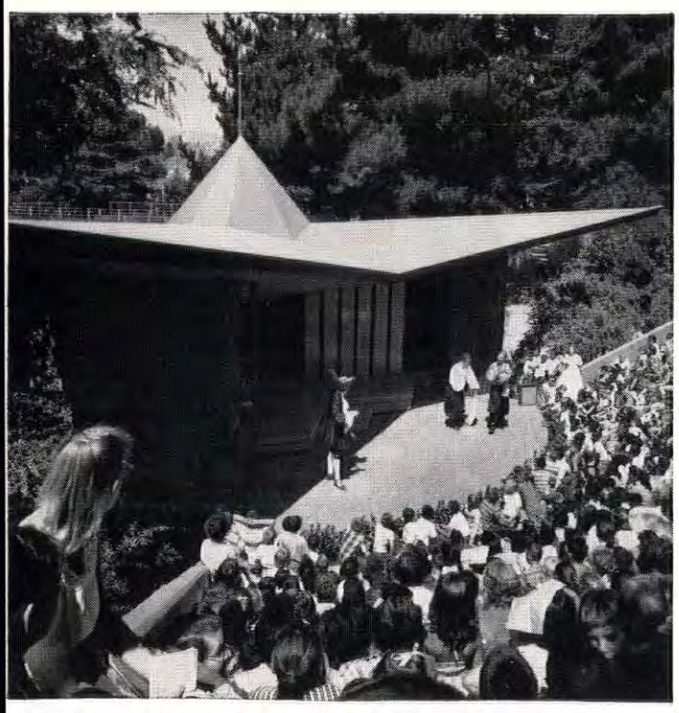


Arroyo Viejo Children's Theater, Oakland, Calif.
Architect: Irwin Luckman
Fabricator: Berkeley Plywood Co.
Builder: Karl Ronnkvist





the most exciting ideas take shape in fir plywood



THIS INGENIOUS STAR-SHAPED ROOF demonstrates the remarkable new structural forms that can be achieved with plywood. Deceptively simple, the design bears more resemblance to airplane wings than a conventional roof, with interacting plywood and lightweight lumber members forming the skeleton and structural skin.

Four plywood I-beams radiate from the center to form the spines of the 22 x 38-foot wings. Trusses cantilever off both sides of the beams and plywood skins form a rigid diaphragm that provides structural integrity for the entire assembly. The roof is supported by only eight steel columns. Components were temporarily bolted together by the fabricator to check tolerances, then trucked to the site for installation.

For information on plywood and new plywood structural systems, including folded plates, space planes, components, etc., write (USA only) Douglas Fir Plywood Association, Tacoma 2, Washington.

DFPA®
TESTED QUALITY
PLYWOOD

ALWAYS SPECIFY BY
DFPA TRADEMARKS

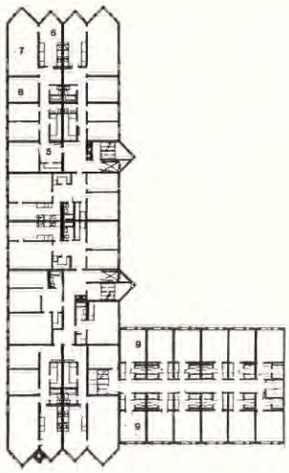
WERK

SWISS SCHOOL. The swiveling concrete sculpture (above) by Jean Arp entitled "Column of Interchangeable Elements" stands in the square of Basel's New School of Applied Art. The six-building campus for training in crafts was designed by Architects Hermann Baur, Franz Bräuning, and Arthur Dürig, in collaboration with Hans Baur. To the right of the sculpture is a four-story classroom and administration building with a glass and concrete façade.

CASABELLA

SWISS HOUSING. Bern's new Halen residential district was designed by a group of young Swiss architects called L'Atelier 5 (Erwin Fritz, Samuel Gerber, Rolf Hesterberg, Hans Hostettler, Niklaus Morgenthaler, Alfredo Pini, Fritz Thormann). The 79 single-family houses are completely surrounded by a wooded park, and have their own square, shops, garage, pool, and sports facilities. The three-bedroom houses above are seen from the garden side.

SWEDISH APARTMENTS. Ole Helweg's apartments are located at Limhamn in southern Sweden. The 13-story building has a serrated façade of concrete patterned by the use of special aluminum forms. The tall building contains a variety of apartment types, and is joined to a three-story hotel (see plan below). There are also several groups of garden apartments and row houses in the same development which adjoins a beach, projected marina, and recreation area.



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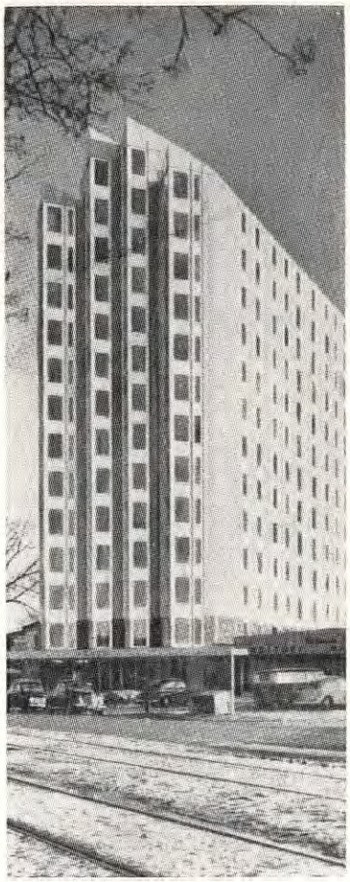
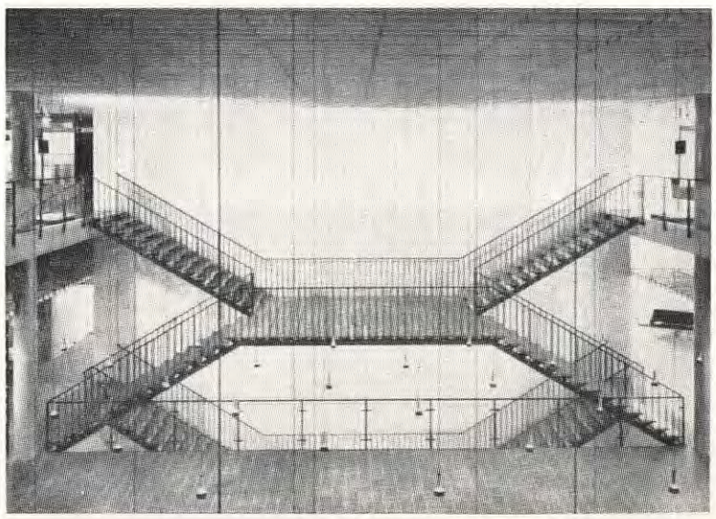
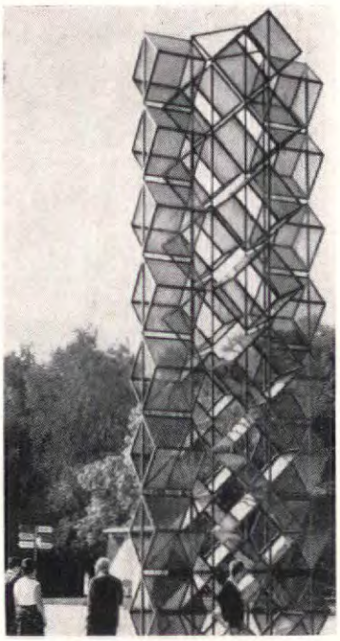


BAUEN & WOHNEN

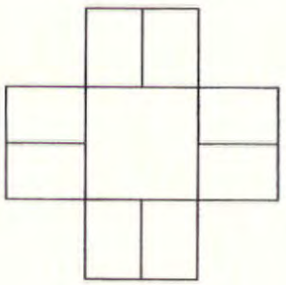


DANISH CENTER. The Copenhagen Building Center by Nils and Eva Koppel was designed for a downtown corner site. The first two floors aboveground and two basement levels are devoted to building exhibits, a reception center, storage rooms, and auditorium. The Center's core is a 23-foot-wide gallery with a suspended double flight of stairs (above). Upper floors are leased and atop is a roof-garden.

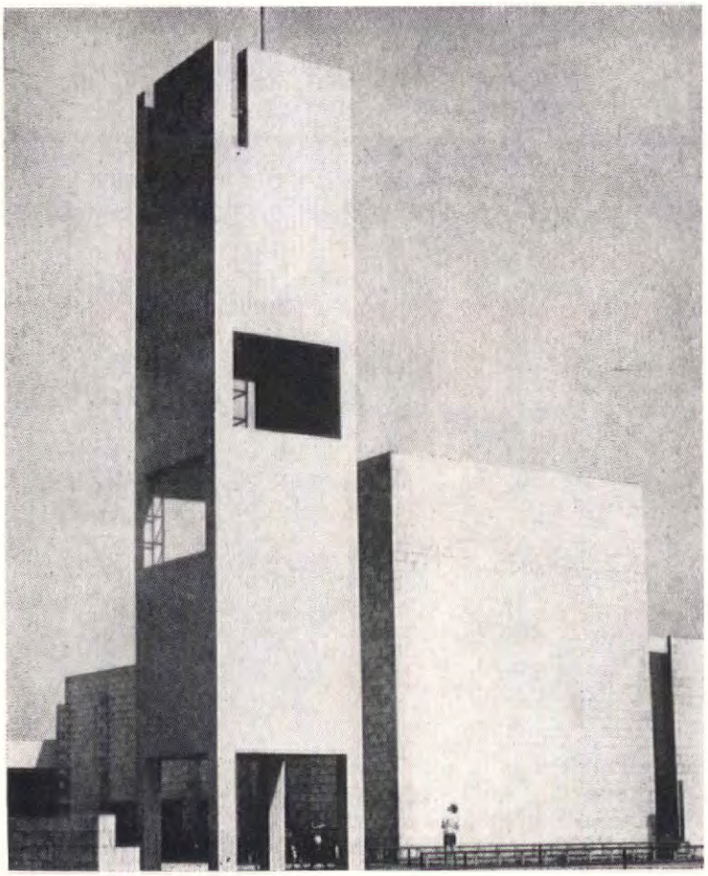
BAUWELT



GERMAN TOWER. This glass tower was designed and manufactured by the Deutsch Spiegelglas, AG (German Mirror Glass Co.) for the recent "Bauen und Wohnen" exhibit in Munich. Thirty-two cubes of steel tubing are piled in four vertical lines around a tower (see plan below). Each cube, about three feet square, is faced with glass on four sides and braced with diagonal struts across the other two.

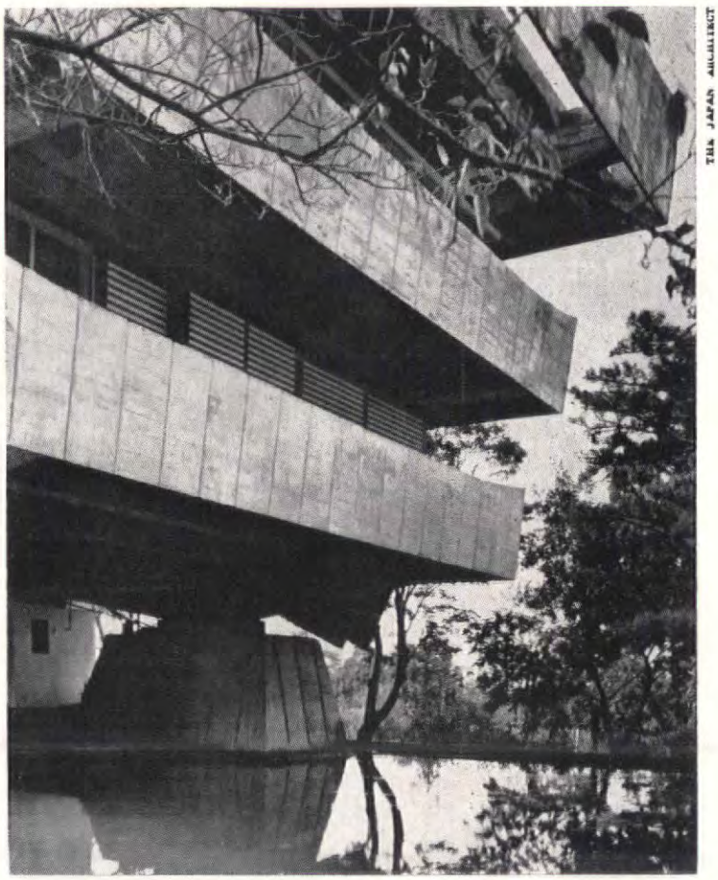


CASABELLA

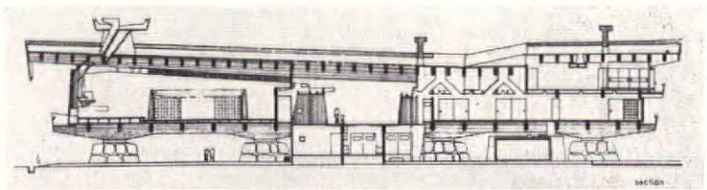


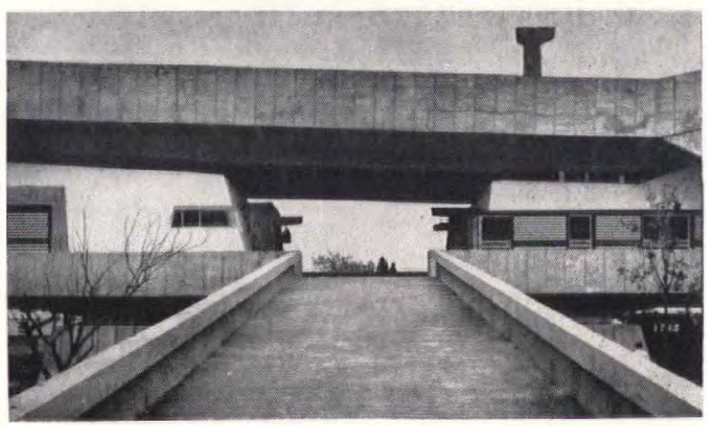
DUTCH CHURCH. Architects J. H. van den Broek and J. B. Bakema designed this church for Nagele, a "new town" nearing completion on a reclaimed portion of the old Zuider Zee. Unfinished concrete covers the freestanding steeple which rises above a semienclosed court. Through the courtyard, worshippers enter the concrete-block church (right) and an auditorium, library, and cafeteria.

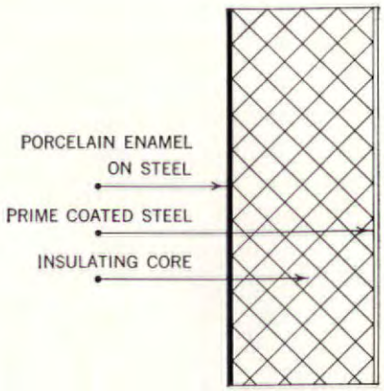
THE JAPAN ARCHITECT



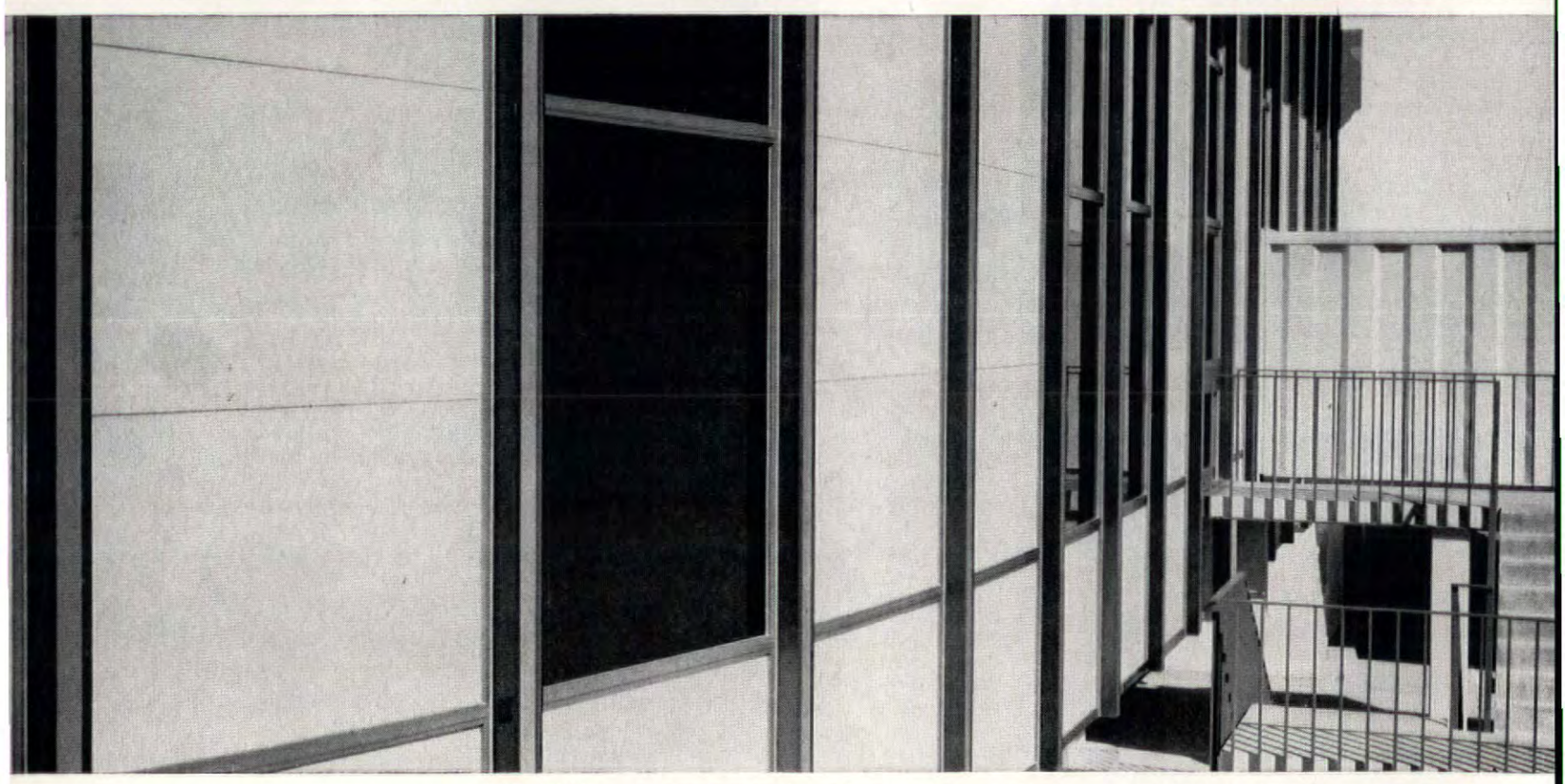
JAPANESE TEMPLE. The Zendo-ji Temple of Shunan-zan by Architect Yoji Watanabe was built at Itoigawa in northern Honshu to replace an older sanctuary destroyed by fire. A long concrete ramp leads to the main floor which is supported on pilotis and divided into two distinct areas. On the left (see section below) is the main sanctuary. On the right (photo, above) is the priest's eight-room residence with an eastern exposure to avoid the region's cold, westerly winds. A sheltered, floor-through gallery for outdoor worship links the two areas (see photo, below). END







Two-faced laminated panels lead a double life at new air terminal



"Satellite" passenger handling facility at Los Angeles International Airport. Architects: Charles Luckman Associates; Welton Becket & Associates; Paul R. Williams & Associates. Panels made by California Metal Enameling Company, Los Angeles.

Gleaming white porcelain enamel panels give a fresh-minted look to this new TWA passenger terminal at Los Angeles International Airport. And that's only half of the story . . . their other side is painted to blend with the terminal's interior decor.

Modern materials and methods make possible this combination of beauty and practicality. Both the porcelain enamel exterior facing and the primed interior skin are bonded with an Armstrong contact adhesive to an insulating core. The finished panels are strong, rigid, and practically maintenance-free.

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***ZODIAC* 9.** Published by the Ing. C. Olivetti & Co., Ivrea, Italy. Distributed by George Wittenborn, Inc., 1018 Madison Ave., New York 21, N. Y. 211 pp. 8¼" x 10½". Illus. $9.

After their last issue, Number 8, which concentrated on modern U.S. architecture (FORUM, Jan. '62), the editors of *Zodiac* have rewarded their readers with another impressive edition. This time, they have drawn their subject matter from all over the world—managing to select with admirable originality and versatility a dozen or more areas of international interest. Some are quite familiar, such as Great Britain's "new towns." But Town Planning Editor Giorgio Gentili has presented a comprehensive study (with especially good marks for Cumbernauld, the most recent plan), and it is illustrated with a wealth of photographs, renderings, and plans.

A tour through European skyscrapers, with Henry Russell Hitchcock as a guide, and a monograph on Max Bill, his architecture, sculpture, and paintings, are also collector's items. On a less familiar subject, Tokyo Editor Noboru Kawazoe describes proposals for a city of the future by the "Metabolism" group, a team of Japanese architects and town planners to which he belongs. Also included in his report from Asia is a profile of the young Indian architect, Balkrishna Vitaldhas Doshi, and a description of the architectural climate of India today. Some articles are written in English, others in French, German, and Italian. English and French summaries are in the back of the magazine.—A.P.

OFFICE BUILDINGS. By Leonard Manasseh and Roger Cunliffe. Published by the Reinhold Publishing Co. 430 Park Ave., New York 22, N. Y. 208 pp. 8½" x 10¾". Illus. $12.75.

The design, financing, and construction of an office building (indeed of any building) is a combined operation drawing on the talents of many different people and organizations. With this basic truth firmly in mind a pair of British architects, Leonard Manasseh and Roger Cunliffe (who now works in Chicago), have attempted to write a comprehensive and detailed guidebook addressed, as the jacket says, to "property companies and developers, the client about to build or rent space, architect and surveyor, office equipment and interior designer." An ambitious attempt—but the authors' success well justifies the price.

The book is divided into three sections. The first of these, titled Environment, is very short with chapters devoted to "The Room," "The Building," and "The Locality." The second section, Creation of Environment, is much longer, taking up in detail such subjects as economics, planning, cost control, lighting, construction, and maintenance, to mention only a few.

The final section, which takes up half the book, is an illustrated series of case studies involving 21 office buildings around the world. Text for these examples is brief and to the point, as it is throughout the book, and this section could be of considerable interest to serious laymen, as well as to the professionals for whom this practical book was written.—M.P.

THE POLITICS OF URBAN RENEWAL, The Chicago Findings. By Peter H. Rossi and Robert A. Dentler. Published by The Free Press of Glencoe, Inc., a division of The Crowell-Collier Publishing Co., 60 Fifth Avenue, New York 11, N. Y. 303 pp. 7" x 9½". $6.

Mr. Rossi from the University of Chicago and Mr. Dentler from Dartmouth, both sociologists, have collaborated to produce a meticulous and exhaustive account of urban renewal in the Hyde Park–Kenwood area of Chicago. Thoroughly readable and with an admirable lack of the usual sociological jargon, their account will be of great interest to serious students of urban renewal.

The book is not, as its sweeping title might suggest, a handy guidebook outlining the ways and means to effect sound rebuilding programs in any community which requires them. Rather, it is an intensive investigation of a single case—and not a usual one at that. Hyde Park–Kenwood is in no sense an "average" community and its experiences with renewal are unusual if not unique. Many factors set Hyde Park–Kenwood apart from the "average" community but most important of these by far is the presence of a great institution, the University of Chicago, which effectively used itself as the focus for action. Thus, for the many communities which desperately need renewal programs but which lack a strong institution around which to rally, the story of citizen participation in Hyde Park–Kenwood may have limited application. Fully recognizing this, the authors do make a suitably tentative effort, in a concluding chapter, to extract from the Hyde Park–Kenwood experience implications which bear on the problems of urban renewal generally.—M.B.

A SYSTEM OF ARCHITECTURAL ORNAMENT BY LOUIS H. SULLIVAN: Facsimile edition based on the 1924 edition put out by the Press of the American Institute of Architects, Inc. Available from William Hasbrouch, c/o Illinois Central R.R., Chicago, Ill. 24 pp. 20 full-page plates, 12½" x 20". $15.

This facsimile of Sullivan's ornate pencil drawings and his text of towering incoherent words has been issued in a very small edition of 100 through the efforts of Chicago Architect William Hasbrouch, of the Illinois Central R.R. In places the reproduction is a bit faint but it is neither uneven nor smudgy, and it is good to have the size undiminished. Architect Hasbrouch intends to publish another edition if there is demand for it.

continued on page 182

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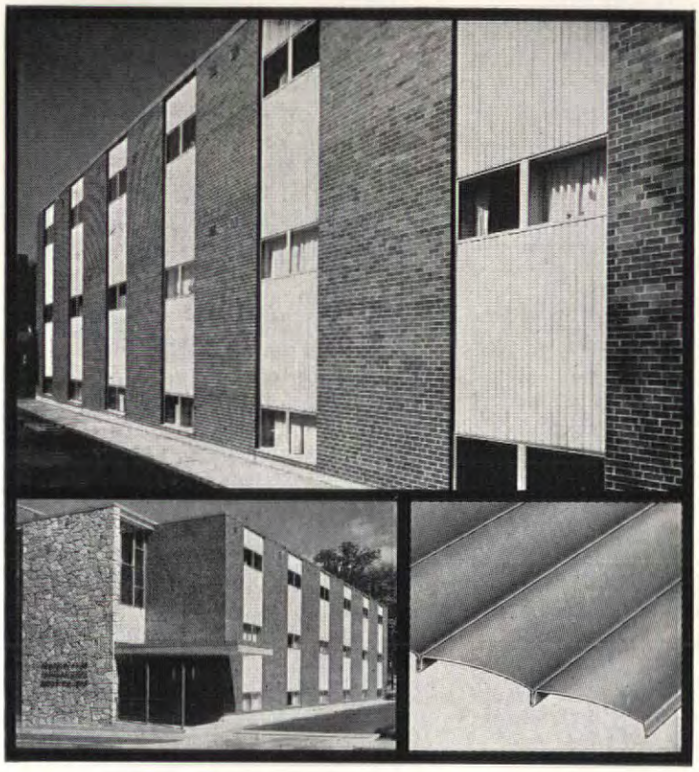

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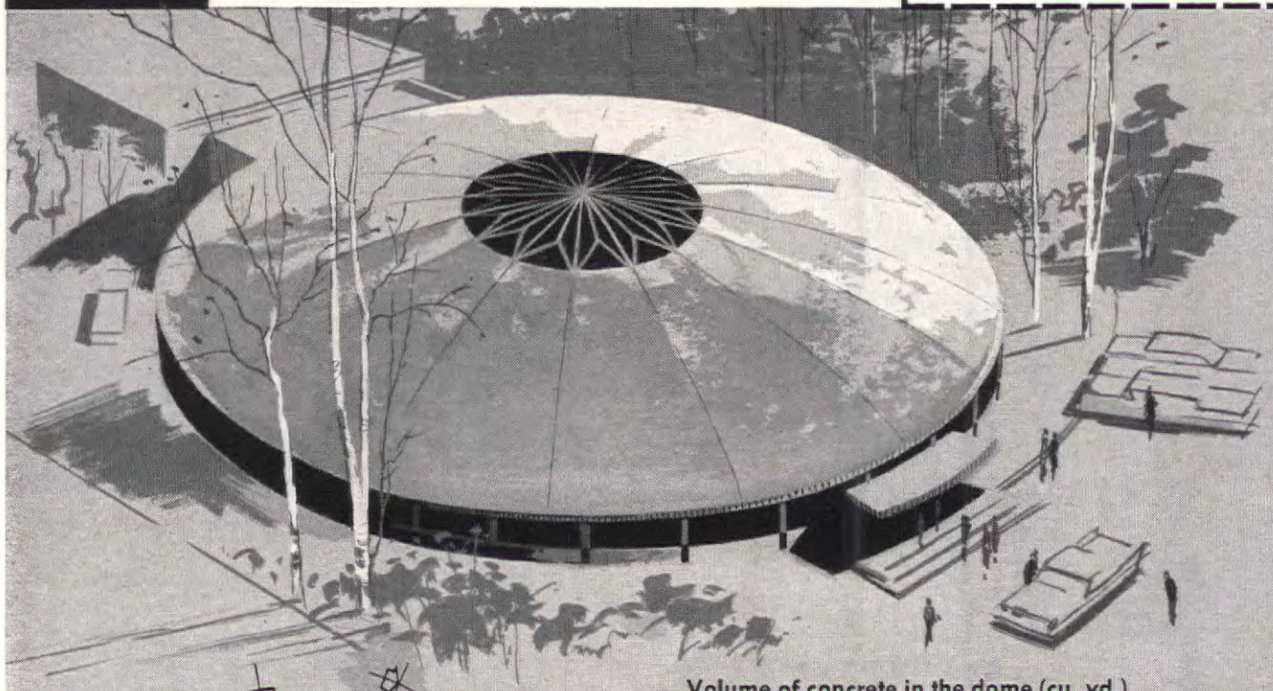
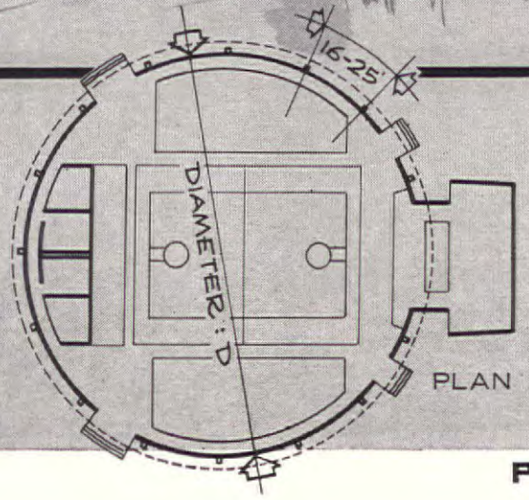


Designing for long spans and column-free space. The basic dome shell of concrete is architecturally important today for both practical and esthetic reasons. Because strength is inherent in the shape, shell roofs in the United States are being designed with thicknesses of as little as 2½ inches.

Dome shells are especially suitable for structures such as gymnasiums where spans are long and column-free space is required. As seen from the table below, shell thickness varies with length of span and curvature of dome.

Domes may be pierced as desired for natural light, or appropriate domed or flat-fixed lights may be used.

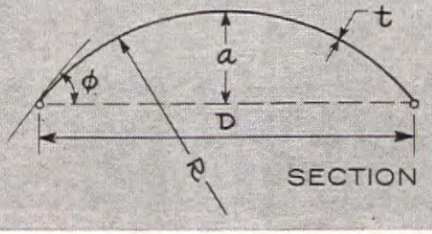
Get complete technical literature on additional aspects of concrete dome shell design, as well as other applications of concrete. (U.S. and Canada only.) Send a request on your letterhead.



Volume of concrete in the dome (cu. yd.)

$$\frac{D^2\,(t+1)}{360}$$

D in feet, t in inches



DOME/SPAN DATA

D	t*	ϕ	a	R
100′	3″	30 45	13.4′ 20.7′	100′ 70.7′
125′	3″	30 45	16.8′ 25.9′	125′ 88.4′
150′	3½″ (3″)	30 45	20.1′ 31.0′	150′ 106.0′
175′	4″ (3½″)	30 45	23.5′ 36.2′	175′ 123.7′
200′	4½″ (4″)	30 45	26.8′ 41.4′	200′ 141.4′

*Note: Shell thickness "t" is usually increased by 50 to 75 per cent near the periphery.

PORTLAND CEMENT ASSOCIATION Dept. 6-7, 33 West Grand Avenue, Chicago 10, Ill.

A national organization to improve and extend the uses of concrete

continued from page 179

HOUSING, PEOPLE AND CITIES. By Martin Meyerson, Barbara Terrett, and William L. C. Wheaton. Vol. 8 of ACTION's Series in Housing & Community Development. Published by McGraw-Hill Book Co., Inc., 330 W. 42nd St., New York 36, N.Y. 386 pp. 5½" x 8¼". $9.75.

The three authors, all professionals in the area of urban affairs, have put together a solid volume which represents "the culmination of a five-year investigation of impediments to the improvement of housing and the urban environment." As the last of a generally excellent series of works, it attempts to delineate the problems involved in clearing these impediments, and makes specific recommendations toward that end.

Everything from prefabrication of single-family homes to problems of metropolitan reorganization is treated concisely and with forthrightness. Unlike many books in the same field, this one faces up to most problems with honesty, and poses solutions, albeit some of them are by now rather shopworn. For instance, following a generally solid appraisal of the market for rental housing (it promises to be excellent over the next decade and a half, at least), the book notes that a "principle obstacle will be uncertainty in the amount and cost of risk capital." This is indeed a problem the whole economy must face, and it needs, at this point, more attention than it gets here. But there is also refreshing honesty, such as the realization that the ill-starred 608 FHA rental housing program, which gave investors a chance to "mortgage out" and resulted in a great volume of rental housing as well as a Congressional witch-hunt, is not a bad formula at all for getting rental housing built.

One of the most telling points made in this book, however, is that current federal practices of using mortgage insurance programs for social objectives is a matter of "using the wrong instruments for the right purposes in order to defer the recognition of the potential costs." There should be, the authors contend, "a constant re-examination . . . of the use of the mortgage insurance device for social purposes involving substantial risks."

Some other "obsolete ideas" are also attacked with force in the book. One is the idea of using housing as a public works device to counter swings in the business cycle, and another is the notion that it is inherently good for people to own houses, rather than rent apartments.—D.C.

THE SECONDARY MORTGAGE MARKET. By Oliver Jones and Leo Grebler. Published by Real Estate Research Program, Graduate School of Business Administration, U. of California, Los Angeles. 281 pp. 5¼" x 9½". $6.50.

This is the best, most thorough analysis of a little-understood mechanism which has never realized its potential. As the authors admit, "the secondary mortgage market for urban residential mortgages is negligible

continued on page 187

The Connecticut Bank & Trust Company, Hartford, Conn.
Architects: Robert Allan Jacobs—Carson, Lundin & Shaw
General Contractor: F. H. McGraw & Company

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Close coordination between General Bronze and the architects was essential to the success of this installation. Sample sections of the curtain wall, for both the base and tower systems, were subjected by GB to rigorous wind and weather tests.

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Mfr. of Precast Perl-Tile Roof Slabs: Western Mineral Products Co., Minneapolis, Minn.
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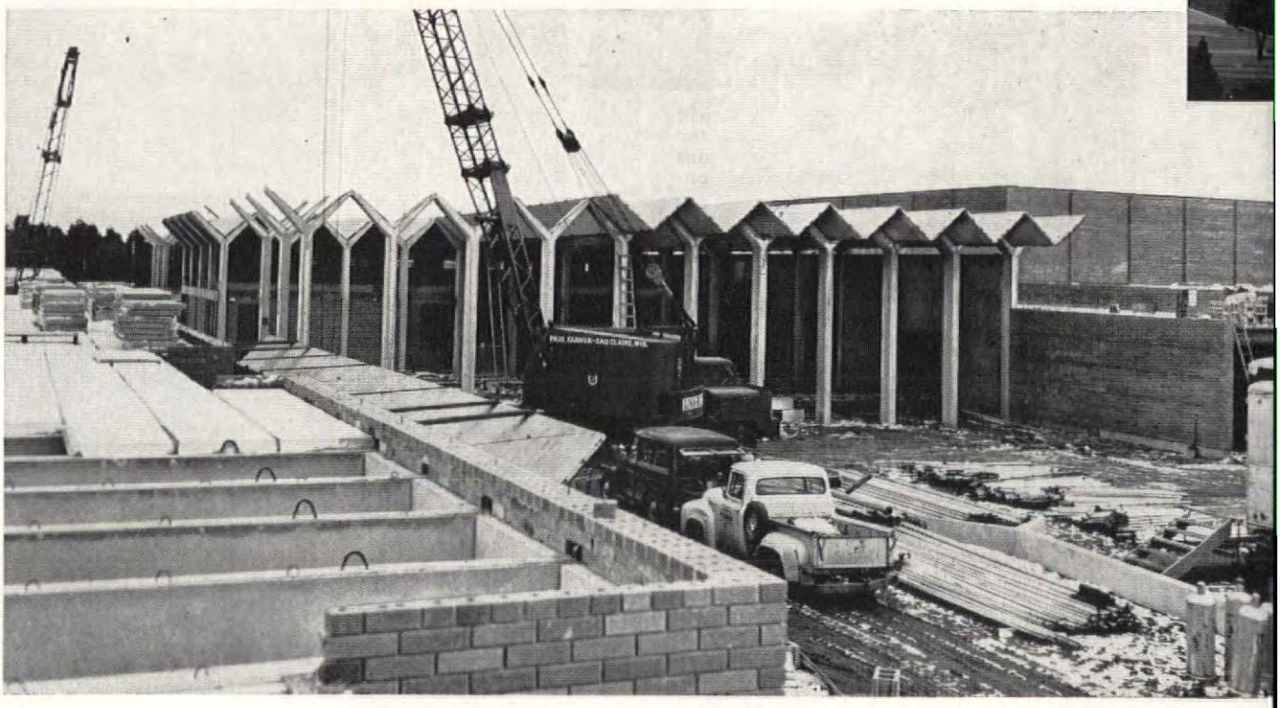

• Prestressed folded plates resting on "Y" shaped columns roof the cafeteria. Giant single tees up to 107′ long span the auditorium/gymnasium. And the classrooms are topped with lightweight concrete slabs supported by prestressed keystone joists. This variety of roof units, together with concrete masonry walls, make Eau Claire's new junior–senior high school completely fire-resistant, as well as architecturally pleasing inside and out.

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In precasting the plates, tees, columns and joists, Eau Claire Stresscrete used Lehigh Early Strength Cement for both quality and maximum production efficiency. Use of this cement with steam curing made it possible to re-use forms on a daily cycle. And for the same reasons, Western Mineral Products uses Lehigh Early Strength Cement in the manufacture of their lightweight "Perl-Tile" slabs.

This is another example of the advantages of Lehigh Early Strength Cement in modern concrete construction.

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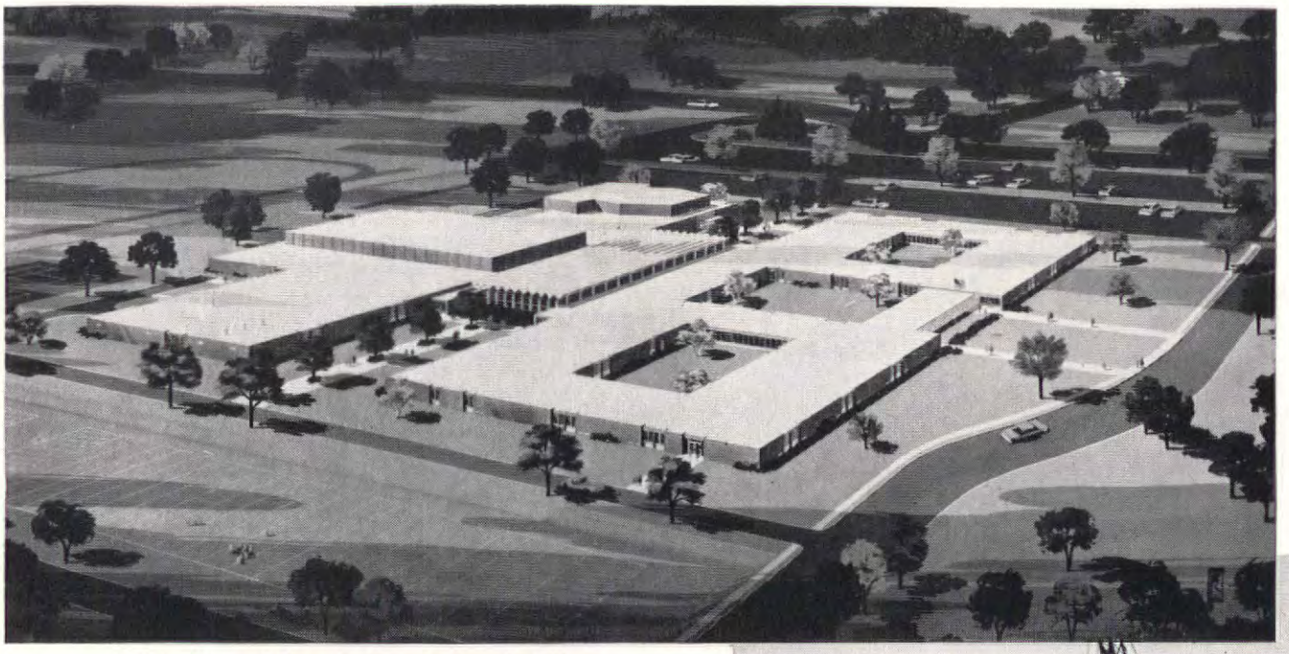
LEHIGH CEMENTS

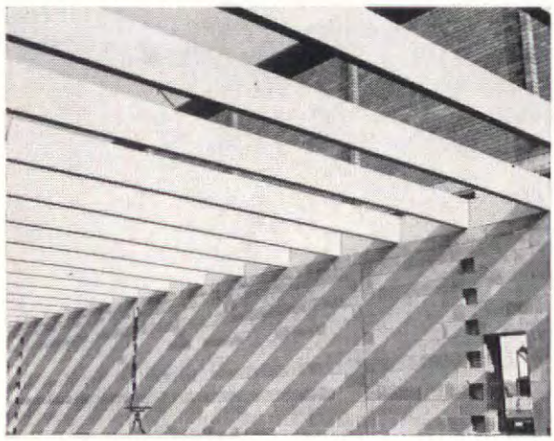


Architect's rendering of the school as it will appear when completed. Note particularly the unusual architectural effect of the Y columns and folded plate roof of the cafeteria. All concrete roofing is left exposed to inside view.

The folded plates for the cafeteria roof are 5'3" wide, 2½" thick. Along the length of the building they make three spans of 60, 48 and 60 feet, with an 8' overhang at each end. There are 66 Y columns. When complete, the cafeteria is joined on one side by the classroom complex and on the other side by the gym-auditorium-shop area.

In the background are the tightly fitted folded plates for the cafeteria roof, and the 25' high Y columns that support them. These columns are on 8' centers. Exterior columns to support the half plates are on 12' centers. Tips of the Y's are welded together. In the foreground at left are prestressed keystone roof joists set at 4' centers. The 2' x 4' lightweight roof slabs spanning the joists provide insulation and an attractive acoustical ceiling.

There are about 7 miles of these prestressed keystone joists in the classrooms of the school. They vary from 12' to 40' long and are 16" deep.



Giant T's varying in length from 73' to 107' make up the roofs of the gym, swimming pool and auditorium. They are 8' wide and have 3' stems. Concrete blocks were manufactured by Fehr Concrete Products, Inc., using Lehigh Early Strength Cement.

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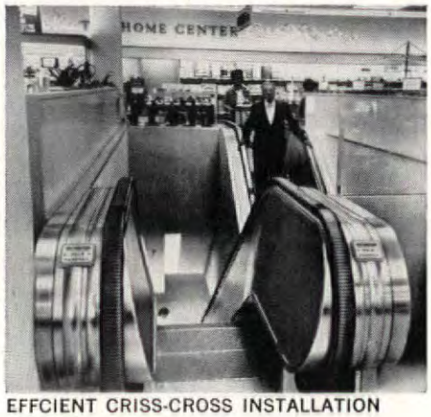

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OFFICES IN PRINCIPAL CITIES

continued from page 182

in size and deficient in performance."

Of course, the nearest thing to a real central mortgage facility in the U.S. is the Federal National Mortgage Association, which is at best an imperfect, limited mechanism. The engineering of a truly nation-wide, efficiently functioning secondary mortgage market would, the authors contend, "reduce the variability in mortgage lending activity and improve the geographic allocation of funds" as well as attract a larger share of the nation's savings into mortgages. The key to accomplishing this, they say, is "participation of entrepreneurs who are willing to accept risks and make decisions as middlemen—to make a market for mortgages." But a necessary adjunct is a market of sufficient breadth and depth to attract such risk takers, and this would mean greater participation by federal and state governments to remove the several roadblocks the authors cite as standing in the path of a sound secondary mortgage market.

PLASTICS: PROJECTS AND PROCEDURES WITH POLYESTERS. By Alexander F. Bick. Published by the Bruce Publishing Co., 400 North Broadway, Milwaukee 1, Wis. 108 pp. 7½" x 10". Illus. $4.95.

A do-it-yourself book on use of polyester resin plastics. Complete step-by-step instructions on everything from making jewelry to repairing pipes. The numerous illustrations are rather quaint. At first glance, this book looks a bit sticky, but polyester plastics are truly revolutionary materials with almost unlimited possibilities and one may here get some idea of what can be done.

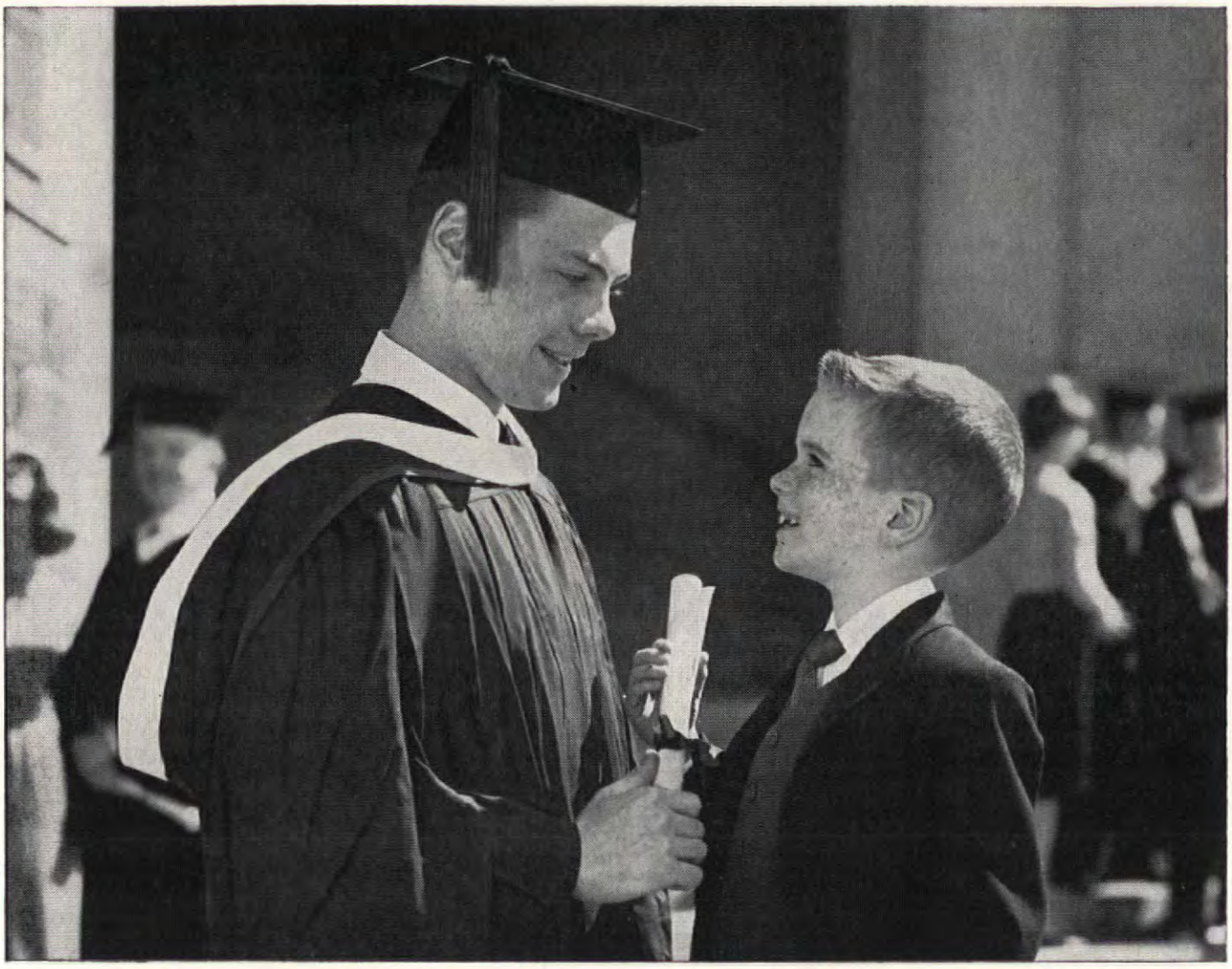
HEATING AND HUMIDIFYING LOAD ANALYSIS. By F. W. Hutchinson and M. O. Cotter. Published by the Ronald Press Co., 15 East 26th Street, New York 10, N. Y. 494 pp., 5" x 9". Illus. $12.50.

Concerned primarily with the accurate determination of the design load necessary for maintaining a selected temperature and humidity within a structure. A useful workbook; not for entertainment.

PRESTRESSED CONCRETE BUILDINGS. Edited by T. Y. Lin and J. W. Kelly. Published by Gordon and Breach, 150 Fifth Ave., New York, N. Y. 322 pp., 5" x 9". Illus. $12.50.

The 49 papers assembled here cover virtually every aspect of prestressed concrete design, manufacture, and use. They are the proceedings of two Western Conferences on Prestressed Buildings held in late 1960.

LIGHT GAGE COLD-FORMED STEEL DESIGN MANUAL. 115 pp 6¼" x 9¼". Illus. $1. Commentary on the 1961 Edition. 60 pp. 6¼" x 9¼". Illus. 50¢. Published by the American Iron and Steel Institute, 150 E. 42nd St., New York 17, N. Y.



WILL I WEAR ONE OF THOSE WHEN I GROW UP?

Will you?

Of course you want to grow up and be like your big brother—go to college, become an electronics engineer, an architect, a doctor. And we hope you do, because our country is growing and we'll need many more highly trained men and women to keep America strong and free.

Of course you want to go to college!

But, will you? Well, that depends.

It depends on you, of course. You've got to be bright, ambitious, hard-working. But it depends on something else, too. For you to go to college, there has to be a college for you to go to—or room for you in the college you select. Because in ten years—maybe less—applications to colleges and universities from bright boys and girls like you are expected to double. If you and your friends are to receive a really good education, it will mean more classrooms, libraries, up-to-date laboratories—above all, thousands more top-quality professors. And all that will mean money—a great deal of money.

If grown-ups will realize the problem and do something about it, your chances of going to college will improve. Let's hope they start now to give you the gift of knowledge—by helping to support the college of your choice.

If they want to know more about what the college crisis means to you—and to them—tell them to write for a free booklet to Higher Education, Box 36, Times Square Station, New York 36, N. Y.

Good luck, son!

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With over 50 stores (750,000 square feet of retailing area), parking for more than 5,000 cars, a spacious, beautifully landscaped, 1,200 foot mall, Cheltenham Center serves, and serves well, the three-quarters of a million people who live within a three-mile radius.

Representing, as it does, a 20 million dollar investment, you may be sure that nothing was overlooked to make shopping convenient, enjoyable, comfortable. In the comfort area there's air conditioning and in air conditioning there's Acme . . . the name you'll find on the comfort system equipment in most of the leading stores in the Center.

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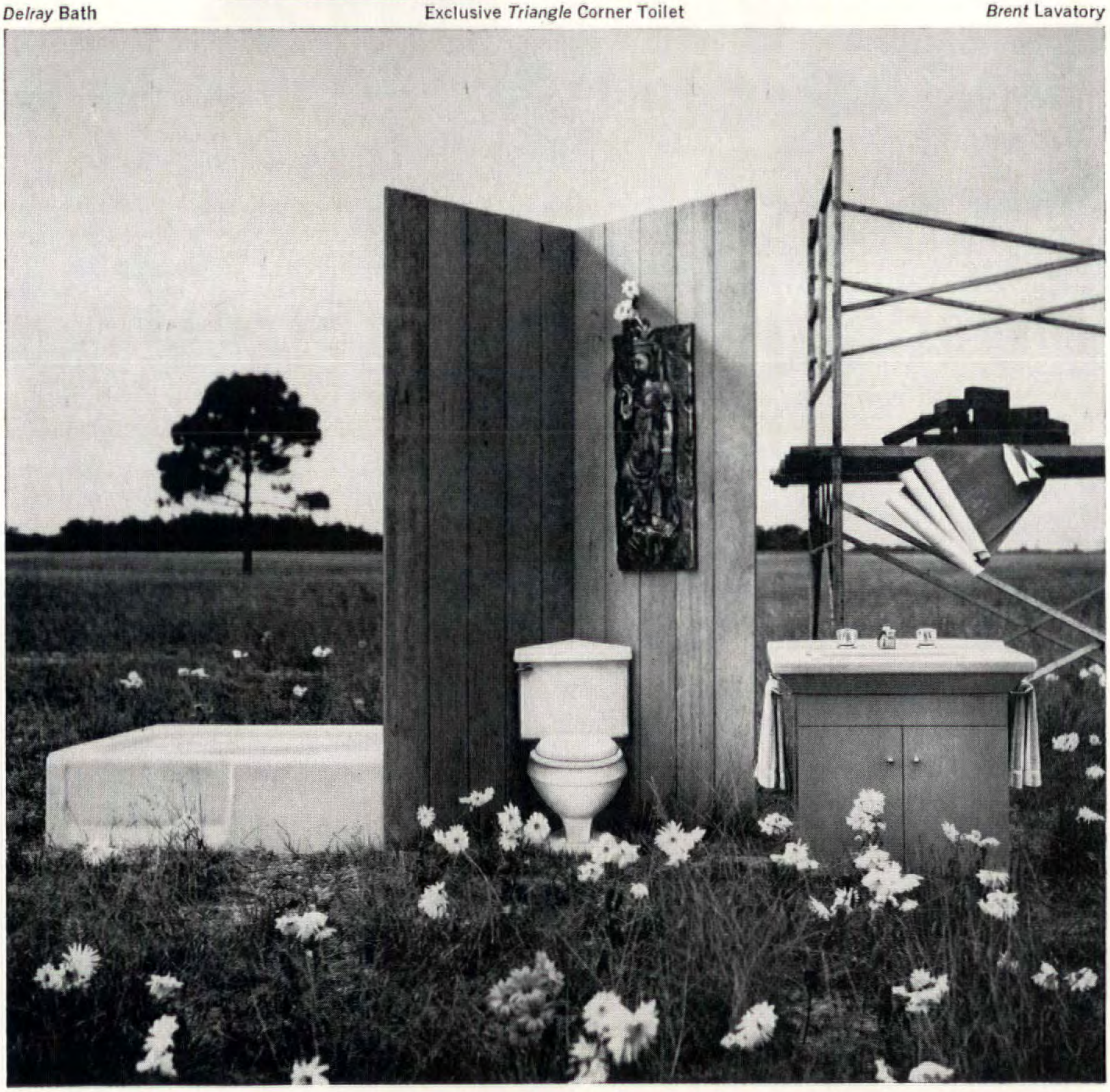

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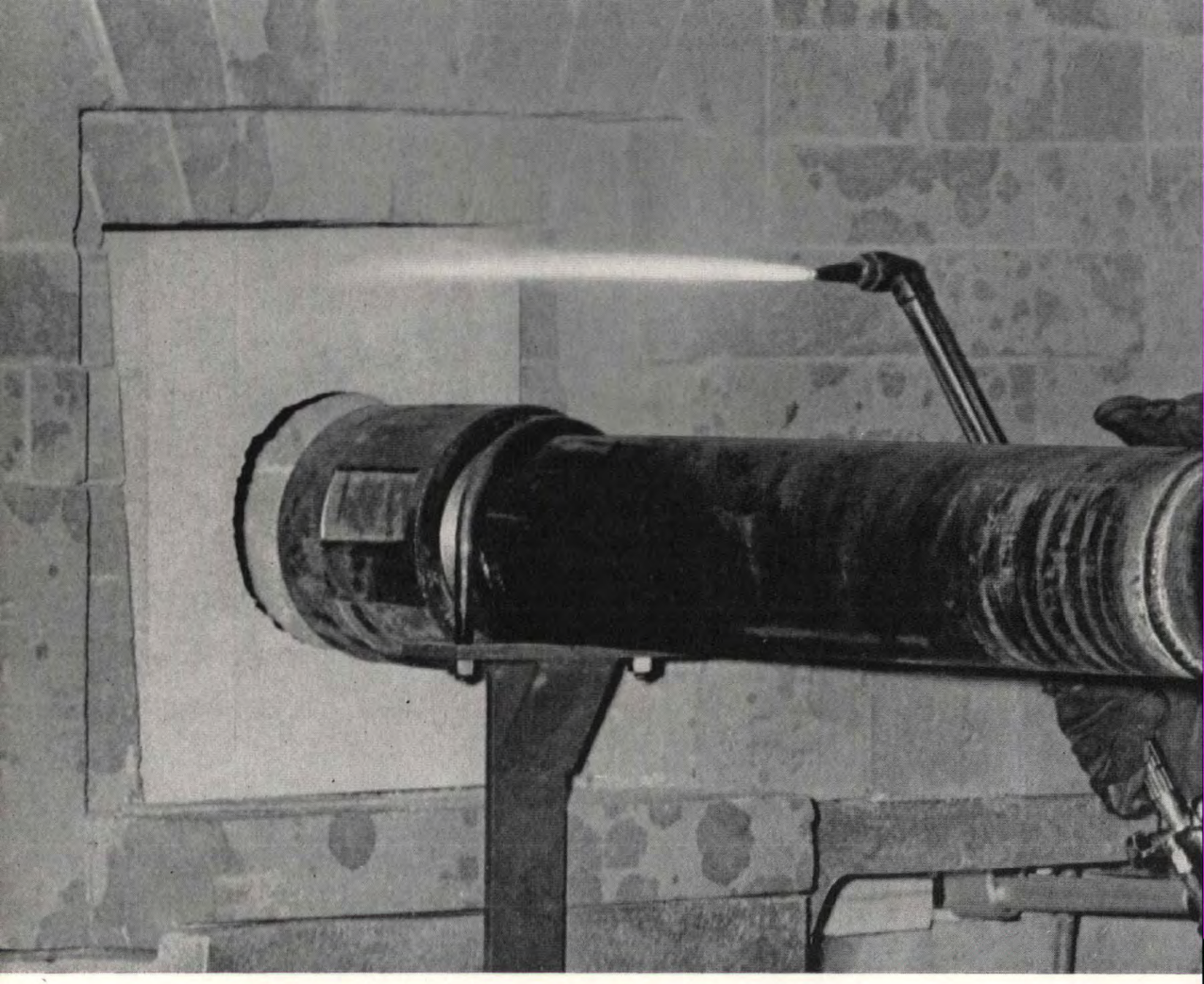

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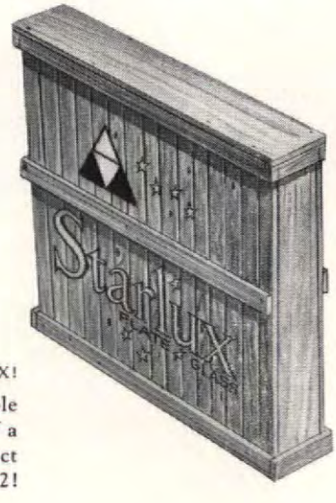

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The highest quality plate glass available A-SG's "STARLUX" Plate Glass, is a product of a 300-year tradition in glass making. This fact belongs in your planning for 1962!

came at 12⁰² PM...

The country's newest plate glass plant, built by American-Saint Gobain at Greenland, Tenn., has started its first campaign. Soon it will be producing A-SG's "STARLUX" Plate Glass.

Here at Greenland—near Kingsport, Tenn.—the first step towards actually producing the highest quality plate glass available in the U. S. took place on April 3. It was then that a technician lighted off the 300-ton tank from which will soon flow an endless ribbon of glass. This modern, multi-million dollar glass plant will give American-Saint Gobain the distinction of being the only domestic manufacturer of all major types of flat glass—plate glass, window and sheet glass, and patterned glass.

Whether you're an architect, a manufacturer or a jobber, Greenland U.S.A. is news, good news! For the latest information on sizes, delivery and prices, call your nearest A-SG office. You'll find the telephone number in your classified telephone directory. American-Saint Gobain Corporation, Kingsport, Tenn.

Starlux®
PLATE GLASS

AMERICAN-SAINT GOBAIN... *wherever people live and work!*

NOW...PROTECTONE®

*Fashion Fissured**

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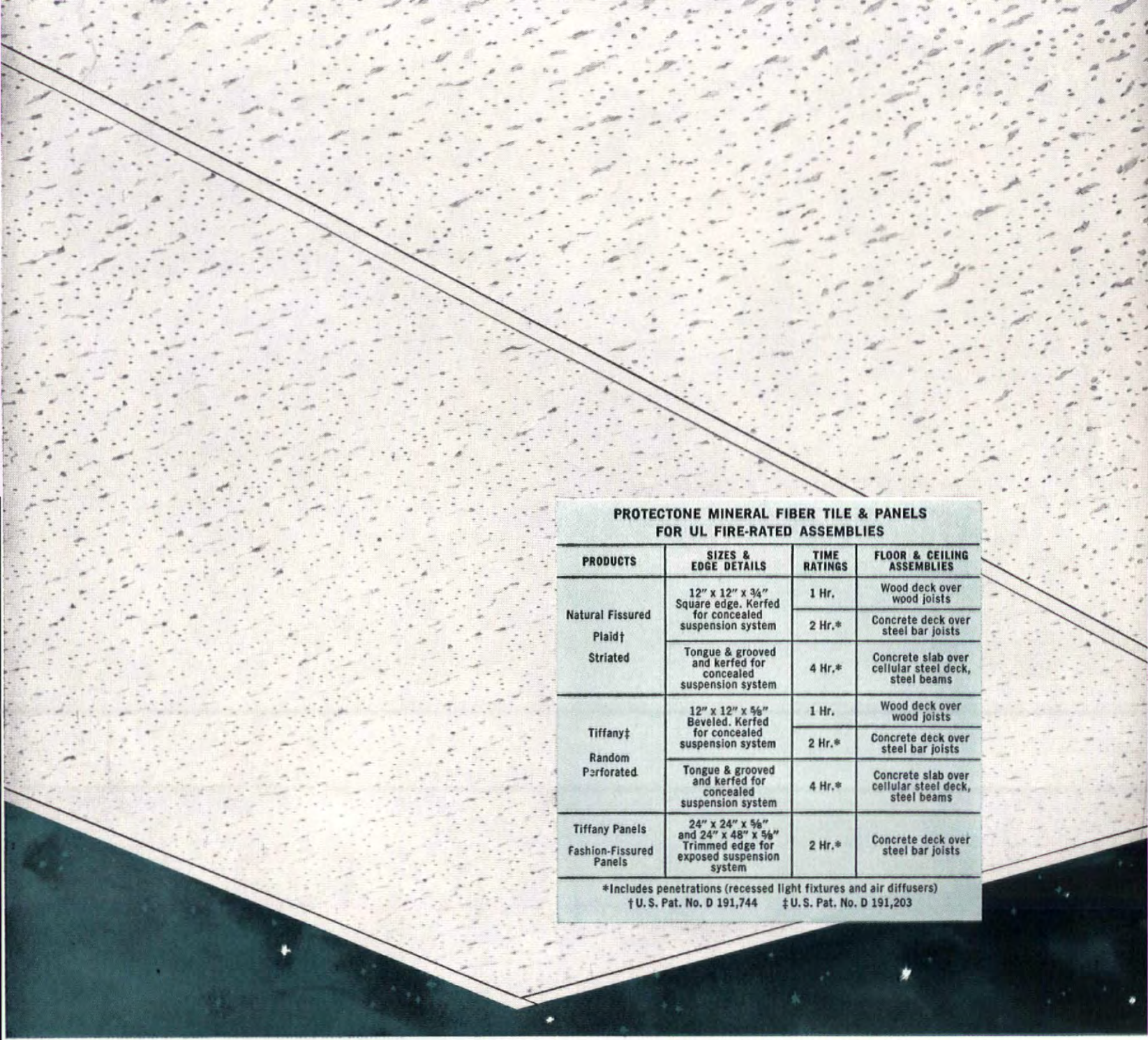
FOR 2-HOUR UL FIRE-RATED ASSEMBLY

MOST COMPLETE RANGE OF FIRE-RATED CEILINGS!



PROTECTONE MINERAL FIBER TILE & PANELS FOR UL FIRE-RATED ASSEMBLIES

PRODUCTS	SIZES & EDGE DETAILS	TIME RATINGS	FLOOR & CEILING ASSEMBLIES
Natural Fissured Plaid† Striated	12" x 12" x ¾" Square edge. Kerfed for concealed suspension system	1 Hr.	Wood deck over wood joists
		2 Hr.*	Concrete deck over steel bar joists
	Tongue & grooved and kerfed for concealed suspension system	4 Hr.*	Concrete slab over cellular steel deck, steel beams
Tiffany‡ Random Perforated	12" x 12" x ⅝" Beveled. Kerfed for concealed suspension system	1 Hr.	Wood deck over wood joists
		2 Hr.*	Concrete deck over steel bar joists
	Tongue & grooved and kerfed for concealed suspension system	4 Hr.*	Concrete slab over cellular steel deck, steel beams
Tiffany Panels Fashion-Fissured Panels	24" x 24" x ⅝" and 24" x 48" x ⅝" Trimmed edge for exposed suspension system	2 Hr.*	Concrete deck over steel bar joists

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*Also available in non-rated incombustible panels.

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PRODUCTS

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IN CANADA: DOMINION SOUND EQUIPMENTS, LIMITED, MONTREAL, QUEBEC

Continued from page 107

Mall Units or Kiosks. A great, undeveloped opportunity in the enclosed-mall center is the effective use of tiny sales units in the mall. We call them kiosks. Properly designed, properly merchandised, and properly located, these units can help create the atmosphere of a gay and colorful market place. Some merchants want wide, open malls for better visibility into their stores, even if this means bare-looking malls; others are willing to sacrifice something in visibility for greater intimacy and a more human scale. We believe there can be a happier marriage between landscaping, kiosks, and the stores than we have so far achieved.

Store Fronts. The signs of most major chain stores are consistently garish and unimaginative—a hangover from the downtown environment in which each store tried to outscream the other.

The independent merchants do a much better job in sign and store front design than the chains. They understand the opportunities of the enclosed mall and readily adapt to it in the materials they use, the organization of the store front, and the entrance to their stores. We have discovered the importance of giving these smaller independent merchants prominent locations, because they will contribute enormously to the over-all feeling of the center.

The chain stores, generally, occupy too much space. They could achieve the same volume in smaller areas. The center would be improved in appearance and would be cheaper to build if the size of the chain stores were held down to the space they really need.

On occasion, we have illogically fronted units on the mall which could have done a better job (and contributed to the better appearance of the center) if they had fronted on the parking area. Banks, laundry, dry cleaning, and automobile supply units are among those for whom the parking area is more important than the mall.

Recreation. The recreational, educational, and cultural use of the mall can be enlarged. We supply an auditorium to the merchants' association of each center. These auditoriums are used by as many as 10,000 to 15,000 people per month for a wide range of purposes. Churches have been formed from early meetings in our auditoriums. Square dances, boy scout meetings, wedding receptions, lectures, concerts, and art shows are among the spectrum of community activities in the auditoriums. We have just opened a 1,400-seat, movie theater at Cherry Hill.

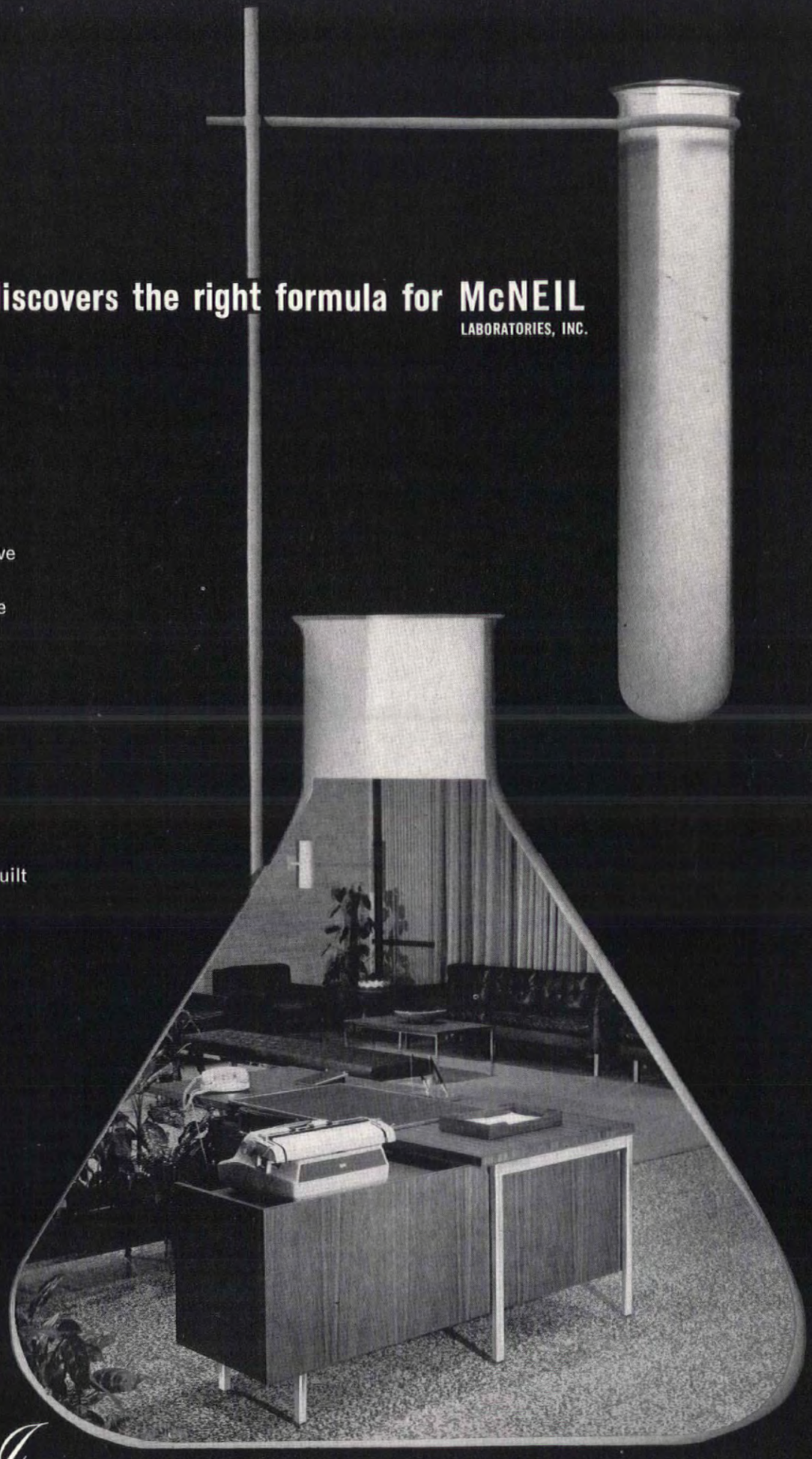
North Star Mall, San Antonio, has bird cage

Finally: we have learned the hard way that the expense of a truck tunnel is unjustified. Servicing can be adequately handled at grade, and the enormous investment required by a tunnel can be put to better use in other places. Similarly, we have learned that central heating and air conditioning are expensive and unnecessary in a heated and air-conditioned mall. Tenants are happier with their own units and their own controls.

In short, we continue to seek an efficient, beautiful, intensely human—and profitable—market place, that will attract people and uplift its community. We aren't there yet but we hope we are getting closer.

Desks, Inc. discovers the right formula for McNEIL LABORATORIES, INC.

Desks, Inc. is proud to have made its contribution to the interior design of the new McNeil Laboratories. Closely cooperating with award winning architect, VINCENT G. KLING and the client, Desks, Inc. completely furnished the reception area, all executive conference rooms and offices. Desks, Inc. also custom built and designed many individual pieces to meet special requirements of space and function.



Reception area,
McNeil Laboratories, Inc.
Architect VINCENT G. KLING,
Furnished by Desks, Inc.

Desks, Inc. OF NEW YORK

A COMPLETE SOURCE FOR FINE OFFICE FURNITURE, 71 FIFTH AVE. (Corner of 15th St.) N.Y.C. – AL 5-5454

IN THIS NEW SCHOOL... BETTER MAINTENANCE IS *Built in...*

Duggan Junior High School, Springfield, Massachusetts
Architect: Morris W. Maloney, Springfield, Massachusetts
Consulting Engineer: Jerome F. Mueller, Hartford, Conn.

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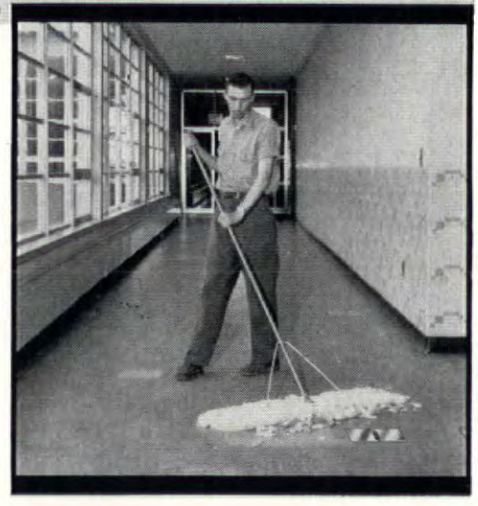


Here, cost and caliber of maintenance were considered when they should be: during **planning** of the building. Incorporation of a built-in Vacuslot system results in **faster** cleaning . . . **better** cleaning . . . **less costly** cleaning. And this complete housekeeping facility handles **many** maintenance chores, including:

- **CARRY-OFF OF DIRT AND LITTER**
- **DRY MOP CLEANING**
- **VACUUM CLEANING**
- **BOILER FLUE CLEANING**
- **WET PICK-UP AFTER SCRUBBING**

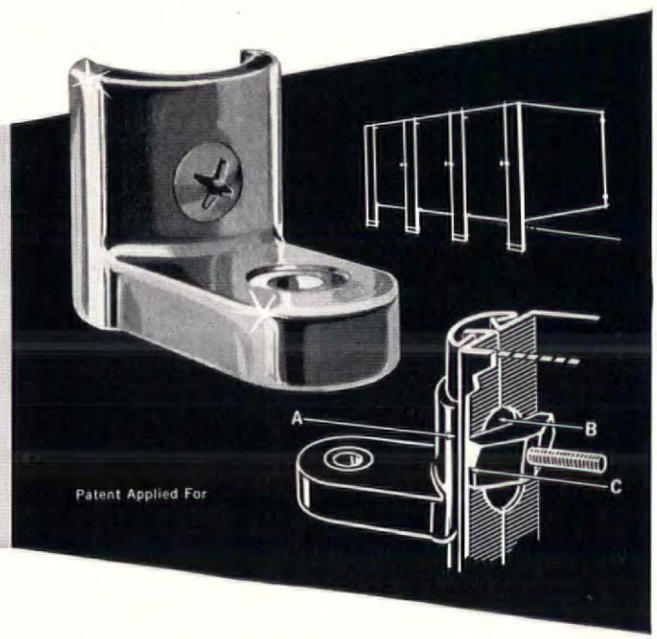
Request descriptive bulletin No. 153C

The **SPENCER** TURBINE COMPANY
HARTFORD 6, CONNECTICUT

Sanymetal®

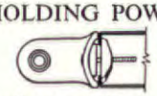
NEW HINGE BRACKETS

[TRIPLE CONTACT STRENGTH]

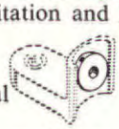


Sanymetal engineering leads again. The new hinge bracket is stronger . . . much stronger, vandal-proof, factory installed and clean in design for highest sanitation and lowest possible maintenance.

TRIPLE CONTACT HOLDING POWER . . .

A. Vertical Side Rests 

No overlap on face of pilaster. Eliminates drilling and unsightly hard-to-clean bolts. Contact with pilaster edge offers unusual vertical strength.

B. Boss and Journal 

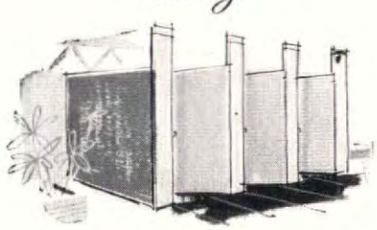
13/16″ Boss and Journal offers great strength in all directions. Eliminates any chance for twisting or racking of bracket.

C. Toggle Clamp 

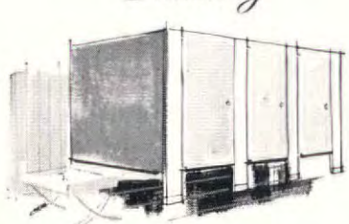
Well known high strength qualities of the toggle clamp principle makes bracket an integral part of pilaster.

After door is installed, bolt head is inaccessible — remains tamper-proof. This new standard of design and construction means longest life . . . lowest maintenance and lowest in-place cost. Write for the full Sanymetal story.

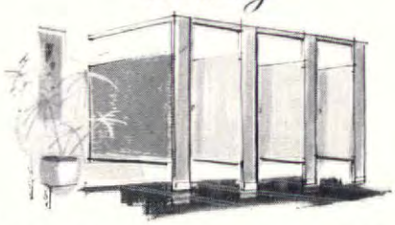
Century



Normandy



Academy



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It's a rare sound in the building industry. For the three important parties involved—architect/engineer, client and contractor—are not always in tune when it comes to buying decisions.

One way to achieve perfect harmony is to gather the three in the same place at a time when all are interested in the same thing. More specifically, in Architectural FORUM. For here they find the art of architecture, the technology of construction and the economics of building presented to the accompaniment of their common interest: getting the building built to their mutual satisfaction.

FORUM, in short, is essentially different. It is conceived not as a "how-to" work-book for architects, but as the leading communication force for the entire building construction industry.* It is the one place where your advertising communicates—with equal force—with all three factors in the industry. The resultant harmony can make very pleasant listening... and selling.

*FORUM alone focuses on the building construction industry, leaving to others the housing and heavy construction markets. Building construction – by far the biggest of the three construction markets – involves expenditures of more than $25 billion a year. This market has grown approximately 113% in ten years. And FORUM is the only magazine to grow with this market in the same period – a healthy circulation increase of 35%.

FORUM: essentially different – for readers... and for advertisers

when standard hardware doesn't meet the need...

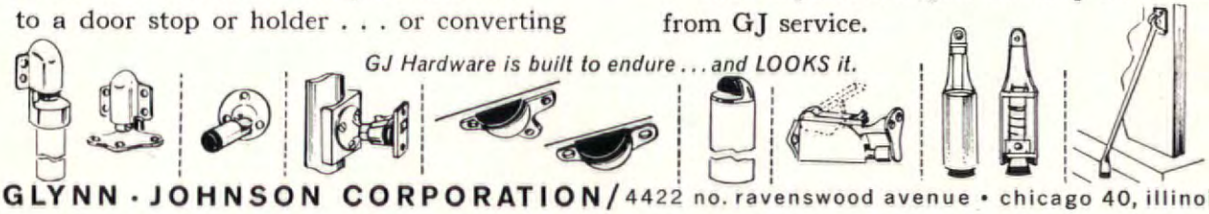
this man knows where to get ENGINEERED ADAPTATIONS

Where a job situation requires unusual application or function . . . this man knows he can go beyond his catalog. He knows he can turn to door control specialists for custom-engineered hardware made to meet his special problem.

In many cases, only a slight adaptation is needed . . . such as adding an extension to a door stop or holder . . . or converting a floor model for head jamb application. At other times a radical innovation is indicated.

Beginning with the contribution of his local Glynn-Johnson representative—backed by administrative, engineering and manufacturing cooperation — this man expects and gets the help he needs from GJ service.

GJ Hardware is built to endure . . . and LOOKS it.



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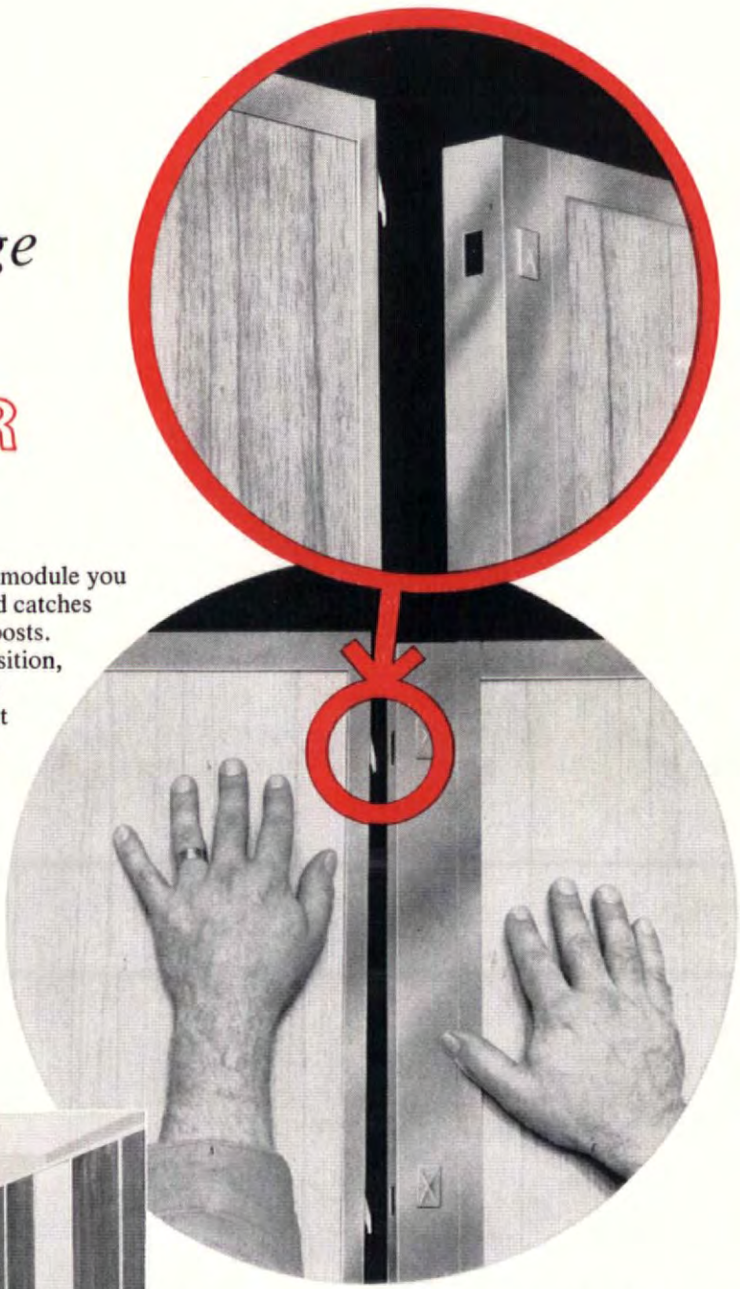
It's a SNAP *to install or rearrange new* Simpson SPACEMAKER *Movable Partitions*



Simpson Spacemaker partition panels (to fit *any* module you require) literally "snap" into place. Spring-loaded catches built into panel edges engage and *lock* in slots of posts. Put panel in place alongside post, lower it into position, and SNAP!—it's locked. To remove, simply raise panel an inch or so and it unsnaps. You can slide it forward out of the wall without moving either the posts or any other panel.

Spacemaker partitions are shipped ready for immediate assembly. Because 80% of all work is done at the factory, on-site cutting and fitting are virtually eliminated. You get far faster installation, no muss or bother. And you are assured of maximum flexibility from that moment on. Offices can always be changed, divided, rearranged—or even added on—easily. It's a SNAP!

Every company with space problems needs Spacemaker... available in a full range of sizes, colors and finishes. Write today for complete details or see your Simpson Certified Acoustical Contractor.

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Simpson

SPACEMAKER *Movable Partitions*

MILWAUKEE

This solid midwestern city looks from the air like flocks of builder-house developments around a tight central core. The poles and wires are still quite conspicuous as they are around all American cities—it is in not seeing these that Americans get their first training in protective blindness.

Closer in there are fine streets of hearty houses, the best of them hidden along the lake-front escarpment.

There is a fine park there too, but of course highway engineers are already planning to run their spaghetti through it so motorists can supplant the romantic lovers.

In the center the city has its share and more of sturdy business structures, each of them obviously a most important event to its owner and placed with no reference to anybody else's. The river was maritime in its day; it is less grimly Plutonic than Cleveland's Cuyahoga, yet with an air of nineteenth-century industry. To suggest that this river be made a fun spot like San Antonio's was an act of optimism of O'Neil Ford, a previous architect visitor, but since it could be done on surrealist principles, I seconded the motion. In general the redevelopment that Milwaukee will achieve will be sensible and solid. Putting into it the expansion of institutions like Marquette University can give real quality to it. More about Marquette later.

PITTSBURGH

The energy of this town is always amazing, for steel has not been very profitable lately, and industrial growth in general would seem scarcely adequate to support Pittsburgh's vaulting urban aspirations. And despite FORUM's published misgivings about "projects and not plans," the energetic citizens are still making stepping stones of huge projects. The latest is the proposed super-cultural-center of no fewer than 572 acres sponsored by Chancellor Litchfield of the University of Pittsburgh, called "Oakland." (It is intended, surprisingly enough, to pay taxes.) This terrain I visited while in town acting on a Koppers Co. jury, with Philip Johnson and Paul Schweikher.

Every city is surely a law to itself. Already Pittsburgh's "cultural center" is concentrated more nearly in one lump than any other city's, a pile of universities (Pitt and Carnegie Tech), medical centers, art museums, concert halls, and other institutions. In New York distances of 30 blocks mean a long travel time required to see friends, so friends are chosen nearer, and if the neighborhood were packed with all learned people, this could be horribly boring. In Pittsburgh, on the contrary, developments like Oakland may be the means of developing a wholly different and yet acceptable urban pattern. In such a pattern the old requirement of building a cultural "neighborhood" would demand only that your home hit the same snob level as your neighbor's in appearance; but what might be called your "friendhood" pattern would be something else altogether. Traffic is so much wider ranging that the "friendhood" pattern for each house could well be a star. Its rays would shoot out far beyond the immediate surroundings, in greatly varying lengths of traffic, to reach the homes, sometimes distant, of an effective circle of friends. The neighborhood of *friends* depends less than ever on contiguity. Consequently a cultural center already big could be put on display as something enlarged to be still bigger, without creating an impossible monotony of life for the inhabitants. But it does somehow seem as if the monotony of the display itself could be vulgar.

One good thing about the Oakland proposal is that somebody, perhaps Coordinator Max Abramovitz, has studied Kevin Lynch on urban design. The riot of mismatched and misplaced cultural extravaganzas up and down the hillsides is to be treated with ingenious urban devices to pull it visually more together.

A bad thing is the proposal to add yet another "cultural" element, an industrial research center, west of Oakland toward the city center, thus piling yet another cultural Pelion on the cultural Ossa. So far as could be ascertained, this idea of supermarketing superiority was based largely on one unpublicized desire: to get rid of a Negro slum. Here admiration stops. Already Pittsburgh's Negroes have been pushed away from the Point; now if they are to be pushed yet again, what for, and where will this all end? No group of Americans can very well be swept under a rug. They are bound to show up again, still in America, and angrier. When do we revert to the tradition of liberty?

CAMBRIDGE

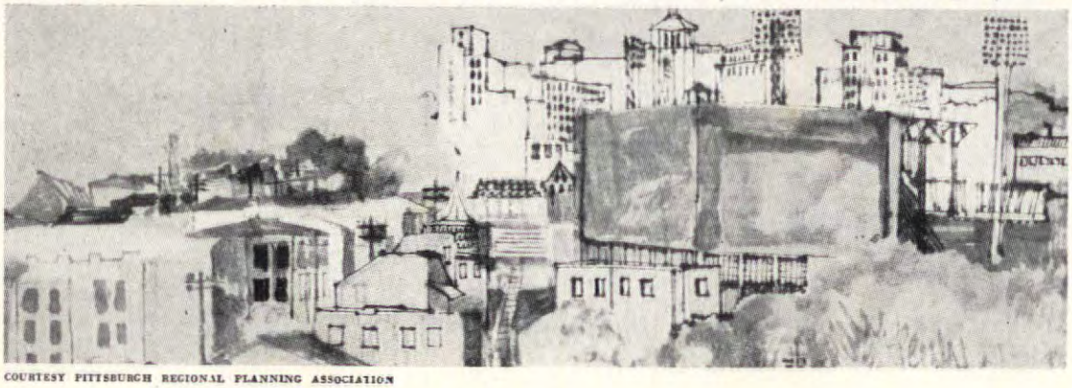
Dozens of brains in planning and architecture foregathered at Dean Sert's and Jacqueline Tyrwhitt's latest "urban design" conference at Harvard. Different groups were assigned to cut the pattern of urban growth in different ways. One was to consider the virtues and defects of satellites as a new necklace around the city. One was to do radial growth out along highways; another, blob growth; and a fourth, no-control growth way out, like Los Angelenian scatteration. It was all great fun, no grand conclusions reached, no heads broken. In our own group the summary was assigned to a student of considerable eloquence who stood up for a degree of "Papa-Planner-knows-best" that was most patriotic: but when do these masterly types ever learn what can be learned from the endless resourcefulness of thousands of common people in mutual accommodation? At the other end of the scale, a Californian surrendered to entropy altogether: in a world of infinite choices, he seemed to be saying, any choice made is the best one. No planning. In planning, might it not be easier to try finding what pattern is trying to shape itself, and then help it to happen better? There's a value in coherent patterns.

PEOPLE

A couple of months ago these notes asked for names of contractor "makers," important to the growth of noble new building patterns. William Jordy, the critic and teacher at Brown University, has nominated George N. Cohen of Euclid Contracting Corp., New York, who built Frank Lloyd Wright's Guggenheim Museum, as one who patiently overcame tremendous obstacles. Cheers to Contractor Cohen.

Old Dave Williams, he of the wonderful tongue and the ten-gallon Texas hat, was not at the AIA's Dallas convention last month: he had gone to his Father. The last of the great slam-bang architects with no formal schoolin', Dave had enough mother-wit to know what made sense, and started a whole raft of now famous young puppies into really good modern architecture. Glory to him.

Douglas Haskell



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Green	X	X	X
Russet	X	X	X
Gray	X	X	X

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