

DESIGN FOR LEARNING: TWO PROJECTS BY BENJAMIN THOMPSON

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THE ROLE OF DESIGN IN THE GOVERNMENTAL PROCESS

BUILDING TYPES STUDY: SMALL APARTMENTS AND TOWNHOUSES

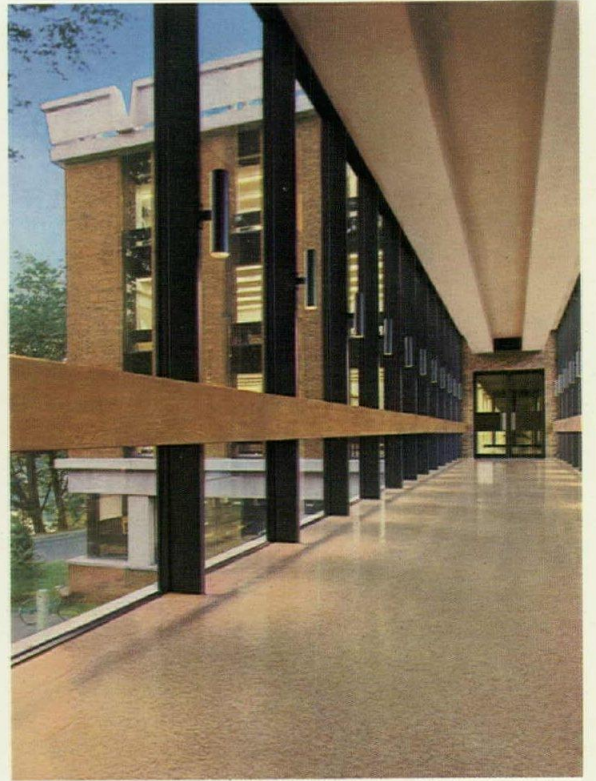
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ARCHITECTURAL RECORD

JANUARY 1968

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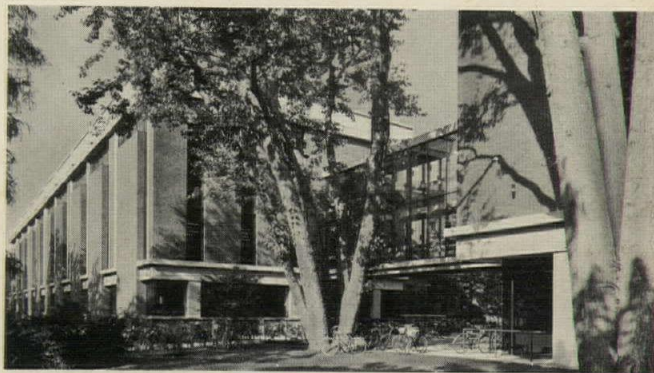
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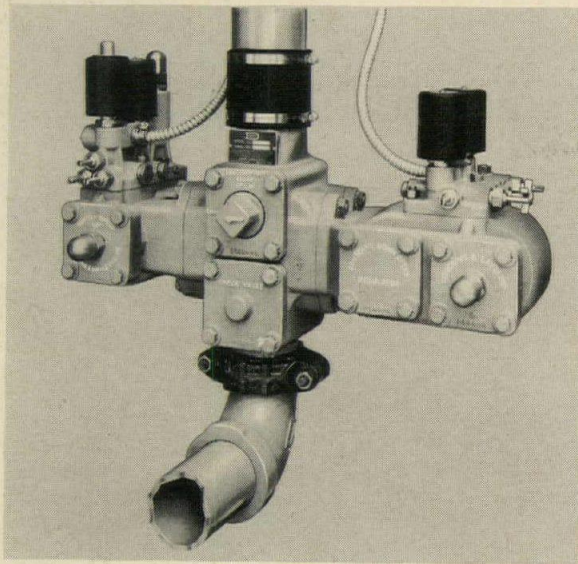


Above: TODD WEHR CHEMISTRY BUILDING, Marquette University, Milwaukee, Wis. ARCHITECTS: Plunkett • Keymar • Reginato, Architects and Associates, A.I.A., Milwaukee. GENERAL CONTRACTOR: Becker Construction Company, Milwaukee. Dover Oildraulic Elevator—72' rise (seven floors), 150 FPM speed, 3750 lbs. capacity—installed by Northwestern Elevator Co., Inc., Milwaukee.

Right: ST. CATHERINE OF SIENA MOTHERHOUSE AND NOVITIATE, Sisters of St. Dominic, Racine, Wis. ARCHITECTS: Barry & Kay, Architects, Chicago. GENERAL CONTRACTOR: Johnson & Herrickson, Racine. Five Dover Oildraulic Elevators installed in various buildings of the complex by Northwestern Elevator Co., Inc., Milwaukee.



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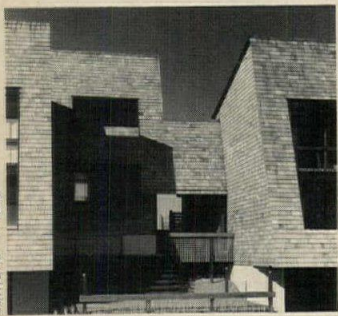
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Joseph W. Molitor

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 STUDY 379**



Edmund Y. Lee

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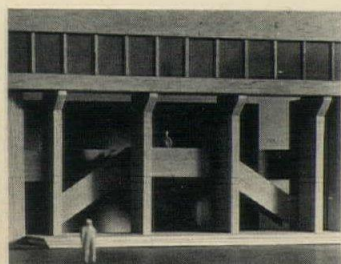
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URBANE ARCHITECTURE WITH A HUMANE FOCUS

One of the first major buildings to be completed by Kevin Roche John Dinkeloo and Associates, the successor firm to Eero Saarinen and Associates, has just been occupied in New York. The new Ford Foundation Headquarters, with its 8,500-square-foot enclosed garden court, brings an architecture at once urbane and humane to one of Manhattan's busiest midtown corners.

BUILDING TYPES STUDY: HOSPITALS

Next month's Building Types Study will take a special look at the relationship between construction and operating costs and new trends in the functional planning of hospitals. Both urban and suburban examples will be shown, and they will reflect the increasing attention to architectural quality as a hospital design requirement.



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The Wesley Woods Towers, Atlanta, Ga. Architect: Charles E. Stade & Associates, Park Ridge, Ill. Panel Manufacturer: Mabie-Bell Schokbeton Corp., Peachtree City, Ga. General Contractor: Daniel Construction Company of Georgia, Atlanta, Ga.

ASK A COMPLEX QUESTION — GET A SIMPLE ANSWER...

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building for the retired, in Atlanta.

The 720 exterior panels at Wesley Woods have an exposed quartz and quartzite aggregate that give color and texture. The panels were cast ahead of schedule and were available when the frame was ready for them. Most panels take a compound curved shape—curved horizontally to the curve of the round towers, and curved vertically through the spandrel area. The curved panels are

5' x 8'; the flat panels for the connecting structure between the round towers are 4' x 5'. All are anchored with welded clip angles. All fit perfectly without on-the-site cutting.

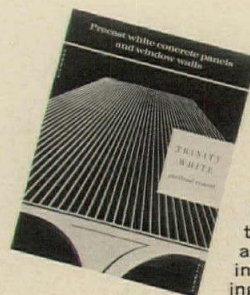
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Reston is the least of a \$20-billion-a-year worry

Between this early day in 1968 and the end of the year, well over \$20 billion of new housing will be built in this country. It seems likely that most of it will be about as well designed (i.e., ranging from mediocre to horrid) as most of the new housing that has been built in recent years. And that, it seems to me, is a matter well worth worrying about.

Instead, the worry you hear most about—at gatherings of architects as well as in the press—is Reston. Reston to a unique extent offers a broad choice of living—from single-family houses to town houses to high-rise apartments—and offers within walking distance commercial facilities, recreation, and even job opportunities. Top-flight architects, planners, and consultants gave Reston its extraordinary sense of community, its pleasant and alive environment. Indeed, for some years, Reston has been a showcase of what might be—in place of at least some of our mindless suburbs.

Yet Reston is in deep trouble. Some of the reasons are clear: location, high-way-access problems, tight money, too-high prices. But the question that seems most important—not just because of its implications for other new towns, but its implications for the increased role of architects in housing—is this:

Is it true, as many have argued, that Robert Simon—the man who conceived Reston but has now been fired by the financial interests—was “too much in-

fluenced by his architects and designers?” I asked Mr. Simon just that question. He answered by saying that his problem at Reston was “not failure of design, but [taking blame that is not all his] failure of organization.”

He regrets not an instant the architectural and planning concepts. To critics who say that Reston is “too contemporary,” he says, “Sure, more people still want Colonial than what Reston offers, but this doesn’t mean we should stop building anything but Colonial.” To critics who say, “People worry about the ‘regimentation’ of a planned community,” he says, “Nonsense. Reston offers more true choice than any other housing I know of.” He says firmly that “If I were starting over, I would not rely any less than I did on architects.”

But what he would do—and what he admits is “a mistake no seasoned developer would make”—is insist on a stronger working relationship between the architects and the construction team. His reason: “We ran into construction delays [mostly because some of the designs required too many special building techniques] and just didn’t hit our target dates or target prices—and this slowed sales.”

What an old, old story that is: the costly failure—in money and quality—of architects and builders to work effectively together. As A.I.A. President Durham said recently: “Nothing will be

gained by arguing the reasons for this situation—by attempting to blame the home builder for not wanting to work with architects, or by accusing the public of indifference to what we can contribute. These are problems, too, and the fact remains that our profession has not had an influence on American housing commensurate with its abilities. . . .”

Durham has one solution: “. . . It is high time, I believe, for us to make it easier for individuals to obtain architectural consulting services on housing matters. . . . At the same time, we have a public responsibility to see that home owners and home builders who cannot afford, or do not wish to use, full architectural design services, but would like to benefit from architectural consultation, can do so. . . . I would like to see each chapter [as a few already do] maintain a list of its members who are willing to provide such consultation. . . .”

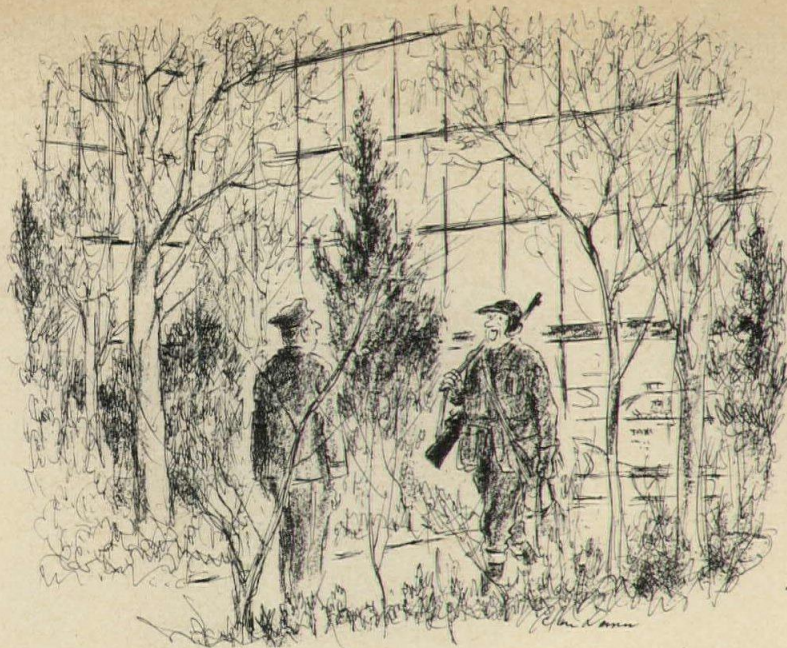
That is, I think, a realistic and valuable approach—if the individual chapters will make the necessary effort to promote the program, and individual architects will make the time available (at what is likely to be a less than normal payment for time expended) to make the program effective.

I have a proposal of my own. It seems to me to offer a realistic chance for bridging the gap—for helping architects to learn more about the builders’ problems and points of view, and for helping architects and builders to explore together ways to raise the quality of the \$20 billion of new housing that is going to be built next year.

My scheme involves no meetings, no travel, no committees, practically no money, and I’m perfectly serious about it. It is simply this: Once a month, take a local builder out to lunch.

—Walter F. Wagner, Jr.

Drawn for the RECORD by Alan Dunn



"The Ford Foundation—right?"

He sings of architecture: Schmertz record is re-issued

In what many architects around the country will surely regard as a most suitable celebration of its 70th year, the Pittsburgh Architectural Club has announced the re-issue of that memorable recording "Ladies Beware of an Architect" by Robert F. Schmertz, F.A.I.A.

13 songs in all—with Bob Schmertz accompanying himself on a most sensitive banjo—and one more surely must be mentioned even in so brief a review: "When that Architect Comes to Jordan, Will He Cross?" (What do you think?)

Well, this reviewer—as must be clear by now—is a total fan of Bob Schmertz. How many people who *know* architecture and *love* it also *sing* it? The record (a 12-inch LP) is available at \$5.50 (including mailing charges) from the Pittsburgh Architectural Club, 246 Third Avenue, Pittsburgh 15222. —J.D.

breaking up the semester with six- or eight-week sessions. I offer this specifically to any school interested."

And that, I think, is a constructive suggestion that might, if multiplied across the country, do something about house design.

Monuments versus creativity and originality

Architect David Yerkes, writing in a recent issue of *Modern Steel Construction*, made a comment that applies to many disgruntled mutterings. Said he: "We hear scathing comments about architects designing buildings 'as monuments to themselves.' What is usually referred to is a building which is, or attempts to be, strongly individualistic, conspicuously outside the main stream of contemporary architecture. Some of these 'monuments' are blatant efforts to attract attention . . . But others are the work of thoughtful and gifted designers who are genuinely creative. Creativity is almost synonymous with originality, and the buildings of the truly creative architect are likely to be different, unusual, arresting. . . ."

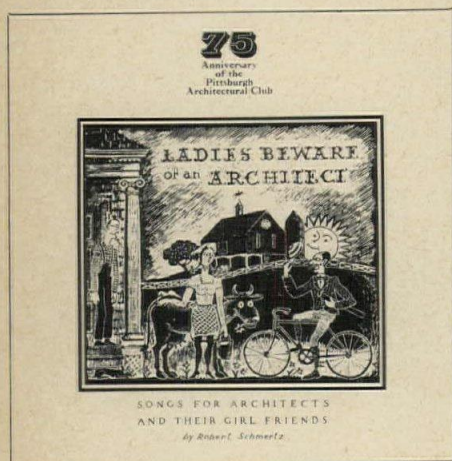
"I hold no brief for the exhibitionists and opportunists in the architectural profession who are out to catch the public eye at any price. But I uphold the value of genuine creativity as one of the most precious qualities any individual, or any society, can have. To encourage it involves some risks and requires courage. I hope that our society will continue to produce individuals—both architects and clients—who are sufficiently daring and perceptive to recognize real creative power and cherish it." —W.W.

Architects and builders: a postscript

The editorial on the preceding page makes two proposals for closing the gap in thinking and techniques between architect and homebuilders. Another proposal was made recently from the builders' side of the table at a National Association of Home Builders seminar attended by the heads of more than a dozen schools of architecture. Said Charles Biederman, a vice-president of giant builder Levitt and Sons: "We would be willing to set up a summer employment program with a number of schools [of architecture]. We would be willing to take students in to work with us during the summer, and they would not be left at the door step. . . ."

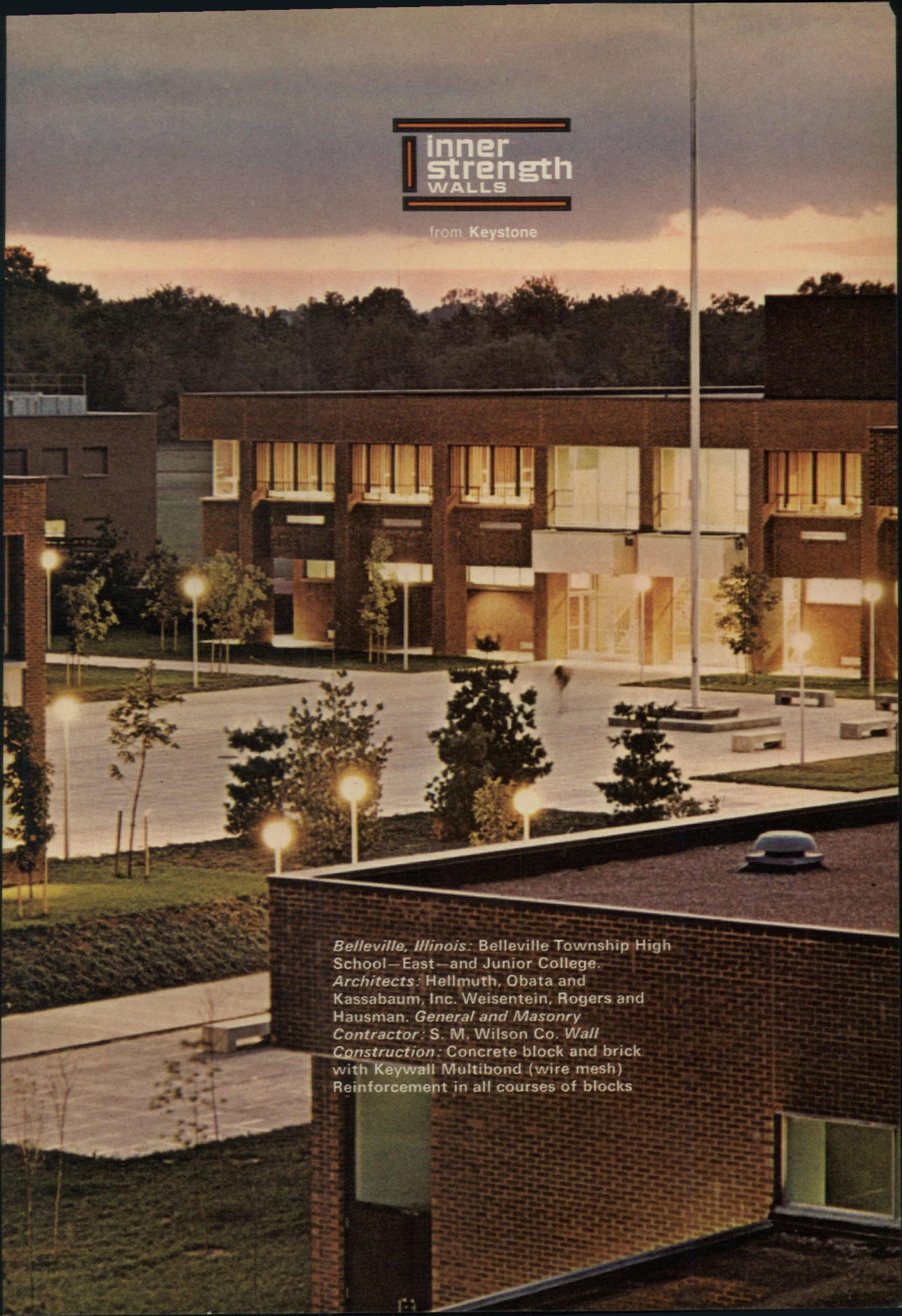
"In addition, I think perhaps that for the smaller builders a weekly or monthly review jury to analyze what a developer is doing in his community. . . . could take the form of a round table . . . a therapy kind of session.

"I also think that work sessions during the school year are good—not waiting for summer employment, but



Those architects who so often lament the state of contemporary architectural criticism have surely never heard Bob Schmertz, architect and (for 38 years) teacher of architecture at Carnegie Institute of Technology, sing his ballads about architecture.

From "Palazzo Massimi" (do you know why it has a curving facade?) to "John Lally of Boston" (who made the orders *six* because "he wanted a column without any clothes"), the record offers a unique view of architectural history. "When I Was a Young Nouveau" is a haunting evocation of Beaux Arts memories, and "Walter and Mies and Corbu" examines the evolution of Modern Architecture with a wonderful combination of sympathy and irreverence. There are



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strength
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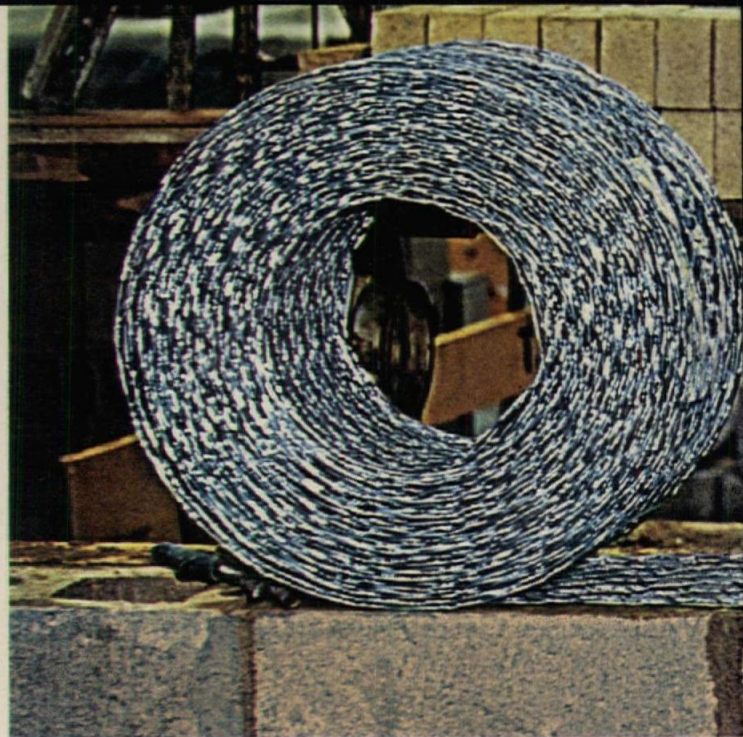
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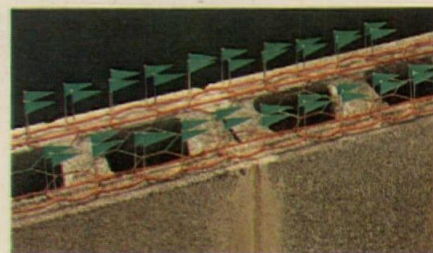


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We're known for table bases. We make the best—Custom bases that only you can think of. The only company with its own facilities to manufacture porcelain bases, aluminum, cast iron, chrome, bronze, brass, painted forged steel and wood bases.

Table Tops? Unbeatable! We deliver anything your imagination conceives, in any shape, size, color and edge—including our EXCLUSIVE ROCK-EDGE®.

Are you familiar with our other furniture? Executive chair, upholstered benches and settees, stools, bars and counters, conference tables, study carrels for libraries and schools, and more. Every piece is beautifully designed and made with exceptional craftsmanship. Certainly, you should see the complete CHF furniture line—it's unusual. Chicago Hardware Foundry, Dept. 17, North Chicago, Illinois 60064. Sales offices in principal cities.

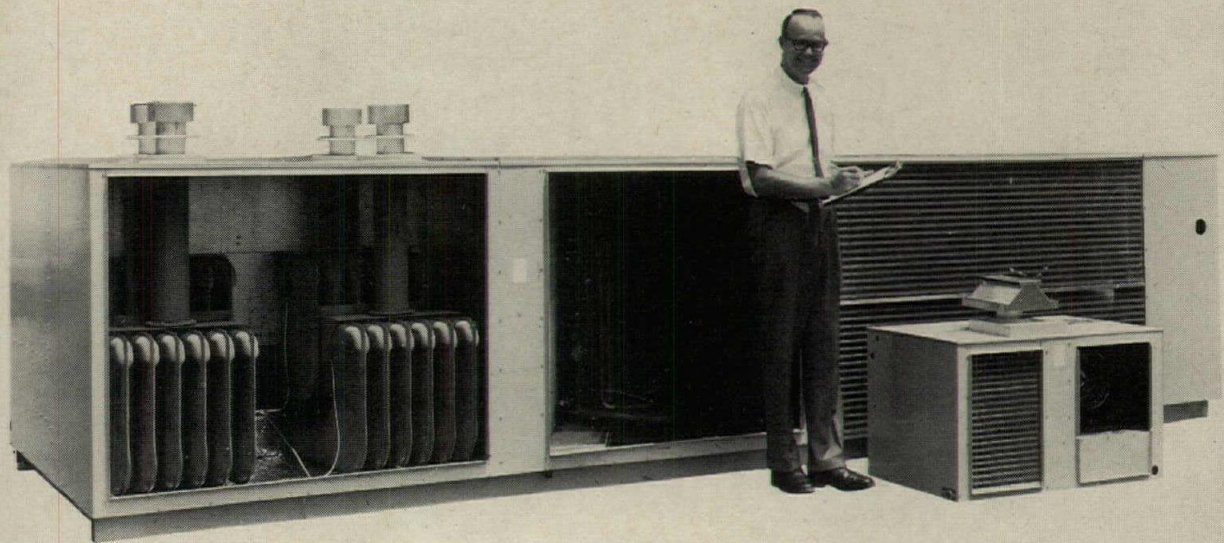
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the wide world of furniture **CHF**





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Meet our 30-ton baby.

It's just one of 15 basic models of our Duopac gas heating/electric air conditioning unit. It's neat. Compact. Light. Lies unobtrusively low on ground slab or rooftop. From 1½-ton to the new 30-ton with 2-stage, separate-circuit cooling variations, *Duopac runs quietly*. Under all kinds of climatic conditions. With varying heating/cooling ratios. With 2 high-quality cast iron compressors. And multiple units give zone control, individual operation and easy service. Well over 50,000 Duopacs are delivering these benefits in every state. Mail the coupon, and see how Duopac can fit into your plans perfectly—including a very big boost on final sale.



DAY & NIGHT MANUFACTURING COMPANY

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Send your brochure on the Duopac product line plus complete information on Day & Night heating and air conditioning.

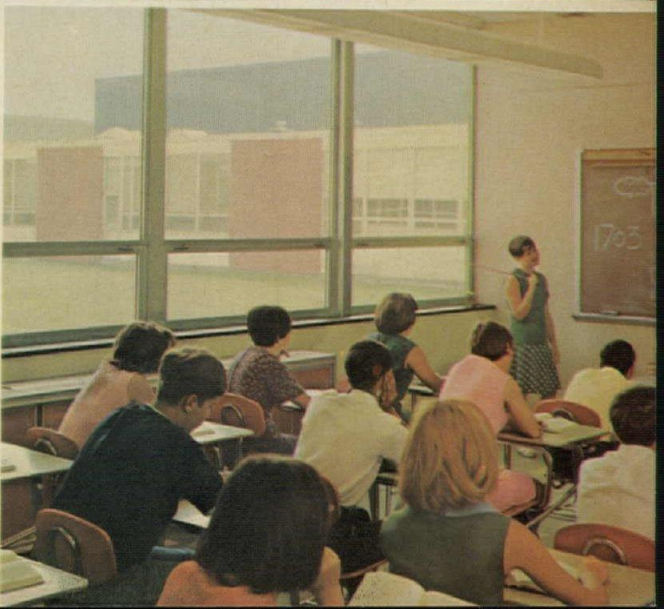
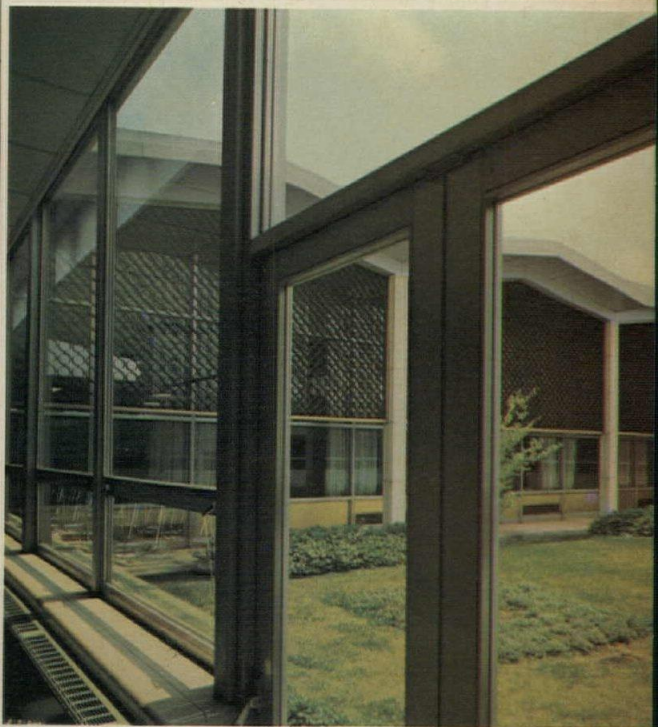


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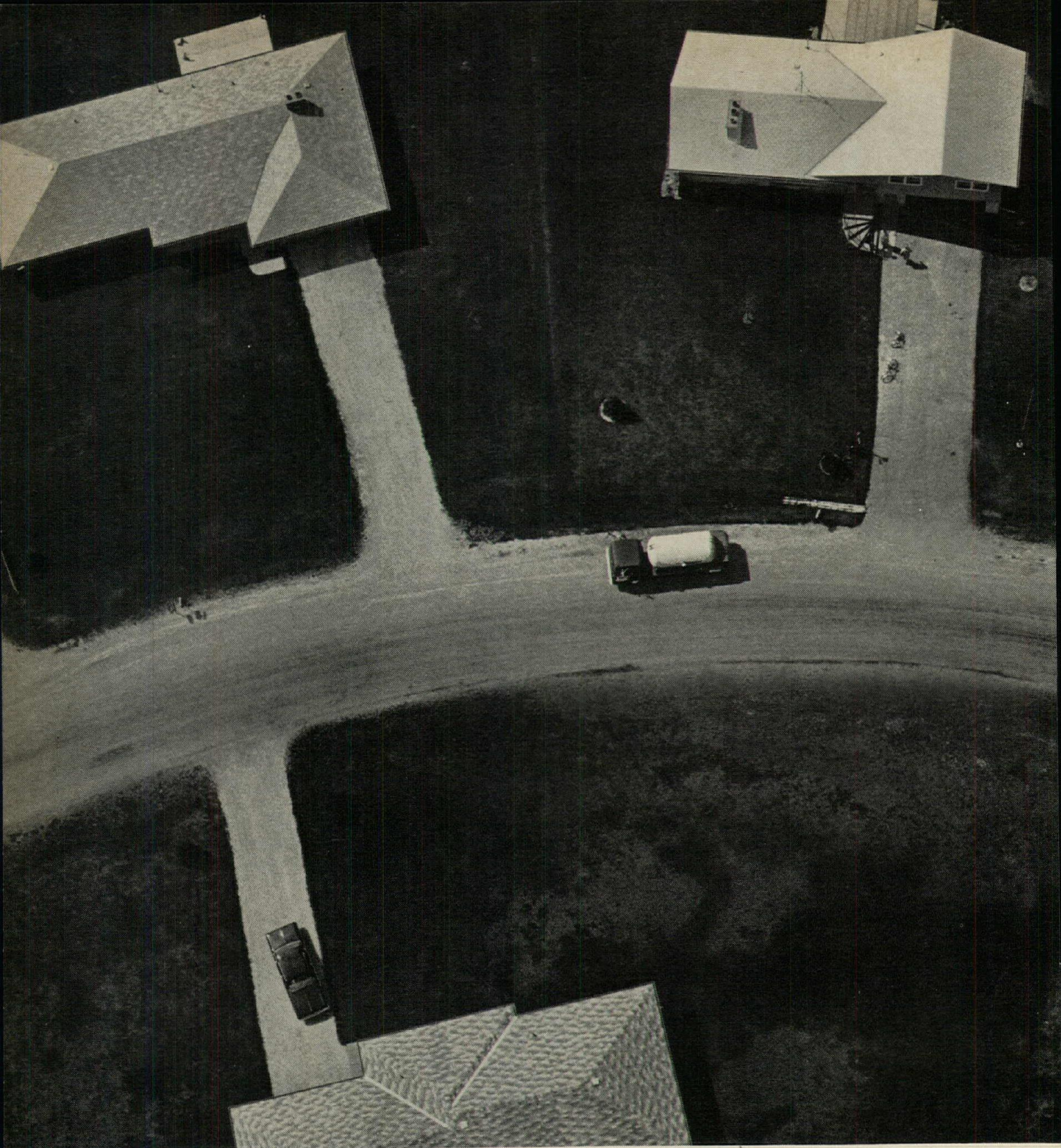
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Building is electrically heated. Our cost studies made clear that the additional cost of insulating glass over regular single-pane glass would be amortized within a period of time and would then yield annual savings, on the basis of lower heating expenditures. We have used Thermopane insulating glass extensively with L-O-F flex® tempered plate glass in a number of exterior applications where insulating glass was not required." L-O-F makes a particular kind of glass for every purpose in school design. Consult Sweet's Architectural File. Or call your L-O-F Glass Distributor or Dealer listed under "Glass" in the Yellow Pages.

L-O-F Glass Company Toledo, Ohio

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LP-gas has a growing circle of friends

LP-gas is a vital tool in modern building. For home buyers, LP-gas provides heat, cooks meals, dries clothes, heats water. For builders, it powers forklifts and trucks that heft and haul materials. Warms workers and dries plaster with infra-red heaters. LP-gas generators provide power. *Gas makes the big difference.* Safe. Clean. Dependable. Modern. LP-gas is available to people wherever they live. *Of America's great sources of energy, only LP-gas serves you in so many ways.*

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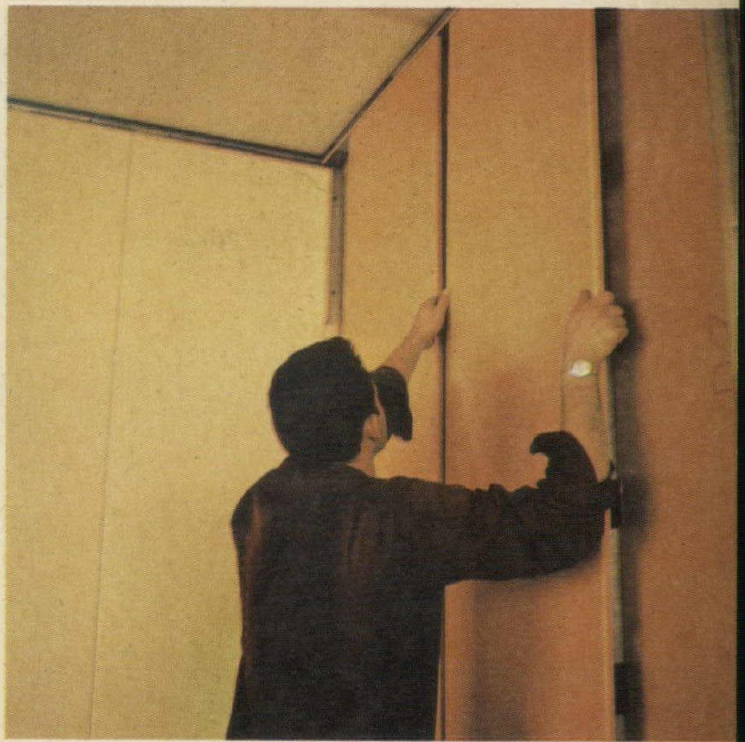
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ANYWHERE



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looking...
and
movable**



What's more, our KW-330 Movable Partition System involves practically no waste when moved from one location to another. And, it is just as easy to install as it is to move, has a one hour fire rating, possesses excellent sound transmission ratings, and can be installed for a reasonable in-place price. Panels can be field painted or prefinished in a wide variety of colors and textures. In fact, the KW-330 incorporates the best

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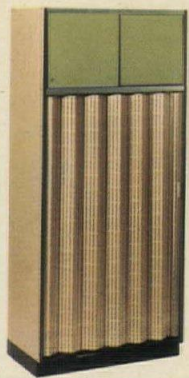
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More students, more comfort



ROYAL



A



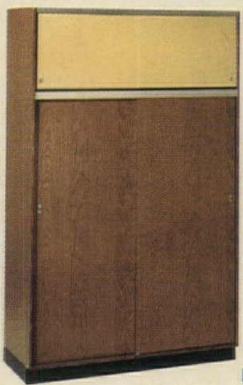
B



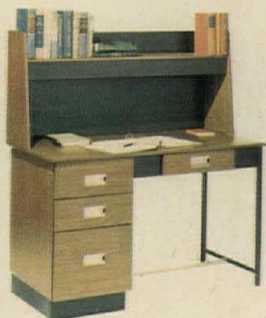
C

Take a dorm. Planned one or old one. Furnish or refurnish it with Multiversity built-ins or free-standing units. You won't believe how many more students it will house. Comfortably and economically. Fiber-X®, the solid plastic panel construction, has incredibly long life. It's as good as money in the bank. Write for our catalog. It's packed with the most livable, durable design ideas. Royalmetal Corporation, One Park Avenue, New York 10016.

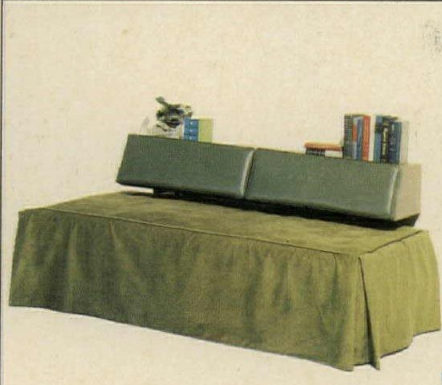
in less floor space...with Multiversity built-ins.



D



E



F

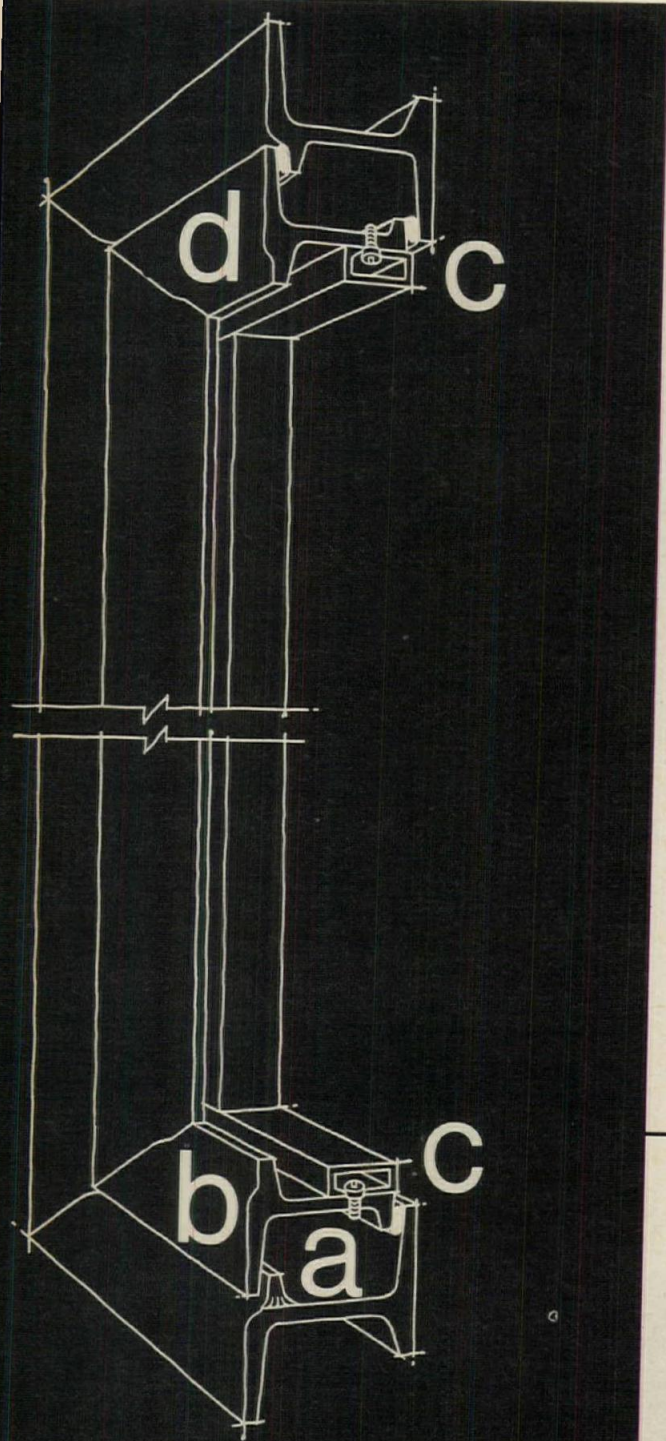
- A. A-1358 Accordion Door Wardrobe.
- B. R-3346-N Student Tilt Top Desk. Self-locking tilt top.
- C. 3307-K Six Drawer Chest. Free standing.
- D. S-1508 Sliding Door Wardrobe.
- E. L-3336-M Carrel Student Desk with kneespace drawer, 2 box drawers, 1 file.
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METAL[®]

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new weatherstripped steel windows

solve rain, wind and rust problems

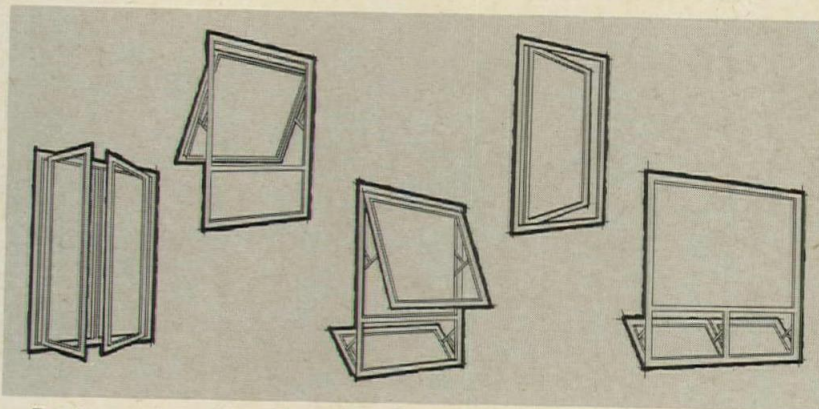


Pressure-equalized for high performance

High-performance steel windows by Ceco (check the features)

- ✓ Weatherstripped ventilators
- ✓ Built-in pressure-equalizing features
- ✓ "Cecoclad" in colored polyvinyl chloride
- ✓ Furnished with snap-on glazing beads

Weatherstripping and pressure-equalization features afford superior resistance to air infiltration and prevent water leakage (even under simulated 8"-per-hour rainfall with 90 mph wind pressure). Add to this a 6 to 8 mil color-cladding of polyvinyl chloride and you have a true high-performance Ceco steel window.



Design makes the difference . . .

Cecoclad Weatherstripped H-P Steel Windows permit outside wind pressures to enter into the internal chamber of the window through planned openings (a) behind baffle (b). This creates pressure inside the chamber essentially equal to the outside pressure. Specially designed closed-cell foamed vinyl weatherstripping (c) seals the inside surface of the chamber. Rain is blocked by the baffle along with outside weatherstripped contact surfaces (d). The baffle and contact surfaces are effective because there is no pressure differential to draw quantities of water into the chamber. Small amounts of water that enter with the wind collect at the bottom of the chamber and drain off freely to the outside.

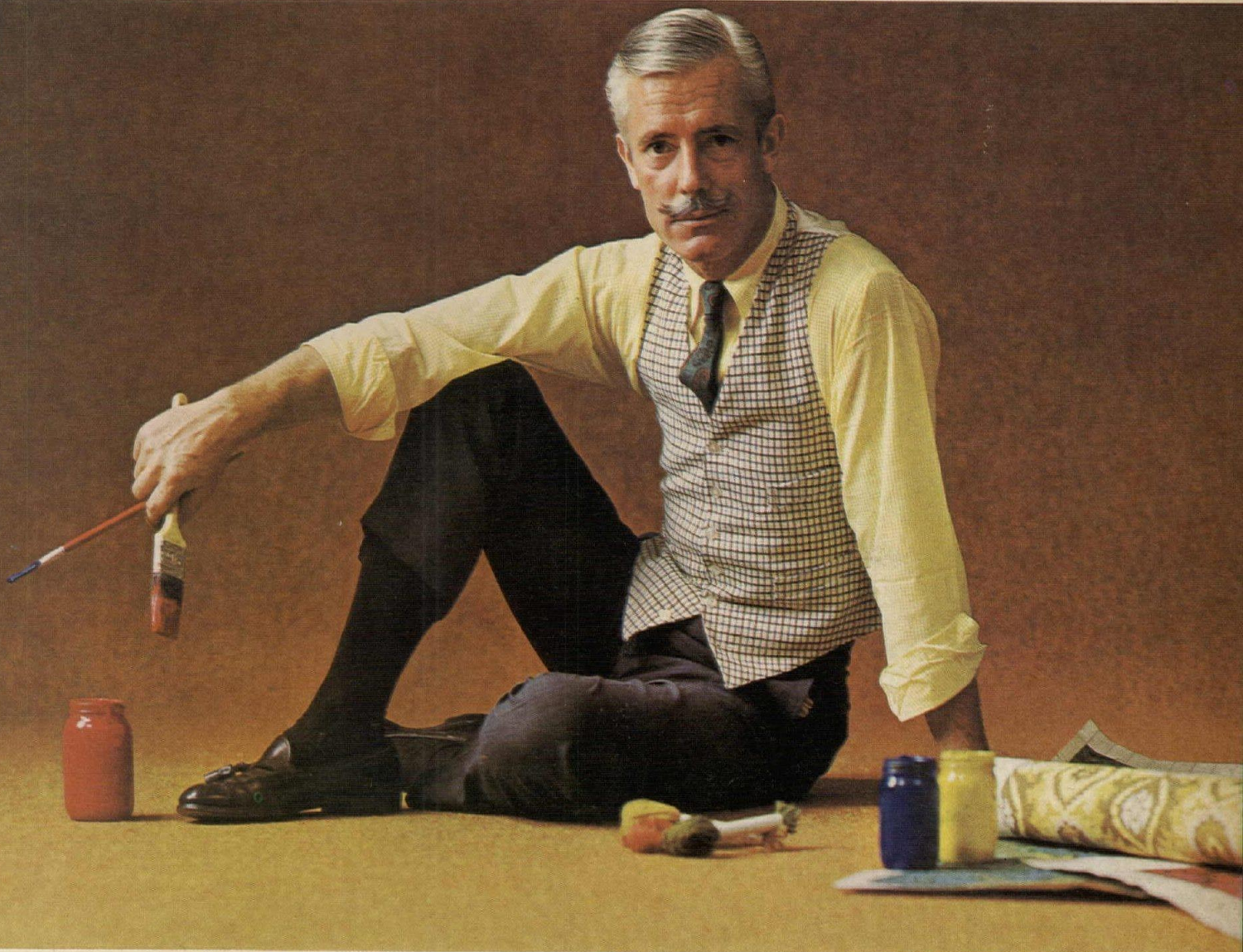
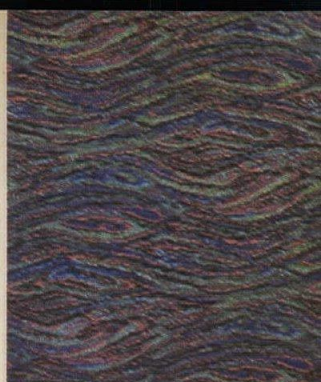
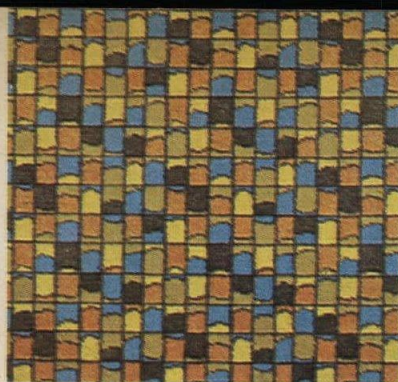
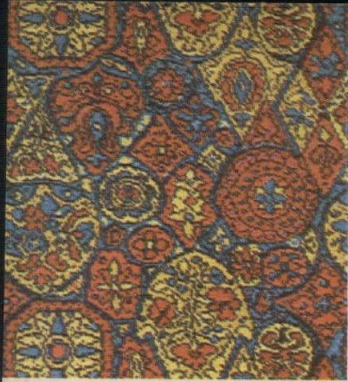
The Ceco Corporation, 5601 West 26th Street, Chicago, Illinois 60650.
Please send copy of Bulletin 1108 entitled "Cecoclad Weatherstripped Steel Windows . . . Pressure equalized for high performance."



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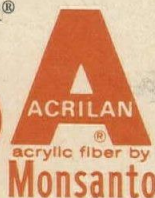
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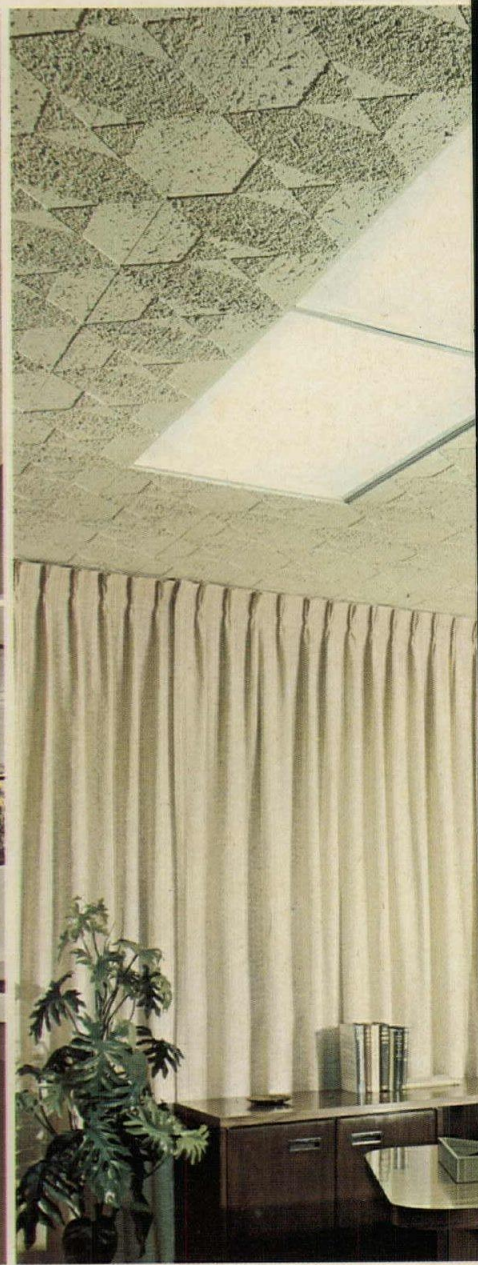
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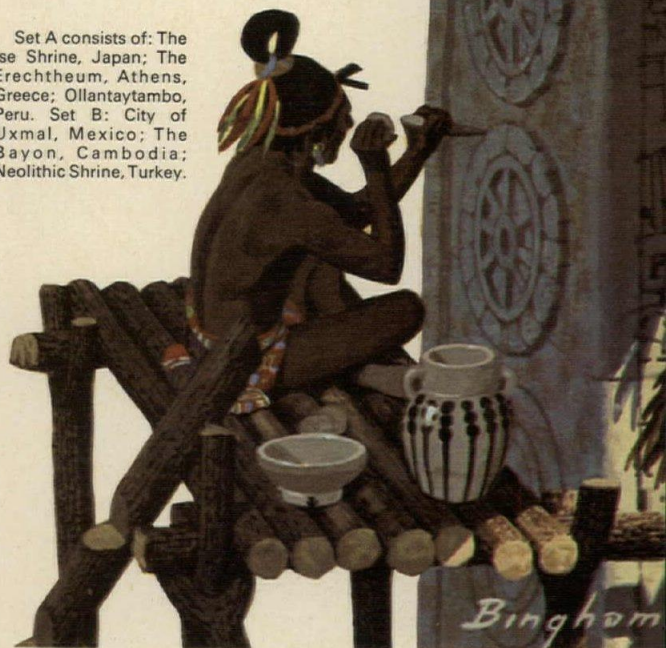
it's beauty that counts.



YUCATAN, MEXICO—Ca. A.D. 987. Detail of a workman/sculptor from one of a series of paintings depicting major achievements in the history of Man the Builder.

The painting is one of three in Set B of the Celotex collection. For full-color reproductions (20" x 16") suitable for framing, send \$1.00 (for each set of 3) to: Historical Construction Paintings, Box 368A, Miami, Florida 33145. Important: please specify Set A or Set B.

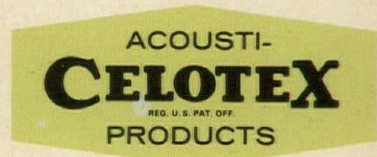
Set A consists of: The Ise Shrine, Japan; The Erechtheum, Athens, Greece; Ollantaytambo, Peru. Set B: City of Uxmal, Mexico; The Bayon, Cambodia; Neolithic Shrine, Turkey.



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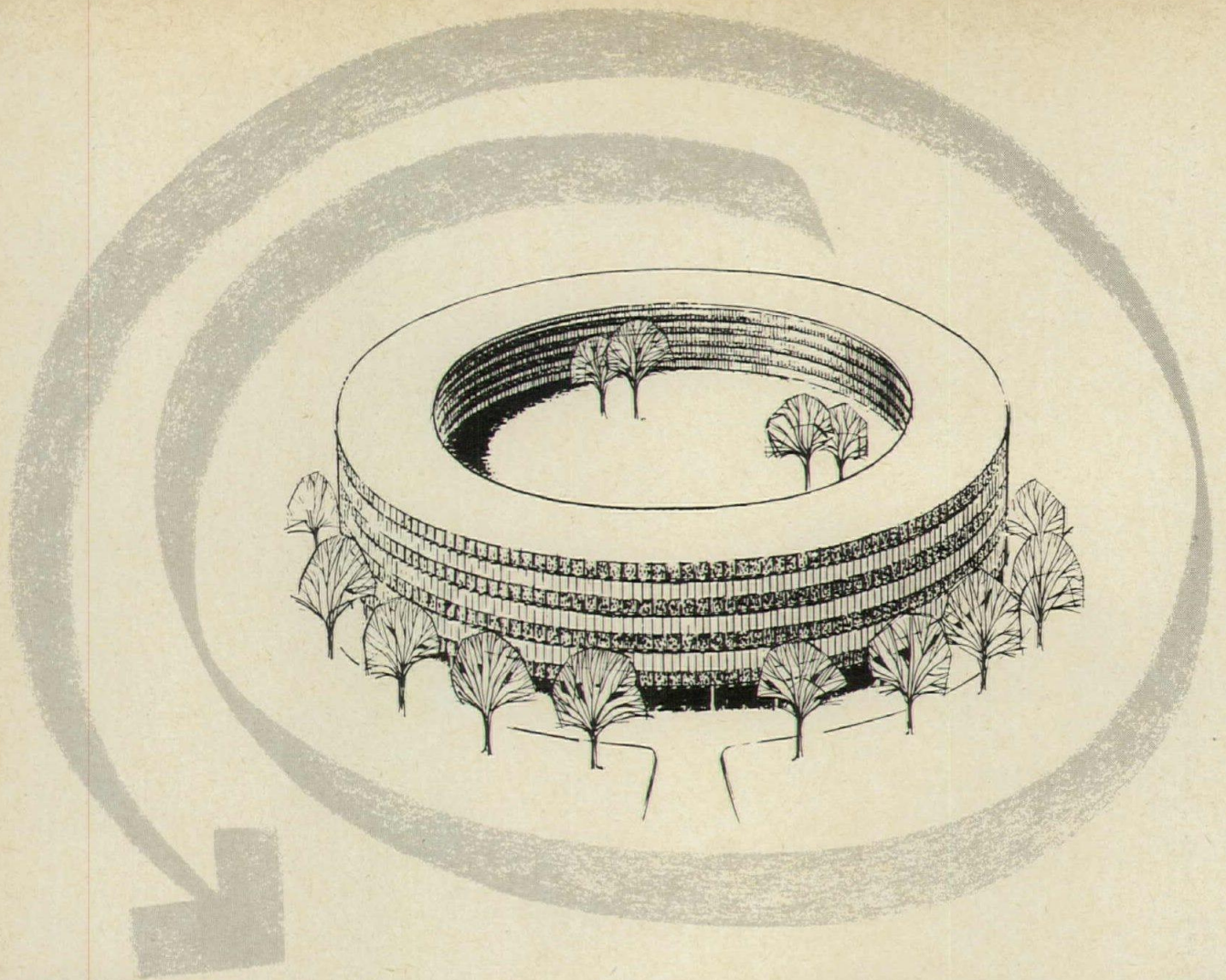
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There's an evolution in the kitchen

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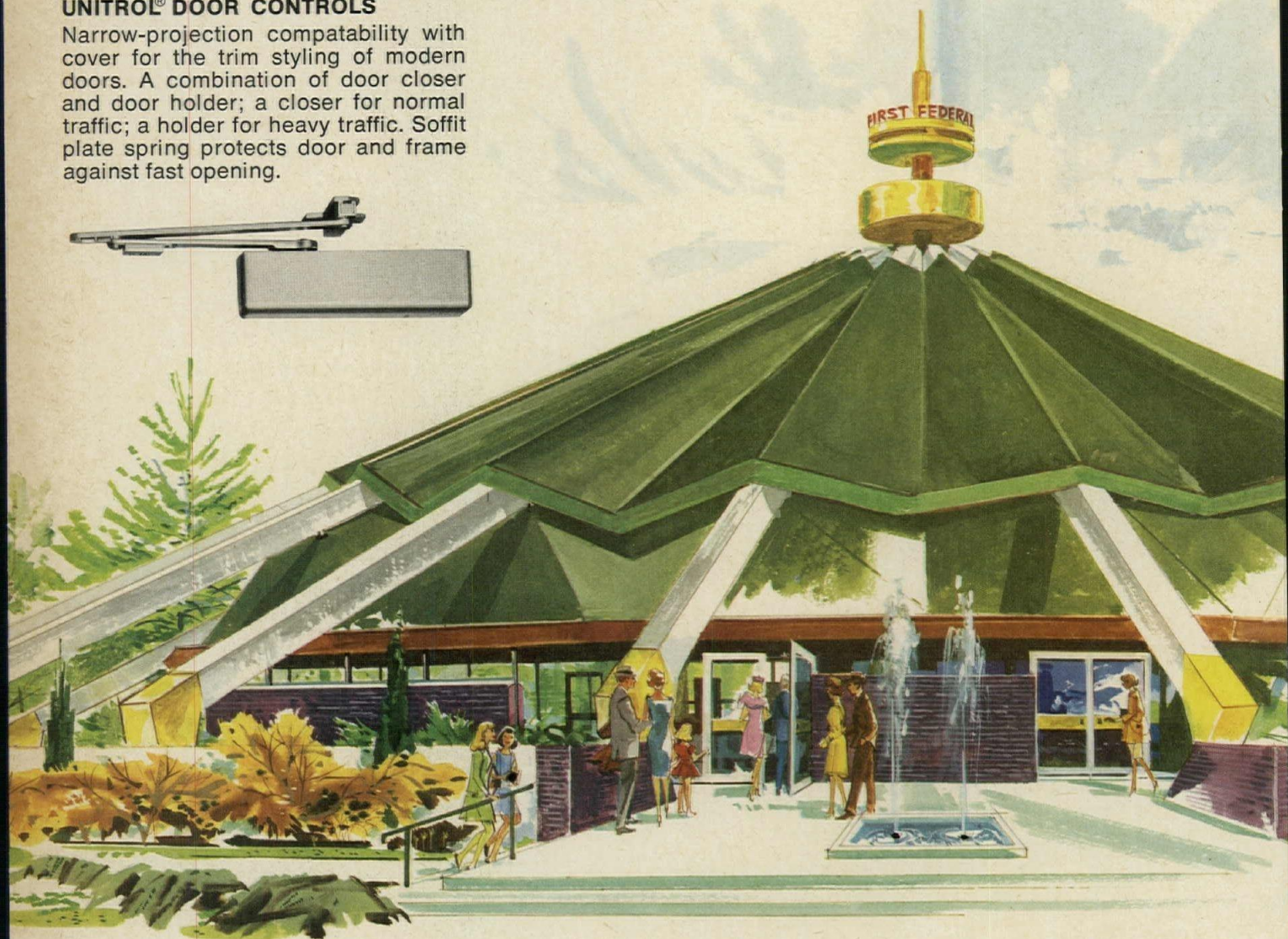
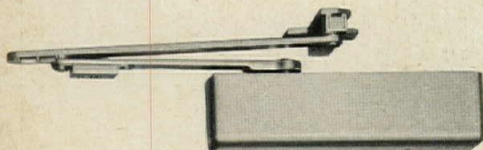
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Your building design and decor can be preserved to your satisfaction when you specify Norton® Closers. You select from a wide choice of closers; each styled to allow you to achieve the effect you prefer.

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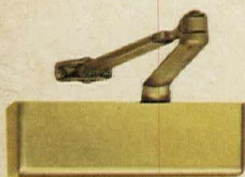
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Narrow-projection compatibility with cover for the trim styling of modern doors. A combination of door closer and door holder; a closer for normal traffic; a holder for heavy traffic. Soffit plate spring protects door and frame against fast opening.

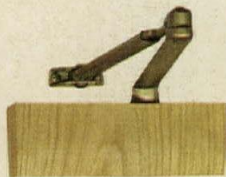


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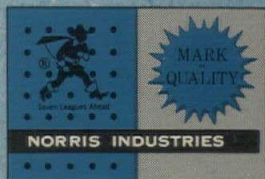
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A low pressure flush valve closet for residential installations . . . revolutionary in design . . . outstanding in function. It's whisper quiet because all toilet tank noises and refill noises have been completely eliminated.



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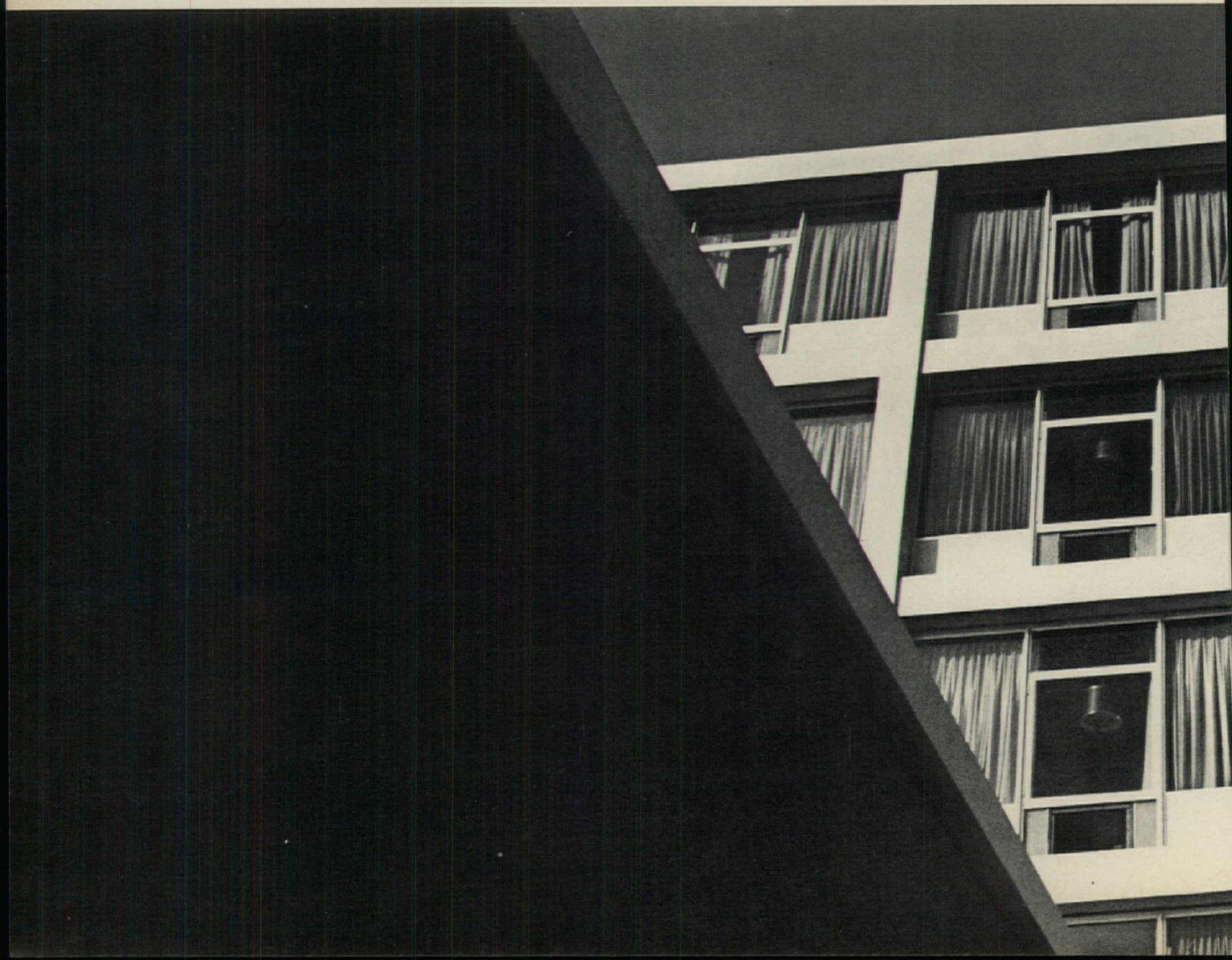
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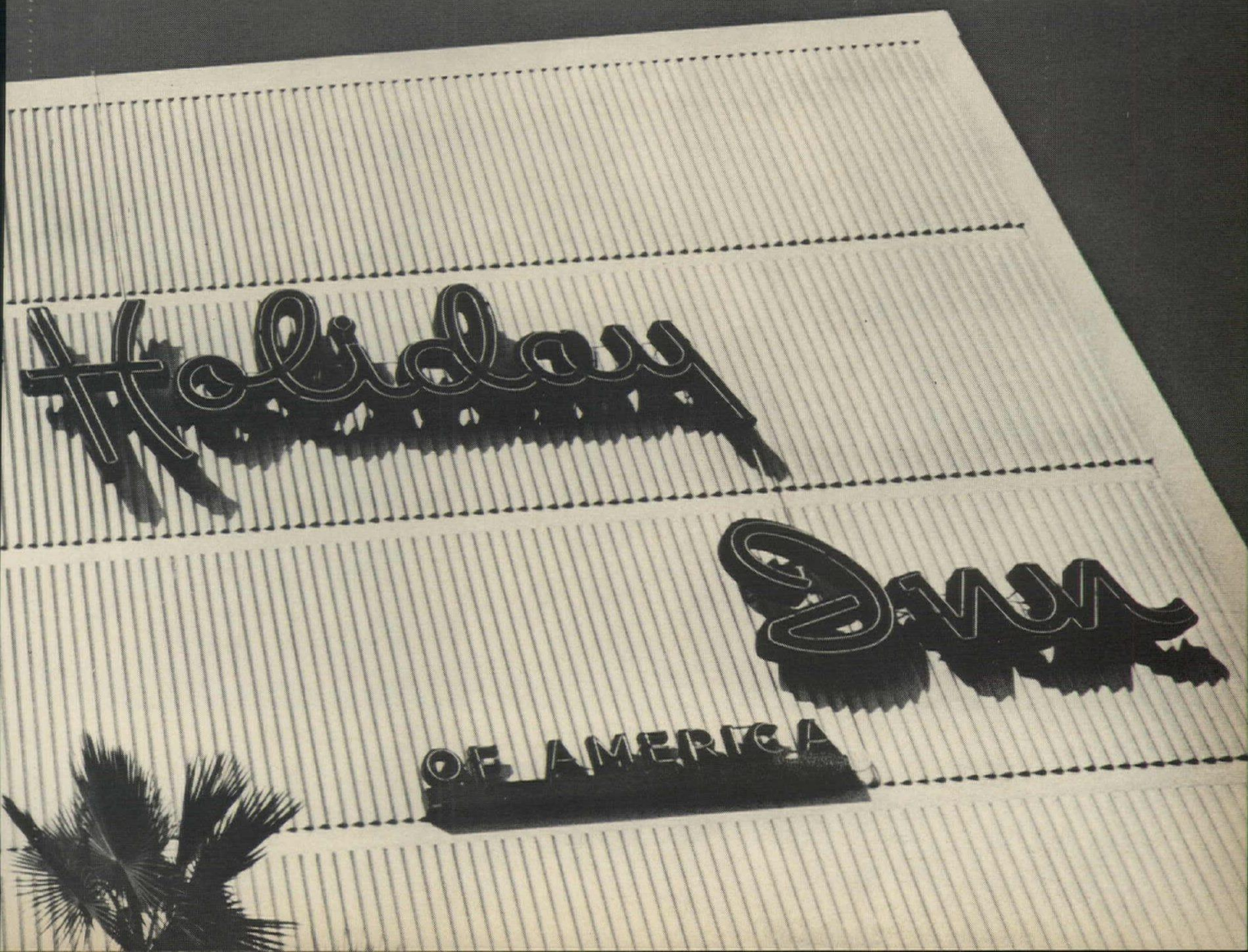
We have hundreds of case histories of all-electric buildings in Central and Southern Califor-

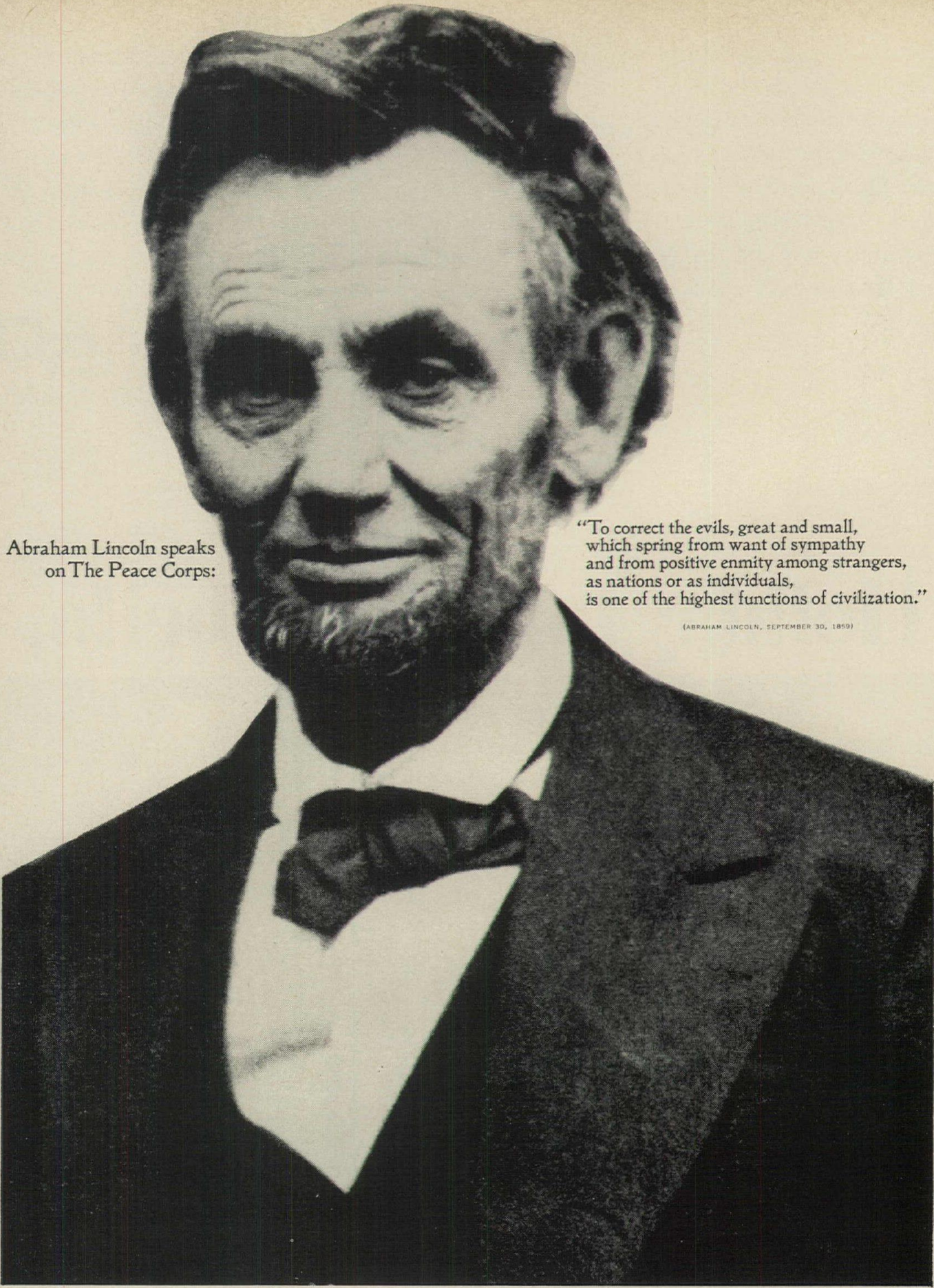
nia. Our Marketing Engineering Department will be glad to show you how to apply the all-electric concept to your project for remarkable savings. Write: Marketing Engineering, Box 62, Terminal Annex, Los Angeles, California 90051.

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"To correct the evils, great and small,
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Gas air conditioning "Economical and it operates so quietly"

says Howard Smuckler, chief engineer,
City National Bank Building.

City National Bank Building. John Kerr & Associates, Mechanical Engineers.



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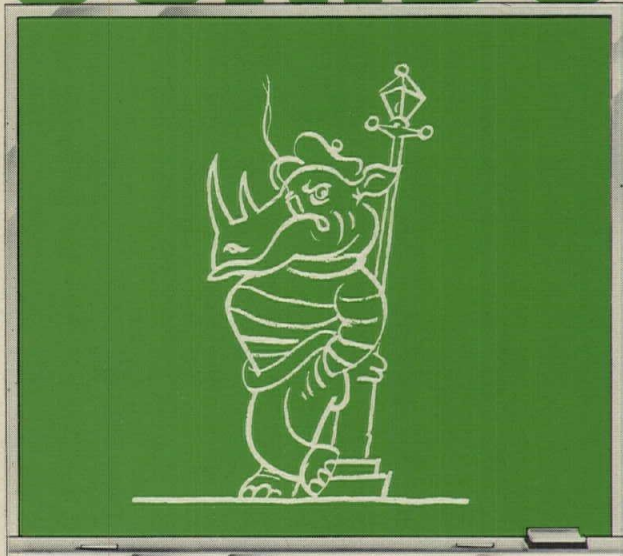


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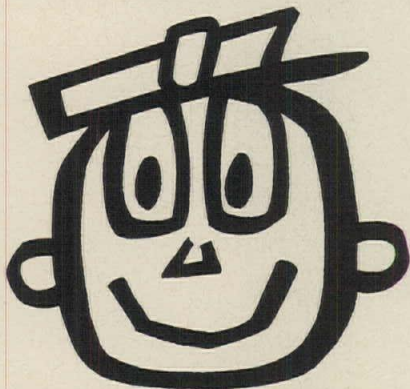
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"We owe these institutions a great debt, and we can pay this debt in two ways: By supporting them generously with contributions of money and time, and by upholding their freedom to remain places of open discussion, and to pursue truth wherever it is to be found.

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A major problem in the education of students is rising costs. If companies wish to insure the availability of college talent, they must help support colleges with financial aid.



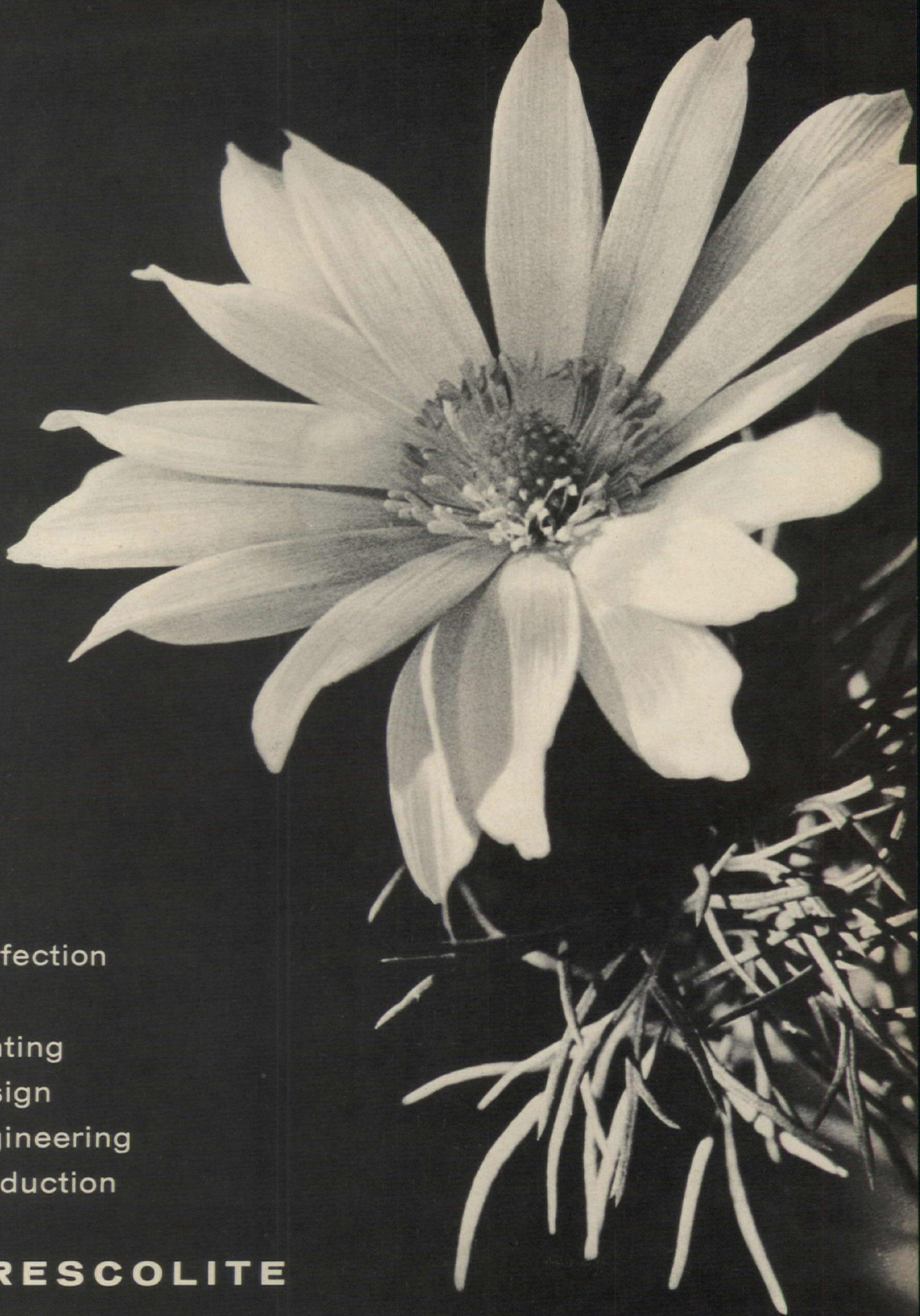
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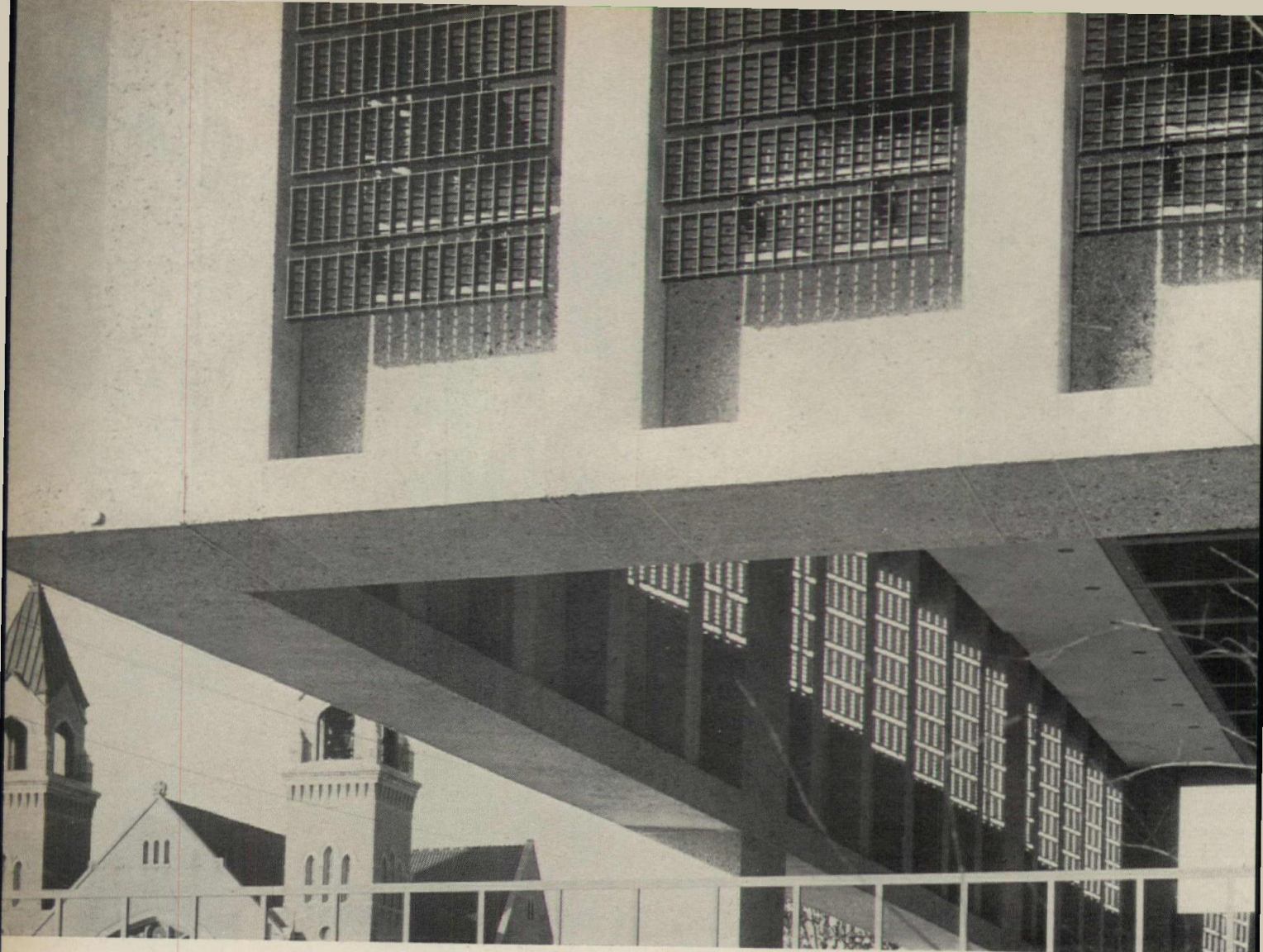


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◆ *For more data, circle 24 on inquiry card*

Panel named to organize Urban Development Institute

A six-man panel has been named by President Lyndon Johnson to help establish an Institute for Urban Development. The purpose of the new Institute, which will be a non-profit organization initially funded by research money from the Department of Housing and Urban Development, will be to "accelerate the role of scientific research as a solution to the nation's urban ills".

The objectives of creating the new Institute are fourfold: "to build a continuing analytical capability to study complex urban problems as a whole, including their relationship to Federal, state and local institutions, organizations, policies and programs; to gather the necessary data and conduct long-range studies based on that data; to bring together a wide variety of disciplines—architects, administrators, builders, physical scientists, engineers, economists, sociologists, lawyers, political scientists, city planners, and others, and focus their disciplines on the urban problem; and to provide an independent and objective base from which to review and evaluate the nation's urban problems and the programs to meet those problems."

The members of the six-man panel that will set up the IUD are: Irwin Miller, chairman of the board of Cummins Engine, Columbus, Indiana; Arjay Miller, president of Ford Motor Company; McGeorge Bundy, president of the Ford Foundation; Kermit Gordon, president of the Brookings Institution; Richard Neustadt, director of the Kennedy Institute of Politics, Harvard University; and Cyrus Vance, New York attorney.

Semi-finalists are named in Ball State competition

Five Indiana architects have been named as finalists in a design competition for a new College of Architecture and Planning building at Ball State University, Muncie, Indiana. The semi-finalists in the state-wide competition were selected by a jury comprised of architects George W. Qualls, chairman, Joseph Amisano and Donald Hanson. Each of the finalists

was awarded a \$2,500 prize. Judging of the final designs is scheduled to take place this month.

The semi-finalists are: Robert A. Fisher of the firm of Fleck, Burkart and Shropshire, Indianapolis; George E. Jamison of the firm of Kellam and Foley, Indianapolis; Donald E. Sporleder, who is with Keene/Macrae Associates, Elkhart; Melvin D. Birkey, South Bend; and Philip L. Hodge, with the firm Schenkel, Schultz and Huddle, Fort Wayne.

Charles M. Sappenfield, dean of the recently established Ball State architecture school, said the new building should be completed by the fall of 1970 "in time for our first class of architectural students to begin the last year of their five-year program in it."

Charles P. Graves, dean of the School of Architecture, University of Kentucky, is professional adviser.



Jeffrey J. Fox

Ford Foundation building is completed and dedicated

The Ford Foundation headquarters building, New York City, (September, 1967, page 41) was formally dedicated on December 8. A prominent feature of the new building is the enclosed multi-level ground floor garden-courtyard covering 8,500 square feet. The courtyard space rises 10 stories to a skylight and is enclosed by glass walls. The garden, designed by Dan Kiley, landscape architect, contains 37 trees, 999 shrubs, 148 vines, 22,000 ground cover plants, and 18 aquatic plants in a pool. There are also set-back planters on the north wing on the third, fourth and fifth floors. Architects for the \$16-million building are Kevin Roche, John Dinkeloo and Associates. The general contractor was the Turner Construction Company.

A.I.A. annual convention will meet in Portland and Honolulu

The American Institute of Architects has announced plans to hold its 1968 convention in two cities. The convention will be held in Portland, Oregon, from June 23-27, and will reconvene in Honolulu on June 28 and 29. In a preliminary survey 1,900 A.I.A. members have indicated plans to attend the Portland convention and total attendance is expected to be more than 3,500. Nearly 1,000 have already indicated they intend to go on to Hawaii.

The convention theme is "M.A.N.," signifying Man, Architecture and Nature. Sessions will deal with living conditions in the central cities and suburbia, and working aspects of future trends in the architectural profession. A shift in the convention program will move the Investiture of Fellows ceremony from the annual banquet held on the last evening of the convention to a separate occasion to be held on Monday afternoon, immediately preceding the President's Reception.

National convention chairman is Northwest Regional Director Robert Martin, with David Pugh as chairman for the Portland section, and Paul D. Jones as Honolulu chairman.

A.I.A. endorses Scheuer bill on Capitol Hill architecture

Robert L. Durham, president of the American Institute of Architects, has endorsed a bill introduced in the House of Representatives by Congressman James H. Scheuer of New York, that would "provide Capitol Hill with the most exemplary architectural planning and review procedures."

The Scheuer bill provides for: continuing comprehensive planning for the Capitol grounds; a Congressional Architect Selection Committee for Capitol Hill construction projects; and a Review Commission on Architecture and Planning for the Capitol Grounds.

The bill embodies many of the points raised by the A.I.A. in its reports on the conditions of the west front of the Capitol and on the Madison Memo-

rial Library. The proposed legislation, says Mr. Durham, "contains all of the machinery necessary to assure that future planning and construction on the U.S. Capitol Grounds will be undertaken under proven, comprehensive architectural and planning procedures."

The bill requests that the Architect of the Capitol, in consultation with the National Capital Planning Commission, procure the services of a recognized consultant firm or firms to conduct a complete study of the presently anticipated development of the Capitol Grounds' 131 acres and contiguous areas, to prepare a detailed plan for the development and periodically revise such plans.

\$1.1 million for the arts, \$13,800 for architecture

The National Council on the Arts, Washington, D.C. has announced 134 grants in seven categories of the arts totaling \$1,082,820. The category of "architecture and design" received a single grant of \$13,800.

The remaining six categories and grant allotments were: theater—\$300,000 for 18 grants; visual arts—\$291,000 for 29 grants; literature—\$244,690 for 59 grants; dance—\$103,450 for 16 grants; music—\$82,530 for six grants; "general arts"—\$35,000 for two grants; and education and public media—\$12,350 for three grants.

The architecture grant went to The Detroit Common Ground of the Arts, to aid in the operation of the center over the next three years. The Common Ground is a multi-studio art center where architecture, urban design, painting, sculpture, photography, print-making and other arts and crafts are brought together in a common focus, the purpose of which is to work for the enhancement of the visual environment in the American city.

Applicants are sought for scholarship grants

Two scholarship competitions have been announced by the New York Chapter, American Institute of Architects, and the Architectural League of New York.

The LeBrun Traveling Fellowship of the New York Chapter, A.I.A., is a \$3,000-competition dealing with the problem of mass transportation. The prize is to be used for travel outside the United States to study architecture. The competition is open to any American citizen between the ages of 23 and 30 who has at least one-and-one-half years experience in an architectural office and who has not been

the beneficiary of any other traveling scholarship. Programs will be mailed on or after January 15, to those to write to: Chairman, LeBrun Committee, New York Chapter, A.I.A., 115 East 40th Street, New York City 10016.

The 1968 Arnold W. Brunner Scholarship competition of the Architectural League of New York will provide up to \$3,000 for study or research projects on "architecture and the allied arts." The competition is open to any qualified American citizen. Programs will be mailed after January 31 with a deadline for submission by March 31, and can be obtained by writing: Chairman, Brunner Scholarship Committee, The Architectural League of New York, 41 East 65th Street, New York City 10021.

Station designs approved for Washington subway

Prototype designs for the Washington Metropolitan Area Transit Authority subway stations, Washington, D.C., have been approved by the Fine Arts Commission. The prototype stations, designed by Harry Weese and Associates, general architectural consultants to W.M.A.T.A.,

Obituaries

Gardner A. Dailey, F.A.I.A., San Francisco, died October 24 at age 72. A graduate of Stanford University and one of the most notable Bay Region architects, Mr. Dailey designed the American Embassy in Manila, the Surfrider and Princess Haiulani Hotels in Honolulu, the Red Cross headquarters and KRON-TV buildings in San Francisco, and many school and college buildings. He was elevated to fellowship in the American Institute of Architects in 1948 and was a past president of the San Francisco Planning Commission. In 1964, Mr. Dailey received the S.F.B. Morse Medal of the National Academy of Design for Tolman Hall at the University of California, Berkeley campus.

Tyler S. Rogers, an author and authority in the field of building materials, died on October 11 in Glen Ridge, New Jersey, at the age of 72. In 1932 Mr. Rogers became managing editor of "American Architect & Architecture," a magazine bought by and incorporated into ARCHITECTURAL RECORD. While at this publication in the 1930's, Mr. Rogers originated Time-Saver Standards, which became a regular feature of the RECORD.

In 1939, Mr. Rogers became director of technical publications for Owens-Corning Fiberglas of Toledo, Ohio, where he remained until his retirement in 1960. While at Owens-Corning, Mr. Rogers was

will have free floating mezzanine and platforms, with variations of height, width, location of mezzanine, escalators and entrances conforming to varying passenger volumes, surface and environmental conditions. All of the stations will be closely related to one another in design to provide visual continuity.



The Washington subway, consisting of a basic system of 25 miles—half surface and half underground—is expected to have first train operation by 1972, with ground-breaking scheduled for this fall.

Three design contracts for the basic system have been awarded to Kaiser Engineering, Ammann & Whitney in a joint venture with Kent Cooper & Associates, and Tippetts-Abbett-McCarthy-Stratton. General engineering consultants to the W.M.A.T.A. are DeLeuw, Cather & Company.

an early exponent of improved manufacturer's literature for architects.

Mr. Rogers was the author of "The Complete Guide to House Hunting," "Thermal Design of Buildings," "Plan Your House to Suit Yourself," and "The Design of Insulated Buildings for Various Climates."

Paul Lester Wiener, city planner and architect, died on November 16 at the age of 72, while vacationing in Munich. Mr. Wiener, an architectural graduate of the Royal Academy of Vienna with post-graduate work at Kunstgewerbe Academy, Berlin, was a planner of many cities in Brazil, Colombia, Cuba and Peru.

He was the co-founder of Contempora, International Art Service, with Bruno Paul and other internationally known architects and artists in 1927, and was co-founder with José Luis Sert of Town Planning Associates, New York.

Since 1965, Mr. Wiener had been Adjunct Professor of Urban Planning in the School of Architecture at Columbia University, where he directed a master plan for Nassau and the Island of New Providence in the Bahamas (April 1967, page 36). Mr. Wiener was a member of the American Society of Planning Officials, Pan American Society, and Congress Internationale d'Architecture Moderne, and an affiliate member of the American Institute of Planners.

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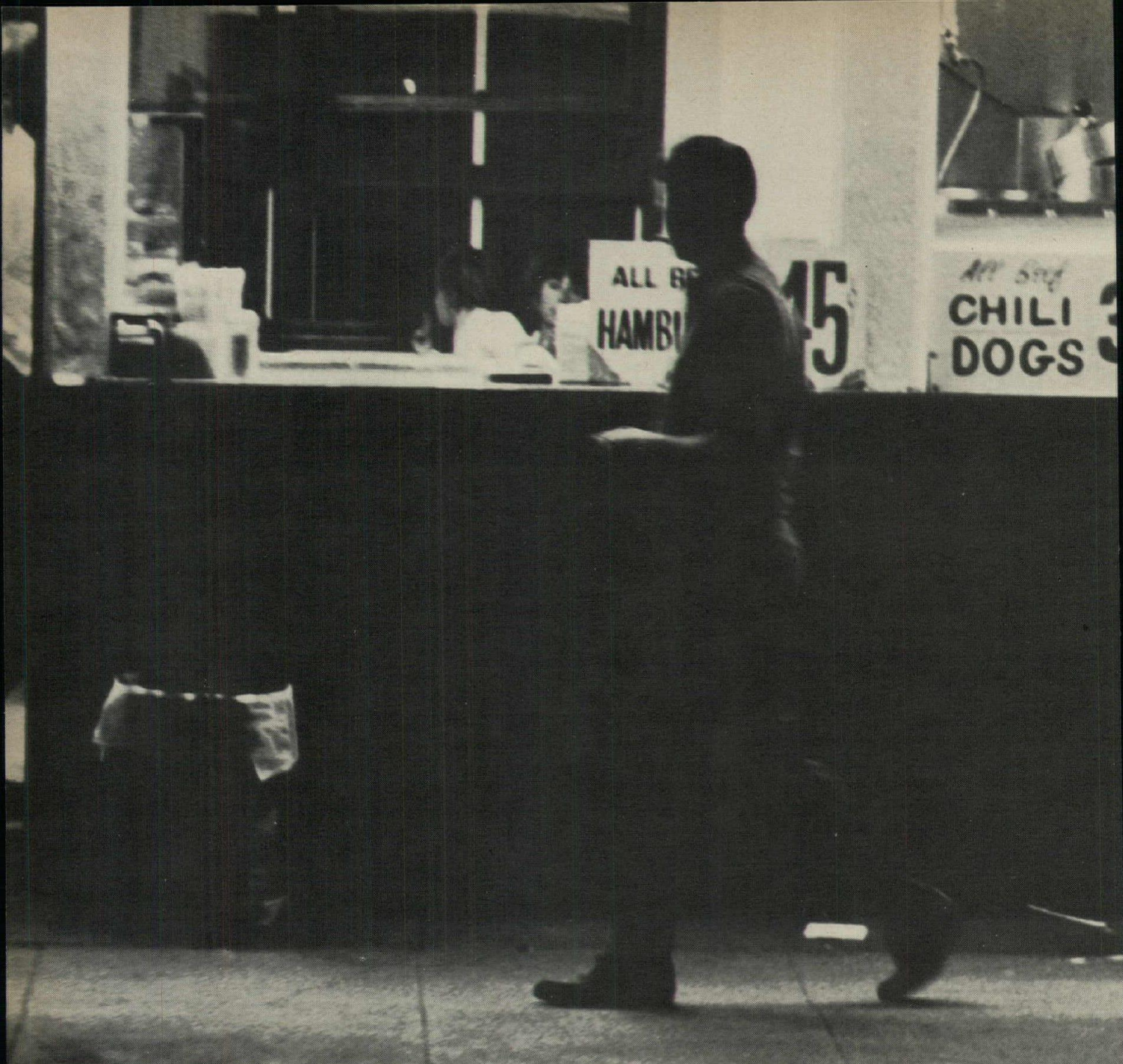
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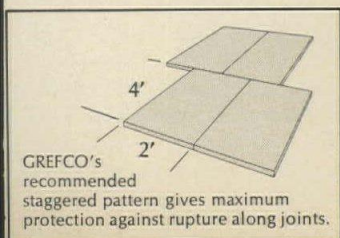
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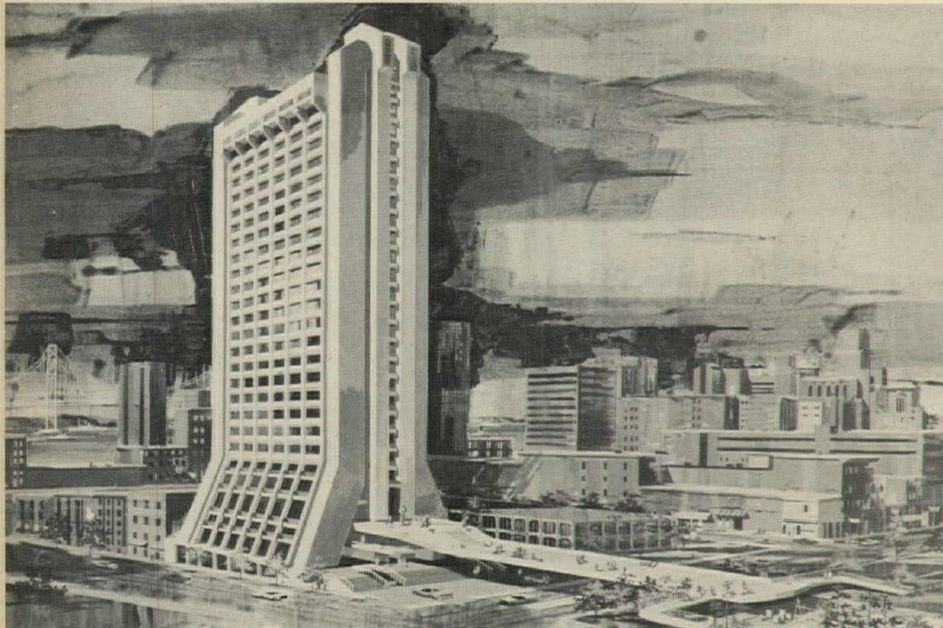
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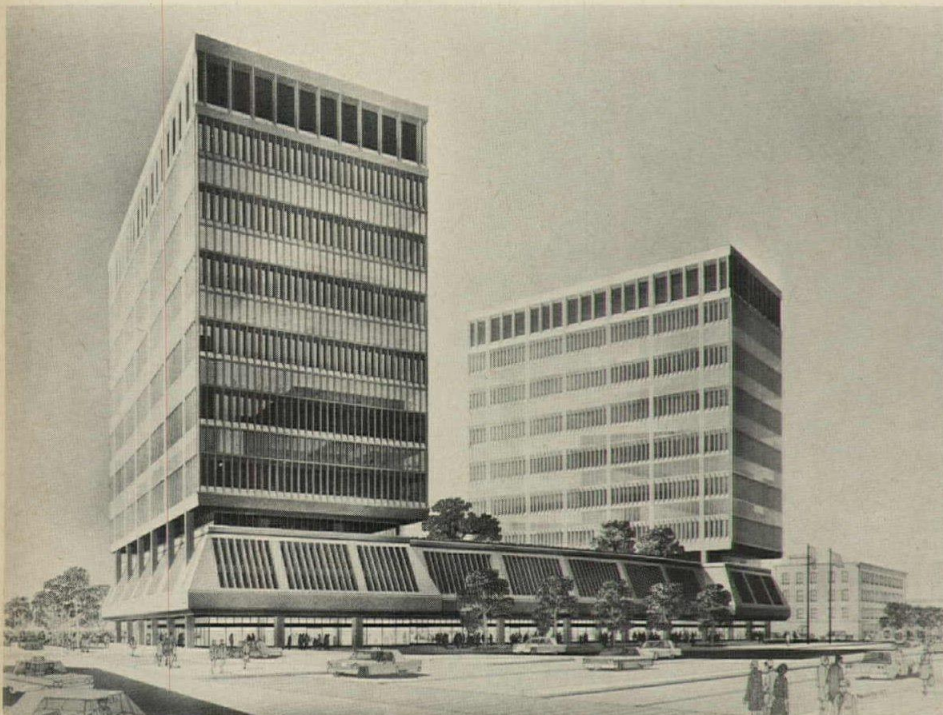


The Chinese Cultural and Trade Center, San Francisco, will be a \$12-million 26-story building linked to the Chinatown area by a pedestrian bridge. The building will contain a five-level garage for 460 cars located partially below ground; the 20,000-square-foot cultural center occupying the entire third floor, plus storage and plaza with main entrance at pedestrian bridge level; and a 572-

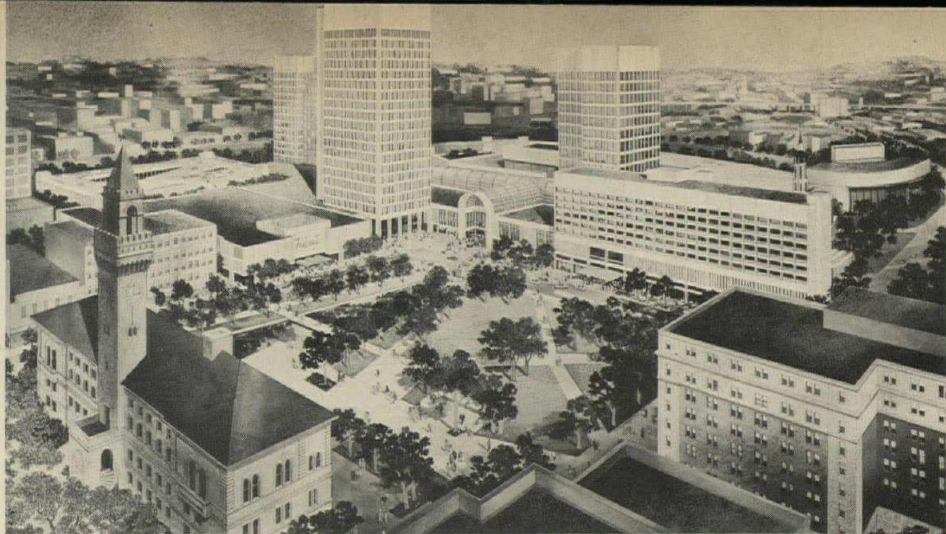
room hotel. The cultural center will include an auditorium seating 500, an 18-foot-high exhibition hall, and lecture rooms and offices. The original competition-winning design was conceived by Clement Chen & Associates and Dartmond Cherk, and the revised and new design concept is a joint venture of John Carl Warnecke & Associates and Clement Chen & Associates.



The New York Telephone Company building in lower Manhattan, designed by John Carl Warnecke and Associates, New York City, will be a \$45-million structure housing the world's largest center for switching long distance telephone calls. Equipment to be housed in the structure requires ceiling heights averaging 18 feet, so that its 29 floors will measure a total height of 550 feet. Elevators, stairways and mechanical equipment will be housed in vertical columns projecting from the building, permitting maximum use of the 800,000 square feet of floor space. Horizontal air intake and exhaust louvres are located at the 10th and 29th floors. The building will be faced with red granite over precast concrete slabs.



An office complex for the Badger Company in Cambridge, Massachusetts, designed by Emery Roth & Sons, architects, will consist of two 12-story towers located on a four-story base element. Located in the base element will be a garage for 445 cars, lobbies, and approximately 20,000 square feet of retail space at ground level. The top of the base element will be a landscaped plaza. Each of the towers will contain 180,000 square feet. The facade will be of precast concrete with gasket-type windows. The base element will have a cast-in-place concrete structure, while the towers will have a steel structure.



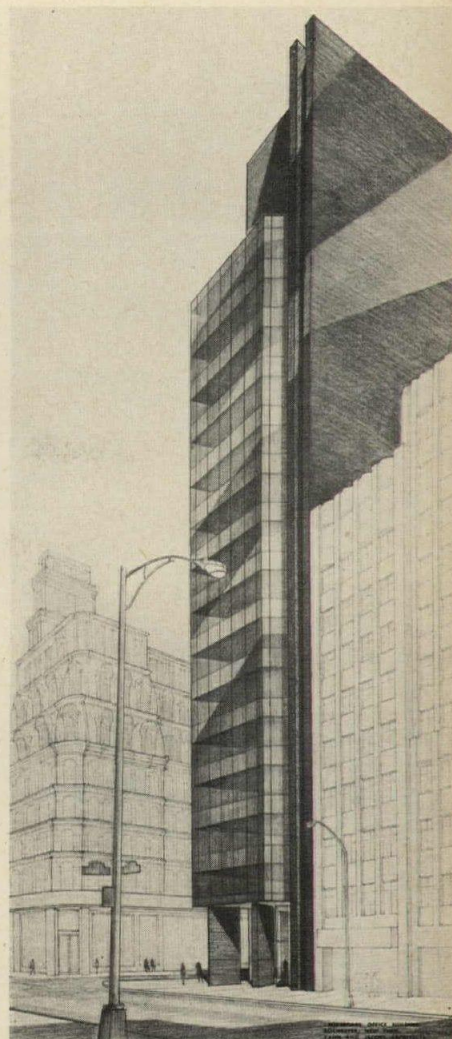
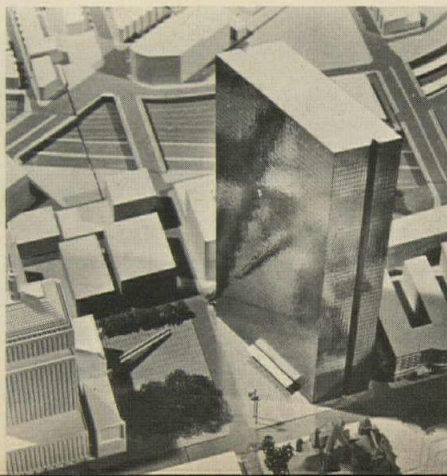
A \$50-million "megastructure" in Worcester, Massachusetts, designed by Welton Becket and Associates, Architects-Engineers, is described by the architects as "a compact urban space which basically functions as one building, yet is designed to be in proper scale to the city of Worcester and to express its many uses." The center will contain a 200- to 300-room hotel; three high-rise office buildings providing more than 400,000 square feet; two major department stores; 300,000 square feet of specialty shops, restaurants, and banks; a multi-level parking structure and other parking for 4,000 cars; a 2,500-seat theater; and a heliport and bus terminal.



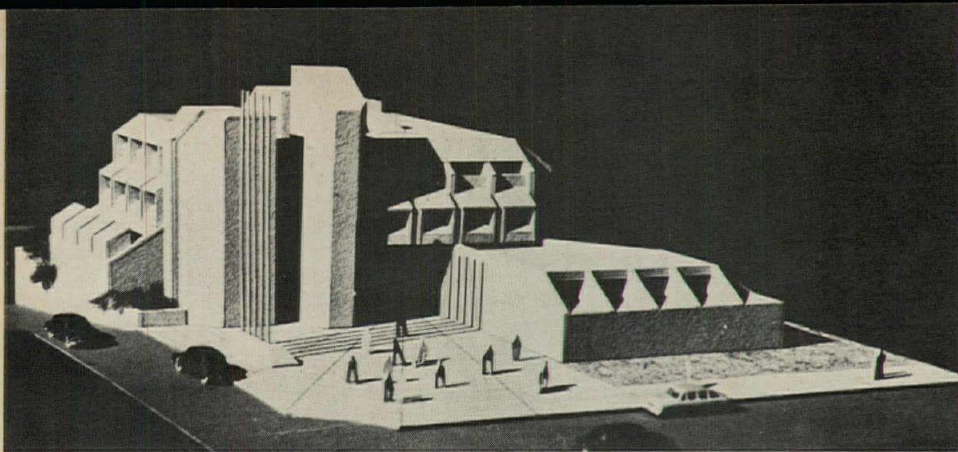
A two-tower office complex in Philadelphia, designed by Vincent G. Kling and Associates, architects, will provide 1,318,000 square feet of office and commercial space. The towers, one having 38 stories and the other 32 stories, will be connected by a 40-foot-high Galleria at ground level. The skylighted Galleria, en-

tered through an air curtain, will cover 30 per cent of the site and will provide access to the mezzanines of the towers. The Galleria will contain about 112,000 square feet of rentable space. Both towers in the \$80-million project will have facades of light-colored limestone on granite bases.

The John Hancock Tower, Boston, will be a 60-story building (the tallest in Boston) and will have a gross area of over 2-million square feet. Architect for the building is I. M. Pei & Partners, Henry N. Cobb, partner-in-charge. The building will have a rhomboid shape, and will be placed diagonally on its site to enhance neighboring Copley Square by forming a new open space. The tower will be sheathed in anodized aluminum and reflecting glass to act as a foil to existing buildings. The rhomboid shape was conceived "as a direct response to the presence of the buildings and spaces around it."

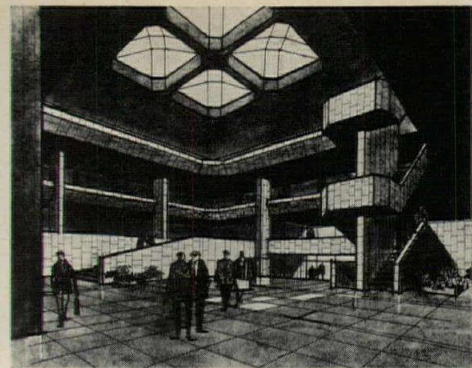


The Crossroads Office Building, Rochester, New York, designed by Kahn and Jacobs, Architects, will have a masonry wall on one side, which wraps over the 15th floor level and forms the mechanical penthouse. The penthouse will be sculptured to reflect the various equipment and mechanical requirements for the building. The \$5-million building will have 17 stories and contain 200,000 square feet of rentable space. The project will face three streets, with entrance corridors from the three sides culminating at a central lobby. Access to a ground-floor bank and elevators will be from the central lobby. Building materials will be dark gray tinted glass and rich charcoal-colored brick. Developers and general contractors for the project is Wilmorite, Inc.



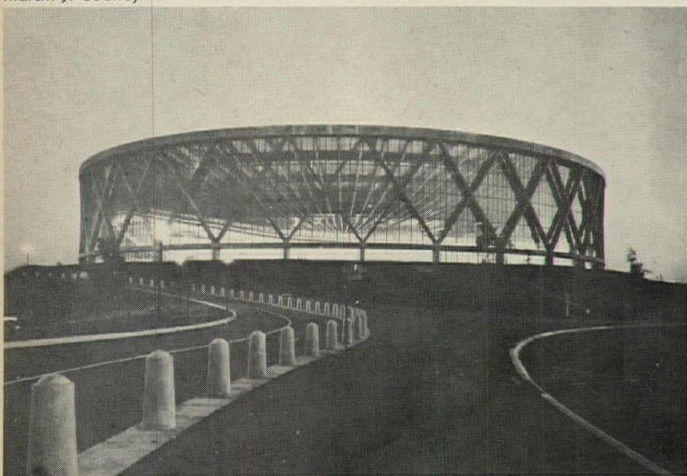
The Harry S Truman Center for the Advancement of Peace, The Hebrew University of Jerusalem, is under construction on the slopes of Mount Scopus overlooking Jerusalem. The design for the building was selected in a competition in which more than 80 Israeli

architects participated. The winning architects were Gershon Anekstein and Aryeh Riskin. The \$1-million project will contain an exhibition hall containing 1100 square feet; an auditorium seating approximately 300; a library for 50,000 volumes and a reading room seat-

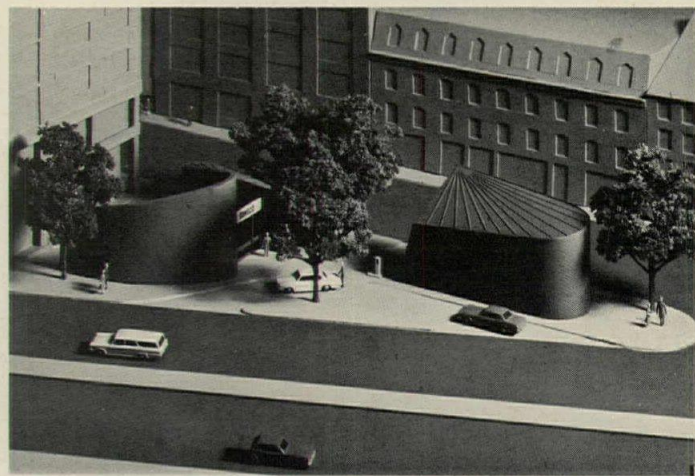


ing 15-20; 20 research-study rooms, each having 130 square feet; two seminar rooms, each having 270 square feet; two lecture rooms, each seating 35, expandable to one large room; teachers' lounge; administrative offices; and basement storage area.

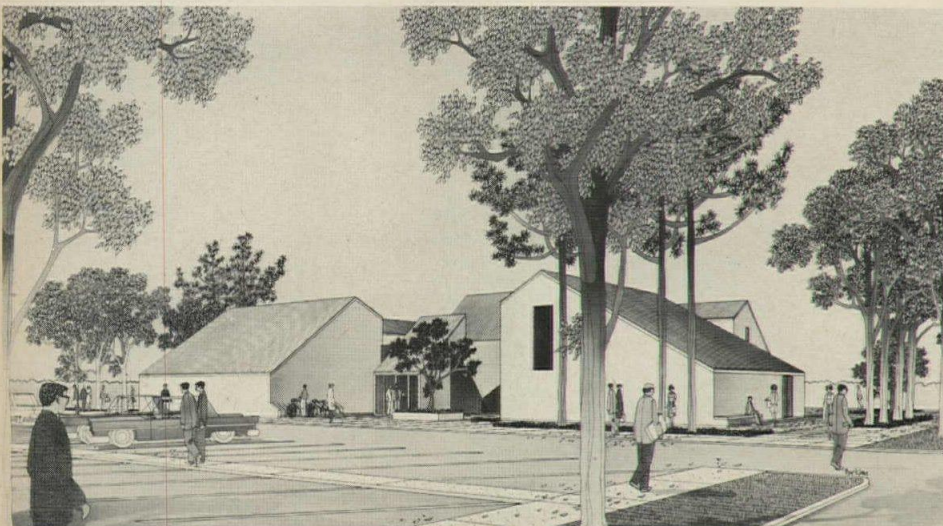
Martin J. Cooney



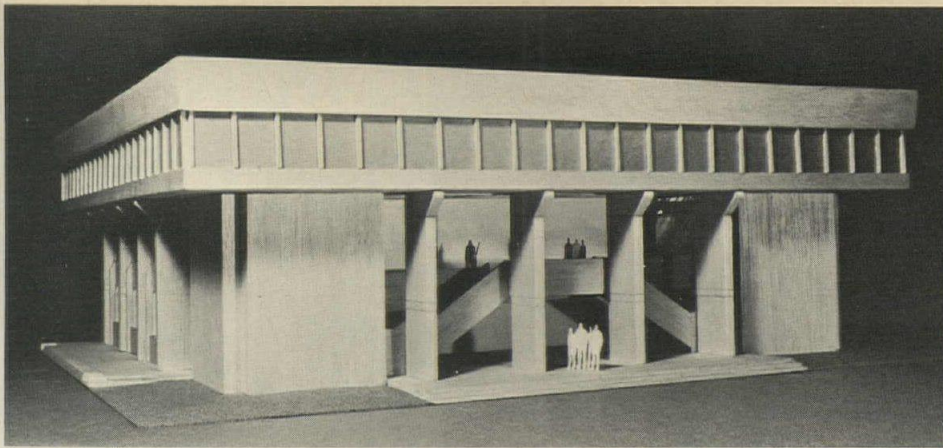
The Oakland-Alameda County Coliseum, Oakland, designed by Skidmore, Owings & Merrill, has received an honor award in the 1967 award program of the Northern California Chapter, American Institute of Architects. The complex includes an arena seating up to 15,000, a stadium seating up to 53,000 (not pictured), and a connecting underground exhibit area. The awards jury, consisting of architects Harry Weese, Edward L. Barnes and Craig Ellwood, praised the Coliseum as a "project on the grand scale which is important in its location but would be an important and impressive project anywhere in the world, a strong and vigorous statement carried out with conviction."



A gas station for the Sun Oil Company, located adjacent to the Prince Building in Boston (see page 156), designed by J. Timothy Anderson & Associates, architects, is designed for a growing residential neighborhood, and limits the service station advertising to a sign at each of two approaches. The signs serve to light much of the service area. According to the architects, "the sales and customer convenience area has been separated from the service area, generating two offset building forms, each with its facade facing approaching traffic. The forms are generated by continuous brick garden-like walls which curve and climb to enclose and define the space."

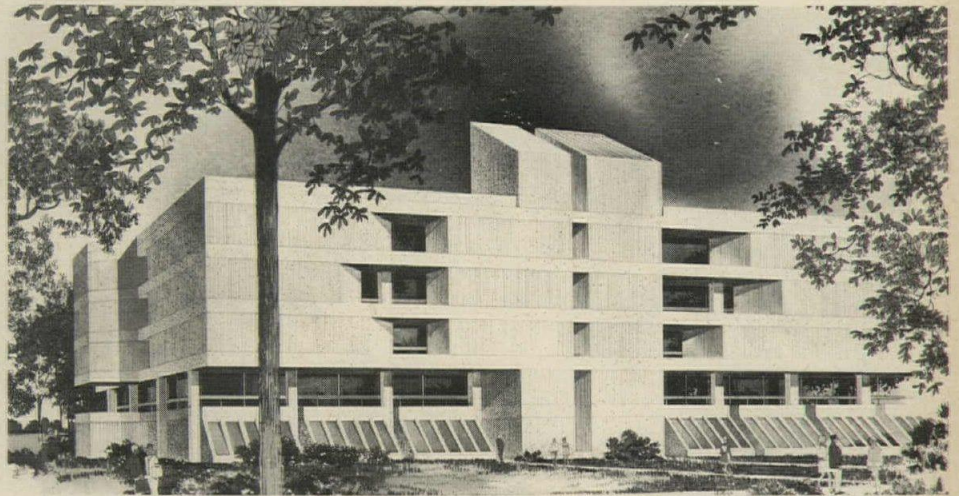


The Bonfils-Stanton Regional Library, Jefferson County, Colorado, designed by William C. Muchow & Associates, architects, will have a central circulation-control area surrounded by four wings. The wings, which will house stacks, reading, reference and administration areas, will create four small courtyards which will be seen through windows from informal reading areas in the central space. The high-ceilinged wings with pitched tile roofs are intended to break up the building mass and provide a transition from single family housing on one side to a shopping center on the other. The building will have about 11,000 square feet of usable floor area, mostly on one level. Walls will be natural brick inside and out and roofs will be fire-flashed flat clay tile, both materials relating to neighboring buildings.

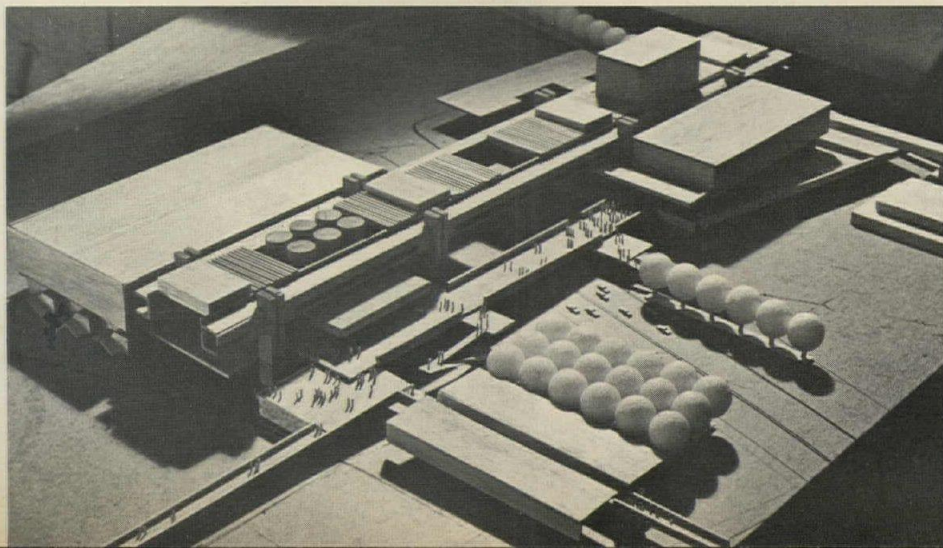
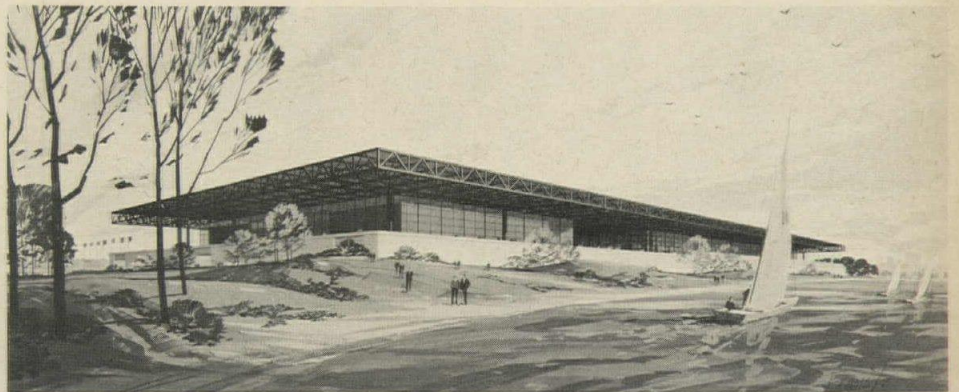


The Vermont Regional State Office Building, Burlington, is organized around a two-story courtroom located in the center of the second and third floors. Architects for the \$1.4-million building are Linde-Hubbard Associates, Inc., with William V. Linde as partner-in-charge, William Henderson as designer, and Melvin Frank as project architect. The building, which will contain 59,400 square feet including an underground garage for 55 cars, has as materials poured-in-place reinforced buff concrete, exposed sand-blasted concrete, brick and glass. In addition to the courtroom, the three-story building will contain various state offices. General contractor is the Pizzagalli Construction Company, Inc.

An addition to the Duane Library, Fordham University, Bronx, New York, will place auxiliary facilities, offices and after-hour reading rooms in the existing structure, leaving the new area for stacks for 1.5-million books and space for 2,000 readers. The \$7-million addition will have five levels above grade and two below, with the entrance via the existing building at the second floor. Skylights above grade will light the ground floor and first basement. The building, containing 158,000 square feet, will be of cast-in-place concrete construction. Architects are de Young & Moscovitz, with Benjamin Moscovitz as partner-in-charge, and Youssef S. Bahri, designer.

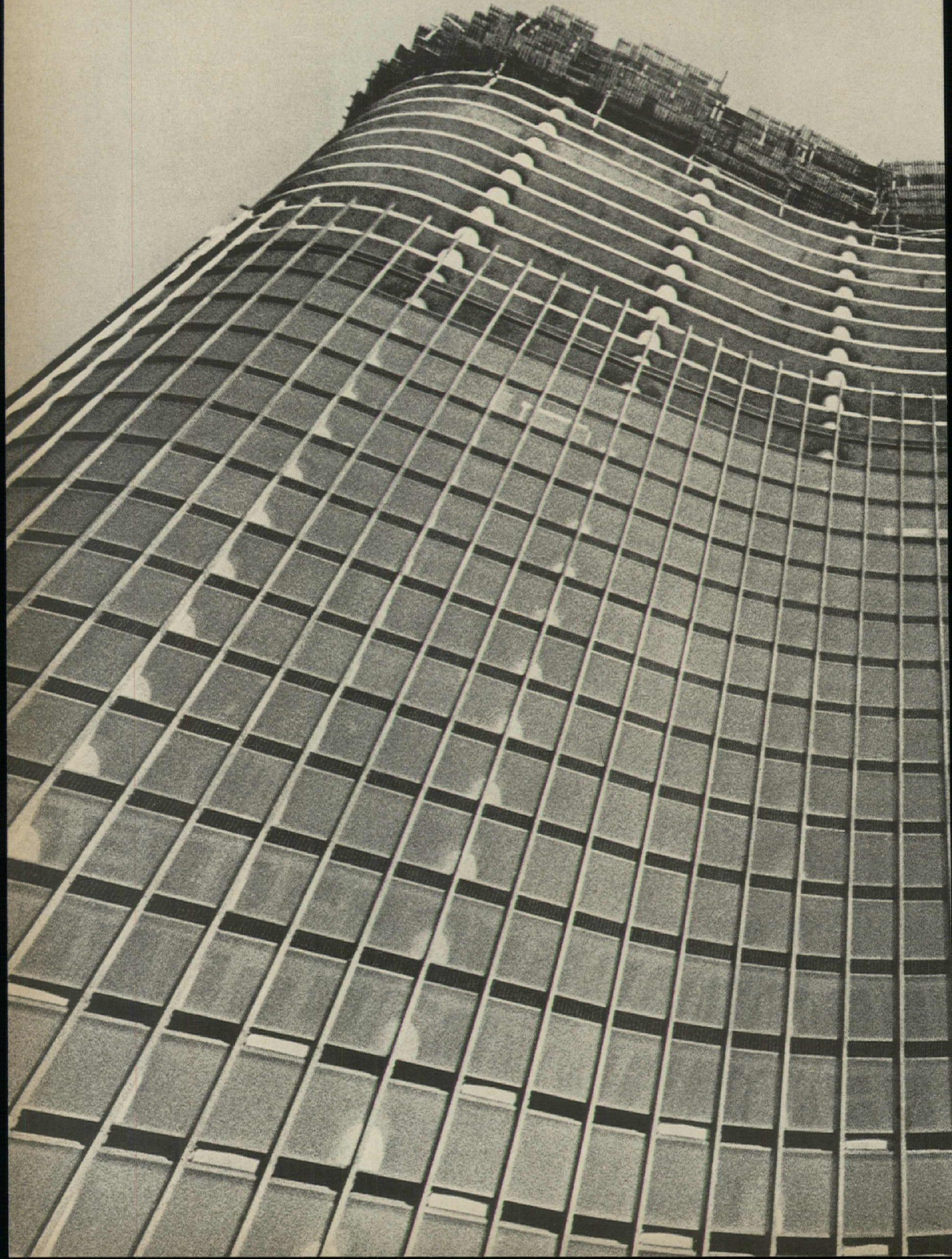


The new McCormick Place, Chicago, which is being reconstructed after the disastrous fire of last winter, will be a three-level exhibition hall containing 600,000 square feet. Architects for the \$72-million project are C. F. Murphy Associates. The roof will have a two-way steel truss system with 150-foot bays, with 75-foot overhangs on all four sides of the building. The building will also contain a 500-seat theater located under the common roof and separated from the exhibition hall by a mall. Other facilities provided include 38 meeting rooms of various sizes, the largest seating 1,000, kitchen area, and truck docks.

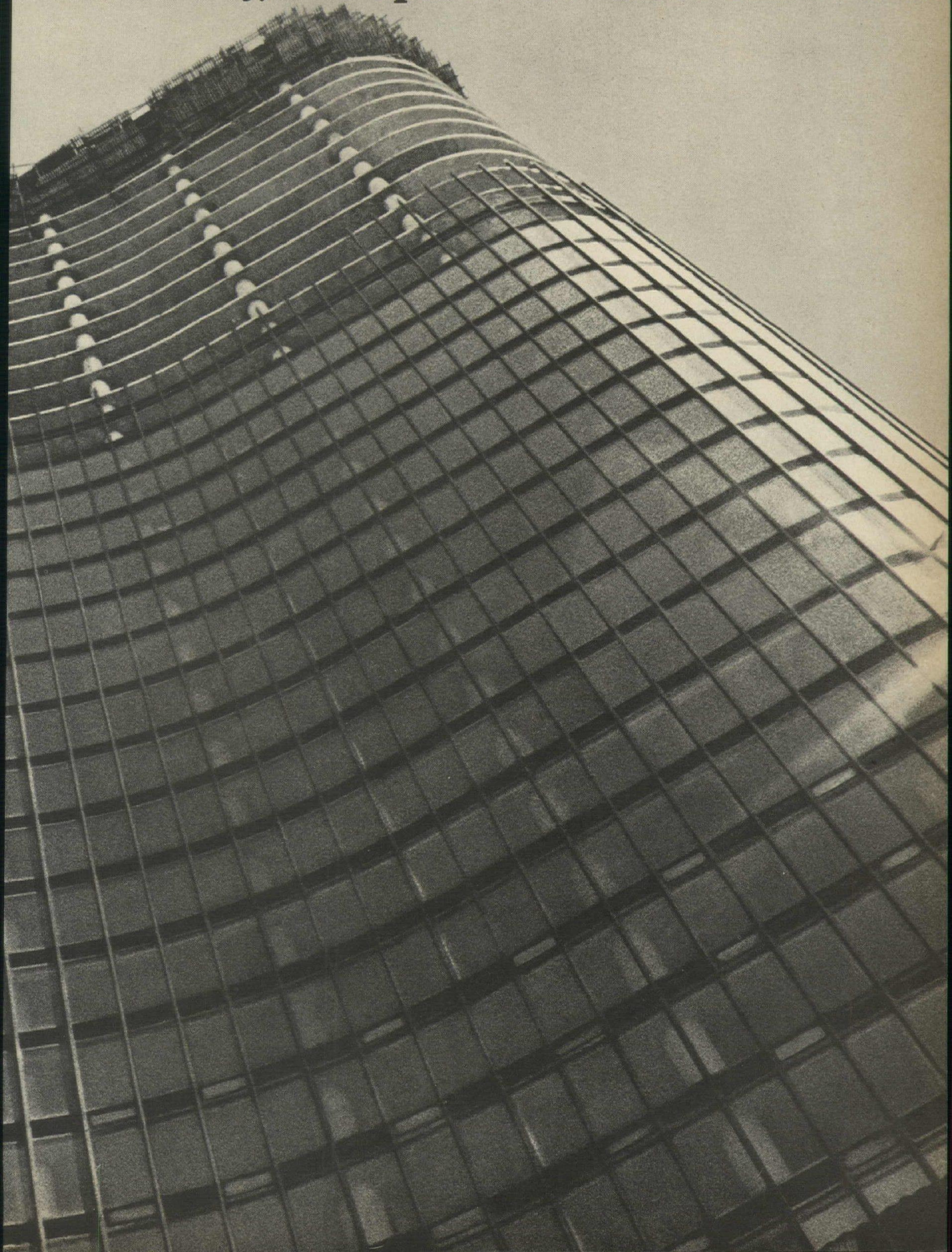


The Broome County Cultural Center, Binghamton, New York, a competition-winning design by architects Elbasani, Logan & Severin, will be a \$4.2-million project consisting of a multi-use auditorium seating 4,500; an 1,800-seat theater; and ancillary facilities. A raised pedestrian walkway connects the structures at either end of the site and spans a dividing street. The jury, which included architects Romaldo Giurgola, Eduardo Catalano and H. Bernhard Hoesli, praised the project as being "a solution of great strength and identity, adequate to the magnitude of its scope." Professional adviser was Werner Seligmann.

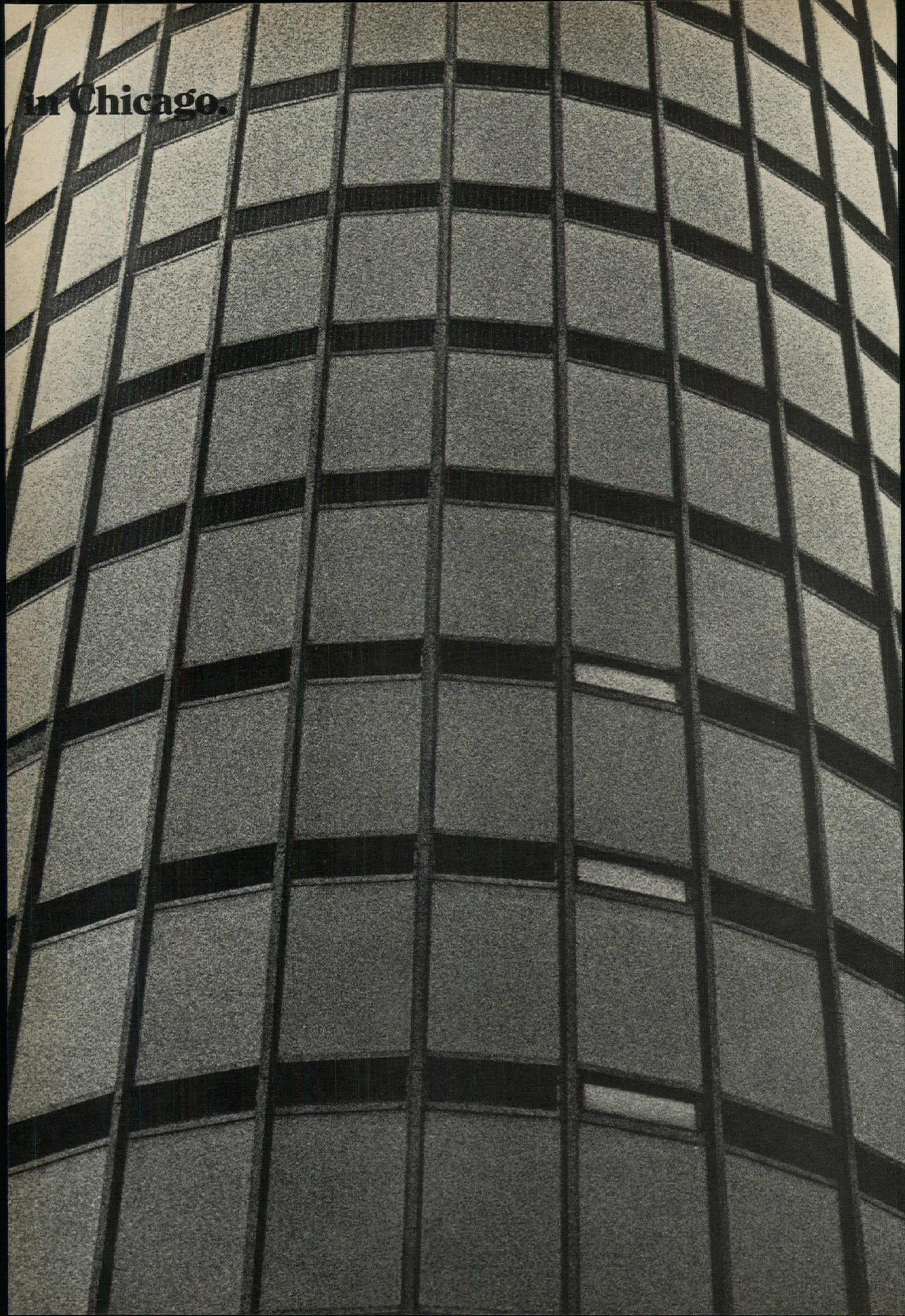
A report from General Electric on

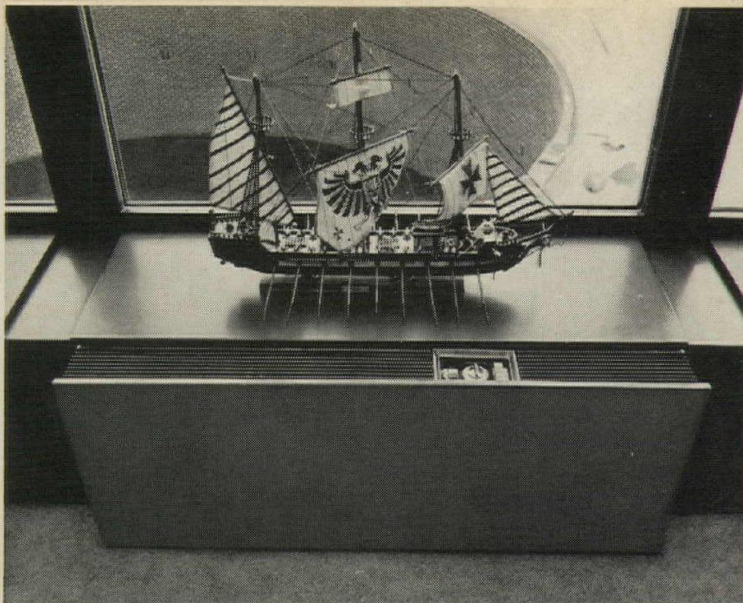


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Lake Point Tower, Chicago.

Developers: Hartnett-Shaw & Associates
Fluor Properties.

Architects: Schipporeit-Heinrich, Inc., Chicago.

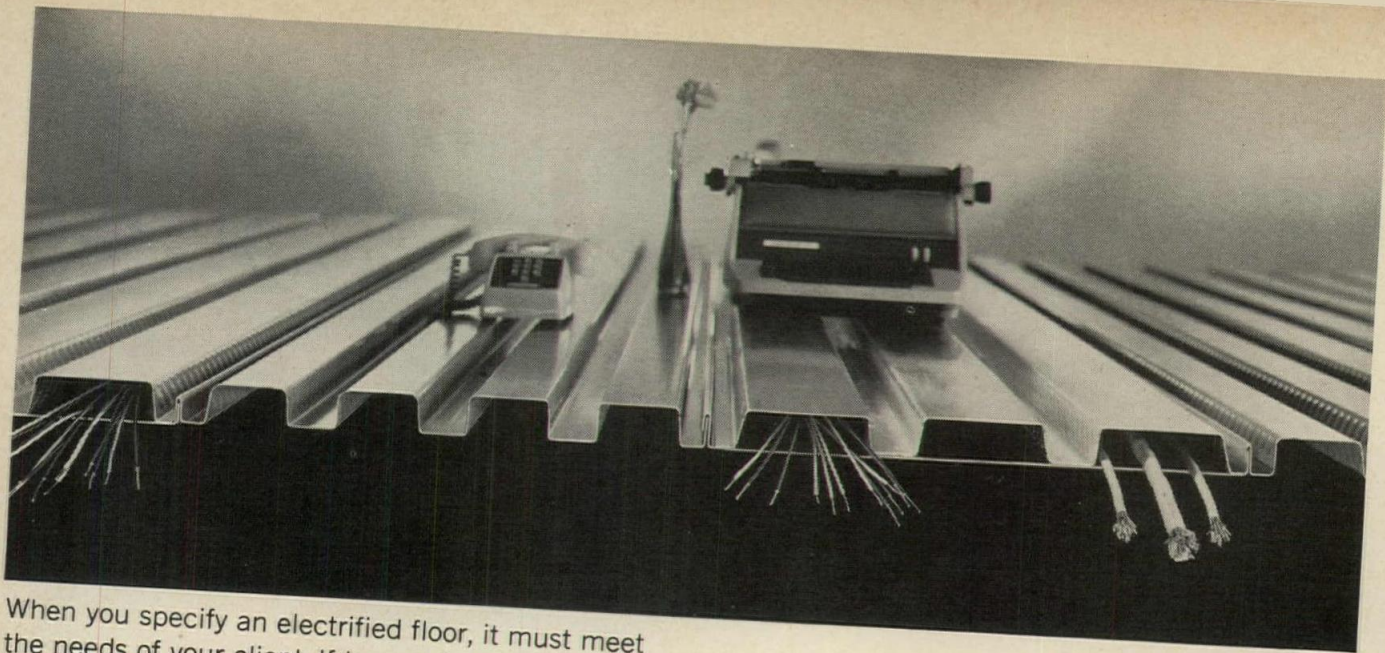
Structural Engineer: William Schmidt & Associates, Chicago.

General Contractor: Crane Construction Company, Inc., Chicago.

Mechanical Engineer: William Goodman, Chicago.



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 4900 South Kilbourn Ave.
 1405 North Batavia St.
 254 Courtwright St.



Foyer and reception area.

Meeting hall, showing treatment of tower ceiling.

For more data, circle 30 on inquiry card



Patcraft presents "Entwine," carpet news that's big as all indoors. Created of Zefkrome® E.S.P.*

*E.S.P. Engineered for Superior Performance

This is the impressive carpet that's many steps ahead of its contemporaries. Made of Zefkrome acrylic, Engineered for Superior Performance, it represents the latest innovations in wear quality and aesthetics.

Durability: wear tests of 2 million footsteps. Zefkrome is stronger than other acrylics by as much as 50%.

Color: multichromes, a new concept developed for greater clarity and quality.

Superior color retention: lasting color, safe in sunlight because the color is locked in when the fiber is made.

Superior cleanability: "Entwine" returns to its original appearance after on-location cleaning

better than any other acrylic carpet.

Dirt resistance: Zefkrome is a smooth, circular acrylic that doesn't hold soil the way other acrylic fibers do. "Entwine" is also moth and mildew proof, a matchless carpet for meeting the public and standing up to traffic.



Specifications:

Yarn—70% Zefkrome acrylic, 30% modacrylic

Gauge—1/10 .270 pitch

Pile height—.250

Tuft Bind—17 lbs. pull

Primary back—Polypropylene

Secondary Back—Jute

or Hi Density Foam

Yarn Face Weight—

32 oz. per sq. yard

Total Weight—

70 oz. per sq. yard

Available in 12' widths

Available in 15' widths

with minimum yardage

Meets all FHA standards

in Bulletin #44A

Increased pile weight available with minimum yardage

Patcraft Mills, Inc.
Dalton, Georgia 30720

Gentlemen: Please send me details on colors and prices of "Entwine".

Name _____

Address _____

City _____

State _____ Zip Code _____

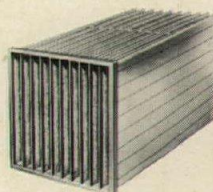
Zefkrome® is a trademark of Dow Badische Company

For more data, circle 31 on inquiry card

To combat the rising level of contamination in our atmosphere, "air conditioning" in today's buildings must include that vital fourth dimension: *clean air*. To meet this need, Cambridge offers a complete line of air filters in many sizes, types and efficiencies. These will effectively protect heating-cooling equipment, reduce duct cleaning cost, minimize housecleaning expense and, most important, safeguard personnel health.

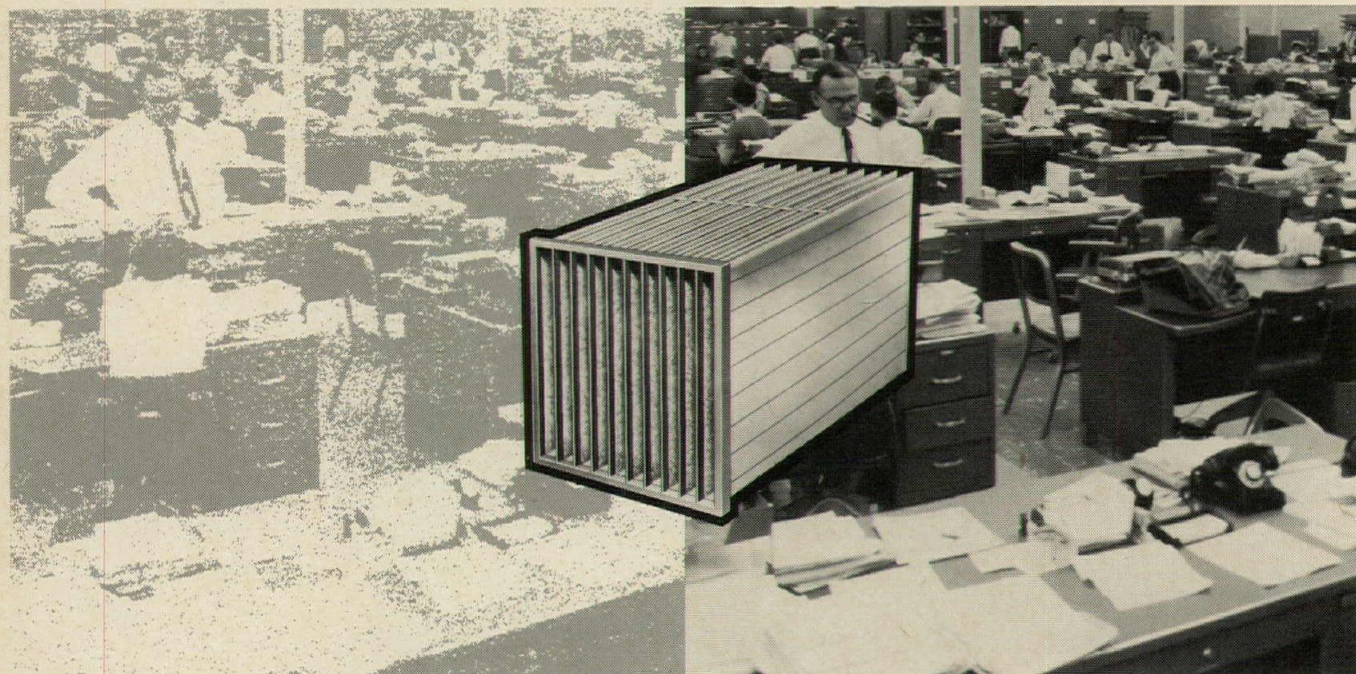
Yes, air filtration is essential. But how much? Cambridge "application knowledgeability" can show you by analysis of filter efficiency, capacity and service life precisely what air-cleaning equipment will serve you best. In thousands of installations today, it's the Cambridge Hi-Flo Aerosolve® filter . . . proven for high efficiency, long life and low owning-operating cost, with no maintenance except infrequent cartridge replacement.

Cambridge Filter Corporation
7659 Seventh North Road, Syracuse, New York 13201

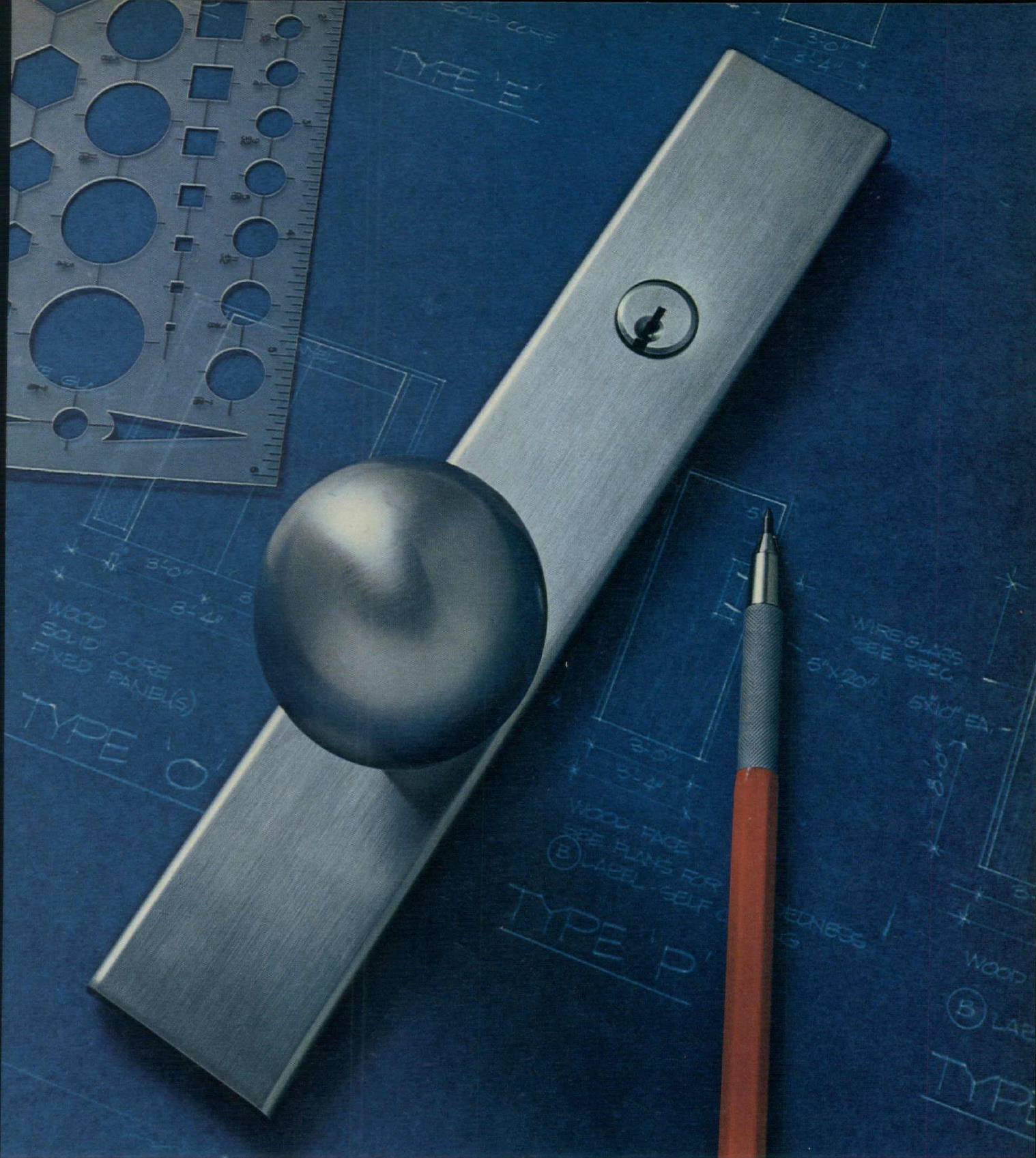


CAMBRIDGE HI-FLO FILTERS: interchangeable cartridges with exclusive, money-saving *controlled media spacing*; in 95%, 85% and 45% efficiencies (NBS dust spot test). Send for Bulletin 134E or ask your Cambridge representative.

little How ~~much~~ does filter-clean air cost? Ask Cambridge.



For more data, circle 32 on inquiry card



When style is on your mind, put Russwin in your plans.

When you want to combine security with exceptional styling, specify RUSSWIN "Ten Strike" mortise locksets in all desired functions. Available in an exciting choice of metals and color tones. A unique cylinder application enhances style and security.

Completely reversible. Creative doorware for schools, offices, hospitals. Write for latest brochure. Russwin, Division of Emhart Corporation, New Britain, Connecticut 06050. In Canada — Russwin Lock Division, Belleville, Ontario.

RUSSWIN



Architects: Skidmore, Owings & Merrill
Contractor: Tishman Construction Company
Aluminum Fabricator: Cupples Products Div.,
H. H. Robertson Company
Owner-Developer: John Hancock Mutual Life
Insurance Company

On the left-hand page, a preview of the completed building, in actual photographic scale and perspective. Here, it's almost at the halfway point in structural erection. Forty floors up, sixty to go.



**It had to be more
than aluminum.
It had to be Alcoa.**

In Chicago, the John Hancock Center, designed by Skidmore, Owings & Merrill, will be sheathed in Alcoa® Aluminum. The 100-story structure will provide 48 floors of apartments and 28 floors of offices. Restaurants, stores, a garage and other facilities will make it truly a center for living in the heart of Chicago.

The architects got together with Alcoa when Alcoa could help them most. We were ready with the people, the know-how and the performance facts. An important consideration was the finishes that can be put on aluminum. Men from the Alcoa Process Development Laboratories and Research Laboratories submitted a special report—tailored to SOM's specific requirements—and made a formal, detailed presentation to the architects and owners.

Then an Alcoa specifications salesman pointed out some of the workability advantages of Alcoa Aluminum Alloys: Natural strength, light weight and formability were foremost.

The architects chose a striking combination of black and bronze Duranodic* 300 finishes. By the Duranodic process, the protective oxide film is increased thousands of times. The longevity and natural beauty of Duranodic colors are deeply anodized into the metal itself. Our experience, research facilities and knowledge of building technology can do more for you from concept to completion. Call your local Alcoa sales office collect, and talk to Alcoa at the talking tissue stage.

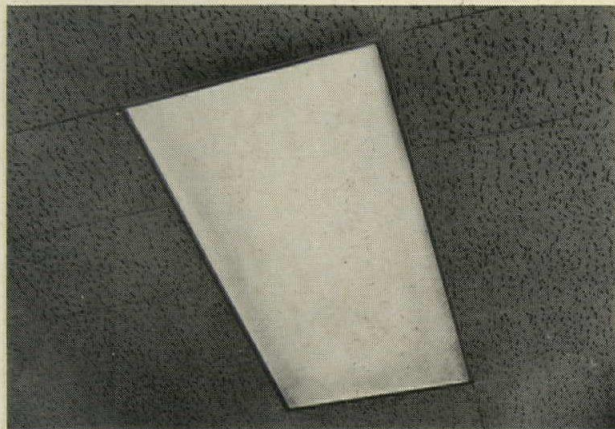
*Trade Name of Aluminum Company of America

Change for the better with
Alcoa Aluminum

 **ALCOA**



When you enter the office building in the new Madison Square Garden Center, look up



You'll see Holophane's unique solution to an unusual lighting problem

Designers of Two Pennsylvania Plaza, the office building adjoining New York's new Madison Square Garden, faced a lighting problem months before construction even started. They wanted the clean, unobtrusive good looks and superior lighting performance of Holophane frameless lenses throughout the structure. Yet the fixture called for by the building's easy access ceilings required a lens with a frame.

Holophane specialists developed a solution. Through an ingenious modification of Holophane's 2' x 4' frameless Controlens[®], they adapted lens to fixture and totally eliminated the need for a metal frame. Nearly 20,000 of these special lenses, specified as building standard, provide a high level of uniform, glare-free illumination throughout the 29-story skyscraper.

Holophane has been helping architects and builders

solve lighting problems like this for years. Big lighting problem? Let Holophane help. Just fill in the coupon.

Dept. H-1
Holophane Company, Inc.
1120 Avenue of the Americas
New York, N.Y. 10036

My architectural lighting problem is:

- Send literature
 Have Holophane representative call

Name _____

Firm _____

Street _____

City _____ State _____ Zip _____

Architectural lighting solutions from **HOLOPHANE**

Administration Building, Torrington Mfg. Co.
Torrington, Connecticut




Architect: Marcel Breuer and Herbert Beckhard



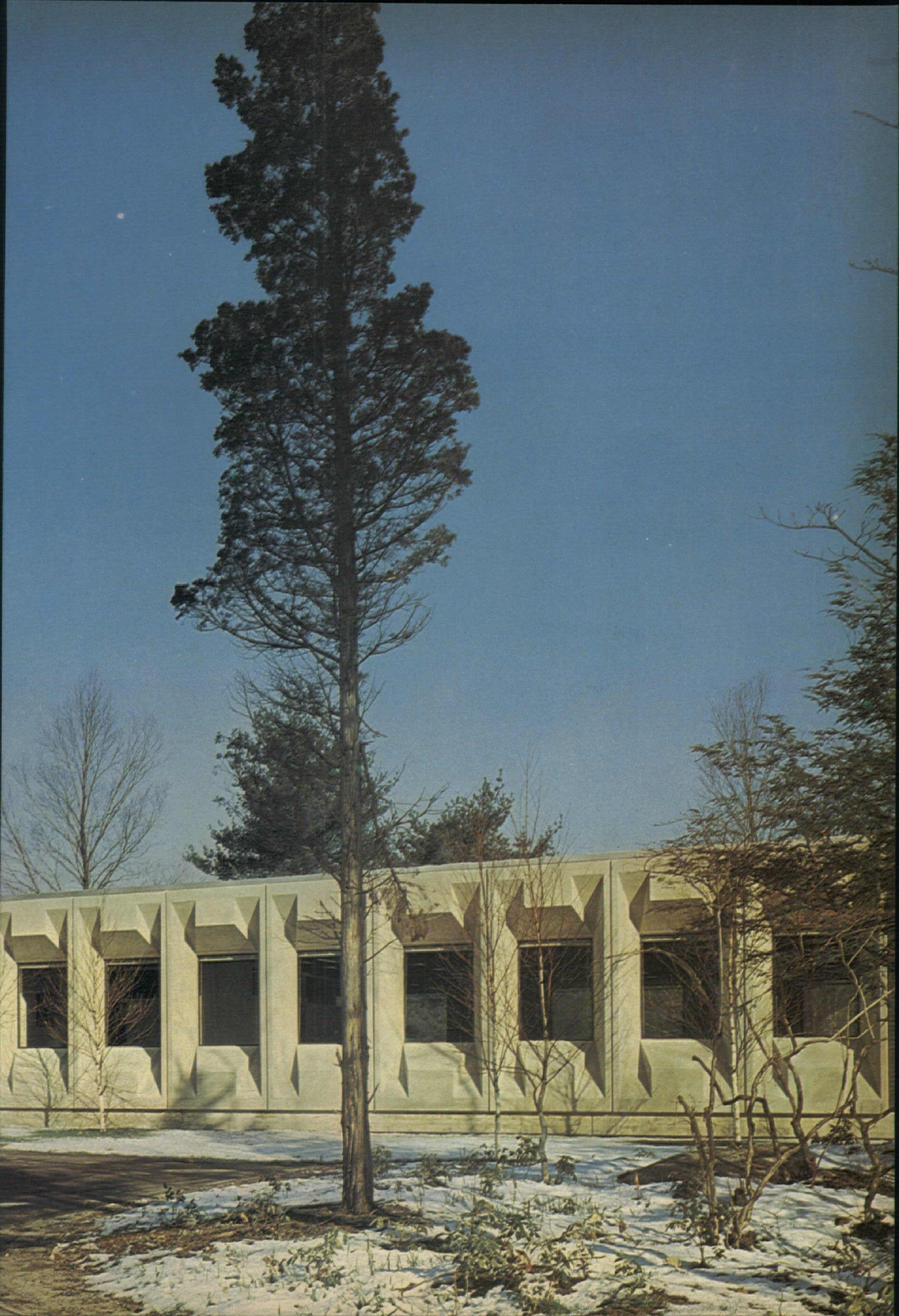
Corporate headquarters with a bright outlook—through ASG'S Starlux plate glass

From the outside, this corporate headquarters building gives an impression of substantial mass and dignity, created by its rhythmic facade of precast concrete modules. • From inside, the building is bright, open and very much in touch with its woodland surroundings. All four sides and both levels (a lower level opens on the rear of the sloping site) are glazed with ASG's Starlux® plate glass. • The windows, recessed deep within the outward-opening concrete modules, allow all offices and work areas a clear, distortion-free view of the wooded countryside. The smooth, polished surfaces of Starlux plate glass also offer a subtle contrast to the textured look of the concrete and enhance the building's "quality" image. • Twin-ground, polished Starlux is the premier product in ASG's complete line of architectural glasses. Specify it for the qualities only the finest plate glass can offer—clarity, visual fidelity, lustrous beauty. For full information on Starlux, write: Dept. D-1, American Saint Gobain Corporation, P.O. Box 929, Kingsport, Tennessee 37662.

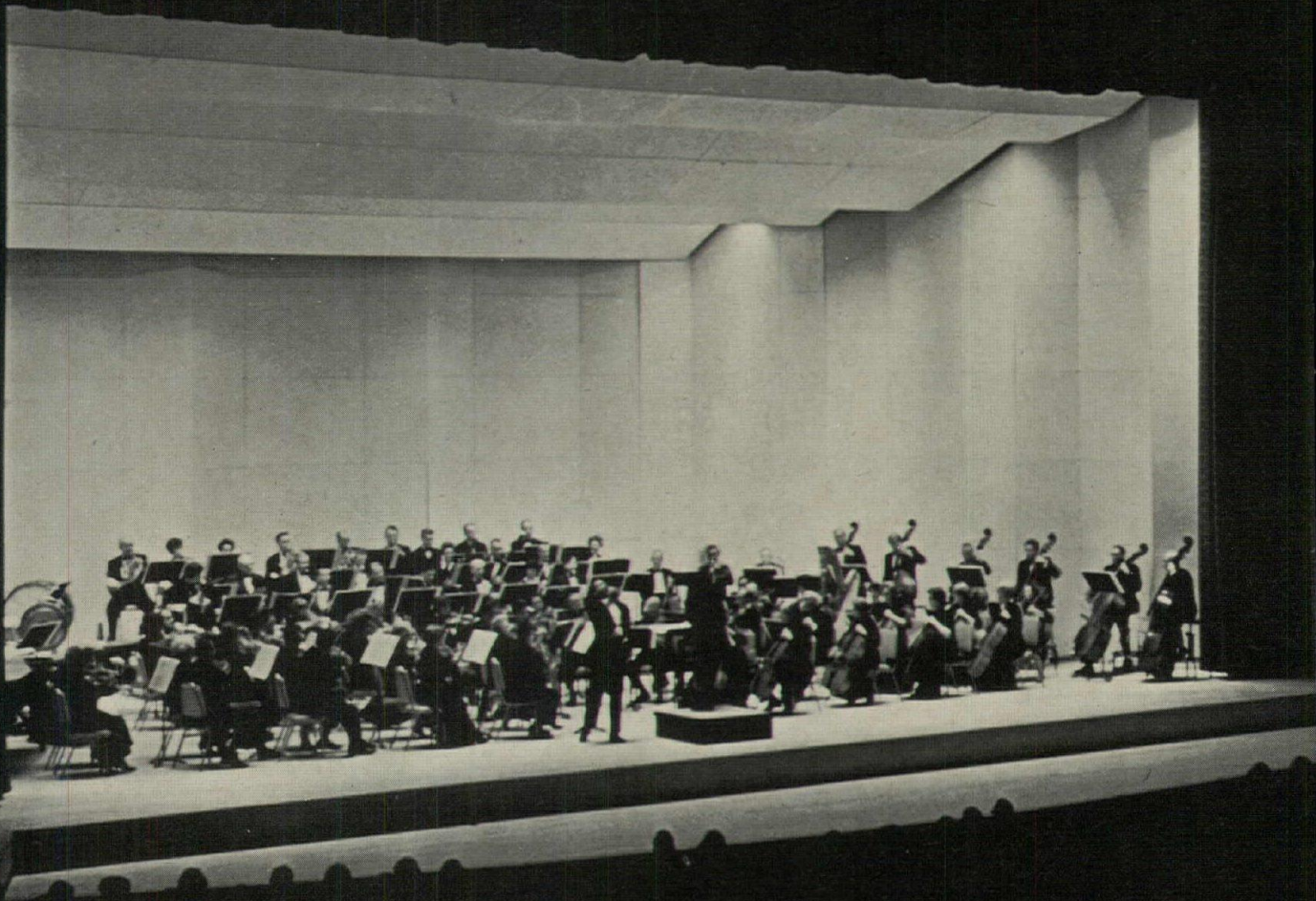
© American Saint Gobain 1967

*Starlux twin-ground
polished plate glass by*  **ASG**





Project The Total Performance



Wenger
CORPORATION

58W WENGER BUILDING
OWATONNA, MINNESOTA 55060
507-451-3010

Designers and Builders
of the Finest
Acoustical Enclosures

Wenger shells and staging are now in Sweet's: 36 c. Write for your copy of insert today!

For more data, circle 34 on inquiry card



Three Rivers apartments, Fort Wayne, Indiana

FLUROPON[®] By DeSoto

Long-Life Architectural Metal Finish... beautifies,
shields exterior metal surfaces 20 years or longer



DeSoto, Inc.
Chemical Coatings Division

1700 S. Mt. Prospect Rd., Des Plaines, Illinois 60018

For more data, circle 35 on inquiry card



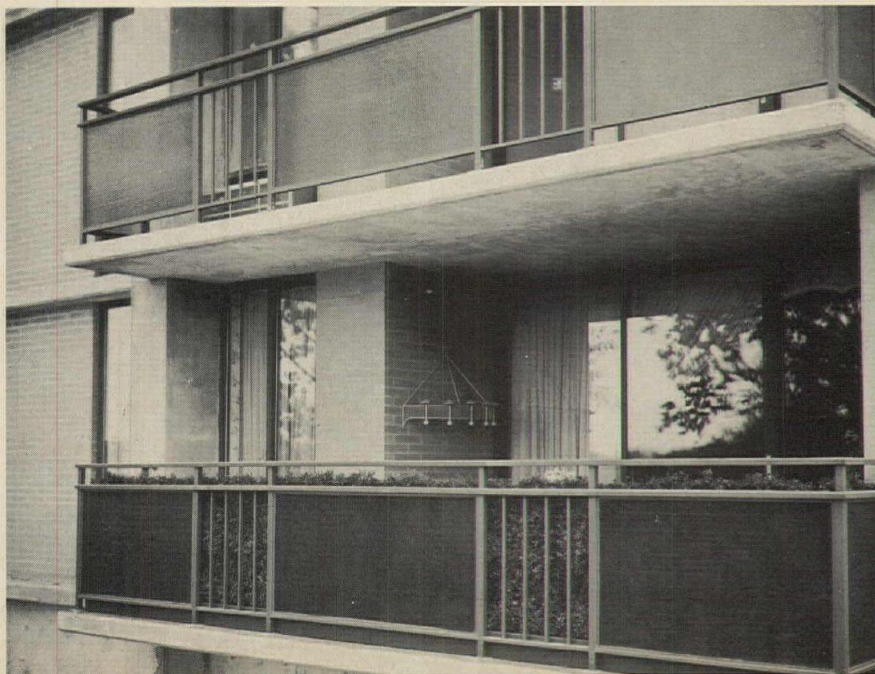
Fluropon coated metal building shapes and panels are currently available to fulfill any design requirement . . . including snap-on window trim shown at left. FLUROPON gives color and long life under even the toughest exterior conditions.



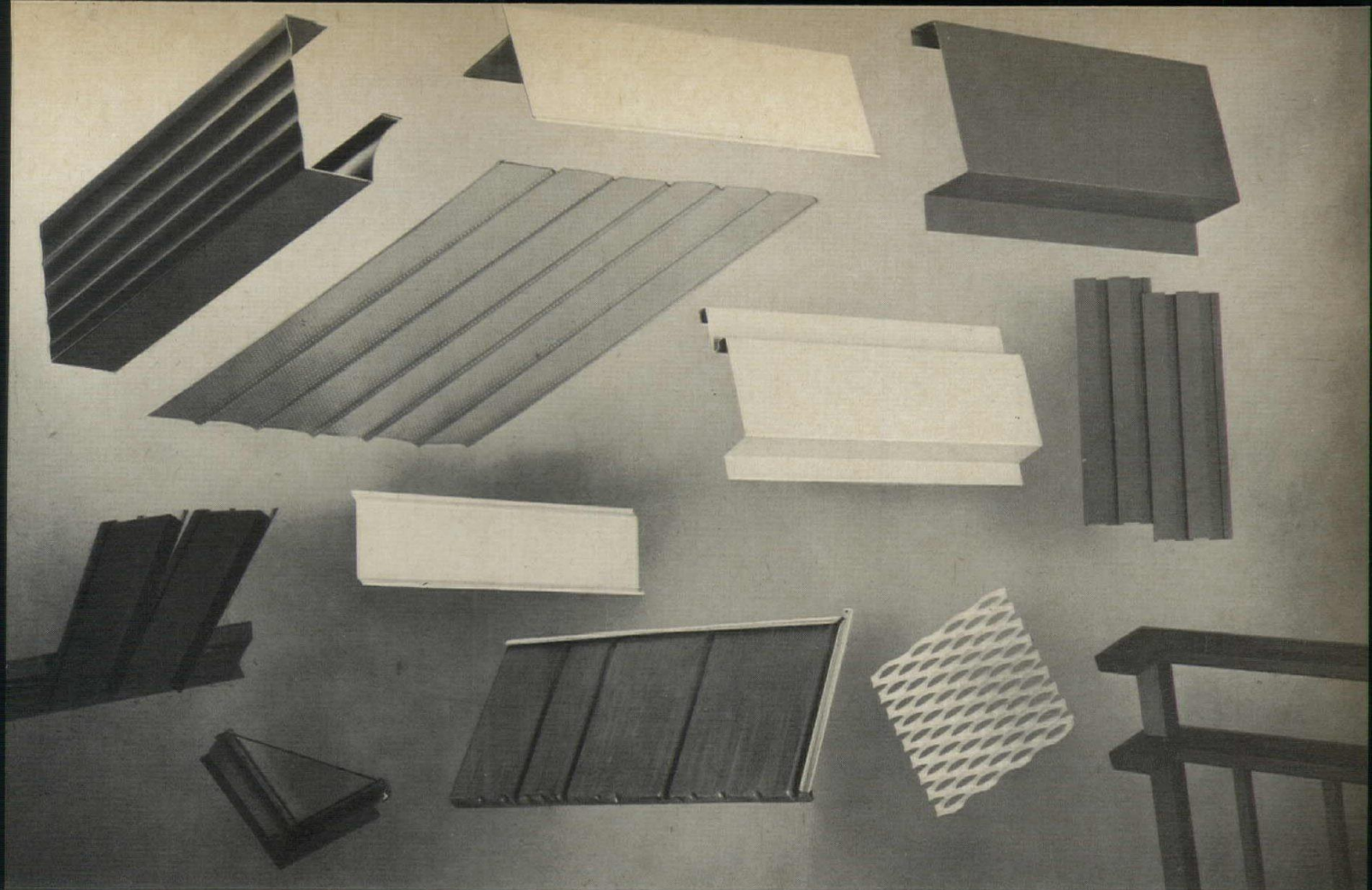
Take a good look at **FLUROPON** if you want your building to look the way you designed it... for a long time... 20 years or longer.

Fluropon is a colorful fluorocarbon coating which sheds dirt, is impervious to most corrosive atmospheres. Rain cleans it—detergents can't harm it. You can specify Fluropon with the knowledge that your client will be enthusiastic about your selection for many years to come.

Colors to meet any design need. Applicable to many uses where other coatings are inadvisable. Write for all the facts—take a long look.



Window walls, sliding glass doors and frames, balcony railings and all exterior metal surfaces of Three Rivers apartments (shown at left) are coated with Fluropon to assure long life and provide design highlights on an otherwise unrelieved expanse of masonry.



Fluropon is a fluorocarbon coating fused to steel or aluminum to form a highly protective, durable finish. Other examples of metal buildings components that can be Fluropon beautified and shielded for long life include: louvers, fascia, trim, gravel and insulation stops, gutters, expanded and perforated metal, roofing and many, many more.

SPECIFICATIONS:

All exposed exterior metal (aluminum and/or HDG steel)—including panels, spandrels, columns, supports, mullions, leaders, fascias, copings, louvers, battens, screens, flashing, jambs, sills, fenestration and hardware as applicable and as detailed—shall be chemically cleaned, pre-treated (primed in the case of HDG steel) and coated with Fluropon as manufactured by DeSoto, Inc. Fluropon must be applied by an experienced processor in accordance with Fluropon fusion process instructions printed by the manufacturer. Colors as selected by the architect. (*Long-form specifications available on request.*)

Fluropon coated aluminum or hot dipped galvanized steel panels, louvers and window wall components are commercially available from:

BUILDINGS & BUILDING PANELS

Aluminum Company of America
Alply Products Division
1501 Alcoa Building
Pittsburgh, Pennsylvania 15219

Aluminum Company of Canada, Limited
P. O. Box 6090, Montreal 3, Quebec, Canada

The Binkley Company
Building Products Division
P. O. Box 70, Warrenton, Missouri

Inland Steel Products Co.
P. O. Box 393, Milwaukee, Wisconsin 53201

Kaiser Aluminum & Chemical Sales, Inc.
300 Lakeside Drive, Oakland, California

The R. C. Mahon Co.
Building Products Division
6565 East Eight Mile Road, Warren, Michigan 48091

Pasco Steel
1301 Lexington Avenue, Pomona, California 91766

Plasteel Products Corporation
McAdams Avenue, Washington, Pennsylvania

Rheem Dudley Buildings
A Division of Rheem Manufacturing Co.
14001 South Garfield Avenue, Paramount, California

H. H. Robertson Company
Architectural Products Division
Pittsburgh, Pennsylvania

Elwin G. Smith & Company, Inc.
100 Walls Street, Pittsburgh, Pennsylvania 15202

Soulé Steel Company
1750 Army Street, San Francisco, California 94119

Stran-Steel Corporation
P. O. Box 14205, Houston, Texas 77021

Walcon Corporation
4375 2nd Street, Ecorse 29, Detroit, Michigan

George D. Widman, Inc.
17823 Evelyn Avenue, Gardena, California 90247

WINDOWS, LOUVERS AND ACCESSORIES

The William Bayley Company
1200 Warder Street, Springfield, Ohio

Blomberg Building Materials
1453 Blair Avenue, Sacramento, California

Construction Specialties
55 Winans Avenue, Cranford, New Jersey
725 Twin Oaks Valley Road, San Marcos, California
895 Thermal Road, Port Credit, Toronto, Canada

O. O. McKinley Company, Inc.
P. O. Box 55265, Indianapolis, Indiana 46205

Metal Trims, Inc.
Box 632, Jackson, Mississippi

Porce-Len Incorporated
31 Haig Street, Hamden, Connecticut 06514

Contact your Fluropon
Representative At DeSoto, Inc.
Offices:

8600 River Road, Pennsauken, New Jersey 08110
609-665-6700

1034 S. Kostner Avenue, Chicago, Illinois 60624
312-632-3700

Fourth & Cedar Streets, Berkeley, California 94710
415-526-1525

Forest Lane & Shiloh Rd., Garland, Texas 75041
214-276-5181

10 East 40th St., New York, New York 10016
212-689-7717



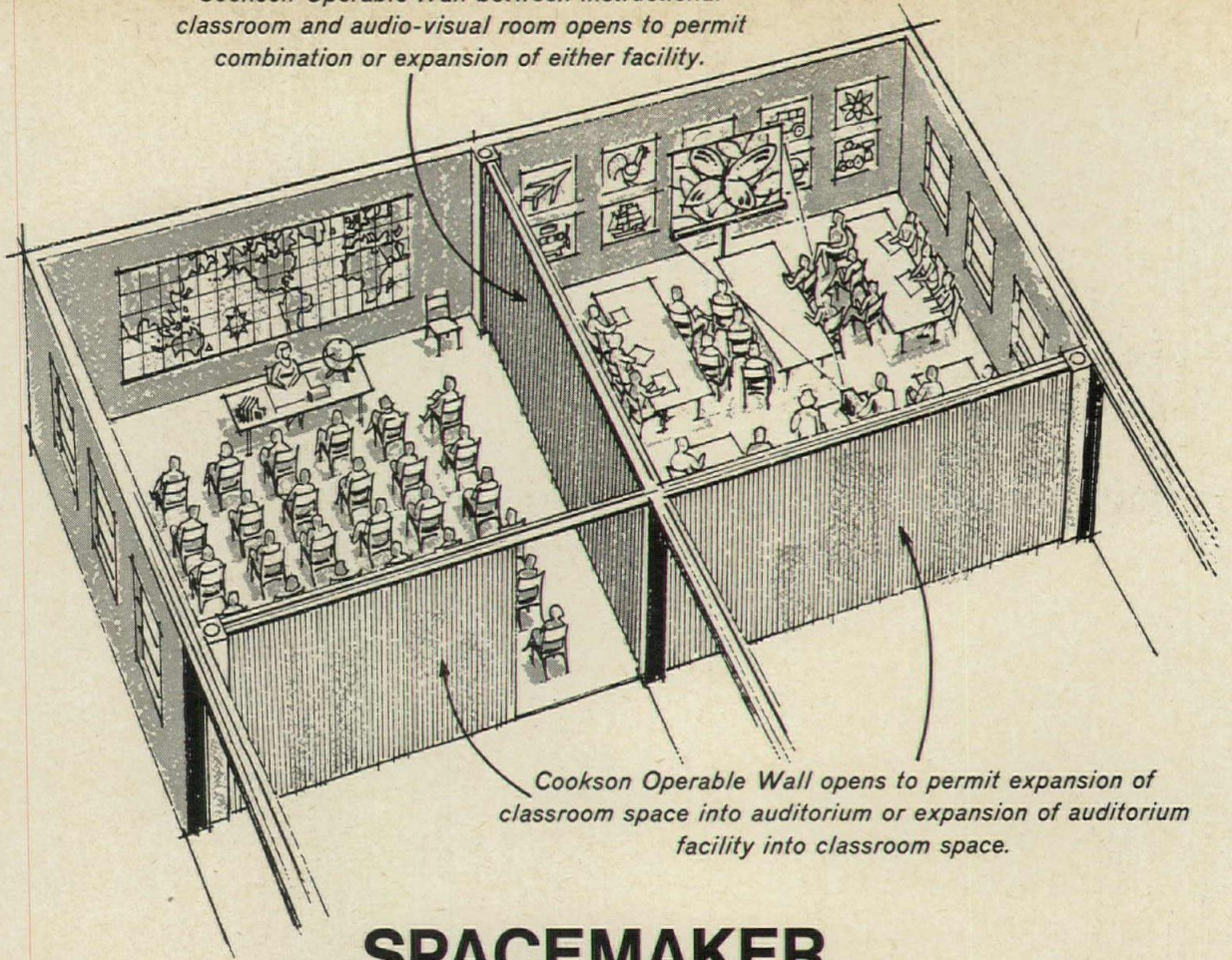
DeSoto, Inc.

Chemical Coatings Division

1700 S. Mt. Prospect Rd., Des Plaines, Illinois 60018

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Cookson Operable Wall between instructional classroom and audio-visual room opens to permit combination or expansion of either facility.



Cookson Operable Wall opens to permit expansion of classroom space into auditorium or expansion of auditorium facility into classroom space.

SPACEMAKER

When a room is too big for everyday use, cut it down to size with a Cookson Side Coiling Operable Wall.

Cookson Operable Walls come out of built-in, self-storage boxes that take up as little as 4 square feet of space. The small ones operate by hand. Motors move the big ones.

They're used as movable partitions in gyms, cafeterias, classrooms, and assembly and meeting halls. Two of them working together can close an opening 250 feet wide, yet each takes up only 4' x 4' of floor space when coiled and stored.

Cookson Side Coiling Operable Walls are available in wood, for indoor use only, and in steel and aluminum for indoors and out.

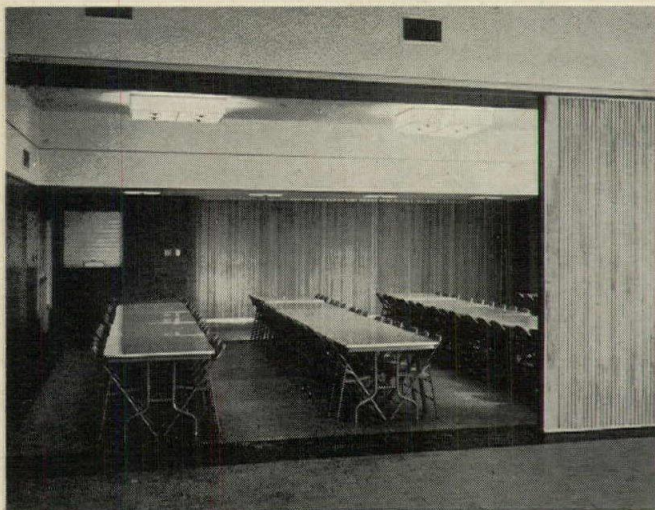
Wherever there's space that's going to waste, try our space makers—Cookson Side Coiling Operable Walls.

Write for Bulletin or see us in Sweet's.

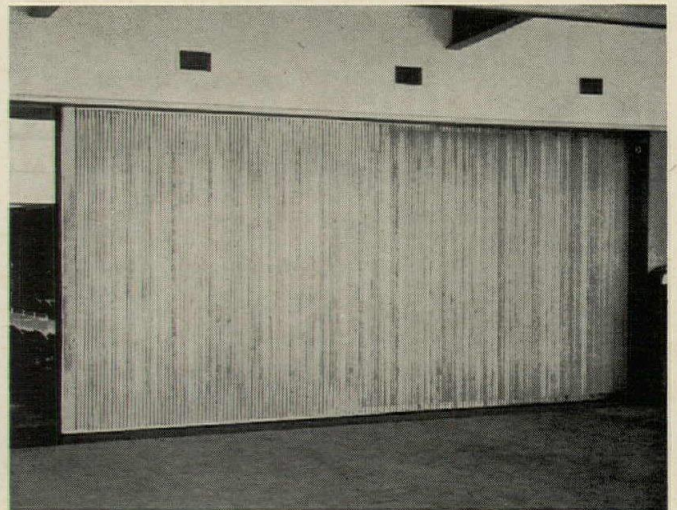
"Best Way to Close an Opening"

THE COOKSON COMPANY

700 Pennsylvania Avenue, San Francisco, California 94107



Cookson Side Coiling Operable Wall—almost fully open



Cookson Side Coiling Operable Wall—almost completely closed

For more data, circle 36 on inquiry card



SEAMLESS FLOORING

By Sonneborn

Long Lasting • Manufacturer Installed • Economical
Assured Quality • Minimum Maintenance • Non-Slip



Sonneborn • DeSoto

Sonneborn Building Products, Inc. Subsidiary of De Soto, Inc.
1700 South Mt. Prospect Road, Des Plaines, Illinois 60018 • Telephone 312 296-6611





*low
maintenance*



beautiful

Why your clients will be impressed when you specify
SEAMLESS FLOORING by SONNEBORN

A. Easy to maintain—Less maintenance than any other type of flooring you can specify . . . lower maintenance costs.

Because it's seamless, Sonneborn flooring gives your client unbroken, easy-to-keep-up beauty. No seams to trap dirt.

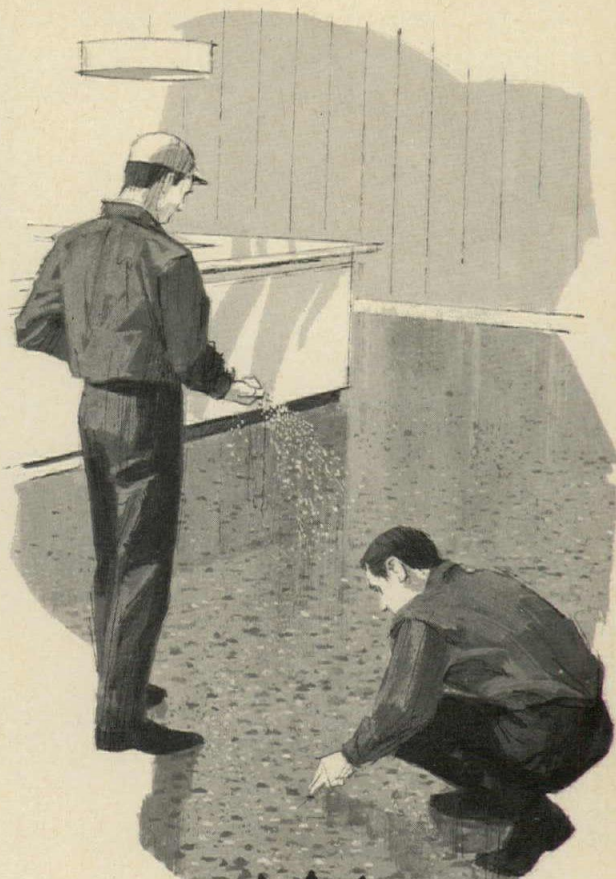
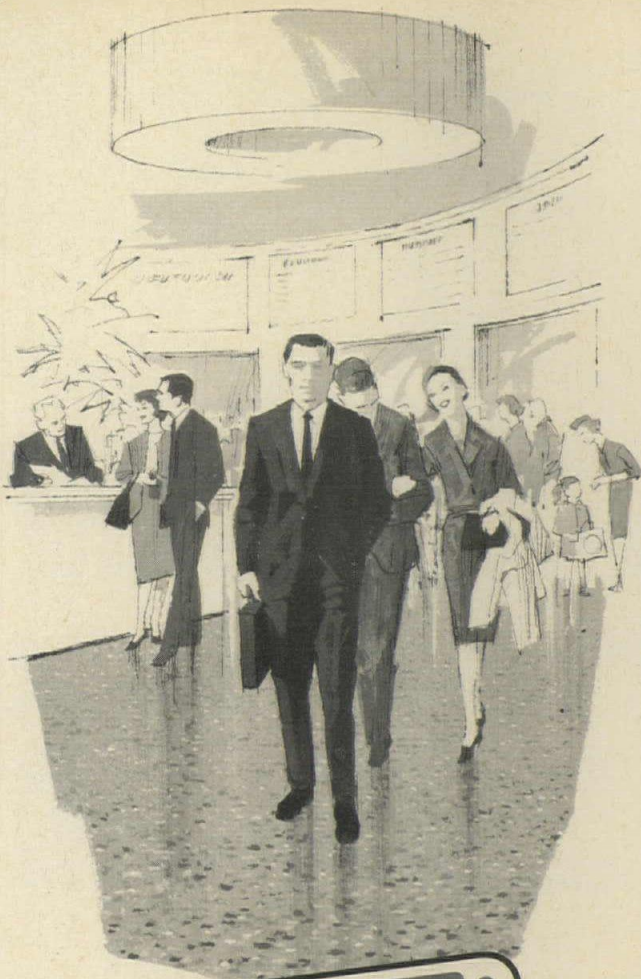
There's no problem keeping Sonneborn Seamless Flooring shining clean. Sweeping or clear water rinsing will restore the floor after even the heaviest daily traffic, with occasional cleaning or brightening.

B. Easy to use—Sonneborn Seamless Flooring has such over-

all versatility that you can design with effective beauty for any decor.

With a range of 22 basic colors that can be mixed in any proportion and accented with colored or metallic highlights, you can design a floor that's compatible with any decor.

C. Easy to live with—The finished floor takes heavy traffic in stride—even stiletto heels—no bothersome permanent indentations as with other resilient flooring. If floors are accidentally gouged or damaged, repairs are easily made.



Seamless Flooring's elasticity gives cushion-comfort underfoot. Acoustical effect muffles and reduces noise. The inherent resilience plus pleasing texture promotes firm footing and slip resistance. Its thermal insulating quality is another aid to foot comfort.

D. Manufactured and installed by Sonneborn—From raw materials to manufacture to final installation, Sonneborn controls the entire Seamless Flooring operation. We take full responsibility for the installed job. All Seamless Flooring work is under complete supervision of our full-time staff of specially trained Sonneborn Technicians. This is your single source of undivided responsibility.

To make it completely clear on our responsibility, you have it in writing as to where we stand concerning the final flooring

installation. It's all spelled out with no problems of "who's responsible for what." Sonneborn takes responsibility for the complete job—*installed*.

E. Easy to get—Sonneborn Seamless Flooring can be applied at a cost competitive with any other fine flooring . . . your clients' best long term value.

For a free illustrated brochure in full color on Sonneborn Seamless Flooring plus more information on our "single point of responsibility" contract, write today.



Sonneborn · DeSoto

Sonneborn Building Products, Inc. Subsidiary of DeSoto, Inc.
1700 S. Mt. Prospect Rd., Des Plaines, Ill. 60018. Phone (312) 296-6611

For more data, circle 37 on inquiry card

ARCHITECTURAL RECORD January 1968 67

Indoor Climate Control
is incomplete
without Controlled
HUMIDIFICATION

People, panelling, furnishings and machines in the offices of United Insurance Company of America, United of America Building, Chicago are protected from dry air by Armstrong Humidification.

Specify Armstrong "Dry Steam" Humidifiers for effective, economical, trouble-free humidification

- ... to maintain the most desirable standards of winter-time comfort
- ... to reduce static electricity annoyance for people and machines
- ... to help protect wood panelling and furniture and other furnishings from the effects of dry air

A heating system provides only half of true winter air conditioning if it doesn't provide humidification. When cold outside air is brought in and heated it gets dry, very dry ... much too dry for human comfort ... much too dry for efficient operation of business machines ... much too dry for long life of wood, carpeting and fabrics.

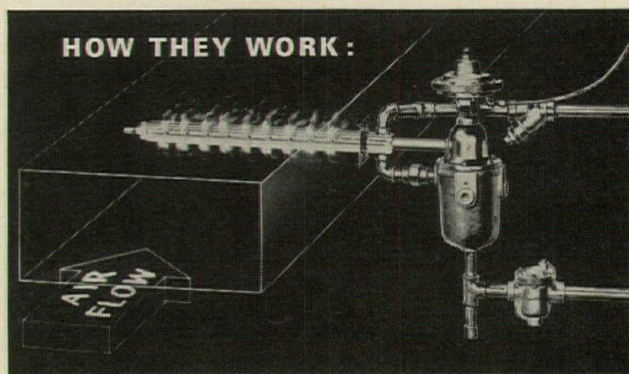
The answer is simple—and effective—with Armstrong "Dry Steam" humidification as proved by thousands of successful installations. Your Armstrong Representative will be pleased to give you full information.



**ARMSTRONG
HUMIDIFICATION**

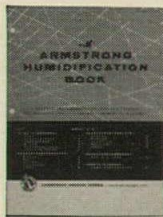
ARMSTRONG MACHINE WORKS

8570 Maple Street, Three Rivers, Michigan 49093
Manufacturers of Armstrong Steam Traps



Steam supply is metered in the humidifier body and liquid moisture removed. The steam jacketed distribution manifold assures that steam will be discharged into the air without drip and further assures that the steam will be uniformly distributed in the air flow.

WRITE FOR THESE BULLETINS



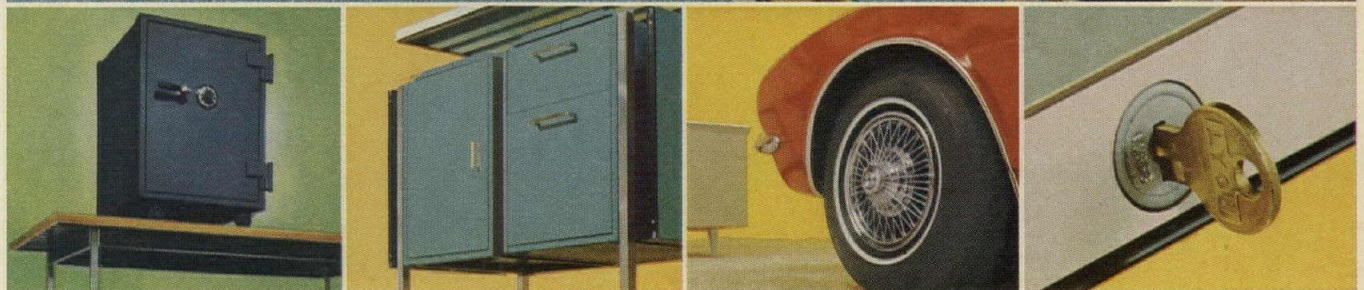
The Armstrong Humidification Book presents 28 pages on operation, selection and installation of Armstrong Humidifiers.

Office Building Humidification reprint tells how one of the nations' most modern buildings uses Armstrong Humidification.



For more data, circle 38 on inquiry card

Lyon doesn't Stop with the Best Soundproofing



For that hushed sound of elegance, we insulate every flat part with honeycomb fillers. For extra strength we use *two* layers of steel for the desk top—make it the main structural member from which all other parts stem. We give the back panels double walls. Make the pedestal frames continuously welded structures which gird the front opening. So you see, Lyon quality is *many* things. It's planned versatility; you join basic components as you see fit. It's careful sculpturing that looks less massive, adds leg room. It's a choice of nine lustrous 100% acrylic (automobile-type) finishes. It's the exclusive Lyon "lock-in-top" that controls *all* drawers. See your Lyon dealer! Or, write: Lyon Metal Products, Inc., 151 Monroe Ave., Aurora, Ill., for our free color brochure.

LYON OFFICE FURNITURE

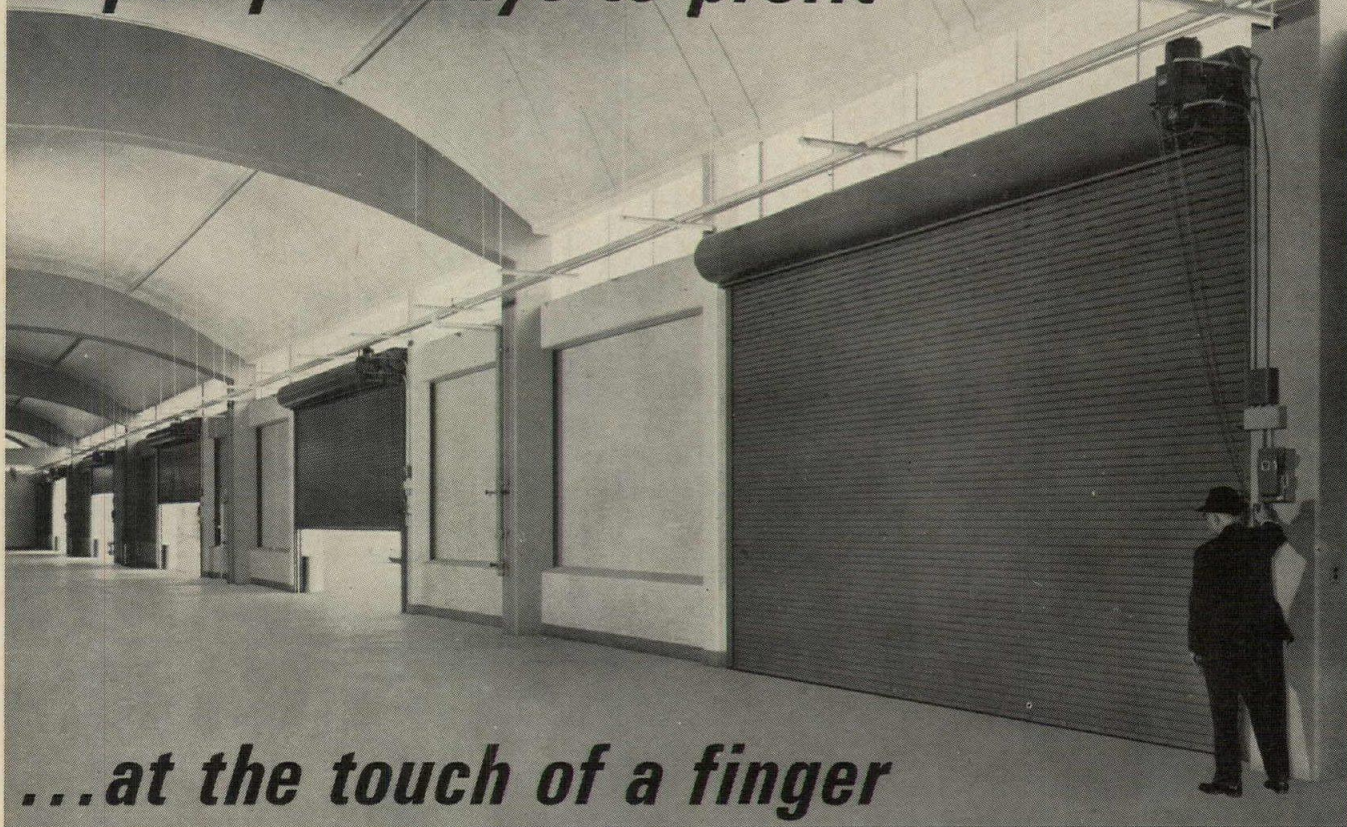
Showrooms: New York, Aurora, Los Angeles

For more data, circle 39 on inquiry card

KINNEAR

ROLLING DOORS

open pathways to profit—



...at the touch of a finger

The extra door performance of Kinnear Rolling Doors wins extra favor with the most cost-conscious building occupant. But, that's not all! The building owner's complete satisfaction is insured by the many new quality design features resulting from Kinnear's many years of specialized experience and continuous development program; plus the reliability of a proven nationwide installation and service organization. In the overall, everyone from the building's inception to its end use profits from the moment KINNEAR is specified.

The interlocking slat curtain — originated by Kinnear — that coils over the lintel has proven so practical from every standpoint that it has never been excelled for door efficiency. In addition to the inherent weather, fire and theft protective qualities, they're completely out of the way when open. All floor, wall and ceiling space around the closure is clear and usable. And their very design makes them especially adaptable to time-saving electric motor operation.

The test of time has demonstrated the durability of the all-steel, extra-rugged — heavily galvanized and paint-bonded — construction of Kinnear Rolling Doors. Even so, every Kinnear installation is REGISTERED — an original Kinnear service that insures lifetime service and availability of parts on every Kinnear built door.

Also manufacturers of Metal Rolling Fire Doors, Rolling Grilles, Counter Shutters, and Kinnear Wood, Steel, Aluminum & Fiberglass Overhead Doors.



Saving Ways in Doorways Since 1895

Offices & Representatives in All Principal Cities — listed in Yellow Pages under "Doors." Also see Sweet's!

KINNEAR CORPORATION and Subsidiaries

1880-81 Fields Ave., Columbus, Ohio 43216

Factories:

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Centralia, Wash. 98531 • Toronto, Ont., Canada

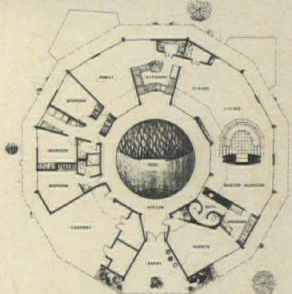


KINNEAR POWER OPERATOR

You can be sure of the best performance when you insist on both the door and the operator being manufactured by the same company — which is the case when you specify KINNEAR. The Kinnear Power Operator is especially designed for rolling door operation — and is packed with exclusive features . . . such as, automatic clutch, high efficiency gearing, emergency manual operation — that insure greater all-round efficiency. It is available in a range of sizes with a variety of automatic controls for remote operation from one or more stations. It's a must for maximum automated efficiency in today's modern buildings.

For more data, circle 40 on inquiry card

Ceramic tile lends carefree warmth to an unusual circular home by John Nyberg.



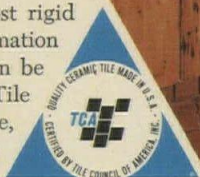
Located in Pasadena, California, this circular home has an atrium as its focal point. All rooms of the masonry and tile structure open off the atrium with its circular pool.

Designed by the firm of Nyberg and Bissner as Mr. Nyberg's home, ceramic tile is used both decoratively and functionally. Quarry tile floors are found in the living room dining, area, kitchen and den. It is also used for kitchen counter tops and back splashes.

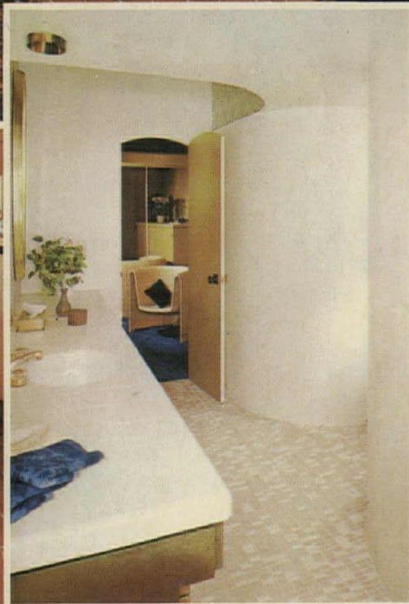
Scored glazed tile is used for bathroom counter tops and walls including a unique circular treatment of the walls of the master bath.

In keeping with the contemporary Spanish feeling sought for, extensive use of tile is made throughout other areas of this five bedroom home. Tile contractor for the home was C&D Tile Company of San Gabriel.

If you're looking for a material with limitless possibilities in combined decorative and functional use, look for ceramic tile made in the U.S.A. and Quality Certified by the Tile Council of America. The triangular seal at right is your assurance of glazed wall tile, ceramic mosaic tile and quarry tile that is tested to meet the most rigid government specifications. For more information about Certified Quality Tile, a material that can be used with confidence indoors and out, write: Tile Council of America, Inc., 800 Second Avenue, New York, N.Y. 10017. Or, see the current Sweets Architectural File.



MEMBER COMPANIES: American Olean Tile Co., Inc. • Cambridge Tile Manufacturing Co. • Continental Ceramic Corporation • Florida Tile Industries, Inc. • Gulf States Ceramic Tile Co. • Hoffman Tile Mfg. Co., Inc. • Huntington Tile, Inc. • Keystone Ridgeway Company, Inc. • Lone Star Ceramics Co. Ludowici-Celadon Company • Marshall Tiles, Inc. • Mid-State Tile Company • Monarch Tile Manufacturing, Inc. • Pomona Tile Manufacturing Co. • Sparta Ceramic Company • Summitville Tiles, Inc. • Texeramics Inc. • United States Ceramic Tile Co. • Wenzel Tile Company • Western States Ceramic Corp.



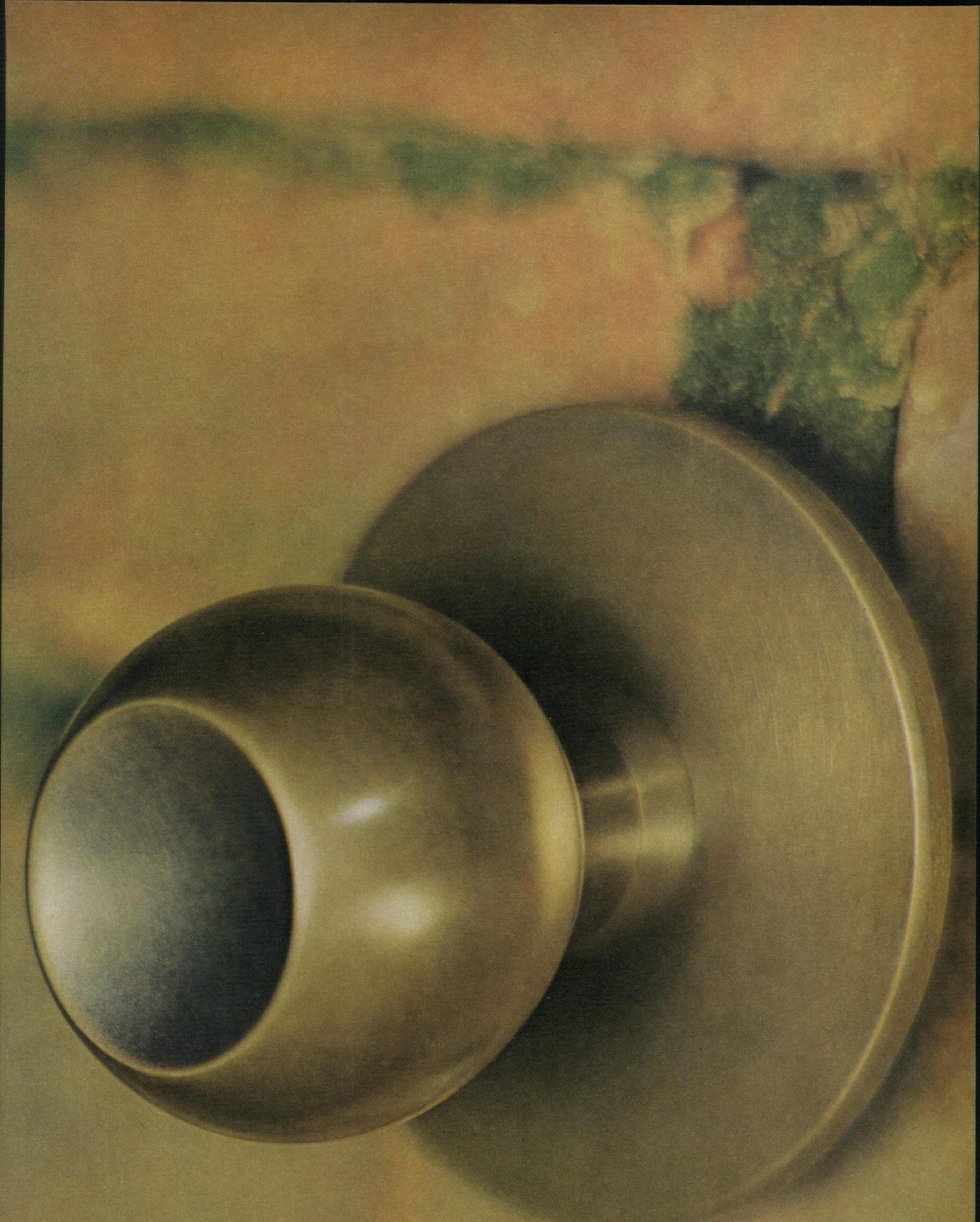
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**"You mean
I could have
narrowed
the hoistways
by 3 inches on
every floor?"**

An exclusive Otis development — Otispace-Saver doors — gives you the option of extra car capacity or extra floor space. When you're planning a building, let us fill you in on the latest in elevator technology.

Otis
ELEVATOR COMPANY

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 **SARGENT®**

*A complete line of advanced architectural hardware, including the Sargent Maximum Security System
New Haven, Connecticut • Peterborough, Ontario*

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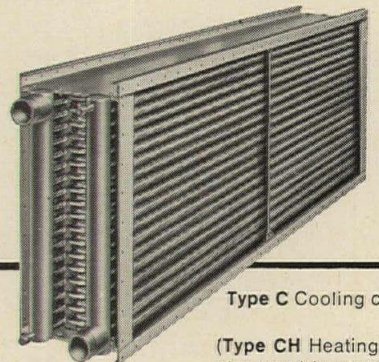
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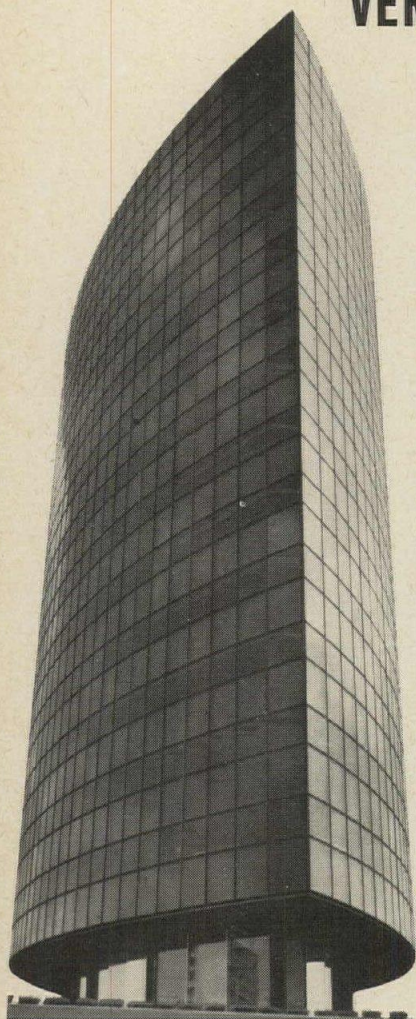
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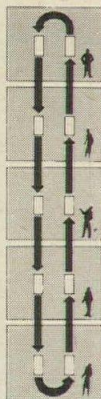
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Phoenix Mutual Life Insurance Co., Hartford, Conn. *Architect:* Harrison & Abramovitz. *Contractor:* George A. Fuller Co.



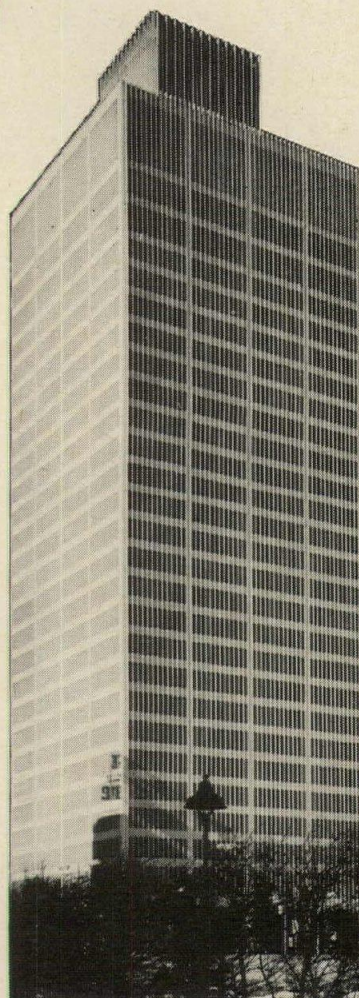
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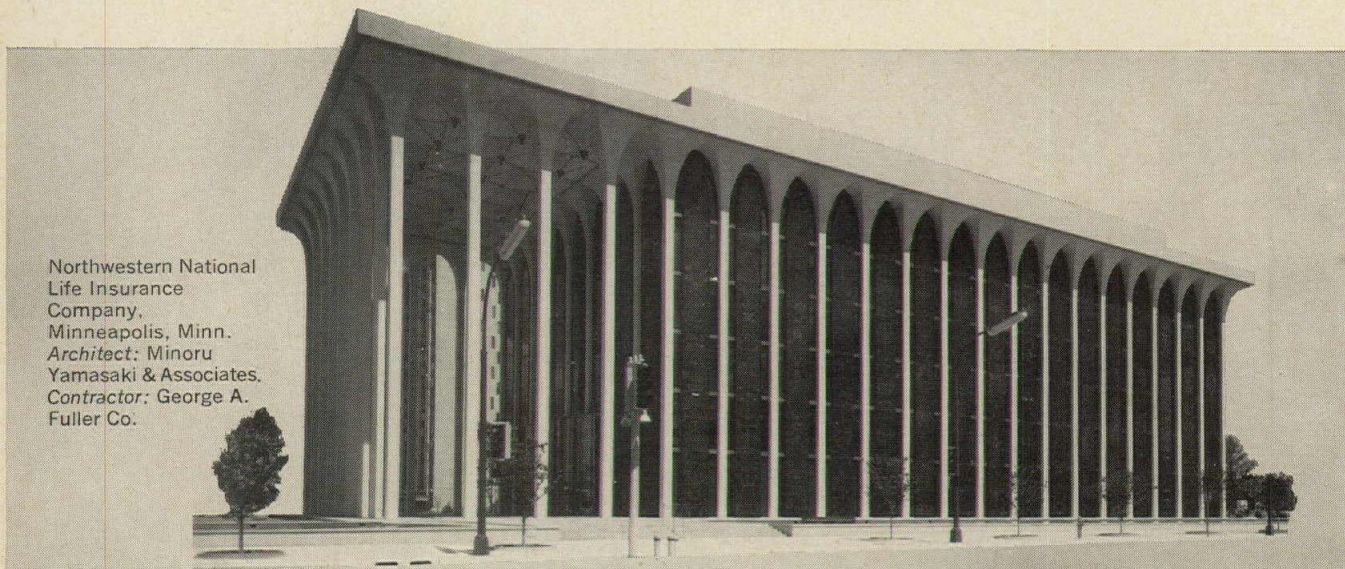
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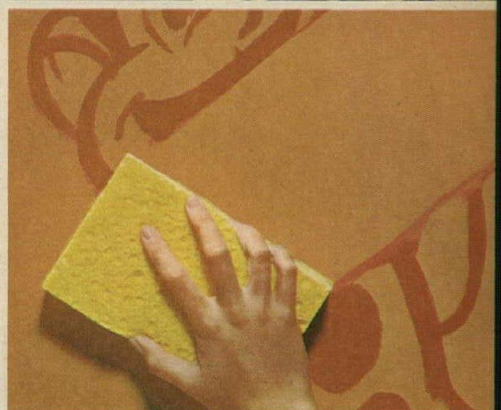
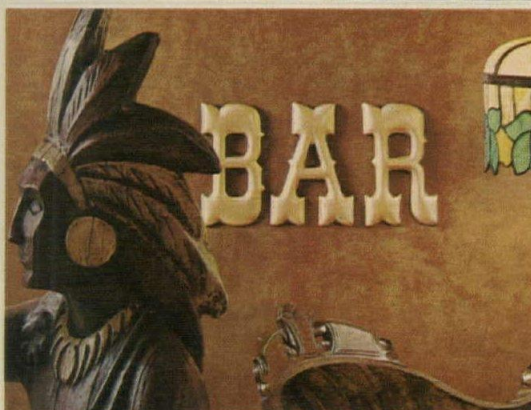
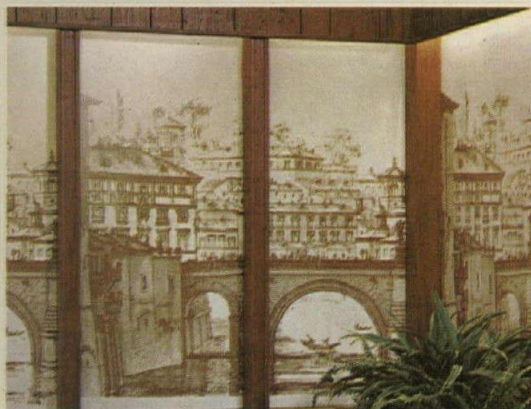


Michigan Consolidated Gas, Detroit, Mich. *Architect:* Minoru Yamasaki — Smith, Hinchman & Grylls. *Contractor:* Bryant & Detwiler Co.



Northwestern National Life Insurance Company, Minneapolis, Minn. *Architect:* Minoru Yamasaki & Associates. *Contractor:* George A. Fuller Co.

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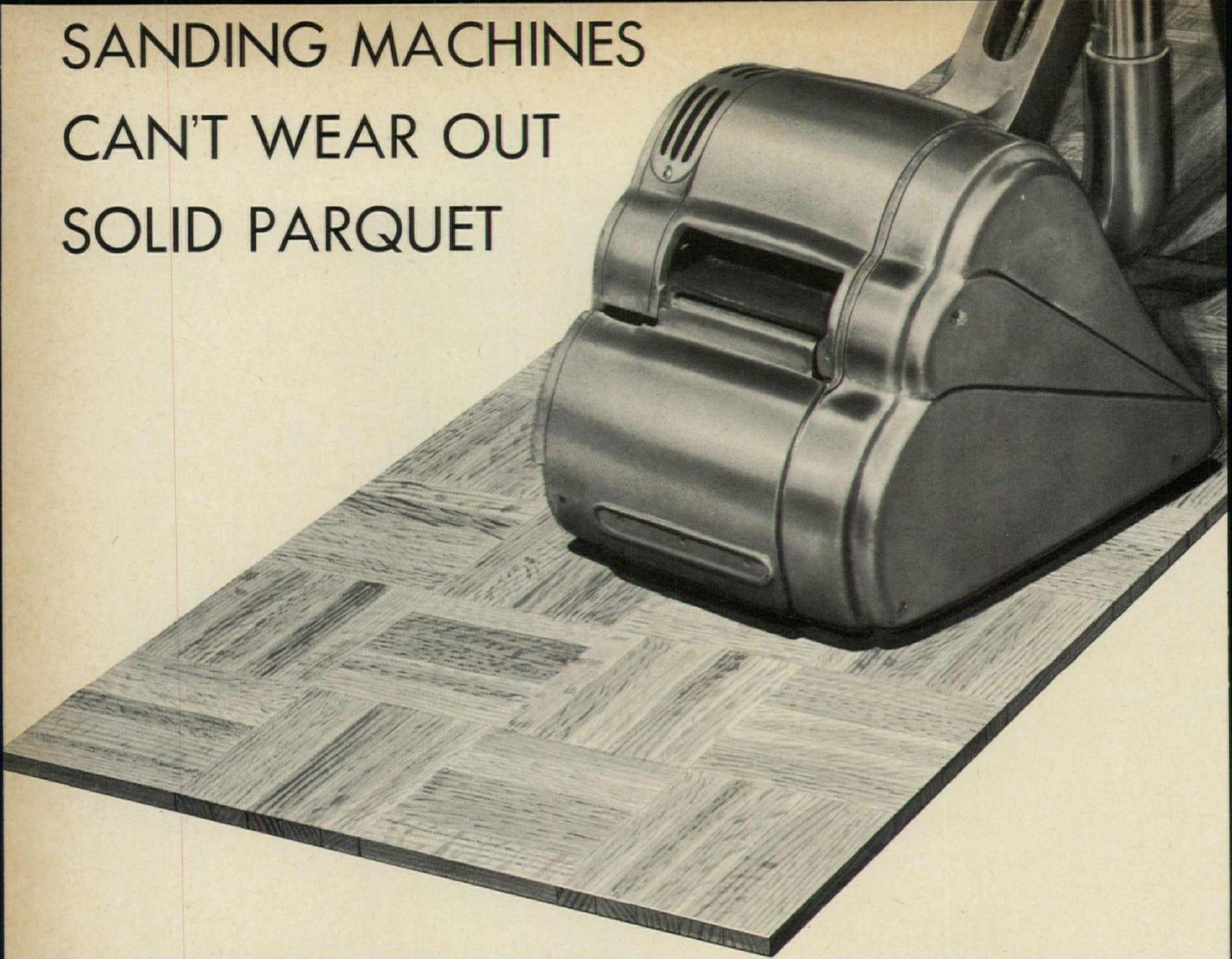


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Architects and engineers present united front

Architects and engineers are talking to each other more, and squabbling with each other less, than ever before since World War II—at least at the national level of their professional organizations. The aura of reasonableness that now characterizes discussions among the major groups representing the design professions does not mean that traditional rivalries among architects, engineers and planners have been wiped out. But the petulant refusals to agree on common problems are fading quietly into history. Examples:

- When the General Accounting Office tried to change the rules for hiring A/E services, a united front of opposition was mustered through a special "Committee on the Federal Procurement of A/E Services."

- When the General Services Administration proposed government-wide "model" contract clauses for all agencies to use in hiring A/E services, this committee presented a unified critique representing all of the design professions. This coalition has continued to pursue other legal-language controversies, too.

- The Interprofessional Commission on Environmental Design (I.C.E.D.) (with representatives from A.I.A., A.I.C.E., A.I.P., A.S.C.E., A.S.L.A., C.E.C., and N.S.P.E.) spent two days in mid-November hashing out inter-professional squabbles at the first "Conference on Interprofessional Practice in Environmental Design." While no definite jurisdictions or spheres of influence were spelled out (in fact most speakers welcomed the "increasing fudging of the lines between our professions," as Baltimore architect Archibald C. Rogers put it), just convening all groups to discuss the problem represents a significant step.

In-house postures were creating confusion in key spots

The emerging coalition of the design groups stems from several developments in the past two years or so. More than ever before, the national press is aware of environmental design. Congress has held numerous hearings about the subject, each time trying to fathom the differing views of the architects, engineers and planners.

A common threat was posed to all A/E firms last year: GAO's suggestion that price should be an element of the final selection process when Uncle Sam hires A/E services. This glue that stuck the A.I.A. and the engineering groups together has lasted through other common problems—discussions with GSA about proposed standard contract language, negotiations last month with the Naval Facilities Engineering Command after it revised its contract language about long-term design liability of A/E's.

And personality is part of the new coalition. Most of the issues involve Congress, contractual terms, legalisms. A.I.A.'s new legislative liaison, Philip S. Hutchinson, has worked effectively with his counterparts at some of the engineering groups—particularly Larry Spiller at the Consulting Engineers Council and Milton Lunch at the National Society of Professional Engineers—so that the technical

details can be worked out in line with the unified policy established through the committee. New York City engineer Richard S. Tatlow III, representing the American Society of Civil Engineers, is the chairman of the group.

The prevailing mood of cooperation does not mean, however, that the architects and engineers and planners are "becoming one." At recent Congressional hearings about new design techniques in developing highway systems, for instance, A.I.A.'s testimony differed from the engineers' and the planners'—but the three design professions weren't tossing brickbats at each other.

And within engineering circles, the institutional rivalries continue at fever pitch with each group claiming it does a better job of reflecting progressive policies for its members—many of whom pay dues to three or more national engineering groups.

Hatchets are not all buried on the local scene

There is little evidence that the current "lovefeast" in Washington is being matched by inter-professional cooperation at the local level—where issues are more personal, thereby more emotional, and usually are project—not policy—related.

But talk within the design professions, long overdue in the minds of inter-professional conferees, isn't enough, claimed A.I.A.'s executive director William H. Scheick at the I.C.E.D. meeting: "We just got together to talk to each other, and already it is time to be talking to the other members of the decision-making team."

The I.C.E.D. group decided to pursue three objectives: interprofessional

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ethical principles, resolution of registration conflicts, and a new system to encourage constructive criticism of designs.

The common interests that are keeping the design professions together on

the Washington-related issues has survived early strains; further points of contact on pocketbook issues are being discussed. But the future of the "new mood" hasn't yet been tested.

"If the name of the game is teamwork," said Irving Hand of the American Institute of Planners, "it must extend beyond I.C.E.D. to each day's practical problems."

Navy beefs up A/E liability commitments

The A.I.A., C.E.C. and N.S.P.E. have strongly protested new A/E contract wording adopted by the Naval Facilities Engineering Command. The new clause, which covers "Responsibility of the Architect and Engineer" on all NAVFAC contracts, considerably broadens A/E liability and has raised serious question as to whether contracts containing such provision should be accepted.

"Negligent performance" is an ill-defined threat forever

Of particular concern to A/E firms is one provision which reads "the architect/engineer shall be and remain liable to the government for all costs of any kind which were incurred by the government as a result of the architect/engineer's negligent performance of any of the services furnished under this contract." One attorney has suggested that such wording

tends to contractually supersede statutes of limitations on liability adopted in various states.

Another provision reads: "The architect or engineer shall be responsible for all damages to persons or property arising directly or indirectly from his performance under this contract." This does not even suggest "negligent" performance and leaves A/E's wide open for third-party lawsuits.

Navy's pot-shot may become an all-Federal broadside

In a meeting with NAVFAC officials, C.E.C. assistant director Larry Spiller was advised that the new "Responsibility for Work" clause is being considered by the General Services Administration for possible inclusion in all Federal contracts for architect or engineer services. It is also presently being studied for possible

addition to the Armed Services Procurement Regulations. The Naval Facilities Engineering Command has chosen to implement the new wording now due to unsatisfactory performance by an A/E firm on a major project.

Representatives of A.I.A., C.E.C. and N.S.P.E. have been told that the new provision is to be included in all NAVFAC contracts and if an A/E refuses to accept such provision his firm is no longer to be considered for the work.

Investigation is now underway to determine what effect the acceptance of such broad responsibility will have on professional liability insurance availability and rates. One insurer has advised NAVFAC it intends to continue insuring firms which accept the new contracts. Another company is reported as expressing "grave doubts" as to its ability to maintain present rates.

Briefs

The first 63 cities picked to get extra Federal aid under President Johnson's model cities program hope to get at least some construction under way before next year's long hot summer.

The war of wills between the President and the Congress over the tax hike and Federal spending has shut off a lot of commissions for Federal projects. The crucial question as yet is unresolved—will the freeze on all new spending be lifted before the spring construction season?

A bill calling for a national building code introduced by Representative Henry Reuss (D-Wis.) and recorded as HR12142, includes a provision which stipulates that "... no program of subsidy, aid or assistance by any agency of HUD ... may be carried on (anywhere) where the model code is not in effect." But he's backing off the idea after talking to A.I.A.'s legislative experts.

Another of Reuss' ideas, to have Uncle Sam pick up architects' costs of designing low-income housing projects in case the FHA won't insure them for lack of economic feasibility, is expected to become part of President Johnson's housing bill next year.

Prefab housing may have found a new market: Public housing officials are experimenting with a variation of the "Turnkey" process in hopes of further eliminating construction "red tape" by contracting for factory-built housing. Since the housing is standardized, and the end product is known before the contract is signed, Federal officials feel there's less reason to look over the designer's shoulder during construction.

Urban blight and rural decay could be eased, Vice President Humphrey said, by constructing in undeveloped areas "new towns built from scratch according to a master plan." Speaking to a Cabinet-sponsored seminar on population problems, Humphrey urged delegates to consider a Federal program to "move people out to the rich areas of this nation." Administration officials indicated Humphrey's plan would involve Federal incentives to build such communities.

To get them going on rent supplement and other subsidized housing projects FHA's Commissioner Philip Brownstein cracked the whip over his local officials recently. "Your job is at stake," he says. Meanwhile, congressional criticism of FHA's "red tape" grows, threatening re-

bellion against the President's housing programs next (election) year.

Recent publicity about the ills of many "new towns" is drawing rebuttals from A.I.A. about the viability of the "new town" concept. More "patient" money is the cure, claims President Durham, but lack of long-term low-cost funds shouldn't condemn the concept.

Fervent "beauty" advocate, Interior Secretary Stewart Udall grabs former D.C. Commissioner John Duncan to be his "cities" advisor. Of late, Udall has been more noticed and vocal about cityscape than HUD Secretary Robert Weaver.

HUD's emphasized role in the "software" programs of cities, rather than just "bricks and mortar," is reflected in its latest conglomeration of advisory groups: the National Education Association and the National School Board Association rank alongside the Homebuilders and the American Institute of Planners.

Health, Education & Welfare Secretary John Gardner's drive to do away with architectural barriers to the handicapped picks up solid support from A.I.A.; regional conferences are scheduled.

CURRENT TRENDS IN CONSTRUCTION

George A. Christie, Chief Economist
F. W. Dodge Company
A Division of McGraw-Hill, Inc.

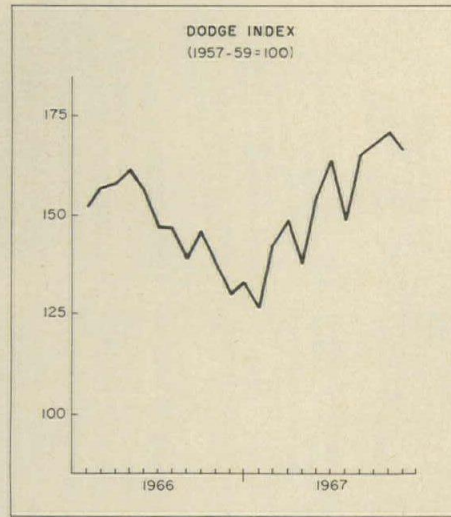
A review of 1967 construction trends

A weak beginning and a strong finish made 1967 an uphill construction market all the way. Although well behind 1966's value at mid-year, the 1967 cumulative total of newly contracted construction projects finally drew even in September. From there on, an exceptionally strong pace in the closing months brought the current year's full total ahead of 1966 by five per cent.

Measured by the Dodge Index (which depicts monthly construction activity adjusted for normal seasonal variation) January's total contract value rated a mere 126—the lowest reading in a long time. By year's end, however, the Index was setting new records in the high 160's as each successive quarter brought substantial improvement.

This severe swing from beginning to end of 1967 doesn't make too much sense when looked at all by itself. What was happening through the year was a response to events that took place back in 1966. When charted as a continuous span, the two years form corresponding halves of a deep "V" (see chart).

What caused this exaggerated down-and-up pattern of 1966 and 1967? The celebrated "credit crunch", of course. But that's not the whole story. While high interest rates and scarce funds were



F. W. DODGE CO.

bearing down generally on most building markets (and especially on housing), there were some highly specific restraints at work, too.

In the potentially inflationary months late in 1966, commercial and industrial building were deliberately held in check by the suspension of accelerated depreciation and the investment tax credit. Highway construction was inhibited in that same period when \$1 billion or so of Federal highway funds were "frozen". Other types of public

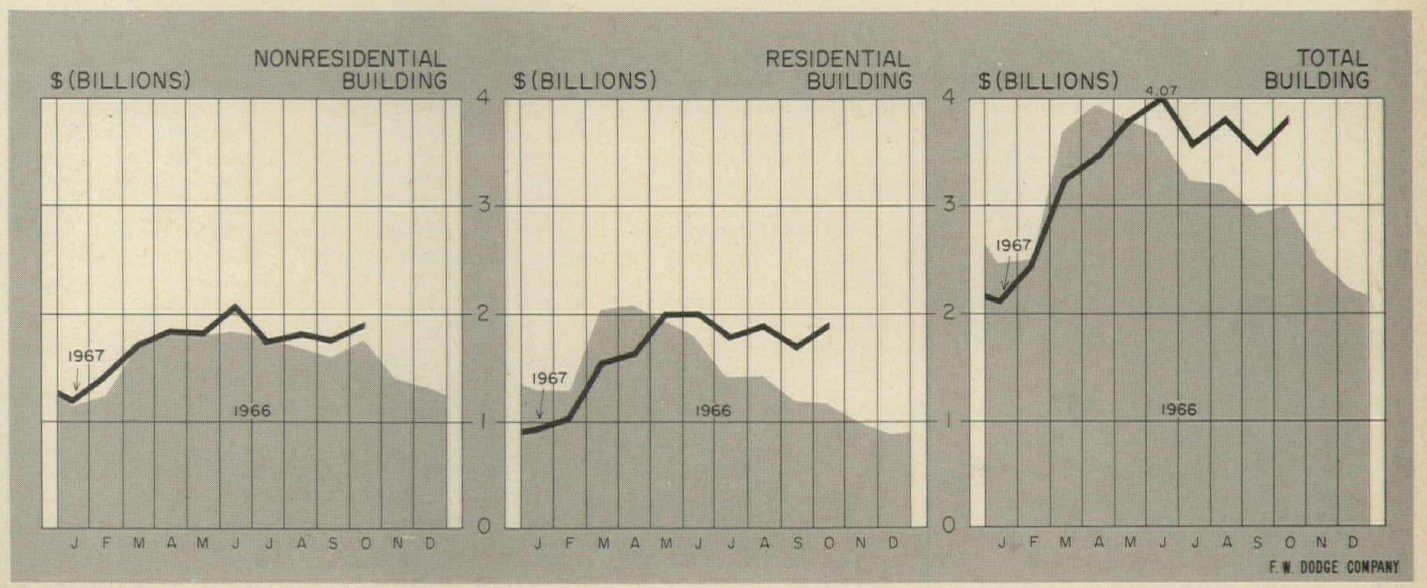
building projects were postponed, delayed, or reduced—all with the intent of compensating for some to the additional pressure that escalated military demands were putting on the economy's straining capacity.

One by one, these restraints were lifted. Beginning with the Federal Reserve Board's switch to an easier money policy, each of these impediments to construction growth was removed by Spring 1967. The very sharp rise in the rate of contracting that followed can be explained almost entirely in terms of catching-up on temporarily postponed demands for housing, commercial, institutional buildings, and public facilities.

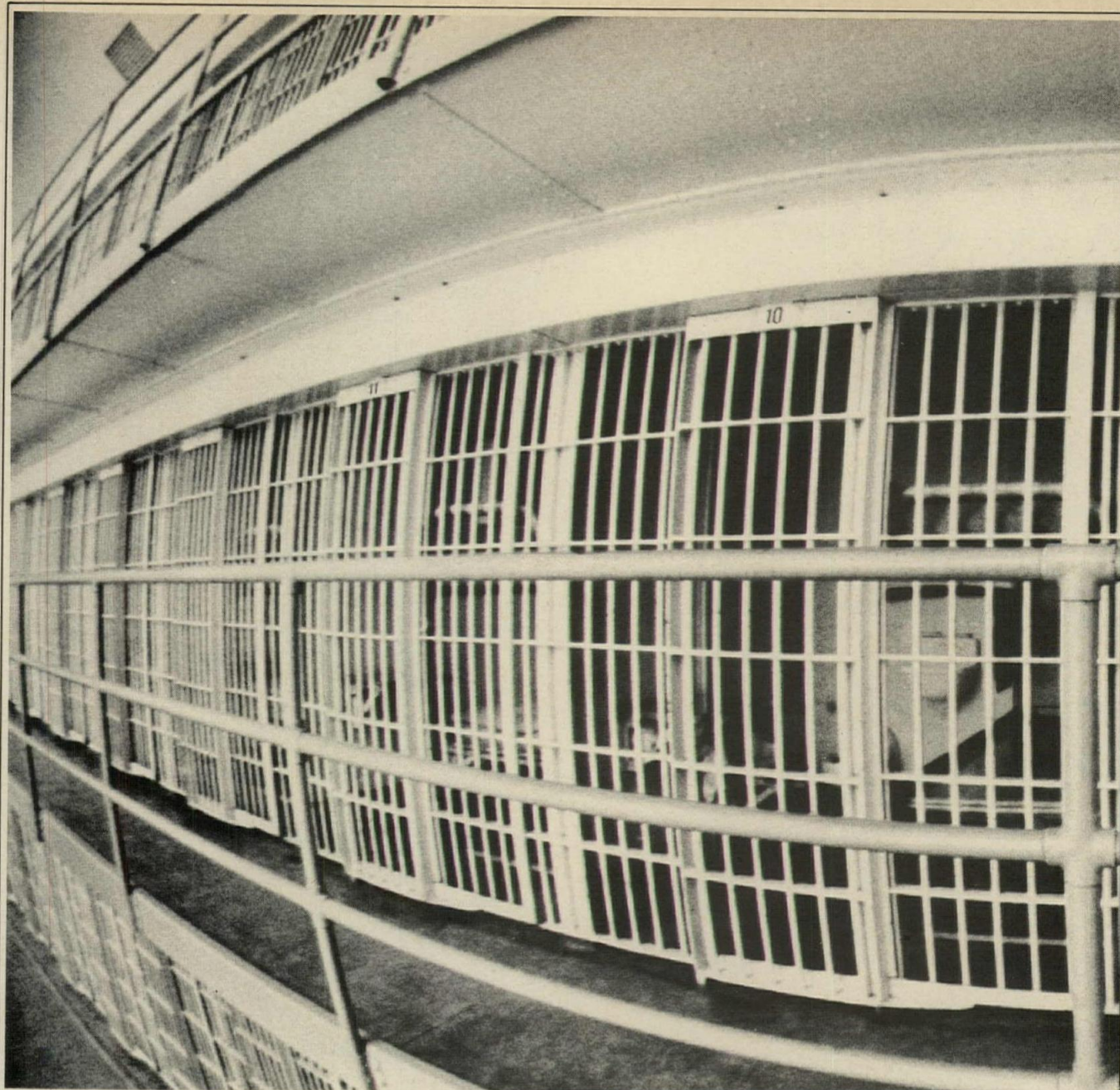
Toward the close of 1967, as the rate of new construction contracting hit an all-time peak, it was clear that the building industry was headed for a big year in 1968. Yet, while the potential demand for construction is very strong, the realization of that demand is by no means assured.

Signs of stickiness are once again appearing. The interest rate structure has been moving up despite the Fed's efforts at expanding the money supply. The still-unresolved issue of the budget deficit and the tax surcharge has been carried over to 1968.

Building activity: monthly contract tabulations



F. W. DODGE COMPANY



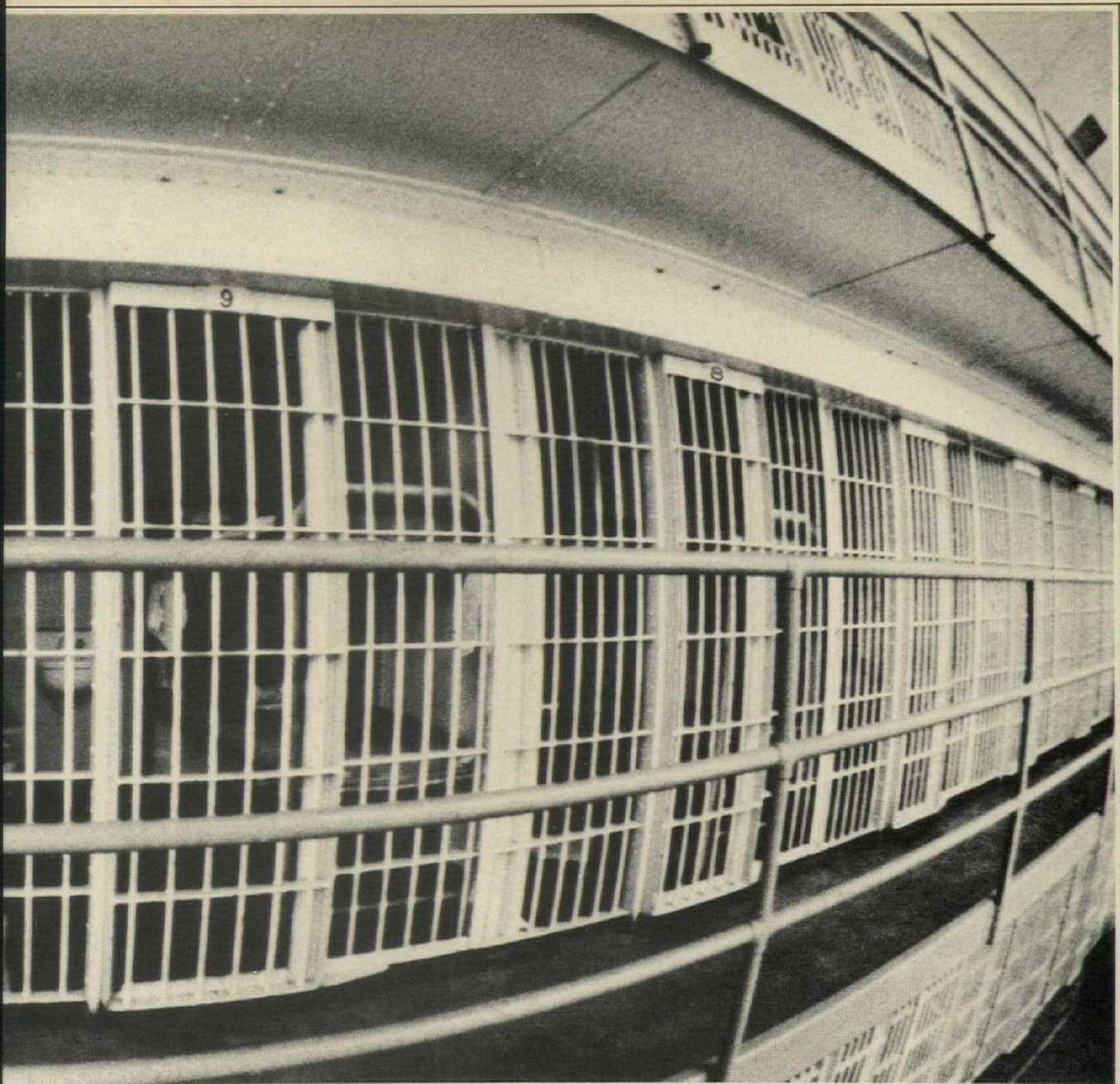
A single climate conditioning system would be fine... i

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SO 136

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TRENDS AND ANALYSIS

Lawrence C. Jaquith and Norman Kruchkow
 McKee-Berger-Mansueto, Inc.
 Construction Consultants

Unit pricing: no-man's land of cost control

One of the most frustrating experiences an architect can encounter is to have his best esthetic and technical efforts get tangled at the last moment in the red tape of poorly prepared bid documents. A common stumbling block is unit pricing. Properly used, unit prices can provide the owner with his best buy for a project. When they are misused, the architect and owner can find themselves confronted by delays, additional costs, and even lawsuits.

Open-end amounts frighten clients

On major projects, it is rare to find a contract which does not have unit prices in addition to the major lump sum line items. The unit prices, which in themselves are line items in the bid, act as open end amounts. This means that final totaling of the contract price cannot take place until the project has been completed and the exact number of units has been calculated. This aspect represents a psychological hazard to many owners who do not wish to obligate themselves for undefined costs. In many cases, however, the order of magnitude of the units involved can be calculated beforehand from known data such as borings, rock profile, anticipated changes in equipment layout, etc., so that the actual risk is not too great. But this is only true when unit prices are properly used. When they are not, the architect gets caught in the middle, as happened on a recent major project.

On this job a base bid defined the contract amount. There was also an additional item, a unit price for bog excavation, which was not part of the base bid. The quantity for this work was not indicated. At the time this didn't seem especially important since nearly everyone—the architect, the owner and most of the bidders—calculated the amount from available data and realized it would be around 10,000 cubic yards. Accordingly, they figured a unit cost of \$3.00 per cubic yard.

The one person who didn't do this was the low bidder. He entered a unit price of \$200.00 per cubic yard with his lump sum bid. He based this price on the excavation being only a few hundred cubic yards, reasoning that he would have to pay the same fixed costs for bringing in the necessary equipment for a small amount of excavation as for a larger amount. The much higher unit price would be necessary to cover this possibility. At that unit price, 10,000 cubic yards of excavation would cost \$2 million instead of the \$30,000 that the other bidders had estimated. Although the low bidder was willing to negotiate his unit price, the owner was concerned because the total cost of the project remained a matter of some uncertainty. And, as might be expected, the budget was tight. Too high a unit price practically insured that it would be exceeded.

When is a low bid not a low bid?

The owner's displeasure increased when the second low bidder brought suit, claiming that because the low bidder had entered such a high price for excavation, he really wasn't the low bidder after all. Whether he deserved it or not, the architect had to accept the blame for the added uncertainties and delays that resulted, and the extra costs involved.

This problem and a lot of others like it that result from the misuse of unit prices could be avoided.

The confusion over unit prices on the project just described was the quantity of excavation to be performed. One form of presenting unit prices that could have prevented confusion is as follows:

Example 1 Item

1. Cost of Project X complete, except for unit quantities and prices below \$_____.
2. General rock excavation 10,000 cy @ _____/yd. = \$_____.

3. Trench Rock Excavation 2,000 cy @ _____/yd. = \$_____.
4. Earth backfill in place, compacted 40,000 cy @ _____/yd. = \$_____.
5. Steel "H" piles, in place 42,500 L.F. @ _____/ft. = \$_____. Total bid price \$_____.

In this system the base bid defines the major fixed components of the project by a lump sum, such as the complete structure in place except for rock. The rock is included in the bid price as a line item with the architect stating the anticipated quantity and the bidder submitting the appropriate unit price. In this way, unit pricing becomes part of the bidding strategy of the contractor.

For stipulated quantities prices are comparable

The advantage of this format for both the contractor and the owner is that there is no question about the amount of work anticipated. In the event that some change does develop, most contracts include a clause to protect the contractor (and to a lesser extent the owner) which states that, if there is more than a 15 percent difference between stated and encountered quantities, the unit price will be renegotiated. Under ordinary circumstances, however, these unit prices are an integral part of the bid and cannot be negotiated. These unit prices do not change, and act as contract prices for the portion of the work they control.

This approach is similar to that used in civil work. For building construction it perhaps best applies when, and only when, site work is a significant part of the contract.

Under other circumstances a second format is used:

Example 2

- Cost of Project X—complete \$_____.
- Unit Prices
- 3-coat plaster in place/sq. yd. \$_____.
 - 4-in.-thick concrete masonry units/sq. ft. of wall \$_____.
 - 3-coat alkylid paint on plaster/sq. ft. \$_____.

This system is the one used in the project described above. It has a base bid which defines the contract amount and unit prices that do not indicate any specific quantities. These unit prices, which can be negotiated, are introduced for the purposes of negotiating future extras. The use of unit prices serves to closely define these extras. This has a decided advantage on commercial building projects where tenant desires may not yet be known. Often, on a public project, unit prices presented in this form are a means of insuring that the necessary funds are committed.

While the two above methods of unit pricing are the major ones used, they are by no means the only ones. There are, in fact, many variations. In one, the owner stipulates beforehand the unit prices to be used.

Example 3

Cost of Project X complete \$_____.

1. General rock excavation \$12.00/yard.

If this unit price is unsatisfactory to the bidders, they usually absorb the inequity by adjusting their price in the lump sum portion of the bid.

This is also true of another form which stipulates the quantity involved:

Example 4

Cost of Project X complete \$_____.

1. General rock excavation 2,000 cy at \$12.00 cy = \$24,000. Total contract price \$_____.

The prime advantage in these differ-

ent systems of unit pricing, and in the concept of unit pricing, is to provide the owner with the best price available for the work to be done. It gives the owner a close approximation of the ultimate cost of the project and at the same time is fair to the contractor by being open-ended and dependent on the actual quantities involved.

The inclusion of several unit prices in the bidding document does not necessarily lead to the best buy for the owner. On the contrary, too many unit prices will confuse the major contractors and his subs. For knowledgeable bidders, unit prices can pinpoint areas where the owner or the architect have not determined design. There are occasionally instances in which unit prices combined with alternates have defined a design of the project. This is known as "design by bid form" and constitutes an abrogation of the architect's prime responsibility in his work.

Contractors may be averse to stating unit prices because it locks them into unit costs which may not be adequate for conditions actually encountered at a later date. This is especially true on large projects where unit prices may apply for two or three years under changing job conditions, union demands, inflation, etc. Nonetheless, the architect can assure the owner of the best possible bid by requesting unit prices for those portions of the work in which the units are comparatively large in unit cost and/or total cost, and are not exactly known at the

time of bidding because of the nature of the work involved, e.g., rock excavation.

Otherwise, the use of unit prices should be closely confined to situations in which it is known that there will be change orders and/or the scope is not defined clearly.

In administering a job, the architect should always specify the measurement and payment criteria for unit price items. Such criteria are extremely simple for an item such as vinyl asbestos tile, whereas for excavation in rock they become relatively complex. The unit of measurement and the conditions under which these units will be paid for by the owner must be stated.

Besides clearly limiting the conditions for payment, the architect also ought to make every effort to include the quantity of work he thinks will be required under these conditions. The first example in this article demonstrated the danger of not stating estimated quantities in conjunction with unit price items, when this could have been done.

It is very important that these quantities be the most accurate estimates possible. A contractor in an unbalanced bidding situation may quote "out-of-line" prices to his own advantage if the quantities specified are obviously incorrect. If the quantity is too small he will use high unit prices and vice versa. Finally, the bidding documents should state unequivocally what constitutes the low bidder.

A.I.A. chapter supports on-job training of youth

On-the-job training for underprivileged and minority young people of demonstrated capability is available in architects' offices as a result of action by the Northern California Chapter, American Institute of Architects. The architects' action was worked out in agreement with a program proposed to them by the Bay Area Urban League.

As a result, seven young high school graduates (first of a projected 20) have begun a 26-week employment period in seven offices. The architectural firms participating so far in the program include Botsai, Overstreet & Associates; Kaplan, McLaughlin & Associates; Wurster, Bernardi & Emmons; Anshen & Allen; Stone, Marraccini & Patterson; Corwin Booth & Associates; and Welton Becket & Associates. The firm of Sasaki Walker & Associates, Landscape Architects, is also participating.

Costs of the program are being fi-

nanced in part by Federal funds administered by the Urban League, in part by a special (\$8.00) assessment of A.I.A. Chapter members, with half of the cost carried by the individual employer. Trainees will receive \$80.00 per week, of which the Urban League pays \$30.00 and the chapter \$10.00.

Terms of the agreement with the Urban League provide that initial screening of candidates will be handled by Urban League staff members who will explain to candidates the program and its requirements. Final screening of technical requirements will be done by A.I.A. representatives who will also place successful candidates in architects' offices.

The program represents the first professional on-the-job program to go into action in the Bay Area. Training will be provided in such work as the tracing of architectural drawings; basic sketch studies; lettering; graphic exhibit mounting and model making.

Concurrent with their 26-week em-

ployment period, employees in the program will be required to enroll in a course of study on the elements of architectural practice to be given by architects at the San Francisco Community Design Center, operated as part of the University of California's continuing education program.

Recent A.S.C.E.-A.G.C. report opposes some Federal ideas on inspection

Inspections of contractors, as proposed by certain Federal agencies, were opposed in a recent report by the A.S.C.E.-A.G.C. Joint Cooperative committee. The committee recommends issuance of a joint statement registering disagreement with the basic philosophy of such a contractual requirement on grounds that inspection and adequacy of design should remain the responsibility of the owner's representative; and performance of construction work consistent with the intent of the contract documents the responsibility of the contractor.

INDEXES AND INDICATORS

William H. Edgerton
 Manager-Editor, Dow Building Cost Calculator,
 An F. W. Dodge service

JANUARY 1968 BUILDING COST INDEXES

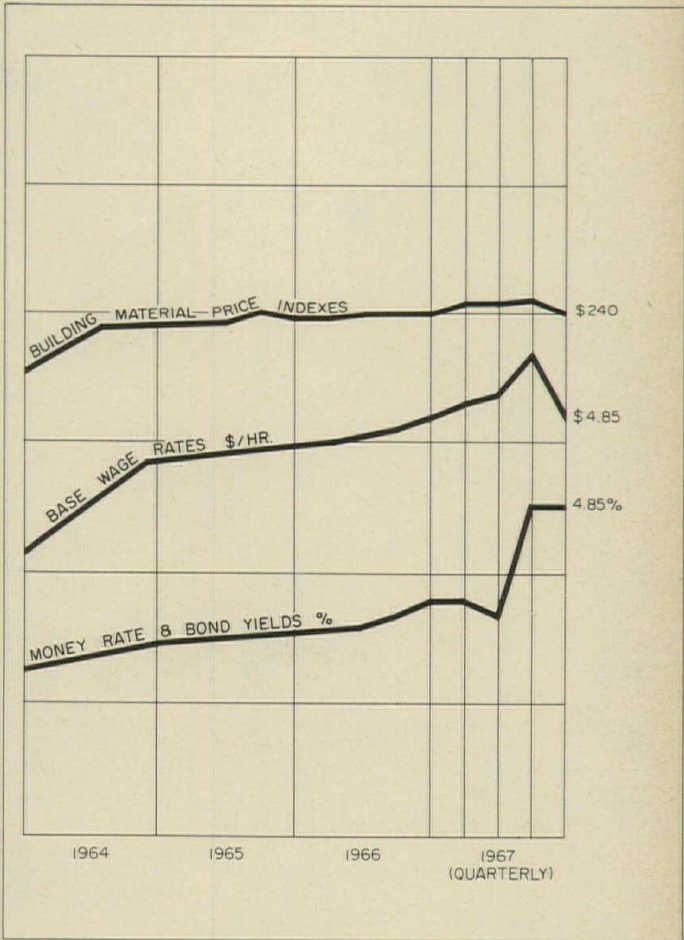
1941 averages for each city = 100.0

Metropolitan area	Cost differential	Current Dow Index		% change year ago
		residential	non-res. & non-res.	
U.S. Average	8.5	283.6	302.1	+2.04
Atlanta	7.2	320.4	340.1	+1.79
Baltimore	7.7	283.1	301.1	+1.68
Birmingham	7.5	259.0	278.5	+1.48
Boston	8.5	254.5	269.4	+1.41
Chicago	8.9	316.9	333.3	+2.50
Cincinnati	8.8	274.9	292.2	+3.56
Cleveland	9.2	290.0	308.2	+1.00
Dallas	7.7	264.4	273.1	+1.31
Denver	8.3	290.4	308.8	+2.55
Detroit	8.9	290.3	304.8	+1.45
Kansas City	8.3	253.2	268.0	+1.26
Los Angeles	8.3	289.9	317.2	+2.44
Miami	8.4	276.1	289.8	+0.74
Minneapolis	8.8	285.8	303.8	+3.73
New Orleans	7.8	256.1	271.3	+3.00
New York	10.0	298.5	321.1	+3.16
Philadelphia	8.7	283.1	297.2	+2.48
Pittsburgh	9.1	261.8	278.3	+1.21
St. Louis	9.1	280.6	297.3	+1.70
San Francisco	8.5	365.4	399.8	+1.24
Seattle	8.4	260.5	291.1	+3.09

Differences in costs between two cities may be compared by dividing the cost differential figure of one city by that of a second; if the cost differential of one city (10.0) divided by that of a second (8.0) equals 125%, then costs in the first city are 25% higher than costs in the second. Also, costs in the second city are 80% of those in the first (8.0 ÷ 10.0 = 80%) or they are 20% lower in the second city.

The information presented here indicates trends of building construction costs in 21 leading cities and their suburban areas (within a 25-mile radius). Information is included on past and present costs, and future costs can be projected by analysis of cost trends.

ECONOMIC INDICATORS



HISTORICAL BUILDING COST INDEXES—AVERAGE OF ALL BUILDING TYPES, 21 CITIES


1941 average for each city = 100.00

Metropolitan area	1952	1960	1961	1962	1963	1964	1965	1966 (Quarterly)				1967 (Quarterly)			
								1st	2nd	3rd	4th	1st	2nd	3rd	4th
U.S. Average	213.5	259.2	264.6	266.8	273.4	279.3	284.9	286.3	287.3	290.4	286.6	292.7	293.7	295.5	297.5
Atlanta	223.5	289.0	294.7	298.2	305.7	313.7	321.5	322.2	323.3	328.5	329.8	332.4	333.4	334.6	335.7
Baltimore	213.3	272.6	269.9	271.8	275.5	280.6	285.7	288.6	289.6	289.4	290.9	290.4	291.5	294.9	295.8
Birmingham	208.1	240.2	249.9	250.0	256.3	260.9	265.6	267.1	268.1	269.7	270.7	272.9	274.0	273.8	274.7
Boston	199.0	232.8	237.5	239.8	244.1	252.1	257.8	258.5	259.6	260.9	262.0	262.9	263.9	264.8	265.7
Chicago	231.2	284.2	289.9	292.0	301.0	306.6	311.7	312.6	313.7	318.9	320.4	320.4	321.3	327.3	328.4
Cincinnati	207.7	255.0	257.6	258.8	263.9	269.5	274.0	274.7	275.7	277.2	278.3	278.7	279.6	287.3	288.2
Cleveland	220.7	263.1	265.7	268.5	275.8	283.0	292.3	293.0	294.1	299.2	300.7	300.0	301.3	302.6	303.7
Dallas	221.9	239.9	244.7	246.9	253.0	256.4	260.8	261.7	262.6	265.8	266.9	267.6	268.5	269.5	270.4
Denver	211.8	257.9	270.9	274.9	282.5	287.3	294.0	294.6	295.5	296.6	297.5	297.6	298.5	304.0	305.1
Detroit	197.8	259.5	264.7	265.9	272.2	277.7	284.7	285.5	286.5	295.7	296.9	298.0	299.1	300.1	301.2
Kansas City	213.3	237.1	237.1	240.1	247.8	250.5	256.4	257.3	258.2	260.0	261.0	260.8	261.9	263.4	264.3
Los Angeles	210.3	263.6	274.3	276.3	282.5	288.2	297.1	298.0	298.6	301.6	302.7	303.6	304.7	309.0	310.1
Miami	199.4	256.5	259.1	260.3	269.3	274.4	277.5	278.4	279.2	282.9	284.0	283.4	284.2	285.2	286.1
Minneapolis	213.5	260.0	267.9	269.0	275.3	282.4	285.0	285.7	286.6	288.3	289.4	292.0	293.1	299.2	300.2
New Orleans	207.1	242.3	244.7	245.1	248.3	249.9	256.3	257.1	258.0	258.8	259.8	262.3	263.4	266.7	267.6
New York	207.4	265.4	270.8	276.0	282.3	289.4	297.1	297.8	298.7	302.8	304.0	309.4	310.6	312.5	313.6
Philadelphia	228.3	262.8	265.4	265.2	271.2	275.2	280.8	281.7	282.6	285.3	286.6	287.1	288.1	292.8	293.7
Pittsburgh	204.0	243.5	250.9	251.8	258.2	263.8	267.0	268.9	270.1	270.7	271.7	272.2	273.1	274.1	275.0
St. Louis	213.1	251.9	256.9	255.4	263.4	272.1	280.9	282.2	283.2	287.0	288.3	290.3	291.3	292.3	293.2
San Francisco	266.4	327.5	337.4	343.3	352.4	365.4	368.6	376.2	377.7	384.7	386.0	388.1	389.2	389.6	390.8
Seattle	191.8	237.4	247.0	252.5	260.6	266.6	268.9	271.1	272.1	273.9	275.0	276.5	277.5	282.6	283.5

Costs in a given city for a certain period may be compared with costs in another period by dividing one index into the other; if the index for a city for one period (200.0) divided by the index for a second period (150.0) equals 133%, the costs in

the one period are 33% higher than the costs in the other. Also, second period costs are 75% of those in the first period (150.0 ÷ 200.0 = 75%) or they are 25% lower in the second period.





Gas absorption cooling has a simple answer to noise, vibration and trouble.

It's the very simplicity of its operating design. There are no major moving parts. Instead, low pressure steam from a Gas-fired boiler energizes the liquid chiller. Quietly and without friction.

You'd think anything that operates with so little strain would have a long and efficient service life. And you'd be right. Gas absorption cooling operates efficiently even under partial loads.

It's economical, too, because the refrigeration unit gets its energy from the same Gas boiler that delivers heat and hot water. (Or from rejected engine heat.) And Gas costs very little.

Carrier lends year-round comfort to a Mies van der Rohe design.

It's Highfield House in Baltimore. The central equipment room contains a Gas-fired boiler and a Carrier absorption refrigeration unit. Hot or cold water is circulated through Carrier Weathermaker® fan coil, room air conditioning units. Each can be individually controlled by tenants to the precise comfort desired. Shouldn't you consider Gas-powered cooling and heating for your next building? Ask your local Gas Company for details. Or write:

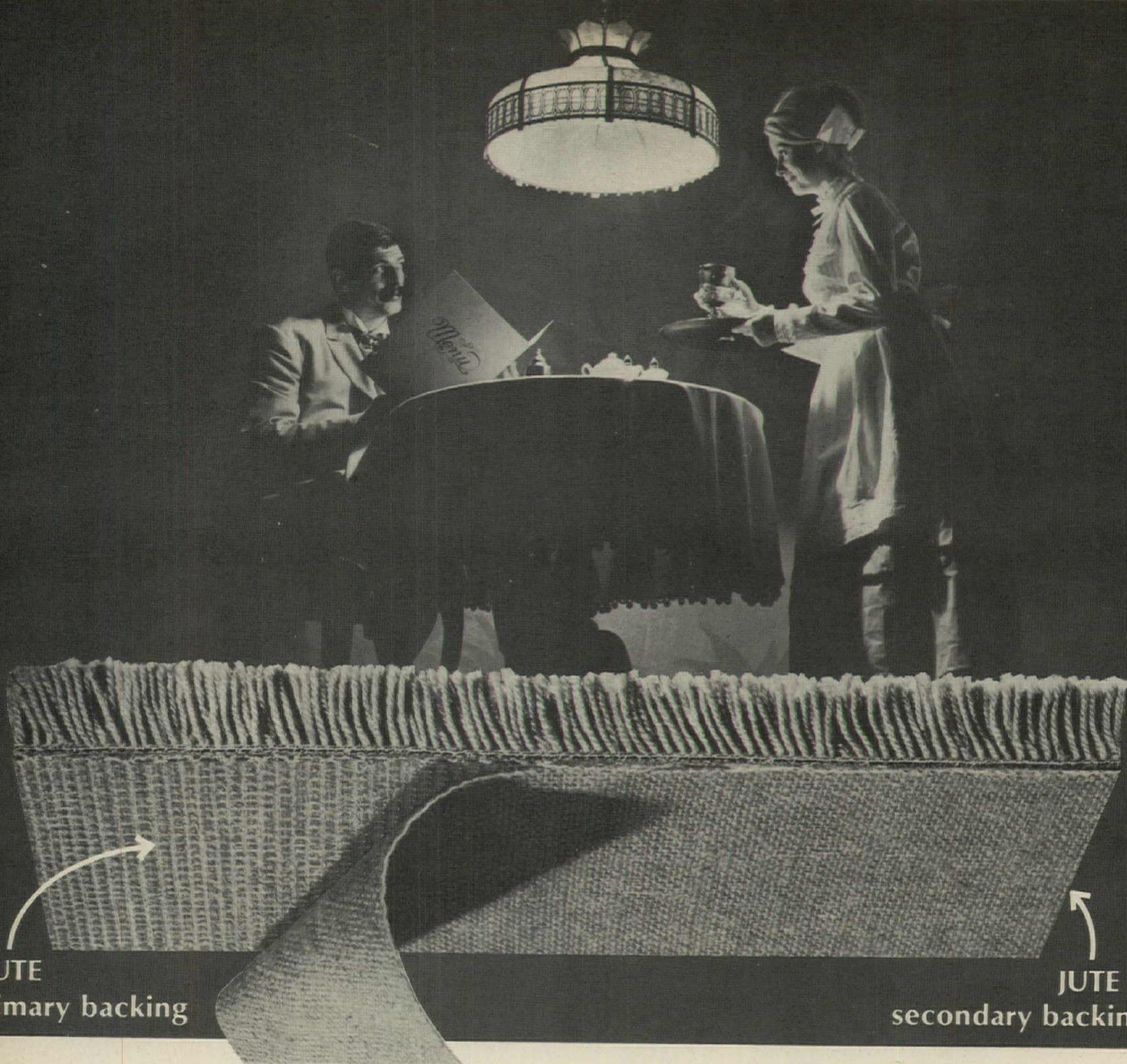


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N. Y. 13210. AMERICAN GAS ASSOCIATION, INC.

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General Contractor: Metropolitan Builders, Baltimore, Md.
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For more data, circle 51 on inquiry card



Serve tufted carpets with prime performance characteristics

Specify JUTE primary and secondary backings

Best recipe for restaurants . . . also hotels, motels, offices, hospitals, schools, stores, etc. This is the back-up team for every tufted carpet . . . the only one that delivers all the benefits listed. Be sure *both* backings are Jute. Turn the carpet over to see the secondary backing. Then flex the carpet to check the primary backing through the pile. If both are Jute, serve *au confidence*.

- Unequaled all-directional strength for full tension power-stretching (avoids re-stretching).
- Seaming virtually invisible, because Jute can take and hold smaller seams.
- Proven safety in high spillage risk areas.

- Easy tailorability, for better shaping on stairs and to irregular contours.
- Tested reliability for location or in-plant cleaning.
- Extra "body" that keeps area rugs lying flat.

Informative literature available to specifiers

1. New carpet installation method proven at Ford Motor Co., Dearborn, unexcelled for wheel and caster movement.
2. Opinions of leading professional installers on advantages of Jute, based on nationwide survey.



For more data, circle 52 on inquiry card

JUTE CARPET BACKING COUNCIL, INC.
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JUTE

Automated specification processes save time, reduce error

Faster spec production techniques—ranging from simple “cut-and-glue” to elaborate computer operations—have already replaced the repetitive and error-prone, typewriter-and-mimeograph method in some architectural offices. Procedures adapt to nearly all practice situations, but all are based on the long-standing fact that about 80 per cent of a master building specification can be duplicated for reuse. By relegating this rote work completely to the machine, accuracy improves, and resultant time and man-hour savings (especially for typing and proof-reading) can offset increased equipment costs.

Even moderate-sized firms can benefit from new techniques

Project managers responsible for the varied spec operations of Skidmore, Owings and Merrill, Edwards and Portman, Dalton-Dalton Associates, A. Epstein and

Sons, Inc., and Izumi Arnott and Sugiyama consistently report improved reproduction quality with substantial savings in job times and over-all expenditures. Based on the demonstrated efficiency of the SOM system, Tom Eyerman, cost trouble-shooter for the program, recommends some degree of automation to any firm with at least one principal and six employees, adding: “Virtually all firms with any commercial and industrial business would be wise to make cost studies to assess the system’s value” to their particular practice needs.

Edwards and Portman utilize outside photo-direct offset printing process

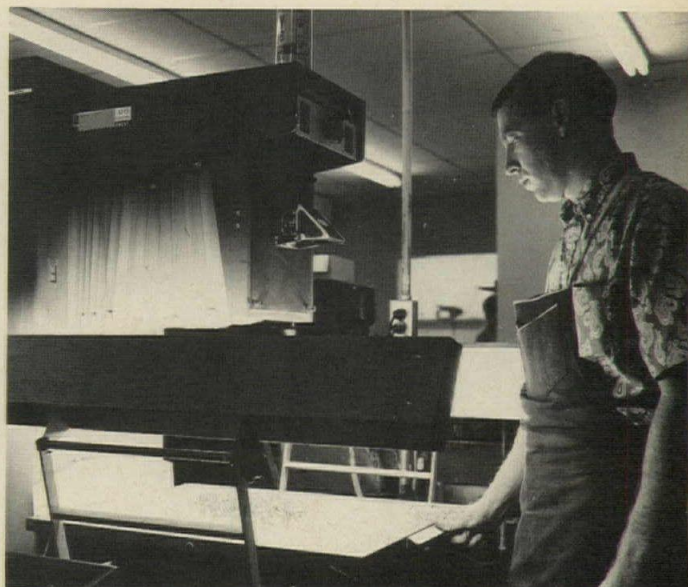
Scissors, rubber cement and white tape constitute the in-house equipment used for specification production at Edwards and Portman’s Atlanta office. An outside printing service, using a photo-direct offset process that permits reproduction

from ordinary bond paper, then finishes the job.

Spec writers simply rework an old specification and have altered paragraphs retyped and glued over old ones. If a new paragraph is too long, pages are cut and reassembled. White tape is used to change paragraph numbers. The cut-and-glued spec is then sent to the printer, where an offset film plate is produced by the photo-direct camera.

The camera’s cost (when it came on the market in 1961 the price was about \$4,800.00) has made its purchase for in-house use impractical, but Edwards and Portman report that while having the work done outside is slightly more than in-house mimeograph reproduction, the stenographic-typing-time savings more than compensate for the difference. And the photo process offers an added advantage by permitting drawings and details to be bound into the specification.

At Edwards and Portman, typed corrections and additions are refit and glued over inapplicable standards of a similar, completed project spec. Then a negative of the pasted dummy is produced by the photo-direct camera. This negative will serve as the offset plate in the reproduction process.



Computer operations use master spec as primary data source

In several offices where the computer is enlisted in the spec production process, standards such as the A.I.A.-C.S.I. reference format are used to develop a coded master specification containing all sections. This master, keypunched onto cards—and often transferred from the cards onto magnetic tape—can automatically generate 80 per cent or more of a typical project specification. The balance is first written out, then similarly keypunched and automatically incorporated into a printout of a finished job spec. A possible byproduct, used by A. Epstein and Sons Inc. and SOM, is a list of all required shop drawings, submittals, material samples, manufacturers, suppliers and subcontractors which appears at the end of the job spec. This list contains blanks for the successful bidder to fill in with expected dates for shop drawing and sample submittals. These target dates are reviewed by the architect and stored in the computer file. At A. Epstein the computer scans all jobs in this file every third day to keep track of late material.

Selection and alteration process from master to job specification

With in-house computer programs, project spec teams at both Izumi Arnott and Sugiyama and at A. Epstein follow similar procedures:

1. They scan a print-out of the master to select required sections or section subparagraphs from a prepared coded index.
2. Wherever necessary, additions or changes are written in. Then, as working drawings near completion, all revisions are keypunched on cards.
3. The master sections that were chosen from the index are run through the computer together with the keypunched revisions and instructions. Infor-

mation is transferred and numbered sequentially by the computer to produce printout sheets of a complete project specification for offset reproduction.

Both firms update their master specifications to reduce the number of revisions necessary for future projects. The Izumi Arnott and Sugiyama master is stored on punch cards, so revision cards are automatically included; but since A. Epstein & Sons use a master tape, punch-card revisions are held for review and later spliced onto the tape when project specs are finished.

Dalton-Dalton and SOM use remote computers

With in-house IBM 1130 computers already overloaded with other office tasks (such as routine business functions and structural and mechanical engineering), Dalton-Dalton Associates and Skidmore, Owings and Merrill found outside computer centers the most practical solution. The IBM 1130, in addition, could not meet SOM's graphic requirements. The more complex—and consequently more expensive—computers provided by the outside service retained by SOM feature job-specification text with justified margins, one- or two-column format, and both upper- and lower-case type (most computers print out only upper-case characters). For a preliminary print-out, the program SOM uses (IBM text 90) will

also list possible spelling and grammar errors at the end of the specification.

Job-spec procedures are much the same as those for in-house computer operations—except that at SOM up to 10 copies of project standards selected from the master spec are produced by Xerox equipment and distributed to the job captain, project engineers, spec coordinator and project manager for amplification. All job changes to the master are sent to an outside keypunch agency, returned, and then sent to the computer center. Once all material is received by the center, SOM can expect the finished project spec printout within three days. Printing, collating and binding operations are performed in-house by SOM personnel.

The 2741 terminal at the downtown Cleveland office of Dalton-Dalton Associates permits ready access by telephone lines to the computer facilities at IBM's Datatext Center, where their master spec is stored. The office terminal can receive and automatically type out chosen sections from the master as recorded at the data center. Necessary changes or deletions can be typed in at Dalton-Dalton's terminal as well. These changes may either be recorded on a secondary project tape or, by special instruction, incorporated directly into the master. The computer at the center accepts the changes and produces a reproducible printout for offsetting.

Other uses for the Datatext Center, now under study by the firm, include a program to update the master monthly by including new products *before* they are required for a project; and development of a product file which will permit the firm to feed in building product requirements and obtain specs for all suitable products.

Cost comparison at SOM

	Old System	New System
Operating cost	\$4,442	\$ 400
Computer print-out	0	620
Reproduction	200	546
Cost per Spec	\$4,642	\$1,584
Saving per Spec		\$3,058
Time in days	15	5

Izumi Arnott and Sugiyama use an in-house IBM 1401 computer with tape drives, card read-punch unit and an on-line printer. To generate a project spec from the master, the key-punch operator merely transfers required clause numbers together with spec writers' additions onto punch cards. The system then automatically transfers information from master tape and punch cards at about 300 lines per minute to produce a print-out for offsetting.

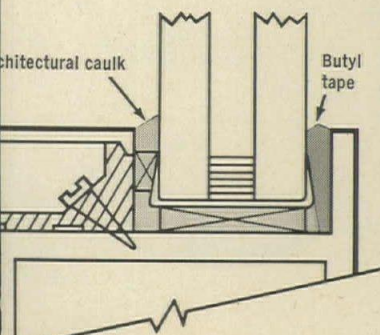


From 30° below to 100° above...

Architect: Minoru Yamasaki Associates,
Ann Arbor, Michigan.
General Contractor: George Fuller,
Chicago, Illinois.
Glazing Contractor:
Y's Glass & Mirror Company,
St. Paul, Minnesota.
Tape Manufacturer:
Enjay Manufacturing Company,
Cleveland, Ohio.



Butyl tape keeps insulated windows leak-free.



Because of the seasonal temperature extremes in Minneapolis, the tall, dual-pane insulated windows used with the marble sheath on the new Northwestern National Life Insurance Building needed a carefully designed glazing system. An effective seal was obtained with flexible, non-hardening Butyl tape.

Made of specially processed Enjay Butyl rubber and polyisobutylene, the preformed tape has 100% non-oxidizing solids. It provides a strong bond between the glass and external stop... is resistant to shrinking, hardening, cracking, ultraviolet rays and temperature extremes between -40° F and 200° F... gives practically permanent sealing. On sashes with interior

stops, all glazing with Butyl tape can be done from the inside... with no scaffolding or external clean-up. Supplied with a paper backing, the tape is easily and quickly applied.

Butyl sealing tapes are also widely used for sealing mullions, exterior panels and the like. They are available in a variety of colors and shapes, usually with internal reinforcing to prevent distortion and squeeze-out.

Enjay does not make tape, but we do supply Butyl rubber and other elastomers to quality-conscious tape manufacturers. Enjay Chemical Company, 60 West 49th Street, New York, N. Y. 10020.



For more data, circle 53 on inquiry card

Value is: using outer space to heat and cool a shopping center



Where's the Carrier heating-cooling equipment?

In outer space on the roof. No machinery anywhere inside—every inch of profitable floor and wall space can be utilized.

But, you may say, any roof-mounted system does that.

True enough, but none offers the value of Carrier units.

Value that pays off in labor-saving adapter packages that slash installation time and costs to a minimum.

And continues to pay off in low operating costs. The quality built into Carrier units delivers extra dividends in years of virtually trouble-free operation.

If air conditioning is in your plans, we will be glad to work with you. Call your nearest Carrier office.

Or write us at Syracuse, New York 13201. Represented in Canada by Carrier Air Conditioning (Canada) Ltd.

Value without equal is why more people put their confidence in Carrier air conditioning than in any other make.

Carrier Air Conditioning Company



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“Butyl caulks last 5 times longer ... cost just pennies more.”

Ask any contractor who has used Butyl-based caulks and he'll tell you that it doesn't make much sense to specify 3- to 5-year oil-base caulks on permanent structures. Not when one-part Butyl sealants cost only a fraction more ... are just as easy to apply ... and give you a seal that's good for 20 years or more.

When made of non-oxidizing weather-resistant Enjay Butyl rubber, economical Butyl sealants resist cracking and hardening ... are non-staining and offer superior adhesion with minimum shrinking. Normal service life is 20 years or longer. Except for extreme movement joints (lap joints with more than 20% relative movement and butt joints with more than 15%), performance of these economical sealants is comparable to that of expensive, chemically cured rubber-base sealants, both the one- and two-part variety.

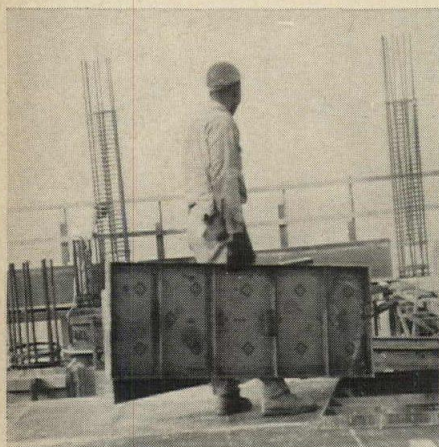
Enjay does not make Butyl sealing caulks, but we do supply Butyl rubber and other elastomers to quality-conscious manufacturers that do. Enjay Chemical Company, 60 West 49th Street, New York, N.Y. 10020.

 **Enjay Chemical Company**

For more data, circle 55 on inquiry card



**SYMONS SLAB SHORE
CUTS DECK TIME
FROM 5 TO 4 DAYS**



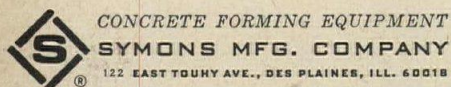
When Henry C. Beck Co. exceeded original cost estimates on a 20-story La Jolla, California, high rise, it decided to use Symons Slab Shore system in an effort to cancel the loss. Initial loss was recovered, and scheduled per floor construction time was reduced from 5 to 4 days.

From the third to the eighteenth floor, a twin tower section, each deck was typical, containing about 18,000 sq. ft. Decks were wide open, except for a few columns. Eighteen floors above ground and two below were formed with the Symons decking method.

Steel-Ply Forms used for the deck work are light enough to be stripped and carried by hand. This took a lot of pressure off the crane, allowing it enough time to handle other materials.

Only 8 man shifts of 8 hours each were needed to strip the forms from an 18,000 sq. ft. area. Two men moved the forms up to the next floor, and four men set a deck every four days.

The job had originally been set up for a five day per floor schedule. After the tenth floor, however, crews became so proficient they were on a four day cycle. *Free Slab Shore brochure available on request.*



MORE SAVINGS WITH SYMONS

For more data, circle 56 on inquiry card

OFFICE NOTES

NEW FIRMS, FIRM CHANGES

Griffin, Mynatt & Associates, Inc. has admitted **James F. Kaatz** as a principal of the firm. The firm, located at 813½ Market Street, Knoxville, Tennessee, continues under the new name, **Griffin, Mynatt & Kaatz, Inc., Architects.**

Clovis Heimsath A.I.A. announces that **W. Irving Phillips, Jr.** and **Robert W. Peterson** have joined him as Associates. The firm is now known as **Clovis Heimsath Associates, Architects Planners.**

B. G. Twyman is now vice president (Project Development) of **Johnson & Johnson Engineers-Architects Inc.,** Chicago.

NEW ADDRESSES

Berger-Field Architects Inc., 337 North Euclid Avenue, St. Louis.

Richard R. Bradshaw Consulting Engineers of Oregon, Inc., 1730 S. W. Skyline Boulevard, Portland, Ore. 97225.

Bertram A. Bruton, Architect, 2001 York Street, Denver, Colorado 80205.

Donald J. D'Avanzo, Architect, 305 East 83 Street, New York City 10028.

Norman De Haan, Architects/Interior Design Consultants, 8 East Hubbard Street, Chicago 60611.

Duplanty & Huffaker, Planning, Architecture, Interiors, 140 South Barrington Avenue, West Los Angeles.

Paul Gugliotta, Architects, Engineers, Planners, 156 East 37th Street, New York City 10016.

Martin Nosenchuk, A.I.A., Architect, 185 Engle Street, Englewood, N.J. 07631.

Stanley Prowler, A.I.A., Architect, 257 Park Ave. South, New York 10010.

Raymond C. Reese Associates, 743 S. Byrne Road, Toledo, Ohio.

Shorett, Osbo, Heideman and Moffett, Architects, Lynnwood Professional Center, Lynnwood, Washington. Seattle offices remain: Securities Office Building, Seattle.

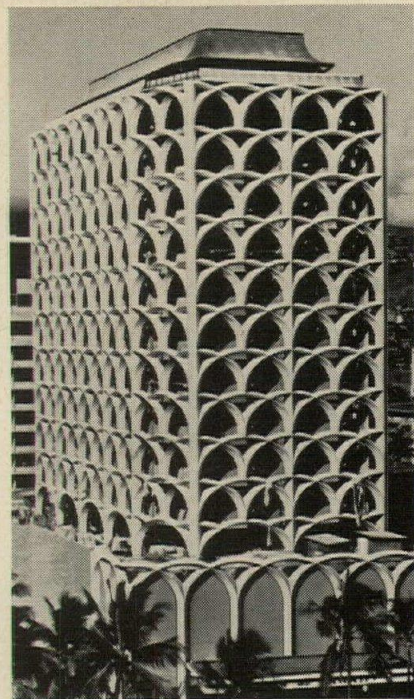
Arthur Silver, Architect, 70 Glen Cove Rd., Roslyn Heights, N.Y. 11577.

Somdal, Smitherman, Sorensen, Sherman, Associates, Architects, Engineers, L.B.T. Milam Building, 316 Milam Street, Shreveport, Louisiana 71101.

Stevenson & Kelly, Consulting Engineers, Federal Land Bank Building, 2315 St. Paul Street, Baltimore, Md. 21218.

Charles D. Stickney, A.I.A., Architect, 2161 Shattuck Avenue, Berkeley, California 94704.

NO STAINS WILL MAR THE PRISTINE WHITE



Galvanized Rebars maintain the beauty of these interlacing arches

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Galvanizing also prevents the possibility of spalling and cracking which could result from strong internal pressure of rust build-up.

For full details of this adventure-some design, write for: "Interlacing Arches Give Bank a Festive Look."

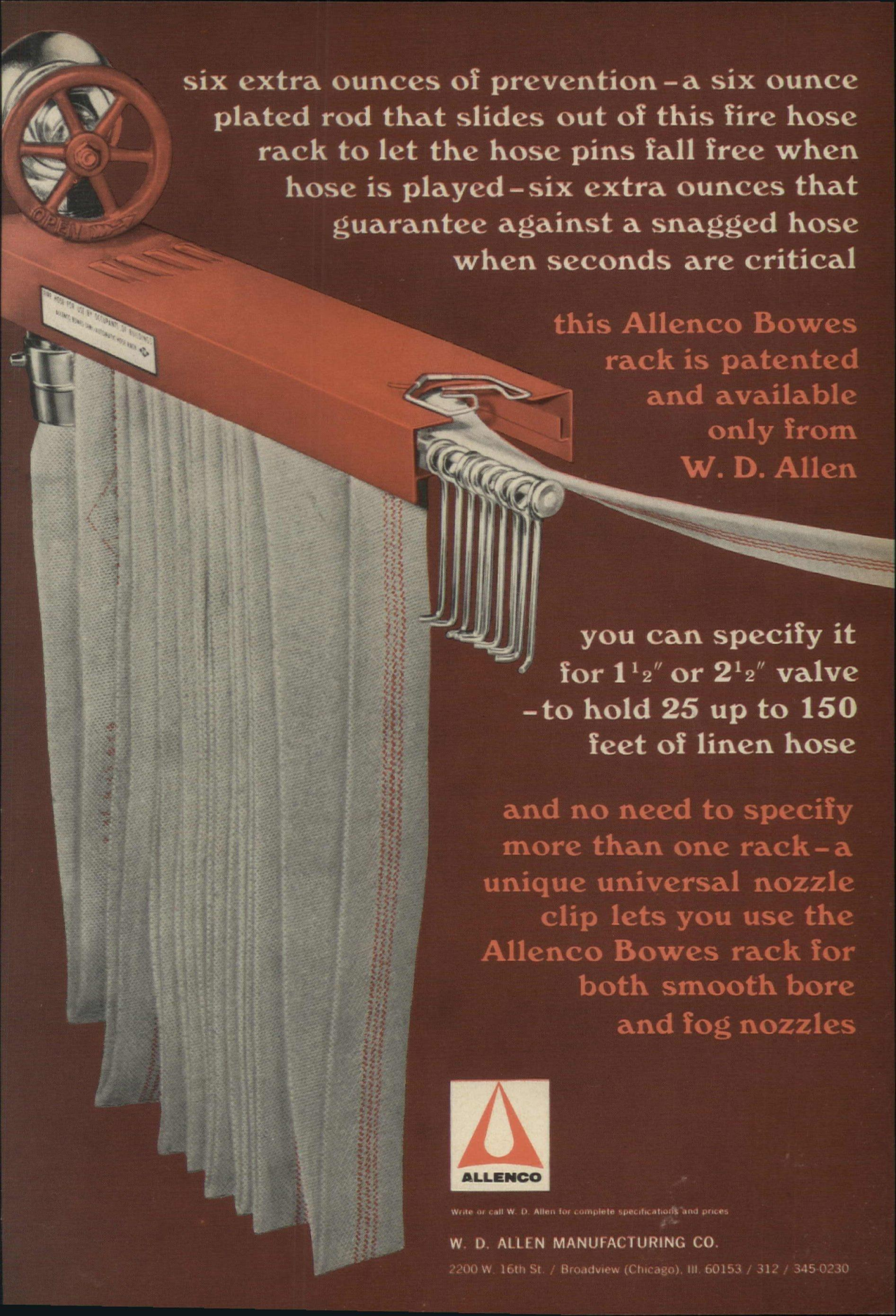
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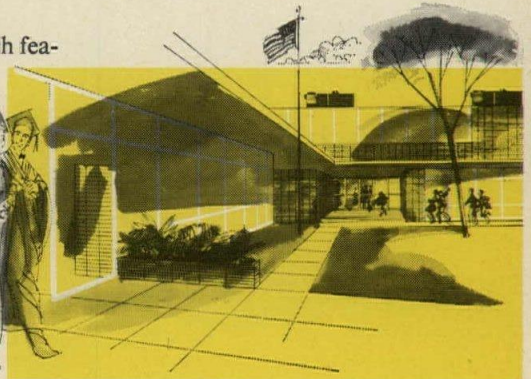
Capacity? Mammoth has it. Take, for example, the new technical high school in Gary, Indiana. Here 32 Adapt-Aire multi-zone school-type units will provide cooling from 15 through 30 tons, and heating from 335,000 through 800,000 Btu.

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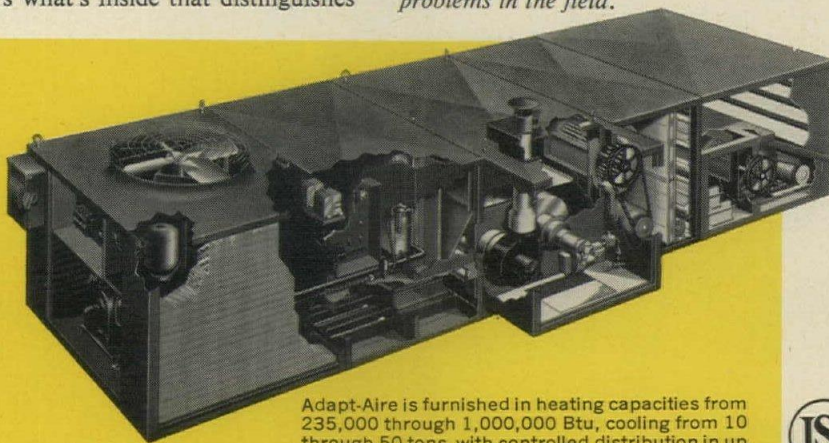
- *Positive balanced temperature and pressure from the thermal and chilled air reservoirs.*
- *Infinite temperature control of zone outlets.*
- *Power-driven gas burner with maximum efficiency adjustment attainable on gas air injection fuel burner system.*
- *100% fresh air capacity automatically available whenever equipment is running.*
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- *Complete piping, refrigerant operating charge and control programming provides for thorough factory pre-test operation and preliminary adjustments to eliminate problems in the field.*



- *Careful design and location of control and electrical operating panels placed in accessible positions for field adjustment and balance.*

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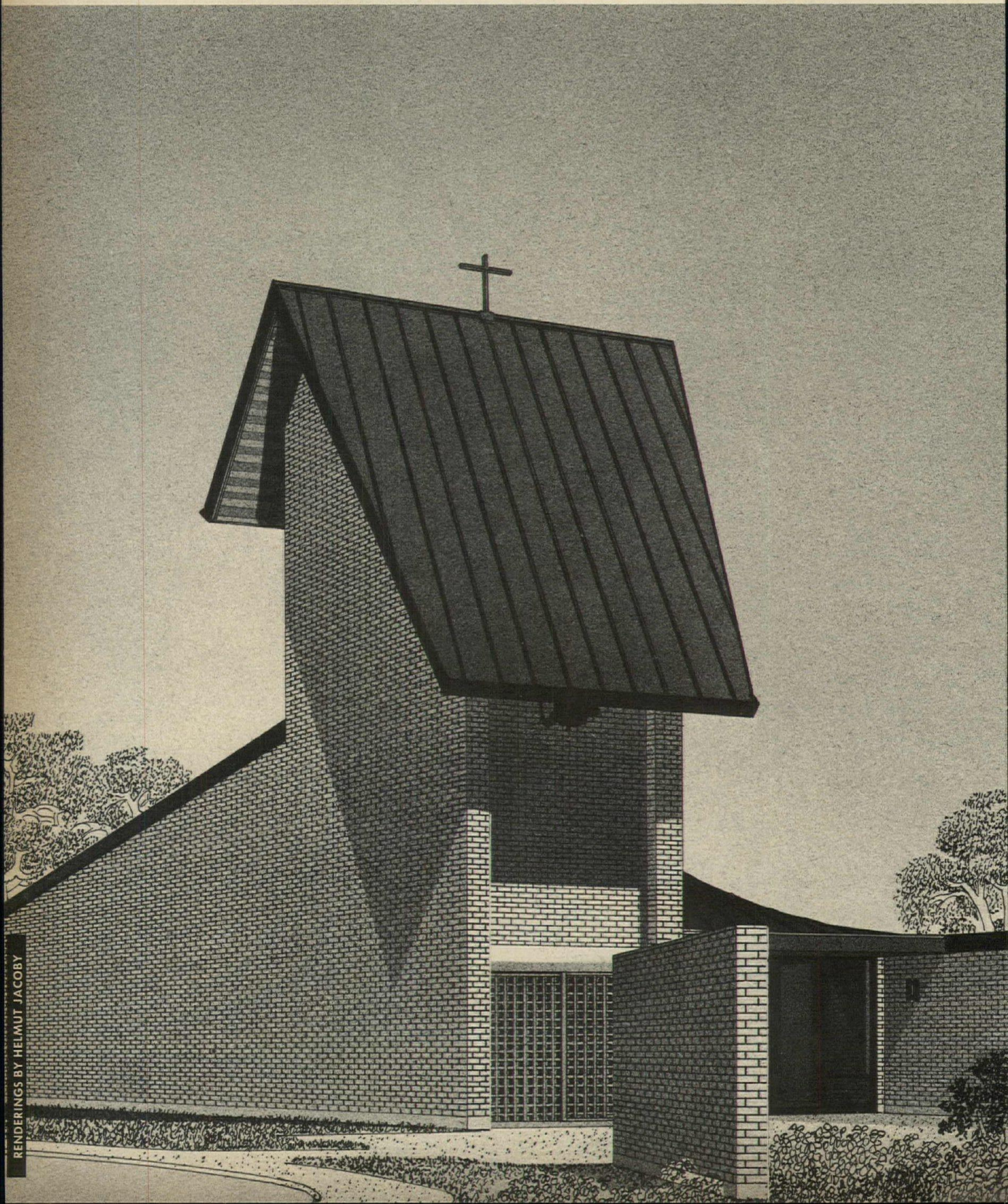
Adapt-Aire is furnished in heating capacities from 235,000 through 1,000,000 Btu, cooling from 10 through 50 tons, with controlled distribution in up to 12 zones. Gas, oil, steam, hot or chilled water.



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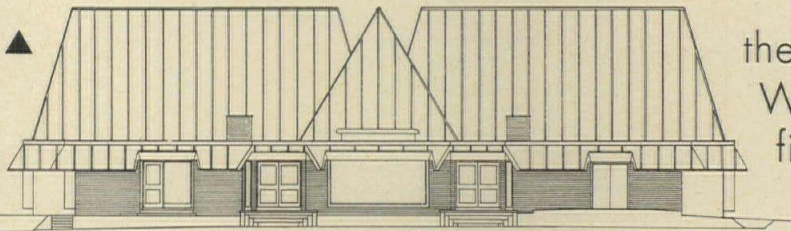
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Architectural acceptance and...

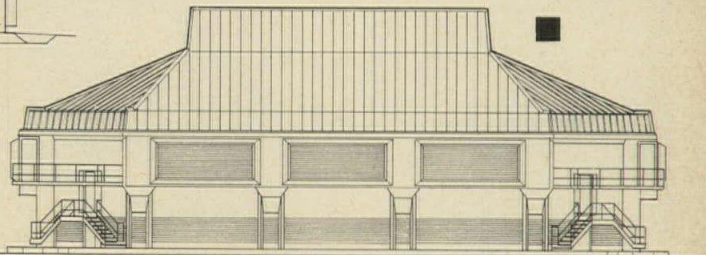


RENDERINGS BY HELMUT JACOBY

...the architectural press.

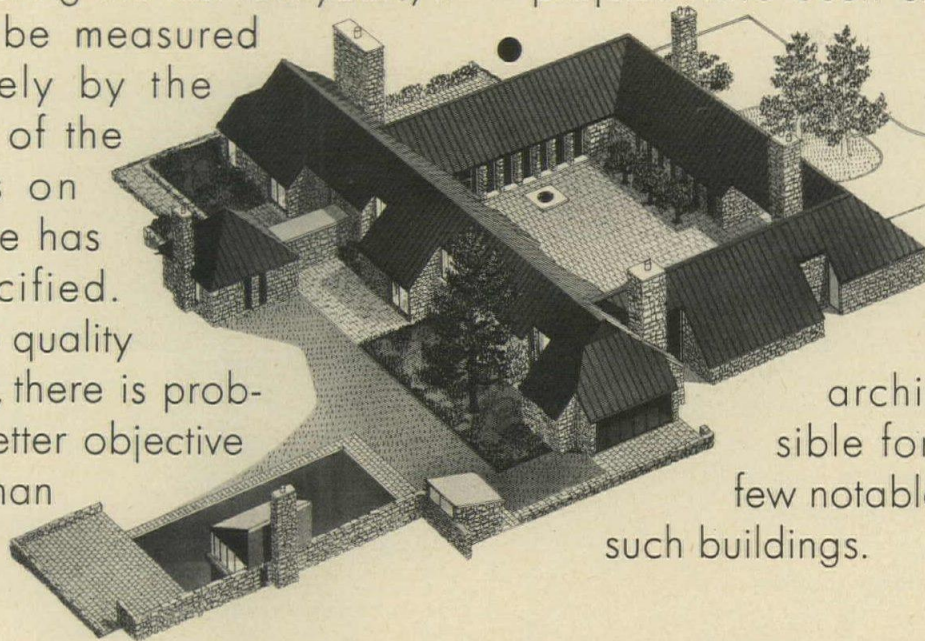


the major architectural publications. We are therefore particularly gratified that so many Terne-roofed



If the dramatic revival of Terne roofing can be measured quantitatively by the millions of square feet which have been installed throughout America during the last few years, it can also be measured qualitatively by the character of the buildings on which Terne has been specified. And where quality is involved, there is probably no better objective standard than that provided by

projects have been cited for excellence in these media.



Here—presented with pride and our thanks to the architects responsible for them—are a few notable examples of such buildings.

- ▲ Lansing Presbyterian Church: Lansing, Mich.
Architect: Edward D. Dart, F.A.I.A.
PROGRESSIVE ARCHITECTURE, Nov. 1963
- "Stornoway": Ligonier, Pennsylvania
Architect: Winston Elting, F.A.I.A.
ARCHITECTURAL RECORD, Jan. 1965
RECORD HOUSES, 1965

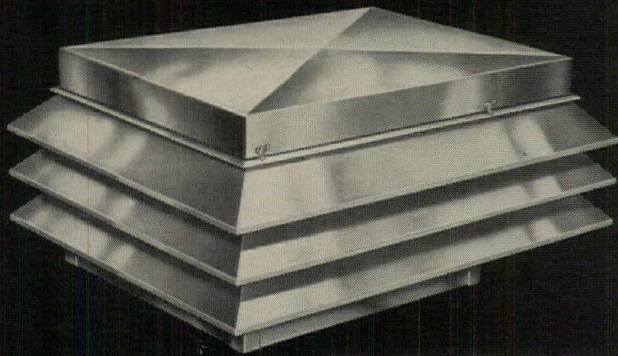
- Arena Stage: Washington, D.C.
Architect: Harry Weese, F.A.I.A.
ARCHITECTURAL RECORD, Feb. 1962
PROGRESSIVE ARCHITECTURE, Feb. 1962
- ▲ Haley Funeral Home: Southfield, Michigan
Architects: Birkerts and Straub
PROGRESSIVE ARCHITECTURE, June 1962

Follansbee

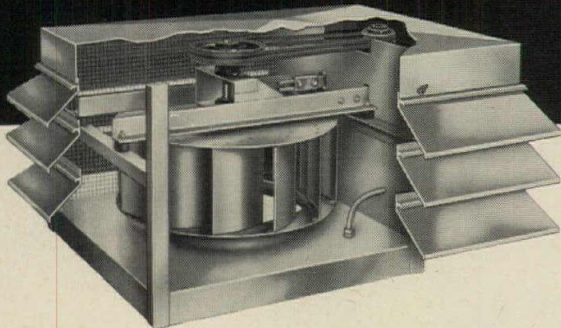
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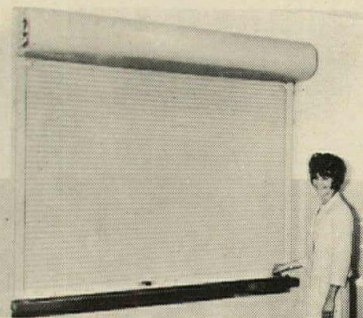


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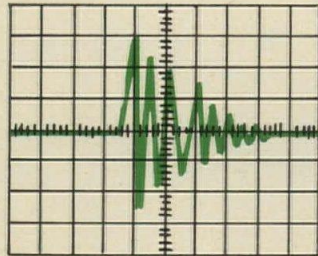
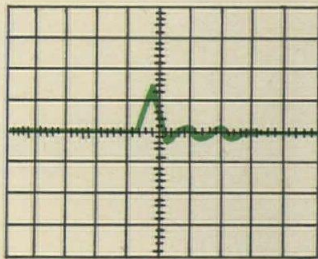
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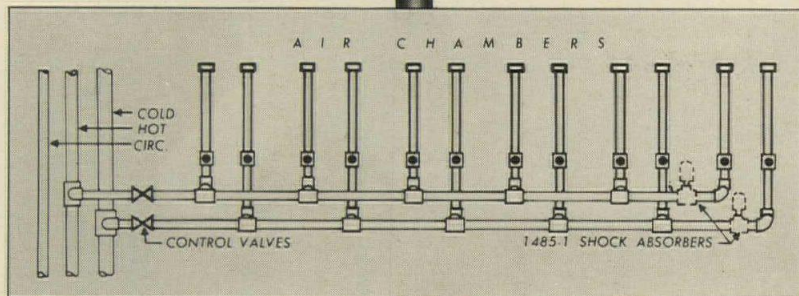


A 50-foot length of 1" pipe with water at 60 P.S.I. flow pressure and a velocity of 10 feet per second was used in these tests.

The oscillographs compare the efficiency of the Absorbotron with a fully charged and properly sized air chamber 1 1/4" pipe, 57" high.

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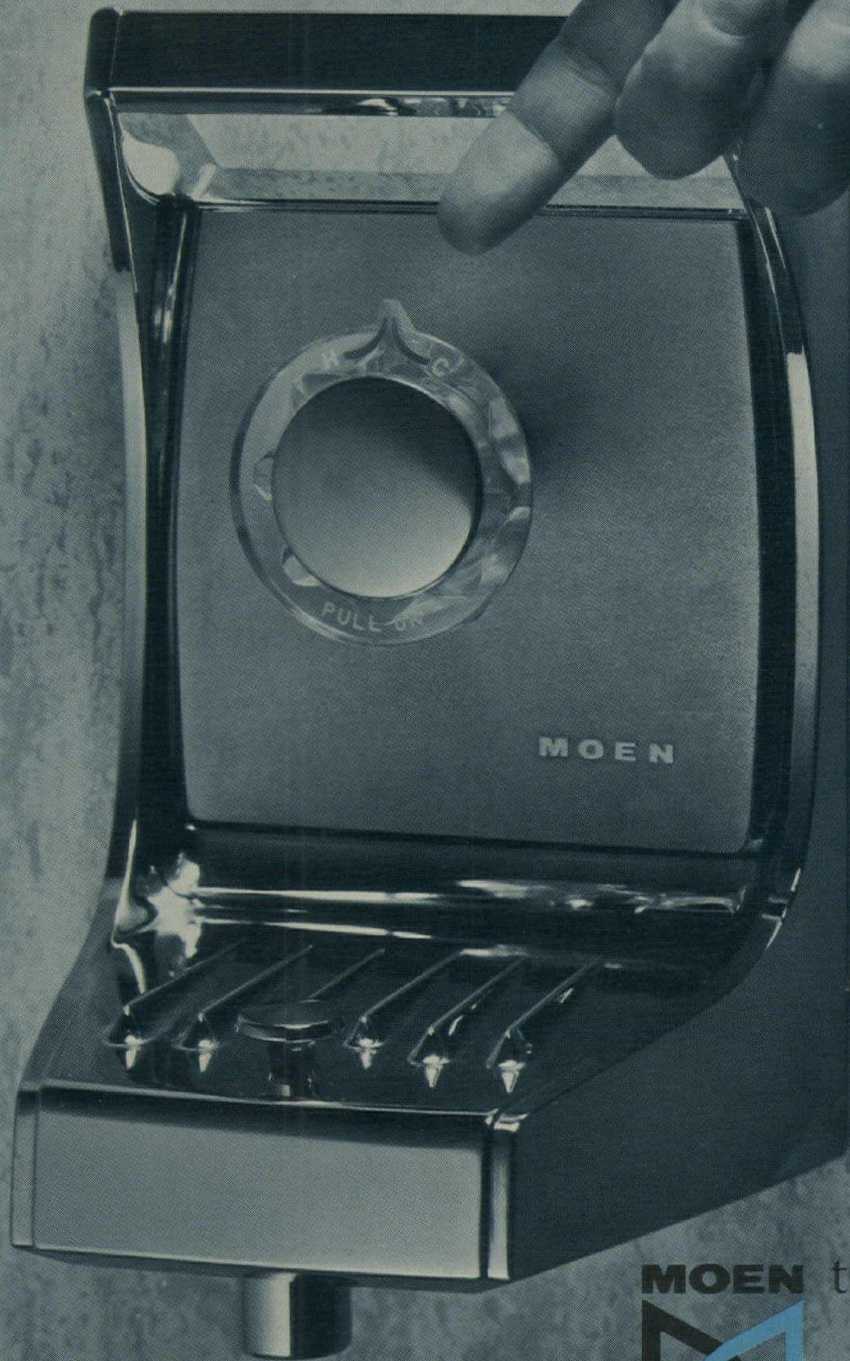
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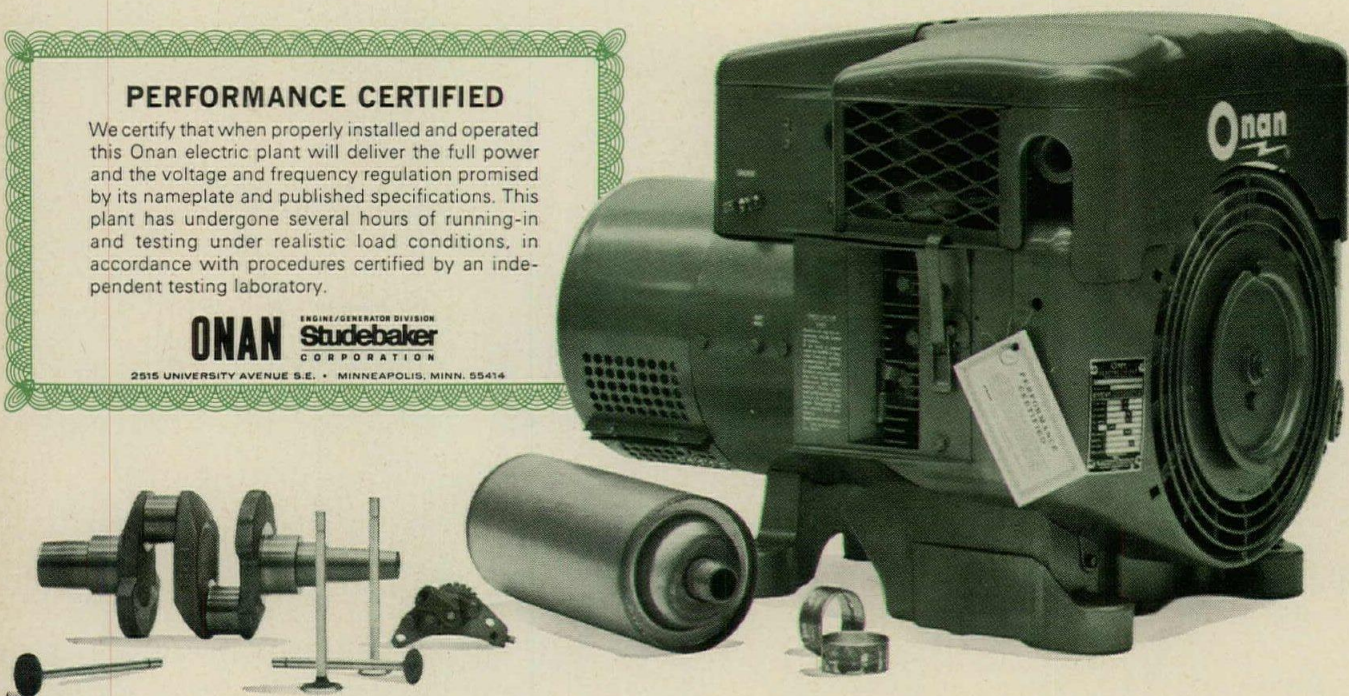
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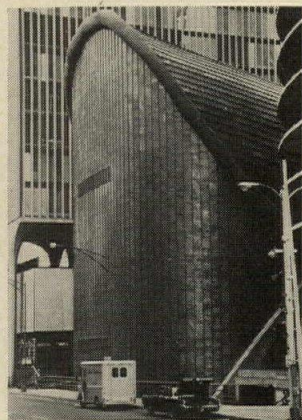
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Architect-Engineer: Bertrand Goldberg Assoc., Chicago, Ill.
Photo by: Harvey Shaman, New York, N. Y.

A cocoon of Lead keeps noise out of the act

Neither the roar of Chicago nor the drumming of rain and hail on the roof will ever get on stage at the new Center For The Performing Arts building in Chicago's Marina City. The entire building is beautifully wrapped in a permanent, sound-proof, 85 ton blanket of sheet lead. □ This last of five buildings in Marina City houses a 300 seat theatre and TV station WFLD. Its armor of lead not only insulates it against noise but gives a permanent soft gray patina. The result is a dramatic contrast of both color and form with the adjacent concrete towers. And lead's durability, proven by the centuries, will keep the exterior virtually maintenance-free indefinitely. □ The density, limpness and mass of lead, its versatility of form and its workability have given it an important role in keeping buildings, rooms, planes and boats quiet.



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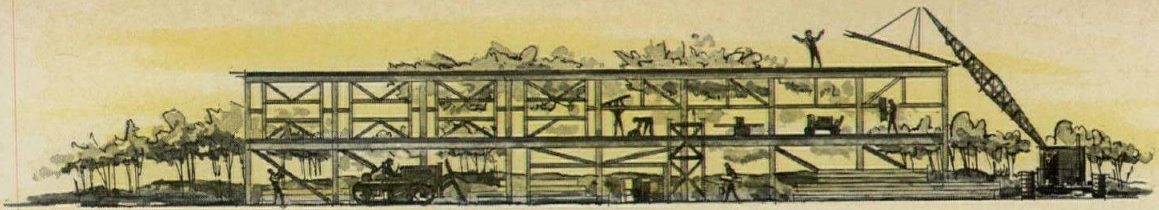
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Design for learning

Architect Benjamin Thompson has designed some of the best contemporary academic buildings and dormitories in New England. As an educator he is absorbed by the learning process and perhaps this is why he has managed to make his buildings teach—on an intangible level—by architectural means. Students seem to study more quietly and get along with each other better in his spaces. Boys and girls appear to be at ease in each other's presence. Thompson creates a serene and warm environment, esthetically subtle, but at the same time practical, comfortable and efficient, which must eventually deepen the individual student's awareness of people and things, making him more responsive to and creative toward the world around him.

Thompson's buildings also contain lessons for architects. He is not a "form-giver," and does not seek to develop for each client the kind of dramatic new spatial and structural concepts which, though admired and copied by an architectural elite, are too often only grimly endured by the user. So far, all of his major commissions have been designed within a simple and consistent structural vocabulary, deliberately limited in its range of materials and shapes. His planning methods are equally direct. Box-like volumes adapt flexibly to functional requirements by means of assymetrically placed connecting elements. Because Thompson does not invent new basic shapes, he does not have to spend time tailoring programs to fit them, or devising the special details which they require. He is able to concentrate on what he wants to do, which is to continue to develop an architectural esthetic derived from social and humanistic considerations. He has time to work with his client in the development of the best possible program and to solve its requirements within a meticulous scheme. He is able to achieve a remarkable control of details, including those which are so often neglected by even the best architects—lighting, color, interior finishes, furniture and fabrics. The buildings on the following pages have been recently completed by Thompson and are among his best. They were constructed and furnished within their budgets, they really work, and they are handsome in every significant aspect and detail. *Mildred F. Schmertz*

1

The new dormitories for men and women at Colby College in Maine are arranged upon a sloping, rocky and wooded site. The buildings are linked by lounge and study spaces shared by both sexes.

2

The Mt. Anthony Union High School in Bennington, Vermont is a regional school designed to accommodate a major vocational as well as academic program.



© Ezra Stoller (ESTO) photos

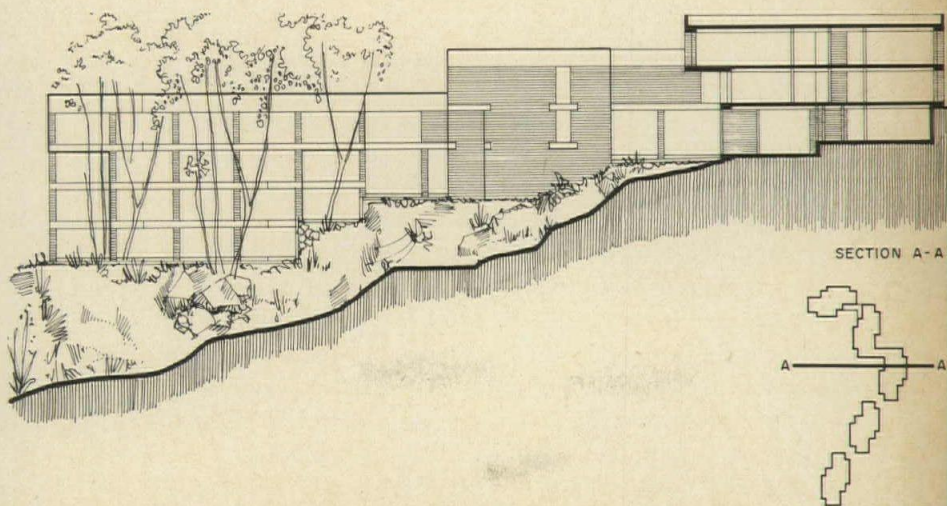
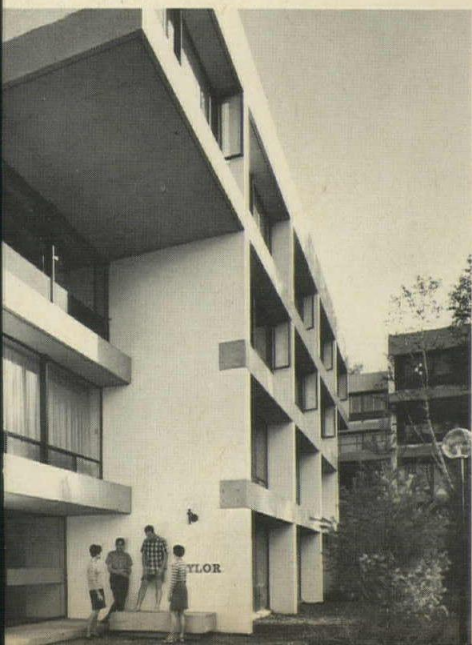
1 COLBY COLLEGE DORMITORIES AND FRATERNITY HOUSE

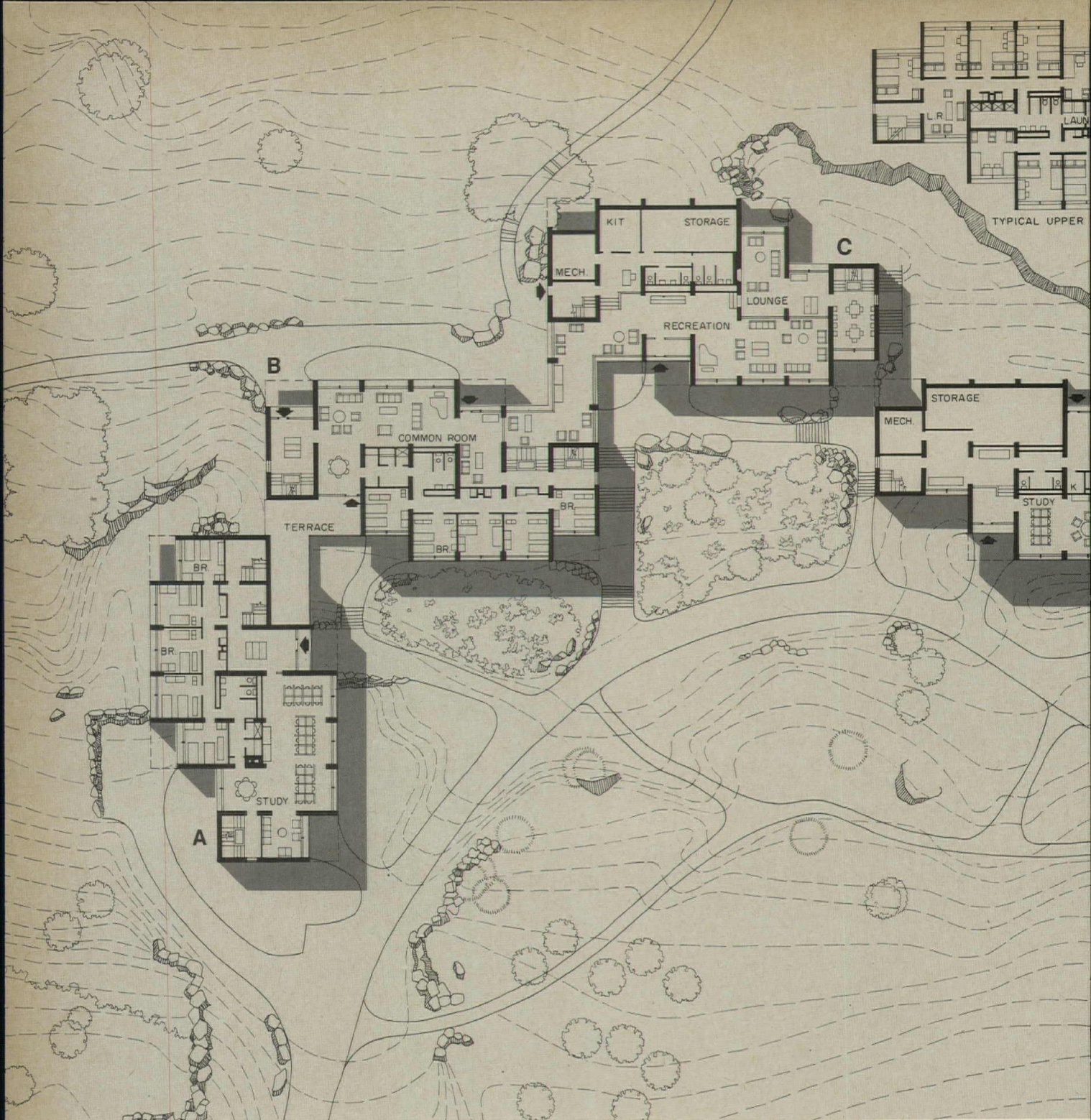
The Colby College dormitories and fraternity house are the first genuinely contemporary buildings to be constructed on a neo-Georgian campus near Waterville, Maine. They also represent a first for architect Thompson. He has painted the brick both inside and out. When Thompson adds one simple variant to his deliberately restricted vocabulary, he does it with stunning effect. What has been red in all his buildings is now white, and the reinforced concrete frame which has appeared white in contrast to the natural color of brick, now has the color of grey putty. No caprice, Thompson's paint job was carefully considered—as is everything else he does. The buildings are surrounded by dark groves of trees, accented by clumps of silver birch. They had to be white.

The site is a rock ledge which slopes downward in two



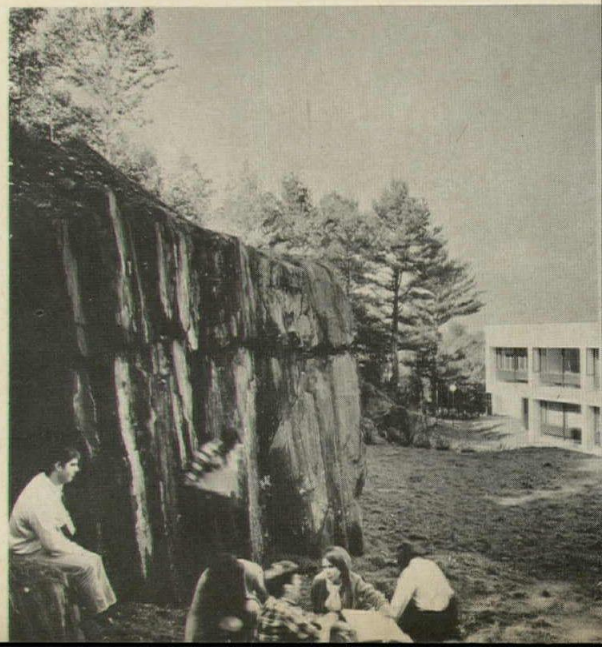
The intersection of the two women's dormitories is shown in the photo at left, and the night shot (above) focuses upon the element which links the two units. They share a common lounge space with an open terrace overhead. The recessed story on the terrace level is a bedroom floor. At the right is a rear view of the lower dormitory and at the bottom of the page is its main entrance. The drawing shows the two women's dormitories in elevation and the adjoining dormitory in section.

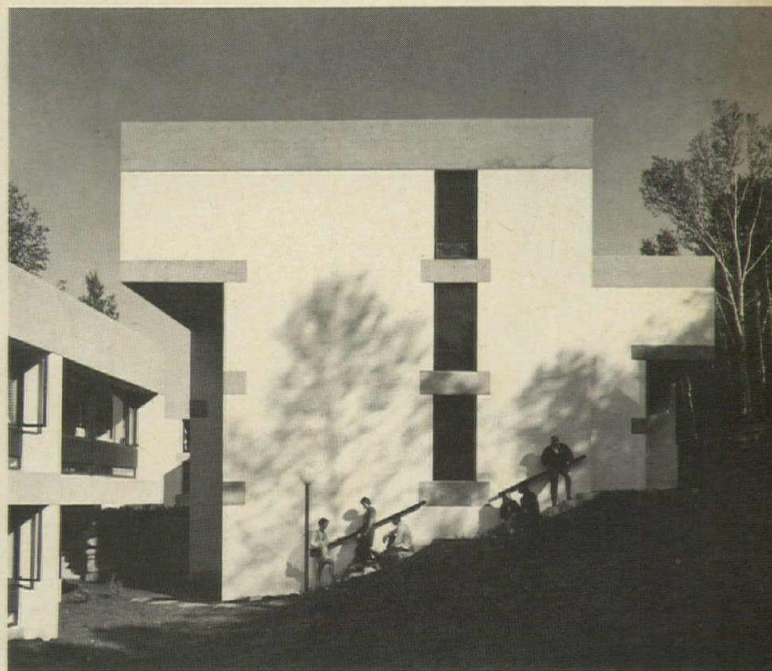
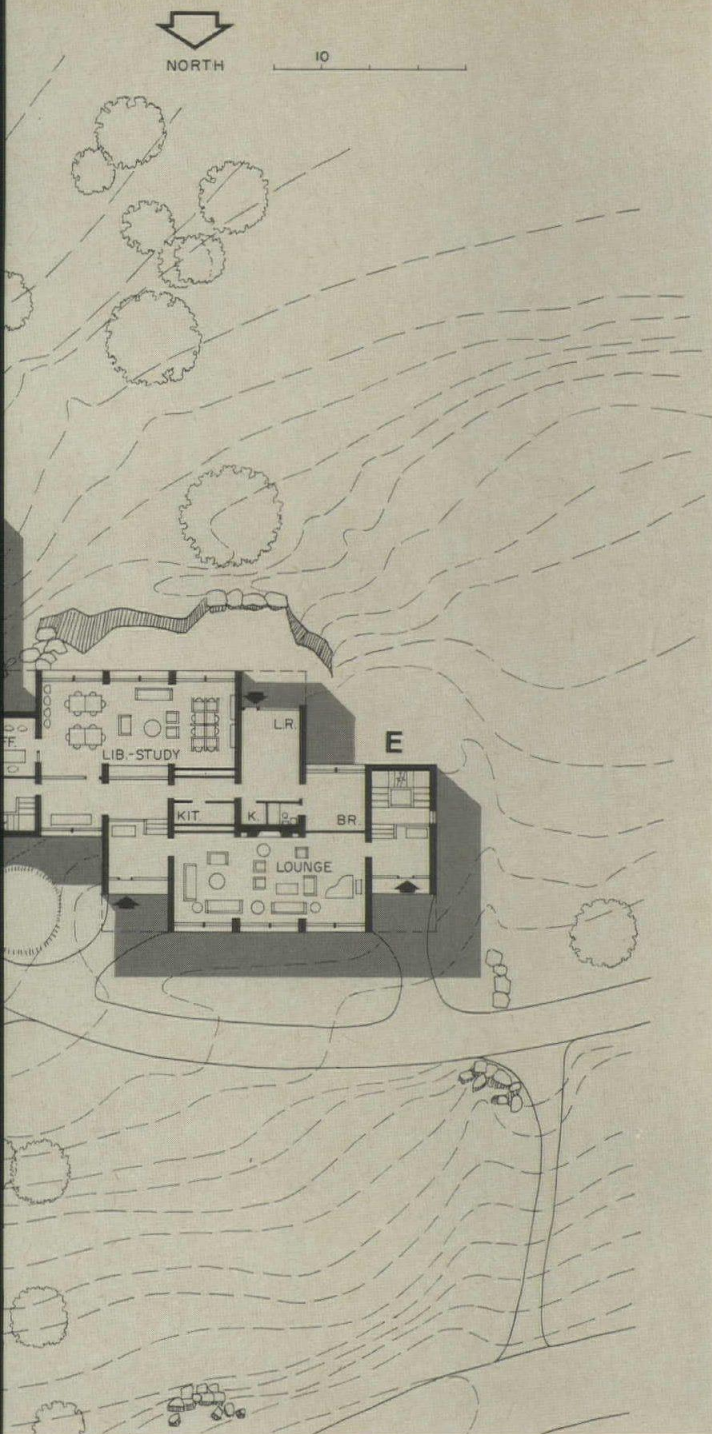




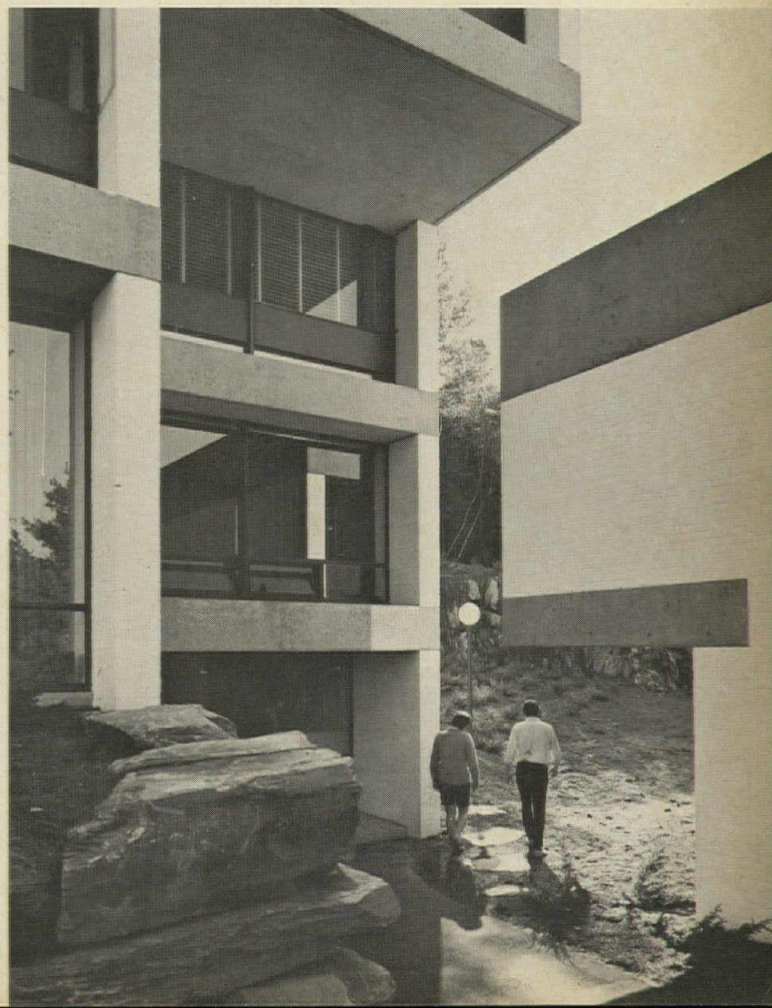
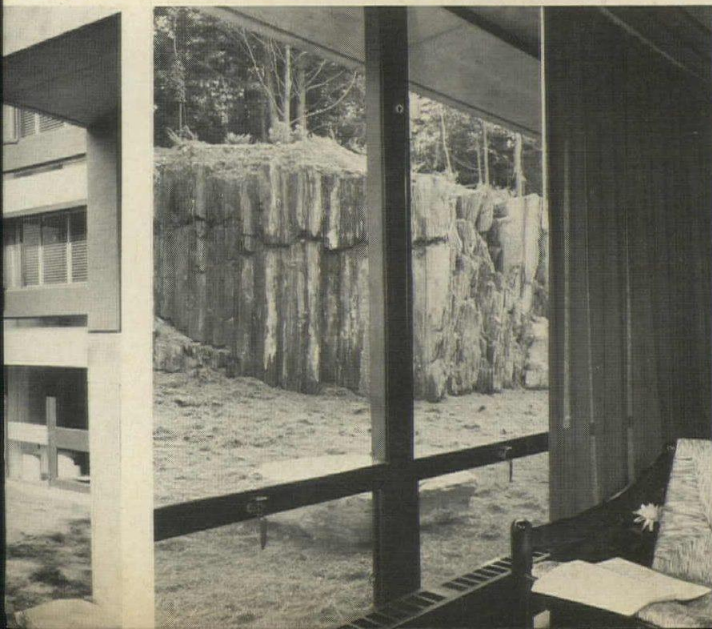
directions to the north and west. The building group consists of four dormitories—two for women and two for men—and one fraternity house. Each building is located at a different level on its own platform blasted out of the rock. Floor elevations vary from building to building, but except for the fraternity, all lounges and study halls interconnect and are informally shared by both men and women students.

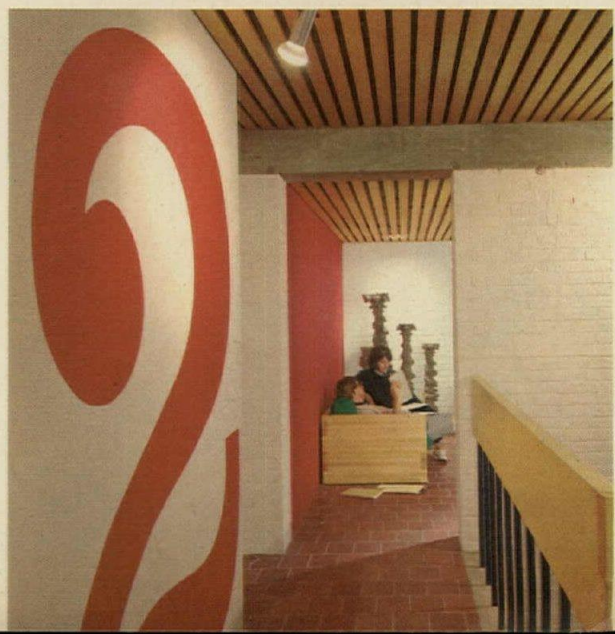
The interiors are exceptionally well done—colorful, warm, and designed to offset the bleakness of the New England winter. Ostensibly because the building has many levels, but actually because it is a handsome decorative device, Thompson has chosen Clarendon numerals to identify each floor. This type face, designed in 1845, was enlarged photographically, transferred to the walls and painted by Thompson's draftsmen.





Both the plot plan and the two bottom photos show the continuous wall of rock bordering a ledge which was blasted flat to form a base for the upper dormitories. This rock face is very beautiful and has become an important element in the landscape design. Loose rock has been used to form retaining walls.







The sloping site called for many changes of level which were used to good advantage by Thompson in the interior spaces. The butcher-board coffee tables and sofa frames were designed by the architects, and all furniture and fabrics were selected by them. The wood-slat ceilings conceal sound absorbing material. At right is a corner of a typical two-man dormitory room.

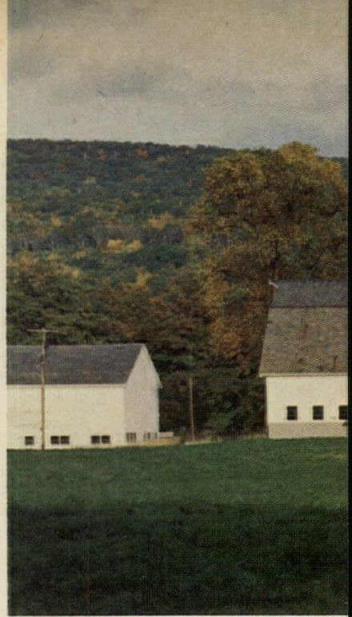
COLBY COLLEGE DORMITORIES AND FRATERNITY HOUSE, Waterville, Maine. Architects: Benjamin Thompson & Associates—associate-in-charge: Joseph Maybank; project architect: Henry S. Reeder, Jr.; interiors: Joan F. Sprague; landscape architect: Carol R. Johnson; structural engineers: LeMessurier & Associates; mechanical engineers: Shooshanian Engineering Co.; contractor: Stewart & Williams Construction Co.





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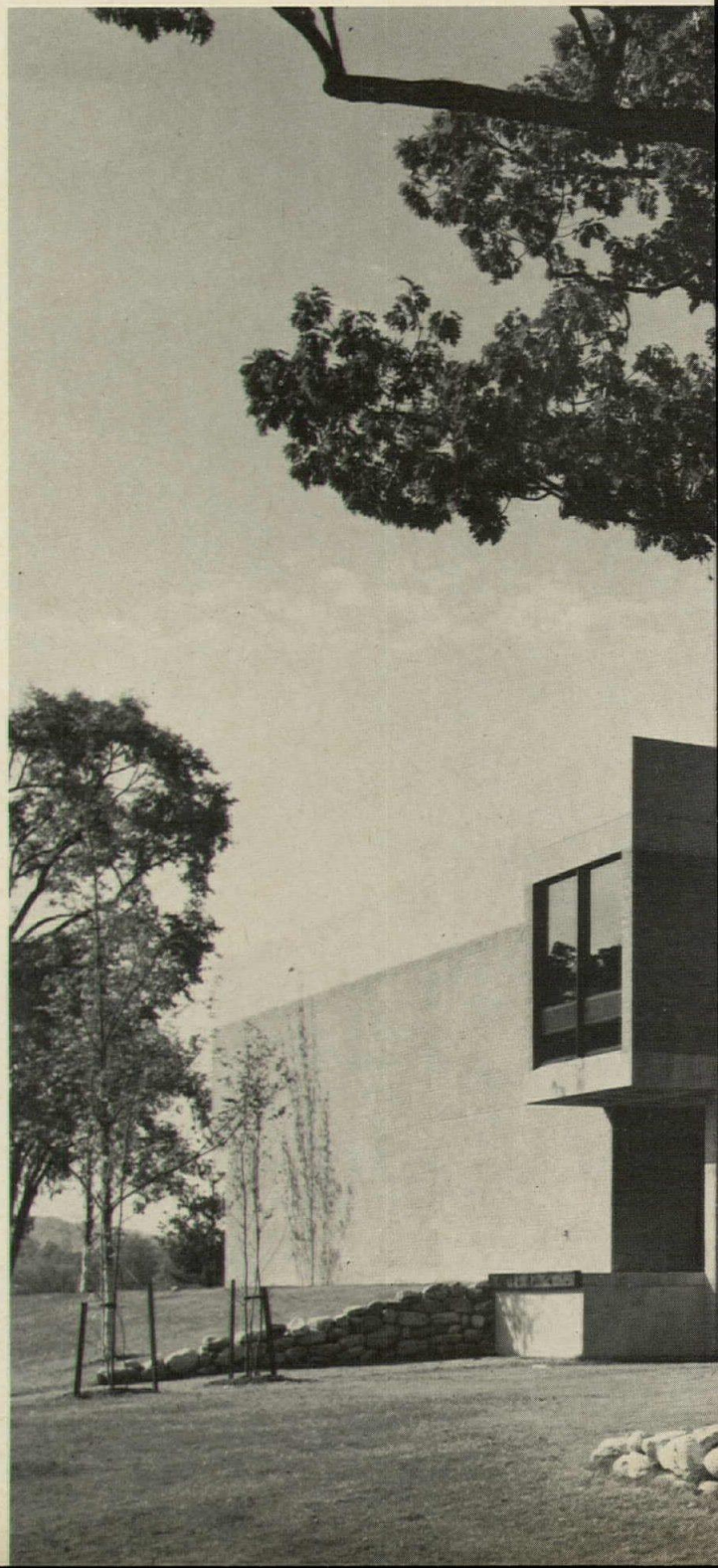
Located on a flat 32-acre site at the foot of Mt. Anthony, this regional highschool comprises 156,000 square feet distributed within two stories and a basement. The architectural strength and character of the exterior walls has been achieved by the juxtaposition of broad expanses of brick wall with sensitively placed fenestration. Thompson has eliminated unnecessary windows. Glass areas either frame views or provide essential natural light. The use of skylights where possible has contributed to the simplification of the facades by reducing glass areas.

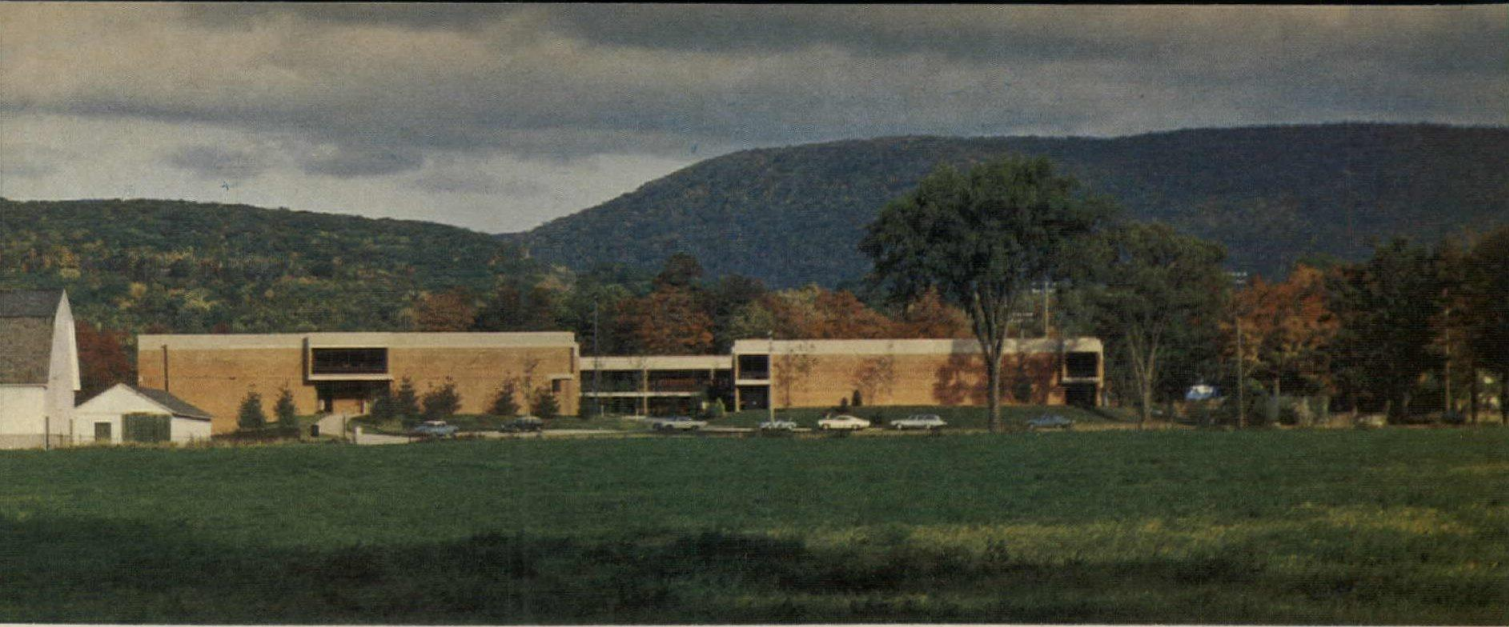


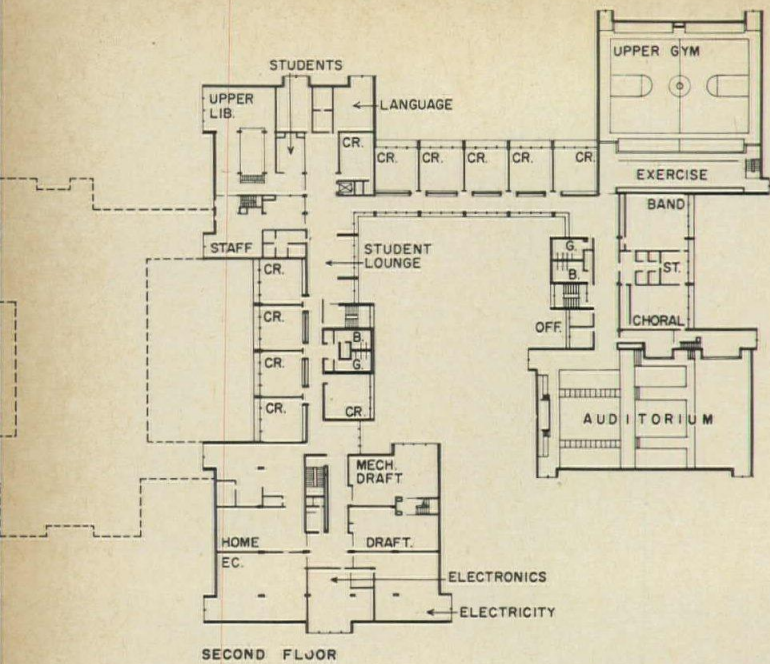
2 MT. ANTHONY UNION HIGH SCHOOL

This regional high school for grades 9 to 12, the first in southwestern Vermont, integrates an intensive vocational program with a broad general curriculum for a student body of 1,200. Both the job-oriented and the college-oriented student are able to pursue their separate interests while each is given an equivalent foundation in essential "core" subjects. The facilities for vocational study were constructed with Federal funds, and the work of educational consultants Redmond, Anderson and Carroll was subsidized by a grant from the Ford Foundation.

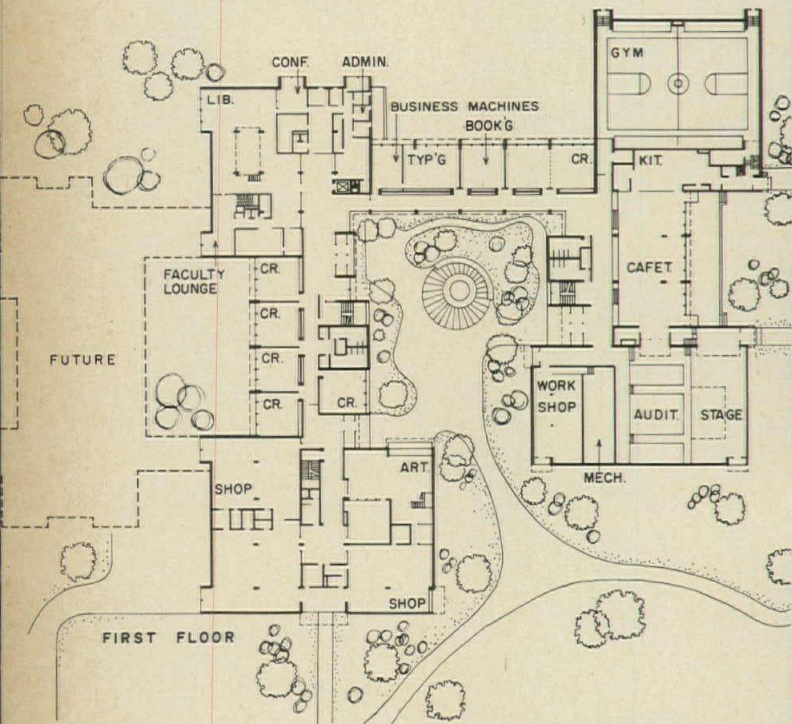
The dual nature of this high school demanded a fresh planning approach. Thompson has provided teacher office centers in place of the old home room concept. The humanities staff office includes all teachers of English, foreign languages and social sciences. Each is provided with a desk and secretarial help, and conference areas are available to the group. Science and math teachers have similar facilities. A lounge for the use of all teachers including those stationed in the workshops, interconnects these two staff offices and facilitates cross-disciplinary discussion and planning. The learning resource center, which includes the library, audio-visual and tape study areas, is adjacent to the teacher offices. The central administrative area is also adjacent to the learning resource center. Classrooms and workshops spaces are grouped by related subjects. The science labs, mechanical shops and math rooms are all adjacent; art, woodworking, graphic arts, mechanical drawing and drafting form adjacent suites linked by interior stairs. The total cost of the school including site, fees, movable and fixed equipment, surveys etc. was \$3,696,945.00. Cost of the building itself, including mechanical, electrical and site work, but excluding the rest, came to \$18.45 per square foot.



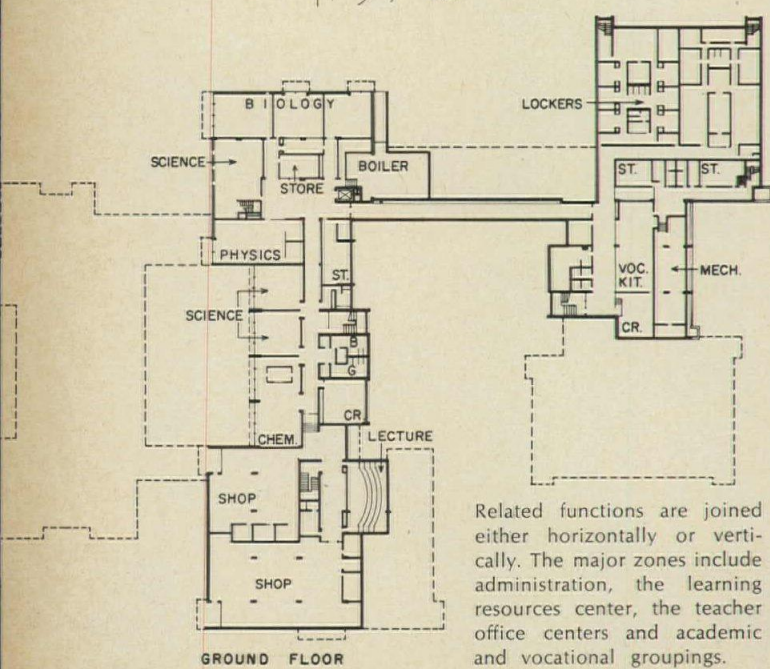




SECOND FLOOR



FIRST FLOOR



GROUND FLOOR

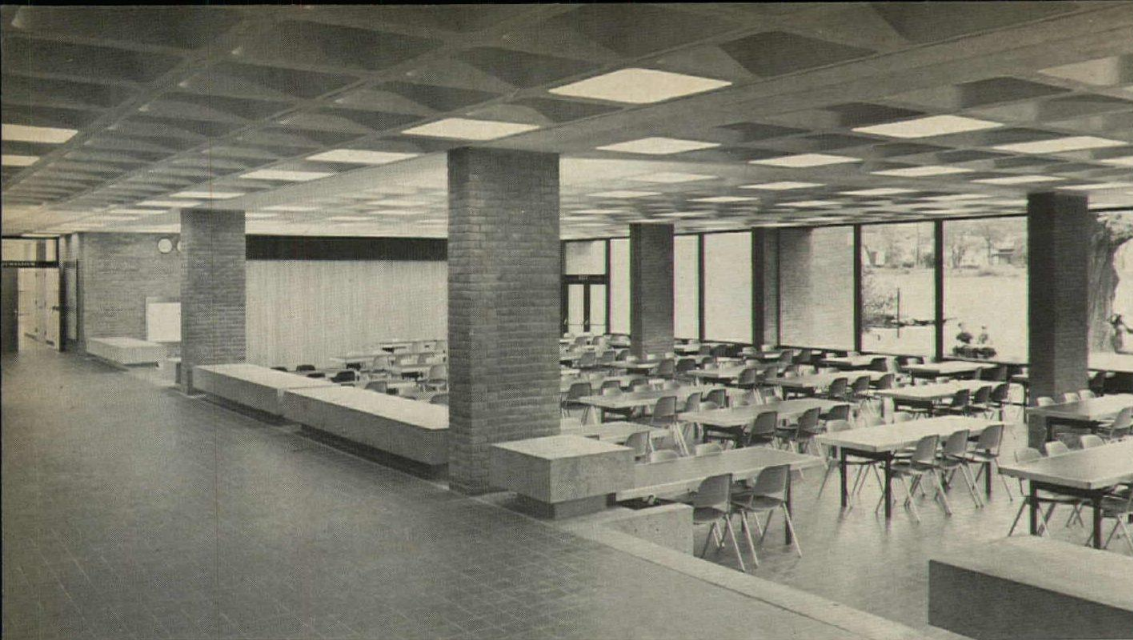


The attractive courtyard is intensively used by the students in good weather. The school corridors have received careful attention. Lockers come in several standard shades of blue, green and red, and Thompson has achieved a wonderful effect at no additional cost by his selection and grouping of these colors, as shown in the photo at right. The corridor lounge overlooks the courtyard. All interior furnishings, including the library equipment, were designed or selected by the architects.



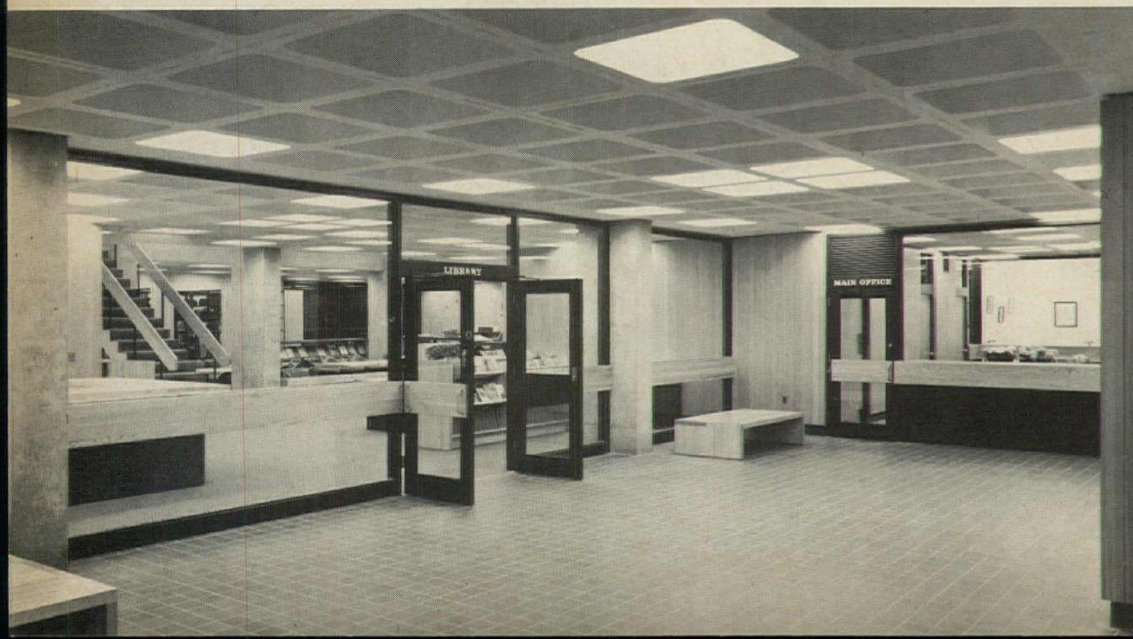
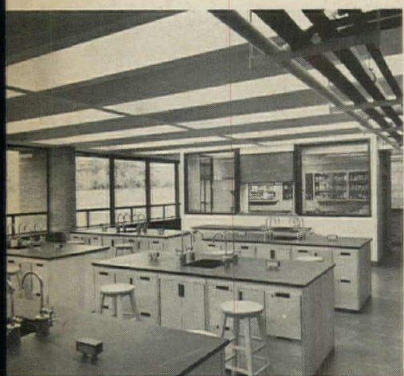
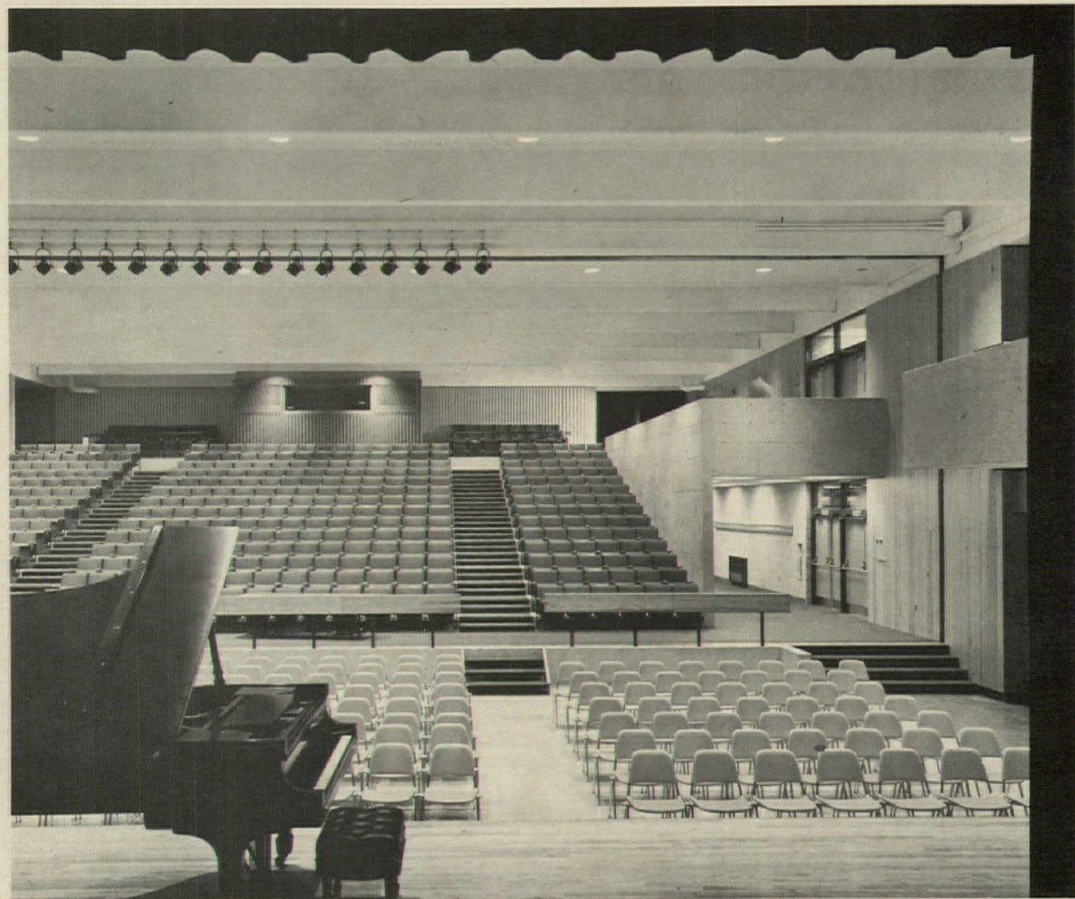
Related functions are joined either horizontally or vertically. The major zones include administration, the learning resources center, the teacher office centers and academic and vocational groupings.





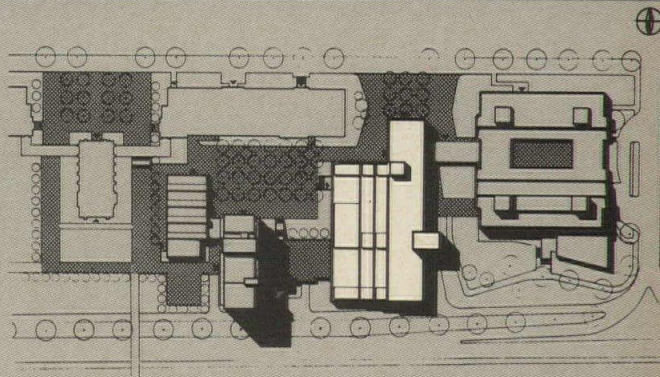
The cafeteria (above) is adjacent to the auditorium (right). A science classroom is shown and at the bottom of the page is the main corridor connecting the learning resources center with the administration center.

MT. ANTHONY UNION HIGH SCHOOL, Bennington, Vermont. Architects: Benjamin Thompson & Associates — associate-in-charge: Thomas Green; project architect: Colin Smith; landscape architect: Carol R. Johnson; structural engineers: LeMessurier & Associates; mechanical engineers: Shooshanian Engineering Co.; electrical engineers: Norman Associates; acoustical consultants: Bolt Beranek & Newman; contractor: George A. Fuller & Co.





Phokion Karas photos



A major library fulfills the master plan for Boston University's central campus

The broad-terraced library—integrated with, but in sharp contrast to, the tower for the schools of law and education—is the final element to be constructed as part of Sert, Jackson and Gourley's tightly organized scheme for a dense, intensively used urban campus.



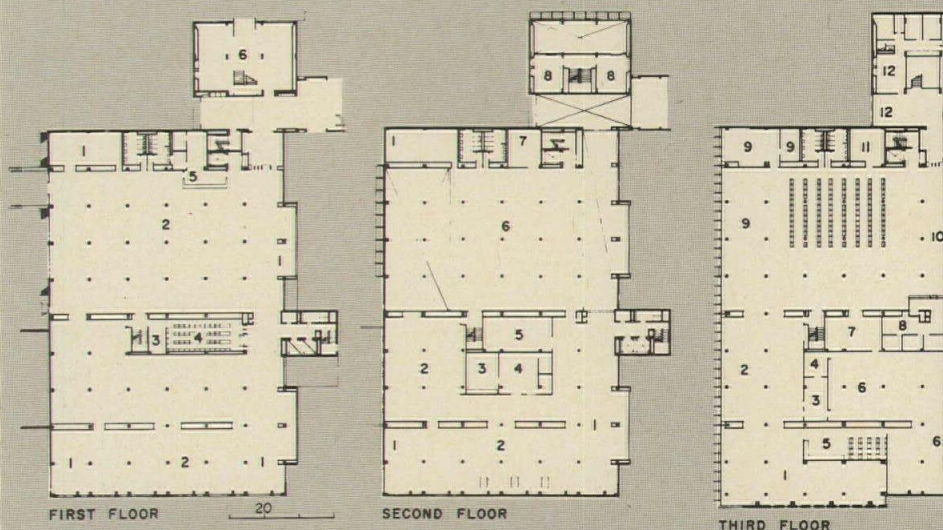
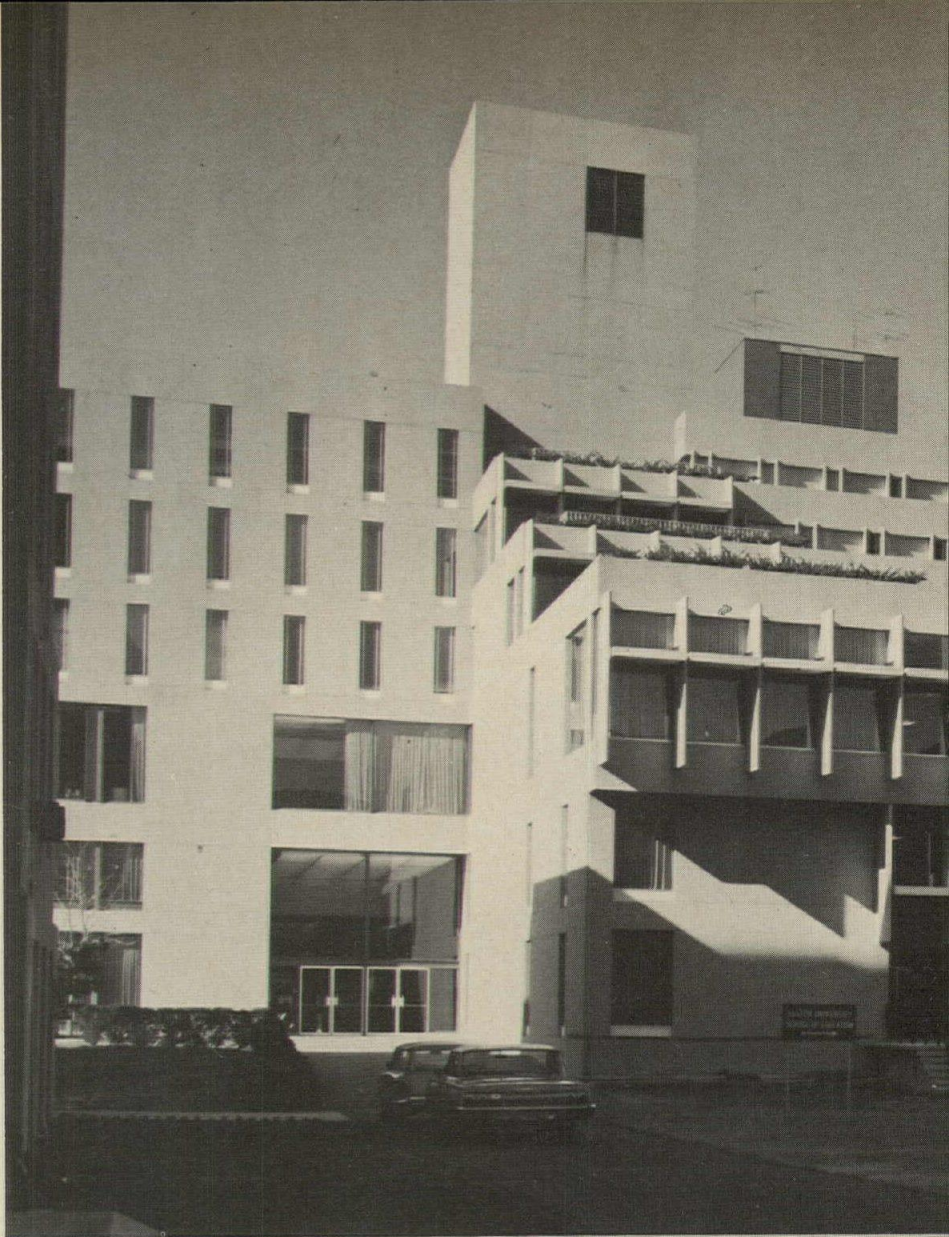
Boston University's new central library is part of a total complex whose major elements, although constructed one after another within a seven-year period, were all designed at one time. For photos and plans of the other buildings within the complex see the May 1964 issue, pages 161-170. The volumes, shapes and textures of each of the separate buildings have been carefully related to each other and to the whole. Designed to be esthetically and functionally successful on a campus limited in size by high land costs, the buildings belong together—neither the library nor its neighbors could double as independent structures elsewhere.

The stepped-back library facade shown at right faces the central quadrangle. This facade and courtyard provide a broad and spacious setting for the law and education tower which can be seen at the right-hand edge of the photo. The library has approximately 215,000 square feet of space fitted into a six-story structure above a two-story basement. The building appears less bulky than it actually is as a result of the terraced setbacks and the provision of large quantities of space below the courtyard level, as shown in the section opposite.

Since Boston University is essentially a commuter college, the first three floors above the basement level of the library are given over to large reading rooms and lounge areas where the students do most of their study. There are 2,300 seats including 1,200 individual study units located throughout the library. Adjacent to the reading rooms are generous spaces for viewing microfilm. The library's audio system has 150 listening positions with 16 channels in each position.

The top three floors contain the main stack areas which, when ultimately filled, will give the library a total capacity of 1.5-million volumes. On the perimeter of each stack area are small faculty studies, a total of 40 in all, and additional lounge space and special collection rooms. Staff administrative space and work areas are well located, as the plans below indicate. For reasons of control only a small portion of each roof terrace has been made available for outdoor use.

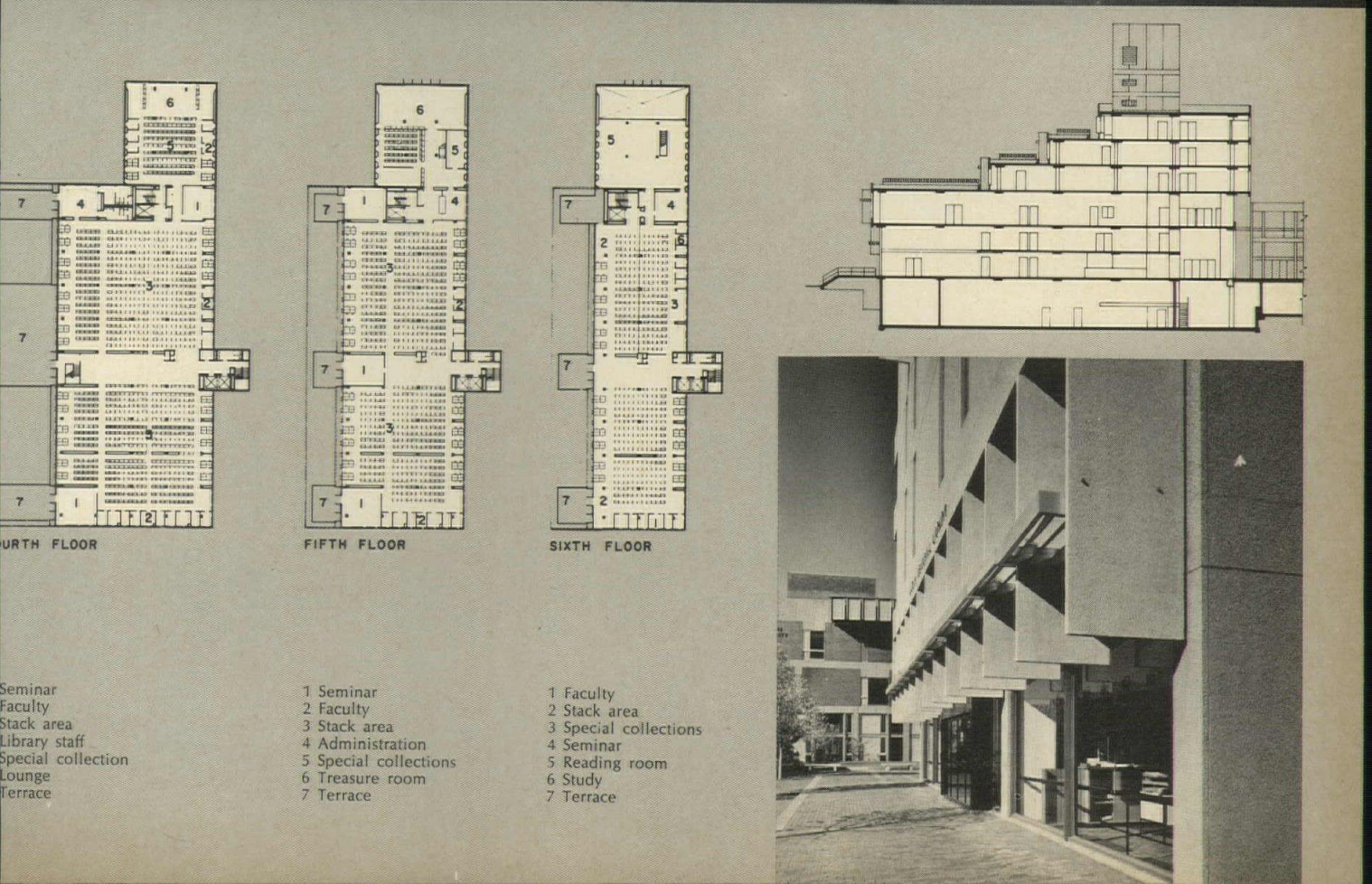
MUGAR LIBRARY, Boston University, Boston, Massachusetts. Architects: Hoyle, Doran & Berry—partner-in-charge: Frank E. De Bruyn; associated architects: Sert, Jackson & Gouley—associate: Joseph Zalewski; job captain: Gerald Howes; structural engineers: Hoyle, Doran & Berry—partner-in-charge: Nisso T. Aladjem; heating and ventilating engineers: Buerkel & Co., Inc.; plumbing engineers: Robert W. Sullivan, Inc.; electrical engineers: Thompson Electric Company; library consultants: Library Buildings Consultants, Inc.



- 1 Lounge
- 2 Reading room
- 3 Work room
- 4 Reserve book room
- 5 Circulation
- 6 Exhibit lobby

- 1 Lounge
- 2 Audio area
- 3 Audio control
- 4 Individual listening
- 5 Audio seminar
- 6 Reading room
- 7 Typing room
- 8 Conference rooms.

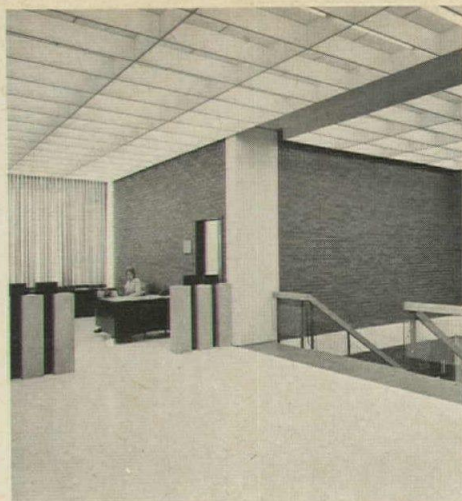
- 1 Periodical room
- 2 Periodical indexes
- 3 Central serial record
- 4 Serials department
- 5 Microfilm
- 6 Technical service
- 7 Bibliography
- 8 Circulation
- 9 Reference
- 10 Lounge
- 11 Photocopy
- 12 Administration



Seminar
 Faculty
 Stack area
 Library staff
 Special collection
 Lounge
 Terrace

1 Seminar
 2 Faculty
 3 Stack area
 4 Administration
 5 Special collections
 6 Treasure room
 7 Terrace

1 Faculty
 2 Stack area
 3 Special collections
 4 Seminar
 5 Reading room
 6 Study
 7 Terrace



Students approaching the library from the main entrance or from the bridge which links the library to the student union enter a two-story space which serves as a principal reading lounge. The rectangular columns at the left of the photograph conceal large duct spaces adjacent to the structural supports. Metal access panels are painted deep red. The desks, chairs, study carrels and shelving shown in the photo below are standard for the library. The lighting, also standard throughout the building, is of a different design and higher intensity than the lighting solution proposed to the client by the architects. Too uniform and too bright, the lighting installed is not well coordinated with the module of the suspended ceiling. Only in special areas, as in the reception space above, were the architects' lighting recommendations followed by the client.





Joseph Molitor photos



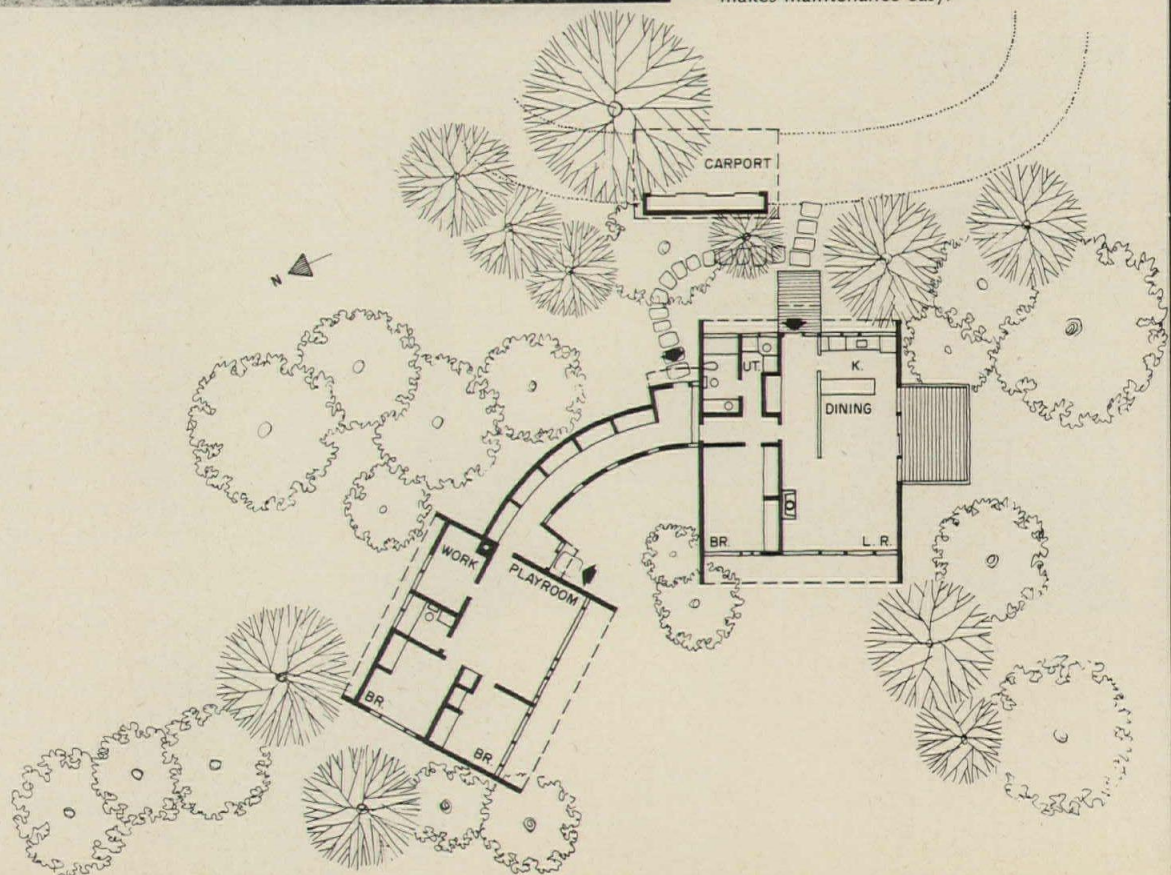
Two-section house adapts to changing family needs

In designing this house with separate facilities for parents and children, E. H. and M. K. Hunter have also solved the problem of what to do with a large house after the children have gone away to school. Two separate wings linked by a helix-shaped hallway give the parents and children privacy. Eventually, the hallway can be closed off, creating two complete houses. Since only blank walls of the two wings face each other, privacy would be maintained.

Stone for the exposed foundation, pried from rocky ledges on the site, and rough-sawn redwood siding blend with the surrounding New Hampshire woods. Simplicity, an inherent characteristic of this house, is especially evident in the sensitively detailed and proportioned windows. The roof overhang and wall extensions sharply define the windows and shield the interior from sun.



The Hunters have placed each wing on one of the two natural levels of the land. The connecting helix exactly follows the slope between the wings, as can be seen in the photograph on the left. For rental purposes the children's work area could convert to a kitchen. To get extra space in the summer the outside deck doubles as a dining area. A simple wood frame is articulated by exposing the interior posts and beams. Continuity between the interior and exterior is achieved by carrying the beams out to the overhang and minimizing the window framing. The simplicity and cleanness of design makes maintenance easy.







Interior details are handled with the same meticulous care as the exterior. The open plan of each wing appears large for a relatively small area. A prefabricated fireplace and chimney helped to save on construction costs, which were a major consideration. Although the house is quite modern, the clients' own tastes in furnishings seem to fit well. Yellow cabinets on an orange wall were used to brighten up the kitchen area. As can be seen in the previous photograph the effect of the house is serenity and spaciousness in a busy wooded area.

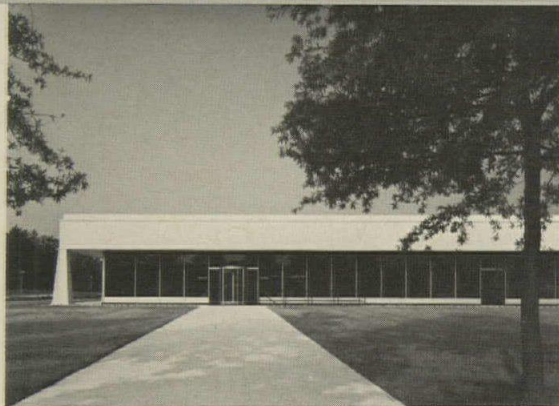
Residence for Mr. and Mrs. Desmond Canavan, Hanover, New Hampshire. Architects: E. H. and M. K. Hunter.



SMALL OFFICE BUILDINGS: AN "EVERYDAY" BUILDING TYPE GETS SOME SPECIAL ATTENTION

The office buildings shown on following pages have one virtue in common; they are freshly and thoughtfully designed despite limitations of program and budget universal for such structures. Further, they demonstrate the variety of architectural expression that might be expected from sound approaches to varied sites and purposes—the near-monumental image of a textile manufacturer's home office; the clean and dexterous handling of a pharmaceutical office-warehouse complex; the inward self-containment appropriate to and surmounting an unlovely neighborhood; the meticulous detailing of an owner's wood products demonstration.

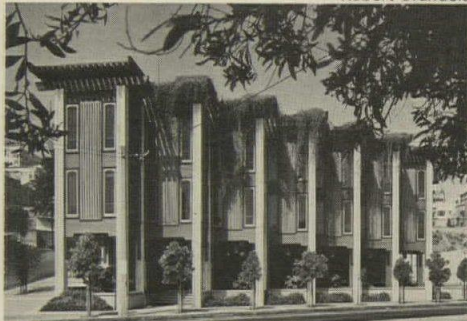
NOXELL CORPORATION ADMINISTRATIVE
BUILDING
Cockeysville, Maryland
Architects: *Skidmore, Owings and Merrill*



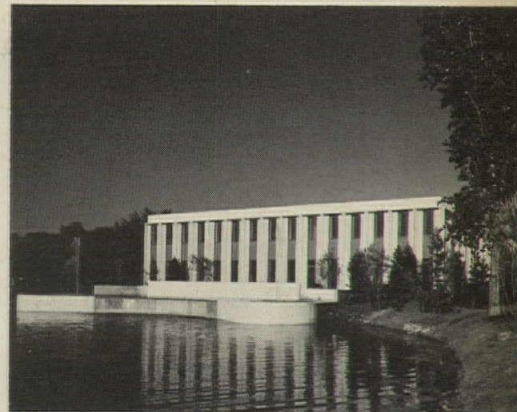
© Ezra Stoller (ESTO)

Robert Brandeis

PACIFIC LUMBER COMPANY BUILDING
San Francisco, California
Architects: *Ernest Kump Associates*



© J. W. Martin (ESTO)



Alexandre Georges

KLOPMAN MILLS
Rockleigh, New Jersey
Architects: *Schofield and Colgan*

DELUCA CONSTRUCTION COMPANY
BUILDING
Stamford, Connecticut
Architects: *Sherwood, Mills and Smith*



Rush J. McCoy

G. M. WALLACE BUILDING
Denver, Colorado
Architects: *Moore and Bush*



STRONG AND CRISP DESIGN GROWS FROM EXPRESSION OF STRUCTURE

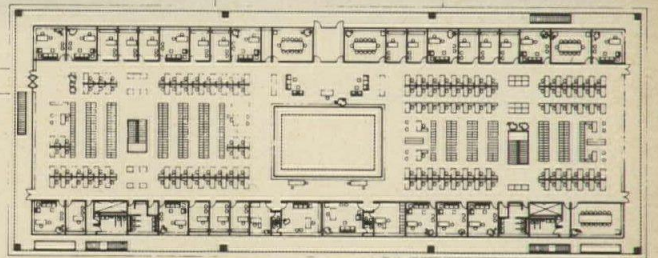
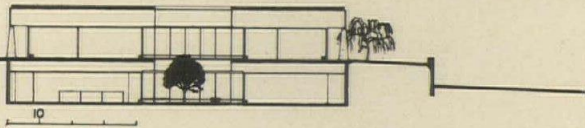
Problems usually associated with the construction of an industrial complex—occasioned here by the consolidation of the Noxell Corporation's office, laboratory, production and storage facilities—were compounded by a desire to preserve the site which previously had been a nursery, and to build on a human scale. The solution, calling for only two buildings with future expansion possibilities, makes outstanding use of cleanly articulated materials and forms.

The low-lying office-laboratory building was recessed into a sloping site (see section at right), so that only a one-story facade is exposed to the approach. An inner courtyard allows light to enter the otherwise windowless lower level. The storage-production plant is set low behind the office structure.

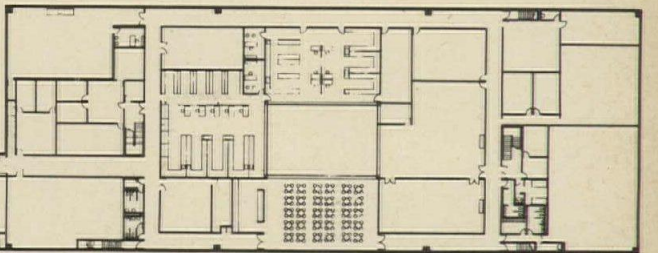
NOXELL OFFICE BUILDING, Cockeysville, Maryland. Architects: *Skidmore, Owings and Merrill*—partner-in-charge: *William S. Brown*; partner-in-charge of design: *Gordon Bunsch*; project designer: *Roger Radford*; project manager: *Frederick C. Gans*; structural engineers: *Weiskopf and Pickworth*; mechanical engineers: *Jaros, Baum and Bolles*.



The structure permits a column-free space 115 by 300 feet. Open-web steel girders span between the white-painted exterior girders, which in turn are supported by eight reinforced-concrete columns. Mechanical services are contained within the open-web girders. Grey, heat-absorbing-glass curtain walls are set back under the roof to form a sheltered arcade around the building. Administrative offices are on the upper level, while the lower level contains laboratory and storage areas. As can be seen in the plan at right, the lower level extends beyond the upper one; the extension contains an entrance for trucks to unload directly into the storage room. This entrance can be seen in the distant retaining wall in the photograph, lower right, taken from alongside the warehouse.

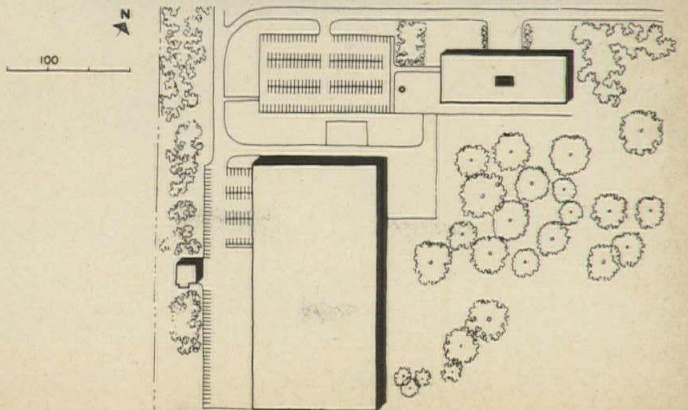
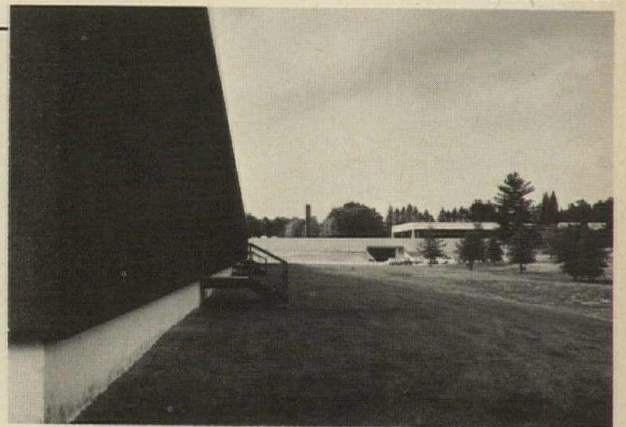
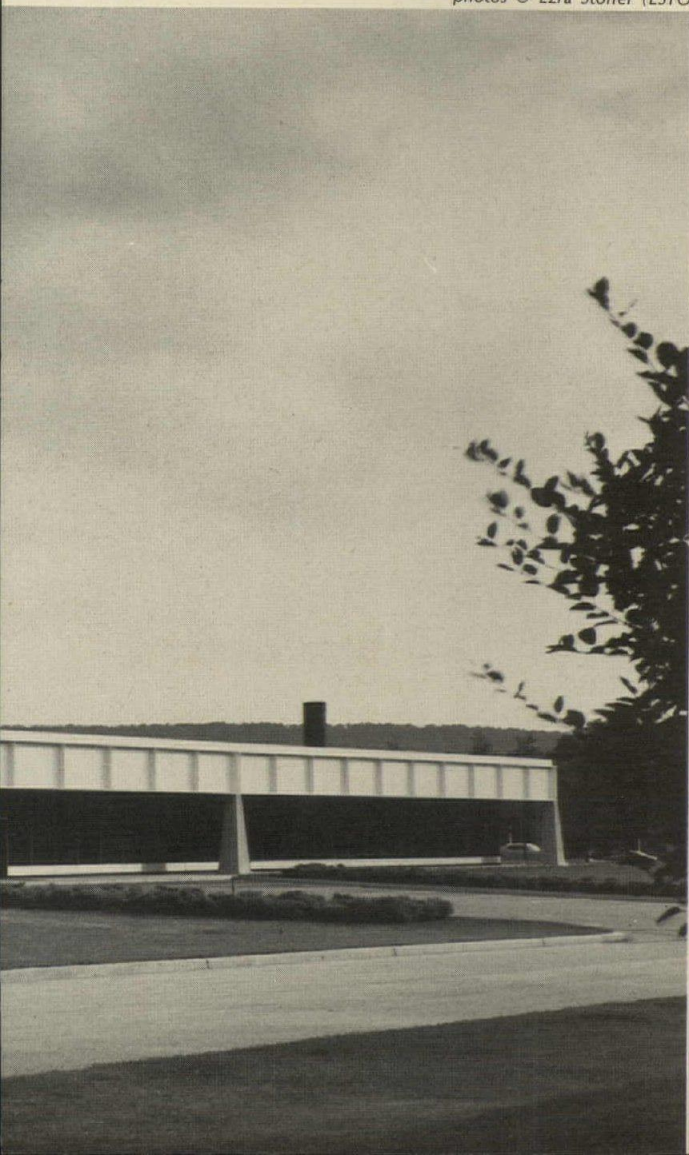


UPPER LEVEL

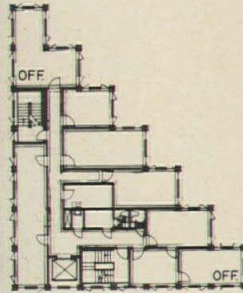


LOWER LEVEL

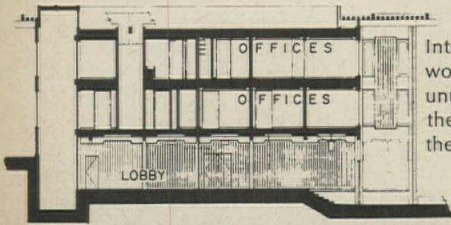
photos © Ezra Stoller (ESTO)



BOLD NEW USE OF TRADITIONAL WOOD

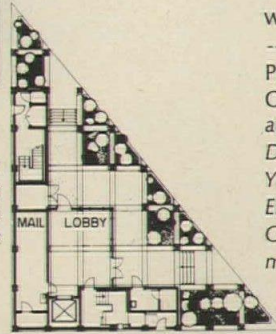


Meticulous detailing and controlled exuberance in uses of the client's wood products establish this corporate headquarters for Pacific Lumber Company as a dignified showcase that lives well with its colorful neighborhood—the site is a small, sloping triangular block in a somewhat Bohemian area near the San Francisco financial district. Since the building is wholly occupied by management staff in offices for one or two people, the limited spans of wood framing were suitable to the program. Rectangular bays expressed by engaged concrete columns with a sandblasted finish are arranged stepwise on the triangular site. Redwood detailing and exposed glue-laminated beams with a natural finish underscore the structural and decorative character of wood.



Interiors are carefully crafted in wood, including ceilings which are unusually detailed to demonstrate the variety of spatial enrichment the material offers.

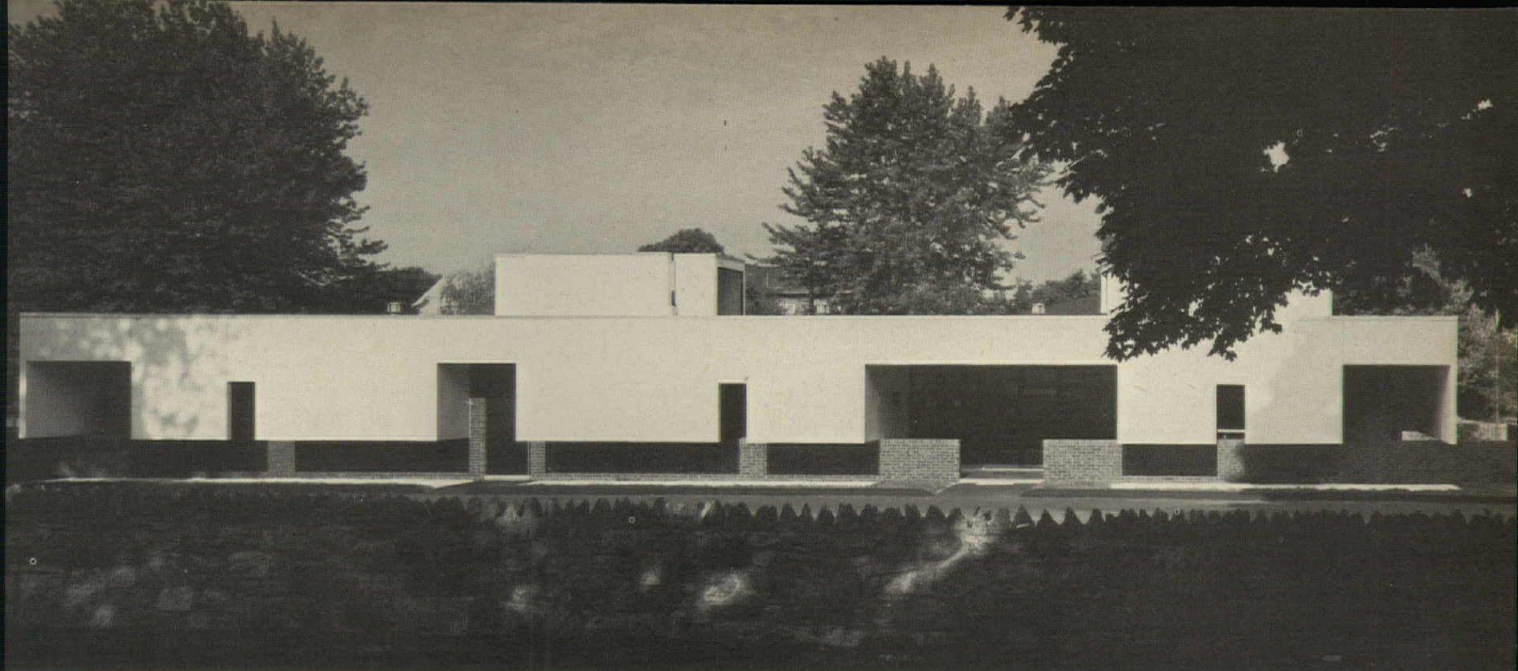
10



PACIFIC LUMBER COMPANY, San Francisco, California. Architects: Ernest J. Kump Associates; structural engineer: Gilbert, Forsberg, Diekmann, Schmidt; mechanical engineer: Yanow and Bauer; electrical engineer: Sierra Electric Co.; general contractor: Plant Bros. Corp.; landscape architect: Royston, Hanamoto, Mayes & Beck.

Robert Brandeis photos

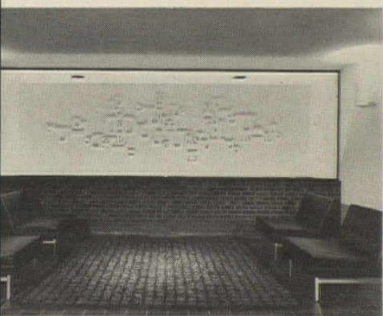
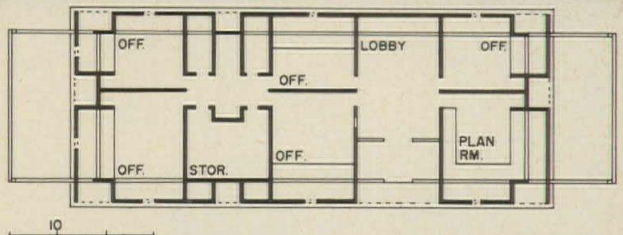




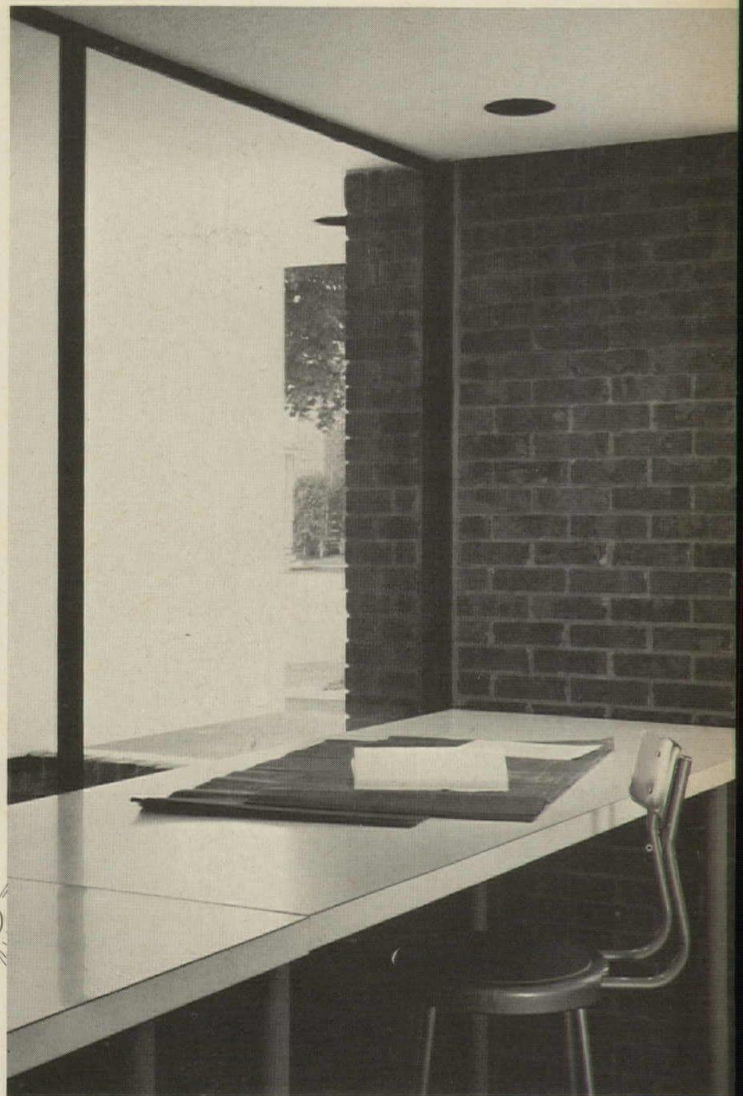
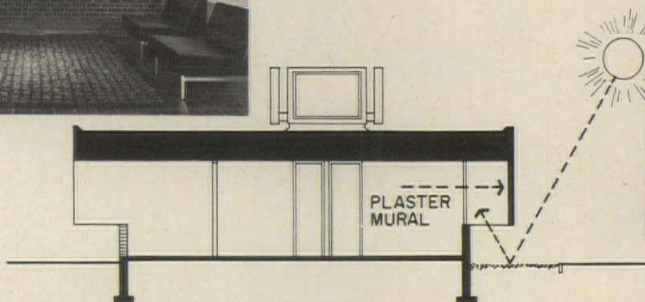
PRIVATE WORLD FOR A RUN-DOWN AREA

To overcome and hopefully upgrade a rundown residential-commercial neighborhood, architects A. Raymond von Brock and Robert Brady of Sherwood, Mills and Smith designed this low, simple rectangular building surrounded by a white stucco envelope hung over the enclosed area in such a way as to permit daylight to enter from below—reflected from a white gravel bed surrounding the building. Rhythmic penetrations of this curtain permit a sense of contact with the exterior without the intrusion of the unattractive neighborhood. All windows of the interior building are screened by the envelope but retain contact with the openings so that the interior is responsive to changes in outside light intensity. The interior building has a brick wall to sill height topped by a glass curtain wall to ceiling height.

DELUCA CONSTRUCTION COMPANY, Stamford, Connecticut. Architects: *Sherwood, Mills, and Smith*; structural engineers: *Fromme and Vosgian*; mechanical engineers: *Smith and Hess*.

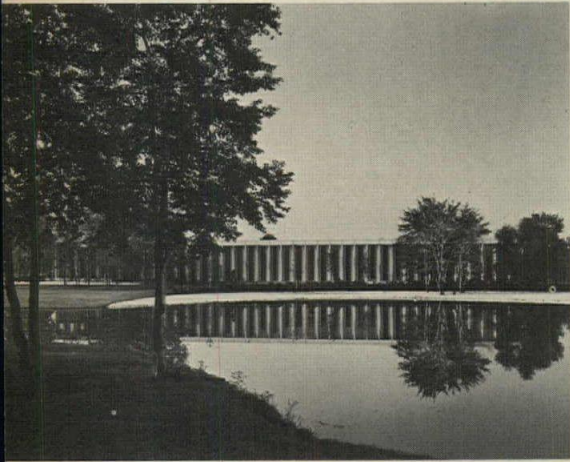
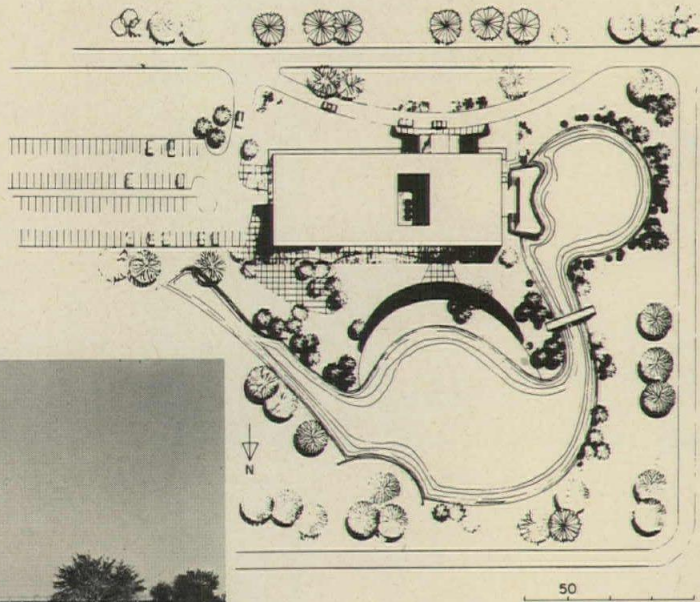


A plaster relief composed of the letters in "Deluca" is opposite the entry, on the inside of the outer wall. Seen through the glass wall backing the reception room, it emphasizes the unusual lighting.



photos © I. W. Martin (ESTO)

STATEMENT OF CORPORATE PURPOSE IN A PARK-LIKE SETTING



The program for this two-story building, on a 15-acre suburban site, involved consolidation of several New York City office locations into a single home office and operations building. The corporate identity sought in the handling of cast stone columns and fascia set in park-like surroundings reflects the function of company headquarters and showrooms used for presentations to large buyers. A reflecting lake, man-made from swamp, partially surrounds the building.

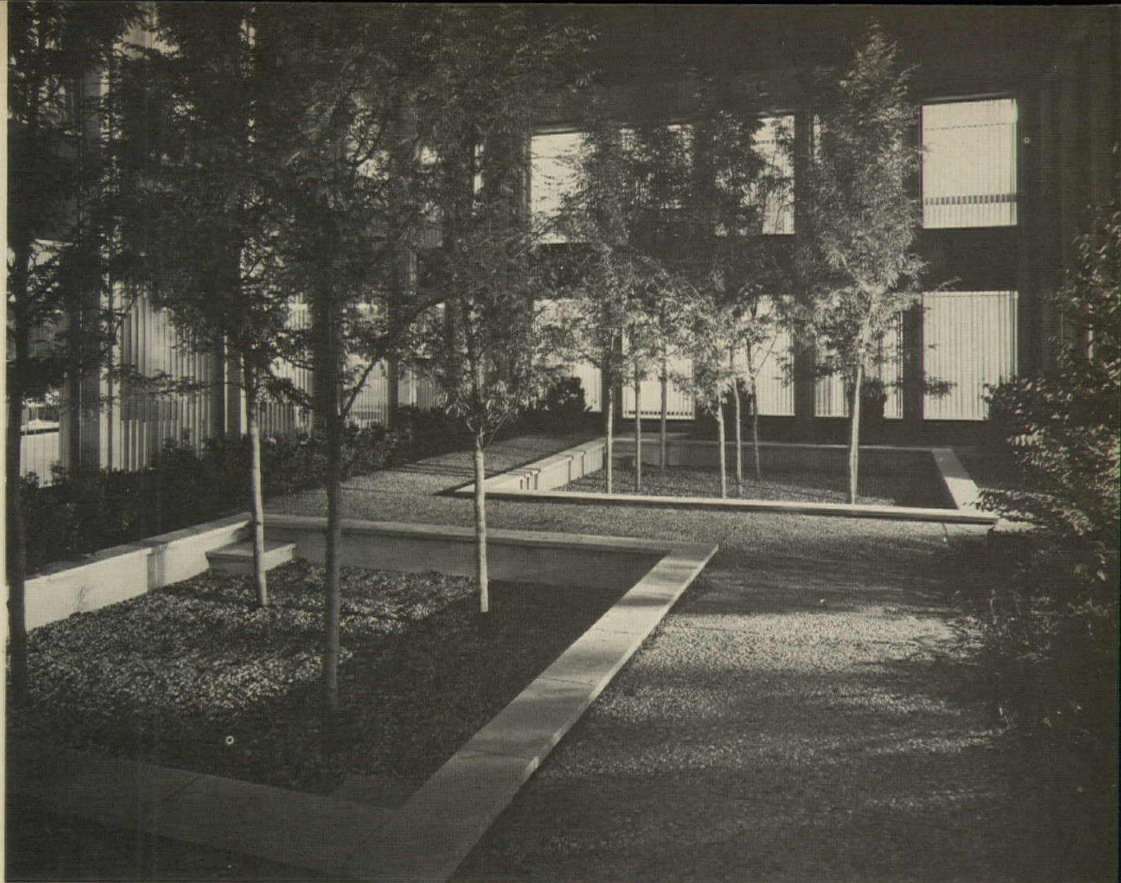
The structure is steel frame with exterior walls of glazed buff brick veneer on concrete block. Bronze anodized aluminum window frames and glass spandrels form two-story panels between cast stone columns. Interior doors are teak veneer and executive offices are finished with teak, cherry, oak or butternut panelling. Floors are carpeted throughout.

EXECUTIVE OFFICES, KLOPMAN MILLS, Rockleigh, New Jersey. Architects: *Schofield & Colgan*; structural engineers: *Fromme & Vosganian*; electrical engineers: *George London Associates*; mechanical engineers: *Frank A. McBride Company*; landscape architect: *Vincent C. Cerasi*; general contractor: *Fred J. Brotherton*.

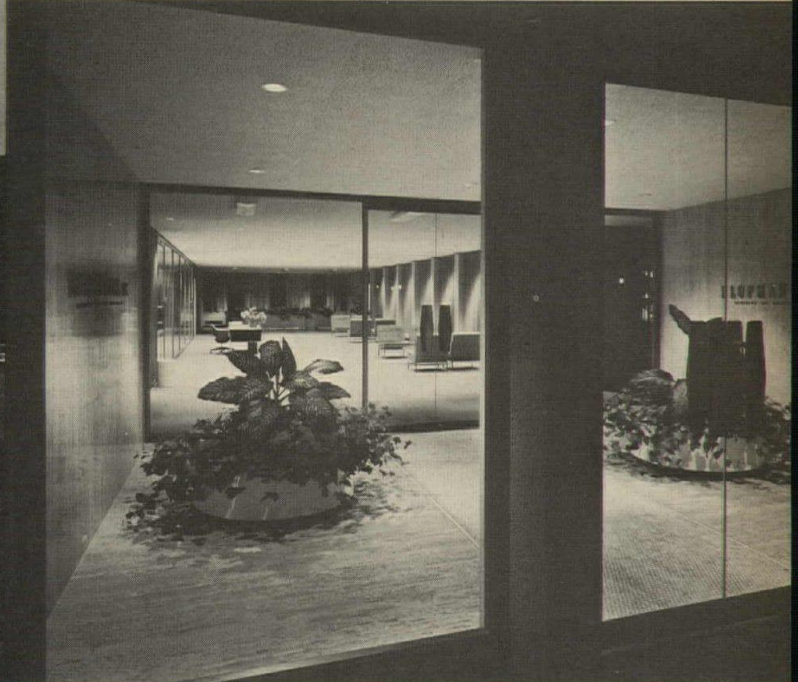
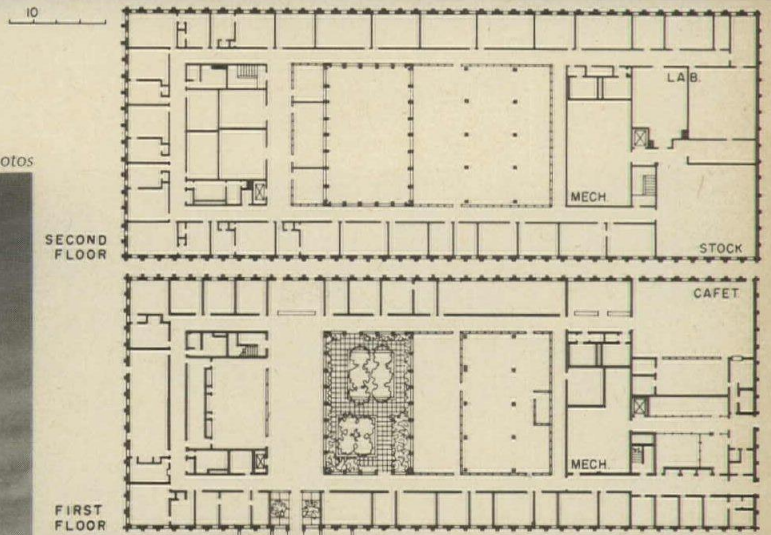


Internal functions include executive and clerical operations, a computer center, laboratories and showrooms. These are arranged in a two-level rectangle with an off-center landscaped court (shown at right). The entrance lobby creates a cross access along one side of this court and divides executive functions from middle management and clerical functions at the longer end of the rectangle.

A service entrance, cafeteria and laboratories are at the end of the building (far right in plan). The cafeteria and its exterior terrace overlook the lake. Similarly, an executive dining room on the first floor overlooks another portion of the lake.



Alexandre Georges photos

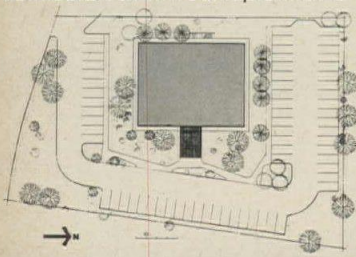
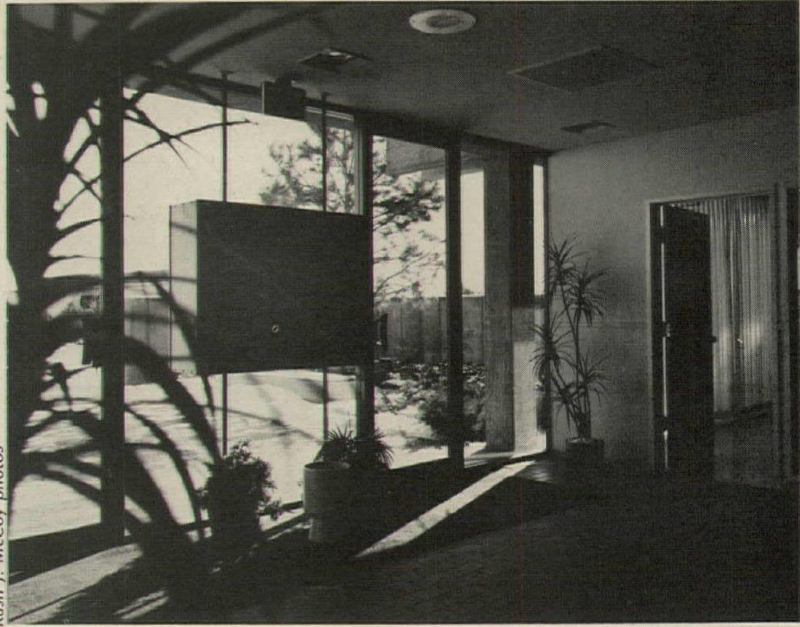


FRESH SHAPES FROM STANDARD MATERIALS

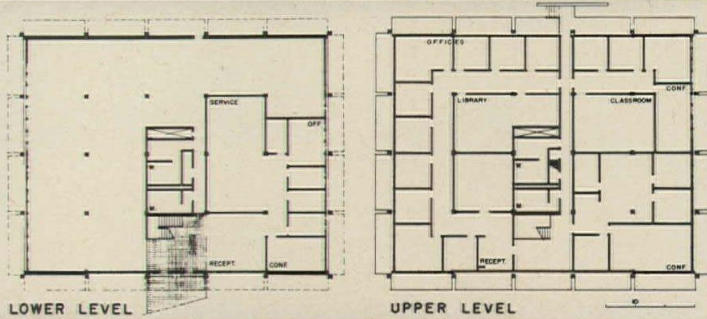
Adroit handling of low-cost materials (brick, concrete, glass and anodized aluminum) brings this two-level leaseback office building well within the competitive framework of its planned technological community near Denver. Chief tenant is a growing computer company, and core spaces of main (upper) level are accordingly adapted to computer, library and classroom spaces with peripheral offices. The first-floor level is partially below grade on three sides, preserving horizontal unity with nearby low buildings, and permitting pedestrian access at both levels.

G. M. WALLACE BUILDING, Denver, Colorado. Architects: *Moore & Bush*; structural engineer: *Edward R. Bierbach*; mechanical engineer: *Francis E. Stark*; electrical engineers: *Swanson Rink & Associates*; general contractor: *Brown-Schrepferman & Co.*

Rush J. McCoy photos



Structure is poured-in-place concrete with exposed-aggregate concrete spandrels extended 4½ feet in sunshade hoods matching overhang of the concrete fascia. Mechanical facilities are in a low-profile penthouse and include absorption refrigeration for air conditioning.



The role of design in the governmental process

by Donald H. Elliott

Some of the most chaotic and un-designed aspects of our cities are not accidents, as they may appear, but the result of decisions taken by government, decisions in which design considerations were clearly not given enough weight. In New York City, under the leadership of Mayor John Lindsay, we are trying to identify the critical points where design should be introduced into the decision-making process, and we are finding that relatively small changes in the way things are done can have a significant effect on the way the physical environment looks, and works.

Part of the problem, of course, is the design of individual buildings. The Lindsay administration has embarked on a major, and continuing, effort to improve the design of the buildings it commissions. Our architect-selection process is becoming more flexible, our fees higher, and our administrative structure of reviews and approvals less complex. Several agencies, notably the Parks Department and the Housing and Development Administration, have already achieved a significant improvement in the quality of public architecture.

However, in many instances, lack of design at a scale beyond that of an individual building appears to be built into the City's normal decision-making process. For example, anyone who travels around New York City for any length of time is sure to be struck by how frequently the City has lost an opportunity to design an area so that it would be stronger than the sum of its parts. Major

public investments are built without adequate recognition of nearby existing buildings. And publicly-aided housing, schools and other community facilities have too often been built in close proximity to each other at almost the same time, without anyone having designed their physical relationships. The school was needed because of the housing, and the housing came about because of the condition of the neighbourhood; but each new element was locked into its own complicated administrative process; real co-ordination did not take place.

Another example of government-produced lack of design occurs on almost any street corner, where signs, lighting standards, traffic lights, trash baskets and the like combine into a meaningless and confusing jumble. Street lighting is directed more towards the needs of automobiles than those of pedestrians and residents; and signs are hard to read and even harder to find. Again the failure is not in the actions of the individual city departments responsible for each element, but in a lack of co-ordinated effort towards a single designed product.

A third example can be seen in such places as the area around Lincoln Center or the mid-town portion of the Avenue of the Americas, where a major public improvement—in one case a cultural center, in the other a subway extension—has not been co-ordinated with surrounding private development. In both instances there has not only been a failure of architectural relationships, but some serious functional problems as well. Representatives of the design professions have naturally been concerned for years over situations of this kind. The reason the designers' criticisms have had

Mr. Elliott is Chairman of the New York City Planning Commission and Director of New York City's Planning Department.

"The City is not just concerned with the design of a particular school....We are not interested in designing buildings; we are interested in designing the city...."

so little influence is that they have been advocating two remedies, long-range physical planning and design review, both of which, in my opinion, are rather unlikely to bring the desired results.

Long-range physical planning, showing the detailed design of an area 10 or 20 years into the future, separates design both from available resources and the intricate complex of social relationships that design must serve. If planning is a continuous process, then physical design can not be allowed to run on ahead, unrelated to the dynamics of the world it hopes to shape.

In Great Britain, whose long-range physical planning has often been cited as an example to emulate, the existence of such plans has created a new urban problem. Owners of properties scheduled for acquisition 10 or 12 years in the future permit their buildings to deteriorate, producing what is known—appropriately enough—as “planners’ blight.” The result is that the British have had to revise their attitude towards physical plans, and are making them far less explicit. In New York we have had similar problems from long-range urban renewal designations unrelated to timing of execution and availability of resources.

Design review, when it is practiced, frequently becomes a city official’s nightmare, because it usually occurs after the fact. It introduces unpredictable delays in badly needed projects and may cause sweeping changes after design and policy are supposedly set. In addition, blue-ribbon panels of noted designers have a tendency not to agree. The history

of design review panels may be a major reason why some city officials have come to the unfortunate conclusion that all design values are subjective, and therefore not worth worrying about.

In New York City we resolved to use other methods for creating design policy. The City is not just concerned with the design of a particular school or street sign, but with the relationship, in a crowded area, between them. We are not interested in designing buildings; we are interested in designing the city.

Perhaps the best way to explain what we are trying to do is to go back to the problems cited a little earlier. Take the question of relating a new public investment to its surroundings, so that it can help improve the existing fabric of the community. The selection of sites for low- and middle-income housing in New York City has long been based on a design stereotype: housing, particularly public housing, must be a free standing tower surrounded by open space. This concept was frequently very destructive to existing neighborhoods, and the City had just about run out of sites where this type of building made any sense at all.

One of the major community development programs of the Lindsay administration is called Vest Pocket Housing. This term describes a new approach to investment in new and rehabilitated low- and middle-income housing. The necessarily limited number of units available is used strategically so as to achieve the maximum beneficial impact on the community.

Such an approach requires the participation of residents in the community

affected. Thus we sent, into each community, planning and design professionals who had been fully briefed on the amount of housing and community facilities available, and asked them to design the best possible use of these limited resources. We encouraged the creation of committees of local residents who became, in a very real sense, the clients for the design process. The consultants made presentations to the committees at intervals during the planning process and incorporated suggestions and proposed revisions as they went along. In the first five areas where this process was tried, over 100 community meetings were held.

Sites were selected for housing not just to provide the maximum number of new units, but in terms of their relationship to the existing community, and on the basis of design concepts which provided for new open space and needed community facilities. The sites varied considerably from location to location; and the physical concepts were not arrived at arbitrarily, in advance, but evolved through consultation with the residents of the area for which the housing was planned.

This may seem a simple enough process, but it required, and will continue to require, considerable changes in the city’s administrative machinery. Nevertheless, it already works remarkably well. I recently had occasion to preside at the Planning Commission’s public hearings on the Vest Pocket plans; and, in contrast to the all too frequent vehement opposition that some City proposals arouse—particularly when they require substantial relocation—community leaders rose one after the other to speak in favor of the Vest Pocket proposals. Even when

"Concern for the design of the city must include the effect of private development, particularly when there is an opportunity...to achieve designed results in concert..."

leaders still disagreed with parts of the plan, they understood the reasoning behind it; and therefore did not feel compelled to oppose the whole program.

The question of incorporating high design standards into the production and placement of street signs, lights and street furniture is really part of a larger design problem: how do the public streets and sidewalks of the city work, and how can people easily get the information and direction they need? Until recently, solutions to this problem have concentrated upon achieving better designed individual signs or light standards, and not upon the critical question of what effect all these elements have on the user of the street. We are, with the help of design and lighting consultants, studying in great detail the entire length of one of Manhattan's cross-town streets.

One of the concepts under study would place lighting and signs in a series of regularly spaced pylons. Large pylons at intersections would incorporate high-intensity lighting, traffic control lights, and street signs and traffic information scaled for the driver, as well as smaller lights and signs designed for the pedestrian. Smaller pylons between intersections would provide street lighting, sidewalk lighting, and information about parking; and would incorporate litter baskets, fire and police call stations, letter boxes and so on. If this concept, or one similar to it, proves feasible, over a period of time we could get rid of much of the undesigned clutter that lines our streets, in favor of a much more orderly and effective system specifically designed for a modern city.

The primary element of City development, however, is not public investment, enormous as that is, but private activity. Concern for the design of the city must include the effect of private development, particularly when there is an opportunity for private enterprise and a governmental program to achieve designed results in concert. When I talk about design in this way, I again mean more than the design characteristics of individual buildings, although these can be very important. I am referring to the solution of serious functional problems that come out of the relationship between buildings, such as servicing, pedestrian circulation, or the provision of usable open space.

One of the important ways to stimulate private investment is the planned use of a far smaller public investment. Funds for libraries, schools or park acquisition offer such an opportunity and so, to a far more significant extent, do transit improvements and extensions. Another major tool that we have is the zoning resolution, and we are finding more creative ways of administering zoning controls, without losing the overall effect that these controls are designed to provide. For example, we have just amended the Zoning Ordinance to permit the creation of special design districts, within which the Commission can encourage certain types of development by special permit. The first of these new areas is the Theater District, where we will permit a bonus of additional floor space to developers who include a new legitimate theater in their building. No new legitimate theaters had been built in the theater district for more than 30 years, and New York, which once had 88 theaters, now has only 34.

On the same principle, we are developing plans for arcades and underground pedestrian concourses in which we shall also encourage participation by private developers.

As a result of all this design activity, we are seeing a tremendous extension of the kind of services we need from design professionals, staff and consultants.

Early in Mayor Lindsay's administration he appointed a Task Force on Urban Design, a group of leading citizens that included architects Philip Johnson, I. M. Pei and Walter McQuade (who is now a member of the Planning Commission) and was chaired by William S. Paley, Chairman of the Board of C.B.S. One of the principal conclusions of the Task Force report was that a group of design professionals should be established within the staff of the City Planning Commission to serve as a clearing house for all the City's design policy studies. The Planning Commission was felt to be a key location because it must approve all buildings on which public money is expended, as well as all major changes or exceptions to the Zoning Ordinance, and all local area or over-all policy plans.

At the time of the Paley Task Force report there were few design professionals on the Commission staff, and those there were worked as planners or in administrative positions. I decided to ask four architects and planners, Jonathan Barnett, Jaquelin Robertson, Richard Weinstein, and Myles Weintraub, to form the nucleus of a new Urban Design Group. These four had already been consultants to the City for one of the Vest Pocket programs, and Jaque Robertson had also been a member of the Paley Task Force.

*"The architect has always needed
a thorough knowledge of the construction process; now...he
needs to know governmental processes as well..."*

When Mayor Lindsay announced the formation of this Urban Design Group at the national convention of the American Institute of Architects last May, he said that the Group would be concerned with design at every level, from street signs to skyscrapers. This prediction has turned out to be an accurate definition of the scope of the Design Group's work.

The Design Group has worked on skyscrapers, consulting with developers over ways of integrating theaters with the design of office buildings, and street signs, working with Unimark, as graphics consultants, and Seymour Evans, lighting consultant, on the design of the prototype cross-town street. The Group has also been involved in such diverse problems as producing a book of standards for residential development under cluster zoning, the solution to a complex land-use and redevelopment problem in Coney Island, and a transportation plan for Harlem's 125th Street.

The Design Group has also been working to establish our basic design policy in areas of the city where private development is active. We count upon the Mayor's Council on Urban Design, a new group that was also established in response to the Paley Task Force report, to keep a watchful eye on this process, and to help us in negotiating the very delicate relationships involved. We hope that in this way we will not miss any more opportunities for a creative partnership between government programs and private development. The City has also commissioned a great many planning studies from outside consultants; and many of these have a strong design component. Our most ambitious project

of this kind is the Linear City proposal in Brooklyn. It calls for the construction of a new Cross-Brooklyn Expressway, whose right of way would become integrated with its surroundings, rather than becoming a juggernaut and a barrier as urban highways so frequently do. At the same time, part of the route would be utilized as a substitute for an educational park, with a new linear school district involving every level of education. The inter-governmental relationships of this proposal will be so complex, that our consultant, Archibald Rogers, spent six extremely busy weeks just figuring out what they were, and outlining the "concept team," that his firm will head, to show how it will do the actual planning. Other consultants, doing complex studies in which architecture and planning interact, include the English architect, James Stirling; David Crane; and Robert Hart.

The architect has always needed a thorough knowledge of the construction process; now, as he becomes involved with the City's decision-making, he needs to know governmental processes as well. Both inside the government and as consultants, designers need to know what the strengths and limitations of governmental programs are, they need to understand the elements that make a concept financially feasible; and they have to know how to work with community groups.

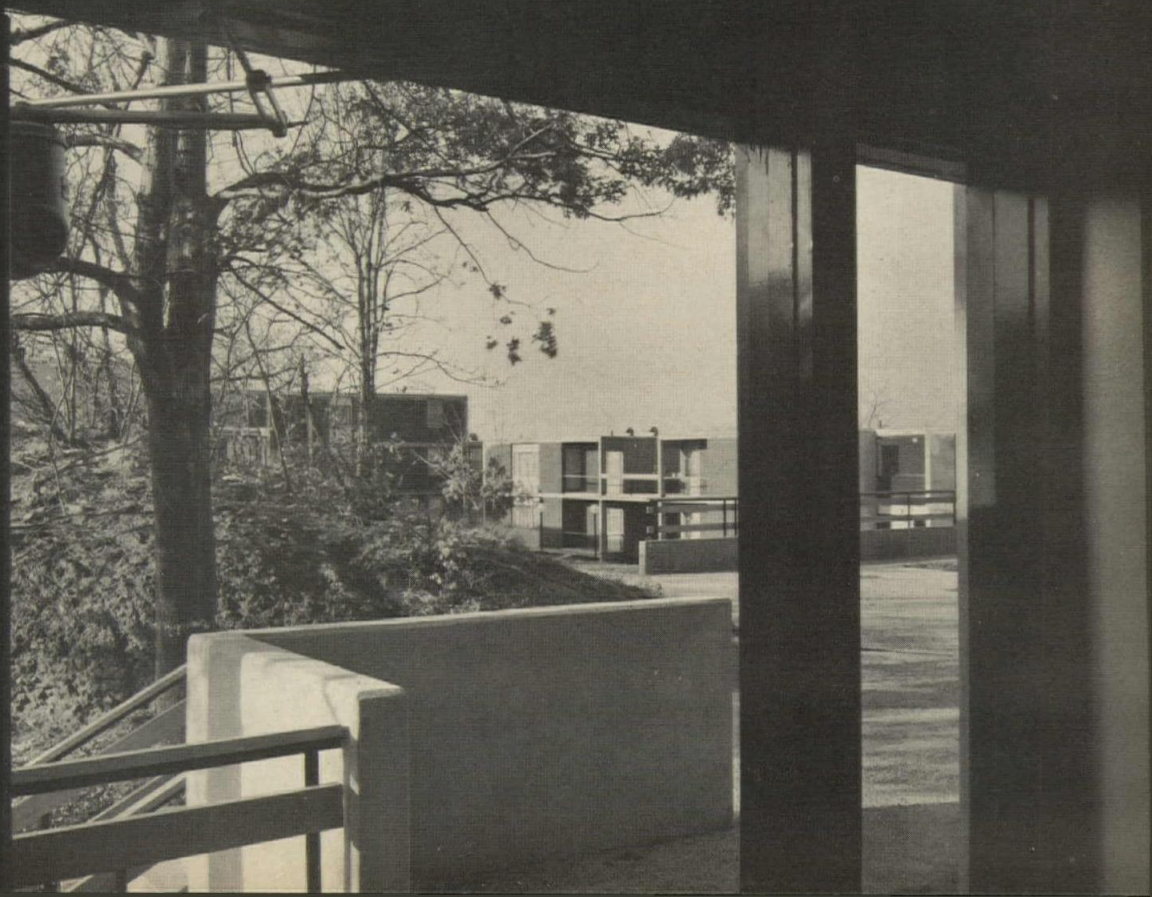
Without this knowledge, the opportunities we are giving to design could prove meaningless; with it, we may yet succeed in designing our cities.

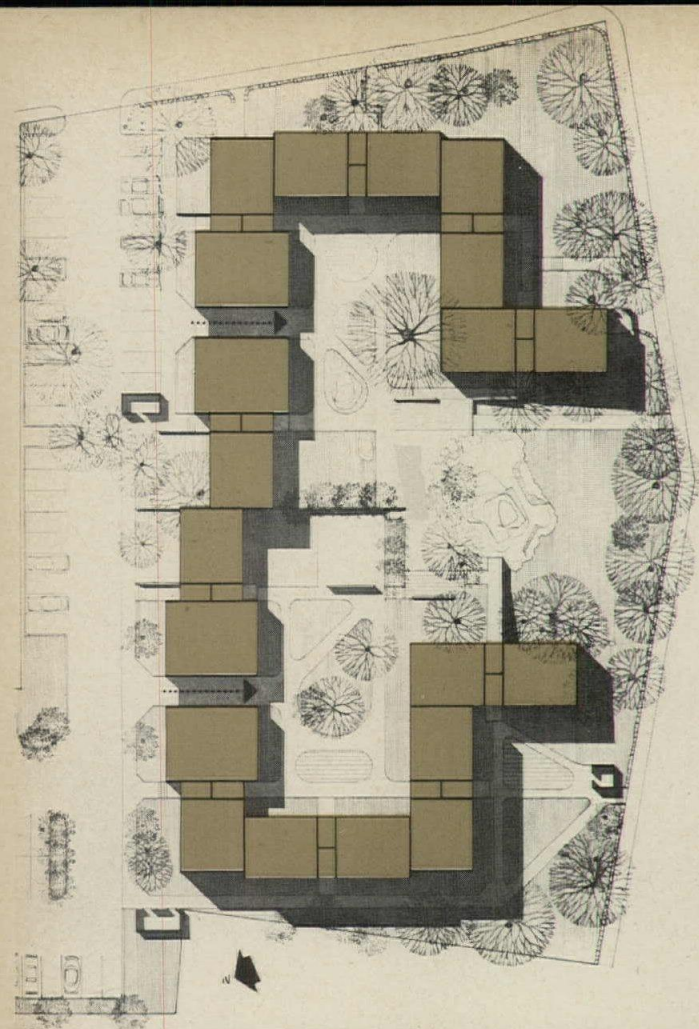
Apartment building will show the most spectacular rise in dollar volume of construction during 1968—a whopping 25 per cent. Coupled with demand for quantity is a new demand for quality—more variety of scale and choice of accommodation in suburb and city alike. So there is a chance for architects to make a major contribution in housing with

Small apartments and townhouses

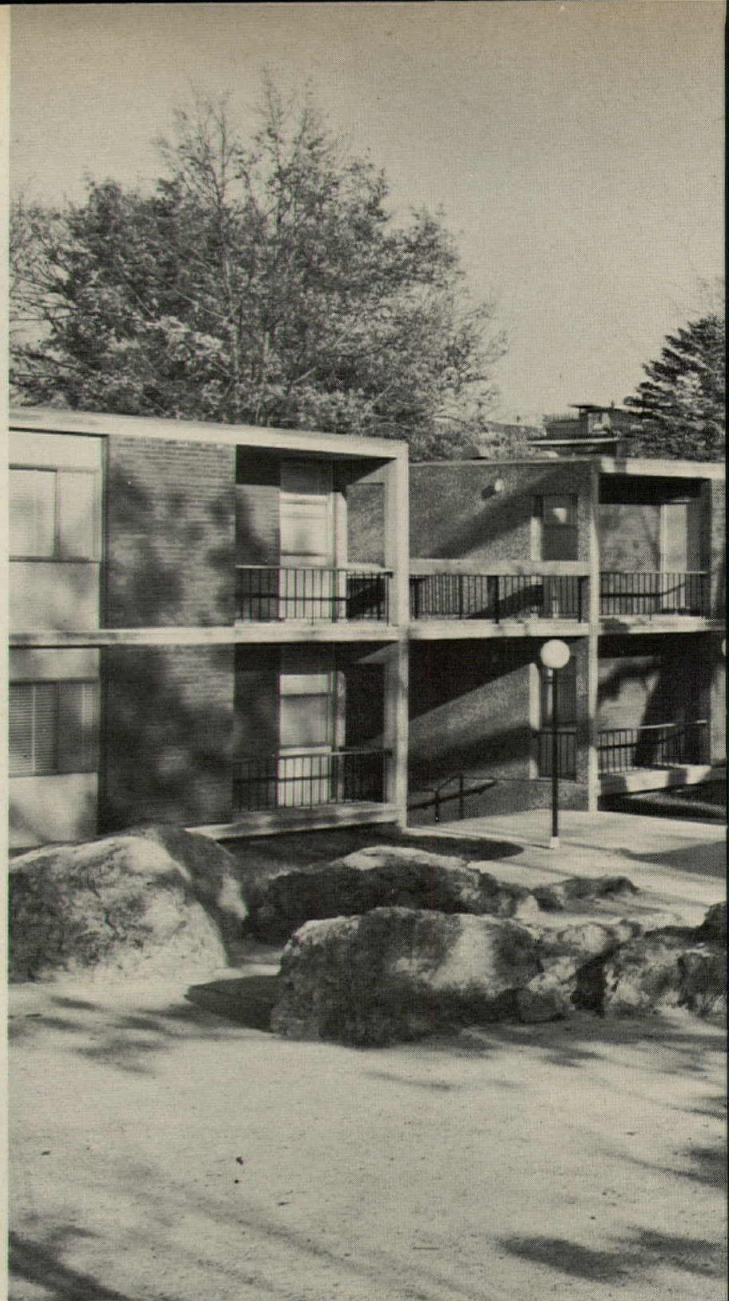
Along with a general rebound in building activity, the F. W. Dodge construction outlook indicates a rise from 1967's \$4.15-billion in apartment building to \$5.23-billion for 1968. It is estimated that there is a significant backlog of demand caused partly by the severe capital shortage of the past couple of years, and partly by a rising trend (after a period of decline) of household formation. George A. Christie, chief economist for F. W. Dodge, calculates the carry over of postponed housing demand for the past two years as some half-a-million potential units that were not built, and that the rate of household formation is slated for an increase of about 10 per cent. To fulfill this demand, Christie surmises that "money will be far from 'easy' in 1968, but there's good reason to expect that it will be available for housing—but will be expensive."

This Building Types Study is devoted to nine smaller-scaled apartment and townhouse developments which go far beyond the usual in providing better design and better over-all environment—whether for big city or small, low-cost housing or resort community—and at reasonable cost. Let us hope that more of this quality will be constructed. *Herbert L. Smith, Jr.*





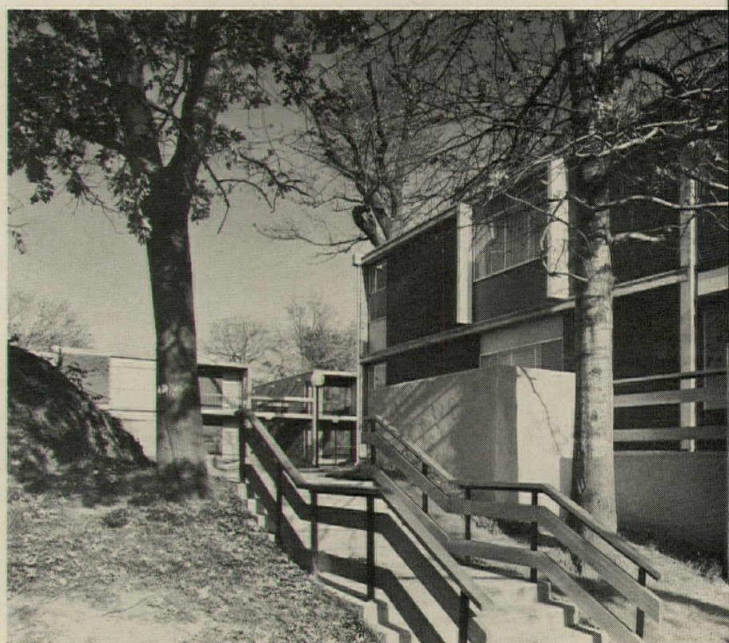
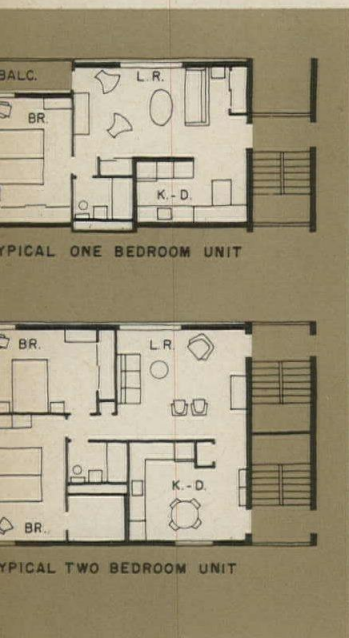
Carl Koch uses pre-cast concrete units to create an unusually pleasant environment for a low-cost housing development



Phokion Karas photos

Trim, modular units, arranged somewhat informally around a central court, are used here with discernment to create an appealing ambience that is all too often lacking in low-cost housing. The architects note that this Westminster Court site in Roxbury contains 70 apartments composed of one- and two-bedroom units. It was built under the FHA 221d3 Program at a cost of \$824,565 for building construction and site development. This comes to \$12.00 per square foot (this has been lowered to \$10.70 on three nearby sites now being completed). The site was originally an old estate fallen into ruin, but had magnificent trees and landscaping.

WESTMINSTER COURT, Roxbury, Mass. Owner: Development Corporation of America. Architect: Carl Koch & Associates, Inc.—associates on job: John L. Cummings, Gardner Ertman; Leon Lipshultz; engineers: Sepp Firnkas (structural), Francis Associates, Inc. (mechanical).





Within the neat, disciplined framework of precast concrete bearing walls and floor planks, Koch has used contrasting exterior panels of brick, exposed aggregate concrete and aluminum. The interiors have walls of painted concrete or plaster board. Precast concrete plank flooring is surfaced with vinyl asbestos or oak parquet. Heating is from a central plant, which supplies forced hot water to fin tube radiators.





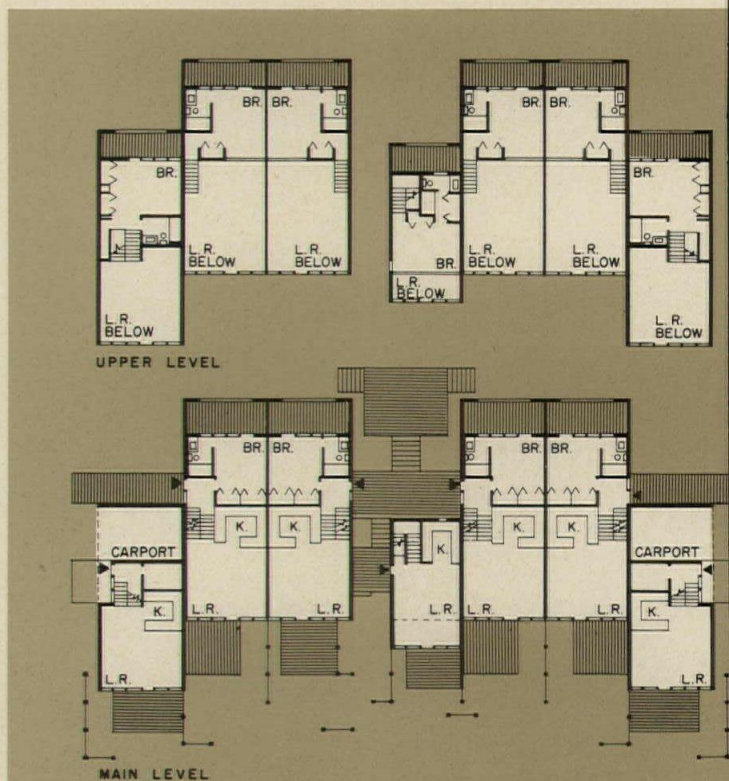
Edmund Y. Lee photos

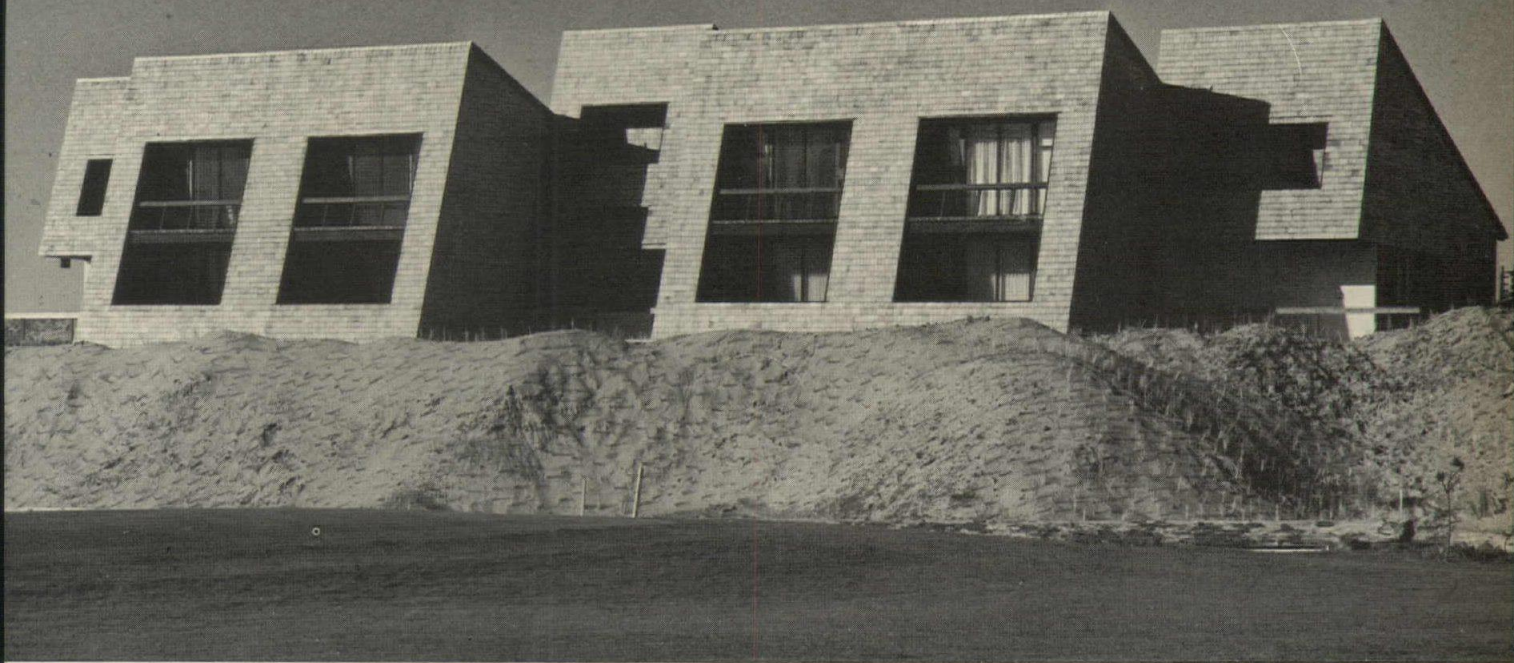
*Beachside shapes and materials
fit these condominium apartments
to a year-round resort development*

Constructed as part of the 600-acre Salishan development (January, 1967, pages 145-150) this seven-unit wood-frame building offers three types of apartments, ranging from one to two bedrooms, with two to four interior levels and resultant varied roof heights, and offset facades. This consideration will become more important as other buildings are added to form community.

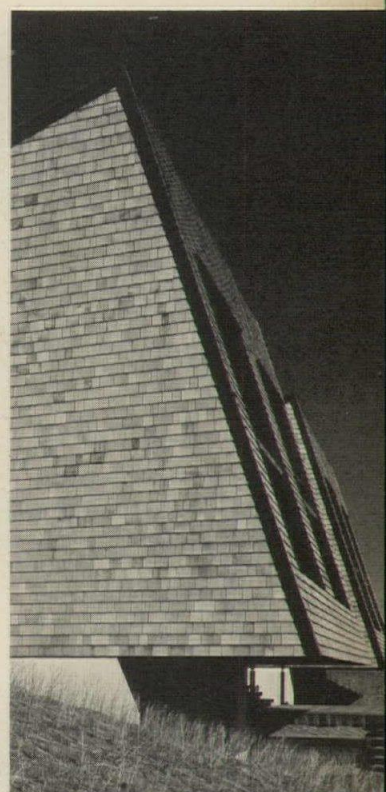
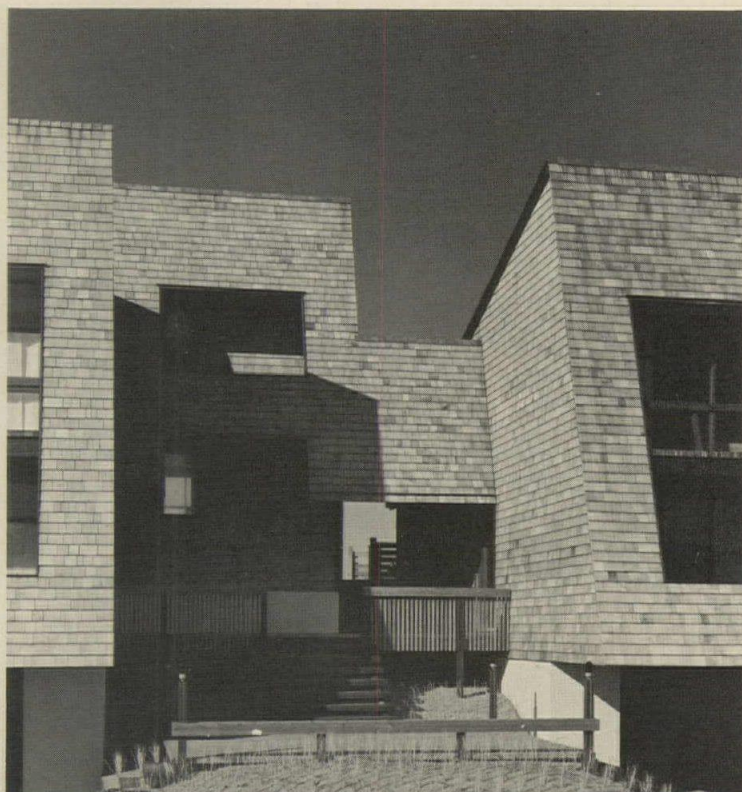
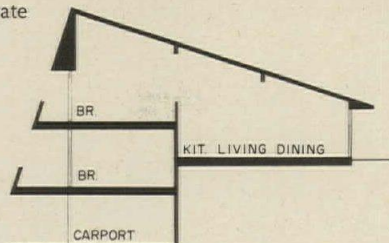
An interesting piece of crisp detailing was created by backing the overhanging roof and facade shingles with painted trim. Partially enclosed decks insure privacy and add comfort to deck lounging by blocking strong ocean breezes. The shed-roof device works well in the interior space. Light, airy rooms reflect the expansive quality of a beach front.

SALISHAN LONGHOUSE, Glenden, Oregon. Architect: Zaik/Miller; site consultant: Mike Parker; landscape architect: Barbara Fealy; interior design: George Schwartz.





The informal cedar-shingle exterior helps to integrate the building with the rolling sand dunes and beach grass. The section, at right, shows the four levels of the two-bedroom apartment. Interior finish is gypsum board with some re-sawn hemlock paneling in living and bedroom areas. Ceiling beams were left exposed. Prefabricated fireplace units were used in each apartment.





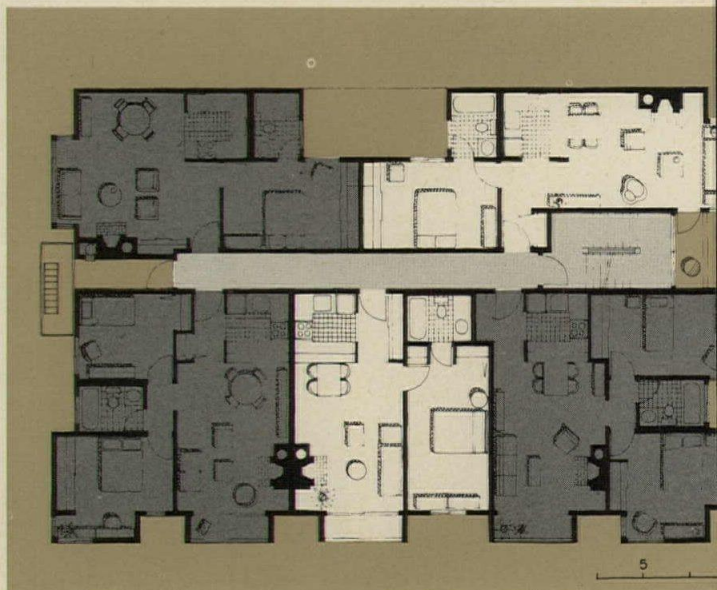
Spirited, compactly planned apartment house deftly meets zoning and site restrictions of San Francisco's Telegraph Hill

On a fairly small site (46 by 85 feet) at the foot of Telegraph Hill, Harry and Helen Som have incorporated 15 very livable apartments within the framework of the area's somewhat restrictive zoning requirements—which include a 40-foot height limit, off-street parking for one car per apartment, and two stairs or fire escapes. There is also an easement for a private alley on the west side of the site.

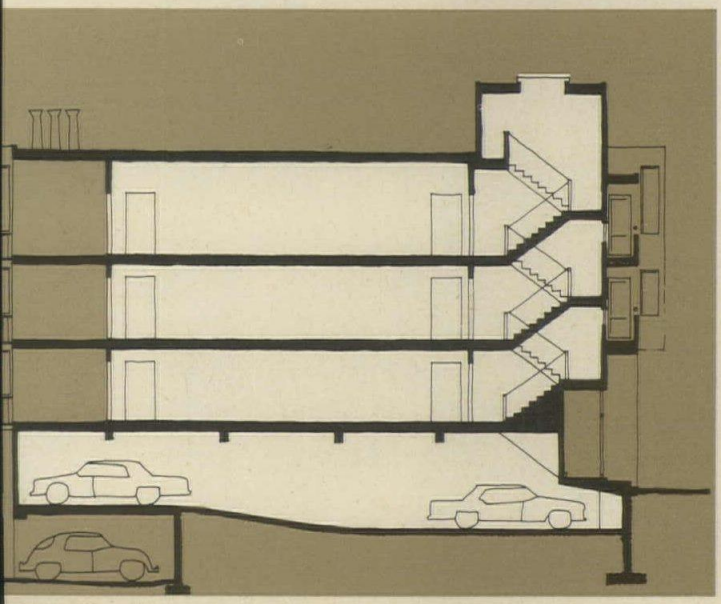
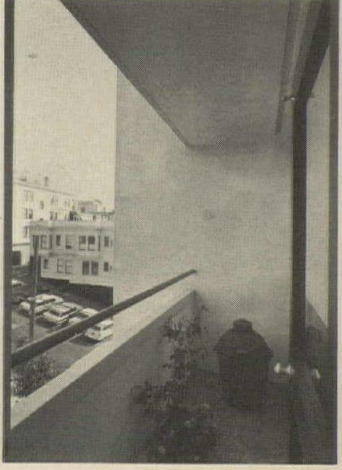
The Soms took advantage of the lot contours to provide three apartment levels above one-and-a-half levels of parking. The entrance is placed at the higher end of the site, where the top floor is two and a half stories above the street, to eliminate the need of an elevator. Apartment floors have a through corridor with stairs at each end.

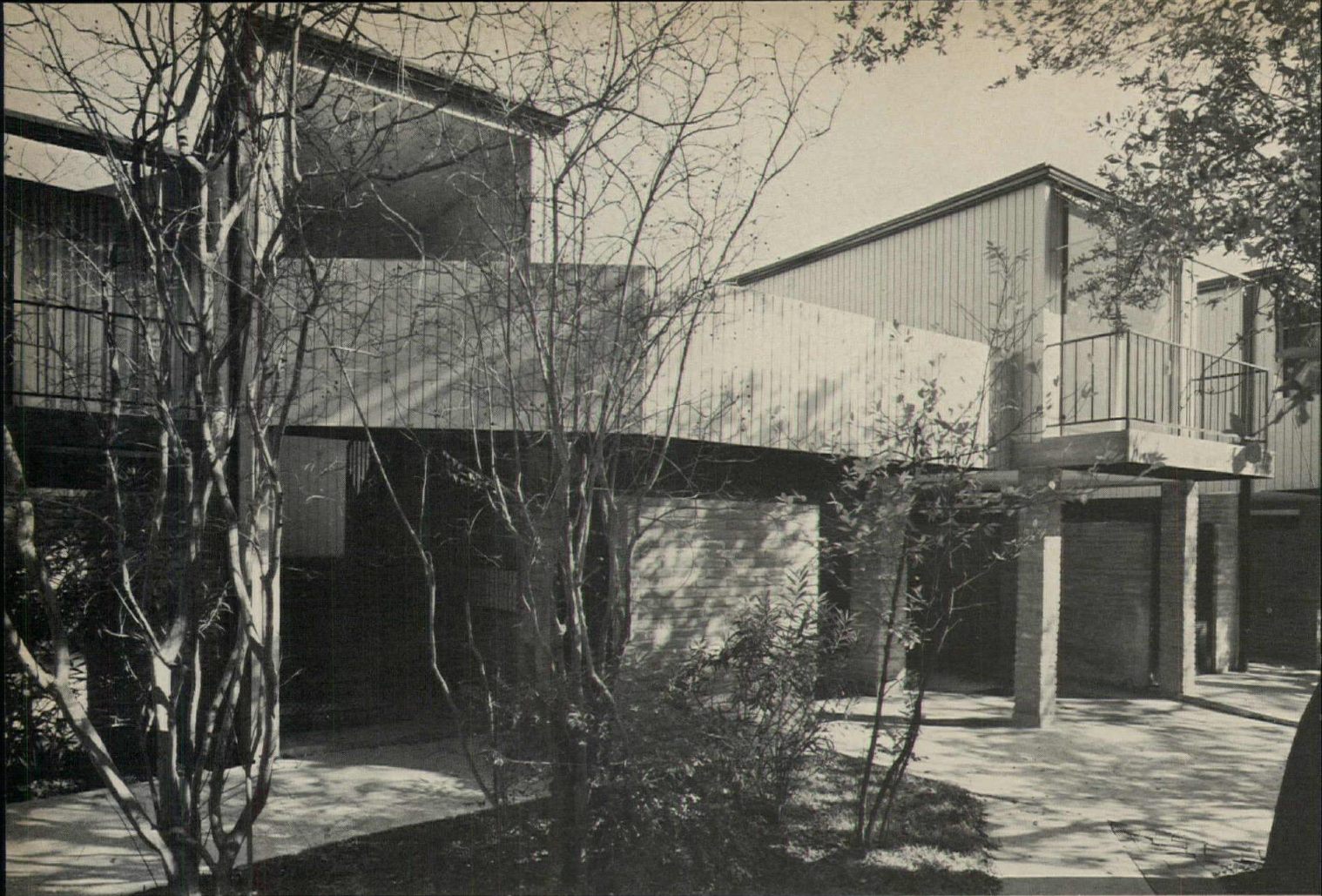
GRANT-FILBERT APARTMENTS, San Francisco. Owner: Grant-Filbert Apartments Associates. Architects: Harry D. Som, Helen Woo Som; contractor: Marchi-Kroloff.

The building has nine one-bedroom, and six two-bedroom units with a variety of floor plans. Each apartment has a fireplace, most have balconies and a dining-bar kitchen counter. The top floor has high sloping ceilings and skylights over the kitchens and bathrooms. Interior walls are white-painted gypsum board. Sound reduction between apartments is provided by double staggered studs and insulation in walls, and floors with lightweight concrete fill and carpet. The exterior is surfaced with white stucco; sash is bronze anodized aluminum.



Karl H. Riek photos



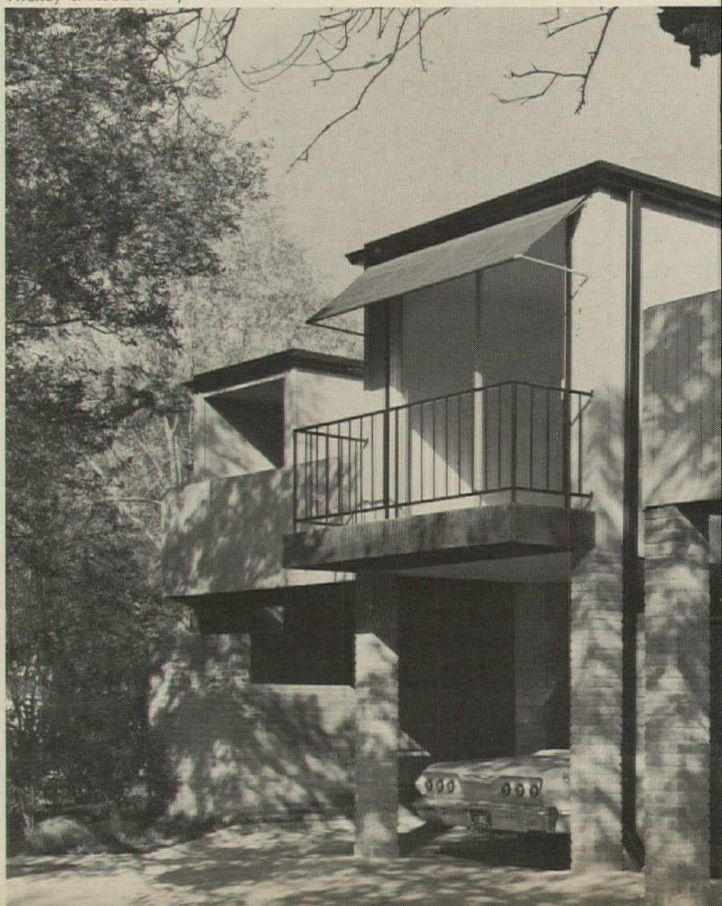


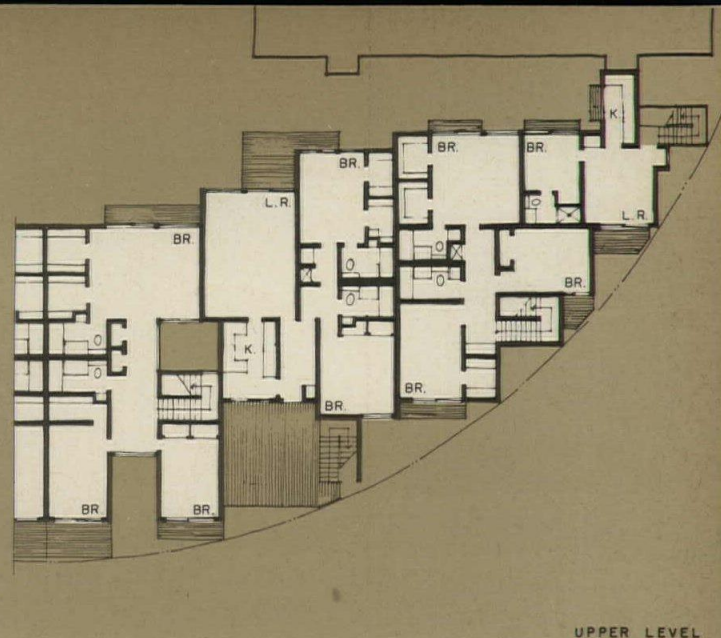
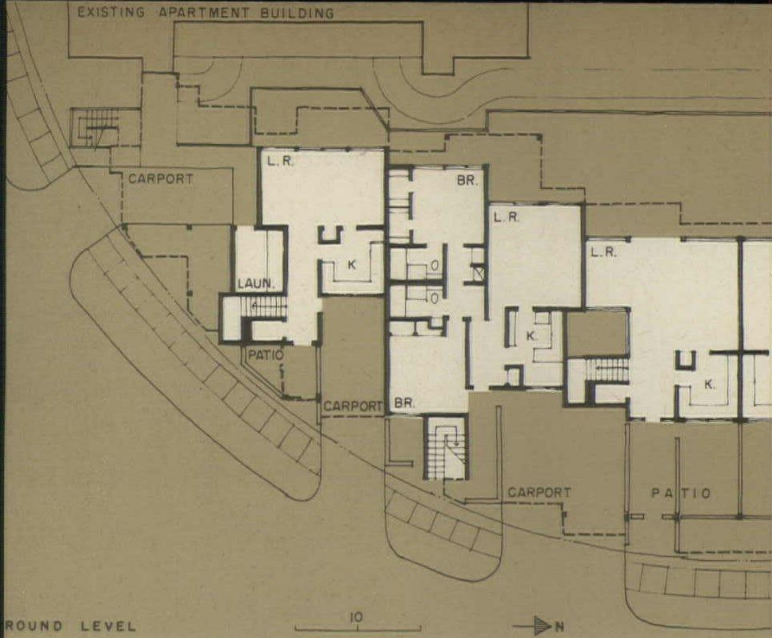
*Village-like garden apartment addition
coordinates parking, outdoor living
and privacy on a limited half-round site*

These extremely pleasant apartments offer great individuality and privacy in an apparently random (but actually carefully controlled) arrangement of units. Maximum use of the relatively limited ground area of the half-round site contributed to the interesting "in and out" relationship between the forms of the 10 units, which were added to an existing apartment project. Throughout, modest and economic materials were combined to create an atmosphere of some style. The architect and owner, Howard Barnstone, comments that, "privacy, the watchword of so many garden apartments, was taken into much consideration with the privately walled courts on the interior of the circle. But privacy sometimes palls, so the kitchens and some bedrooms opened to the street."

VASSAR PLACE APARTMENTS, Houston. Owner: Howard Barnstone. Architects: Howard Barnstone & Partners; builder: Metropolitan Builders Co.

Hickey & Robertson photos

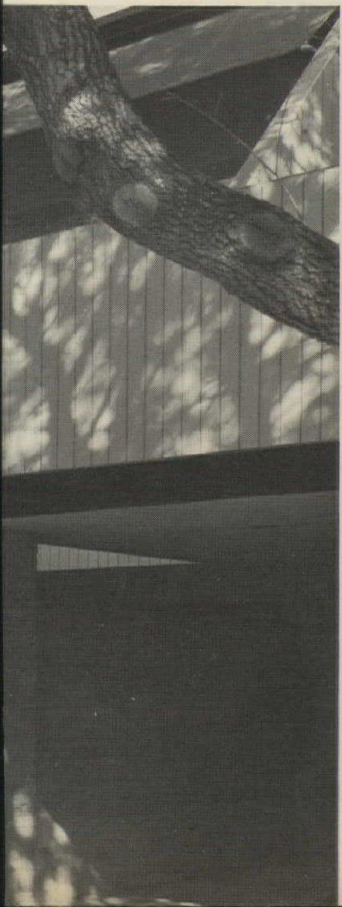


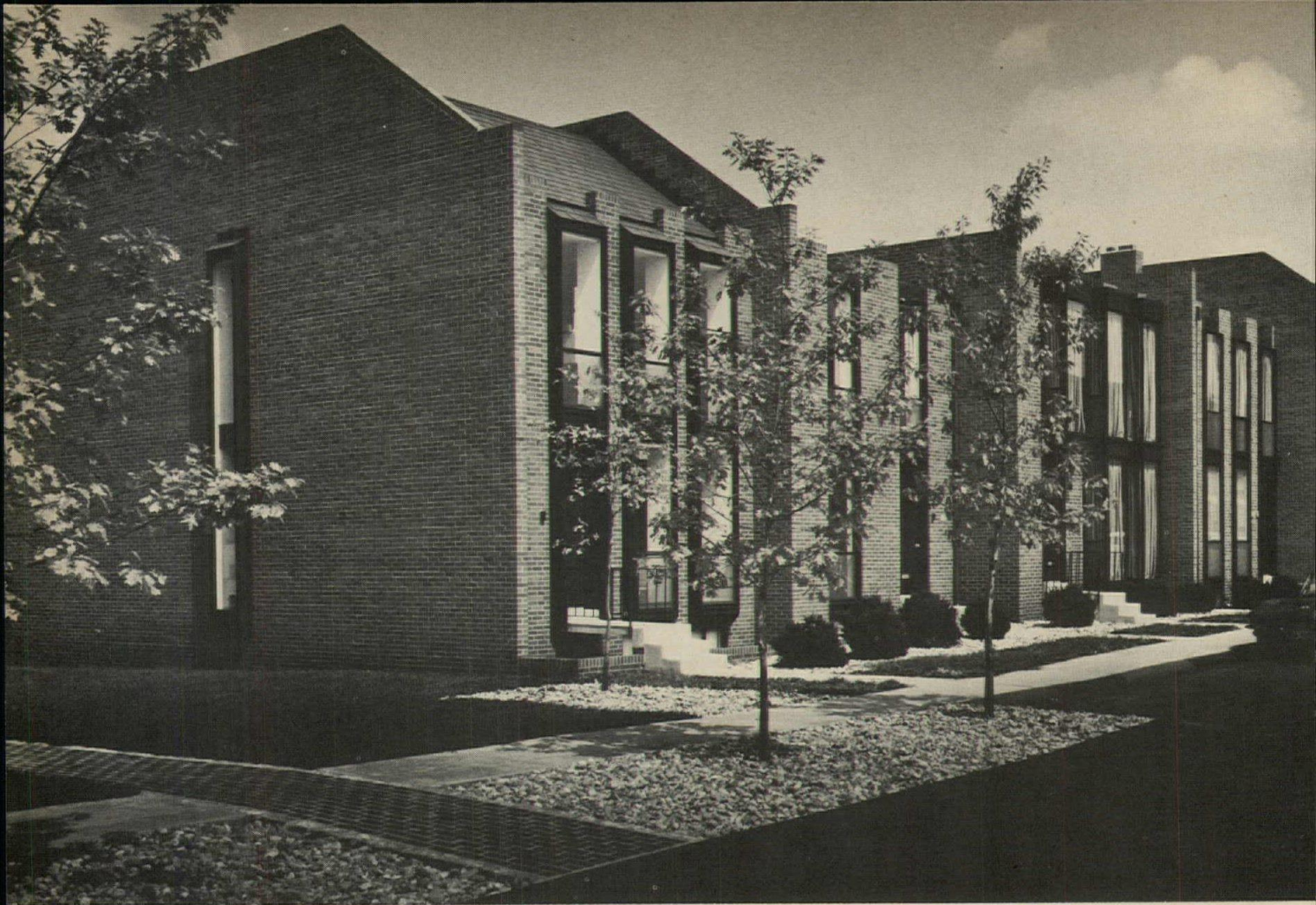


GROUND LEVEL

UPPER LEVEL

In a linked community of apartments (the half-plans shown continue around the site in mirror image), Barnstone has sought to keep the neighborhood from becoming overly stratified by incorporating a range of apartment sizes, from a small efficiency at \$115 to a 2,100-square-foot, three-bedroom, three-bath, two-story townhouse at \$275. All the units are replete with balconies, decks, and courts at back and front—and occasionally in the center. The structure is wood frame, with painted, striated plywood exteriors and plasterboard and plywood interiors. Floors are surfaced with vinyl asbestos or sisal matting. Each apartment has individual heating and air-conditioning units.



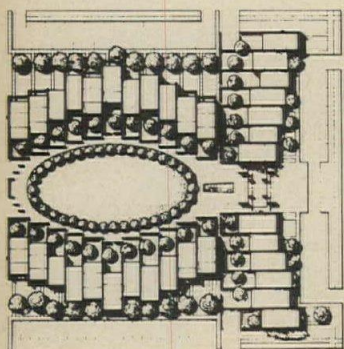


A townhouse complex provides reasonably priced and elegant living environment in a Baltimore urban renewal project

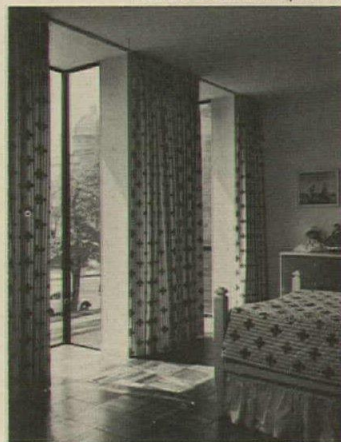
Winner of a design competition for these two city blocks (then in a severe state of blight) held by the Baltimore Urban Renewal Authority, Hugh Jacobsen has created an extremely pleasant neighborhood of contemporary houses which have overtones of Baltimore traditions: flat-front dark brick, vertical windows and small front steps. There are five different house types in the complex—three typical plans are shown here. Prices range from \$21,600 for a two-story unit to \$25,650 for a three-story house. Typical plans of each size are shown here.

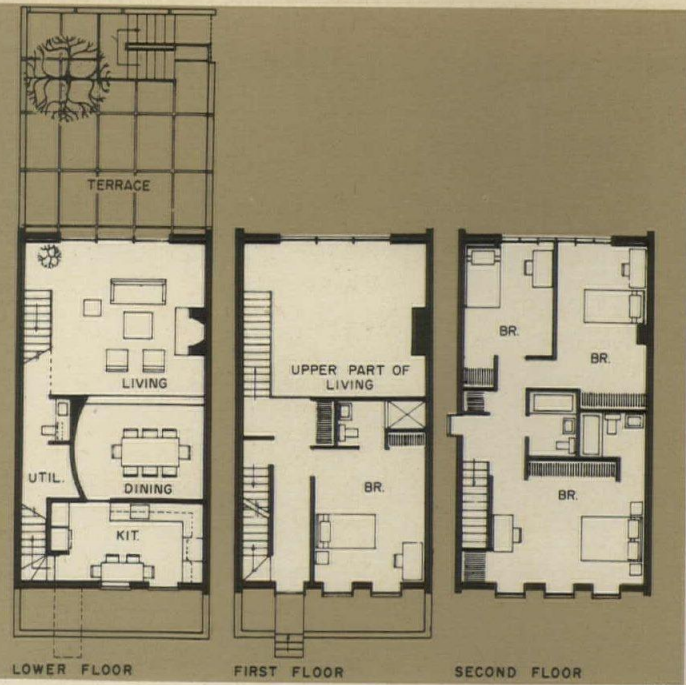
The required off-street parking was provided around three sides of the site's periphery, with the center of the land devoted to a common park. Each house has a private walled garden facing the park.

BOLTON SQUARE, Baltimore. Owner: *Stanley I. Panitz*. Architect: *Hugh Newell Jacobsen*; engineer: *James Salmer*; contractor: *Ames-Ennis Inc.*

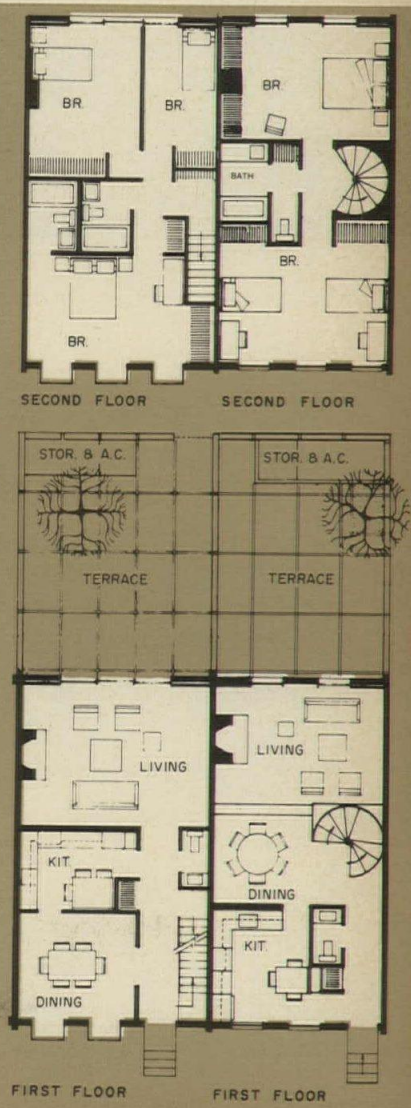


Robert C. Lautman photos





The materials used in the houses are as handsome as the design: the brick is a dark burgundy in color, the mortar a dark gray, the roofs are slate and all of the trim and doors are painted black. The structures are wood frame; interiors have dry-wall surfaces. Wide sliding glass doors open each house to its private terrace.



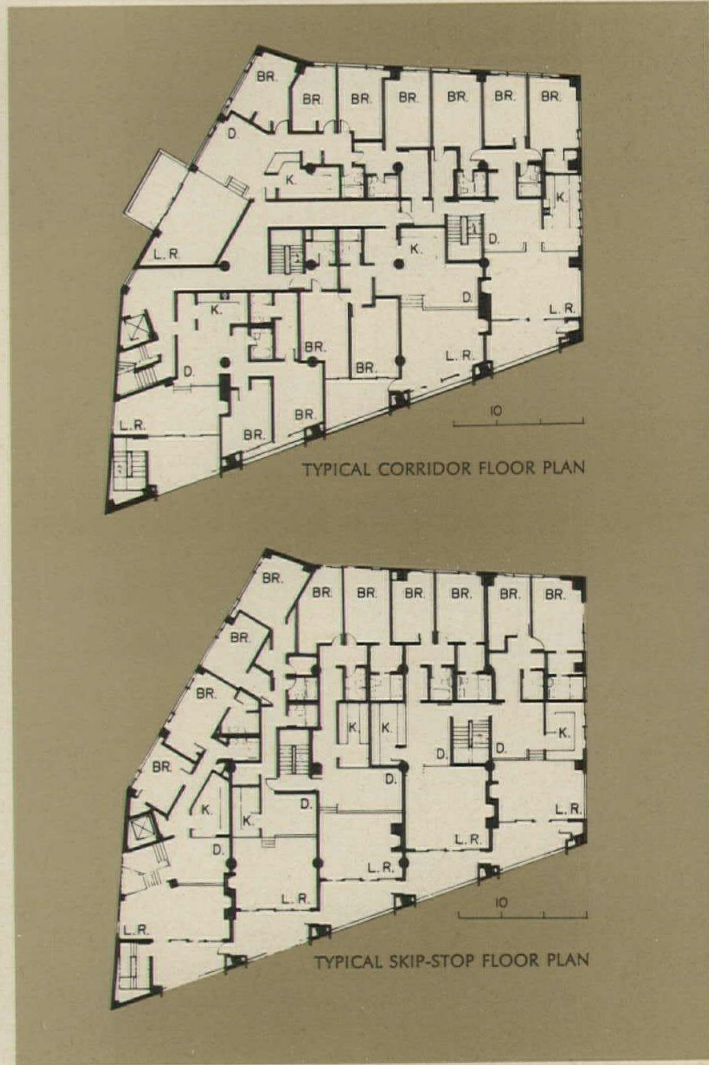


A macaroni factory and disused wharves provide framework for an urban marina in handsome Boston waterfront renovation

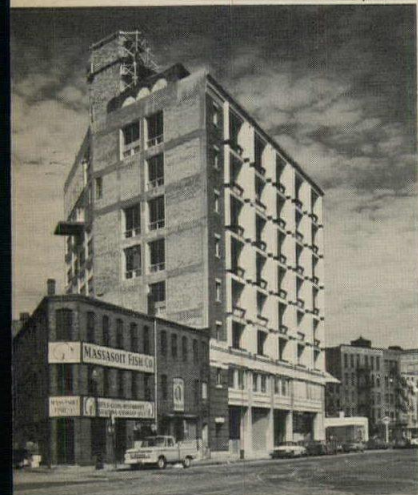
Part of the extensive facelifting currently in process for Boston's harbor, this development is fast becoming a highly desirable and effective neighborhood for cars, boats and people. The first stage of the project, shown on this page, was the conversion of an old macaroni factory into 32 apartments of one to four bedrooms each (including five duplex penthouses yet to be built). Parking for 32 cars is provided on the first two levels. A skip-stop elevator serves the parking levels, and the third, fifth, eighth and penthouse floors.

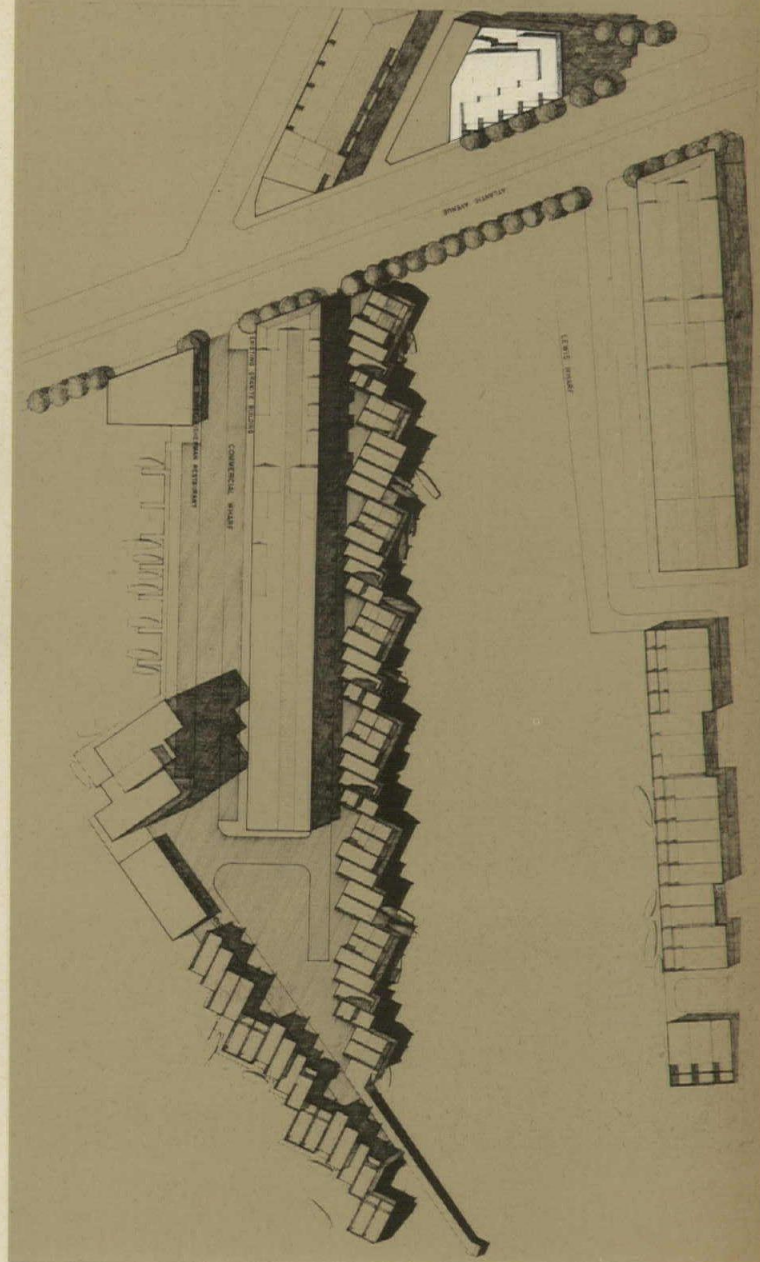
Later phases of the project include conversion of the dock warehouses into apartments, and construction of the lively townhouses (shown at right).

THE PRINCE BUILDING, Boston. Owner: Trident Realty Trust. Architect: J. Timothy Anderson & Associates, Inc.; engineers: Simpson Gumpertz & Heger, Inc. (structural), Francis Associates (mechanical); contractor: Gerry & Northup Co.

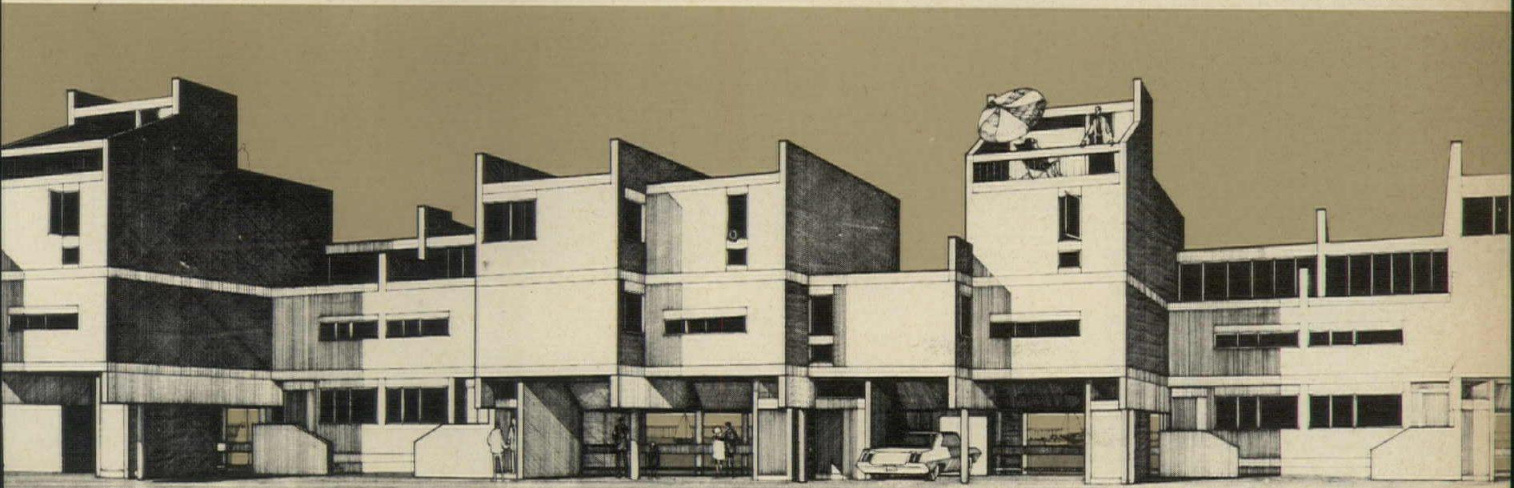
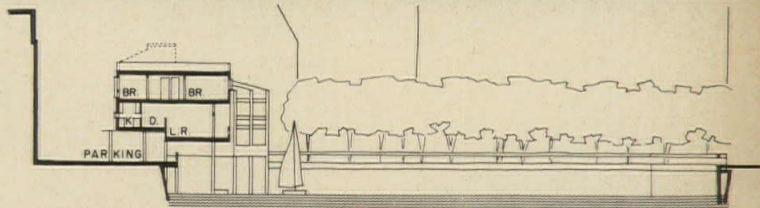


Richard Graber photos





One of the generating design ideas of the Boston Downtown Waterfront-Faneuil Hall Urban Renewal Program is to retain the grand old granite-faced warehouses that for so long symbolized the prosperity of the Boston mercantile shipping industry. This development provides for the preservation of several of these structures, converted into apartments, flanked by a series of varied and handsome townhouses.



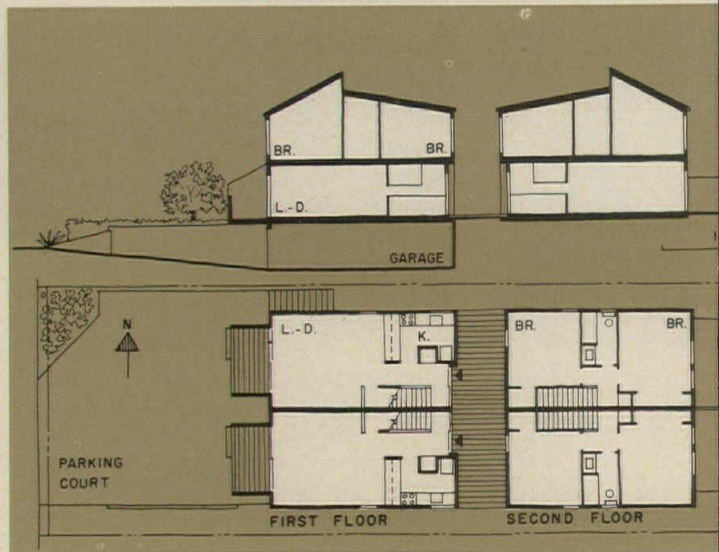


*This four-unit apartment building
was designed to blend into
a one-family-house neighborhood*

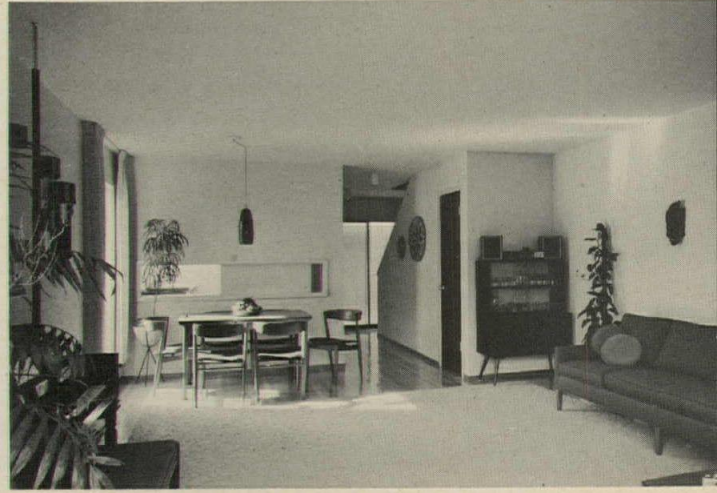
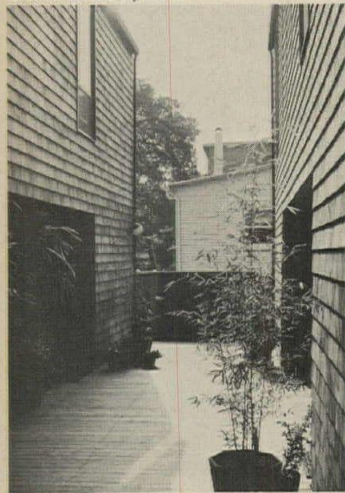
The site is in an area of Berkeley, California now undergoing transitional zoning changes from single-family dwellings to new apartment projects. Zoning laws permitted eight units on the 40-foot-wide lot, but the architect and the owner agreed that four were as many as could be used without destroying the neighborhood scale. The solution reflects the traditional scale and materials found in the surrounding houses.

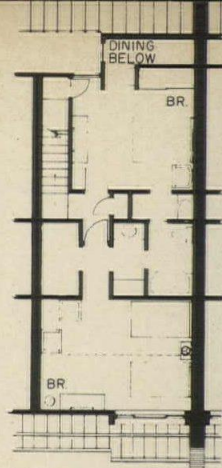
As can be seen in the plan, two buildings face each other in mirror image fashion across a private entry deck, access to which is from a side walkway. Working with a rather small space, the architect has achieved a feeling of spaciousness in the interiors by using shed roofs, and glass walls overlooking a tightly landscaped area. Automobiles are parked under the front building and in a parking forecourt.

APARTMENT, Berkeley, California.
Architects: Lee & Roberson—
project designer: Eugene Lew.

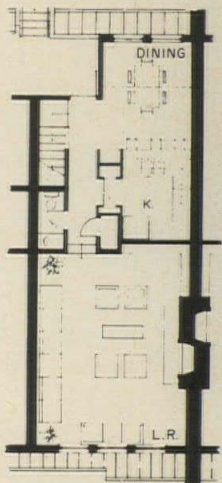


Glenn Mitchell photos

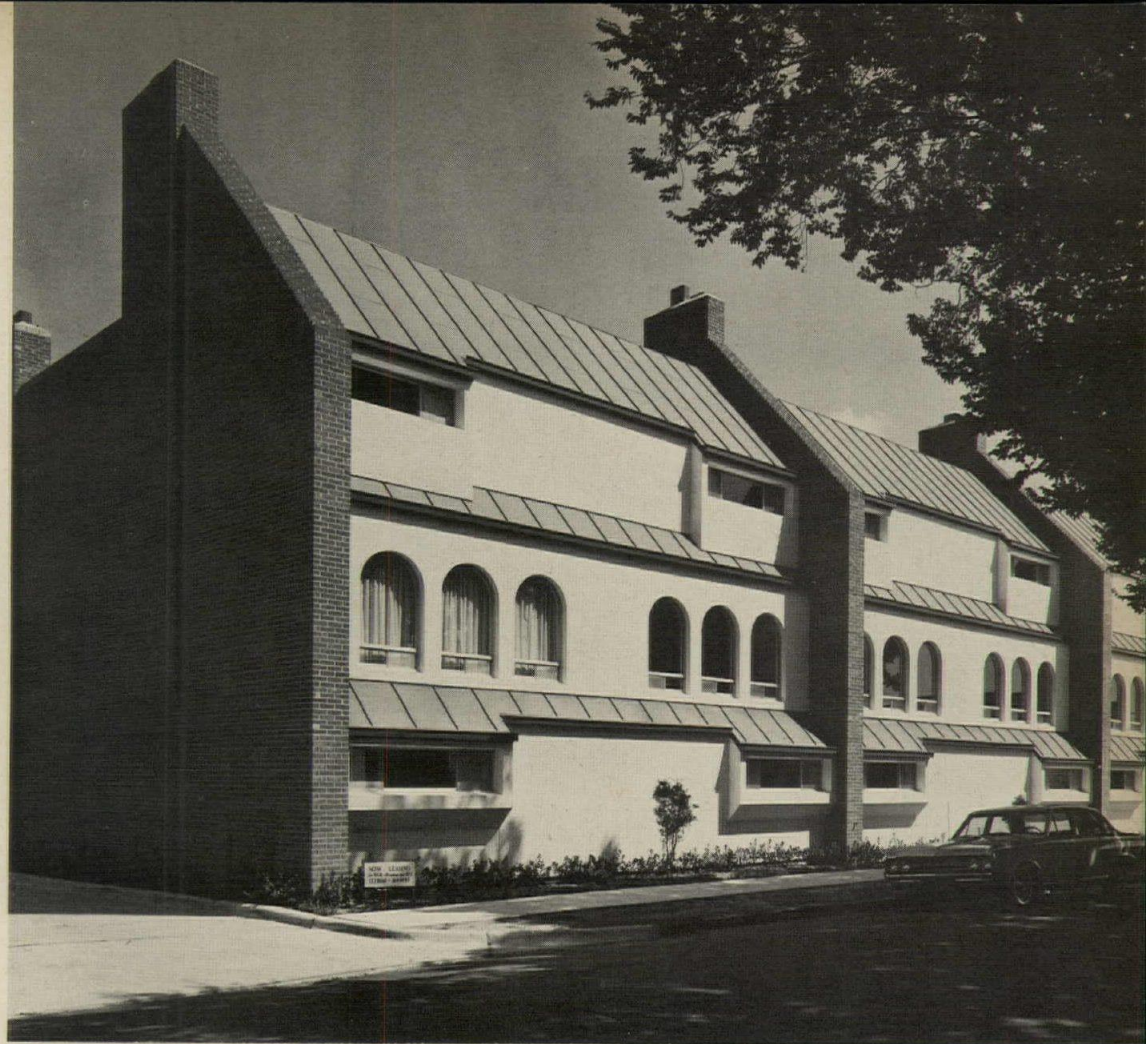




THIRD LEVEL
TYPICAL TWO BEDROOM

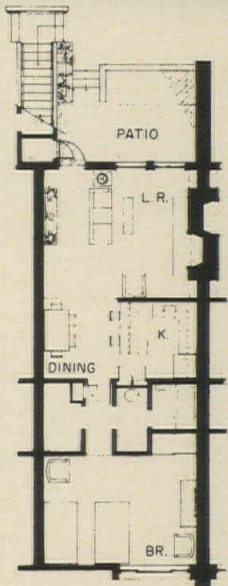


SECOND LEVEL
TYPICAL TWO BEDROOM



Ray Jacoby photos

ownhouse apartments are harmonious additions to an existing Tudor apartment building

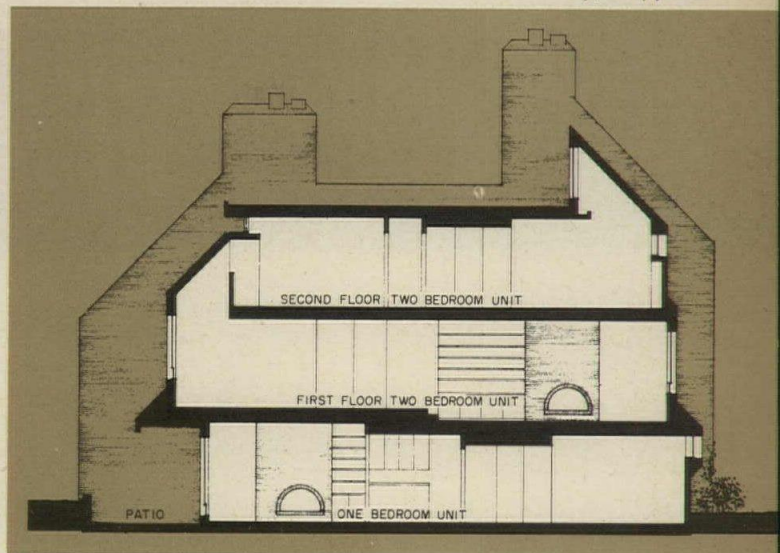


FIRST LEVEL
TYPICAL ONE BEDROOM

A simple palette of materials—brick, stucco and standing-seam sheet metal—along with the manipulation of the forms and textures of these materials, creates a good answer to the problem of establishing a peaceful relationship between an existing Tudor building and the new. In the space linking the off-street side of the townhouses to the garages an auto court was formed. All entrances are from this landscaped auto-pedestrian space. Brick walls divide the structure, emphasizing the scale of the individual townhouse.

Each townhouse contains two apartments (see section at right). Interior spaces are exciting, especially in the two-bedroom duplex where two-story spaces with balconies, and garret-type bedrooms with clerestory lighting.

THE ABERDEEN TOWNHOUSES, Oklahoma City. Owners: Richard Cain and Jon Cain. Architects: Woodward, Cape & Associates; contractor: Ed Hughes Construction Co.





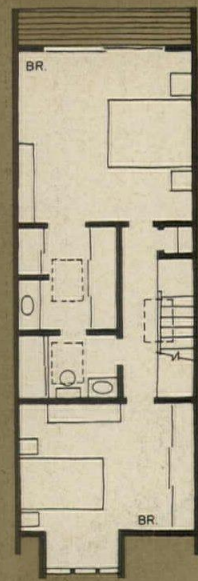
*San Francisco townhouses
give a contemporary expression
to the traditional bay window*

Handsome bay windows form a delightful variation on a time-honored San Francisco theme in these spirited townhouses by architect Jonathan Bulkley. Their trim lines are set off by slanted cedar-shingled roofs, whose low eaves scale the houses, slightly taller and narrower than usual, to dwellings nearby.

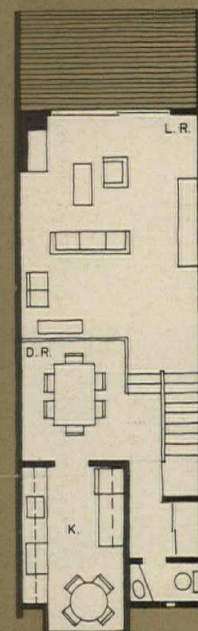
By planning them only 15 feet wide, in three stories that run the lot's 40-foot depth, Bulkley provides the dual advantages of economy and privacy for an urban site. Rooms are spacious. An inner, elevated dining balcony varies an ample living space. Sunny bay window alcoves and, behind, tiers of decks overlooking San Francisco Bay extend and brighten well-zoned interiors. The four houses retain a fine humanizing scale.

TOWNHOUSES, San Francisco. Owner: Round Hill Co. Architect: Jonathan Bulkley—Takeshi Yamamoto, associate; site engineer: Dames & Moore; contractor: Askeland & Co.

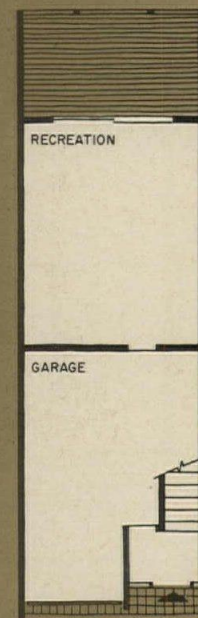
Joshua Freiwald photos



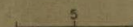
SECOND FLOOR



FIRST FLOOR



GROUND FLOOR



What's a building system? Here's one designer's view

Each of us knows where a "building system" ends—with the completion of a building: where a system begins is more nebulous. Since the term is bantered about so much these days it would be helpful to have a working definition. The question is, how extensive is a "building system"? A fairly comprehensive definition came from Guy G. Rothenstein, President of the Associated Systems Planners & Designers, Inc. in a recent talk "System Building in Europe" before the Building Research Institute.

"System building in an industrialized society is the complete integration of all sub-systems (structural, mechanical, walls, etc.), assemblies, components, and parts into one over-all system making full use of industrialized production, transportation, and assembly.

"The term building system is presently greatly misused for improvements of building materials, combinations of materials, or structural concepts which, at best, might classify as sub-systems.

"There is also confusion about what 'industrialization' is. It is often confounded with technology or prefabrication. Neither 'per se' means industrialization. Prefabrication is often a first step towards industrialization but not always, as for instance, the precasting of architectural concrete in the U.S., which is strictly a 'craft.' The basic elements of industrialization are mechanization and complete programing of the process of building.

"There are two types of systems in Europe—open and closed. Open systems are based on modular standardization of assemblies produced by different plants. The closed system is predicated on contractor-owned tooling permitting indus-

trialized production of architect 'custom designed' buildings.

"These systems use off-site production, on-site production, or combinations of these. There are systems using large panels (length and height of a room), small panels like office-partition panels, and 'box' systems such as 'Habitat 67' in Montreal. (See pages 163-166 for a U.S. application of box modules.) Anything from one family houses to 30 story apartment houses can be built with these systems".

New process developed to tint float-glass economically

Those who find the advantages of float-glass highly desirable, and have sometimes resisted tinted float because of its much higher cost, should welcome a new manufacturing process which makes tinting possible at only a slight premium. The process, developed by Pilkington Brothers Limited and called "surface modification", is capable of economically producing small quantities of float-glass with special color characteristics. So far three types of glass ranging from grey-bronze to copper-bronze have been produced. The price tag has not been fixed, but Pilkington says it will be about ten percent up on clear float glass.

At the heart of the new process is an electro-chemical system which drives

metallic ions into the molten glass to a controlled depth and intensity while the glass is being manufactured. This results in a concentration of fine metal particles just below the surface where they are impervious to abrasion and chemical attack.

In the past a float line would run non-stop for five years producing a ribbon of glass 1,500 miles long a year. Special glasses were made by changing the raw materials in the mixture, or by treating the surface of clear glass—economic production meant several million sq ft. In the new process 50,000 sq ft can be produced profitably.

Mammoth rubber pillow stores 1 million gallons of water

The prospect of constructing a new water tank on a lovely hill overlooking one's town can be accepted about as well as a proposal to put a junk yard next door to the local high school. Montevideo, California had the problem, and the Firestone Coated Fabrics Company had an answer that proved acceptable—a neoprene synthetic-rubber bladder called "Fabritank," which is able to store one million gallons of water. Placing the pillow-shaped tank in a shallow excavation on the top of the hill, so that it can be seen only from the air, proved to be economical and also preserved the natural landscape.

The fabricator states that the "Fabritank" makes it possible to provide permanent or temporary storage under almost all conceivable conditions in the shortest possible installation time. Initial cost is said to be 20 to 50 per cent less than that of metal tankage, and maintenance costs are reputed to be very low over the tank's expected 20-year service life.

THIS MONTH'S AE SECTION

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FHA says yes to vinyl pipe for rehab housing

B. F. Goodrich Chemical Company has announced that the FHA recently recognized Goodrich's Geon and hi-temp Geon vinyl pipe for use in rehabilitation construction in which the financing is insured by the FHA. The Federal agency issued a release allowing use of drain, waste, vent systems, and pipes and fittings for hot and cold water distribution in rehabilitation structures not exceeding five stories.

Full-scale performance tests for existing structures

After the New York World's Fair was over several of the buildings were tested to see what kind of useful engineering data might be obtained in regard to different kinds of service loads. This research effort was sponsored by the American Society of Civil Engineers and the Building Research Advisory Board. Now a much larger project is under consideration for the city of White Plains, New York where a large number of buildings must be demolished to make way for a major urban renewal project. The White Plains project is one of three major programs under the sponsorship of the Research Council on Performance of Full-Scale Structures which has been formed under the auspices of the A.S.C.E.

Last month a report of the feasibility of the White Plains program was presented to some 75 specialists interested in tests related to fire, structural loads, electrical overloads, adequacy of plumbing, and the like. Included in the report were over 200 suggestions for testing submitted by professional technical societies, governmental agencies, trade associations, industry technical committees, and others.

A large number of the suggestions were concerned with fire studies of one kind or another, particularly in relation to the nature and speed of fire spread, and to the effect of fire on load-carrying capacities of structural members. In the structural area there was considerable interest in the lateral strengths of building structures and in the interaction of such elements as masonry walls on the overall lateral strength—for example a structure might be tested with and without masonry infill.

A random sampling of the 200 suggestions is instructive as to those areas in which the building industry at large would like comparisons between theory and laboratory testing and actual field performance. Here are several:

1. Testing the ability of flat roofs to sustain a load of ponded water. We

understand some recent building failures have allegedly been due to this condition.

2. Comparative fire tests of foamed plastics.

3. The effect of ceiling or roof height and the speed of fire detection by conventional listed devices, as well as upon the speed of fusing automatic sprinkler heads currently listed and marketed.

4. Study the effect of large electrical overloads on the electrical distribution system for effects on wiring, components and building structure.

5. Study the condition of plumbing, drain and vent systems after protracted periods of use, with respect to the conditions of the materials, and their conditions as conduits, perhaps as a function of the materials and time.

6. As a general suggestion, we would like to recommend that any fire tests be thoroughly instrumented in order to define the conditions and their development. A severe handicap in developing and conducting laboratory-simulated tests is the lack of knowledge of actual fire conditions.

The opportunities for testing are somewhat limited in scope despite the large area to be demolished. Reason is that most of the 400 structures are houses. Out of the total number of buildings, only around 20 offered possibilities for the testing program. And of course many of these are either fairly old which employ rather simple structural systems, or are only a few stories high.

A look at fire tests as they apply to plastics

Fire tests have proliferated as more and more new building materials have been put on the market. Their significance with particular reference to plastics and performance specifications was recently examined by Alex A. Briber of Underwriters' Laboratories, Inc. in a talk, "Are Fire Tests of Plastics Meaningful?", at a recent meeting of the Society of Plastics Engineers. Here is his opening summary of a few of his ideas regarding the appropriateness of fire tests.

"There are small Bunsen-burner type fire tests which compare burning rates as slow-burning, self-extinguishing, or non-burning. There is the radiant panel test which evaluates small samples for their flame-spread index; also, there is the 8-ft tunnel which determines the burning rate of materials and there is the large-scale, 25-ft Steiner tunnel test which is used to determine flame-spread, fuel-contributed, and the smoke-developed factors. Large floor and ceiling assembly tests and wall or partition tests

are described in the ASTM E119 fire-test method. In addition to the foregoing tests, many laboratories throughout the country have their own types of tests for determining performance properties. Such things as resistance to cigarette burns, ignition temperature, softening-point temperature, ease of ignition, and Btu content are determinations which might be classified under this type of test.

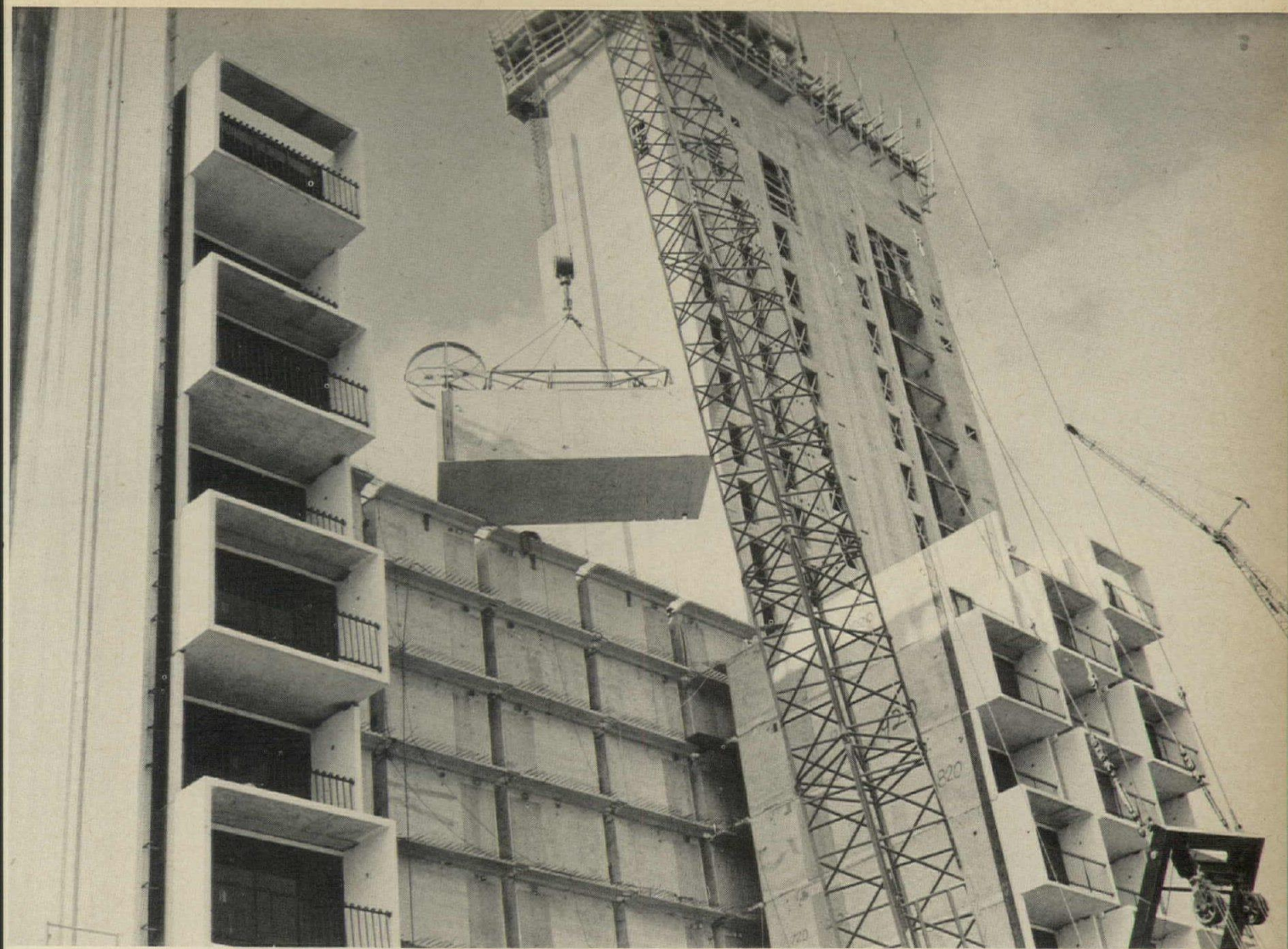
"Many of these tests are intended to evaluate certain uses of materials; some are useful only on particular types of materials, while others are useful in analyzing specific hazards. However, it should be noted that many, if not most, of the tests are tools with which to analyze properties of materials but not complete assemblies.

"Since almost all fire tests, whether they be large or small or of a very specialized nature in one way or another, do develop performance data under particular conditions, it is very confusing to try and decide which tests can be considered suitable for determining the characteristics which would be meaningful for use as performance standards for building codes.

"Aside from the confusion arising from the large number and wide variety of fire tests, one problem that seems to present itself is the fact that a knowledge of basic properties of materials does not always help to understand the fire hazards in a building. Thus, the fact that we know the Btu content of a material does not help us to predict the performance of the material in a building which is on fire since other factors, such as quantity of air available, spacing of material, mounting methods, etc. become important. Likewise, the softening point, ignition temperature, and flame-spread index of materials tell us specific things, but the information does not always answer the needs of the building official who must deal with an entire building and not just the sum of its parts.

"Actually the only possible way for the building people to arrive at any meaningful analysis is to rely on performance data that combines as much information in one test as is possible. This, in effect, means studying the whole equation of fire safety rather than studying individual variables.

"It, therefore, appears that an answer to the difficulty arising from the multiplicity of tests, each measuring specific properties, is to rely on larger scale fire tests which combine the influence of many variables in such a way as to provide information that has practical significance in establishing performance standards."



High-rise hotel construction speeded by prefabbing concrete boxes off-site

The secret to getting the 500-room, 21-story Hilton Palacio Del Rio hotel completed in time for San Antonio's HemisFair next April is the off-site construction and fitting-out of concrete boxes comprising the hotel guest rooms. The builder, H. B. Zachry, credits this technique with cutting construction time by one-third. The guest units, which begin on the fifth floor, were fabricated in a \$500,000 casting yard located seven miles from the site. At the site the units are hoisted into place completely equipped with bathroom fixtures, air-conditioning fan-coil unit, wiring, glazing—and even the furniture. Costs of the concrete boxes for this \$7.5-million hotel are said to run about \$10 per sq ft of floor area.

Another reason for prefabricating most of the building at a remote location was limited access to the 350- by 40-ft site. Only two blocks from the Alamo, the site was bounded on the east by a road already choked with heavy equipment and trucks rushing HemisFair construction, on the west by the Paseo del

Rio (River Walk) with its constant stream of sightseeing boats and pedestrians, and on the north by one of the city's main thoroughfares. On the south, jammed up against the construction site, was a recently restored 120-year-old building which could not be disturbed. This left little room for maneuvering equipment.

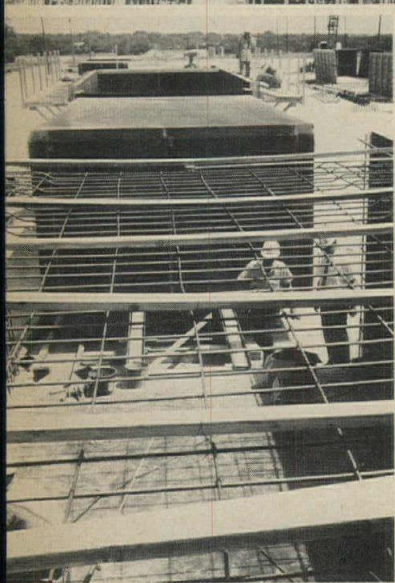
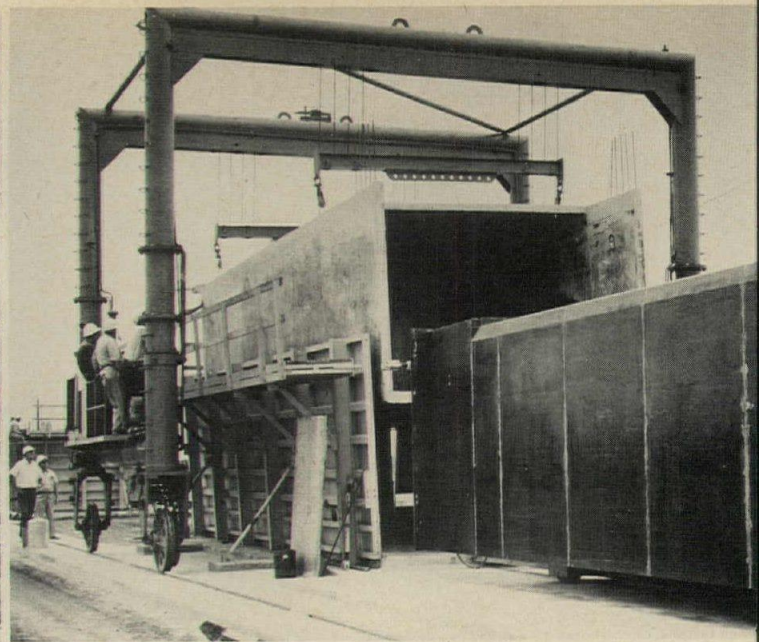
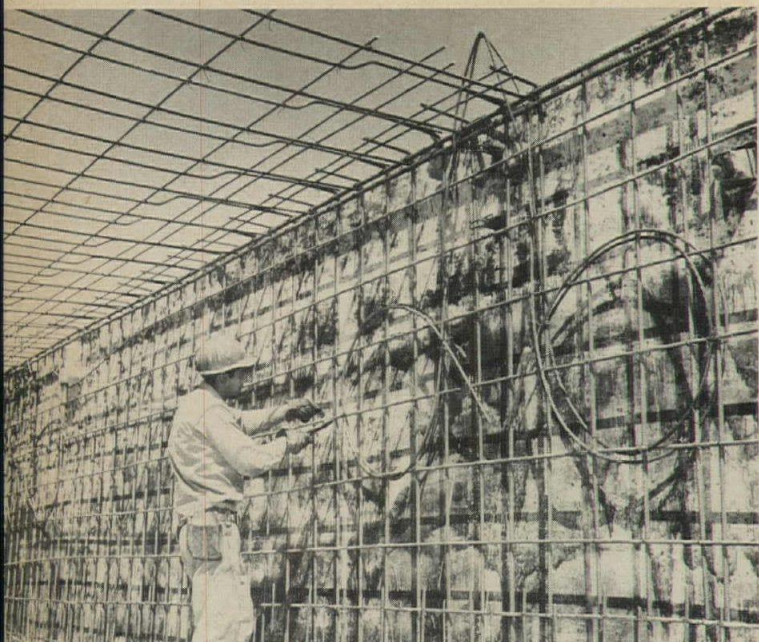
Last spring, officials of the city of San Antonio and of HemisFair (of which Zachry is board chairman) became alarmed over the fact that the city lacked sufficient hotel space to accommodate fair visitors and to support the \$10.5-million convention center.

When it became apparent that no one else would attempt the project, Zachry acquired the site and in July started to work on the foundation. Structural engineers had told him his concept of the high-rise hotel built of precast boxes was feasible, but he had no final architectural plans and had to get city council approval to begin construction without a building permit. (Plans were completed, and the permit issued, three

months after construction began.)

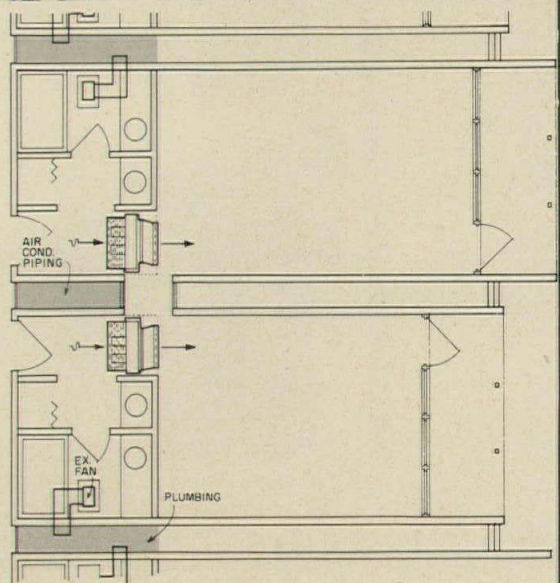
Project architects Cerna and Garza, of San Antonio, laid out the guest-room floor plan around the structural requirements of the boxes. They were already familiar with the module, however, since Zachry had been working with them on possible uses for it. (Earlier, as an experiment, Zachry had used 108 of the boxes in constructing a two-story motel on Padre Island off the Texas Gulf Coast. Structural design of these boxes was entirely different from that of the hotel modules, however.)

The hotel has 19 stories on the street side, 21 on the river side. The lower levels will house shops, restaurants and meeting rooms. While these were being built conventionally, and the elevator-service core was being slipformed, Zachry was setting up the casting yard at his headquarters. The first room was hoisted on November 4. Originally, the schedule was to set 10 rooms a day but a special hoisting device speeded up this operation to a maximum of 22 boxes in



Two assembly lines were set up at the \$500,000 casting yard to build the concrete boxes which comprise all guest-room units of the \$7½-million Hilton Palacio del Rio. Each line has eight sets of forms, and total production at the yard was eight units per day. Rail-traveling gantries hoisted boxes from the forms after the concrete had preset for three hours and had been steam-cured for seven hours. The boxes were then trucked to the finishing yard. Steel reinforcement was mainly No. 5 bars spaced about 6 in. o.c. Wire rope strands tied into the reinforcement were looped to form "handles" for lifting boxes by gantry and crane.

Two sizes of boxes were used, giving two room sizes as well as a variation in texture of the facade. A 20-in. space was left between units to provide chases for installing plumbing and air-conditioning piping. Ceiling-hung fan-coil units were used, supplied by a four-pipe system.



one day and an average of between 16 and 18 per day, even on the top floors.

Each guest-room floor—from floor five to 19—has 31 modules. The 20th floor has four three-room suites. Boxes which made up these suites were cast with certain walls which could be eliminated to create the larger facilities. The 21st floor, which will house a banquet hall and other dining rooms and clubs, will be conventionally built.

Operations of the off-site casting yard were carefully scheduled

Casting yard crews worked staggered shifts on a 24-hour basis, five or six days a week. First step in casting the units was to pivot and bolt the permanent, hinged outer forms into place. Eight reinforcing crews—one for each pair of modules—worked from 10 p.m. to 5 a.m., then four additional crews came on at 5 o'clock to finish the steelwork. Along with the steel, wiring conduit and electrical boxes were installed. Screeds were put in ready to form the floor and the 4-in.-high curb.

There were about two tons of steel in each unit, mostly No. 5 bars spaced approximately 6 in. o. c. (The amount of steel varied in floors, walls and ceilings; it also varied depending on location and the load the unit carried.) Wire rope strands tied into the rebar framing at the top corners of each unit were looped up to provide permanently cast "handles" for hoisting on and off site by the gantries and crane.

Steel, like everything else on the job, was prefabricated. Three men, working in a central reinforcing bar yard prepared the steel. Before the steel crews left the job, their work was inspected by three quality control men.

Each module had its permanent room number assigned to it when it was poured in order to have it ready for placing in the proper sequence and to determine the location of door frames and mechanical and electrical outlets. Frames were cast right in the concrete. Foamed plastic blockouts, most of them inserted from the outside of the form in order to

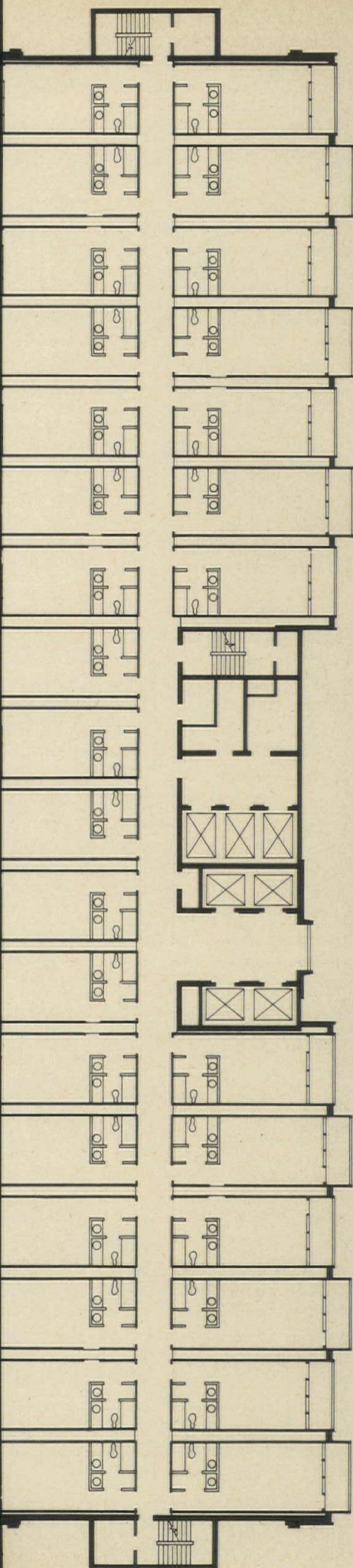
simplify stripping, were used for mechanical connections.

Concrete placing started at 6 a.m. (because of the additional cost of working earlier than 5 a.m. or later than 8 p.m.). Crews consisted of seven concrete men, plus a crane operator and oiler. At 10 a.m. two additional men came on to trowel off the floors and give them a hard finish.

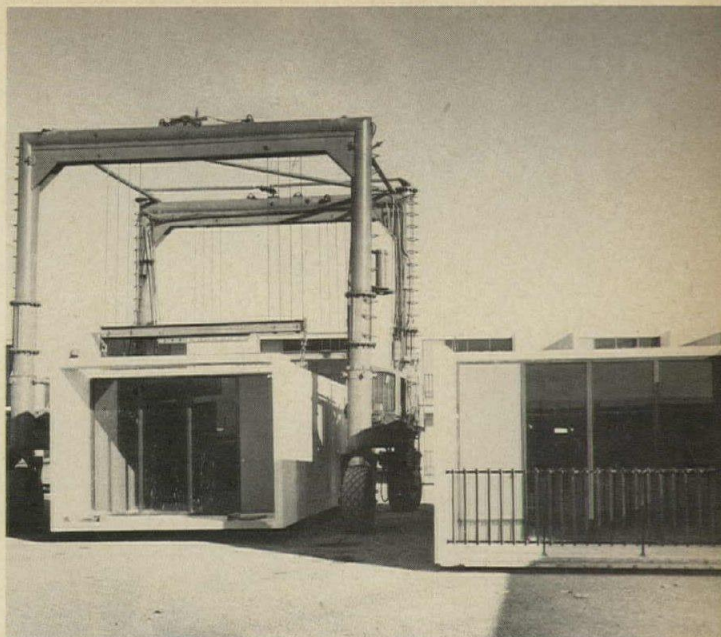
The 16 permanent forms for casting the units were arranged in two rows of eight each, with rails alongside these production lines so the custom-designed gantries could move freely to lift the finished rooms from the forms.

Crews worked on modules in pairs, using turntables—made of 12-in. WF beams built up and rolled and mounted on large dolly wheels—to transfer the inner form from a finished module to its opposite number.

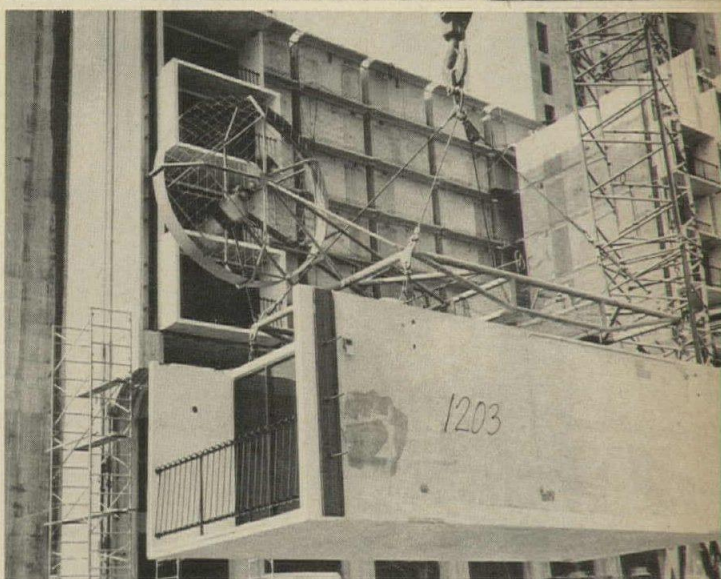
For jacking the inner forms into place and out, the contractor simply used the floor of the box as a base. For future jobs, hydraulic jacks with preset stops



At the finishing yard a rubber-tired gantry took the box from a truck and set it on blocks, or put it on top of another box. All interior work was performed here including partitioning, setting of the plumbing fixtures and installation of the fan-coil unit. At the site plumbing and air-conditioning piping connections were made to risers in the chases. Glass and balcony railing were also installed at the finishing yard. Units were carpeted and the furniture was put in at this stage.



To keep the boxes from swaying in the wind, the builder devised a stabilizer consisting of a helicopter rotor. The vertical steel section is a weld plate which holds in place the brick-veneered precast concrete closure panel. The reinforcing rods seen extending from the weld plate were welded to those of an adjacent box behind the brick closure panel.



will be used to improve the operation.

In order to give the facade of the hotel a large-scale texture, modules were made in two sizes. Outside dimensions were 13 ft wide, 9 ft, 1 in. high and either 32 ft, 8 in. or 29 ft, 8 in. long. Floors and walls are 5 in. thick, while ceilings are 4 in. thick.

Pour for a floor (took 20 minutes while the walls and ceiling took half an hour. As soon as concrete men made the final pour on a box, utility crews moved in and covered it with a tarpaulin. Concrete was allowed to preset for three hours, then was steam-cured for seven hours with steam at 40 lbs pressure and 150 F.

Finished boxes were picked up by a railed gantry and hoisted onto a truck to be transported to the finishing yard, where they were handled by a rubber-tired gantry.

When the truck delivered a box to the finishing yard, the rubber-tired gantry lifted it onto blocks on the ground or stacked it on top of another box (at one

time most of the rows were double-decked to conserve storage space).

First operation in the finishing yard was to rough in the dry walls and install the bathtub and ceiling-mounted air-handling unit (the hotel has a four-pipe system and will be supplied with hot and chilled water by a central plant serving the entire HemisFair). Wiring and plumbing was completed, walls finished with a vinyl covering, floors carpeted and the room completely furnished and cleaned, ready for company. Then the room was sealed for the move downtown.

Hoisting boxes into place on-site was a tricky problem, ingeniously solved

One problem imposed by the limited site was the impossibility of using taglines to guide the boxes on the 200-ft lift. The contractor anticipated trouble in keeping the rooms steady, level and properly oriented, particularly on windy days.

The ingenious answer to this problem was a stabilizing device, consisting of a pipe frame which has a tail rotor and



drive from a Sikorsky helicopter at one end and the engine at the other, keeping the weight balanced.

Originally no one was permitted to ride a box up, so the stabilizer was equipped with an airplane autopilot to control the rotor to a specified heading until the box reached the top. The rotor could also be controlled from the ground with a manual pushbutton control.

However, it became so easy to handle the boxes that men started riding them up so the job of unhooking them could be speeded and made more convenient. An operator steers the box with a manual control powered by the motor from an automobile window lift. (The autopilot will be used on future jobs where manual control is not feasible.) A rigger rides with him to help with the unhooking.

With the stabilizer, crews were able to set a box in less than 20 minutes from hookup time. Because box placement had to match the elevator shaft, each unit had to be set exactly on the box under-

neath and at a precise elevation. The contractor was working to a tolerance of $\frac{3}{4}$ in. and had to prevent creep.

Final step: tying the precast units into a unified structure

Boxes are placed 20 in. apart to provide a mechanical chase. Plumbing and wiring are run up the chase for quick connection to individual rooms (no plumbing or wiring goes through the floors of the units). Removable panels in the hotel corridor provide access to the chase for installation and maintenance work. The floorless chase is crossed every 3 to 4 ft by steel plates to provide a base for a temporary working floor between rooms. The chase is closed on the exterior by a continuous brick panel.

For leveling, boxes were placed onto steel shim plates and on four 5- by 8-in. grout pads (averaging $\frac{3}{4}$ -in. thick) which were made of polyester concrete. The concrete sets up in about 30 min and is strong enough to hold a box in three hours. Between the pads crews put a

continuous rope of grout around the perimeter of the box to give an airtight seal and continuous contact. Additional connections were provided by weldments around the bottom and vertically.

The rear of each box had a 2½-ft haunched cantilevered shelf with reinforcing bars extending out an additional foot. To make the corridors, these exposed bars were laced together and a concrete key strip was poured to connect the boxes and create a corridor floor-ceiling.

Half of the room units—the long ones—have a 4-ft slab for the roof of the balcony, with approximately 1½-ft open space being left between slab and box. When the short box is placed above the long box, about a 2-in.-wide space is left which provides a key joint for tying the boxes together.

The mechanical chases at the exterior were closed in by precast concrete strips to which prefabricated brick panels had been attached, all of this being done at the casting yard.

The precast slabs were attached to the boxes with weld plates and anchors and became part of the structure. Metal brick anchors were cast into these slabs for attaching the decorative brick panel facing.

Interior closures for the mechanical chase were removable panels which provide access for maintenance. Concrete for the hotel modules was a 7½-sack mix with lightweight aggregate and a 4-in. slump which developed a strength of 5,000 psi.

Other possibilities for the system are being considered

What of future application of the method? Already application is before FHA for a 144-unit rent-supplement housing project to be located across from the historic San Jose Mission. In it the boxes will be stacked in a random pattern to build several two-story structures.

The construction technique is also under consideration for one of several major urban renewal projects being planned in San Antonio. Most likely is one to be known as the Rosa Verde project, which will involve about 700 families. By using this technique, the area could be redeveloped in small sectors, possibly 50 to 60 families at a time, with the people displaced only 3 or 4 months.

Owner of the hotel is Palacio Del Rio, Inc. James D. Lang is vice-president of Palacio Del Rio, Inc., in charge of engineering and architecture. Larry J. Raba is architectural coordinator.

Architects are Cerna, Garza & Associates. Feigenspan & Pinnell are structural engineers. Schuchart & Associates are mechanical-electrical engineers.

Prestressed concrete slabs go up at the rate of a-floor-a-week in high-rise Denver condominium

More than 500,000 square feet of prestressed concrete double tee slabs helped complete Denver's 22-story Polo Club Condominium a month ahead of time.

When crews were ready for these 8-foot-wide slabs, the slabs were there. On-time delivery from the prestressed concrete supplier, teamed with erection directly from flatbed transport trailers, resulted in slab placement averaging one floor a week.

The Polo Club is one of the tallest reinforced concrete bearing wall buildings in the area designed for both wind

and seismic loads. It features a large, enclosed atrium, roofed with prestressed beams and fiberglass domes for year-round enjoyment.

An added benefit appreciated by residents in this 158 unit, multi-story structure is prestressed concrete's good sound absorption quality.

Today quality conscious prestressed concrete suppliers throughout the nation are relying on TUFWIRE® and TUFWIRE Strand for their prestressing needs. Whether for high-rises, parking decks, offices, bridges, or recreational

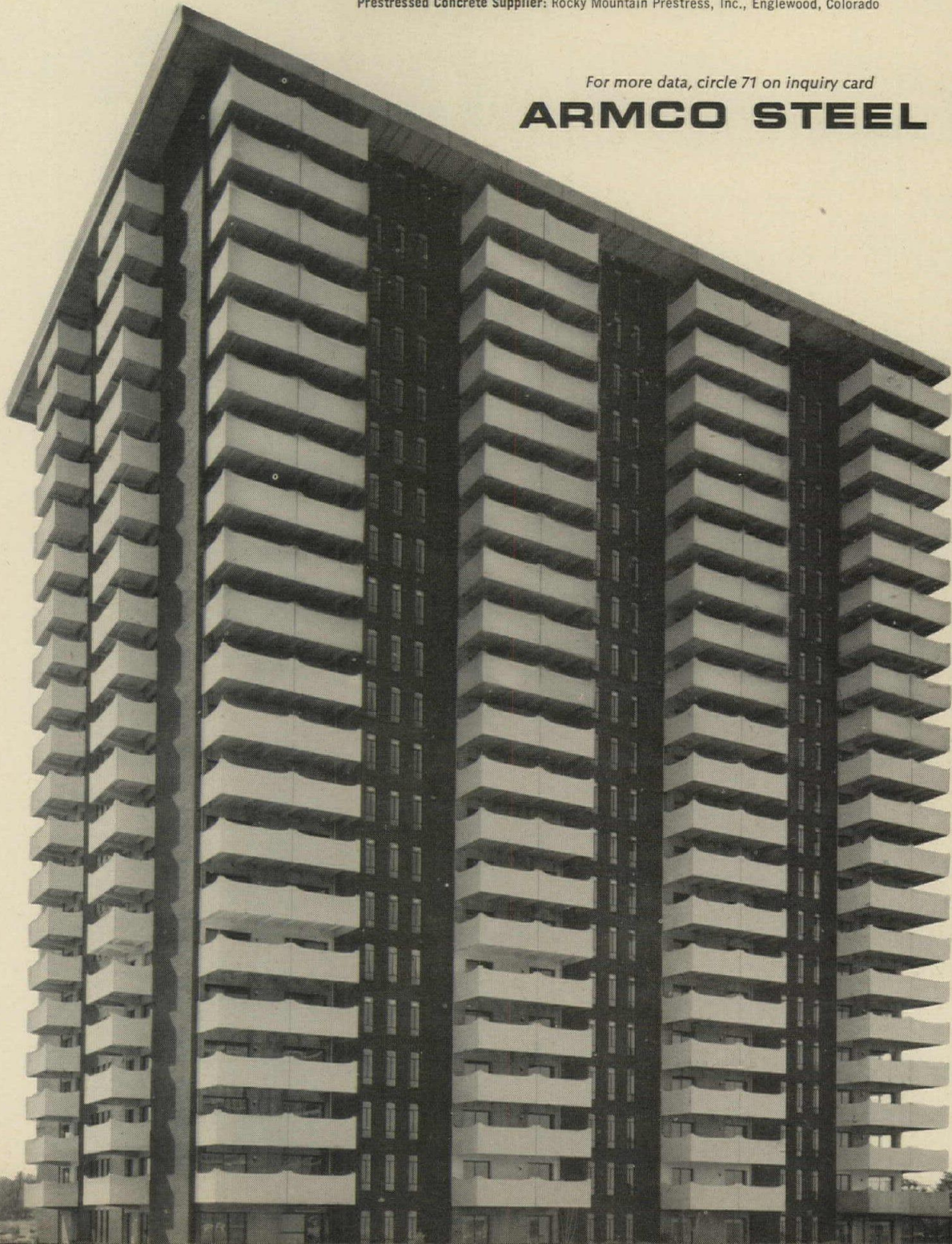
centers, they find continued satisfaction in TUFWIRE Products backed by years of service-proved dependability.

Many of these prestressed concrete projects are described in our illustrated booklet *Prestressed Concrete—a Growing Concept in Construction*. For a quick look at this popular building technique, write for your free copy today. TUFWIRE, TUFWIRE Strand, and other Union Wire Rope Products, are made by Armco Steel Corporation, Department W-498, 7000 Roberts Street, Kansas City, Missouri 64125.

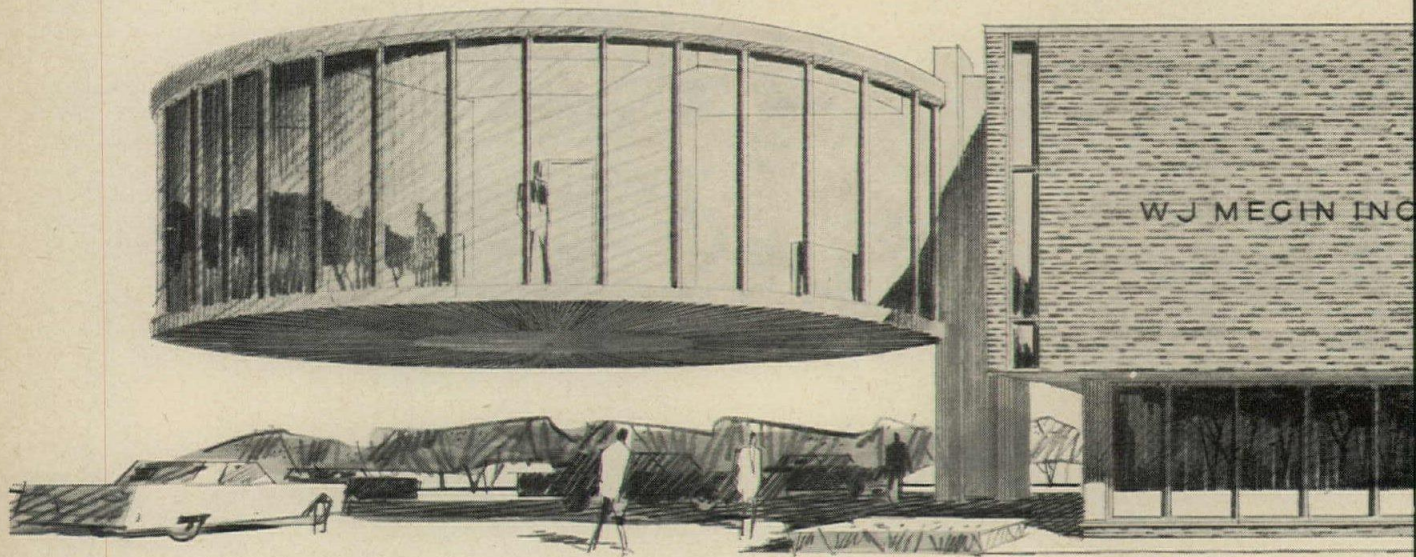
Owner: The Polo Club, Inc., Denver, Colorado
Architect: Roland Wilson & Associates, Denver, Colorado
Structural Engineer: Sallada and Hanson Consulting Engineers, Denver, Colorado
General Contractor: Craftsmen Construction Co., Inc., Denver, Colorado
Prestressed Concrete Supplier: Rocky Mountain Prestress, Inc., Englewood, Colorado

For more data, circle 71 on inquiry card

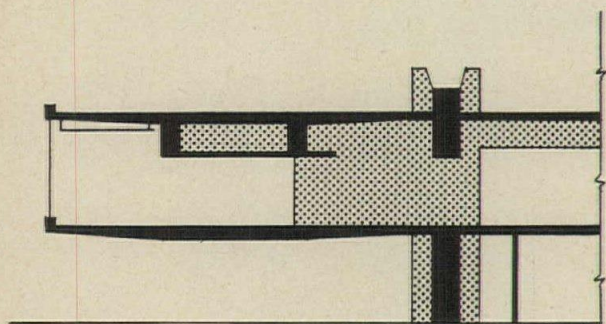
ARMCO STEEL



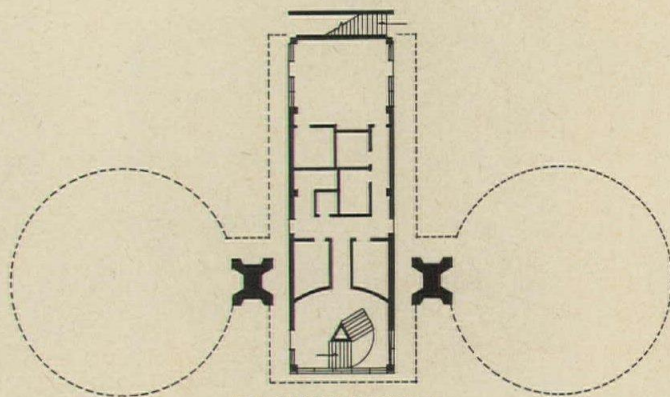
Feel free to design freely...



W. J. MEGIN BUILDING, NAUGATUCK, CONN.
Owner designed and built.
Consulting engineer:
Henry A. Pfisterer & Associates,
New Haven, Conn.



SECTION A-A



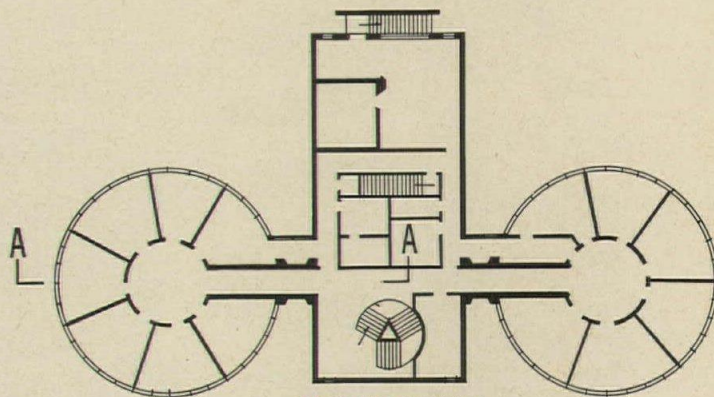
GROUND FLOOR

Details

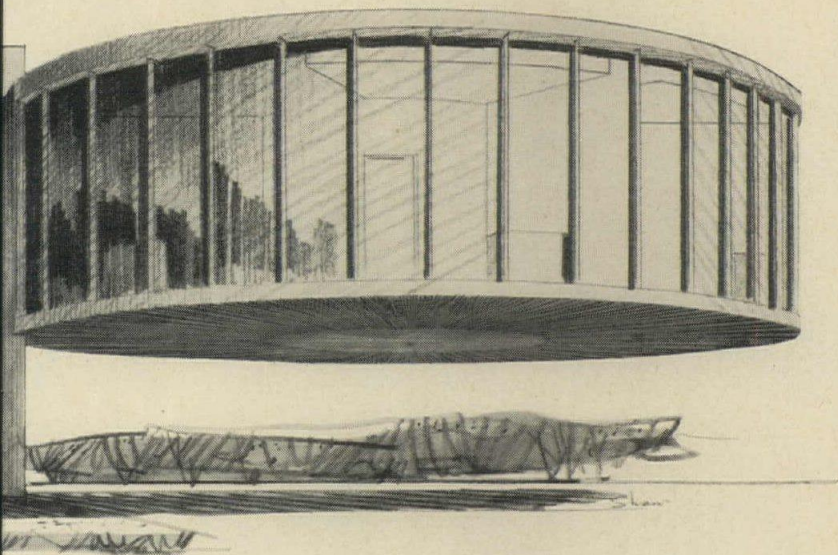
Objectives: Maximum use of interior space, individual temperature control in each office area, moderate costs.

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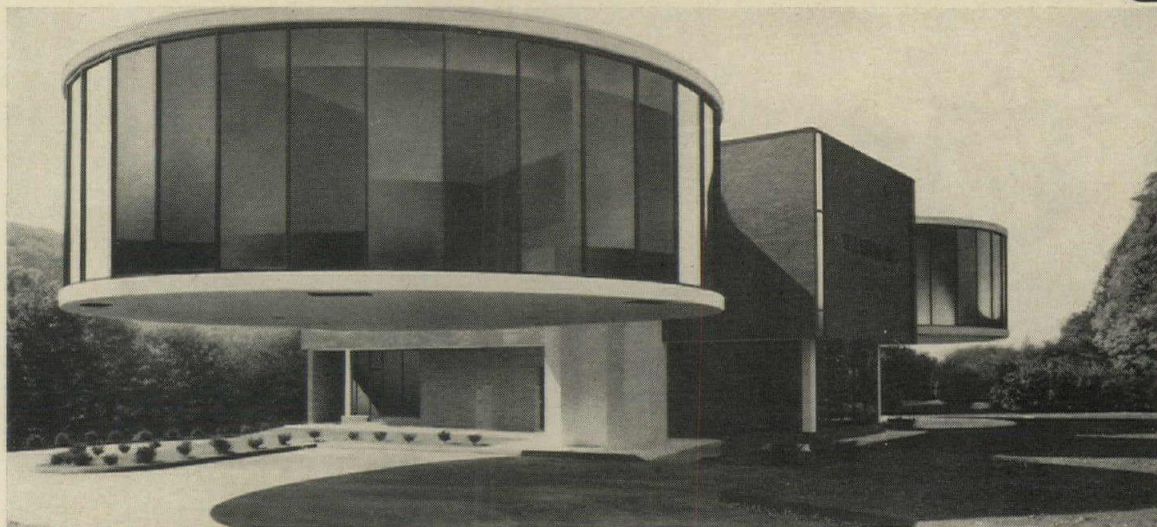
Climate system: Through-the-floor unit ventilators with supplementary baseboard heaters.



SECOND FLOOR



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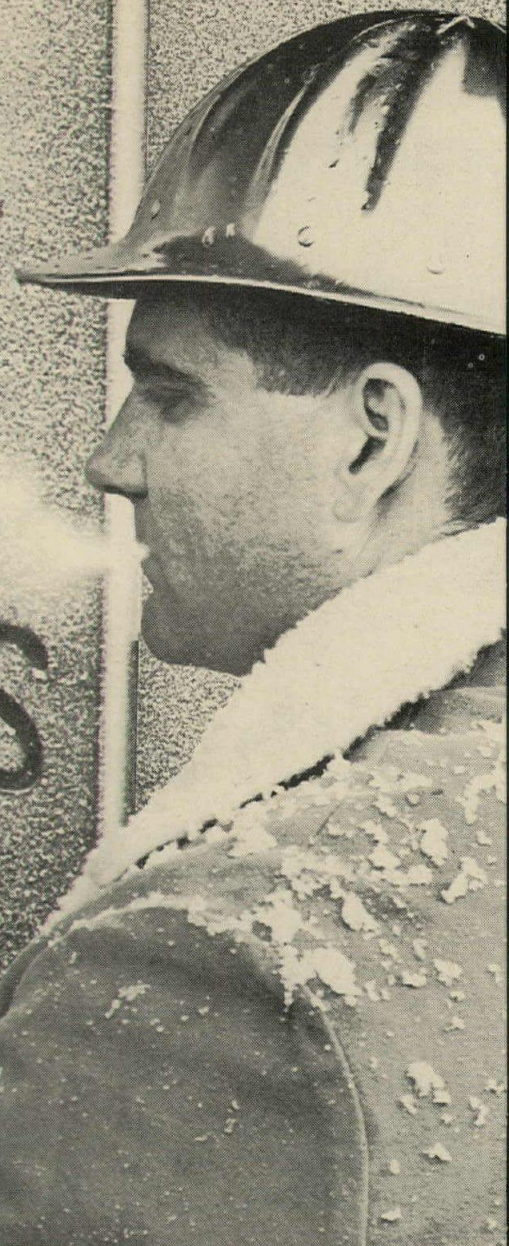
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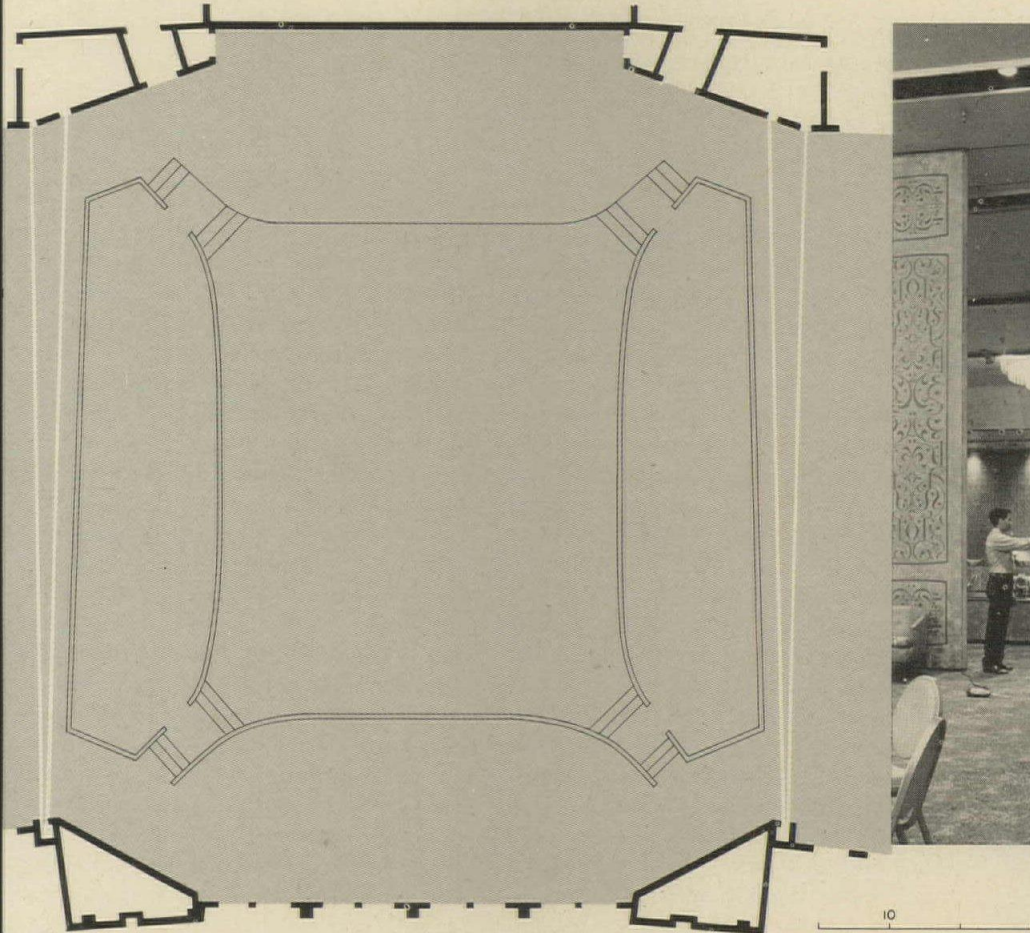
COMPANY _____

STREET _____

CITY _____

STATE _____ ZIP _____

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Two sets of double movable acoustical partitions can divide the ballroom into two or three areas (the white lines are partitions). Panels are slid from stacking areas into the ballroom where they form a continuous wall. Electrically-driven tool extends boot to make the partition tight against floor and ceiling.

Changing a ballroom into three spaces while still keeping acoustical privacy

Century Plaza Hotel in Los Angeles has the largest hotel ballroom away from the East Coast. Its 24,000-sq-ft area is space enough to serve 2,000 persons at a banquet or seat 3,000 for a stage presentation. To subdivide the big room into two or three areas for smaller functions—with complete acoustical isolation—four movable sound-attenuating partitions, 100 ft long by 18½ ft high, were installed.

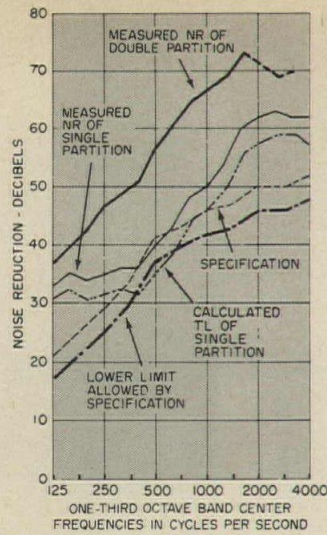
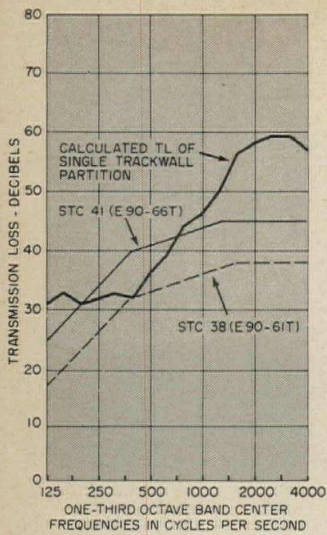
Architect Minoru Yamasaki divided the 229-ft-long by 126-ft-wide Los Angeles Ballroom into three rooms. A tiered design recesses the center, giving a 24-ft ceiling. Ceiling height of the side rooms is 17 ft.

The four acoustical room dividers are installed as two double walls. Double walls are used when there is great difference in noise levels between room func-

tions, such as a dinner dance next to a business conference. The single wall is used when there are similar noise levels in adjoining rooms, for example, when bands are playing in both. The double-panel runs are set askew, with space between broadening from about 9 in. to 5 ft—for the reason that the stacking area for each run of panels takes about 5 ft of depth.

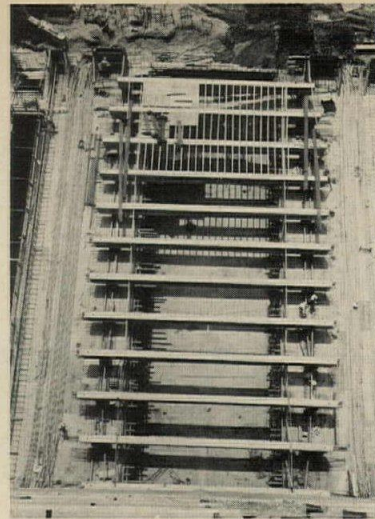
Each acoustical partition is made up of 26 panels, 4 in. thick and 45 in. wide, with 14-gauge steel surfaces welded to both sides of a 14-gauge steel frame and containing acoustical fill material. In the Century Plaza installation, the panels' steel skins have been painted to match the ballroom's interior design.

The 800-lb panels, made by Industrial Acoustics Co., Inc., do not require a



Graphs give field test data on the "as-installed" acoustical performance of both single and double partitions. Specifications asked only for data on single partition. Double partition was measured in a few locations only in the ballroom to see if the single wall performance was affected at all by flanking paths.

Ballroom roof structure consisted of 129-ft-long prestressed beams. Deflection had to be carefully considered because girders carried reflecting pool which would be emptied and filled. Design of acoustical partitions had to take this into account.



floor track. They are suspended from ball-bearing trolleys (two per panel) that can travel in any direction on the structural box track, providing a right-angle turn feature that allows space-saving storage. At the Los Angeles Ballroom installation, a concealed stacking area holding 52 panels lies at one end of each double panel run. The pockets are irregular in shape but are approximately 9 by 13 ft.

A simple locking mechanism (a scissors jack off center in each panel) compresses the bottom seal to conform to pitch and irregularities of the floor, while the top seal compresses against the box track to provide rigidity. Vertical panel-to-panel seal consists of a tongue-and-groove acoustical labyrinth 1 5/8 in. deep.

To install an acoustical barrier, each panel is glided from its storage area along the overhead track and locked into position. A manual or powered tool can be used to actuate panel movement—to align the vertical labyrinth seal, compress the bottom seal against the floor and

align the top seal against the track. Three men, working fast, can put up one wall in 20 minutes. For dismantling, the reverse process is used.

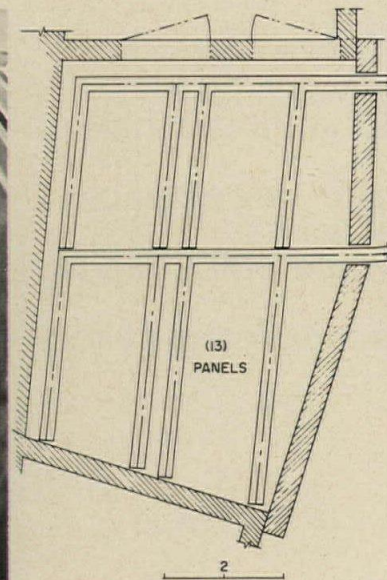
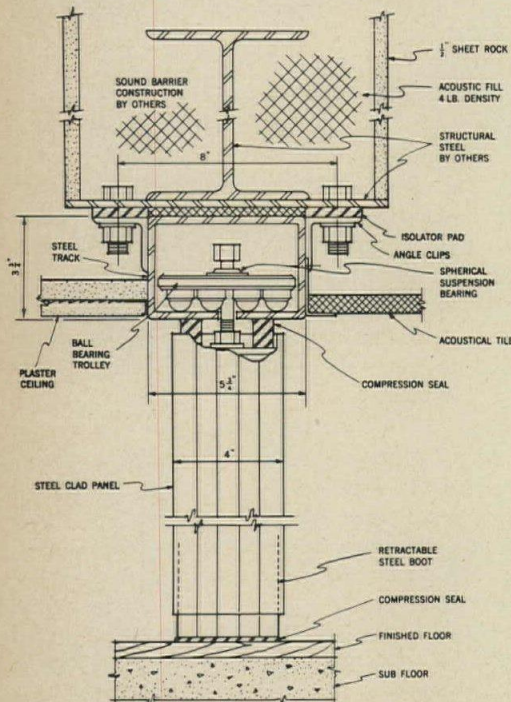
Because no floor track is required, the hotel is able to vary material on the ballroom floor. For example, the permanent covering is a 3/8-in. carpet with 1/4-in. pad. But a portable dance floor could be placed temporarily over the rug without any problem with the room dividers.

For unobstructed sight lines, the ballroom is not only tiered but column free. Its roof is supported by nine 129-ft-long post-tensioned girders, 8 ft wide and as deep as 10 ft. Between these cast-in-place girders, which span the width of the ballroom, run precast prestressed beams.

One problem encountered in installation of the acoustical barriers was the roof deflection caused by the reflecting pool located directly over the ballroom. The 18-in.-deep pool, holding 250,000 gallons of water, is periodically drained and filled, causing the huge prestressed

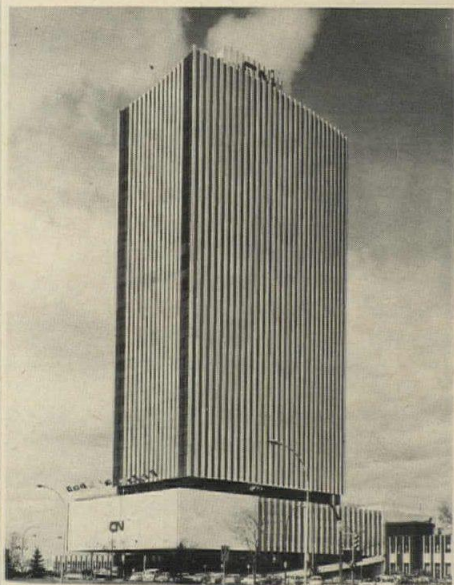
roof girders to deflect and rise. Each time the pool is filled, the girders deflect 5/8 in. In addition, girders were designed for an additional 5/8-in. permanent deflection. The partition system is designed to operate efficiently in terms of both mobility and acoustical performance with a deflection of up to 1 3/4 in.

In order to make sure that the partitions would work properly in the field, the architect required that the single partitions be field tested and meet specific noise-reduction requirements in the frequency range from 125 to 4,000 cycles per second. Results are shown in the graphs on this page. Field measurements of noise reduction values for the double partitions were not required by the specification, but several readings were taken by the acoustical consultants, Bolt, Beranek and Newman, Inc. to determine whether or not the single-partition measurements were limited by flanking transmission paths. Because a large improvement was measured, it was concluded that no significant flanking existed.



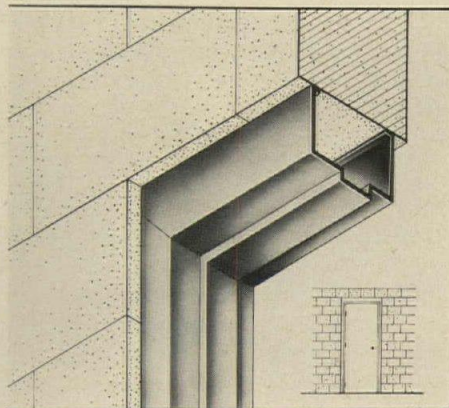
Typical details of partition support and track are shown in the section at left. Since the panels are hung from a ball bearing suspension, they can be moved in right angle turns. One of the stacking areas for the panels in the hotel ballroom is shown in the drawing and photo above.

For more information circle selected item numbers on Reader Service Inquiry Card, pages 251-252



ALL-IN-ONE FAN-COIL UNIT / One package heats, cools, ventilates, humidifies, dehumidifies, cleans and deodorizes the air in each of the 158 apartments in "Habitat 67." The environmental control package occupies a space only 12 in. by 30 in. by 30 in.; it fits in the subfloor for direct connection to the air duct system. Three modules connect for rapid installation and maintenance of each package, and include a transition section which stays with the apartment duct system, a coil section (including hot water heating, chilled water cooling, and electric heating), and the blower section (shown). The unit was designed for a capacity of 11,500 Btu/hr for cooling; 42,000 Btu/hr for hot-water heating with 230 deg F entering water; and 1000 watts of electric reheating. The thermostatic control system automatically changes from cooling to hot-water heating. The air-moving unit, which includes a 7 29/32-in. diameter centrifugal fan, maintains a continuous air flow of 400 CFM against a maximum static air pressure of 0.5 in. of water. ■ Technology Services Inc., Port Washington, N.Y.

Circle 302 on inquiry card



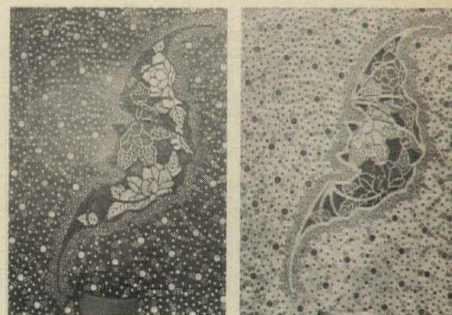
HEAD FRAME FOR DOORS / This 4-in. modular head frame for steel doors permits installation of 7-ft-high doors in masonry walls without cutting masonry block or brick. The frame fills the gap that usually exists between a conventional 2-in. head frame and the 11th course of 8-in. block or the corresponding course of other modular masonry construction. ■ The Ceco Corporation, Chicago.

Circle 303 on inquiry card



CEILING CARPET / Cassandra carpeting promises acoustical and insulating properties, while adding a unique decorating idea. Shown, a vigorous, shaggy twist nylon in the "Golden Highlights" color covers the ceiling of the cocktail lounge and dining room at the Atlas Valley Country Club in Grand Blanc, Mich. ■ Bigelow-Sanford, Inc., New York City.

Circle 304 on inquiry card



METAL/FIBERGLASS LAMINATES / High-pressure laminates of engraved sheet metal and dyed or pigmented fiberglass, rendered with any design, promise to last as long as the ceiling, door, or room divider on which they are used. Actually, panels suggest many more uses. They provide permanence, ease of maintenance, are lightweight, and do not peel, scratch or chip away. When illuminated, different effects are possible. Shown is an engraved copper surface with a design taken from a Japanese kimono. Photo left shows light reflecting off it. Photo right shows same plate with light coming through the back. All lighter areas are in various colors. ■ Duraplast, Inc., Providence, R.I.

Circle 305 on inquiry card

more products on page 176

EXTERIOR PROTECTION / *Tonecrete*, extra-protective non-cementitious coating, is a "breathing" type coating that allows normal transmission of moisture vapor, while restricting penetration of exterior water. It provides maximum resistance to deterioration through oxidation and weather exposure and protects against failure due to trapped moisture, efflorescence and condensation. *Tonecrete* is available in a variety of colors and two textures. It is applied approximately seven to eight times thicker than standard exterior paint to any sound masonry backing. ■ Desco International Association, Buffalo, N.Y.

Circle 300 on inquiry card



LIGHTING / Twenty *Spartan* fixtures installed in box-like mountings 24 ft above the floor accent the design and provide high-intensity, glare-free illumination. Lighting is provided by 400-watt *Metal-arc* lamps. ■ Sylvania Electric Products Inc., New York City.

Circle 301 on inquiry card

OFFICE LITERATURE

For more information circle selected item numbers on Reader Service Inquiry Card, pages 251-252

ALUMINUM / "The Many Faces of Aluminum", a 68-page publication, discusses the many finishing characteristics of color, reflectance, emissivity, controlled friction, resistance to corrosion, resistance to abrasion, electrical conductivity, and dielectric properties. The booklet contains technical advice for mechanical, chemical, electrochemical and electroplated finishes and various types of applied coatings. ■ Alcoa, Pittsburgh.*

Circle 400 on inquiry card

LABORATORY DESIGN / A 40-page brochure illustrates laboratory construction using metal framing. The brochure contains complete engineering data, part descriptions, weights and other pertinent data. ■ Unistrut Corporation, Wayne, Mich.*

Circle 401 on inquiry card

LIGHTING FIXTURES / Some fresh fixture ideas are shown in a 16-page catalog that includes installations in motels, hotels and restaurants across the country. ■ Trimble House, Atlanta, Ga.

Circle 402 on inquiry card

WATERTUBE BOILER / A 12-page brochure describes the factory-assembled *Industrial Steam D Type* designed to generate steam with maximum efficiency and quality at minimum cost. Features described include the two-drum boiler with all tubes terminating in the drums; standard design pressures up to 700 psi; and standard capacities to 112,000 lbs per hr. ■ Boiler Engineering & Supply Co., Inc., Phoenixville, Pa.

Circle 403 on inquiry card

INTEGRATED SYSTEM / Design manual, 28-pages, gives procedures for evaluations, applications, and installation of *Lite-Therm* lighting-heating-cooling systems and equipment. Manual explains that non-refrigerated water is used for heat transfer, eliminating the need for refrigeration of lighting and solar loads during summer operation. Both solar and lighting loads are used to heat the building during winter. ■ Environmental Systems Corporation, Conyers, Ga.

Circle 404 on inquiry card

DRY TRANSFER LETTERING / A 32-page catalog describes a line of over 2000 alphabet sheets and marking sets for drawings, equipment, art work and general office use. Included also are shading tints and heat-resistant drafting letters. ■ The Datak Corporation, Passaic, N.J.

Circle 405 on inquiry card

ASBESTOS UNDERLAYMENT / Asbestos construction felt for fire-retarding wood roofs and siding is explained in a brochure with sample swatch. ■ Nicolet Industries, Inc., Florham Park, N.J.

Circle 406 on inquiry card

GLAZING SEALANT / Designed especially for nonporous smooth surfaces such as glass and aluminum, the non-slump silicone material described in this 4-page booklet is particularly recommended for high-rise buildings. ■ Dow Corning Corporation, Midland, Mich.*

Circle 407 on inquiry card

PIPING / "Cementing of PVC Pressure Pipe" is a 28-page booklet that explains how to join polyvinyl chloride pressure pipe and fittings. Another booklet, "Modern Piping With Plastics," provides information on terminology, applications, properties, codes, and standards of plastic piping. ■ Plastics Pipe Institute, New York City.

Circle 408 on inquiry card

TOTAL WALL / A 16-page color booklet presents the *Videne* total wall decor system, an integrated system of pre-finished paneling and architectural doors for commercial construction, both new and remodeling. The booklet explains that "the natural beauty of wood grains—the lively beauty of vibrant solid colors—both are now available in one practical paneling system." ■ The Goodyear Tire & Rubber Company, Akron, Ohio.*

Circle 409 on inquiry card

COMMERCIAL SEATING / A wall poster displays 64 basic styles of chairs, stools, booths, settees, table legs and table bases for office and commercial use. ■ B. Brody Seating Company, Chicago.

Circle 410 on inquiry card

SCIENCE FACILITIES / "Literature Related to Planning, Design and Construction of Science Facilities" is a revised and enlarged list of the articles and papers in the science facilities collection of the Architectural Services Staff. It has been prepared to serve as a bibliography that may be useful to persons searching for data on the design of science facilities. Cost is 20 cents. ■ Superintendent of Documents, National Science Foundation, Washington, D.C. 20550.

CHEMICAL RESISTANCE / Chart shows what types of cements are best suited for construction of chemically-resistant brick, tile or steel plate floors and brick-lined process tanks and vessels. The chart compares sulfur-base, furan, polyester, silicate, epoxy and phenolic cements to the 175 most often encountered chemical solutions used in industry. ■ Amercoat Corporation, Brea, Calif.

Circle 411 on inquiry card

NOISE CONTROL / A "short form" method of calculating the attenuation of airborne noise from mechanically induced draft cooling towers and a guide for selecting silencing equipment are presented in 12 pages. Industrial Acoustics Company, Inc., New York City.

Circle 412 on inquiry card

PLUG-IN REFRIGERATION / A 35-page booklet describes closed-cycle cryogenic systems suitable for permanent laboratory installation. The systems make cryogenic refrigeration to 4.4°K a laboratory utility similar to gas, vacuum or electricity. ■ Air Products and Chemicals, Inc., Allentown, Pa.

Circle 413 on inquiry card

METALS / Structural shapes including door and window components, castings, railing and stair components, extrusions, gravel stops, ornamental products, mouldings, treillage, scrolls, hinges, fasteners and wall copings are contained in a 47-page catalog. ■ J. G. Braun Company, Skokie, Ill.*

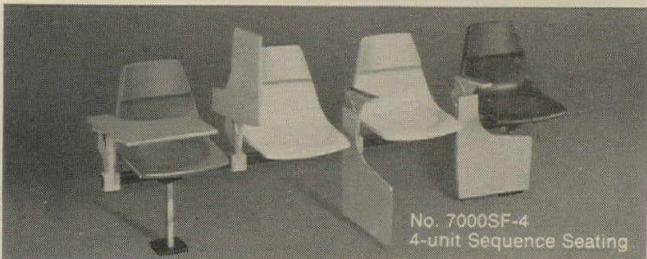
Circle 414 on inquiry card

*Additional product information in Sweet's Architectural File

more literature on page 220



Specially designed shell affords rigid support, attentive comfort. Tablet arm folds to storage with fingertip ease.



No. 7000SF-4
4-unit Sequence Seating



No 7600 Stack Chair



No. 7100 Side Chair



No. 7300 Stack Chair

**Honor roll candidates
study or sit up and take notes
on NEW Krueger**

SEQUENCE SEATING

Because scholastic achievement demands alertness, Krueger is causing schools everywhere to sit up and take notice. New Krueger *Sequence Seating*—with contour-shaped fiberglass shells assuring posture-perfect support and alert comfort—proves expert at gaining and keeping pupils' attention.

Floor or riser-mounted on 2, 3 or 4-unit bases, *Sequence Seating* affords the convenience of a folding tablet arm. A rigid writing surface in use, the arm folds easily and quietly out-of-way, revealing a comfortable armrest. For the students' increased productivity with mass seating versatility in any curriculum, enroll Krueger and graduate to seating honors.



Write for new catalog...on your letterhead please.

KRUEGER

METAL PRODUCTS COMPANY • GREEN BAY, WIS • 54306

Chicago—1184 Merchandise Mart; Los Angeles—8815 Beverly Blvd.

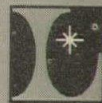
For more data, circle 74 on inquiry card

For more data, circle 76 on inquiry card

This Landmark Post-Top complements the architecture and wins compliments from the maintenance crew

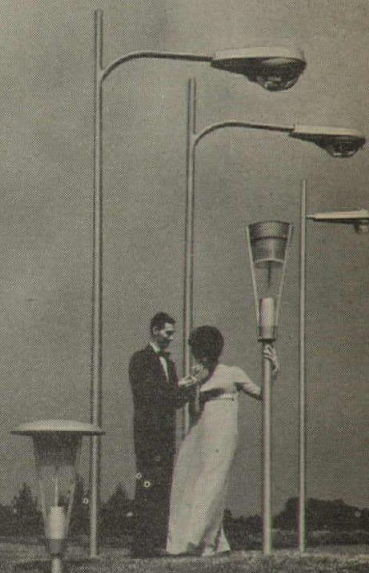


Here's the Post-Top Luminaire to please everyone. Available in a range of versatile colors, with or without hood. No light trap between refractor and ballast housing to interfere with distribution pattern. Open bottom refractor eliminates dust and insect trap, permits no-tool relamping. Concealed door provides access to all conductors and slip-fitter pole adjustment. Aluminum alloy castings and extrusions tested for hurricane winds. Incandescent or Mercury Vapor. Write Dept. EB for complete photometric data, specifications, and name of Landmark representative. Our condensed catalog is in Sweet's.



LANDMARK LIGHTING

Division of
American Electric Manufacturing Corp.
Southaven, Mississippi 38671



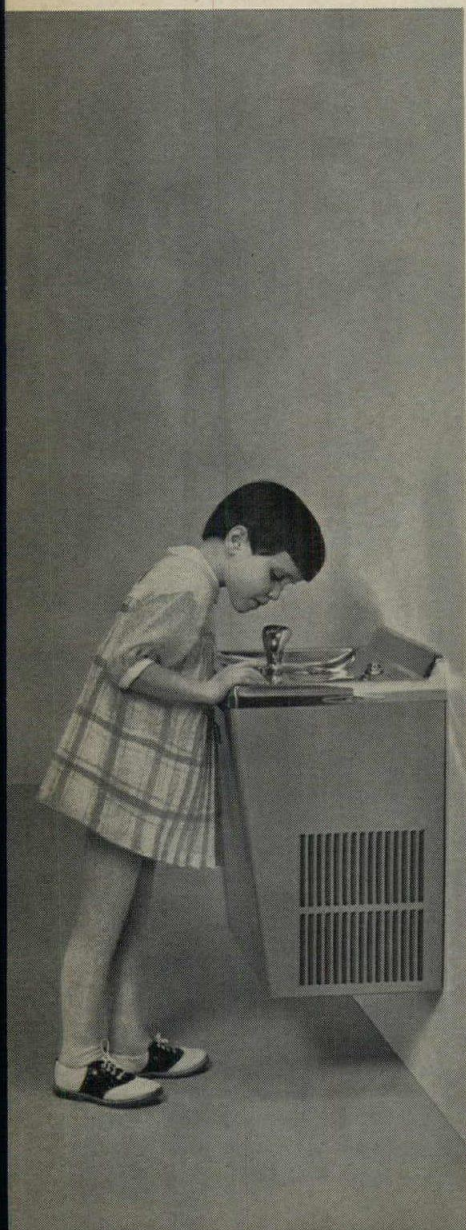
Light up everything with Landmark

Now, a new short wall-mounted water cooler from Halsey Taylor that measures only 20½" from fountain top to bottom edge of apron. Occupies a minimum of wall space. Can be mounted as low as 30" (from fountain top to floor) to serve small children — or at normal 40" to serve adults. Splash-proof stainless steel top. Available in 8 and 13.5 GPH capacities. Cabinets come in baked gray enamel, stainless steel, or vinyl-clad steel with a choice of colors and patterns. Send for the 1968 Catalog — or look us up in Sweet's or the Yellow Pages. THE HALSEY W. TAYLOR COMPANY, 1560 Thomas Road • Warren, Ohio 44481.

HALSEY TAYLOR

VISIT OUR EXHIBIT AT AASA CONVENTION—BOOTH 927-29

new mini-coolers for the mini-set

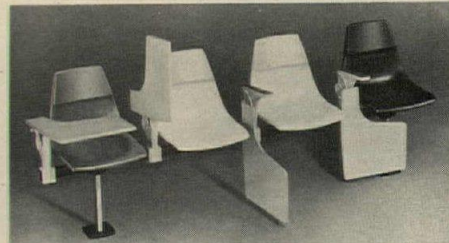


continued from page 173



LECTURE-HALL SEATING / Fixed chairs operate like loose chairs, moving in and out, swiveling and tilting beneath a continuous table top. The designer reports that five years of research went into designing seating that would solve ten problems common in classroom seating. The first installations of integral seating have recently been completed at the State University of New York at Oneonta, Cortland and Buffalo. ■ Herman Miller Inc., New York City.

Circle 306 on inquiry card



SEQUENCE SEATING / Floor or riser-mounted in two-, three- or four-unit variations, this seating features a contour-shaped fiberglass shell for posture support and a fold-away tablet arm. ■ Krueger Metal Products Co., Green Bay, Wisc.

Circle 307 on inquiry card



BUDGET EQUIPMENT / This electronic listening center can be rolled from room to room, opens to a length of eight ft. and provides ample space plus electronic capacity for ten students. ■ Howe Folding Furniture, Inc., New York City.

Circle 308 on inquiry card

more products on page 182

Would all Americans kindly leave the page?

(Except for those designing jobs for locations outside the U.S.)

We want to talk about the Archimetric System, a new series of architectural products already proved in use in the US; and optional in Alcoa Duranodic 300® finish

Alcoa International has wrapped up the best features of aluminum building components in one neat, universal package.

Curtain-wall, windows, doors, accessories . . . the lot.

And all in Alcoa Duranodic 300, if specified.

A complete range of aluminum architectural products capable of building anything from a modest shop to a luxury hotel.

Because we are an international marketing organization we can supply your needs everywhere outside the U.S.

'Available everywhere' means that the nagging, time-wasting business of specification is simplified right down to one straightforward process . . . leaving you free to get on with the real business of being an architect. You can rely on Alcoa International to make sure that the local licensee is really trustworthy before he is given full responsibility for fabrication, assembly and installation of Archimetric products. He stands ready to inform, estimate, schedule, and deliver on any project. Any size. Anywhere.

Except the U.S. of course.



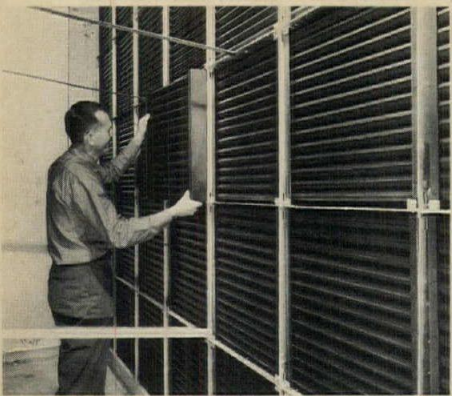
Important

This booklet may contain the answer to one of your current problems. Better get it right away. The address is:
Alcoa International, S.A., Avenue d' Ouchy 61, Lausanne, Switzerland.
(A subsidiary of Aluminum Company of America.)

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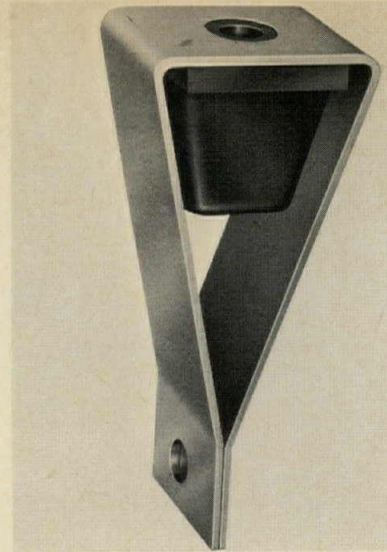
 **ALCOA
INTERNATIONAL**

continued from page 206



CARBON AIR FILTERS / A carbon purification system incorporated into air conditioning equipment is reported to trap fumes and odors. Each carbon filter unit, measuring 2 ft sq and 8¾ in. deep, consists of a removable perforated metal cell and a permanent supporting steel frame open at front and back. The interior perforated metal cell is arranged horizontally in a serpentine pattern carrying a bed of approximately 45 lbs of activated carbon ½ in. thick. ■ Union Carbide Corporation, New York City.

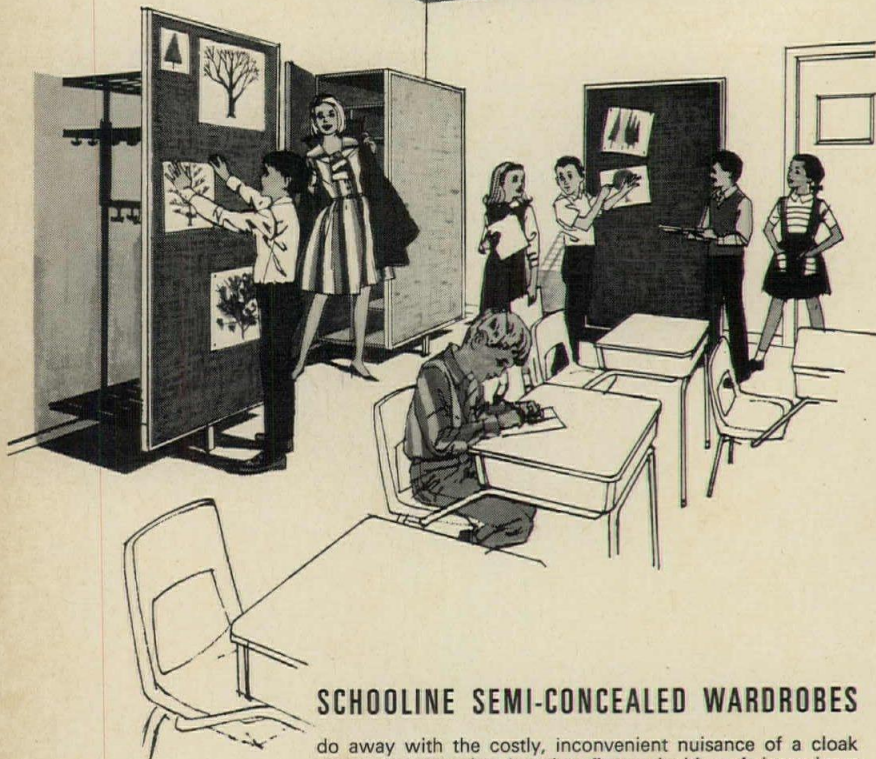
Circle 317 on inquiry card



CEILING HANGERS / Four hangers, designed to reduce the transmission of vibration and noise from the floor above to the suspended ceiling below, range in maximum loads from 60 lbs. to 260 lbs. A scientifically-designed elastomer mount provides .3 in. deflection in the lower load ranges with up to .4 in. deflection for the larger loads. The elastomer mount has an extended lip which fits into the lower bolt hole, eliminating any metal-to-metal contact between the fastening device and the side of the housing. ■ Korfund Dynamics Corporation, Westbury, New York.

Circle 318 on inquiry card

HERE'S AN ATTRACTIVE / PRACTICAL SOLUTION TO THE WRAPS PROBLEM IN THE MODERN CLASSROOM



SCHOOLINE SEMI-CONCEALED WARDROBES

do away with the costly, inconvenient nuisance of a cloak room—the slamming, banging, finger pinching of closet doors—the unattractive clutter of open shelving and, instead, give a completely flexible hidden-from-view wraps and storage system.

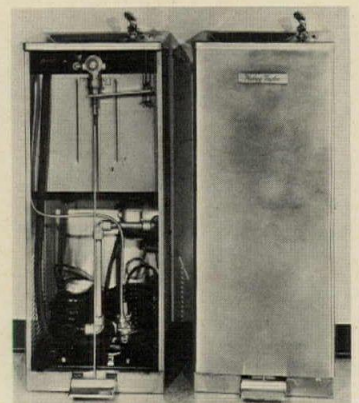
Each double wardrobe unit accommodates 16 pupils, is constructed to give long trouble-free service and as an extra bonus, provides 21 sq. ft. of colorful tackboard or chalkboard. Matching teacher's closet, storage cabinet, and sink units are available and can be combined to meet your special requirements. For a more complete story write for our catalog SL-48

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Vogel-Peterson COMPANY
 "The Coat Rack People"
 ELMHURST, ILLINOIS

For more data, circle 103 on inquiry card



EXPLOSION-PROOF COOLERS / Cast aluminum condulet system houses all electrical components and acts as a barrier against sparking. Units are water cooled with hermetically sealed explosion-proof condensing units and are recommended for areas containing carbon black, coal, coke, flour, starch or grain dust, as well as areas exposed to many vapors, including ethylether, cyclopropane, ethylene, gasoline, and hexane. ■ The Halsey W. Taylor Co., Warren, Ohio.

Circle 319 on inquiry card



EXTRUDED ALUMINUM DIRECTIONAL CEILING DIFFUSERS

WATERLOO *Air Diffusion* **EQUIPMENT**

DESIGN ORIENTED THE COMPLETE QUALITY LINE

MEMBER OF THE AIR DIFFUSION COUNCIL



**WATERLOO REGISTER CO. - DIVISION OF
DYNAMICS CORPORATION OF AMERICA**
Cedar Falls, Iowa



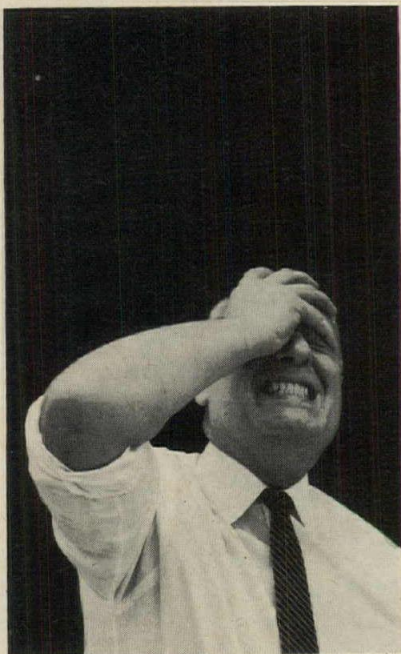
DCA

For more data, circle 104 on inquiry card

The facts of light

No. 1 in a series
on plastic
lighting panels.

What happens if you don't tie down specs on lighting panels?



Somebody gets into a price-cutting competition. They ring in a cheap lighting panel to bring their cost down. Your client winds up with a second-rate job. After all, the lighting can't be any better than the panels . . . because they control results.

There's only one way you can make sure this won't happen. Write tight specs. Specify lighting panels by brand names.

And remember this: Only two manufacturers now make a line of plastic lighting lenses of Specification Quality (their brand name is on every panel).

One is KSH, Inc. Our brand is K-Lite. Specify K-Lite and you won't have to worry about the quality of your lighting.

Check with your fixture manufacturer. You'll find that K-Lite quality is a bargain.

KLITE[®]

K-S-H, INC. / 10091 MANCHESTER / ST. LOUIS, MO. 63122

For more data, circle 105 on inquiry card

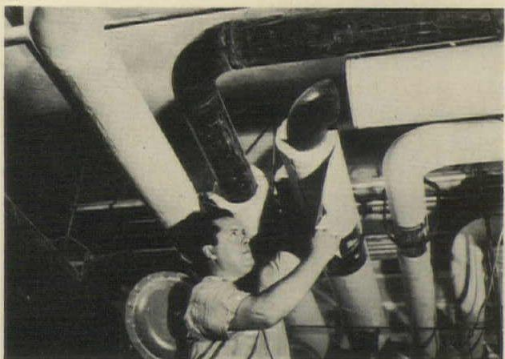


Pyro-Kure[®] Vapor Barriers Protect Insulation And Are Permanently Non-Combustible

Pyro-Kure facing and jacketing are the safest possible vapor barrier materials to use with insulation for walls, ceilings and floors, on low temperature pipe and service lines, and on air conditioning ducts.

They differ in three important ways from any other vapor barrier:

1. A patented flame-extinguishing adhesive between the plies of paper, foil or vinyl makes Pyro-Kure *permanently non-combustible*. This means its U/L Flame Spread Rating of "25 or less" will never be reduced by age, moisture or humidity, as can happen with chemically treated barriers. **2.** Pyro-Kure meets the standards for non-combustibility of the National Building Code and has been approved by the Board of Standards and Appeals of New York City. **3.** Pyro-Kure has a minimum MVT rate for maximum protection against condensation damage to insulation.



All leading insulation manufacturers offer Pyro-Kure-faced insulation under their own brand names. Also available in roll form for local facing. Write for samples and data on various grades. Contact Siskraft, 73 Starkey Avenue, Attleboro, Massachusetts.

ST REGIS
SISKRAFT DIVISION

continued from page 174

FLUSH DOORS / A 16-page sales piece illustrates wood flush door and special panel door lines that feature pre-finishing, machining and a protective pack. ■ Mohawk Flush Doors, Inc., South Bend, Ind.*

Circle 415 on inquiry card

INTERIOR DESIGN / *Encyclopedia of Incomparable Architectural and Decorative . . . Bifolds, Carved Doors, Decorative Doors, Dividers, Spindles, Screens, Shoji, Shutters,* is, believe it or not, the

title of a 160-page catalog. In this catalog, "every effort has been made to make available, under one cover, every imaginable type of decorative panel or door." ■ Interior Design Division of Pinecrest Inc., Minneapolis, Minn.

Circle 416 on inquiry card

ROOFING SYSTEMS / A 24-page booklet contains data on designing and specifying stainless steel in built-up roof and moisture-protection systems. ■ Republic Steel Corporation, Cleveland.*

Circle 417 on inquiry card

INCINERATORS / A 6-page reference guide offers data on a line of destructor models, pathological/veterinary models for biological wastes, and a series designed to comply with Los Angeles County air pollution control ordinances. Also featured are an all-electric model and an automatic chute charging system. ■ Joseph Goder Incinerators, Grove Village, Ill.*

Circle 418 on inquiry card

CONCRETE FORMING SYSTEM / An 18-page illustrated brochure explains how brick, adobe brick and stack bond textures are achieved with cast-in-place concrete. The durable aluminum forms used in the process are reported to last for an estimated 1000 pours and retain tolerances of less than 1/16 in. ■ International Concrete Systems Co., Bala Cynwyd, Pa.

Circle 419 on inquiry card

FIRE TEST / *Symposium on Fire Test Methods—Restraint and Smoke* is a 232-page hard cover book that sets forth the testing procedures and end point criteria for standard fire tests of all types of building. ■ American Society for Testing and Materials, Philadelphia.

Circle 420 on inquiry card

HARDBOARD / A 16-page booklet reviews step-by-step manufacturing procedures, and shows diverse applications of hardboard in building and industry. ■ American Hardboard Association, Chicago.

Circle 421 on inquiry card

CHURCH MASONRY / "Concrete Church Masonry," a 16-page brochure, pictures various contemporary applications of concrete block. Theme of the brochure: the "wide variety of shapes, sizes, textures and colors" possible. ■ National Concrete Masonry Association, Arlington, Va.

Circle 422 on inquiry card

DECORATIVE LIGHTING / Over 100 new fixtures are featured in the 94-page "Imperialites." With the theme "Mod to Mediterranean," the book represents each area of the home and several budgets. ■ Emerson Electric Co., St. Louis.

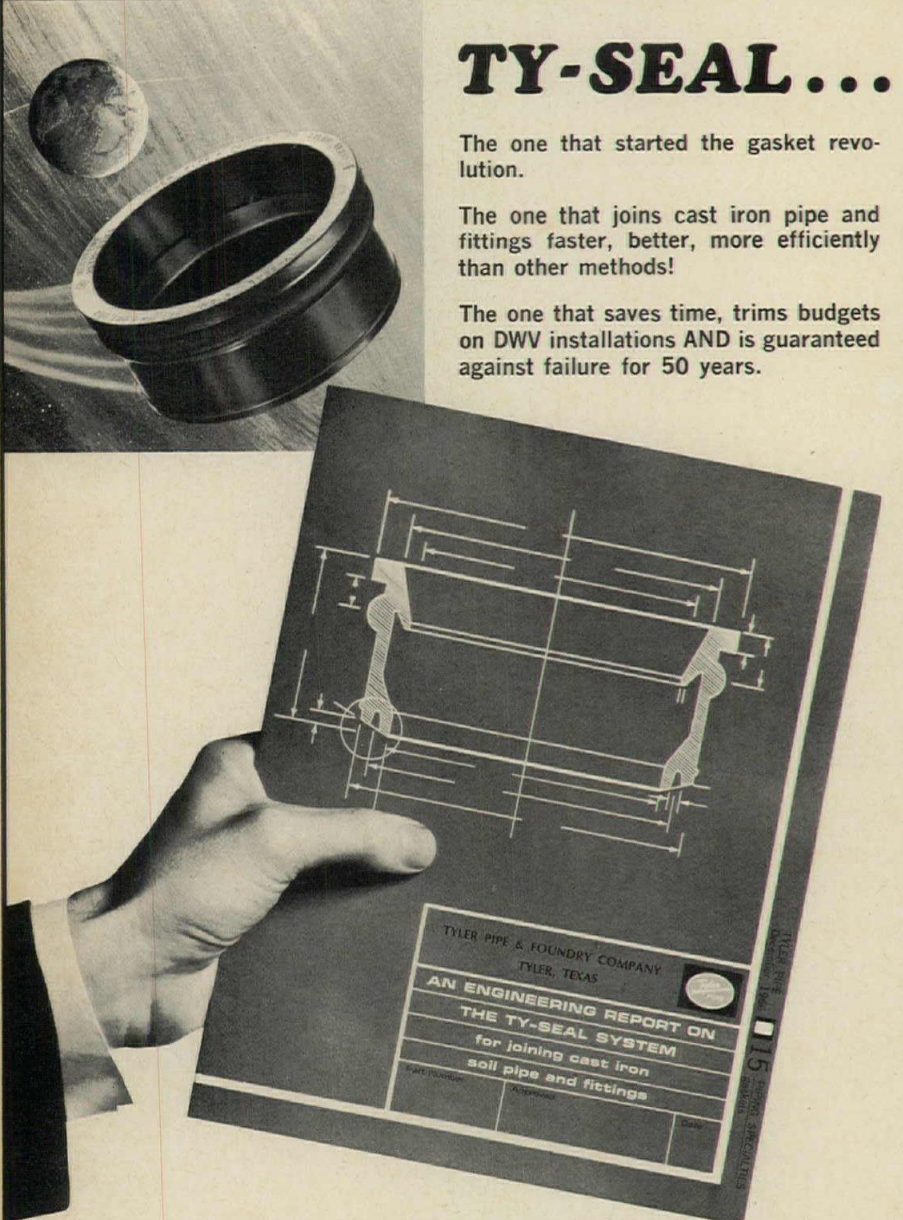
Circle 423 on inquiry card

CHURCH ORGAN / A 16-page report gives the church architect planning information for acoustical properties. ■ Saville Organ Corporation, Northbrook, Ill.

Circle 000 on inquiry card

*Additional product information in Sweet's Architectural File

more literature on page 236



TY-SEAL . . .

The one that started the gasket revolution.

The one that joins cast iron pipe and fittings faster, better, more efficiently than other methods!

The one that saves time, trims budgets on DWV installations AND is guaranteed against failure for 50 years.

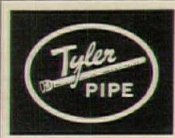
Want more facts? Specs? Send for this report.



Member, Cast Iron
Soil Pipe Institute

TYLER PIPE INDUSTRIES

TYLER PIPE DIVISION, TYLER, TEXAS ■ WADE DIVISION,
TYLER, TEXAS ■ EAST PENN DIVISION, MACUNGIE, PA.



For more data, circle 113 on inquiry card



Quick Change Partition System offers FASTER COMPLETION with economy!

You'll meet your completion promises with Quick Change* Movable Partitions. Our nationwide network of 70 installers — local people, working from local inventory — assures fast installation.

Movable partitions let you direct traffic, remodel with ease. Simple to install with a minimum of disturbance. Beautiful, economical Masonite Royalcote prefinished hardboard panels come in many colors or simulated wood panel surfaces. Factory finished to assure low maintenance and lasting beauty. Quick Change partitions may be selected in many sizes including low rail, cornice or ceiling height partitions, with or without glass inserts.

For details, see Sweet's Architectural File 13A. Or write to us. MASONITE CORPORATION, Dept. AR-1, Box 777, Chicago, Illinois 60690.

* Quick Change is a registered trademark of Glen O'Brien Movable Partition Company, Inc.

 **MASONITE CORPORATION**

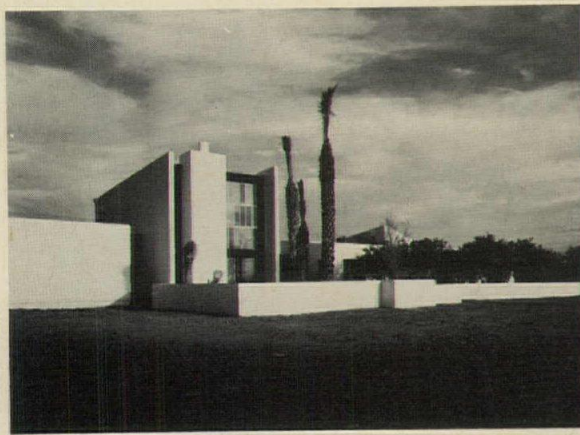
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For more data, circle 114 on inquiry card



1

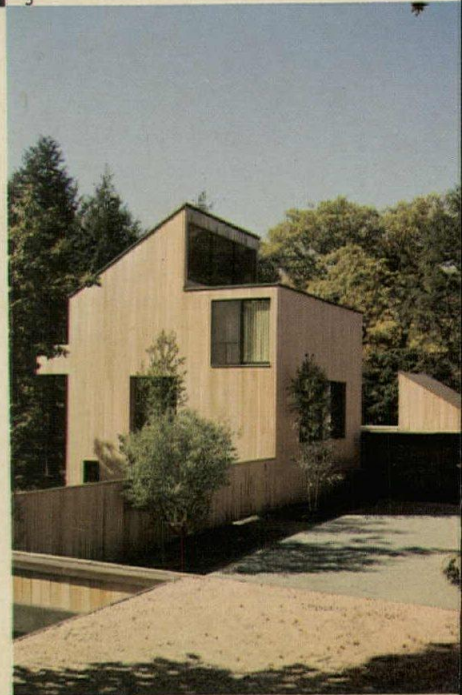


2

3

FROM RECORD HOUSES OF 1967

- 1 Island Residence, Long Island Sound, New York. Architect: Ulrich Franzen & Associates. Photo by Robert Damora
- 2 Gonzales House, Paradise Valley, Arizona. Architect: Bennie M. Gonzales. Photo by Bill Sears
- 3 Private Residence, Connecticut. Architect: Edward Larrabee Barnes. Photo by Joseph W. Molitor
- 4 Woo House, Los Angeles. Architect: Young Woo. Photo by Leland Lee



Coming in mid-May...

RECORD HOUSES OF 1968

Featuring...

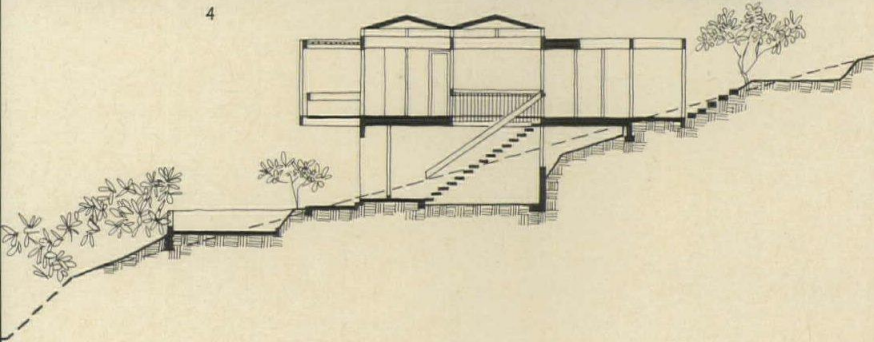
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A year in preparation, RECORD HOUSES OF 1968 will present the work of a wide variety of architects ranging from the well-known to talented unknown architects new to the ranks of major innovators. The houses will win for their architects and owners Architectural Record's coveted **Annual Award of Excellence for House Design**. All 20 award-winning houses are fully detailed with photographs (many in full color), plans and schematics. This highly visual presentation of each house, coupled with a clear statement of the problems and purposes behind its planning, will make RECORD HOUSES OF 1968 an ideal tool for opening your client's eyes to ways in which architecture can serve their individual needs, aspirations and way of life.

RECORD HOUSES OF 1968 comes to you as part of your subscription to Architectural Record. And again in 1968, RECORD HOUSES will be distributed to the nation's 23,000 foremost builders to accelerate the healthy trend toward greater architect-builder collaboration on tract housing. The house building and buying public will find it on sale at leading book stores.



4



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RECORD**

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NEW YORK, N. Y. 10036

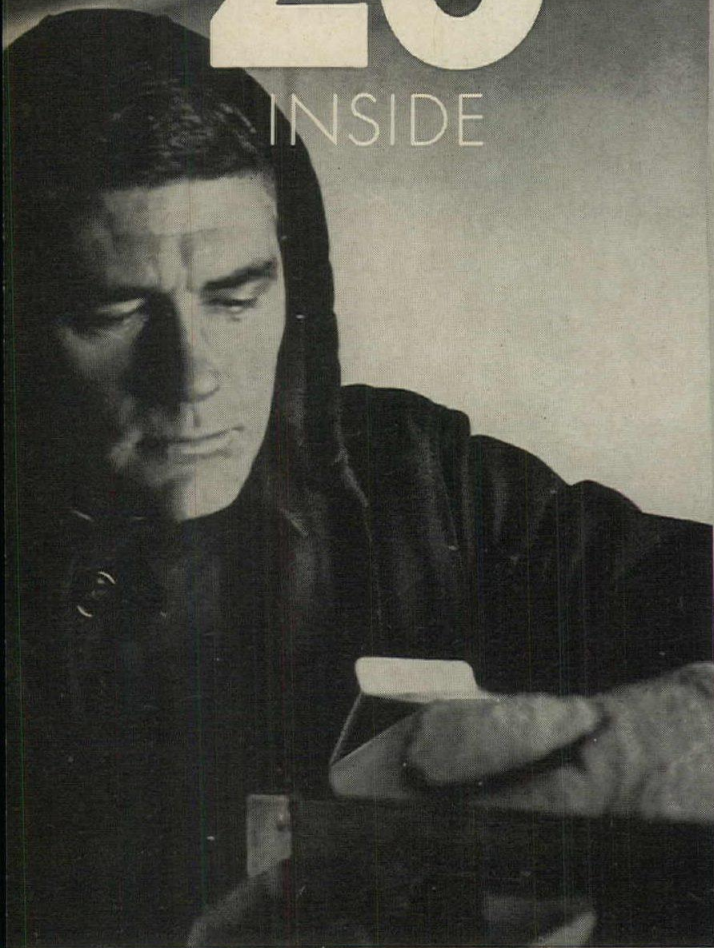
A MCGRAW-HILL MARKET-DIRECTED



PUBLICATION

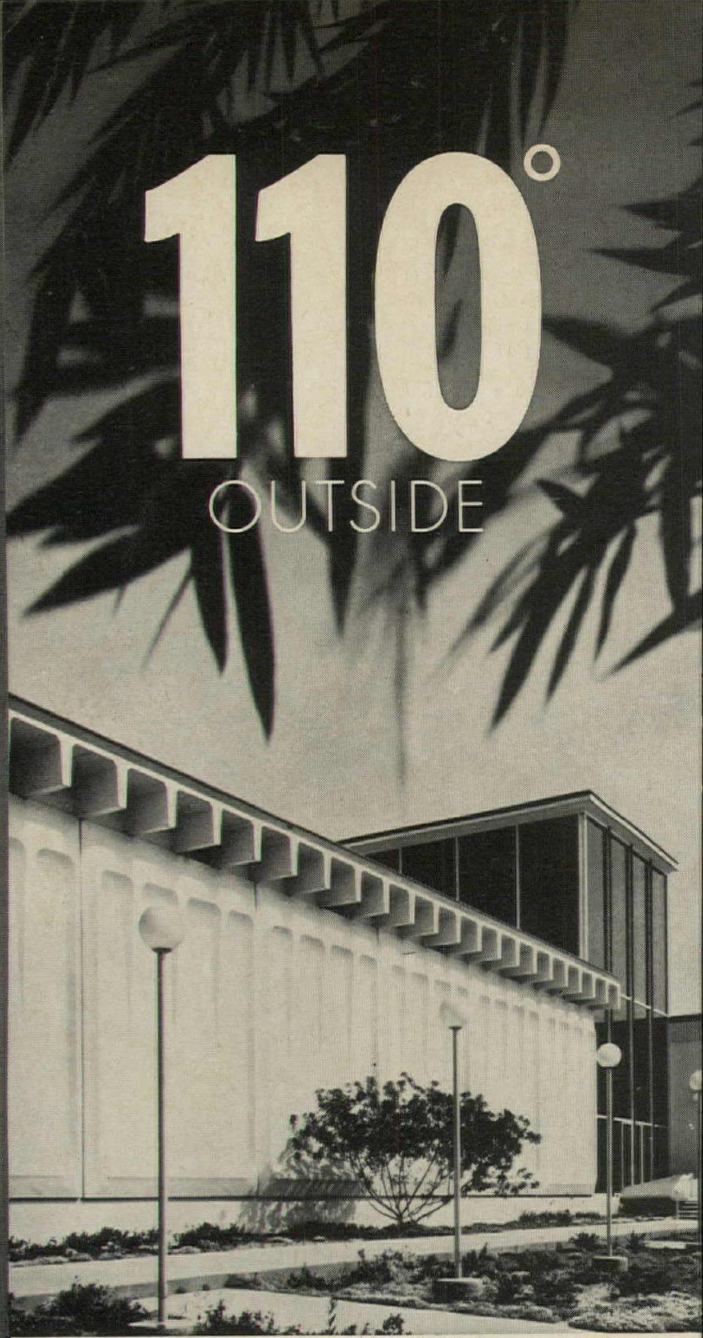
-25°

INSIDE



110°

OUTSIDE



**YET
G-E
SILICONE
SEALANT
GIVES
AND
TAKES
WITHOUT
LOSING
ITS
GRIP.**

No other sealant did.

No other sealant could stand up to the punishment the job required, so the new Challenge Cream and Butter Association plant in Los Angeles was caulked with General Electric Silicone Construction Sealant.

Architecturally, the job was tough. Joints of precast tilt-up concrete panels had to be caulked inside and out. And they were 20 to 22 feet high. Plant location and function made the caulking job even tougher:

Los Angeles—where surface temperatures up to 110°F are normal.

The ice cream room—subfreezing.—25°F temperatures must be held constantly.

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ture extremes. It won't soften, harden or become brittle. Won't crack or crumble with age. And it's permanently leakproof.

Year after year, in all kinds of weather, G-E Silicone Sealant will give and take without losing its grip. It'll last as long as your building. And look as good. Available in a range of permanent colors, in standard caulking cartridges.

Try it once. Recaulk or repair with G-E Silicone Sealant. Or use it from scratch and forget about recaulking. Forget about repairs. For information and color swatches, contact your G-E distributor. Or write: Section, Silicone Products Dept., General Electric Co., Waterford, New York 12188. Or write: Section BG1257, Silicone Products Dept.,

GENERAL  ELECTRIC

For more data, circle 115 on inquiry card

For more data, circle 116 on inquiry card

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FURNITURE BY PEERLESS STEEL EQUIPMENT CO.

Businessmen do.

Because when they buy, they put more than their money on the line.

They put their reputations; perhaps their jobs. So they want the facts.

The full facts. In print. And they want to refer to the facts. Pass them along

to their associates. Keep them on file. If you sell to businessmen, it will pay you to sell to them the way they like to be sold—the way they *have* to be sold.

With the facts. The full facts. In print. Print makes sense. Business sense.

Because print makes sales. Business sales.

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CHICAGO • NEW YORK • PHILADELPHIA • DETROIT • ST. LOUIS

continued from page 220

INSULATION / "Guide to Low Temperature Insulation," gives information on *Dyfoam* (expanded polystyrene) in board or roll form. *Dyfoam*, available with tongue-and-groove, ship-lap or butt edges, may be obtained with special laminates, including a high-density polystyrene foam, *Tufhide*. ■ W. R. Grace & Co., Chicago.*

Circle 425 on inquiry card

SEATING / A wide variety of seat shells from six collections, many with a choice

of automatic return swivel or non-swivel bases, barstools, and a few tables are shown in a colorful 36-page booklet. ■ Burke Division, Brunswick Corporation, Dallas.*

Circle 426 on inquiry card

BI-FOLD DOORS / An 8-page color brochure shows commercial and residential installations of metal louvered, mirrored and paneled styles. ■ Roberts Consolidated Industries, Inc., City of Industry, Calif.

Circle 427 on inquiry card

INDUSTRIAL PLASTICS / A complete line is described in a 70-page catalog that includes sections on flexible tubing, sheet and bar extrusions, pipe, valves, pumps, tanks and drums, adhesives and cleaners. ■ Ryan Herco Products Corp., Burbank, Calif.

Circle 428 on inquiry card

LONGSPAN STEEL JOISTS / Data on live and uniformly distributed load capacities, bridging and camber are given in a 12-page catalog. ■ Armco Steel Corporation, Kansas City, Mo.*

Circle 429 on inquiry card

MINERAL FILLER / A 20-page brochure contains suggested applications for paint, ceramics, enamels, ceiling tile, glass, plywood, abrasives and welding rods. ■ Cabot Corporation, Boston.

Circle 430 on inquiry card

SCHOOL STORAGE CABINETS / Over 30 illustrations show both fixed and mobile equipment lines, and outline possible arrangements. ■ Mutschler Brothers Company, Nappanee, Ind.

Circle 431 on inquiry card

SECTIONAL PLATE / A 103-page handbook provides guidelines for specifying pipe, pipe-arch, underpasses and arches. ■ Republic Steel Corporation, Youngstown, Ohio.*

Circle 432 on inquiry card

FLOORING SYSTEMS / An 8-page booklet describes a complete line of chemical-resistant, conductive, thermal-shock-resistant, and high-impact monolithic floor systems for industrial, commercial or institutional applications. ■ Hubbellite Division, Allison Park, Pa.

Circle 433 on inquiry card

MEDICINE PREPARATION STATION / A 4-page catalog describes a model that is available with choice of removable tiered shelves or adjustable flat shelves for flexibility. ■ Market Forge Company, Everett, Mass.*

Circle 434 on inquiry card

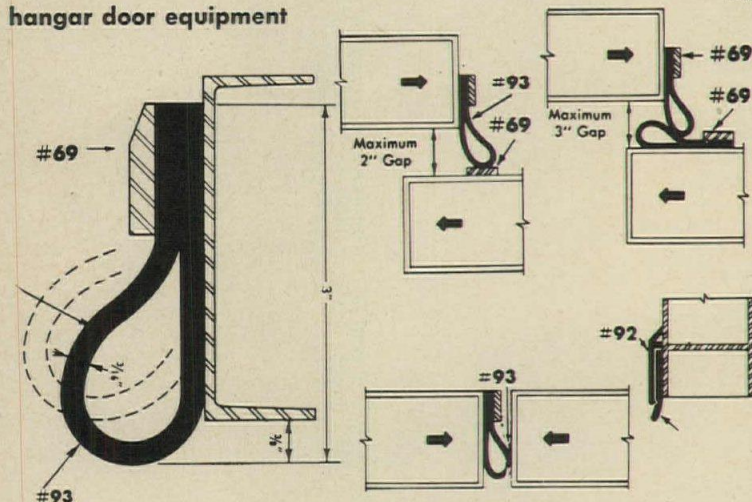
TEXTURED METALS / A 4-page catalog has a blind-embossed cover of three textures. Inside there are photos of ten basic architectural patterns, plus a detailed run-down of the availability, versatility and advantages of *Rigitex*. ■ Rigidized Metals Corporation, Buffalo, New York.

Circle 435 on inquiry card

* Additional product information in Sweet's Architectural File

our 44th year

hangar door equipment

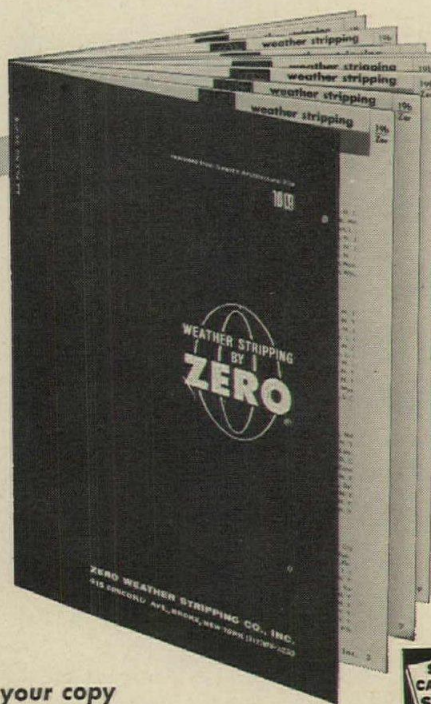


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Neoprene
Mil Spec: R 6855
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Zero's new Catalog shows
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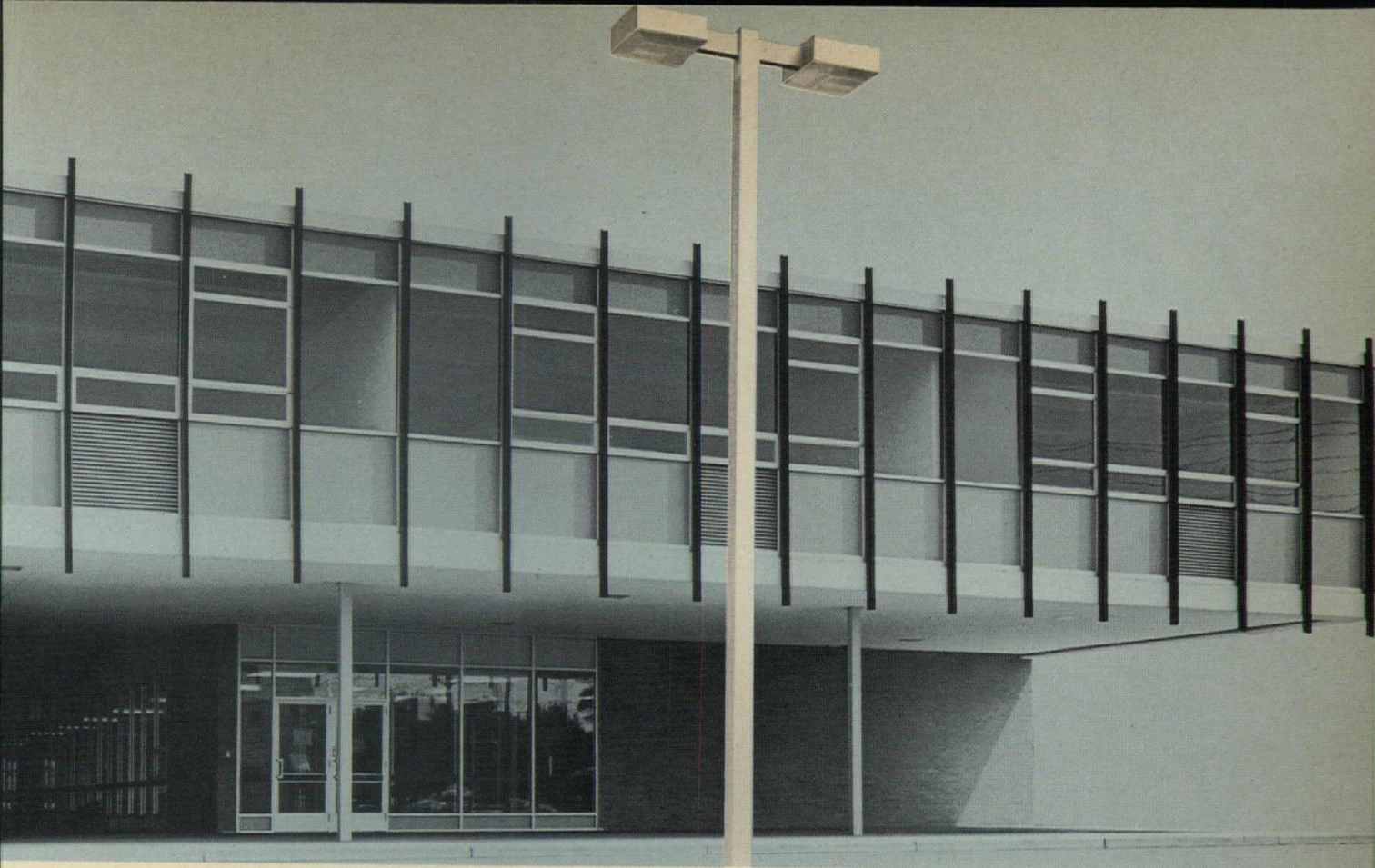
ZERO WEATHER STRIPPING CO., INC.

Our 44th year of service to architects

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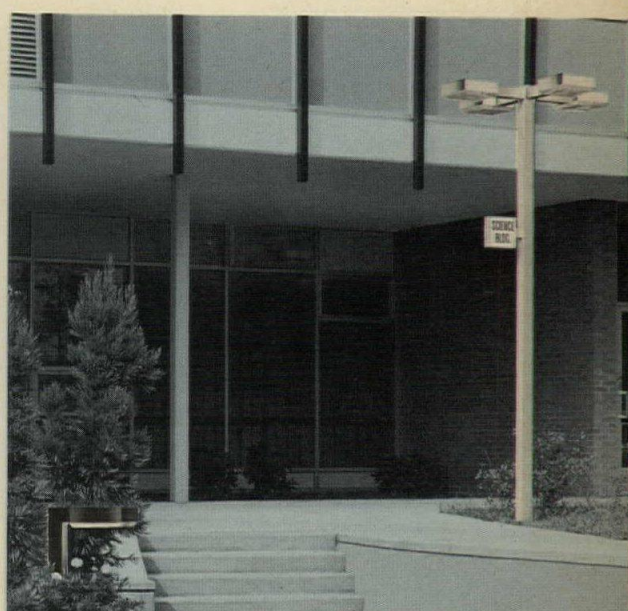
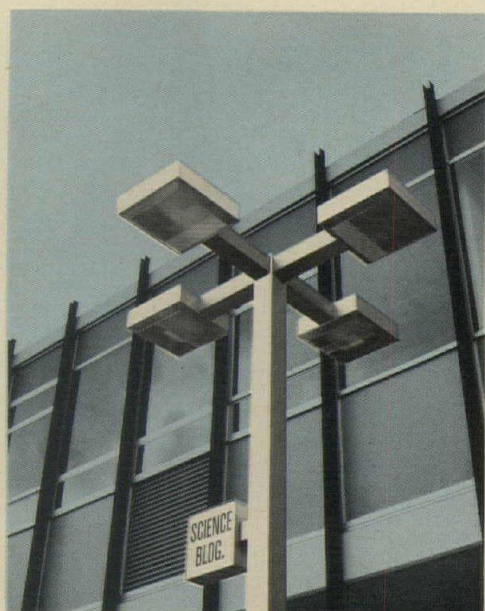
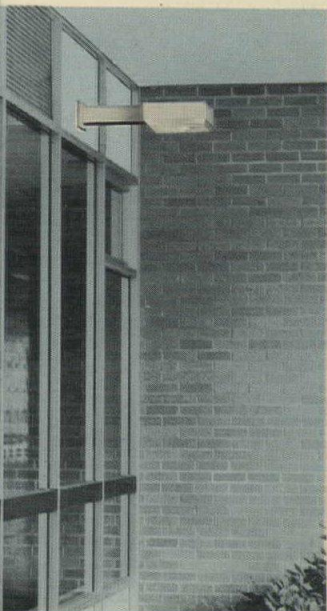
Have You Seen What ARCHITECTURAL Site Lighting Does For Aesthetic Unity?

It's what's happening . . . aesthetic togetherness through Moldcast Site Modules. This important new design medium provides the architect with the exciting prospect of **unifying site and structure.**

A harmony of squares and rectilineals . . . Moldcast Site Modules project the geometric character of modern building design throughout the grounds.

Site Modules are a complete family of coordinated fixtures, designed to fill the lighting requirements of an entire site. Products range from 28' tall area and roadway lights to 3' shrub lights, matching directional signs and building mounted fixtures.

These handsome units are furnished with engineered optical systems providing the finest in highly efficient, controlled lighting distribution.



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MACOMBER V-LOK[®] MODULAR

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- **FLEXIBILITY THROUGHOUT THE LIFE OF THE BUILDING.** Interior walls, lighting and air-distributing systems can be rearranged at will to suit the changing needs of the occupants.

- **COMPATIBLE COMPONENTS.** Major components have been designed to fit the basic module, allowing factory-finished perfection, reducing job site work and permitting quicker occupancy.

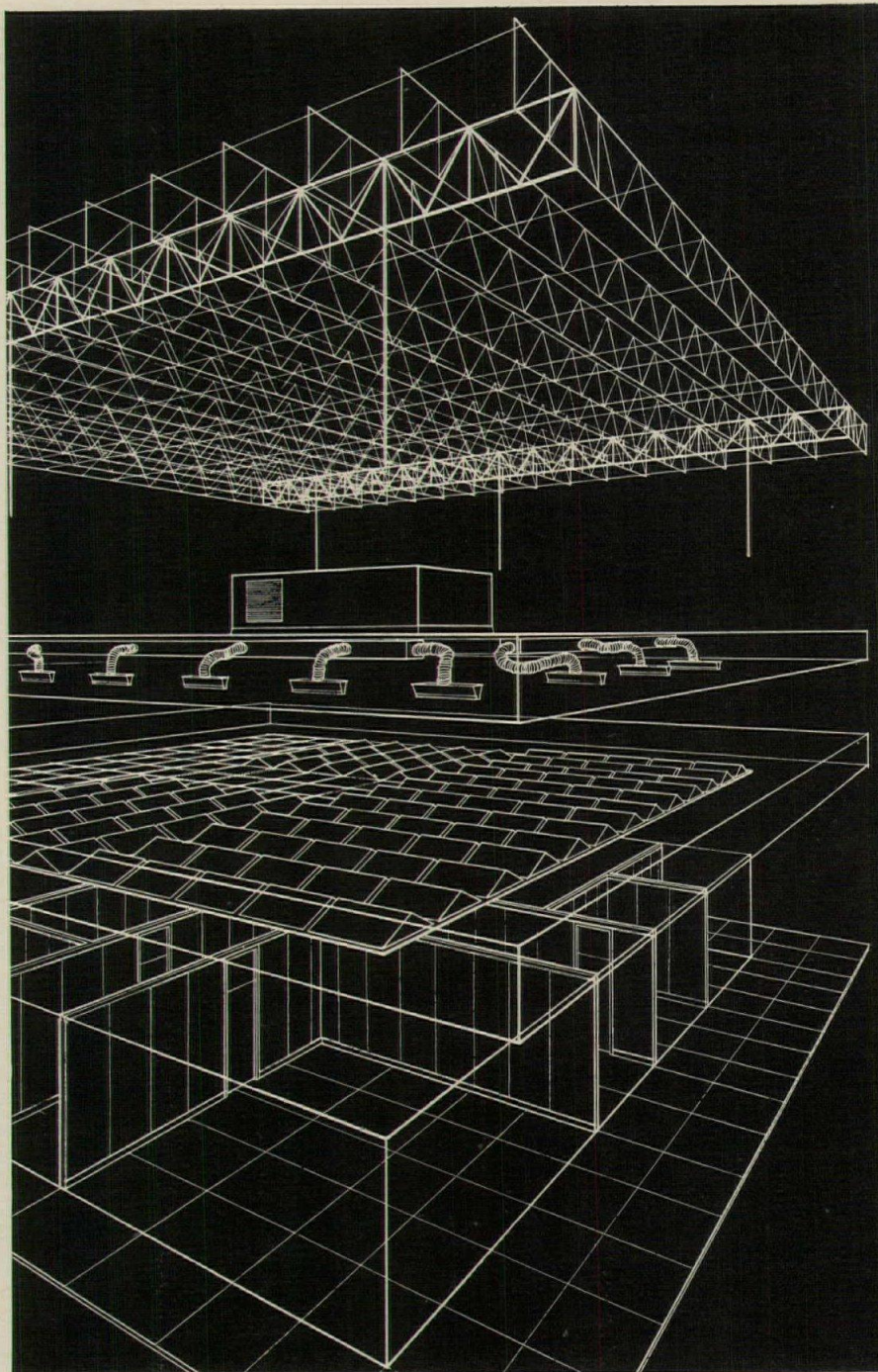
- **CHOICE OF COMPETING COMPONENTS.** Leading manufacturers offer a selection of pretested system components, giving the designer a number of combinations for different performance characteristics and costs.

- **UNIFIED DESIGN.** The modular discipline, expressed in close relationship among components, produces unity of design normally found only in much costlier structures.

- **PRE-BIDDING.** Before preparing working drawings, the architect can determine components by pre-bidding combinations of components.

- **KNOWN PERFORMANCE.** Component systems have been pre-tested, separately and in combination. Performance can be accurately predicted.

- **OVERALL ECONOMY.** The Macomber V-LOK Modular Component System, combined with the other component elements, results in a better, more versatile and economically priced building.



MAJOR COMPONENTS used with the Macomber V-LOK Modular Component System include a heating-ventilating-air conditioning system with flexible ducts, lighting-ceiling components, and interior partitions that attach to the ceiling grid. Lights, air vents and walls can be relocated at any time during the life of the building to suit the needs of the occupants.

COMPONENT SYSTEM

Construction

NOW there's a better way to design and erect schools, office buildings and manufacturing plants.

Macomber Incorporated and The Engineers Collaborative have developed the Macomber V-LOK Modular Component System to meet the most pressing problems of our times: Rising costs, delays in fabrication, delivery and erection, and changing space requirements during the life of the building.

The VLMC System consists of predetermined structural members designed specifically for use in a building with thoroughly predictable performance characteristics.

Macomber supplies the basic structure, employing easy-to-assemble V-LOK framing. Some of the best names in American industry have adapted their products to suit the modular component system concept. Steel framing, lighting-ceiling systems, complete heating-ventilating-air conditioning systems and interior partitions are available—each from more than one manufacturer—giving the architect a choice of materials in these vital areas. All other building elements fit easily into the basic Macomber structure.

The VLMC System eliminates complex bidding methods involving alternates. Simple drawings, double or triple noted for the various competing compo-

nents, can be prepared and bid prior to the start of final working drawings.

Component manufacturers can begin work, giving them a head start on the general construction. All components are factory finished to fit the basic Macomber module, cutting down on work at the job site.

The VLMC System results in a better building, quicker occupancy and overall economy.

In addition, the arrangement of interior components remains completely flexible throughout the life of the building. All partitions, lighting-ceiling panels and air-handling members can be rearranged at any time to create an entirely new environment within the basic structure.

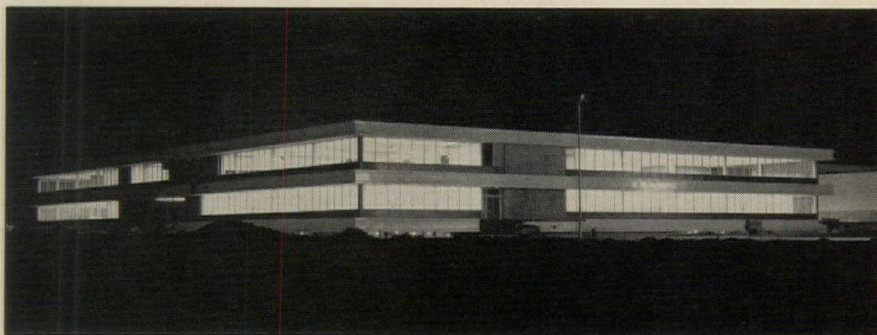
Consider these advantages of The Macomber VLMC System flexibility:

SCHOOLS: Teaching spaces, assembly areas and work locations can be expanded, regrouped or eliminated to accommodate advances in teaching methods or the changing needs of a neighborhood.

OFFICE BUILDINGS: Available space can be readjusted over and over to suit the requirements of tenants.

MANUFACTURING FACILITIES: The VLMC System provides for economical plant expansions in harmony with the existing building.

For more about the V-LOK Modular Component System, write *Macomber Incorporated, Canton, Ohio 44701.*



SUNDSTRAND AVIATION GOES VLMC—Sundstrand's 250,000-square-foot, three-story Research and Development Center in Rockford, Illinois, is an outstanding example of the Macomber V-LOK Modular Component System in action. Jones and Brown Company, Inc., represented Macomber in supplying the structural components including steel roof decking. Architects are Larson and Darby, A.I.A. Consulting Engineers are The Engineers Collaborative, and General Contractor is Sjostrom & Sons, Inc.



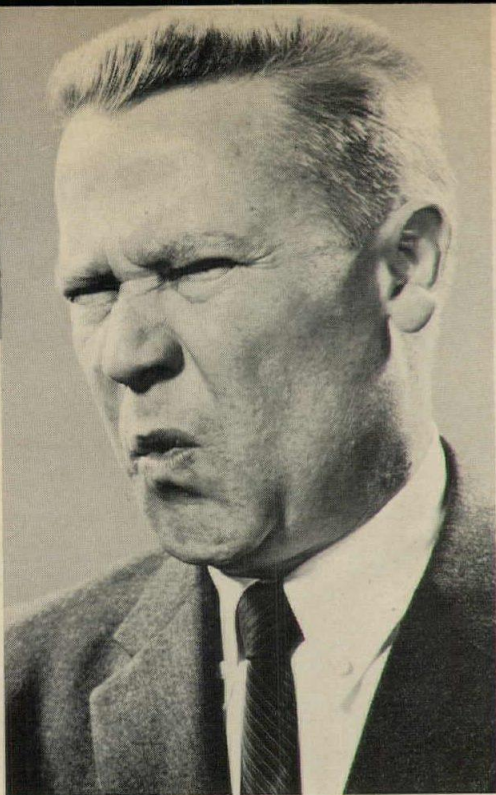
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CANTON, OHIO 44701

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**IS THAT
NOISE A
CEILING FAN
... OR A
JET ENGINE?**



**FOR SOOTHING TOUCHY TENANTS,
EASIER APARTMENT RENTALS, INSTALL**

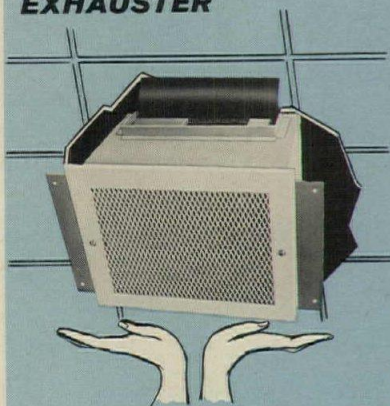
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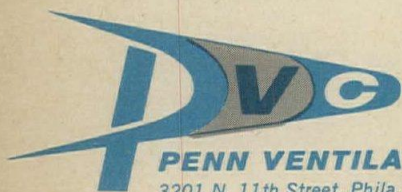
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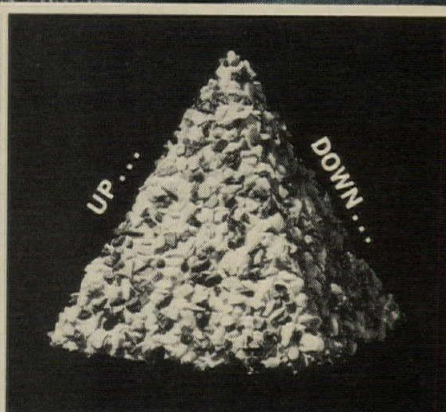
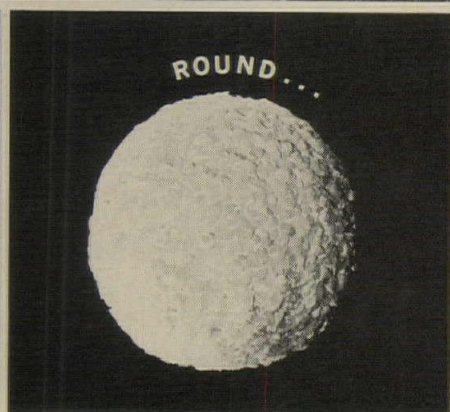
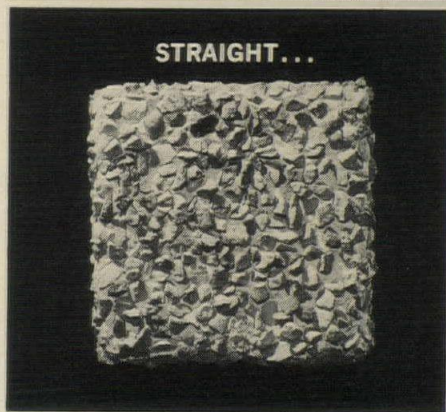
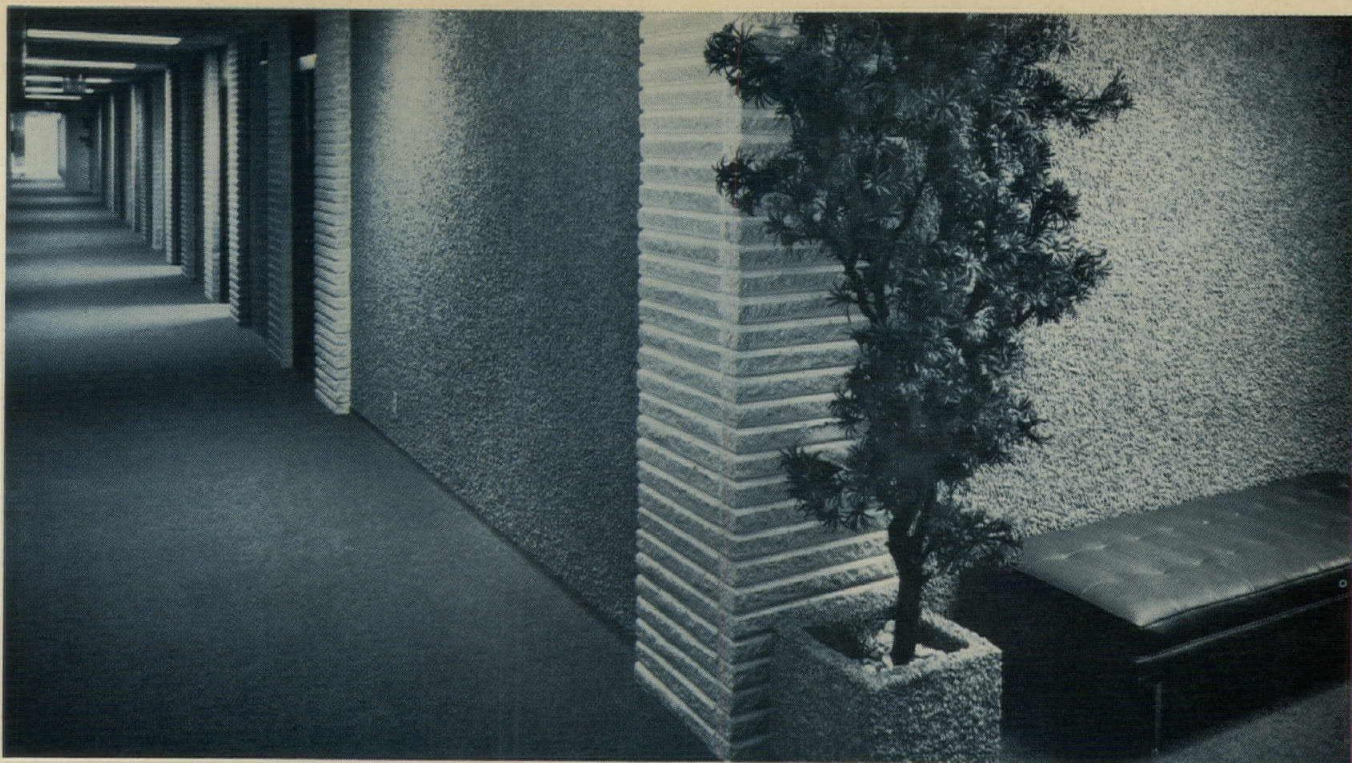
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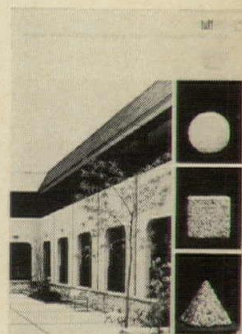
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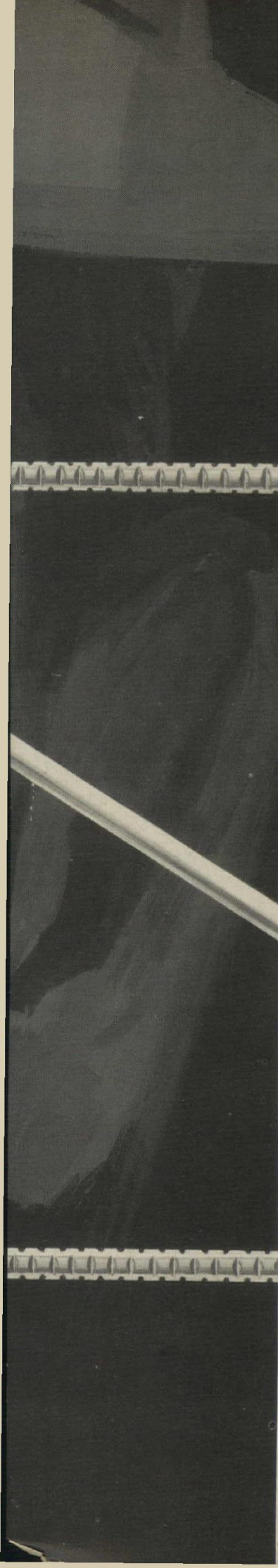
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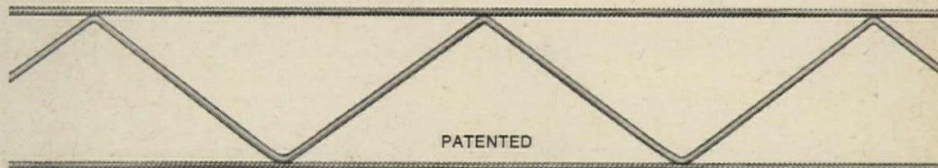
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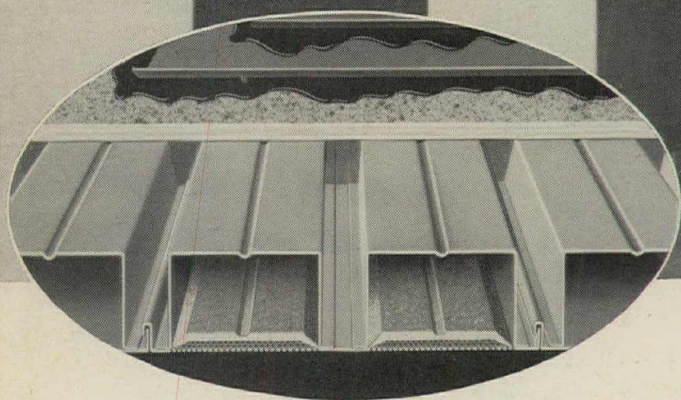
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