

# ARCHITECTURAL RECORD

November 1960

**11**

*Building Types Study: College Buildings*

*Office Building for Union Carbide*

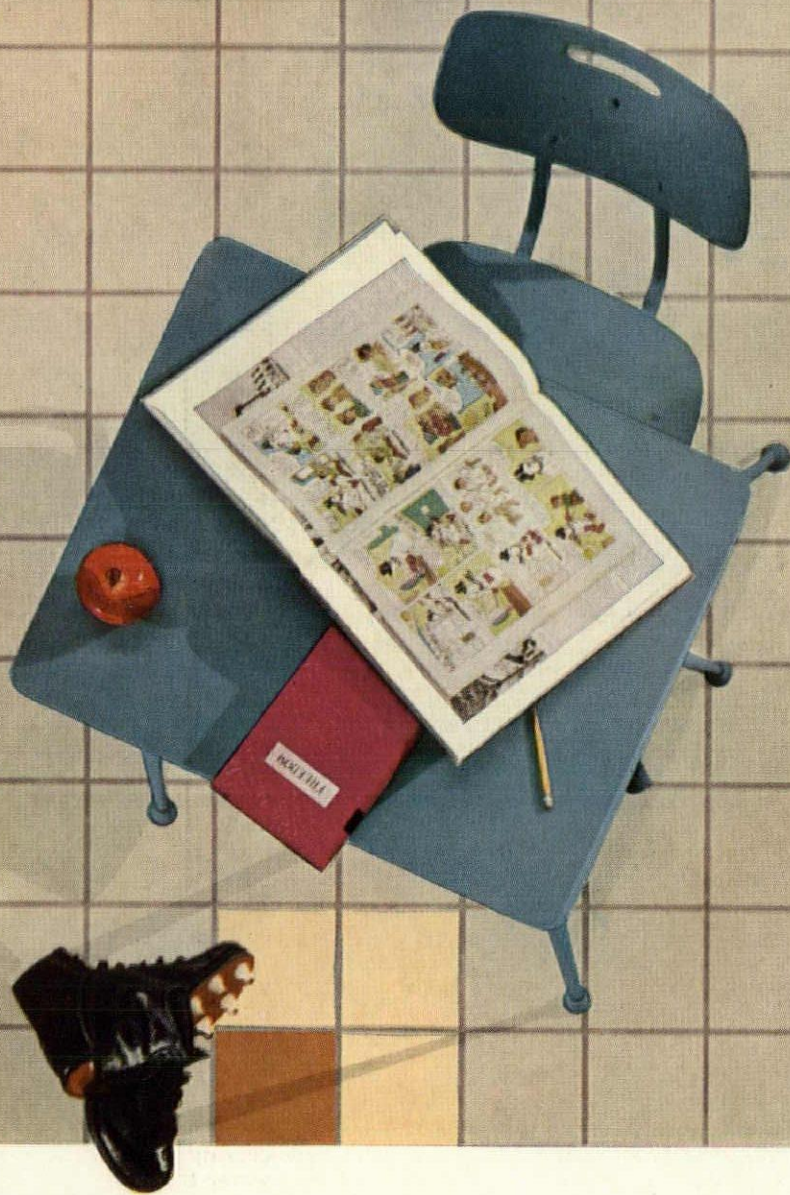
*Houses*

*Trends in Air Conditioned Schools*

*Full Contents on Page 5*







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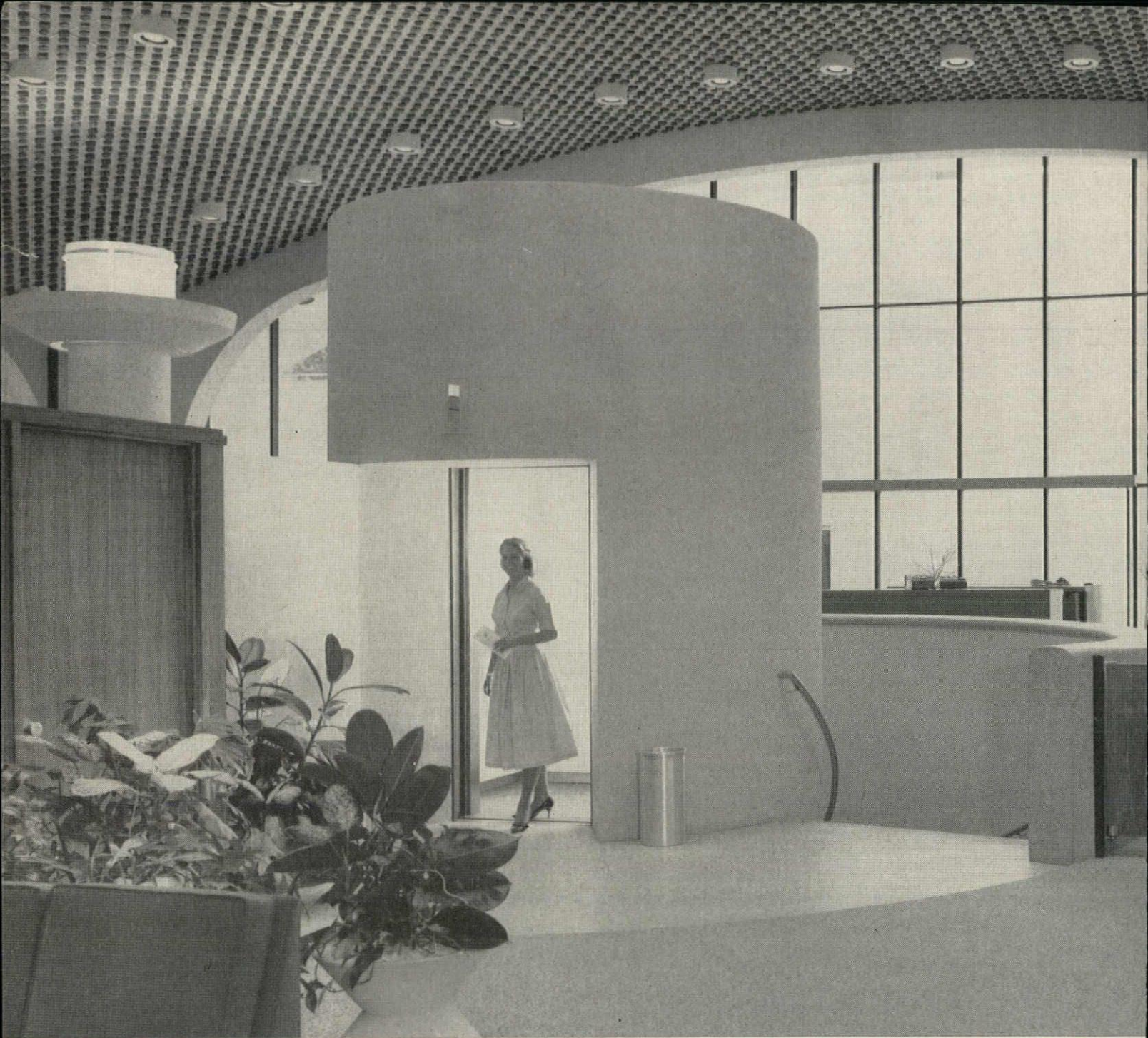
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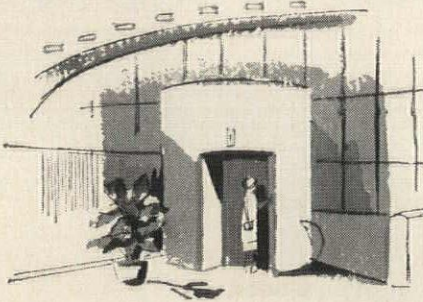
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# ARCHITECTURAL RECORD

November 1960

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# Coming in the Record

## CHURCHES TO COMMUNICATE

*Some of our best architecture is in churches. But is good architecture enough? No, says our author, Edward A. Sövik, in the December Building Types Study. Good design, however sincere, still has the obligation to communicate, to communicate the faith, the spirit, the message of the church. There are some very nice churches in the December package, but the reader will have to decide for himself about the communication.*

## BIG BUILDINGS

*To go along with the Blue Cross-Blue Shield Building by Paul Rudolph (we gave advance notice of this last month) the great Kaiser Center in Oakland, Cal. will provide contrast both in location and in concept. Welton Becket has done a BIG building for the Kaiser empire as part of a business center rather than just an isolated downtown office building.*

## CRACKS IN CEILINGS

*What makes ceilings crack is not one of the newest subjects on earth, but it's not likely to just go away in the near future. Our new Components department next month reports a study of suspended ceilings in use, and of what made them crack. There is quite a bit of detail on what to use with different conditions of dimensions and materials.*

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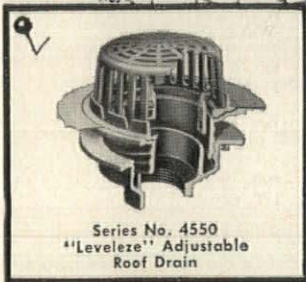
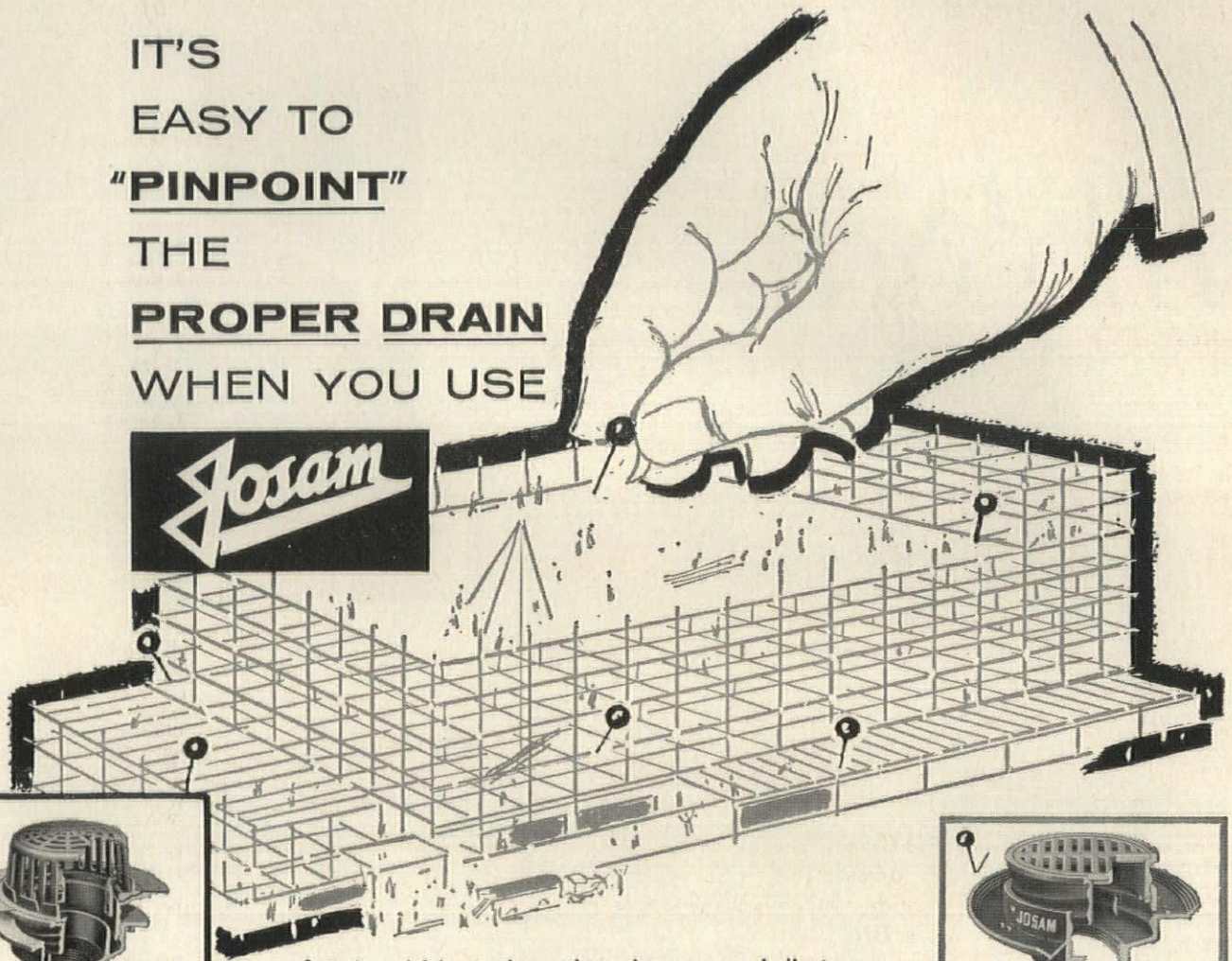
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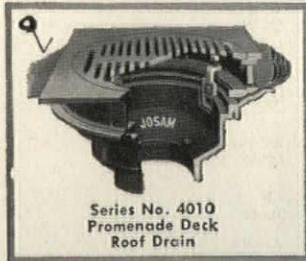
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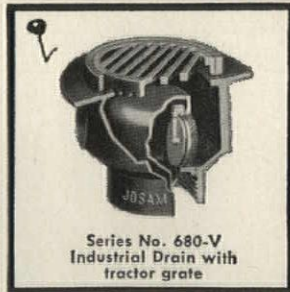
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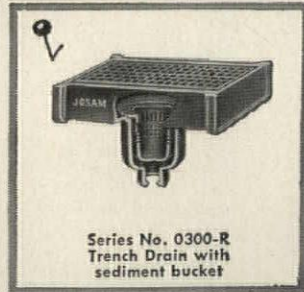
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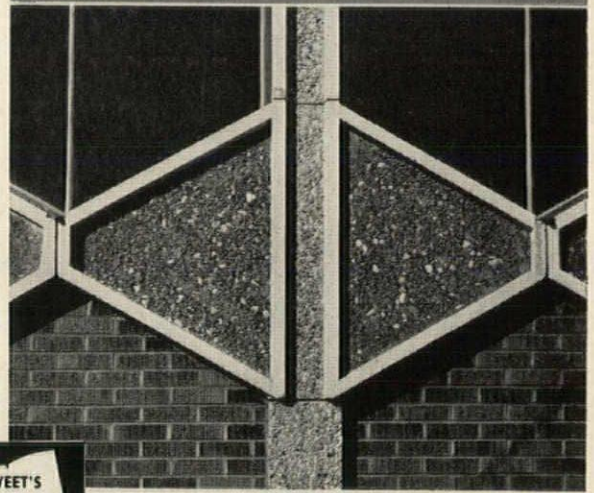
Can you think of any facing or curtain wall material that combines (1) large units, in a variety of shapes, that can be attached directly to the steel framework of a building; (2) exterior fireproofing for steel; (3) wide choice of durable colors and textures?

These three functions describe exactly the Mo-Sai used on the University of Washington Engineering Building.

The Mo-Sai diamond window spandrel design serves as a transition from traditional Tudor Gothic, the prevailing architectural style on the campus. These Mo-Sai diamonds are made with a coarse-textured orange aggregate, the reveals are off-white fine quartz; and the columns feature a coarse aggregate in a tan matrix.

Although dimensional tolerance was only  $\frac{1}{8}$ " , no cutting or refitting of any of the Mo-Sai units was required.

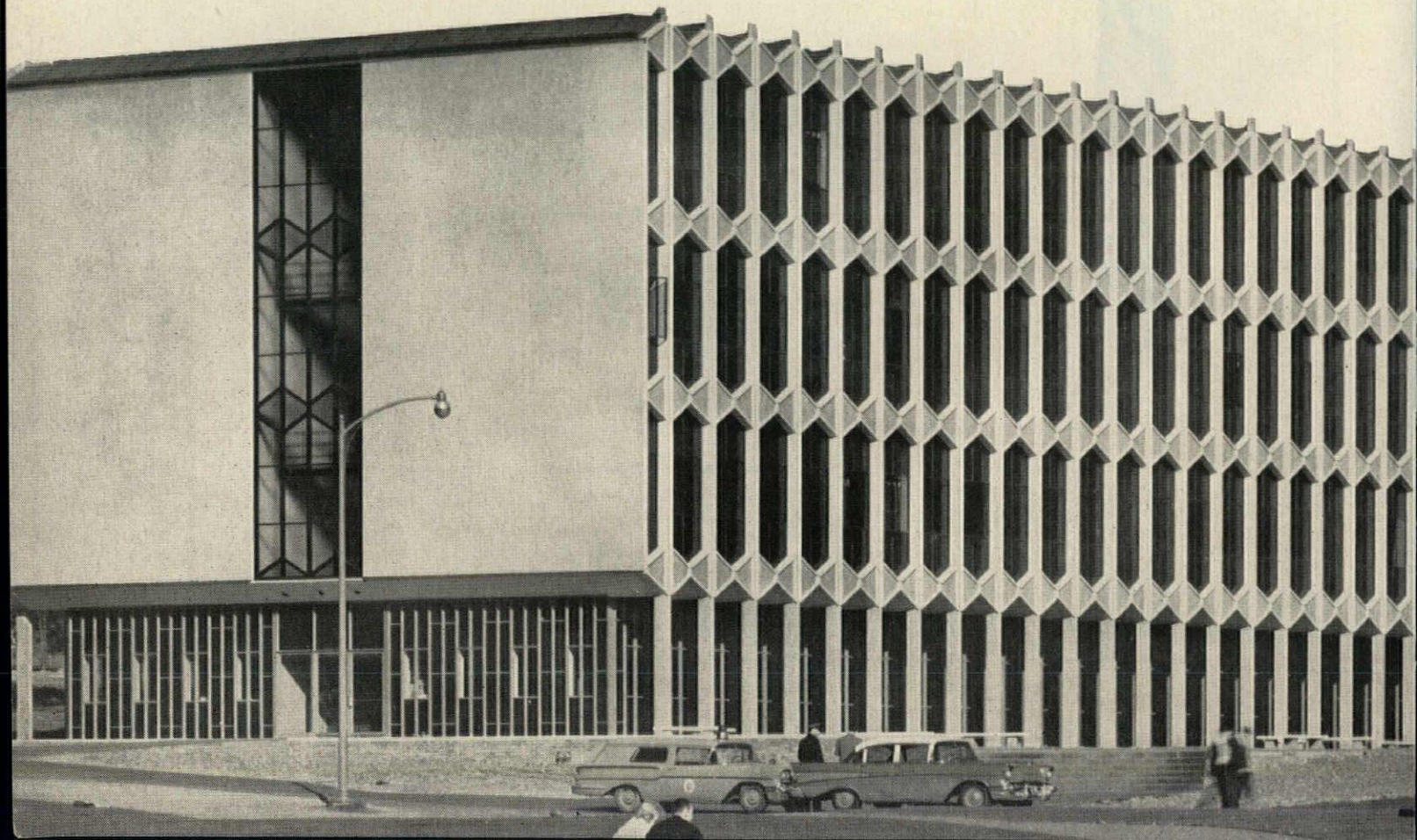
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## Now the RECORD opens wide

Probably before you pause at this page you will have noted that this issue of the RECORD opens cooperatively and lies flat, so that you can read it in comfort. Gone are the heavy staples of the "side wired" binding, which stiffened the magazine and resisted efforts to open it.

The new glue binding has passed its test, and, beginning with this issue, will be the regular binding method for the RECORD.

We of the staff feel it is the greatest mechanical advance in magazine production that we have seen, and that its advantages will extend beyond mere convenience of handling.

The more obvious merits are of course on the mechanical side: the magazine does "lie flat;" you do not have to fight the curl when reading; you do not have to hold it open, or weight it down, or use a bookmark if you are called away for a moment.

Secondly, pages are easily pulled out, cleanly, for filing.

If, for mechanical reasons, the RECORD is more inviting to read, we believe it will be more inviting for other reasons, especially in the area of design.

The art staff of a magazine works on plane surfaces—drawing boards—and flat "dummy" sheets, each sheet representing a "spread" in the magazine. They have always been conscious, of course, that the finished magazine would not be flat. That is, their conscious minds remembered the curl of the bound pages; it was impossible, however, to design for curled pages.

It was possible to be careful in placing a large photograph across the "gutter," to remember that the picture would have a certain amount

of distortion. But there was nothing you could do about it; just don't do it if the particular photograph would not "read" properly if curved.

The staff always designed, too, for the full two-page spread. But the curved pages were not in actuality a single visual unit.

So design-conscious editors—and on an architectural magazine that is everybody—feel a great sense of release in the fact that with the new glue binding spreads really will be design units. The enthusiasm that goes into our design has more chance of realization.

Since all architects are graphic designers at least by orientation, a few details may be interesting. Each page will be a fraction of an inch smaller, because the fold of each signature is cut away in the gluing process. But we get a larger area to work with, because of course virtually all of the two pages of each spread is net work-area. Engravings of art work to break across the gutter will have different dimensions accordingly. And, from the design standpoint, the white space will flow together; and, of course, white space is a more important design element than the dark areas.

In any case, photographs and drawings will enjoy much better display, and display is what all architects desire for pictures of their own work. We will be able to use more large photographs, and architects should be pleased about that. Big pictures or small ones, all of the work we show will have better visual impact than was possible before. So we are confident that architects will enjoy our newly flat spreads whether it is their own work or that of somebody else.

—EMERSON GOBLE



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**EASY TO WELD**—Wide rib openings speed plug welding from top side.

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**FLARED END**—means simplified nesting.

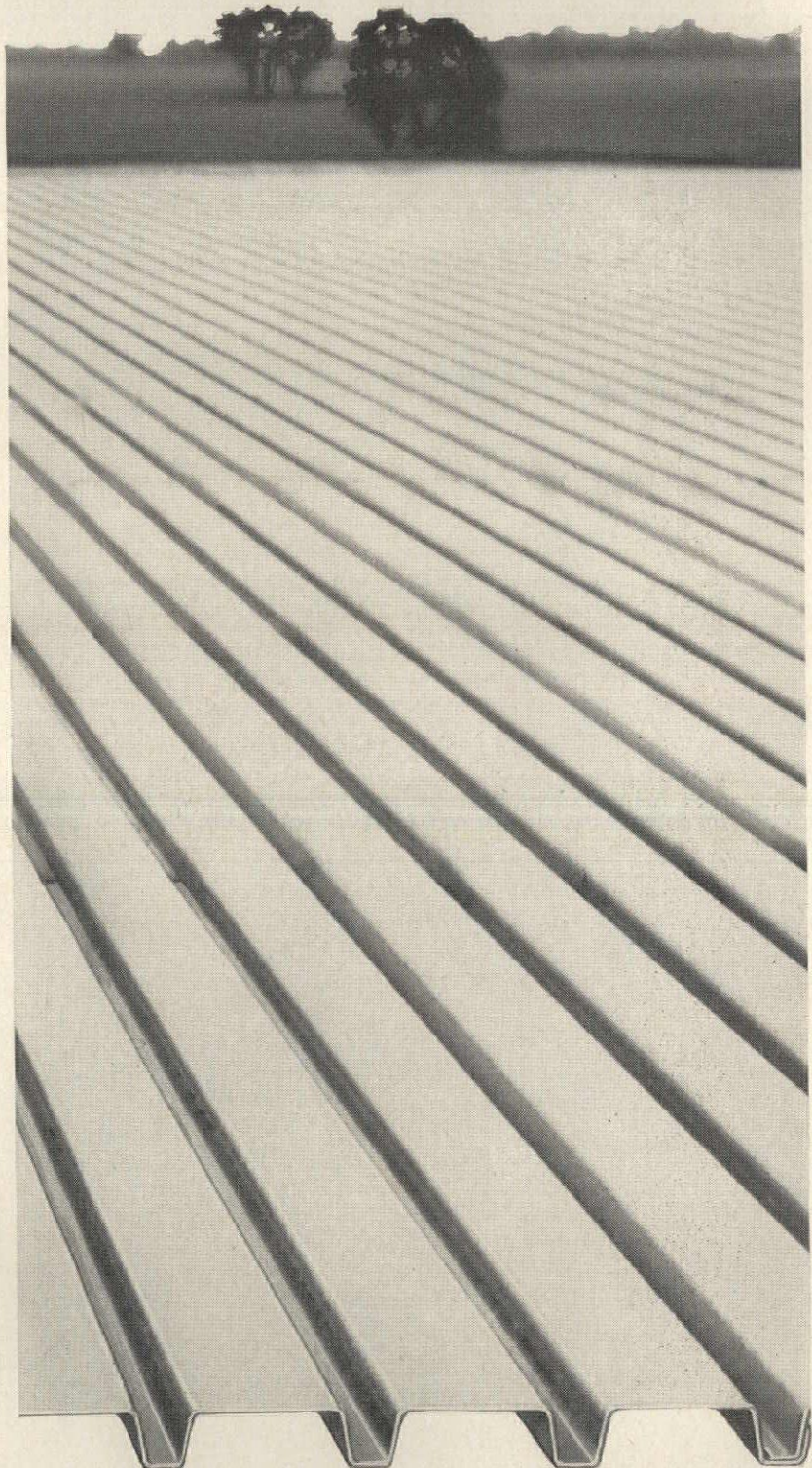
**20-YEAR ROOF BONDS**—obtainable on Granco Roof Deck with 1" insulation board.

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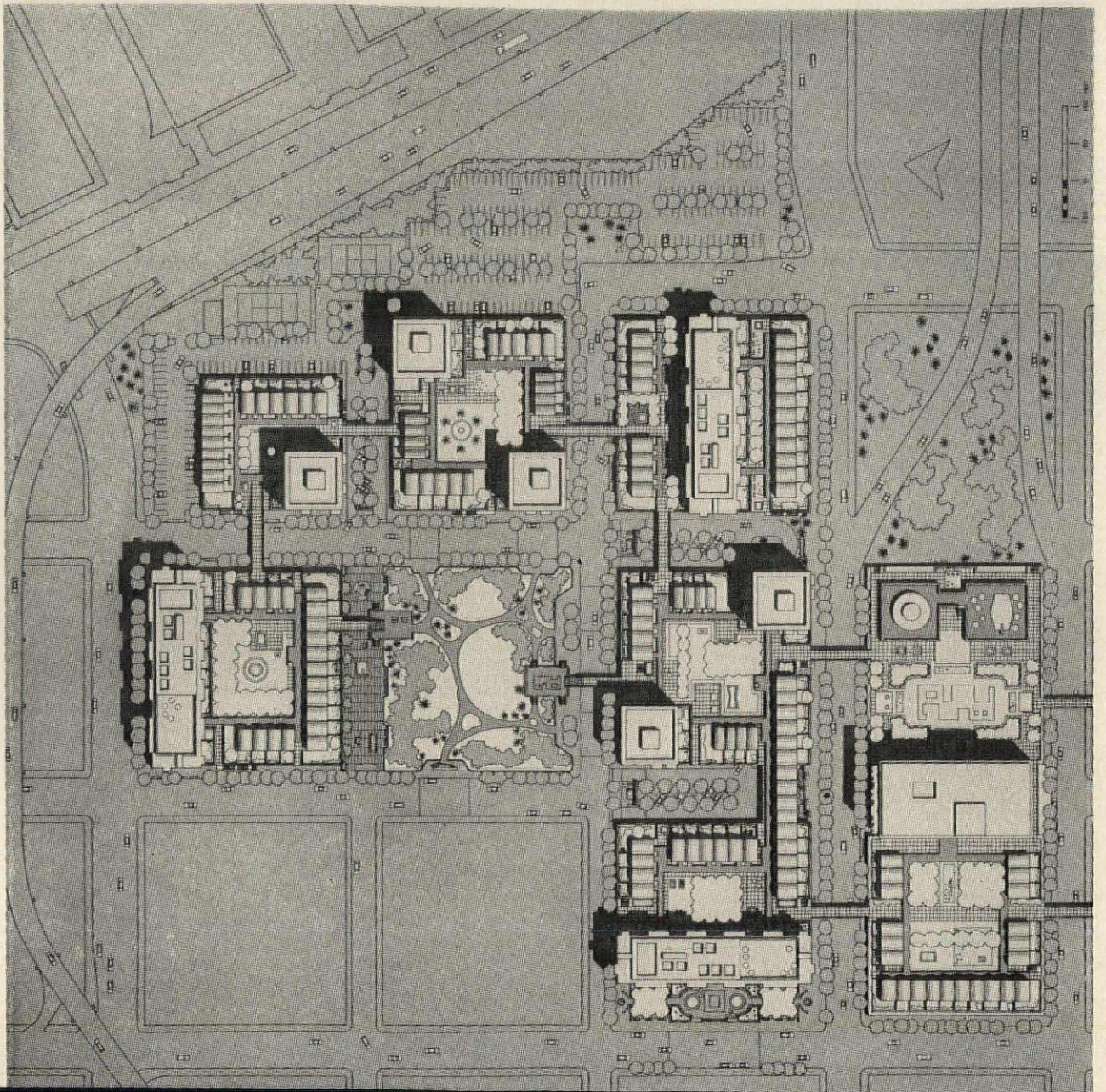
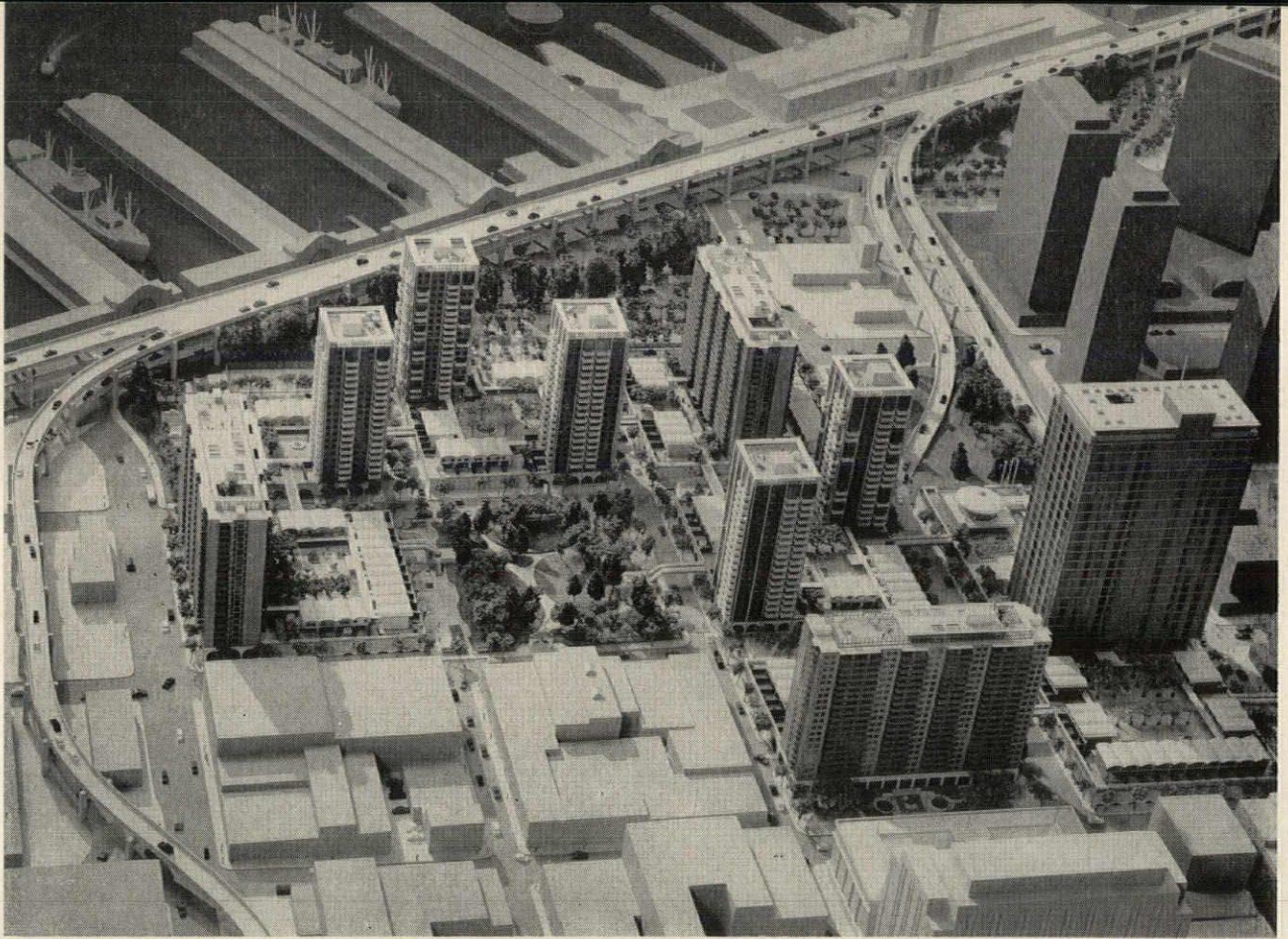
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## GOLDEN GATEWAY WINNER SELECTED

San Francisco's most coveted architectural plum—the design of the Golden Gateway redevelopment project—was won last month by architects Wurster, Bernardi & Emons and DeMars and Reay when the city's Redevelopment Agency chose Perini-San Francisco Associates as developer for the project. The announcement climaxed almost six months of anxious waiting for the decision, broken only once when five of the original eight contestants were eliminated "notwithstanding their merit."

The other finalists were Kern County Land Company and Del-Webb Construction Company with their architects, Welton Becket & Associates, and Tishman-Cahill Renewal Associates and their architects, John Carl Warnecke and Associates, Gardner Dailey and Associates, and Victor Gruen Associates.

The Perini design proposal was selected by the Agency for its "overall excellence" and was cited on three major points in which the WB&E-DeMars & Reay design was superior: "complete separation of people and vehicular traffic; retention of the grid system, providing a readily understandable pattern of vehicular circulation; and a sympathy for the city around it in providing a design which composes well with the nearby financial district and with the attractive Customs House."

But it was the block-sized park, so much in keeping with San Francisco's tradition of such spaces (Union, Portsmouth, Washington Squares, for instance), that made this design irresistible to the Agency. While all three finalists had some common elements, the WB&E-DeMars and Reay design was the only one to provide such an amenity.

The winning design also had an obvious lower construction cost because all of its parking garages as well as its buildings involved only above-ground construction; in a section of town which is almost entirely fill, and where the water table is unusually high, this was important. The above ground garages make possible elevated plazas from which the buildings rise and on which are a variety of open spaces—malls, plazas and formal courts. The Perini sched-



ule for construction was the most rapid of any proposal, promising completion three and a half years from start of construction. Its rental range, too, was attractive: efficiency apartments, \$110-140; one-bedroom, \$140-210; two-bedroom, \$200-290.

The three finalists all incorporated town houses of some kind among their residential units, but the "maisonettes" of the WB&E-DeMars and Reay design have the urbanity for which San Francisco is famed as well as the casual ease of typical Western living. Other residential units are in slab and "point" towers, so sited that there is a minimum of interference with the views to the Bay and over the city.

The Perini proposal included a large public garage and a 25-story office building (Kern County-Del Webb also included these in its proposal, but Tishman-Cahill did not) in the blocks between the project's residential section and the lower financial district.

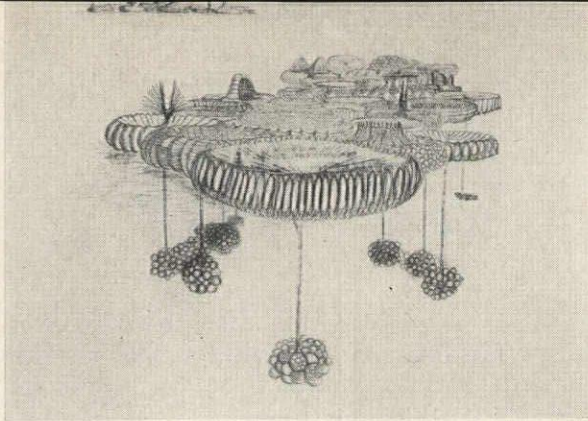
The Agency did not arrive at the architectural discrimination it showed in its deliberations without professional help of a high caliber. Thanks to the vision and zeal of its executive director, M. Justin Herman—just now concluding his first year with the Agency—the Golden Gate-

way contest was set up with architectural criteria of unusual dimension. Each design proposal was evaluated on its own merits, and these were then reported on to the Agency, by an architectural advisory board consisting of Mario Ciampi, chairman; Morris Ketchum, Henry Churchill, Minoru Yamasaki, Louis Kahn and Lawrence Anderson, with mortgage banker Ferd Kramer. The board made no recommendation of one design over another, but to those who heard the presentations and the board's questions and comments, it was clear which design seemed to the advisors to meet the program best.

Although architectural quality was not and could not be the sole determinant in the final selection of a developer, it was, by terms of the Golden Gateway competition, a dominant factor. The emphasis on "architectural excellence and its contributions to the appearance of the entire neighborhood, including the relationship to landscape, marine and park views, pedestrian ways and the avoidance of monotony" and the attention paid by Agency members to these values has given renewed hope that redevelopment projects can be handsome and vital parts of our cities.

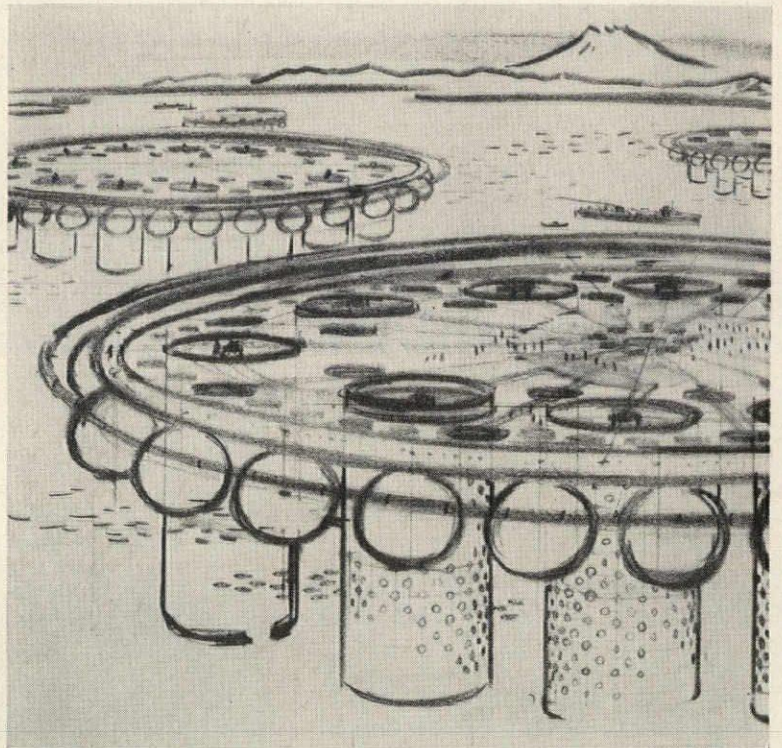
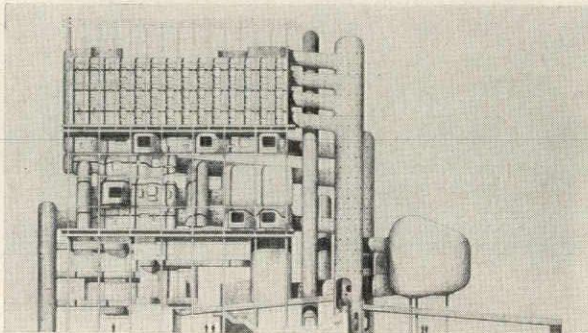
—*Elisabeth Kendall Thompson*





CHEMICAL ARCHITECTURE, 1960, William Katavolos (American), would use recent discoveries in chemistry: powdered or liquid materials which when treated with activating agents expand to great size, rigidify. The city would be "grow-molded" on the sea, "substances producing patterns into which plastics are poured, forming a fused flotilla from which hanging tubes will happen, pour-formed, catalyzed to froth into cities of plastic spheres"

OFFICE BUILDING, 1959, Michael Webb (English), makes bolder use of pre-cast concrete than is current, separating office requirements into modeled units



MARINE CITY, 1959, Kiyonori Kikutake (Japanese), was conceived as a solution to Japan's imbalance between population and agricultural productivity. The sea would be cultivated for food. Pontoons carry a concrete deck like a raft. Piercing the deck and extending a hundred or more feet below the water are great concrete cylinders, lined with dwellings and other accommodations

## VISIONARY ARCHITECTURE: FORECAST FOR FUTURE?

Visionary Architecture is the subject of a current exhibition of "20th Century projects considered too revolutionary to build" on view at the Museum of Modern Art through December 4.

Arthur Drexler, Director of the Museum's Department of Architecture and Design who selected the show, says, "The true visionary project usually combines a criticism of society with a strong personal preference for certain forms. In the past such projects were unbuildable for one or both of two reasons: they may have been technically impossible to execute at the time they were designed; or society could find neither the justification nor the money for their construction. Today virtually nothing an architect can think of is technically impossible to realize. Social usage, which includes economics, determines what is visionary and

what is not visionary."

Photographs of the "visions" of a few of the young contemporary architects are shown on these pages.

The forms created by the "Visionary" architects range from glass pyramids, spirals, bowls, to new forms created by chemistry, as in Katavolos' "Chemical Architecture."

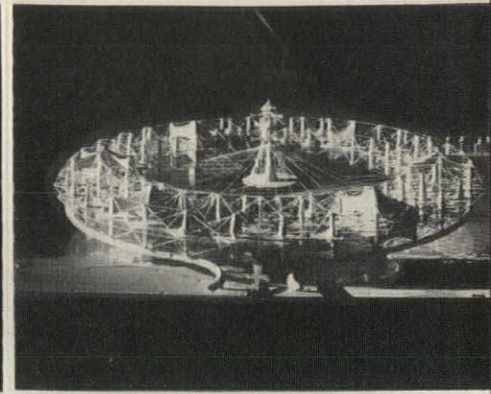
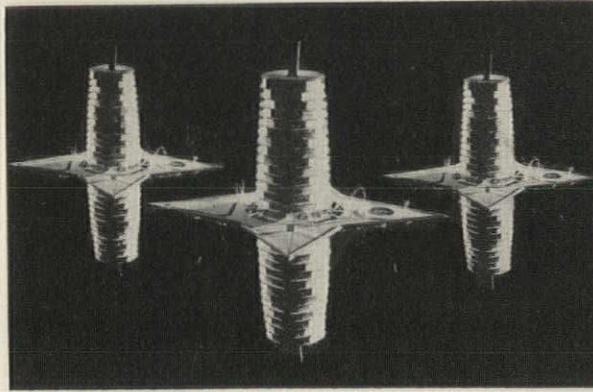
According to Mr. Drexler, visionary architecture corresponds generally to three images. The goal at the end of the journey places buildings in relation to the image of a mountain with variations being hollow mountains, cave-like interiors, the concealed underground city. The image of the road sees buildings celebrating the journey itself with variations which include bridges and other suspended or floating structures. Category three ignores the goal, the journey, and through the creation of forms confines and in-

tensifies emotional experience rather than broadening it. Examples would be geometric forms. Buildings in which technological virtuosity seems to be exploited for its own sake, conjectures Mr. Drexler, may perhaps constitute a kind of repetitive play activity through which the journey may be postponed and the goal ignored. In addition to the geometric form, also included in this category is the organic form, whose chief source of inspiration is the variety of form found in nature.

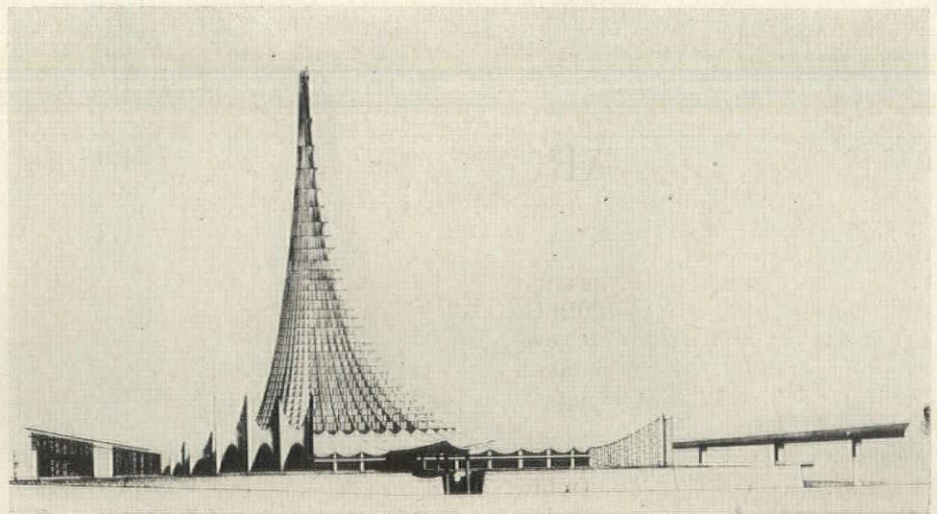
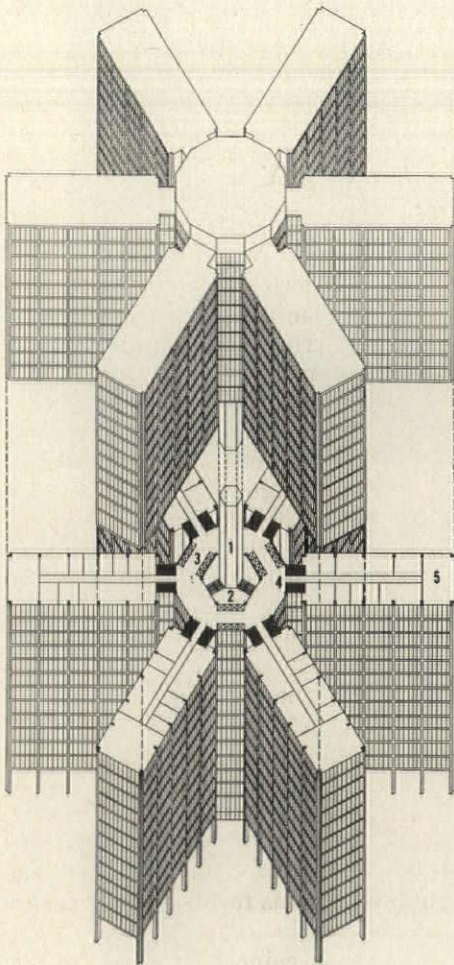
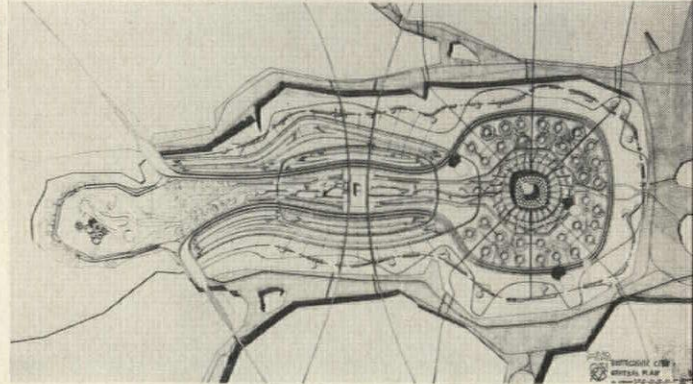
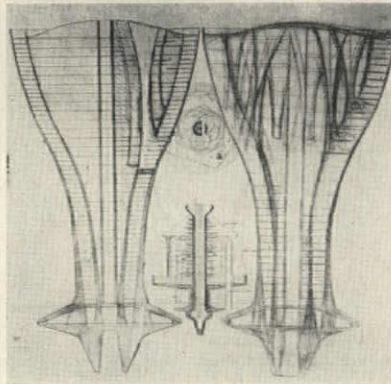
What is the value of these visionary projects? Mr. Drexler says, they "like Plato's ideal forms, cast their shadows over into the real world of experience, expense and frustration. If we could learn what they have to teach, we might exchange irrelevant rationalizations for more useful critical standards. Vision and reality might then coincide."



**BRIDGE CITY, 1960**, James Fitzgibbon and C. D. Sides (American), envision a bridge complex spanning land or water, here the Hudson River. With tubular roads and apartments for 100,000 people, the city is 6000 ft in dia., spans 4200 ft, is carried by two concrete piers on each shore. The structural system comprises three concentric rings of cabled octahedra trusses. Suspended within this framework are vertical cylinders and diamond-shaped decks for recreation areas. The central suspended hub is for shopping areas, office spaces



**BIOTECHNIC CITY, 1959**, Paola Soleri (American), is designed for the Arizona mesa. The cross section of the overall plan shows the Theological Center at the right as a great bowl. In its terraced garden interior are smaller units for various religious orders. Each building is a concrete bowl without openings on its outer surface. Each bowl is a complete monastic community closed to the outer world but open to the sky. These buildings in the Theological Center suggest open flowers. They are longitudinally sectioned in the illustration at the left

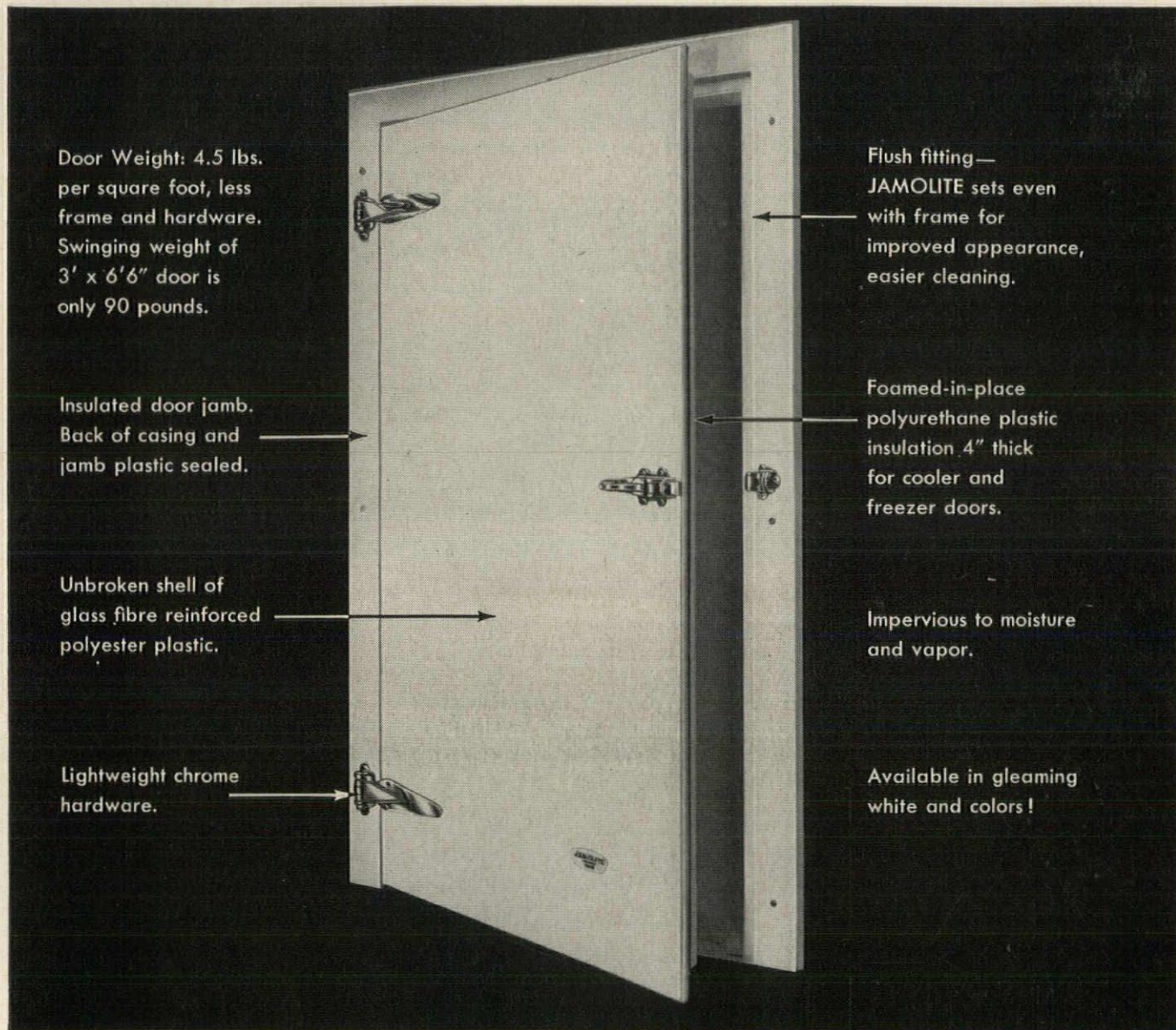


**CATHEDRAL, 1960**, Clive Entwistle (English), embodies the upward, aspiring motion traditionally associated with Gothic cathedrals, continuing the architect's studies in pyramidal forms. The unevenly tapered cone rises from a flared base. The entrance is under relatively low ceilings. Inside, the roof ascends in a sweeping curve to terminate at a point of light. Ribs forming structure would be enclosed by bands of glass and stone

**METRO-LINEAR CITY, 1956**, Reginald Malcolmson (American), closely interrelates roads and buildings, placing a continuous building  $\frac{1}{4}$  mile wide, six stories high, on a major access of transportation. Parallel auto routes flank the building, with office and commercial towers rising every  $\frac{1}{2}$  mile. Other transportation facilities are on the two floors underground. Each traffic level connects with others by vertical systems of elevators, escalators, and ramps. The roof areas between the commercial blocks contain civic and cultural buildings



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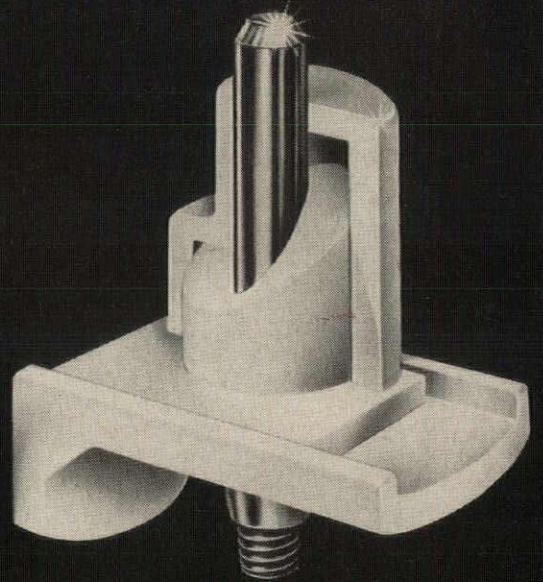
# 100

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It's a FIAT *exclusive!* Accelerated 100-year cycling†  
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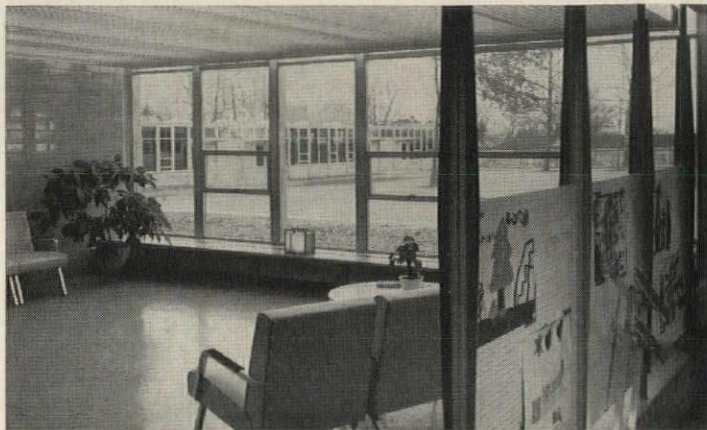
Plainview, Long Island, New York











Architects: Woodie Garber & Associates, Cincinnati, Ohio  
Contractor: Holt & Reichard, Norwood, Ohio  
Glazed by H. Neuer Glass Company, Cincinnati, Ohio

## Glass makes this school easy on the eyes

This is Swifton Primary School, Cincinnati, Ohio. It's a school that's easy on the eyes two ways. Its glass is PENNVERNON® GRAYLITE™ "14"—PPG's neutral gray, glare-reducing, heat-absorbing heavy sheet glass. GRAYLITE "14" takes the strain off children's eyes and keeps classrooms much cooler in the summer. Even though its neutral gray color reduces solar glare, it still lets plenty of light come through. When you look through GRAYLITE "14" from the inside, you are unable to detect any variation in natural outdoor colors. Any way you look at it, the wide-open, inviting look of glass makes this school easy on the eyes.

Consult your PPG Architectural Representative on the various types of GRAYLITE available, or write for our GRAYLITE booklet today. Pittsburgh Plate Glass Company, Room 0212, 632 Fort Duquesne Boulevard, Pittsburgh 22, Pennsylvania.

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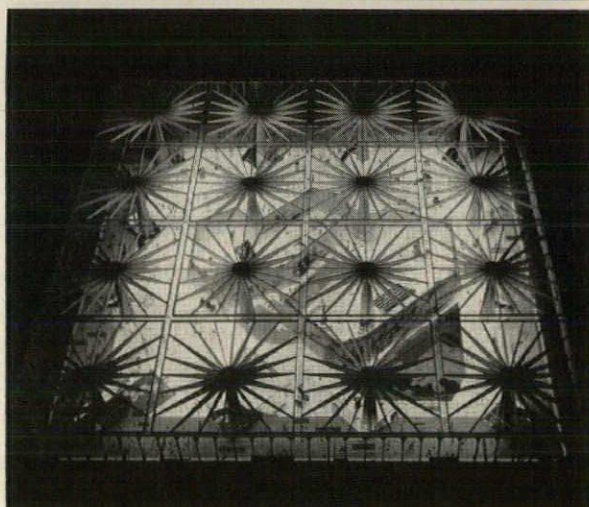
**Pittsburgh Plate Glass Company**

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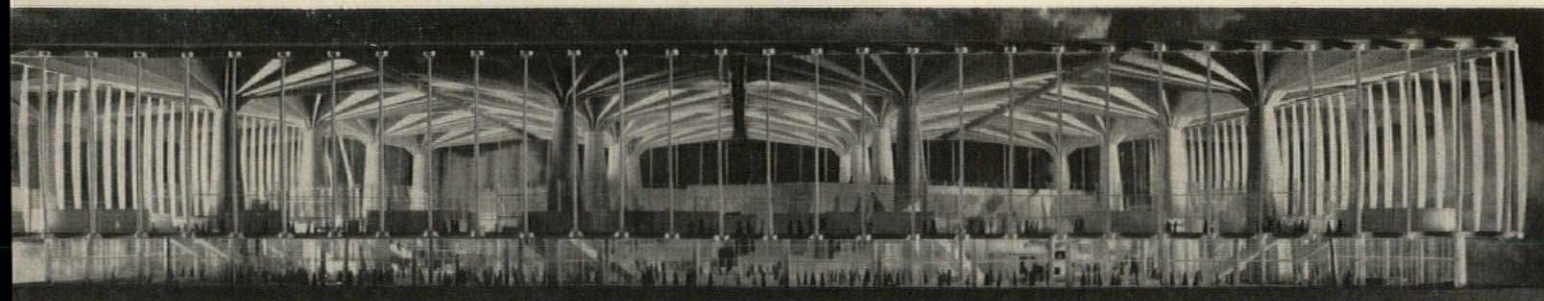
NERVI DESIGNS PALACE  
HONORING MAN AT WORK  
FOR ITALIAN CENTENNIAL



The Labor Exposition Building designed by Antonio Nervi for the Italian Centennial celebration at Turin, which will be held from May through October of 1961, covers approximately 286,000 sq ft. It will be larger than the Church of Saint Peter and the Coliseum in Rome.

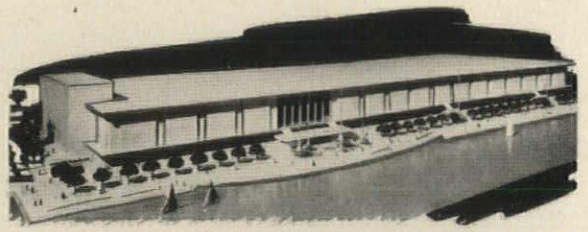
The roof, measuring 525 sq ft, is supported by 16 gigantic concrete and steel columns 82 ft high. Each column supports a roof section 130 ft square. Light streams down from above, from openings six ft wide between each of the independent roof-pillar units.

The "Palace of Labor" will house exhibits from about twenty countries. Gio Ponti is generally responsible for the interior design of the exhibition hall and of the national exhibits displayed there.



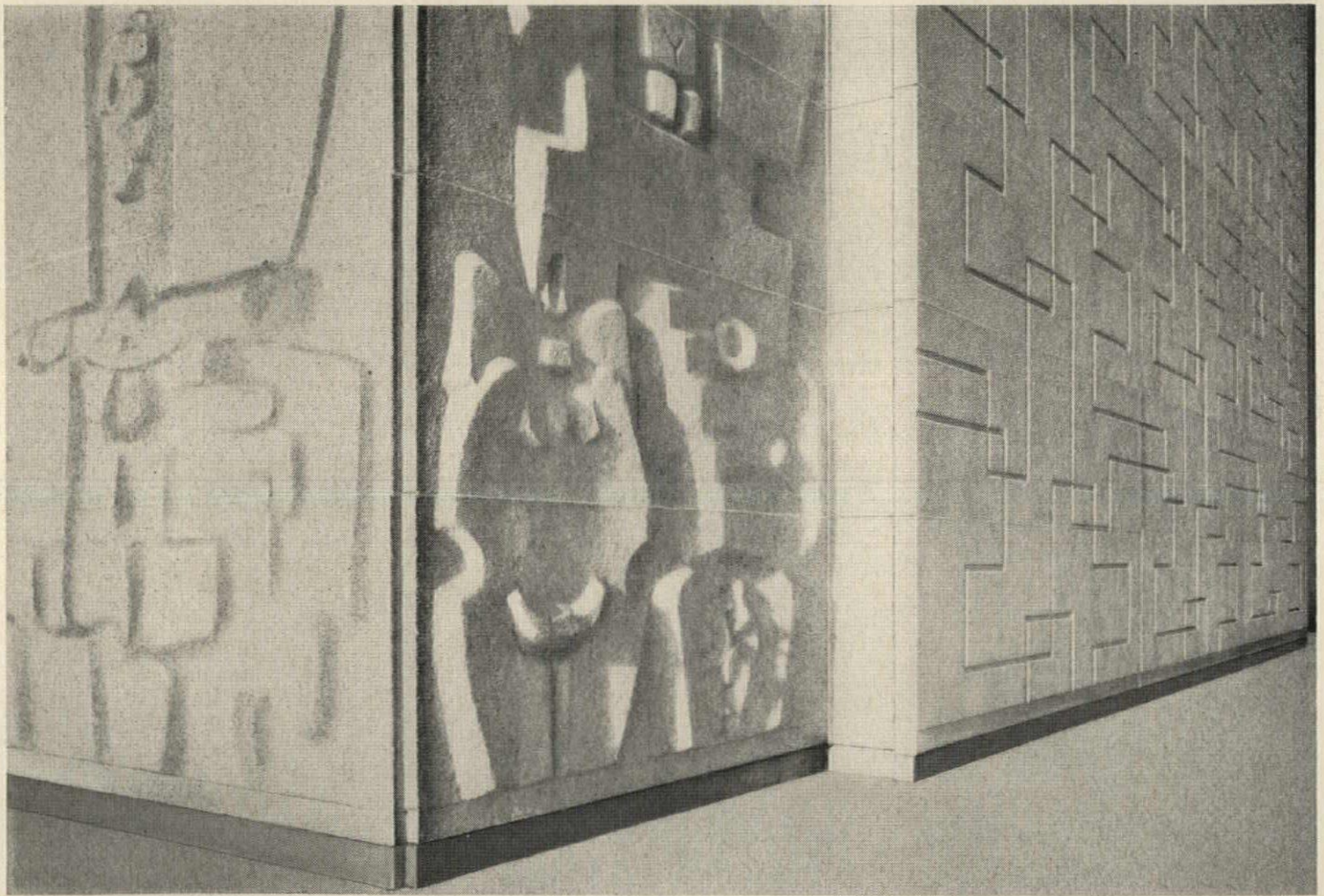


# The CONCRETE



## CURTAIN WALLS

*of McCormick Place—new \$34,000,000 exposition center on Chicago's lakefront—were made of Trinity White portland cement and exposed white aggregate*



(Top) Model of McCormick Place as seen from Lake Michigan. (Above) Close-up of the sculptured concrete panels

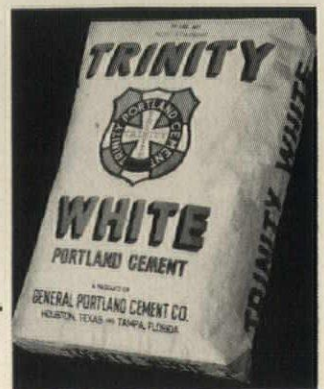
McCormick Place is one of the largest concrete structures in the world—three blocks long by a block wide and high as a ten-story building . . . 2,010 curtain wall panels made of Trinity White and white aggregate were used. Sculptured panel designs by Constantine Nivola.

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## Why Armstrong Acoustical Fire Guard was chosen for the new Kiplinger Letters Building

This modern building, like many others all over the country, has an Armstrong Acoustical Fire Guard ceiling. Read why.

"**N**OTHING but the best." That's what the client for the Kiplinger Letters Building wanted. That's what he got.

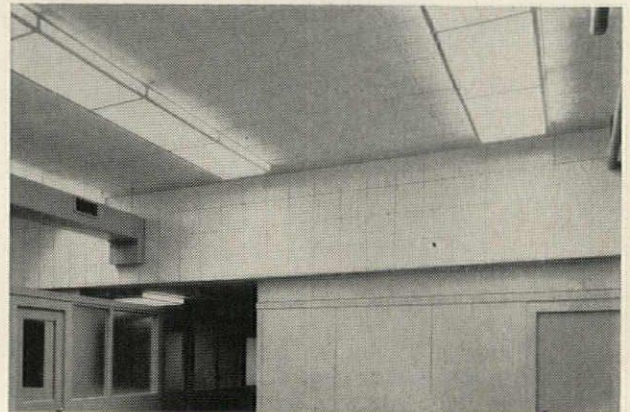
The building's interior has an Armstrong Acoustical Fire Guard ceiling. The smooth, free-flowing

appearance of Classic Acoustical Fire Guard, plus its high light reflectance, was just what the client and architect wanted.

They got something else, too. Long-term savings. Acoustical Fire Guard can be maintained easily. It



The structure of the Kiplinger Letters Building is steel frame and concrete with face brick exterior walls backed up with concrete masonry units. Built-up roofs cover the structure.



Color schemes were coordinated by an interior decorator. The Acoustical Fire Guard ceiling's white surface reflects light evenly, without glare. Its light reflectance is "a" (over 75%).





The Kiplinger Letters Building in Prince Georges County, Maryland, has an Armstrong Acoustical Fire Guard ceiling. Architects were Chatelain, Gauger and Nolan, Washington.

can be washed when necessary—and even repainted several times without impairing its excellent acoustical properties.

#### **No costly intermediate protection**

Acoustical Fire Guard eliminates the need for intermediate fire protection between a suspended acoustical ceiling and steel structural members. There is no reason to pay for extra concrete, lath, plaster, spray-on insulation—or water. Labor costs are reduced correspondingly. One less operation is needed. Savings of up to 30¢ per square foot are possible, depending upon locale, building design, and degree of fire protection required.

#### **Save up to six weeks' time**

Acoustical Fire Guard is installed by a completely “dry” method. There are no long delays of the type caused by “wet” operations. No extra moisture is introduced into the building. Other building trades don't have to mark time waiting for the interior to dry. Acoustical Fire Guard can save up to six weeks.

#### **Time-design ratings**

There is still another reason why Acoustical Fire Guard was chosen for the Kiplinger Letters Building. This is the first acoustical tile ceiling that has been tested and given official fire-retardant time-design ratings by Underwriters' Laboratories, Inc. It has received one- to four-hour ratings.

And even where time-design-rated construction is not required by local codes, Acoustical Fire Guard provides tested fire protection and a safer building at little—if any—extra cost.

To learn more about Armstrong Acoustical Fire Guard, call your Armstrong acoustical contractor (he's in the Yellow Pages under “Acoustical Ceilings”) or your nearest Armstrong district office.

And for an interesting booklet with complete information about Acoustical Fire Guard ceilings, write to Armstrong Cork Company, 4211 Rock St., Lancaster, Pennsylvania.

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ARCHITECTS: VOORHEES WALKER SMITH SMITH & HAINES.



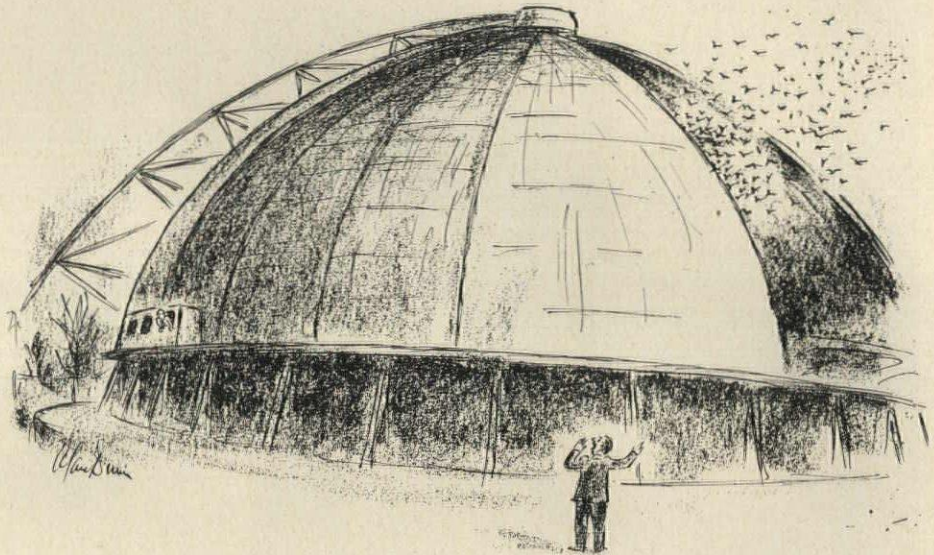
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“Open it again! They’re still inside—”

**A.I.A. Awards Program Announced for 1961**

Registered practicing architects in the United States are invited to participate in the American Institute of Architects Honor Awards Program for 1961.

Eligible are buildings erected anywhere in the United States and completed after January 1, 1956. The program is open to buildings of all classifications. An entry may be one building or a related group of buildings forming a single project.

The Jury will be appointed by the Board of Directors of the A.I.A. It will consist of five architects—corporate members of the A.I.A. representing various regions of the country, one of whom must be an architectural educator. Judgment will be made January 18-20, 1961.

Entry slips and fee deadline is November 21. For full information: contact local A.I.A. chapter, or write 1961 Honor Awards Program, A.I.A., 1735 New York Avenue, N.W. Washington 6, D. C.

**A.I.A. Invites Nominations For \$25,000 Reynolds Award**

The American Institute of Architects is now receiving nominations for the fifth annual \$25,000 R. S. Reynolds Memorial Award.

This largest award in architecture is open to architects practicing in any nation. Membership in a professional society is not required.

Edmund R. Purves, A.I.A., Executive Director, says this “award is conferred each year on an architect who

has designed a significant work in architecture using aluminum creatively.” Prime consideration is given the creative value of the architect’s contribution to the use of aluminum and its potential value on the architecture of our times.

An architect may be nominated by anyone, including himself or his firm. This year the A.I.A. encourages newspaper, magazine, radio and TV editors to nominate architects.

To be eligible, a building should have been completed between Jan. 1, 1958 and Jan. 1, 1961—although the Jury may consider earlier work.

The award was established four years ago by the directors of Reynolds Metals Company in memory of the firm’s founder, the late Richard Samuel Reynolds. In addition to the \$25,000 honorary payment, the winner receives an original sculpture by a prominent contemporary artist.

Previous awards were given to Swiss architect, Professor Jean Tschumi; six Australian architects; seven Belgian architects; and three Spanish architects. An American architect has yet to receive the award.

Nominations, which will be accepted until Dec. 12, 1960, should include the architect’s name and address, the name of the structure and its location, the date it was completed, and the name and the address of the person making the nomination. They should be sent to this address: Reynolds Award, A.I.A., 1735 New York Avenue, North West, Washington 6, D. C.

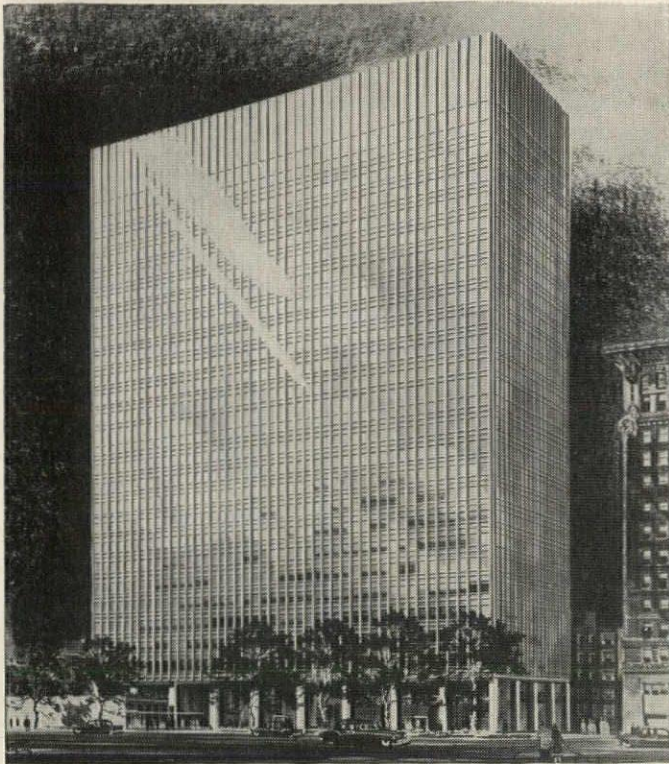
**Purves Resigns, Scheick Named as A.I.A. Staff Chief**

The American Institute of Architects will have a new executive director effective January 1. Edmund R. Purves, F.A.I.A., executive director since 1949 and a member of the Institute staff since 1941, has resigned effective December 31. He will be succeeded by William H. Scheick, A.I.A., vice president of the Timber Engineering Company and former executive director of the Building Research Institute.

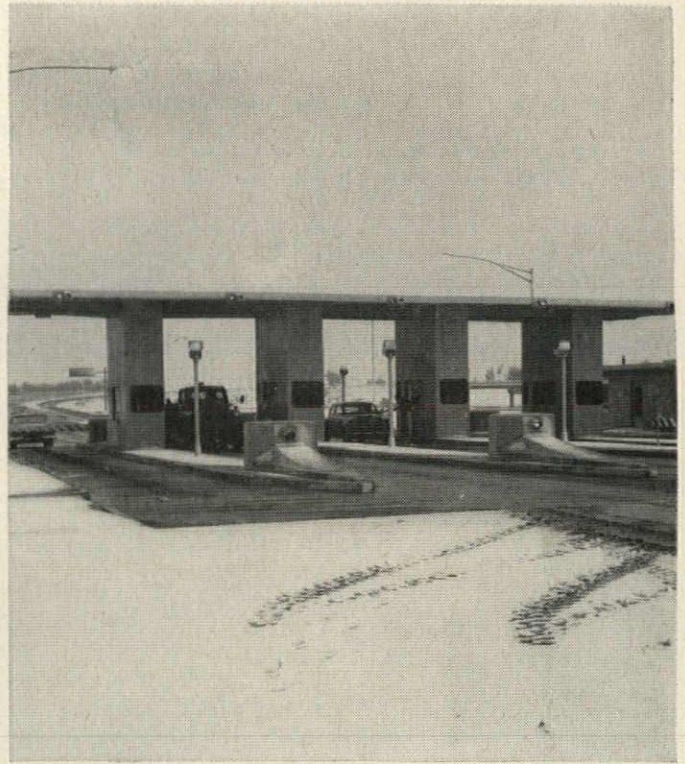
Mr. Purves, whose tenure as executive director has been marked by a notable increase in public consciousness of and respect for architects and recognition of the Institute as their prime spokesman, particularly in their relations with the Federal government, will serve in the special post of Consulting Director throughout next year, a position in which he will “advise the new executive director on a continuing basis, tour A.I.A. regions to strengthen communication between the Octagon headquarters and the profession in the







**Vent and Drainage**—Time-tested galvanized steel pipe gives assured maintenance-free service at low cost. That's why it is specified for drainage and vent lines in major buildings such as Cleveland's Illuminating Building, New York's Coliseum, the Seagram skyscraper and Socony-Mobil and Mutual Benefit Life Buildings.

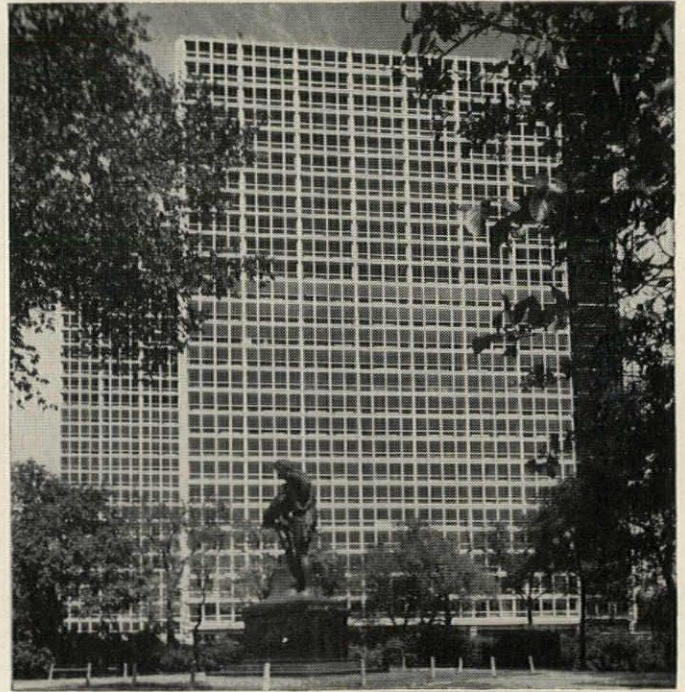


**Snow Melting**—Beneath the toll gates of the Indiana Turnpike and the Calumet Skyway, as well as on the ramps of the New York Port Bus Terminal and Staten Island Ferry, steel pipe keeps pavement approaches clear of ice and snow for safe and controlled vehicular movement all winter through.

## Steel pipe serves best in many ways . . .



**Radiant Heating and Cooling**—In Salt Lake City's First Security Building, steel pipe serves a dual function. It carries steam for heating and chilled water for air conditioning. Logically, too, for steel pipe has proved efficient for heating and refrigeration, as well as icemaking, in over 70 years of service.



**Electrical Conduit**—When vital services depend on electricity, as in Chicago's Commonwealth Promenade Apartments, it's natural to protect this power with sturdy, rigid steel conduit. Imbedded in concrete, enclosed in walls or exposed—rigid steel conduit meets all local, state and national building codes.





**Fire Prevention**—Much of the nation's \$1,100,000,000 annual fire losses might have been prevented if all structures were equipped with efficient, steel pipe fire sprinkler systems. The cost of such built-in, 24-hour fire protection, when related to potential losses, is truly an economical investment.

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In many ways and many places *steel pipe* serves best. To learn about how, why and where—consult your local *steel pipe* distributor or steel company representative or write the Committee's Research Engineers for specific application literature.

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# Meetings and Miscellany

continued from page 25

field, and represent the Institute abroad in international professional conferences."

Mr. Scheick, who is 55 years old, will join the Institute staff on November 15 as managing director and will assume the top post on January 1.

Mr. Scheick has architectural degrees from Carnegie Institute of Technology (B. Arch., 1928) and the University of Illinois (M.S. Arch., 1937) and from 1929 to 1949 taught architecture, first at Oklahoma A&M and from 1930 on at the University of Illinois, where in 1944 he was made professor of architecture and director of the University's Small Homes Council, posts he held until 1949. From 1935 to 1942 he also practiced architecture. In 1949 he became the first executive director of the Building Research Advisory Board of the National Research Council; and two years later, when the Building Research Institute was established as a membership society for research-minded organizations and individuals of the building industry, he became its first executive director. He left B.R.I. in 1958 to become vice president in charge of research and development for the Timber Engineering Company, a research affiliate of the National Lumber Manufacturers Association.

## A.R.A. Meets In Dallas Convention

The second national convention of the Society of American Registered Architects was held September 15-18 at the Statler Hilton Hotel, in Dallas. The five-year-old organization began its program of annual national conventions with one last year in Kansas City.

The theme of this year's meeting was "The General Practitioner in Architecture," and was conducted under the chairmanship of Hurst John of Columbia, Missouri; Matt E. Howard of Houston, represented the Texas membership as host. Sixty-seven A.R.A. members attended as delegates from 23 states and the District of Columbia.

The principal business of this year's convention was the election of new officers, and the revision of the bylaws of the organization. The newly elected president is Matt E. Howard, who succeeds Wilfred J. Gregson, founder, and president for the

past five years of A.R.A. Other officers elected included: Carroll Hutchens of Kansas City, vice president; Thurston Munson of Springfield, Mass., recorder; and M. O. Foss of Moorehead, Minn., treasurer. The new slate of officers will officially take over their offices on January 2, 1961.

The top award of the Society, the Medal of Honor Award for Design, went this year to Oscar Niemeyer of Brazil, for his design of Brasilia. The award was accepted for Niemeyer by Daniles Montiero, Brazilian graduate student at Southern Methodist University in Dallas.

The principal speakers of the convention were R. L. Thornton, mayor of Dallas, who gave a welcome address; Waggoner Carr, Speaker of the House, Texas Legislature, who spoke on "Politics and the Professional"; and Bruce Goff, of Bartlesville, Okla., who spoke on "Where Are We In Architecture."

An extensive awards program was given at the annual Awards Banquet, and at the President's Ball. These included 24 architectural awards, exhibitors' citations, service certificates to the delegates, and gold medals and Gregson Awards for outstanding service. Wilfred J. Gregson was presented with a special scroll honoring him as the founder of the A.R.A.

## Architect Named to Head Producers' Council

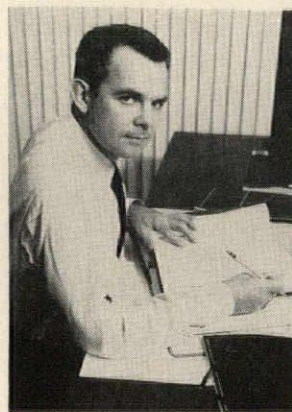
Elmer A. Lundberg, director of architectural services for Pittsburgh

Plate Glass Company, Pittsburgh, was elected president of the Producers' Council, Inc., at the 39th annual meeting of the Council held in Chicago last month. Mr. Lundberg, a member of the American Institute of Architects, is the first architect to head the Council.

Other officers elected: Donald A. Proudfoot, marketing manager for Simpson Timber Company, Seattle—first vice president; Robert W. Lear, director of marketing services, American Radiator and Standard Sanitary Corporation, New York City—second vice president; Earl F. Bennett, director of architectural sales, Koppers Company, Pittsburgh—secretary; and H. L. Cramer, manager of agency and construction sales, Westinghouse Corporation, Carthage, Mo.—treasurer.

New members elected to the Board of Directors for two-year terms are: A. M. ("Brig") Young, sales promotion manager, Libbey-Owens-Ford, Toledo; Charles Le-Craw, manager of construction marketing, U. S. Steel Corporation, Pittsburgh; and Roy E. Mayes, president of the Carthage Marble Corporation, Carthage, Mo.

Major attention at Council sessions was devoted to progress reports on the marketing distribution study currently being conducted for the Council by the Wharton School of Finance of the University of Pennsylvania. A.I.A. President Philip Will Jr. of Chicago addressed a luncheon meeting.



(Left) Marion Smith, formerly administrative assistant to the production chief in the Chicago office of Skidmore, Owings and Merrill, has been appointed executive director of the Chicago Chapter of the American Institute of Architects. (Right) R. Buckminster Fuller has received the Frank P. Brown Medal of the Franklin Institute for his "inventive conception of the Geodesic domes." It is awarded by the 136-year-old scientific and educational organization for "discoveries and inventions involving meritorious improvements in the building and allied industries"





Owens-Illinois Paper Products Division Plant, Chicago

Architects-Engineers: Skidmore, Owings and Merrill, Chicago, Illinois

Associates: Owens-Illinois Engineering Department

General Contractor: G. C. Luria Engineering Company

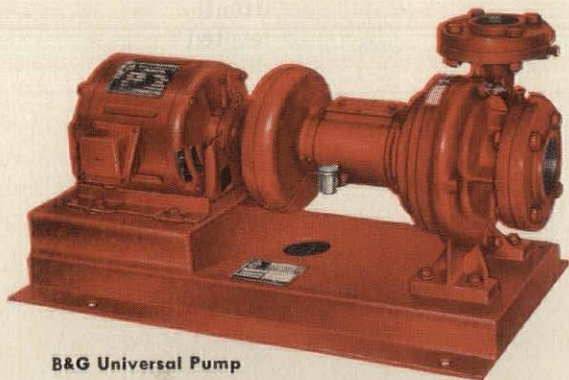
Heating Contractor: National Heat and Power Company, Chicago, Illinois

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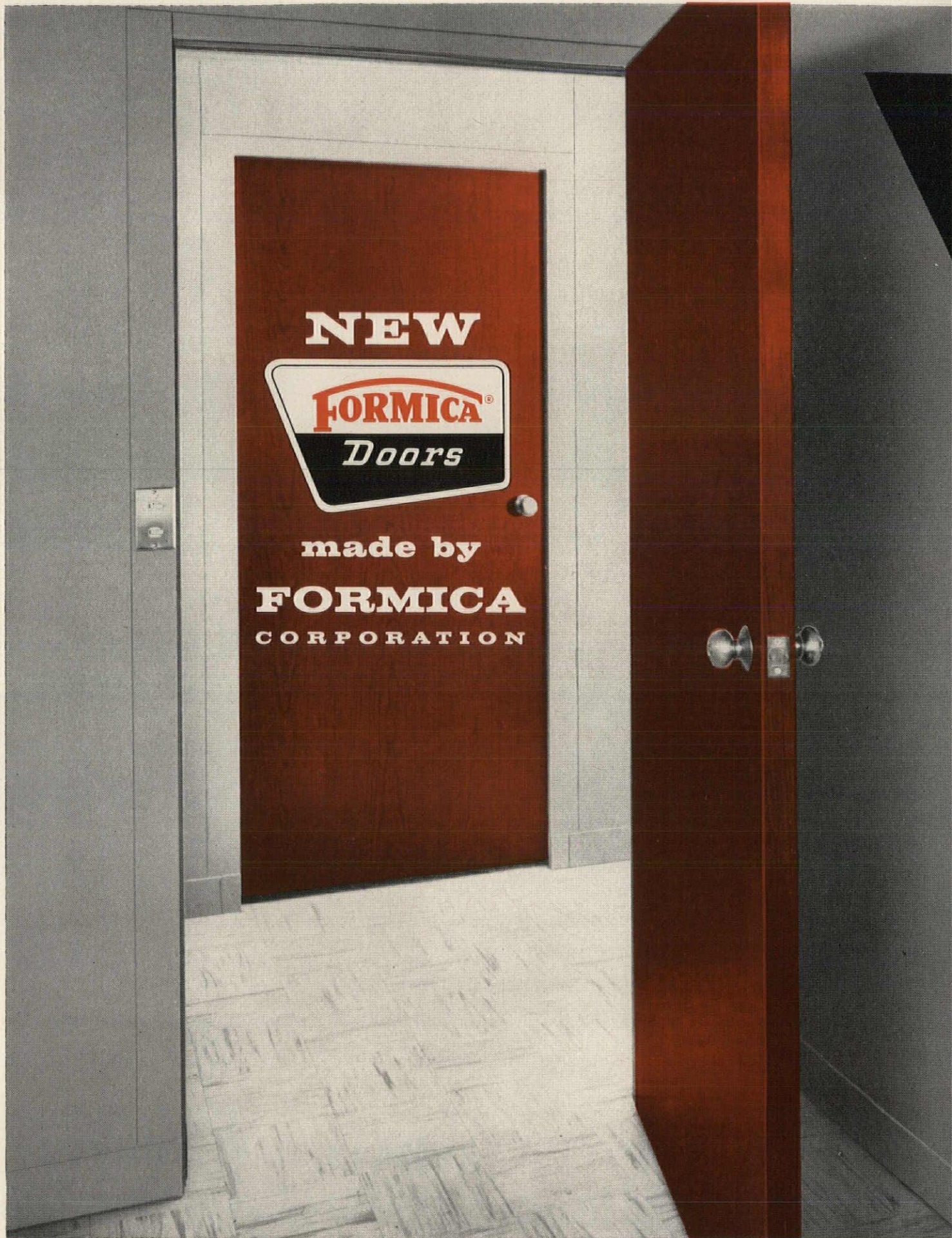
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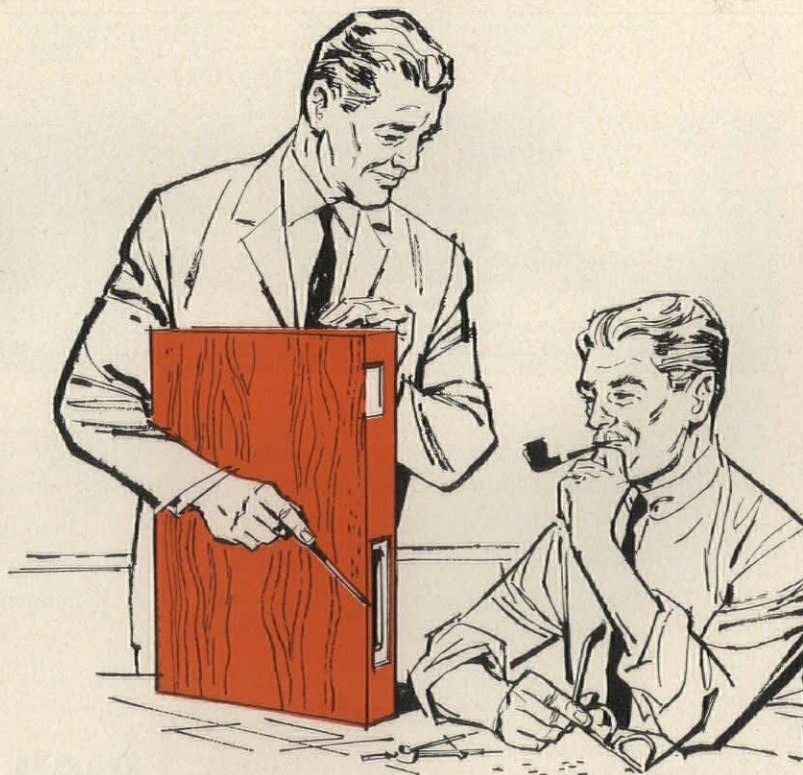
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On the Calendar

November

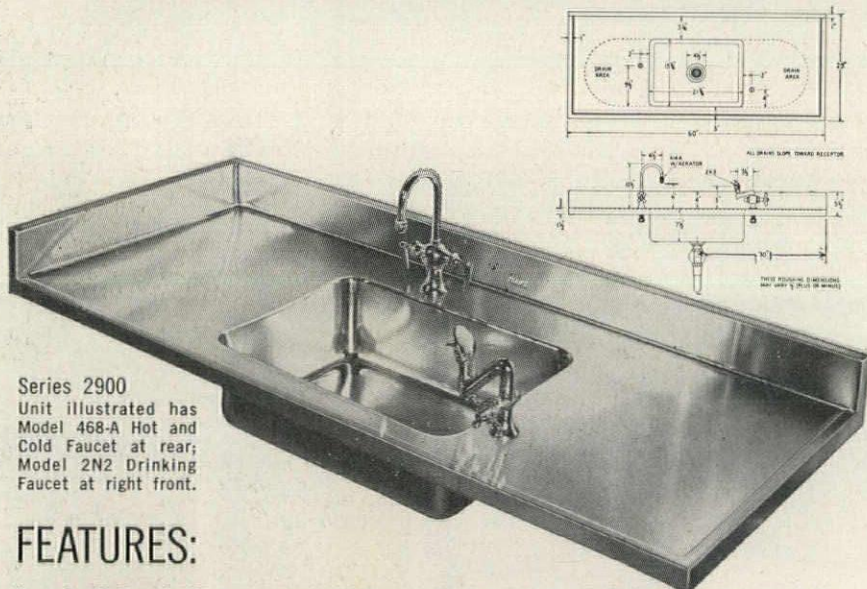
- 2-5 21st annual convention, Texas Society of Architects,—Cortez Hotel, El Paso, Tex.
- 10-12 Semi-annual meeting, Consulting Engineers Council—Penn-Sheraton Hotel, Pittsburgh
- 10-14 20th annual convention, Society of Industrial Realtors;

proceedings include "New Homes for Industry, North America" exhibit—Dallas

- 13-16 Seventh Annual National Retail Lumber Dealers Association Building Materials Exposition—Brooks Hall and Civic Auditorium, San Francisco
- 14-15 Conference on Prestressed Concrete, sponsored by the Prestressed Concrete Institute—Biltmore Hotel, Los Angeles

- 14-15 Southeastern Regional Conference, Associated Collegiate Schools of Architecture; theme: "Teaching of Architecture"—Louisiana State University campus, Baton Rouge
- 14-16 Annual convention, Structural Clay Products Institute—Diplomat Hotel, Hollywood, Fla.
- 14-18 45th National Hotel Exposition—the Coliseum, New York
- 15-17 Fall Conferences, Building Research Institute—Shoreham Hotel, Washington, D.C.
- 21-22 Conference on Prestressed Concrete, sponsored by Prestressed Concrete Institute—Sheraton Palace Hotel, San Francisco
- 27ff Winter annual meeting, American Society of Mechanical Engineers; through Dec. 2—Statler-Hilton Hotel, New York
- 28-30 Semi-annual meeting, American Society of Refrigerating Engineers—Chase-Park Plaza Hotel, St. Louis

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December

- 12-14 First Industrial Building Congress and Exposition—the Coliseum, New York
- 12-15 Atomic Industry Exhibition and Annual Conference, and winter meeting, American Nuclear Society—Masonic Memorial Temple, Fairmont and Mark Hopkins Hotels, San Francisco

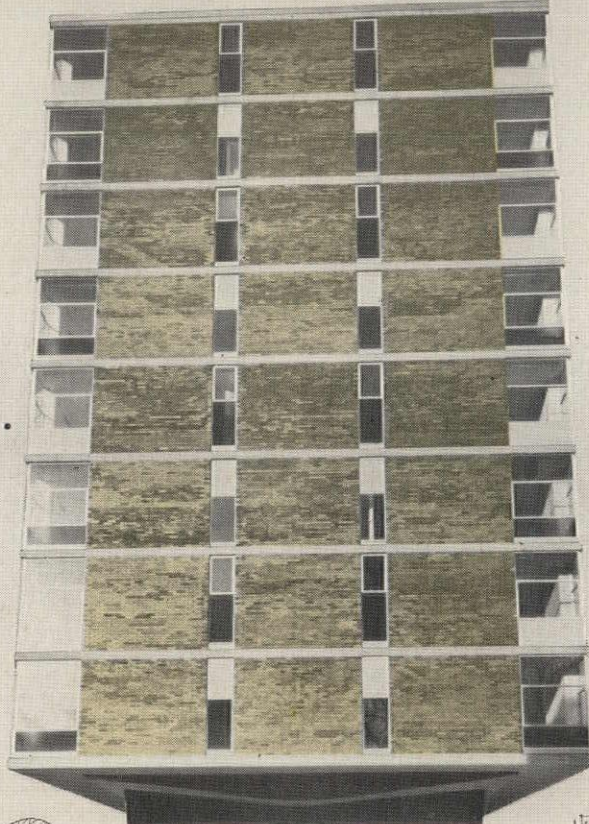
January

- 7-10 National Exposition and Convention, National Swimming Pool Institute—Dallas
- 9-12 White House Conference on Aging—Washington, D.C.
- 23-26 12th annual Plant maintenance and Engineering Show: theme: "Maintenance Operation Meets the Needs of Increased Production"—International Amphitheater and Palmer House, Chicago
- 24-27 17th Annual Technical Conference, Society of Plastics Engineers—Shoreham Hotel, Washington, D.C.
- 29ff Convention and Exposition, National Association of Home Builders: through Feb. 2—Convention Hall, Chicago
- 30ff 12th Biennial Concrete Indus-

*continued on page 56*



Neville House Apartments, Pittsburgh, Pa.  
Architect: Tasso Katselas, Pittsburgh, Pa.



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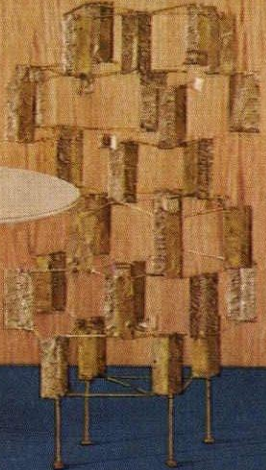
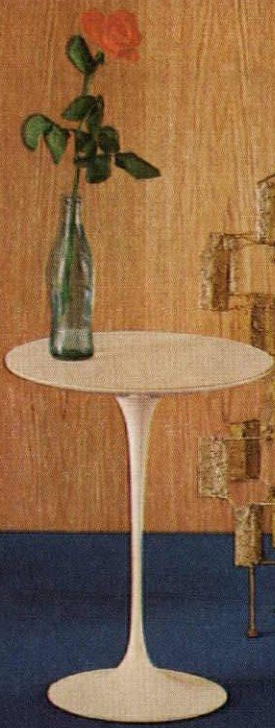
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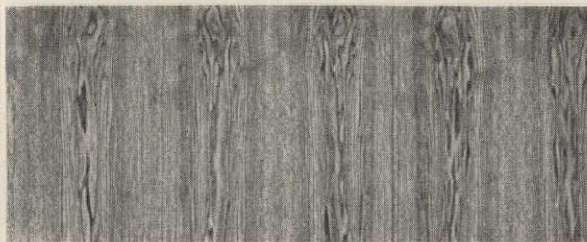
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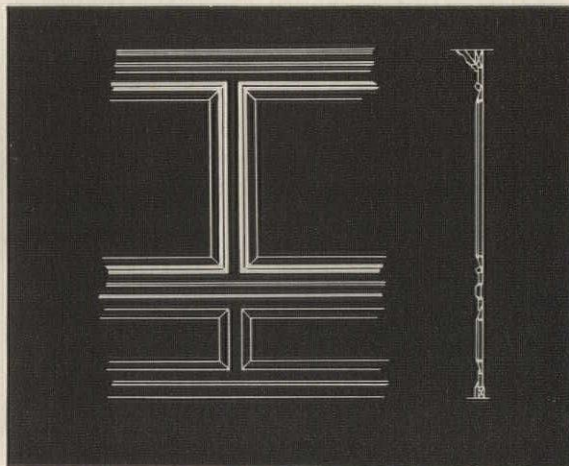
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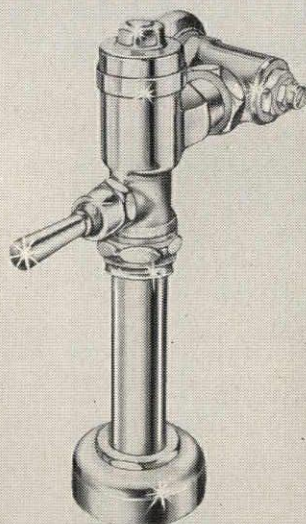
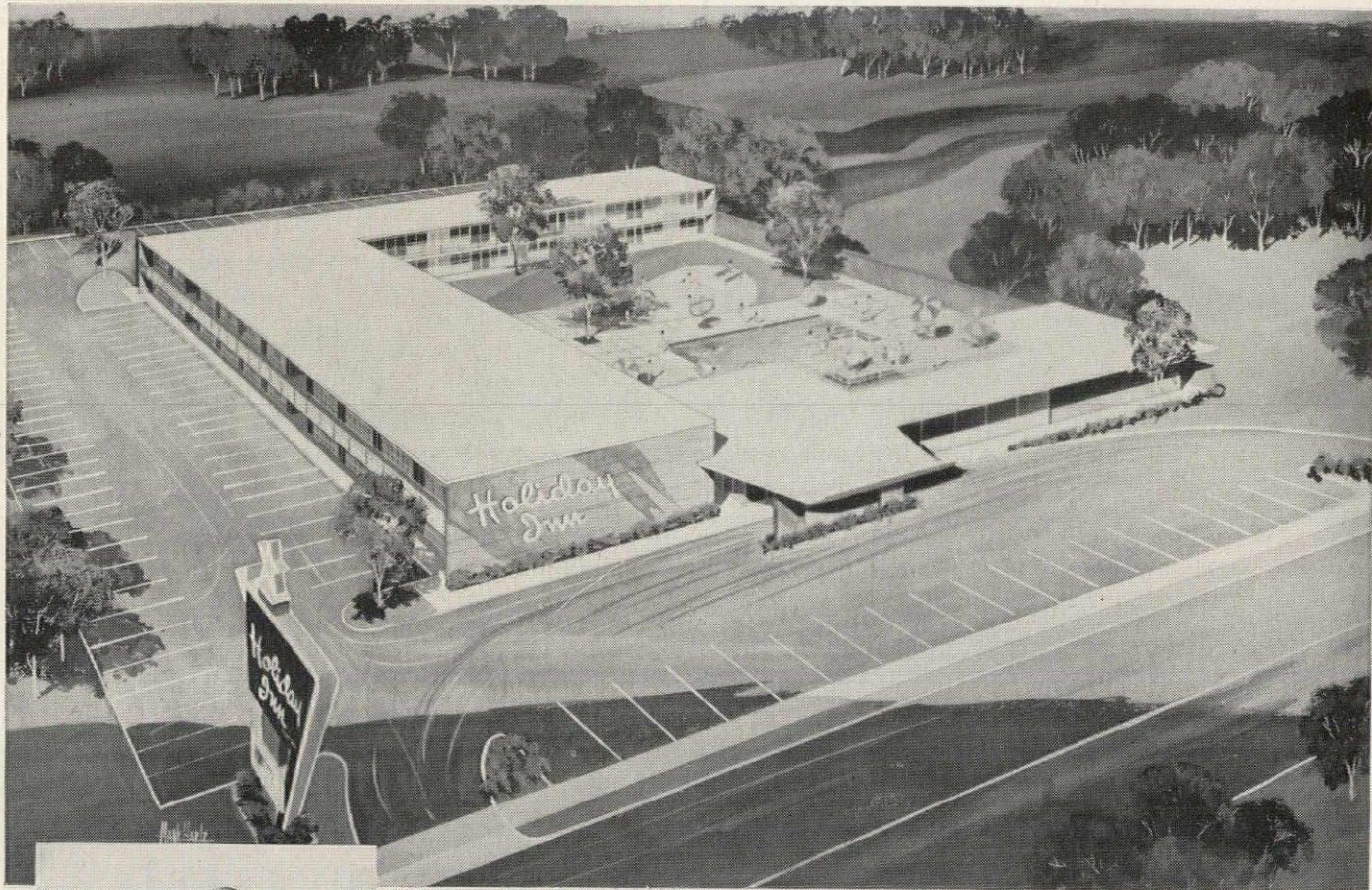
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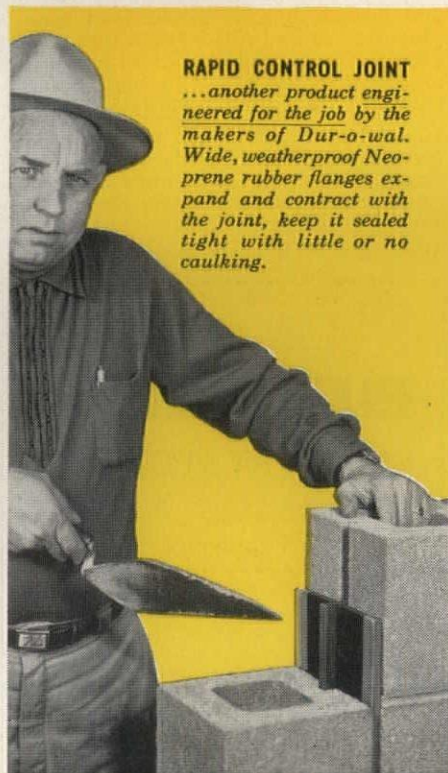
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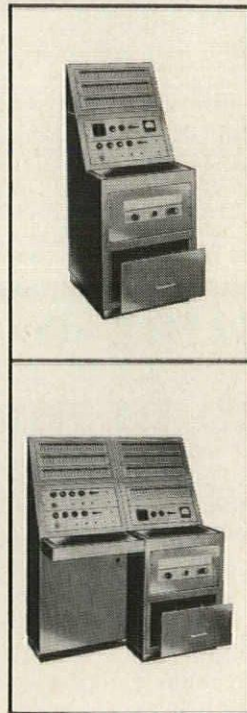
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## The Record Reports

continued from page 50

tries Exposition, sponsored by National Concrete Masonry Association; through Feb. 2—Cobo Hall, Detroit

### Office Notes

#### Office Opened

William Rowe Smith and Fred W. Needham have opened new architectural offices at 1057 East Ninth South in Salt Lake City, Utah.

Basetti & Morse, Architects, of Seattle, have opened a branch office at 2130A Kalakaua Avenue, Honolulu 15, Hawaii. Architect-in-charge is John Tatom, A.I.A.

With offices in Omaha, Colorado Springs and Phoenix, Henningson, Durham & Richardson, Inc., engineering and architectural consultants, have expanded by opening a new office in Dallas. Manager of the office is Robert E. Hogan, registered professional engineer in Texas and a member of the Texas Society of Professional Engineers.

#### New Firms, Firm Changes

The firm name of Albert & Mickel, architects, 4101 Marlton Avenue, Pennsauken, N.J., has been changed to Albert & Thomas.

Fred S. Dubin Associates, Consulting Engineers, announce the appointment of Gene A. Gessner as associate in charge of the Mechanical Engineering Department in the New York Office. The firm also maintains offices in Hartford, Boston, St. Louis, Puerto Rico and the Virgin Islands.

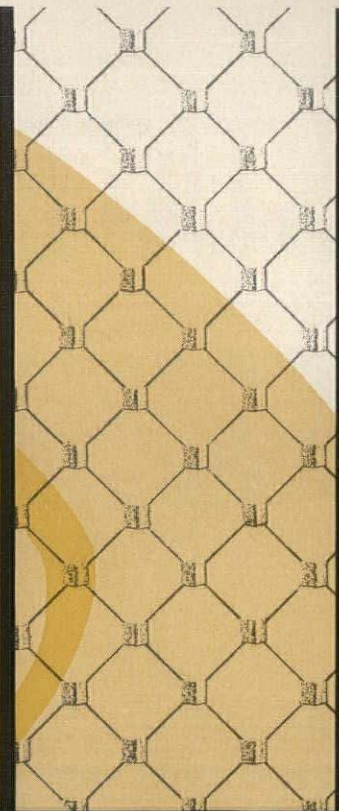
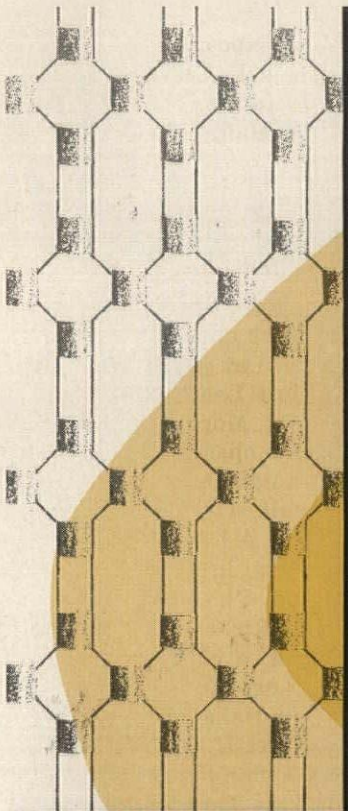
Theo. Damn, A.I.A., 516 James St., Seattle, announces a change in the firm name to Damn, Daum, and Associates. His son, Harold J. Daum is now a partner. New associates are T. Gordon Peterson and James H. Cannon, Jr.

Renato G. Barreto has been appointed an associate of Paul Rogers & Associates, Inc., consulting engineering firm in Chicago.

Edward Van Wagenen and Walter C. Van Wagenen announce that William Hewitt Taylor has resigned from the firm of Van Wagenen, Taylor and Van Wagenen. The remaining partners will continue in the practice

continued on page 76



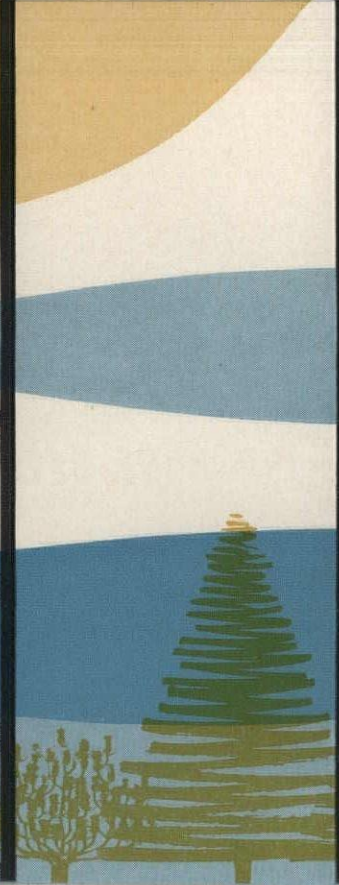
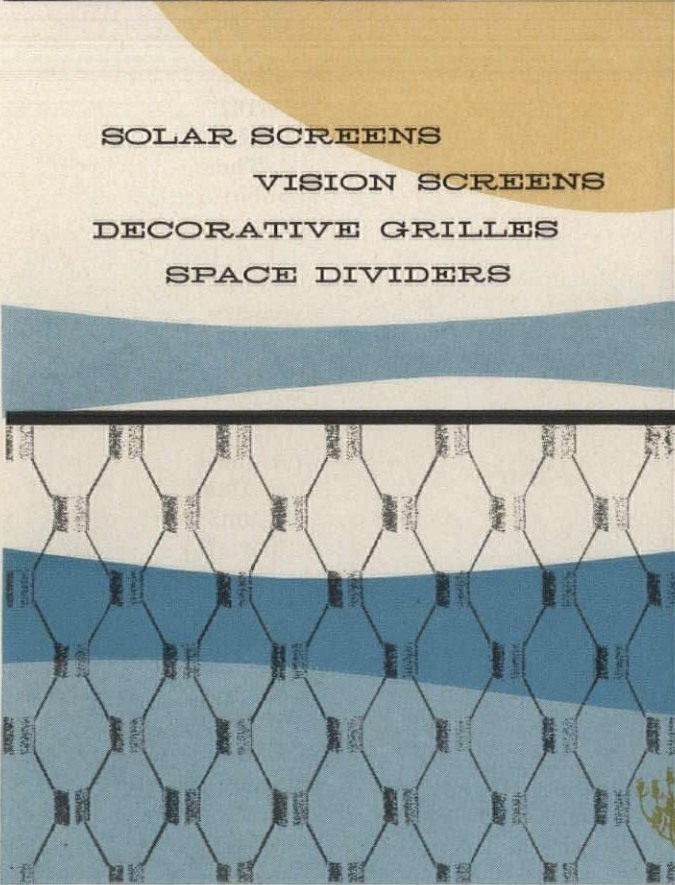


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# PITTSBURGH-DES MOINES STEEL DECK GRANDSTANDS

# PENN STATE'S STADIUM

*from this in 1934*

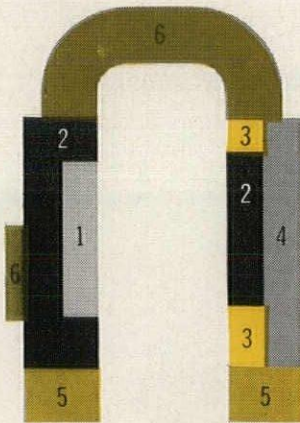
*... to this in 1949*



*Beaver Field 2,400 seats*



*... still at Beaver Field, but now 30,000 seats*



### THE ORIGINAL EXPANSION SEQUENCE

Diagram shows actual 6-step expansion sequence of Pennsylvania State University's original PDM Stand from 2400-person capacity in 1934 (1) through additions in 1936 (2), 1937 (3), 1939 (4), 1948 (5) and 1949 (6) to a capacity of 30,000. In 1959-60, the entire structure was dismantled, moved to a new field and expanded to 45,000 capacity by the addition of new steel sections.

## THE WHOLE JOB DONE BETWEEN TWO FOOTBALL SEASONS!



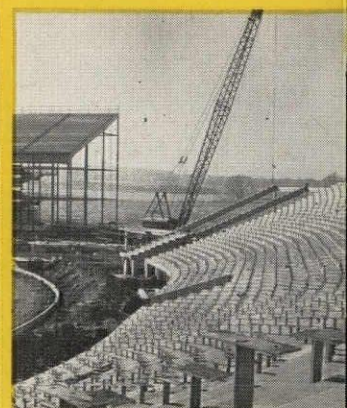
Dismantling original steel sections for removal



Installing original sections at new field location



Adding new steel for increased stadium capacity

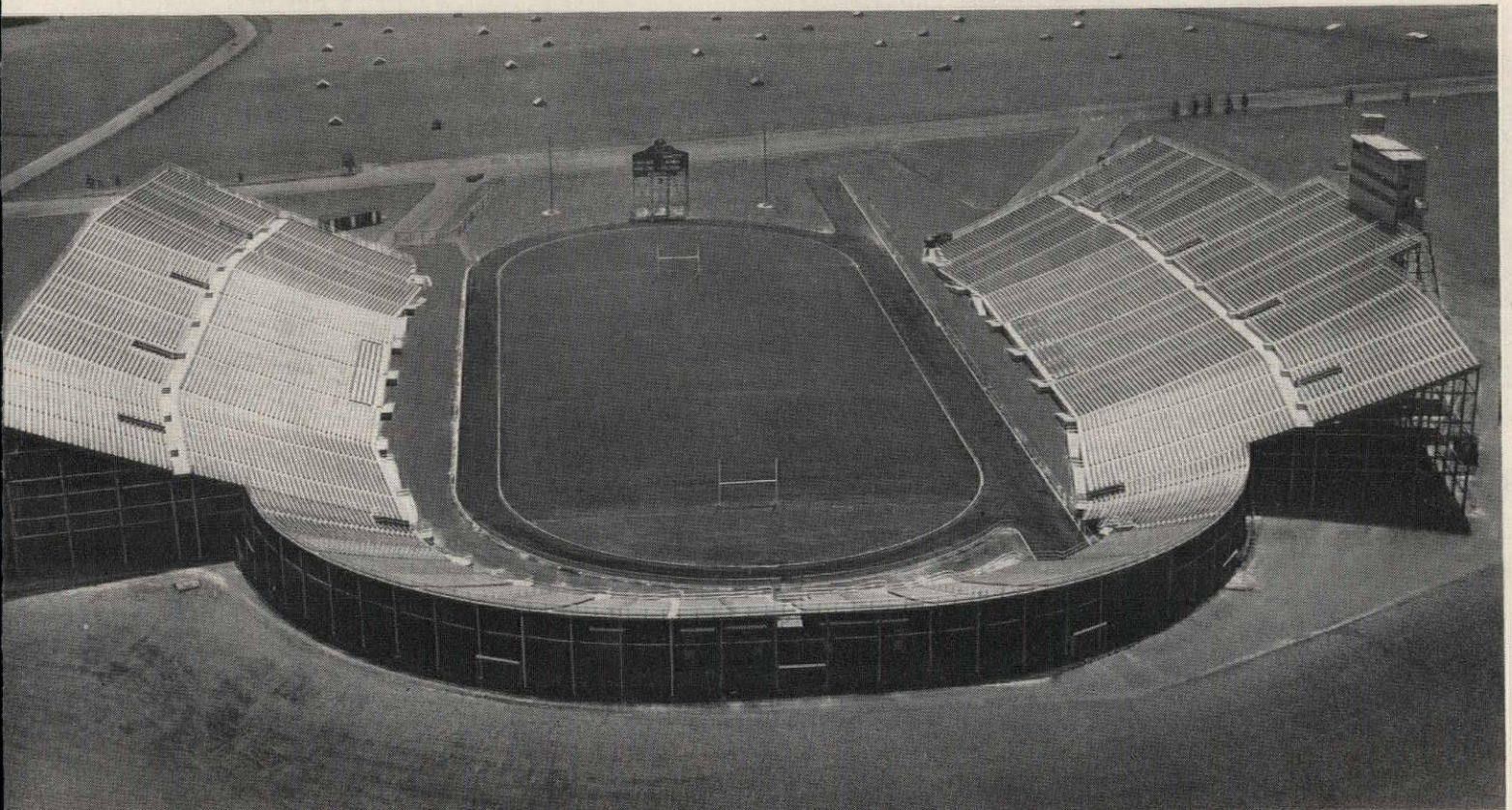


Completing the job at Penn State's New Beaver Field



# AND HOW IT GREW!

... to this in 1960



Beaver Stadium . . . moved 1½ miles to new location, and enlarged to 45,000 seats

It would be hard to imagine a better illustration of *design flexibility, versatility, economy and permanence* in outdoor seating than the Penn State story. Here is a stadium that grew in 26 years from a small single stand to a 45,000-seat horseshoe — moved a mile and a half in the process — still contains the steel of the original stand, and is ready for a lifetime of new service! • The moral of the story is plain:

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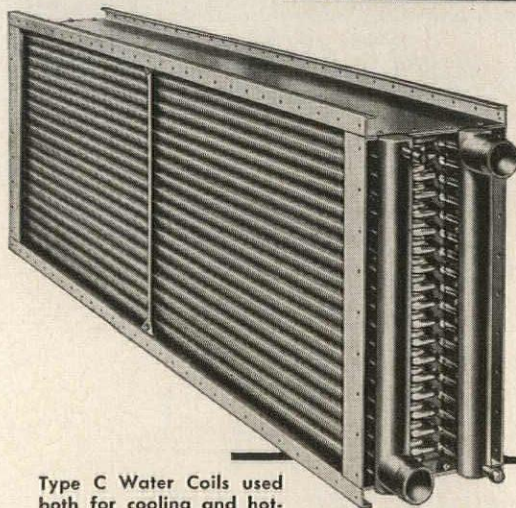
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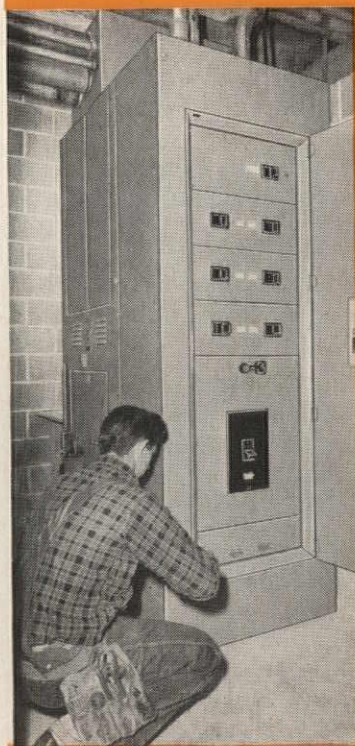


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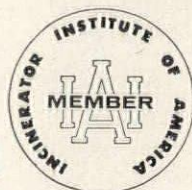
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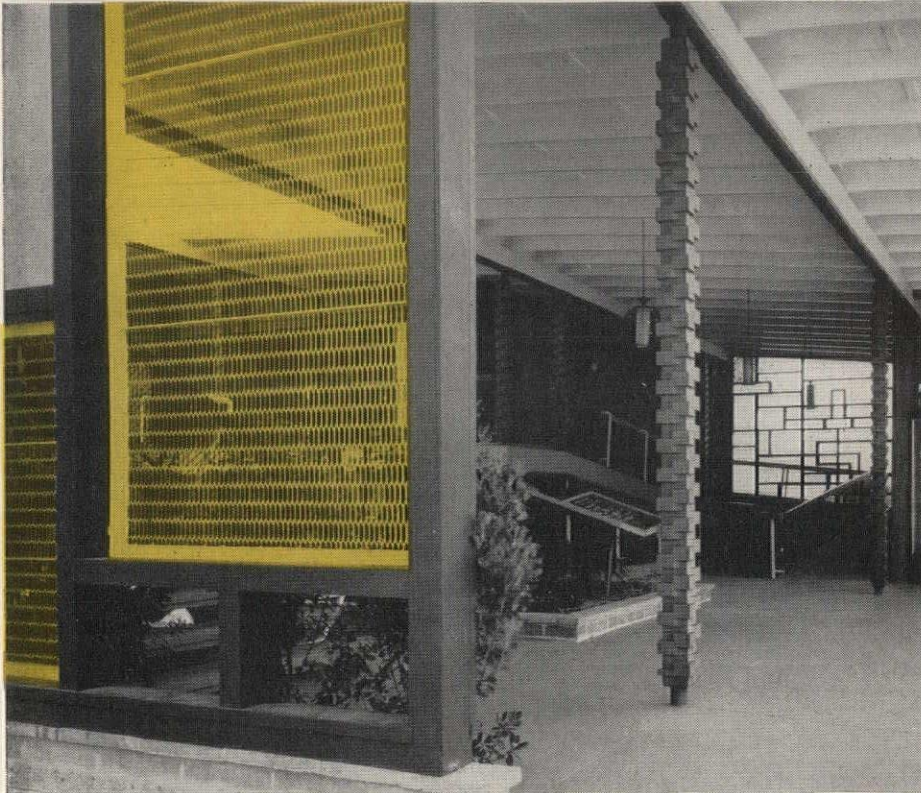
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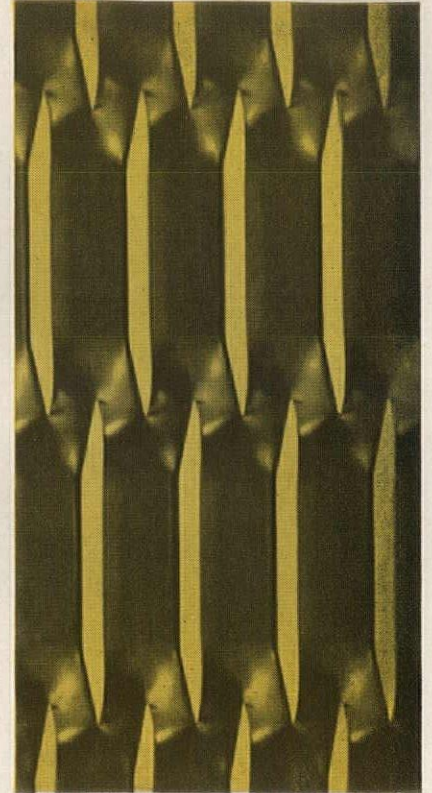
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Area divider of Louvremesh at the entrance to San Bruno Medical Center in San Bruno, California.



Louvremesh is one of the new Penmetal patterns.

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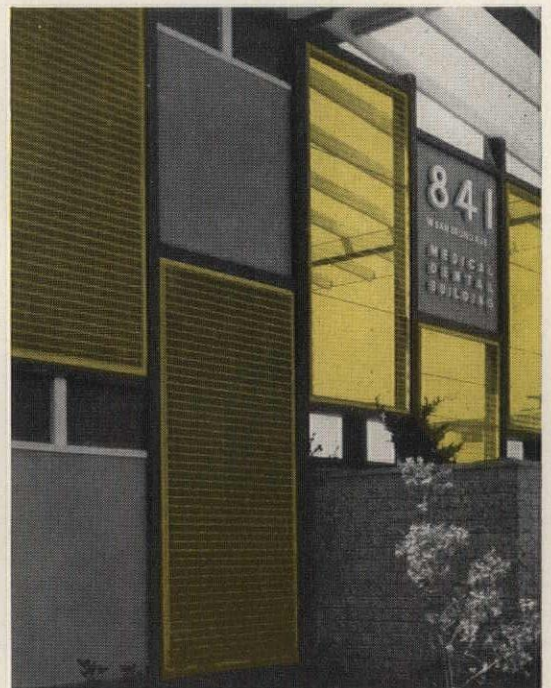
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On the building's exterior, Louvremesh was applied vertically, with the slope of the diamond arranged to deflect direct rays of the sun.



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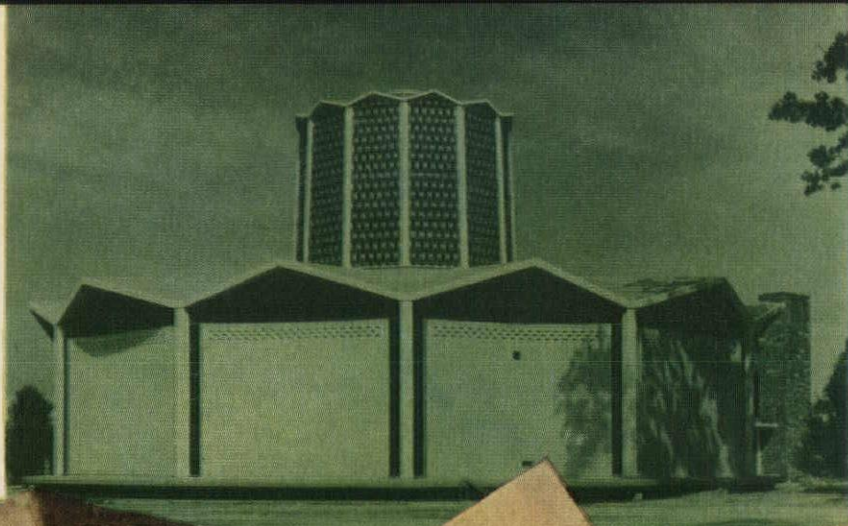
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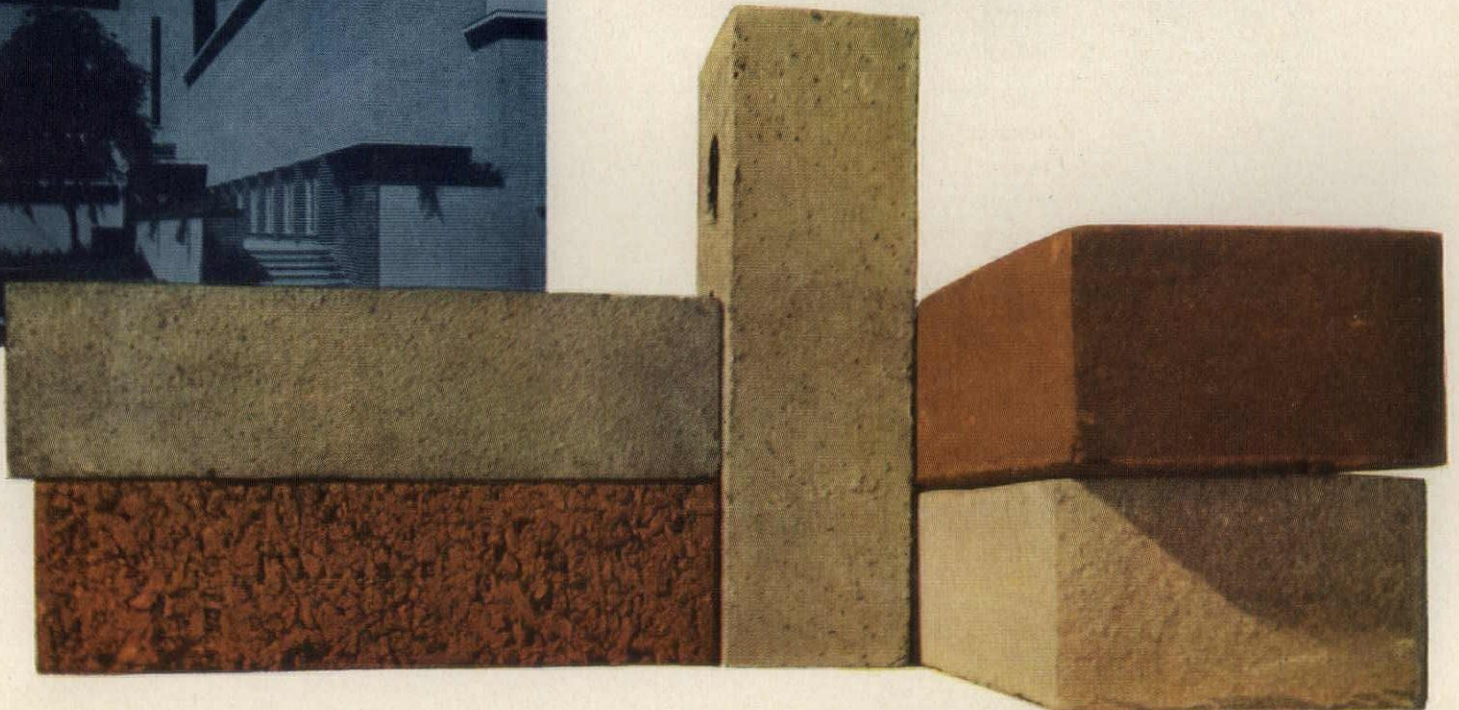
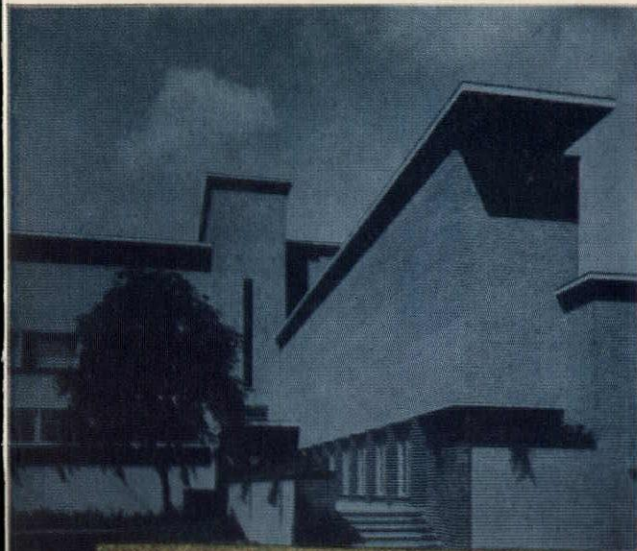
### ARTISTS AND THEIR WORKS:

Temple Adeth Israel, Merion, Pa.; Associate Architects, Pietro Belluschi, Charles Frederick Wise

City Hall, Hilversum, The Netherlands; Architect, Willem M. Dudok

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# Construction Cost Indexes

Presented by Clyde Shute, Director of Statistical Policy, Construction News Div., F. W. Dodge Corp., from data compiled by E. H. Boeckh & Assoc., Inc.

Labor and Materials: U.S. average 1926-1929=100

## NEW YORK

## ATLANTA

PERIOD	RESIDENTIAL		APTS., HOTELS, OFFICE BLDGS. Brick and Concrete	COMMERCIAL AND FACTORY BLDGS. Brick and Concrete		Brick and Steel	RESIDENTIAL		APTS., HOTELS, OFFICE BLDGS. Brick and Concrete	COMMERCIAL AND FACTORY BLDGS. Brick and Concrete		Brick and Steel
	Brick	Frame		Brick	Concrete		Brick	Frame		Brick	Concrete	
1930	127.0	126.7	124.1	128.0	123.6		82.1	80.9	84.5	86.1	83.6	
1935	93.8	91.3	104.7	108.5	105.5		72.3	67.9	84.0	87.1	85.1	
1939	123.5	122.4	130.7	133.4	130.1		86.3	83.1	95.1	97.4	94.7	
1948	250.1	251.6	239.4	242.2	235.6		199.2	202.5	178.8	178.8	178.8	
1949	243.7	240.8	242.8	246.6	240.0		189.3	189.9	180.6	180.8	177.5	
1950	256.2	254.5	249.5	251.5	248.0		194.3	196.2	185.4	183.7	185.0	
1951	273.2	271.3	263.7	274.9	271.8		212.8	214.6	204.2	202.8	205.0	
1952	278.2	274.8	271.9	265.2	262.2		218.8	221.0	212.8	210.1	214.3	
1953	281.3	277.2	281.0	286.0	282.0		223.0	224.6	221.3	221.8	223.0	
1954	285.0	278.2	293.0	300.6	295.4		219.6	219.1	233.5	225.2	225.4	
1955	293.1	286.0	300.0	308.3	302.4		225.3	225.1	229.0	231.5	231.8	
1956	310.8	302.2	320.1	328.6	324.5		237.2	235.7	241.7	244.4	246.4	
1957	318.5	308.3	333.1	345.2	339.8		241.2	239.0	248.7	252.1	254.7	
1958	328.0	315.1	348.6	365.4	357.3		243.9	239.8	255.7	261.9	262.0	
1959	342.7	329.0	367.7	386.8	374.1		252.2	247.7	266.1	272.7	273.1	
June 1960	353.8	338.9	380.4	399.7	382.8		258.1	252.3	272.1	279.6	277.6	
July 1960	353.8	338.9	380.0	399.4	381.3		261.1	254.8	275.9	284.9	278.5	
August 1960	353.6	338.7	379.7	399.2	381.1		260.2	253.7	275.5	284.6	278.1	
	% increase over 1939						% increase over 1939					
August 1960	186.3	176.7	190.5	199.2	192.9		201.5	205.3	189.7	192.2	193.7	

## ST. LOUIS

## SAN FRANCISCO

1930	108.9	108.3	112.4	115.3	111.3	90.8	86.8	100.6	104.9	100.4	
1935	95.1	90.1	104.1	108.3	105.4	89.5	84.5	96.4	103.7	99.7	
1939	110.2	107.0	118.7	119.8	119.0	105.6	99.3	117.4	121.9	116.5	
1948	227.9	231.2	207.7	210.0	208.1	218.9	216.6	208.3	214.7	211.1	
1949	221.4	220.7	212.8	215.7	213.6	213.0	207.1	214.0	219.8	216.1	
1950	232.8	230.7	221.9	225.3	222.8	227.0	223.1	222.4	224.5	222.6	
1951	252.0	248.3	238.5	240.9	239.0	245.2	240.4	239.6	243.1	243.1	
1952	259.1	253.2	249.7	255.0	249.6	250.2	245.0	245.6	248.7	249.6	
1953	263.4	256.4	259.0	267.0	259.2	255.2	257.2	256.6	261.0	259.7	
1954	266.6	260.2	263.7	273.3	266.2	257.4	249.2	264.1	272.5	267.2	
1955	273.3	266.5	272.2	281.3	276.5	268.0	259.0	275.0	284.4	279.6	
1956	288.7	280.3	287.9	299.2	293.3	279.0	270.0	288.9	298.6	295.8	
1957	292.0	283.4	295.2	307.1	302.9	286.3	274.4	302.9	315.2	310.7	
1958	297.0	278.9	304.9	318.4	313.8	289.8	274.9	311.5	326.7	320.8	
1959	305.4	296.4	315.0	329.8	323.9	299.2	284.4	322.7	338.1	330.1	
June 1960	311.8	301.4	322.8	337.9	330.1	309.1	293.4	337.8	354.0	345.1	
July 1960	312.0	301.6	322.5	337.4	327.1	307.5	291.4	337.2	353.6	344.5	
August 1960	311.1	300.5	322.1	337.1	326.7	307.1	290.1	338.4	356.1	345.0	
	% increase over 1939						% increase over 1939				
August 1960	182.3	180.8	171.3	181.4	174.5	190.8	192.1	188.2	192.1	196.1	

Cost comparisons, as percentage differences, for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.:

index for city A = 110  
index for city B = 95

(both indexes must be for the same type of construction).

Then: costs in A are approximately 16 per cent higher than in B.

$$\frac{110-95}{95} = 0.158$$

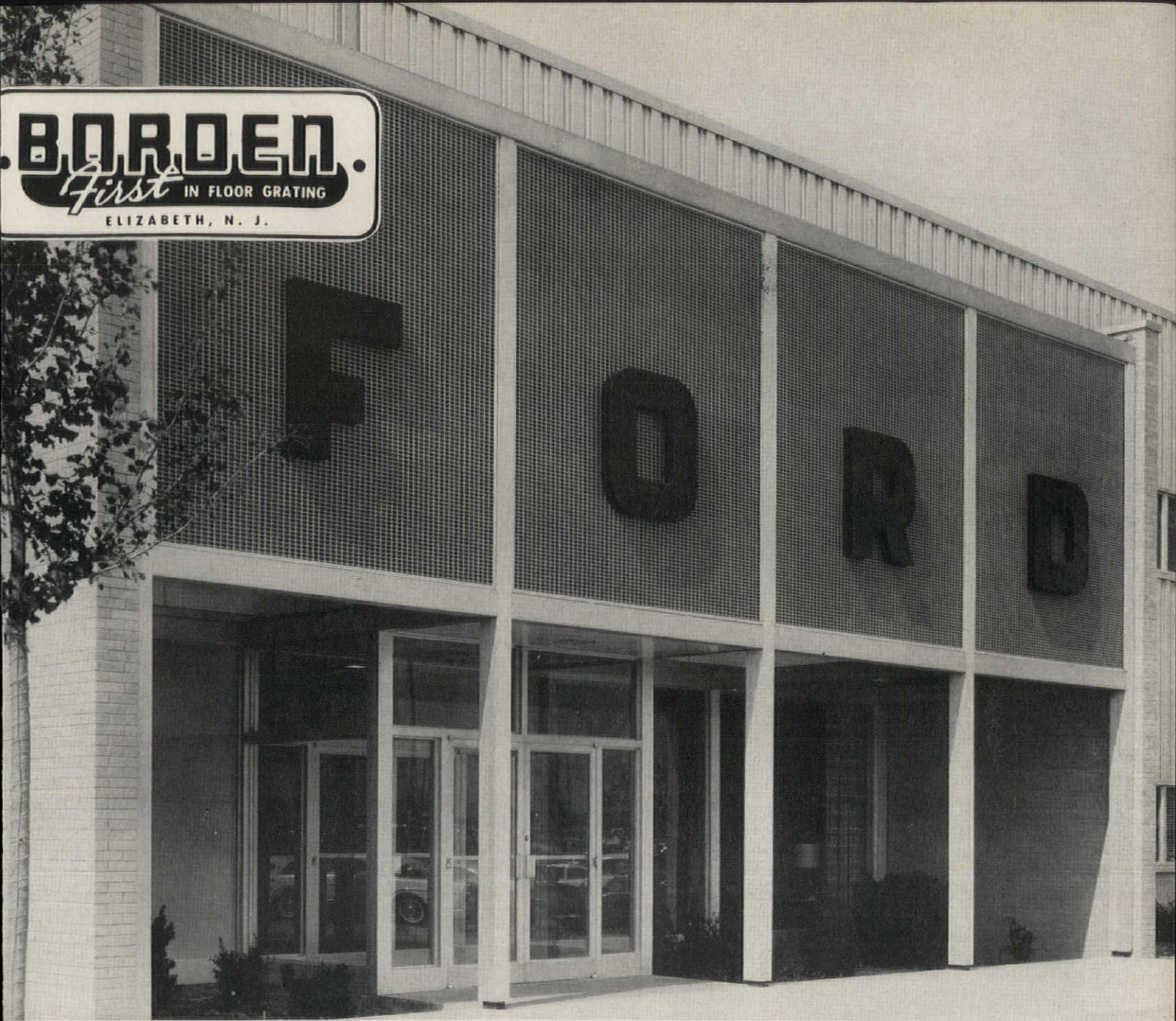
Conversely: costs in B are approximately 14 per cent lower than in A.

$$\frac{110-95}{110} = 0.136$$

Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926-29.

Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs.





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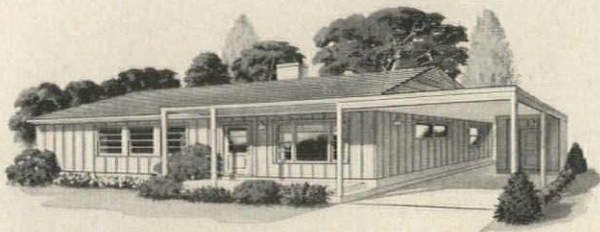
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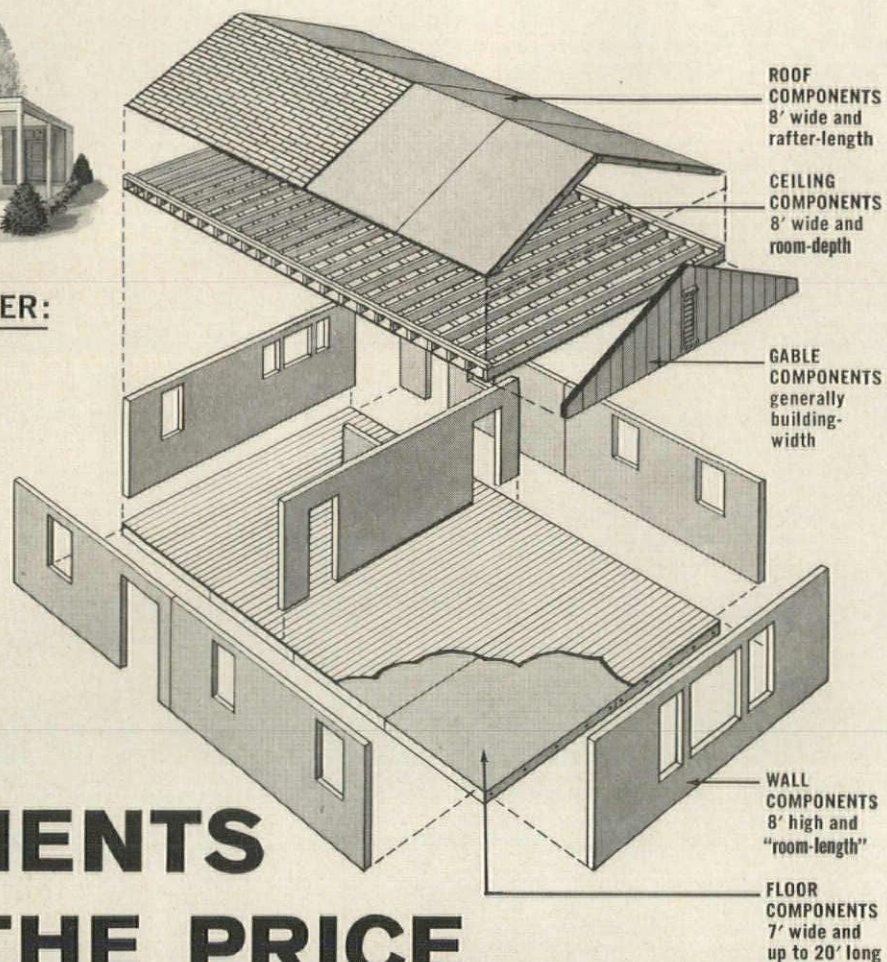


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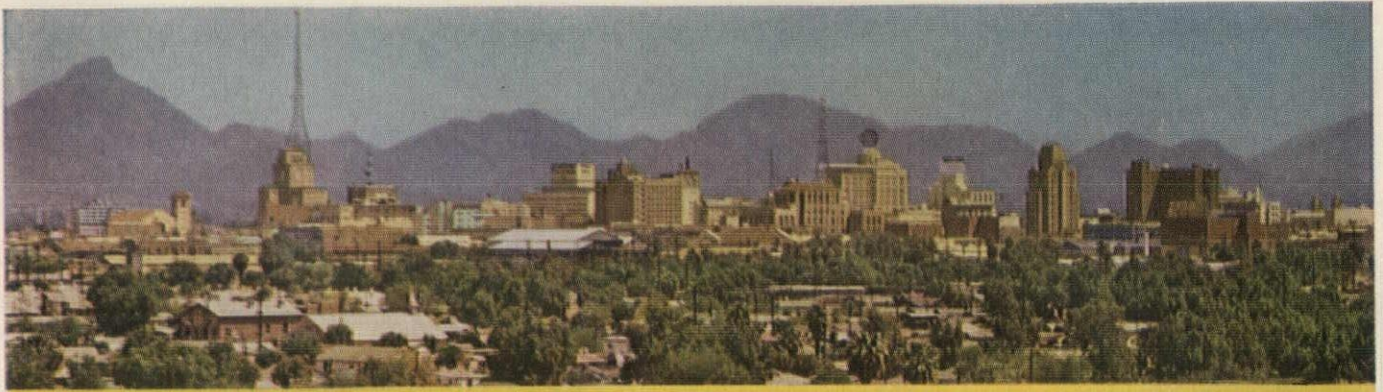


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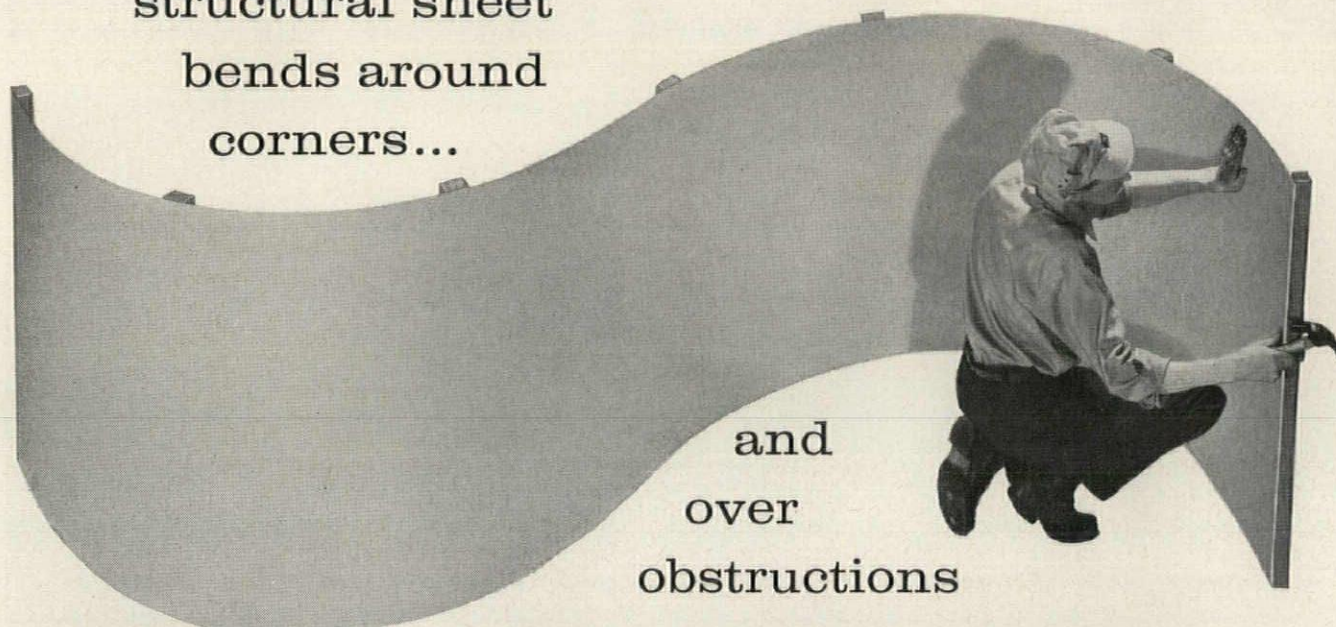
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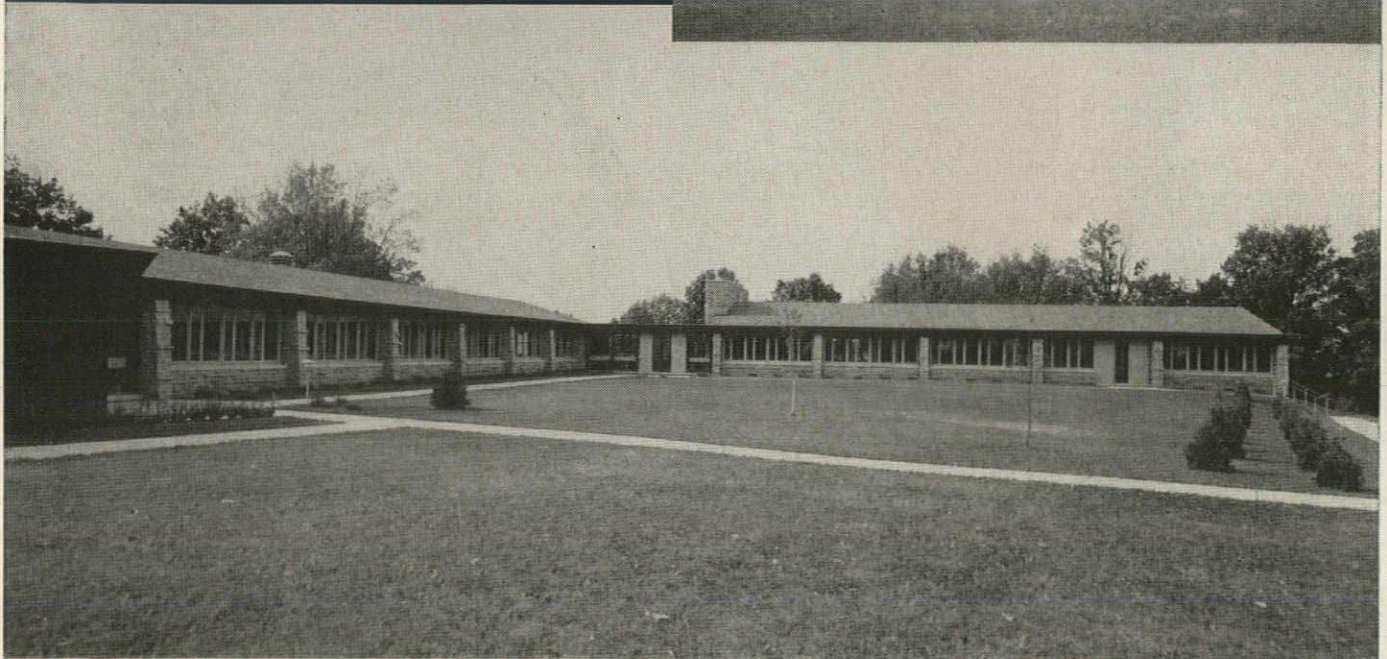
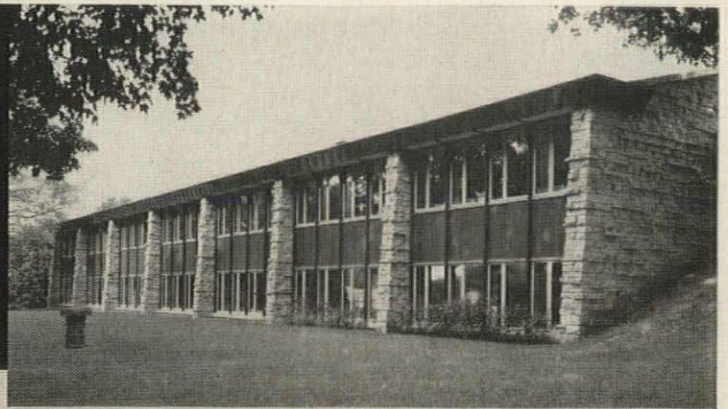
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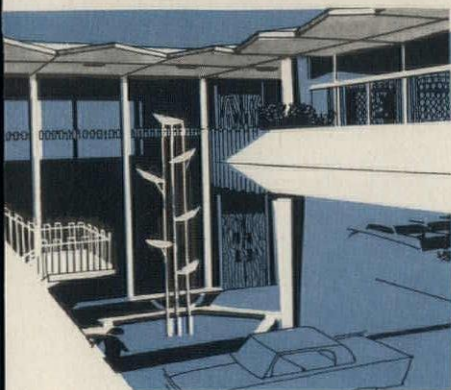


The best ideas are more exciting  
in **concrete**



*First National Autobank, Tulsa, Oklahoma. Architects & Engineers: McCune, McCune & Associates. Contractor: Tulsa Rig, Reel & Manufacturing Company, Tulsa.*

## Folded roof to glamour walls... concrete adds new attraction to drive-in banking



*Over 600 cars daily use the drive-up windows. A half million transactions were handled at the Autobank the first year. Tom-Tom Room, to the right of two-story bank lobby, is provided for meetings of Tulsa civic groups. It's reached directly from upper parking deck.*

Out of a need for drive-up tellers' windows, as well as parking facilities, came this handsome banking center. Tulsa's First National Autobank is a delightful example of the many ways concrete can combine structural practicality with good design.

Here, concrete plays a major decorative role in many different ways. You see everything from folded plate canopies over the parking arcade to walls and sunscreens in high-style masonry shapes. Drives are black concrete. Upper deck parking area is a hollow-core concrete deck.

Today's architects find there is no ceiling on imagination when they design with modern concrete.

### **PORTLAND CEMENT ASSOCIATION**

*A national organization to improve and extend the uses of concrete*





**BIGELOW  
!CARPET!**

CHOSEN FOR THE

**WALDORF  
ASTORIA'S**

**BULL &  
BEAR BAR**

MOSAIC SQUARES IN AN INTRICATE ORIENTAL MOTIF GIVE TURN-OF-THE-CENTURY SPLENDOR TO THE WALDORF'S BULL AND BEAR RESTAURANT.



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Bigelow Carpet is selected by top designers for the most important architectural jobs. Reasonable price, long economical service, and top performance under traffic—as well as beauty—are prime considerations in every Bigelow Carpet designed for use in public areas. Special designs, colors and textures available. If you plan an installation, consult Bigelow's Carpet specialists about colors, patterns, weaves, at prices your client can afford. No charge for this service. Contact Bigelow through the nearest sales office or by writing to Bigelow Contract Department, 140 Madison Avenue, New York 16, N. Y.

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SINCE 1825

Bigelow sales offices are located in the following cities: Atlanta, Ga.; Boston, Mass.; Buffalo, N.Y.; Chicago, Ill.; Cincinnati, Ohio; Cleveland, Ohio; Dallas, Texas; Denver, Colo.; Detroit, Mich.; Hartford, Conn.; High Point, N. C.; Kansas City, Mo.; Los Angeles, Calif.; Minneapolis, Minn.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.; St. Louis, Mo.; San Francisco, Calif.; Seattle, Wash.





Men's dormitory, St. Ambrose College, Davenport, Iowa. It is completely Simmons equipped - Beautyrest Built-In Beds, Dorm Line desks with Fiberesin tops. Built-in wardrobes provide maximum storage in minimum space.

## For study, storage, sleeping and sitting, choose furniture by **SIMMONS**



The lobby and student rooms at Mercyville School of Nursing, Rockford, Illinois, are also 100% Simmons. Upholstered furniture and Vivant tables furnish this attractive reception area. Student rooms are equipped with free-standing Dorm Line furniture and Beautyrest mattresses.



Whatever room arrangement you may want, whatever your furniture requirements, Simmons meets your needs best. The versatile Dorm Line by Simmons is compact, durable, decorative and convenient. Not only wardrobes but also Dorm Line chests, desks and beds may be built-in, thereby qualifying for long-term government financing.

Simmons also offers a wide selection of free-standing furniture, as well as a luxurious line of upholstered furniture especially suited for lobbies and student lounges. And, of course, only Simmons beds are equipped with comfortable, healthful, guaranteed Beautyrest® mattresses.

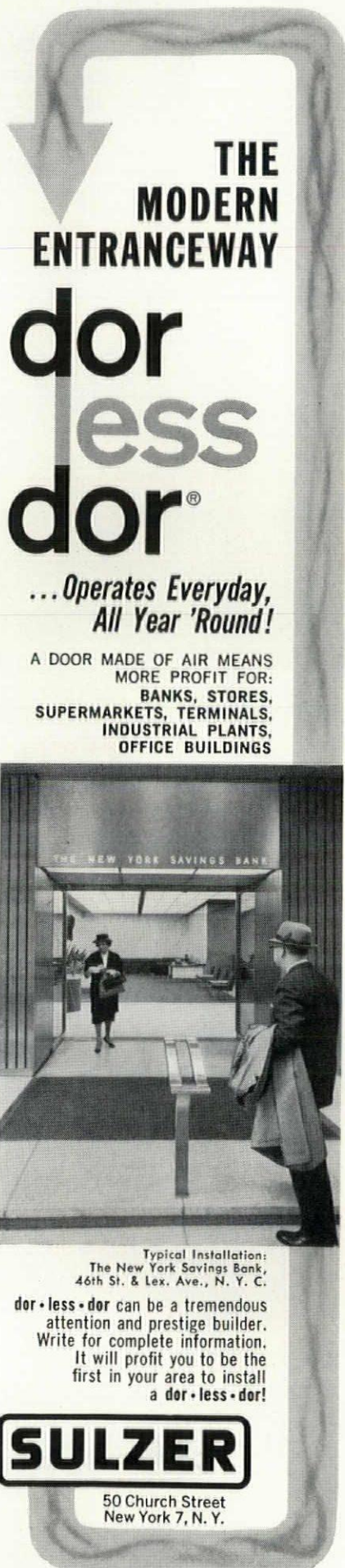
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All Year 'Round!*

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attention and prestige builder.  
Write for complete information.  
It will profit you to be the  
first in your area to install  
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## The Record Reports

*continued from page 56*

of engineering in the same location, Suite 402, O'Reilly Building, Jacksonville, Fla., under the firm name of Van Wagenen & Van Wagenen.

The officers of The Engineers Collaborative, Consulting Structural Engineers, have announced that Richard Elstner, formerly structural development engineer at the Portland Cement Association Research and Development Laboratories in Skokie, Ill., has become an associate member of their firm at 116 South Michigan Ave., Chicago.

Sanford Kaufman, sales and marketing executive, has been appointed director of planning and development of Freidin-Studley Associates, architectural, design, and office planning consultants, at 342 Madison Ave., New York. According to Jack Freidin, partner for design, the new post is another in a series of steps to make it possible for the firm to provide a complete package of services related to architecture and office design.

Victor Gruen Associates, architects, engineers and planners, with offices in Chicago, Los Angeles, and New York, has appointed one of its top executives, Beda Zwicker, to head its New York office.

Edward W. Slater and Daniel Chait, architects, announce the dissolution of the firm of Slater & Chait. New offices for the firm of Daniel Chait, Associate Architects, are at 107 East Thirty-first St., New York 16. Edward W. Slater, Architect, has offices located at 244 East 32nd St., New York 16.

John R. Campbell has been appointed Director of Design for the New York offices of Welton Becket and Associates at 116 East 55th St.

The firm name of Thorshov & Cerny, Inc., has been changed to The Cerny Associates, Inc. Offices have been in the Metropolitan Building; they are now at 300 First National Bank Concourse building in Minneapolis, Minn.

James E. Francis, architect, formerly with Marcellus Wright & Son, Architects of Richmond, Va., has received a Federal appointment with the Design & Construction Branch of Public Buildings Services, General Services Administration in Washington, D.C.

*other*

## GLIDE-GRIDWALL *architectural aluminum* PRODUCTS

### *glide* SLIDING WINDOWS

Monumental stock and custom types. All sash operate and bypass for window cleaning from interior. Strength of section allows heights to 6'6". The leader in the field for weather-tight performance and beauty of sight lines.

### *glide* SLIDING DOORS

Monumental stock and custom types. Glazed with 3/8" to 1" thick glass. Double sill, flush with floor, leak-proof even in complex multiple track and wall pocket units. Stainless steel rollers and track. Transom units available as integral part of door framing. Screens may be used on interior or exterior as required.



### SLIDING DOORS

PANAVIEW stock door units employ the finest construction features of the GLIDE door series at competitive prices. Double weather-stripped, alumilited, and available in panels with single or 3/8" insulated glass.



### WINDOWS AND WINDOWALLS

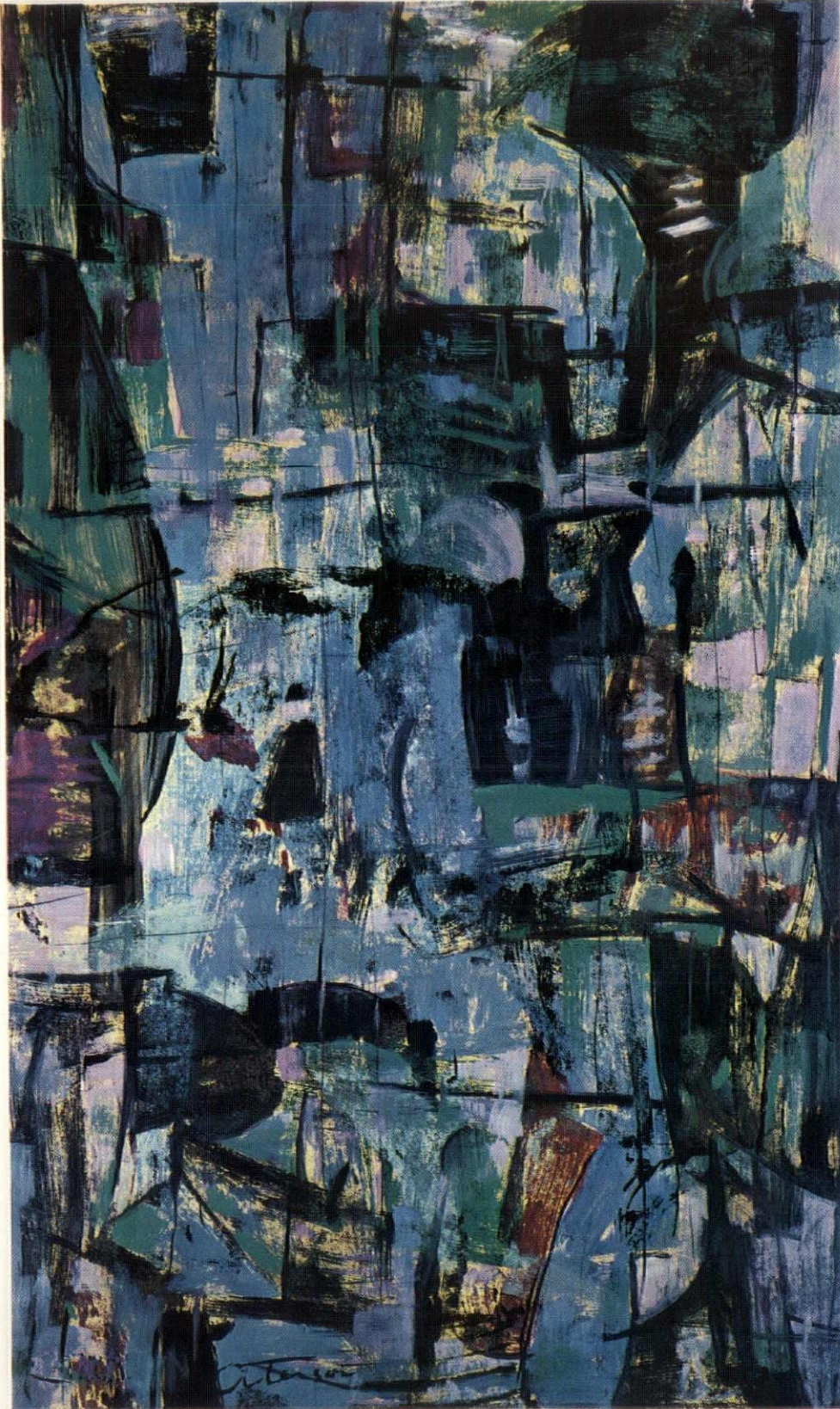
The most economical window wall available. Infinite variety is achieved by mulling and stacking PANASEAL windows in any combination. Ideal for schools and commercial buildings. PANASEAL windows also available for residential use.

## GRIDWALL ENTRANCES

Engineered for greater strength by integrating 1" narrow stiles with 1/2" plate glass, GRIDWALL offers the most appealing entrance door on the market. Cylinder lock, housed in push and pull plates of charcoal bronze finish, simultaneously throws a concealed bolt into threshold and head of door frame for maximum security. A complete line of mullion framing for flush glazing is available.

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PAINTING BY JOHN OTTERSON

## SEASONS

Variable climatic conditions involve the architect in the problems of insulation, expansion and contraction of facade materials.

Through a policy of creative collaboration with architects, GRIDWALL has engineered the successful solution to these problems in curtain wall construction which is dramatically different.

The completely concealed joining of horizontal to vertical grid members allows the utmost freedom in thermal movement with no chance of weather infiltration. GRIDWALL makes possible the free circulation of air through spandrel panels, increasing insulation value and preventing surface distortions. GRIDWALL IS CURTAIN WALL AT ITS BEST.

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# HOLOPHANE

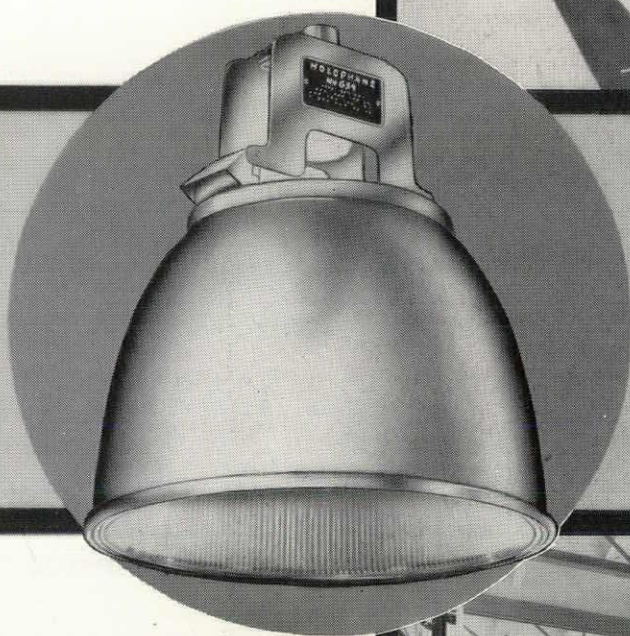
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Better Lighting  
for  
Better Education



Colorado School of Mines  
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Archts.-Engrs.: Fuller, Fuller & Fuller

No. 635 LOBAY® Reflector  
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Because so much in effective instruction, visual comfort and student safety depends on efficient illumination—school authorities select HOLOPHANE prismatically-controlled luminaires for every phase of educational activity... Holophane provides the best illumination for gymnasiums. Light sources are deep-shielded, eliminating glare. Reflector surfaces are kept clean by upward draft... Investigate how *quality lighting* with prismatic control—traditional with Holophane—can mean sustained advances in education—with definite reductions in costs. Write for data.



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ADAMS-RITE

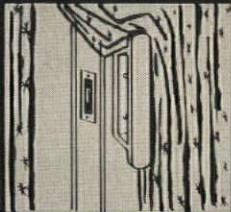
# FLUSH HARDWARE

ADDS MODERN STYLING  
AND VERSATILITY TO  
SLIDING GLASS DOORS

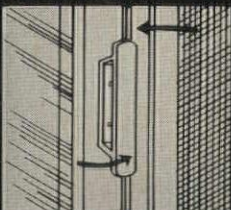
ADAMS-RITE'S 4190 locking unit is a new type of hardware for FLUSH installation in narrow stile, sliding glass doors. All parts are set flush with the door stile, including the LOCK, INSIDE OPERATOR, FIVE-PIN CYLINDER, and RECESSED FINGER PULLS. This type of hand hardware allows the doors to easily slide past other stationary or sliding units without regard for usual hardware clearance. The doors can be "stacked" in pockets, and draperies or blinds will not be torn by catching on surface hand pulls. Available with or without flush, key-operated, five-pin cylinder lock on outside pull.

FOR NEW FREEDOM OF DESIGN  
WHEN USING NARROW STYLE  
DOOR HARDWARE

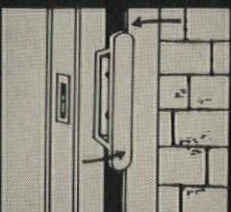
## THINK FLUSH!



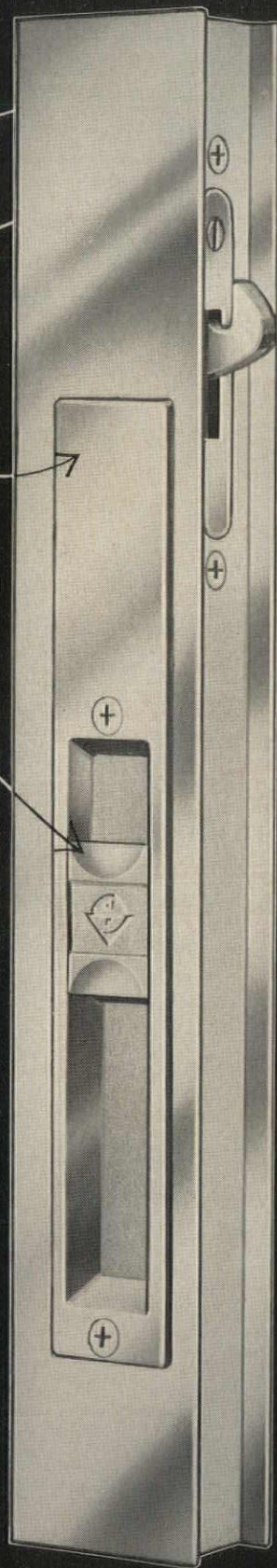
NO surface hand pulls to tear or catch draperies or blinds.



NO surface hand pulls to prevent the bypassing of other units.



NO surface hand pulls to prevent complete retraction of doors into "pockets."



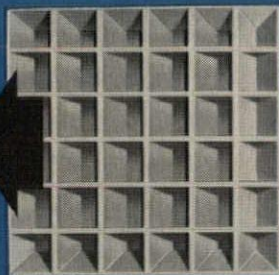
WRITE TODAY for complete specifications and information.

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# CARNES

## PIONEERS NEW



### 1

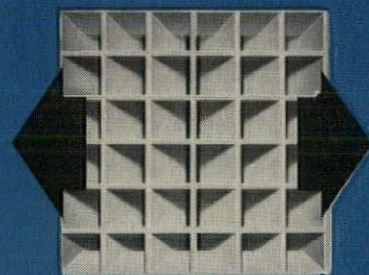
WAY THROW

**unobtrusive!**  
**efficient!**  
**versatile!**

### Combinations For Any Number of Patterns and Sizes

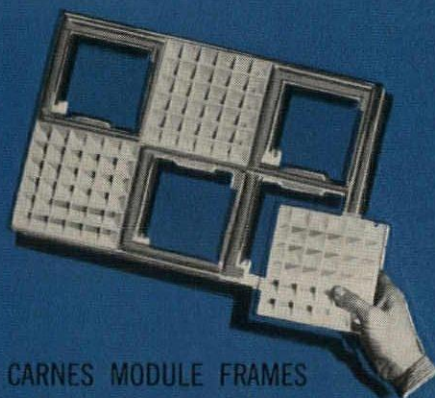
Rendering conventional round and square models obsolete, Carnes Modular Diffuser solves any air handling or design problem. This is accomplished by combining multiples of three basic 6" square modules . . . 1-Way Throw, 2-Way Throw, Corner Throw.

When future expansion or alterations call for relocating partitions or fixtures, individual modules can be rotated or replaced. The directional flow of conditioned air is easily and inexpensively converted.



### 2

WAY THROW



#### CARNES MODULE FRAMES

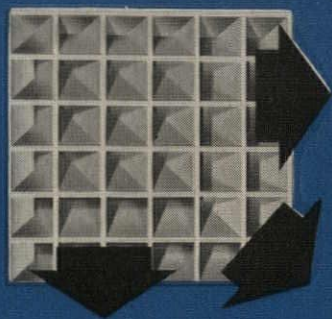
Shown is a 6-module frame. Module can be inserted independent of adjoining modules. Frames come in an infinite number of sizes and types to fit any ceiling and air distribution requirement. Modules fit flush, snap out for easy cleaning.



CARNES CORPORATION  
Verona, Wisconsin



# CONCEPT IN AIR DISTRIBUTION!



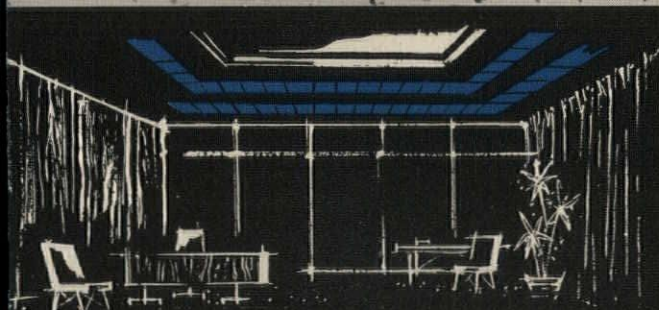
**3**  
CORNER THROW

first to perfect

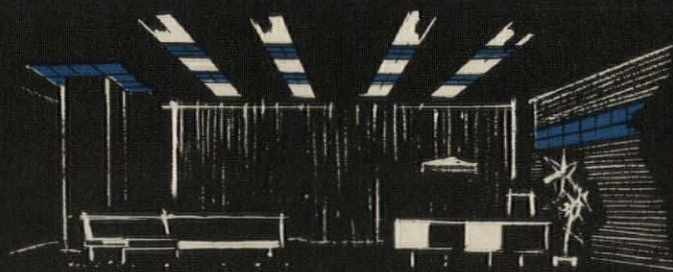
## MODULAR PLASTIC DIFFUSER

that Blends Beauty with Utility

Architects and engineers — all executives and officials concerned with air conditioning — have long recognized the need for a diffuser which (a) is compatible with modern design, (b) is capable of adapting to future trends. In true tradition, Carnes has come up with the answer in its new high impact, flame-retardant plastic Model "M" Modular Diffuser with excellent color and dimensional stability. Attractive without being obtrusive, Carnes small-scale texture, white diffusers enhance the aesthetic quality of any type of ceiling. They have a minimum of "see through." They live in happy union with lighting fixtures of every design.

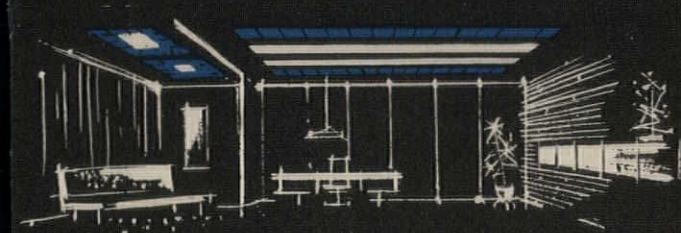


Continuous strip units one module wide may be used at windows and around ceiling coves to carry out architectural lines and blend with acoustical tile or plaster surfaces.

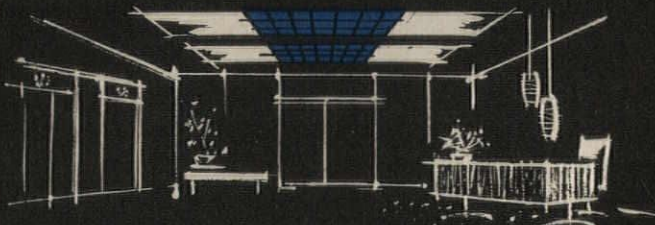


Modular units (12" x 12") used as spacers between fluorescent fixtures blend into the overall ceiling pattern. Return air may be handled through inconspicuous "A" Modular around columns or in walls.

### IN HARMONY WITH ALL CEILING MATERIALS AND LIGHTING FIXTURES



Alternating lines of lighting fixtures and diffusers can create a pleasing rhythmic pattern. Continuous units may be butted to lighting units at windows to combine light and air distribution into a single design element.



White plastic modules blend well with luminous ceilings and can be grouped into large or small units to fit any suspension system.

SEND TODAY! For complete details on the new Model "M" Modular Diffuser, write for Catalog No. 460.





## COLORFUL CERAMIC VENEER GRILLES

serve as architectural lace to enhance appearance, utilize daylight, provide sun control and ensure privacy. Here, for the new Municipal Building at Olean, N. Y., architect Milton Milstein specified Ceramic Veneer grilles  $11\frac{5}{8}'' \times 11\frac{5}{8}'' \times 2''$ . Open grilles were specified for vertical area between entrance and windows, while other grille units have closed backs. Facing of all grilles is silvertone gray; backing is cobalt blue. Carl G. Ek & Son Construction Company, Inc. was the builder. Federal Seaboard custom-makes many smart Ceramic Veneer grille designs in a rainbow-rivalling range of colors. Write today for solar screen and color guide brochures. Without charge we will gladly furnish construction detail, data, advice and estimates on preliminary sketches involving Ceramic Veneer—grilles, plain surfaces or polychrome panels.

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SEABOARD  
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10 E. 40th St., New York 16, N.Y.  
Plant at Perth Amboy, New Jersey





Whether by automobile or movement of gases and liquids by pipeline, today's trend in transportation is toward efficiency and economy. **HUSKY** steel welding fittings are designed to provide both. In fact, a welded system using **HUSKY** fittings can now be installed for no more than a threaded system. Or, looking at it another way, you can save as much as 85% per fitting over the welded fittings now in use! **HUSKY** fittings are ideal for all Schedule 40 piping and fully comply with A.S.T.M. A234 specification...perform admirably at much lower cost. \*  
**ASK FOR FULL PARTICULARS FROM YOUR WHOLESALER...OR WRITE NIBCO INC., Dept. K-2111, Elkhart, Ind.**



**Husky fittings mean**

# compact transportation, too!



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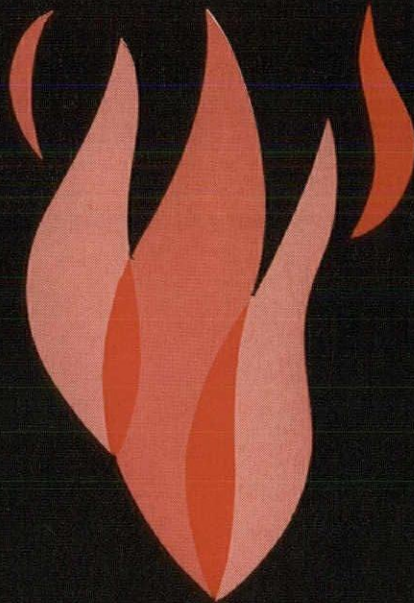


**HUSKY STEEL WELDING FITTINGS**





To qualify a client's building  
for lowest fire insurance rates,  
reinforcement of a roof  
deck with an unprotected  
undersurface is a necessity



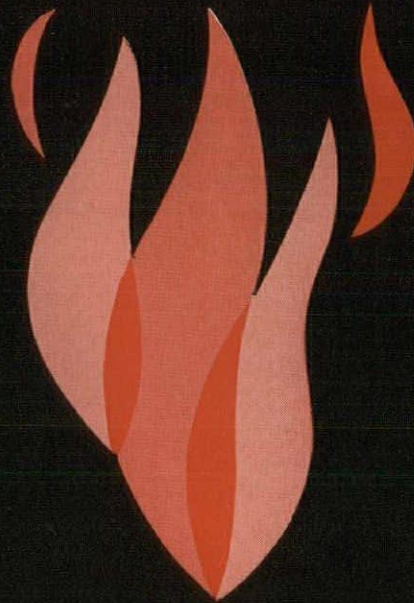
**...the danger of failure** is always present when fire strikes if roof decks are simply specified and built to meet "incombustible" ratings.

Keydeck roof deck reinforcement gives concrete or gypsum decks the tensile strength and monolithic character needed to qualify for hourly fire resistance ratings . . . necessary to get lowest fire insurance rates.

Keydeck also gives greater strength and greater impact resistance to roof decks than ordinary reinforcement.



To qualify a client's building  
for lowest fire insurance rates,  
reinforcement of a roof  
deck with an unprotected  
undersurface is a necessity



**...the danger of failure** is always present when fire strikes if roof decks are simply specified and built to meet "incombustible" ratings.

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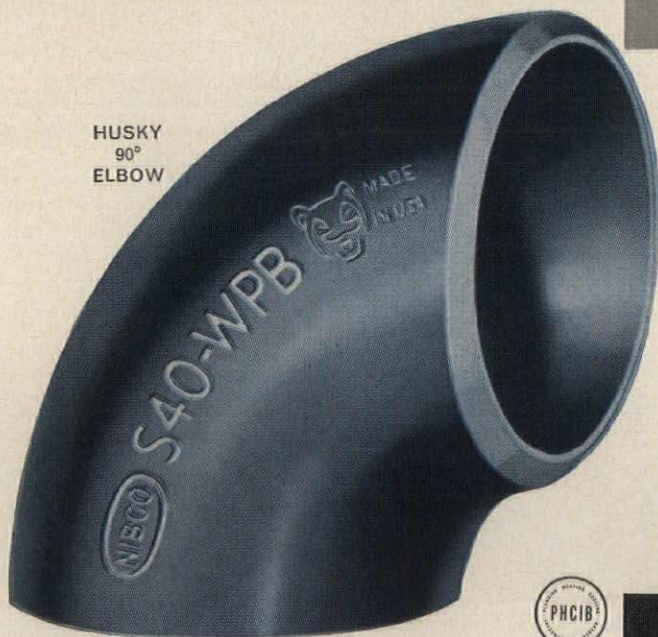


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**Husky fittings mean**

# compact transportation, too!



HUSKY  
90°  
ELBOW



HUSKY  
REDUCING  
TEE



HUSKY  
STANDARD  
TEE



HUSKY  
45°  
ELBOW



HUSKY  
ECCENTRIC  
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HUSKY  
CONCENTRIC  
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**HUSKY**  
STEEL  
WELDING  
FITTINGS



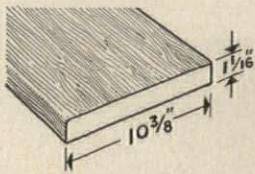


**new**



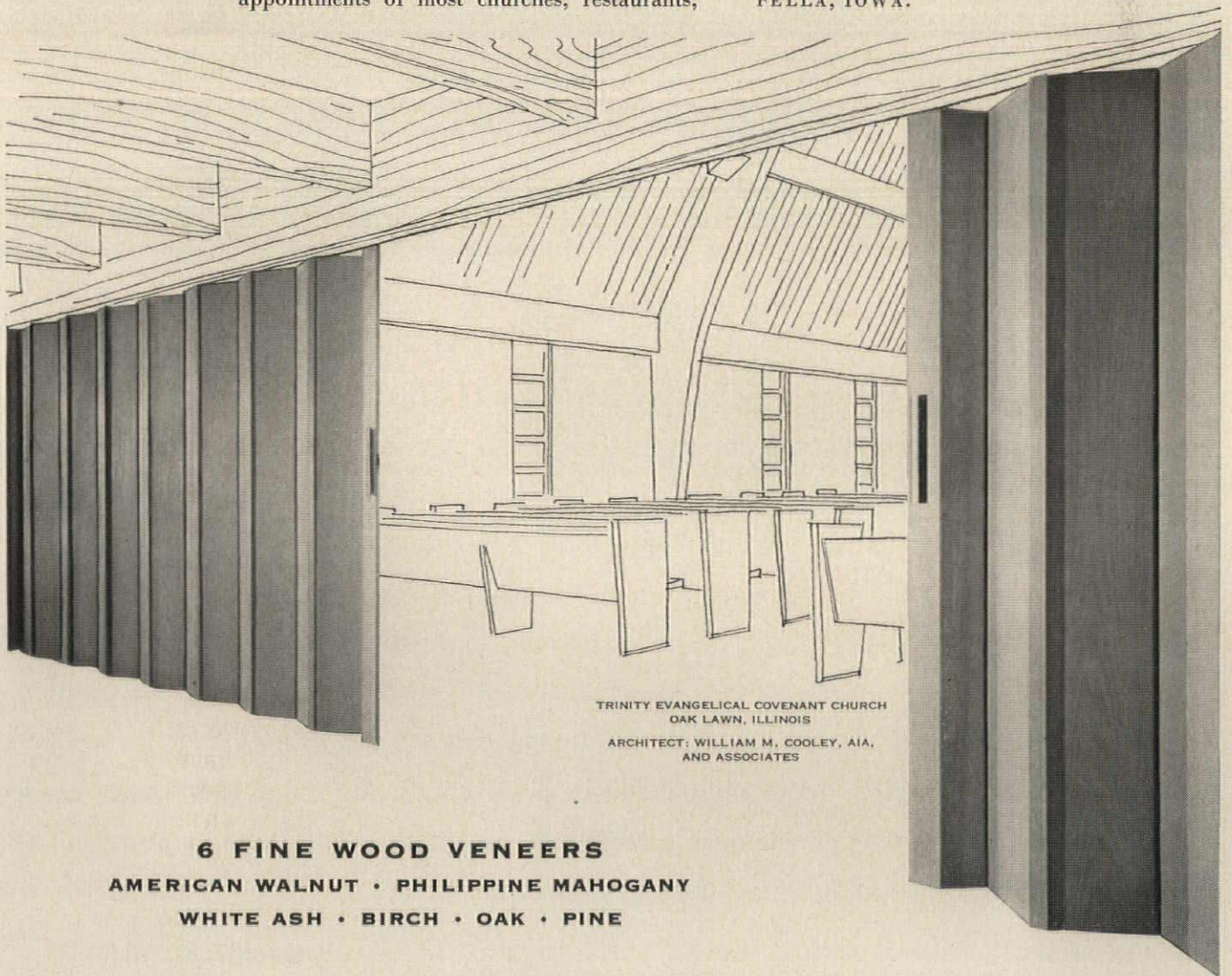
# **folding partitions**

...massive panels of WOOD to divide large areas of space



When plans call for a large space divider—one that's substantial yet decorative—try PELLA WOOD FOLDING PARTITIONS. This latest PELLA product offers new panel dimensions of 10-3/8" x 1-1/16". Available for any width opening and heights up to 20' 1". Embodying good basic design and rich natural wood textures, these partitions integrate with interior appointments of most churches, restaurants,

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**6 FINE WOOD VENEERS**  
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OTHER PELLA QUALITY PRODUCTS INCLUDE PELLA WOOD WINDOWS, ROLSCREENS, WOOD FOLDING DOORS AND WOOD SLIDING GLASS DOORS





## Meet an expert in light construction—

There's no finer example of light construction than this familiar orb web spun by a common garden spider. The spokes and spirals are whisper-light, but stronger than steel wire of the same diameter. The spider has an economical advantage; he makes his own building material, and nobody knows exactly how to duplicate it. □ For strength, lightness and economy with the best structural material man can devise, we suggest USS AmBridge Steel Joists, both standard and longspan, for light occupancy structures. They provide strong, lightweight and economical construction suitable for any type of roof, ceiling or floor. AmBridge Joists have an underslung, open-web design for maximum headroom, and to accommodate pipe, ducts and conduit in all directions. AmBridge Steel Joists are easy to install. And once in place, they make a safe working platform. Want more information? Write to our Pittsburgh Office for your free copy of a 40-page catalog.

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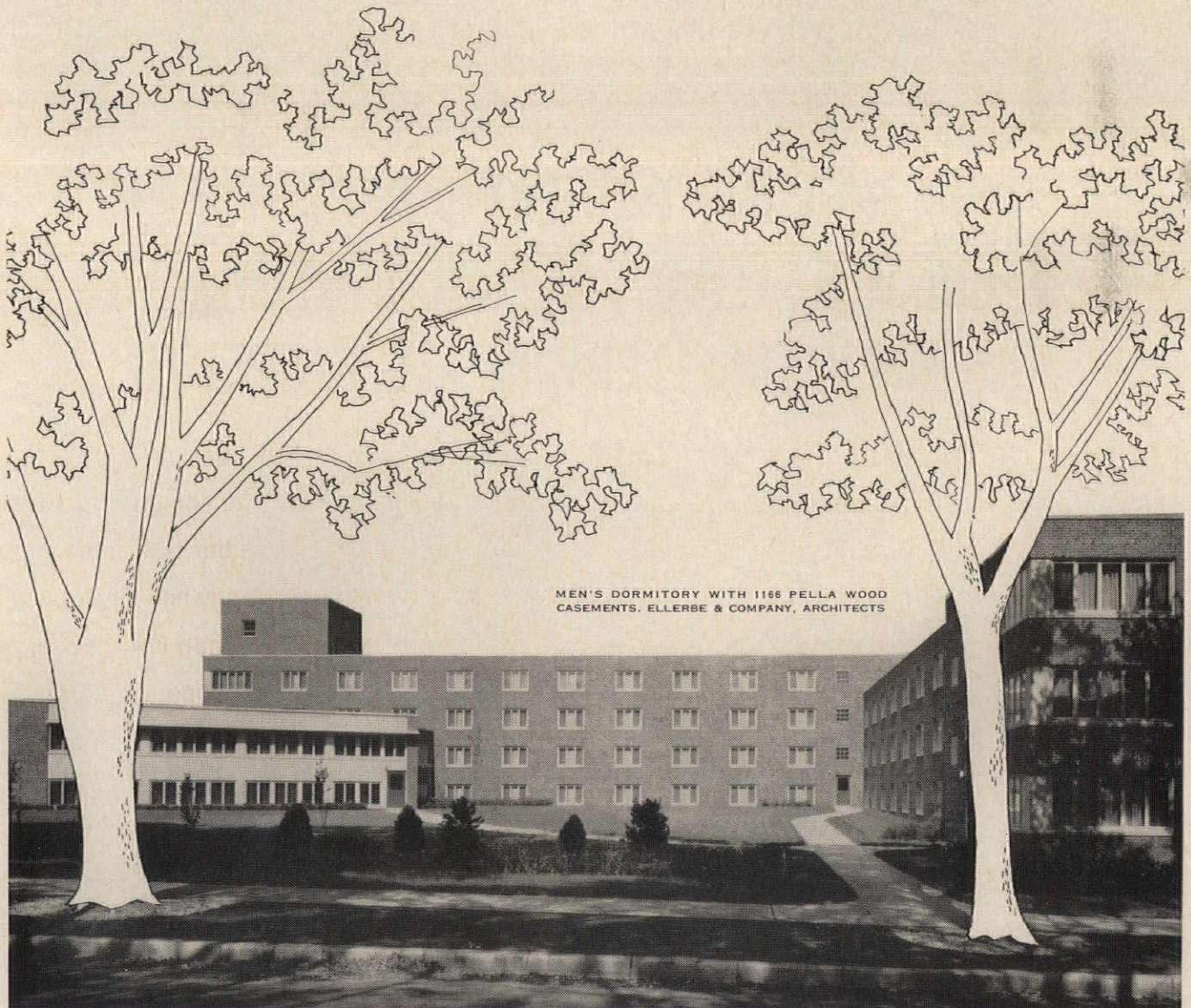
## wood casements

### save on storage space and maintenance

**STORAGE SPACE:** Inside storm panels and ROLSCREENS® on PELLA WOOD CASEMENTS are *self-storing* the year 'round. You don't have to provide space to store screens and storm sash.

**MAINTENANCE:** Occupants pull down ROLSCREENS at sign of the first fly . . . raise them in the fall. This *exclusive* PELLA feature is a real labor-

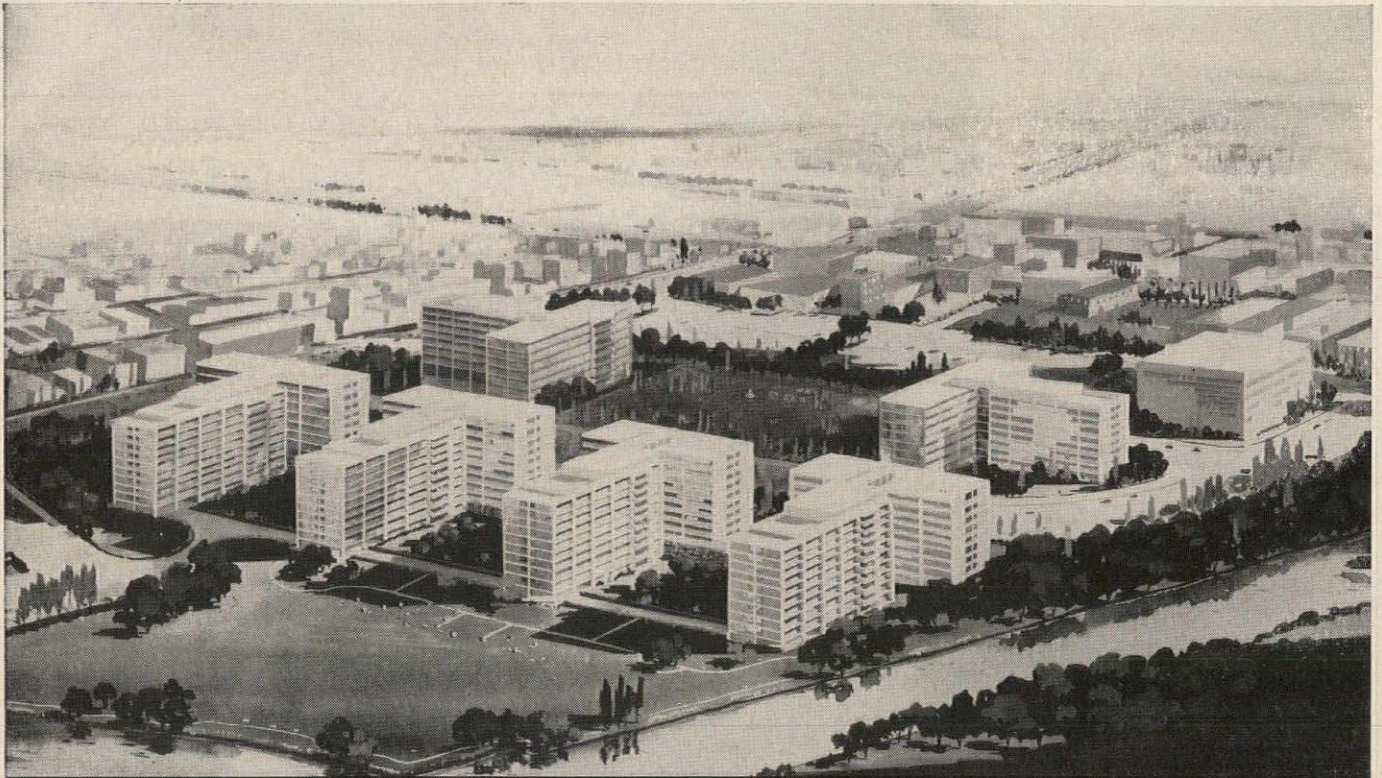
saver *twice a year*. PELLA WOOD CASEMENTS adapt to your design requirements. Only PELLA offers 18 ventilating casement units up to 68" x 24" glass size and 60 fixed units. Full specifications in SWEET'S or consult the classified section of your telephone directory for the name of the nearest U. S. or Canadian distributor of PELLA products. ROLSCREEN COMPANY, PELLA, IOWA.



MEN'S DORMITORY WITH 1166 PELLA WOOD CASEMENTS. ELLERBE & COMPANY, ARCHITECTS

MAKERS OF FAMOUS PELLA WOOD WINDOWS, WOOD SLIDING GLASS DOORS, ROLSCREENS, PELLA WOOD FOLDING DOORS AND PARTITIONS





Architect's rendering of Alfred Speer Village, Public Housing Project at Passaic, N. J. Sarcotherm Heating Control Systems

are used in this as well as in the Authority's Vreeland Village. Kelly & Gruzen were architects and engineers for both projects.

## “THIS HOUSING PROJECT’S SARCO THERM VACUUM HEATING CONTROL SYSTEM HAS BEEN EXCELLENT IN ALL RESPECTS...

Behind this report of complete satisfaction from the Passaic, New Jersey, Housing Authority are the basic reasons why it pays to install a Sarcotherm Outdoor Controlled Weather-Compensating System. These systems not only provide the precise temperature control so critical in housing projects, but are easy to install and operate, and never waste fuel. Sarcotherm's advantages cost no more, and the inherently simple design of the system keeps maintenance costs to a minimum.

This project involved two installations, Alfred Speer Village, heated by steam, and Vreeland Village, heated by hot water. Both were directed by the Passaic Housing Authority and designed by Kelly and Gruzen Architects and Engineers. Sarcotherm engineers cooperated with their architects, engineers and contractors to achieve best results.

On projects like this, Sarcotherm saves time, effort and money. A minimum of wiring is required which makes for simpler, faster hook-ups. In operation, a Sarcotherm system cuts fuel costs through precise metering of delivered heat, yet an exact degree of comfort is provided regardless of outside temperatures. Operating personnel can easily make adjustments to maintain accurate specified temperature levels.

All Sarcotherm components are built to the highest standards in the industry for long-lived reliability. In addition, a Sarcotherm contract brings you the advantages of single-source responsibility: you get your complete control system as well as heating specialties and accessories from a single centralized supplier. Write for Sarcotherm Control Catalog. Specify steam or hot water.

3574

FOR COMPLETE CONTROL SYSTEM CATALOG write Sarcotherm Controls, Inc., 635 Madison Avenue, New York 22, N. Y.



**SARCO THERM CONTROLS, INC.,**  
AN AFFILIATE OF SARCO COMPANY, INC.,  
635 MADISON AVENUE, NEW YORK 22, N. Y.  
PLANT: BETHLEHEM, PA.





## wood folding doors

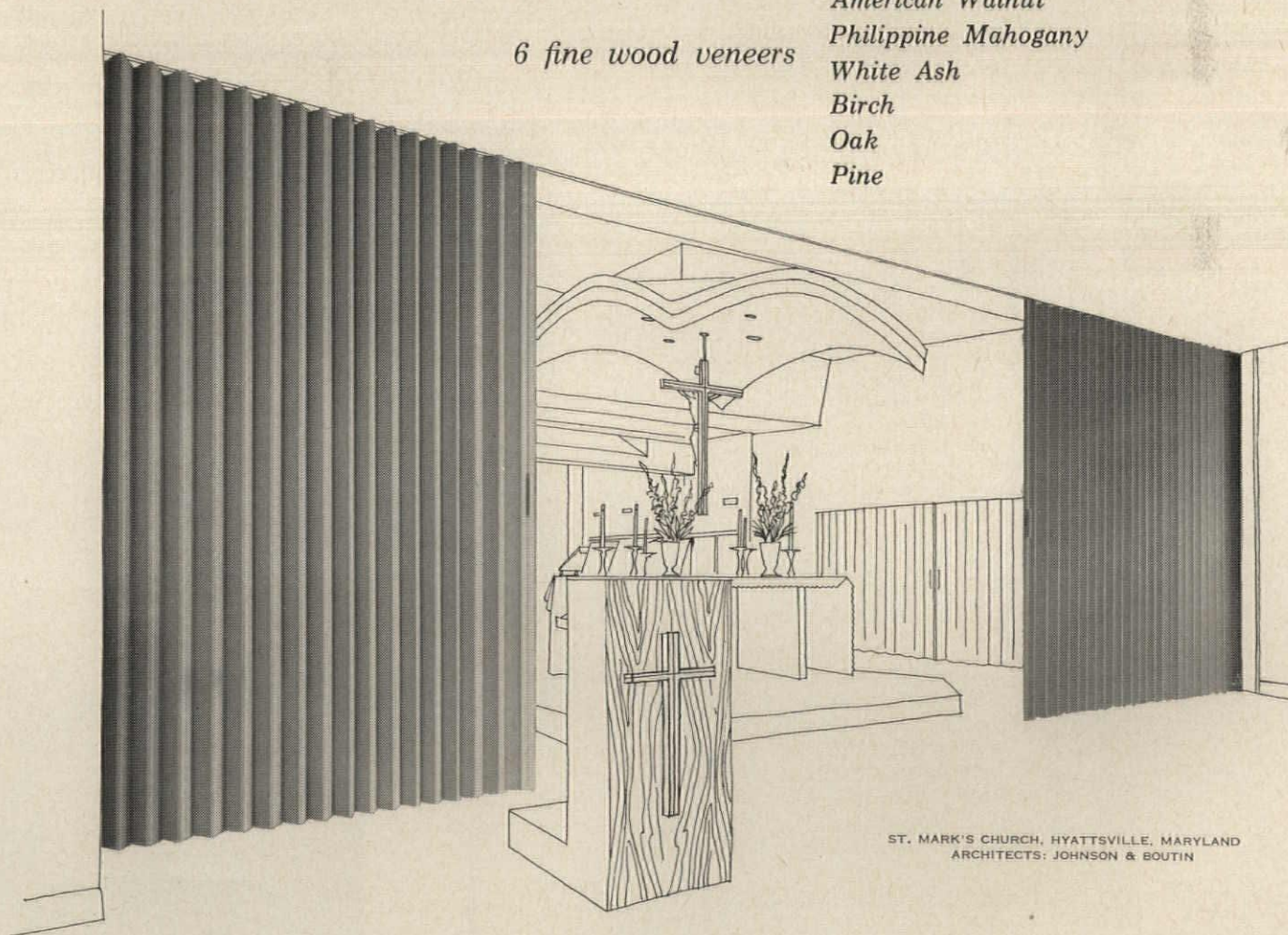
### offer creative approaches to space control

Made of wood, PELLA folding doors can be *painted or finished* on the job to your specifications. Some offices decorate them for use as "folding murals." In other applications the warm, inviting tones of 6 genuine wood veneers will provide the right selection. All are available factory-finished. Solid wood "Lamicor" panel construction prevents warping. Patented steel spring hinging assures smooth oper-

ation and even spacing of panel folds. For any width opening and in heights up to 12' 1". Wide choice of track and end-post arrangements. Full specifications in SWEET's or consult the classified section of your telephone directory for name of nearest U. S. or Canadian distributor of PELLA products. ROLSCREEN COMPANY, PELLA, IOWA.

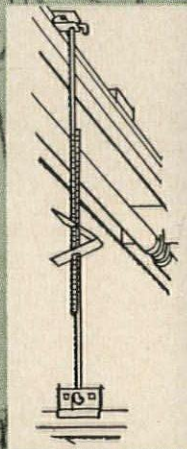
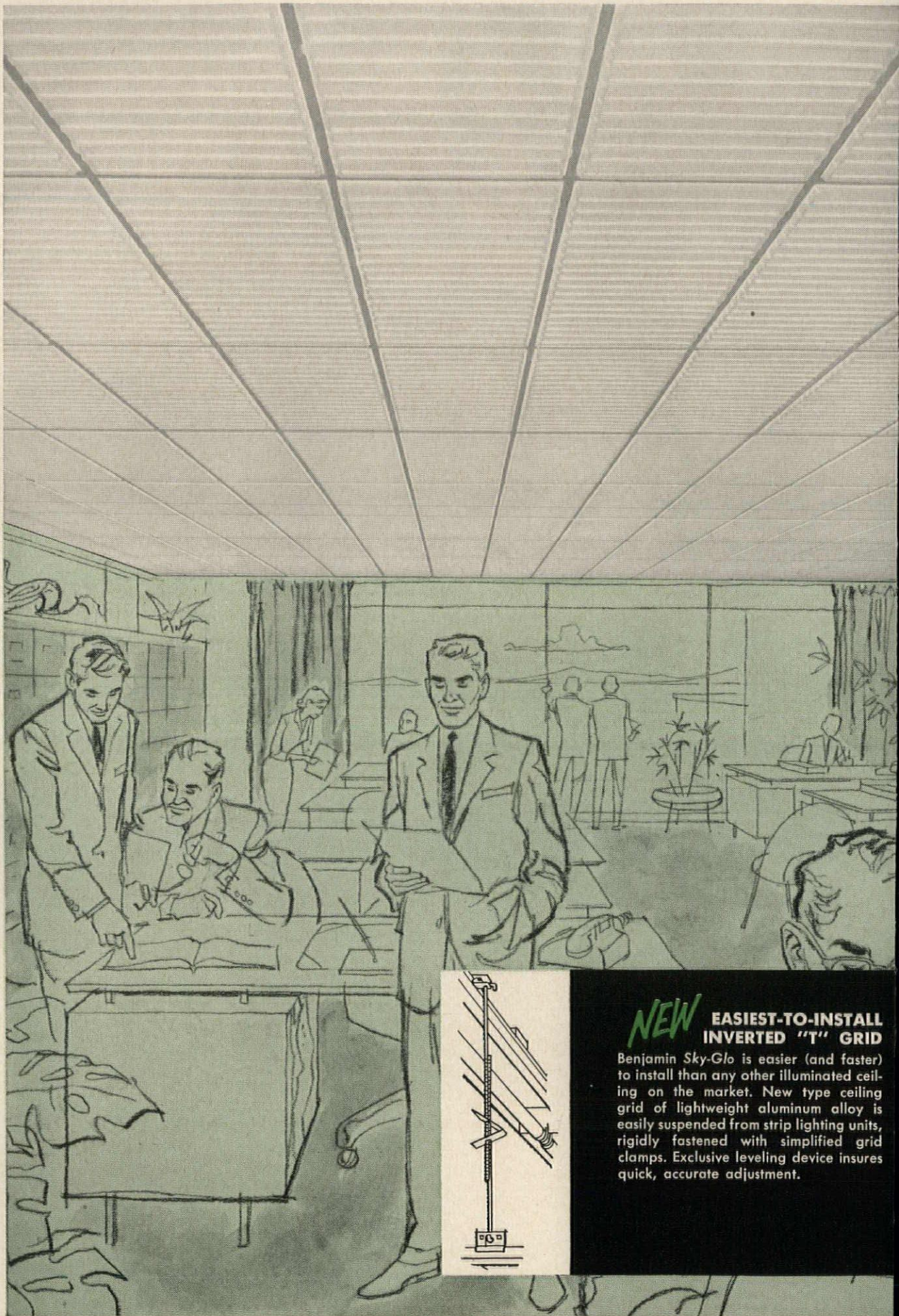
6 fine wood veneers

American Walnut  
Philippine Mahogany  
White Ash  
Birch  
Oak  
Pine



ST. MARK'S CHURCH, HYATTSVILLE, MARYLAND  
ARCHITECTS: JOHNSON & BOUTIN





**NEW EASIEST-TO-INSTALL  
INVERTED "T" GRID**

Benjamin Sky-Glo is easier (and faster) to install than any other illuminated ceiling on the market. New type ceiling grid of lightweight aluminum alloy is easily suspended from strip lighting units, rigidly fastened with simplified grid clamps. Exclusive leveling device insures quick, accurate adjustment.



Completely *NEW* from

**BENJAMIN**

*the first name in illuminated ceilings*

**Sky Glo**

*Sky-Glo* brings you an outstanding combination of advanced features, based on the design and engineering experience possessed only by Benjamin—**ORIGINATOR** of the illuminated ceiling! Easily-installed 2' x 4' or 2' x 2' panels fit any room, are adaptable for acoustical treatment and air-conditioning requirements. Supplied complete with lighting equipment, with a choice of seven panels and standard or high output lamps. Investigate *Sky-Glo*—see for yourself how much more Benjamin offers.

**ILLUMINATED CEILINGS**

*Bring you a  
new era in  
Service and  
Satisfaction*

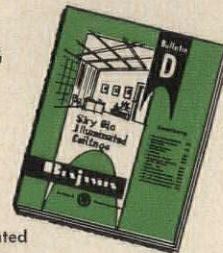
- HIGHER LIGHTING LEVELS
- SIMPLIFIED SUSPENSION FROM STRIP LIGHTING OR DIRECTLY TO CEILING
- LOW SURFACE BRIGHTNESS
- LATEST DESIGN PLASTIC PANELS
- SHADOW-FREE WALL-TO-WALL LIGHTING



**BENJAMIN**  
DIVISION Des Plaines, Ill.

**THOMAS INDUSTRIES INC.**

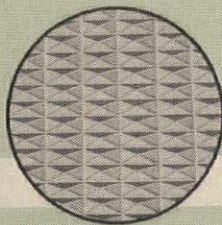
The World's Largest Single Source of Lighting  
For Commerce, Industry and Home



GET ALL THE FACTS on Sky-Glo Illuminated Ceilings—write for Bulletin D; Benjamin Division, Thomas Industries Inc., 207 E. Broadway, Louisville 2, Ky., Dept. BAR-11

**NEW** COMPLETE LINE OF LIGHTING UNITS

Another Benjamin exclusive!... *Sky-Glo* illuminated ceiling offers you Rapid-Start, Slimline, 800 ma. or 1500 ma. Power Groove lamps in a complete new line of fluorescent strips, featuring grooved channel, simple butt mounting and new ceiling spacer.



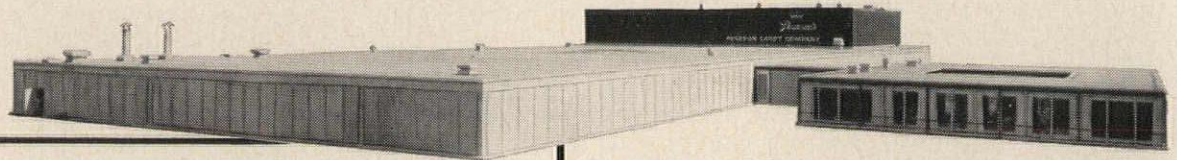
Angled facets of L-120 lens create high-efficiency diffusing medium.

**NEW** SELECTION OF PANELS

- Acoustical perforated vinyl panel
- Sculptured vinyl panel\*
- Prismatic L-120 lens
- Polystyrene louver— $\frac{1}{2}$ " cube
- Aluminum louver— $\frac{1}{2}$ " cube
- Holophane prismatic #6024

\*illustrated in ceiling on opposite page

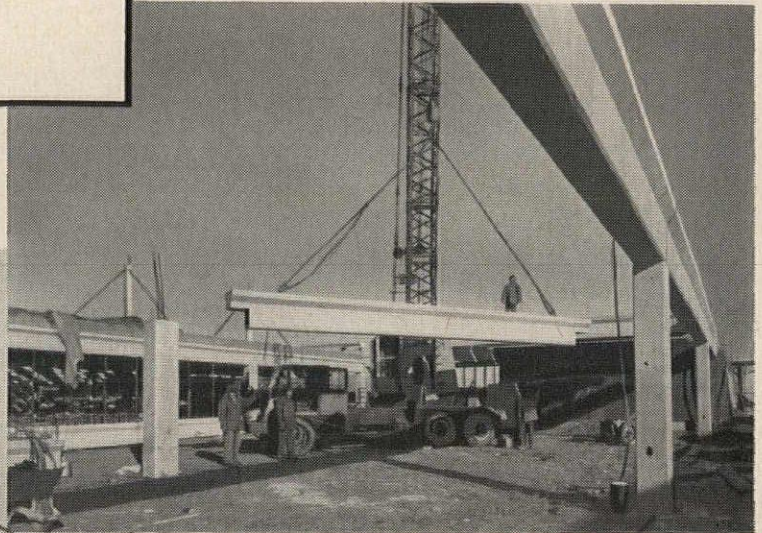
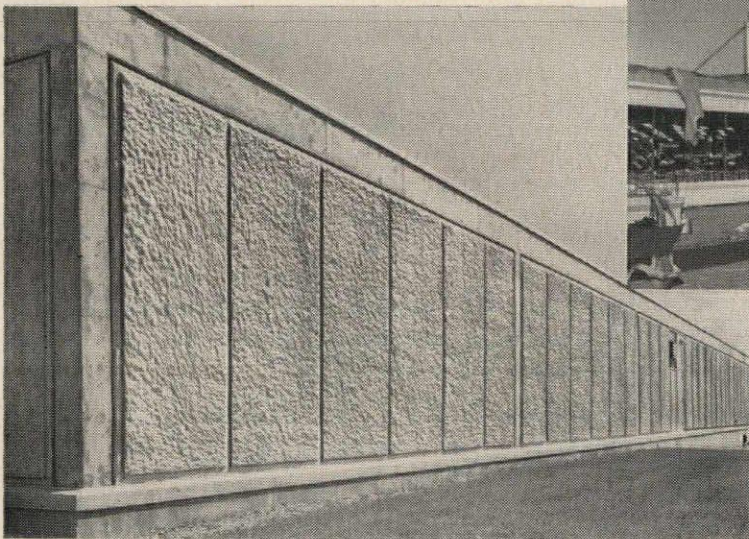




# Prestressed members, textured tilt-up walls

## FOR NEW ALL-CONCRETE CANDY FACTORY

Owner: Pearson Candy Company, St. Paul, Minn.  
 Architect: Thorshov & Cerny, Inc., Minneapolis, Minn.  
 Contractor: C. O. Field Co., Minneapolis, Minn.  
 Prestressed Units: Prestressed Concrete, Inc., Roseville, Minn.  
 Ready Mix Concrete For Tilt-up Slabs: Guaranteed Concrete Company,  
 St. Paul, Minn.  
 Light Weight Concrete Decking: Western Mineral Products Co.,  
 Minneapolis, Minn.

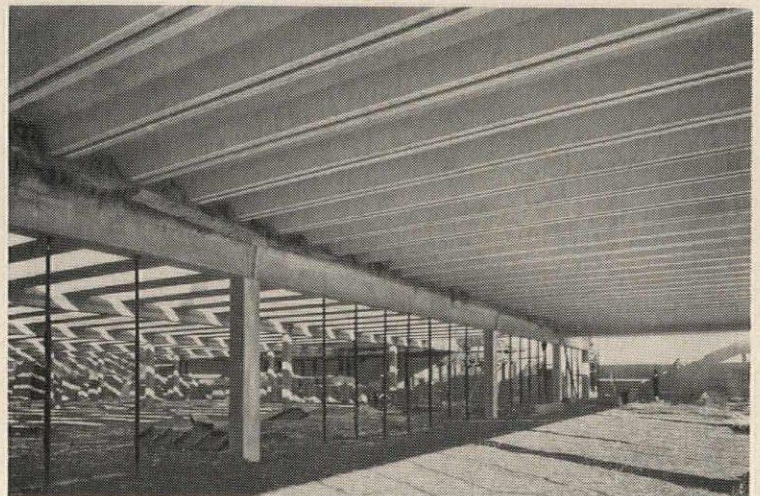


(Above) The 160' x 390' building is framed on 30' x 30' and 39' x 30' column centers. Beams are prestressed, columns precast. The floor area at the two story kitchen supports live load of 225 lbs. per sq. ft. without reduction in column spacing.

(Left) Most striking outward feature of the new Pearson factory is the tilt-up concrete wall. The interesting texture was achieved by casting the slabs on beds of gravel which had first been covered with plastic film. A total of 47 slabs 12' high and of lengths from 5' to 39' was required.

- Prestressed beams, channels, and precast columns provide the structural strength and large open floor areas needed for the Pearson Candy Company operation at St. Paul, Minn. Lightweight concrete roof decking and interesting tilt-up walls provide insulation and architectural effect, and complete the fireproof and low maintenance qualities of the building from roof to foundation.

Lehigh Cements were used throughout. Lehigh Portland for tilt-up walls. Lehigh Early Strength for precast and prestressed members, and for the roof decking. Lehigh Portland Cement Company, Allentown, Pa.



504 prestressed channel slabs, each spanning 30', were used in the roof. Over these, lightweight concrete decking was used to insulate and reduce dead load. The simplicity of design seen in this picture indicates the ease with which an efficient building can be erected, using modern concrete construction methods.

# LEHIGH CEMENTS



Westinghouse

helps Montgomery Ward Power-Up

for super service selling



ARDEN SHOP

Westinghouse







Bathing the interior with the latest in "selling" illumination are Westinghouse Mainliner fluorescent fixtures. 30° x 30° steel louver shielding diffuses the light and spreads it gently, complementing the merchandise. Ideal for large-area lighting, 700 of these handsome luminaires are used throughout the store. In photo, above, are W. K. Ostler, WESCO Branch Manager; F. L. Newlin, Ward Store Manager; C. H. Behr, Westinghouse Sales Engineer; and M. J. Muus, V. P. Newbery Electric Corp.

J-94153-2




## Shopping convenience and comfort backed by reliable power distribution system

Every foot a handsome, service-packed department store, Montgomery Ward's new Richmond, California, unit is the largest retailer in the Oakland Bay area. This facility is part of Ward's \$500,000,000 nationwide expansion and modernization program. Vital statistics include: 165,000 sq ft, 42 sales departments, 500 employees, 2000-car parking lot, and a declared policy of charming atmosphere, convenience and fast service.

Lighting the customers' way as well as the displayed merchandise are Westinghouse Mainliner luminaires. Seven hundred of these recessed and shielded fluorescent fixtures provide a high level of illumination throughout the store . . . in selling areas, offices, and in the semiopen-air garden shop. Modular construction of Mainliner units, in many combinations, readily lends itself to the various ceiling con-

struction techniques and lighting requirements of selling areas. Westinghouse color-corrected mercury-vapor luminaires sparkle over the 2000-car parking area.

Providing a solid base for lighting and power activity throughout the building is an array of Westinghouse distribution equipment. This modern facility is equipped with Westinghouse lighting and power panelboards, motor starters, safety switches, dry-type transformers and heat pumps for year-round air comfort control. All are expertly applied and engineered to work together. Thus, Westinghouse assists one of the nation's giant retailers to Power-Up for profit. *You can be sure . . . if it's*

Westinghouse 



Welcome shines everywhere . . . for the convenience of Ward's nighttime shoppers, Westinghouse OV-35 mercury-vapor luminaires are placed strategically throughout the parking area. Sixty-five of these units serve the 2000-car lot. A specially designed optical system directs a major portion of the color-corrected light to the roadway surface, providing high utilization levels. Supporting the luminaires are aluminum mono-tube, double-arm street lighting standards.



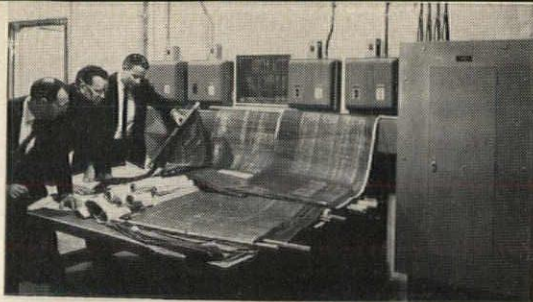
P. R. Cunliffe, Chief Mechanical Engineer; E. A. Kendall, Chief Electrical Engineer, both of Montgomery Ward; and M. Brasseur, Westinghouse Chain Marketing Representative, exchange views on store layout. Reliable Westinghouse equipment has long been the standard in electrical specifications for Montgomery Ward construction.

J-94153-3



Customer comfort is paramount . . . here J. R. Miller, Westinghouse Construction Engineer, and H. D. Carter, Building Superintendent, examine one of two Westinghouse air-to-air heat pumps in the auto service building, separate from the main store. These heat pumps quietly distribute air to the sales area, automatically heating or cooling as required. Attractive two-tone charcoal floor cabinets blend with any building design.





TOP: Reviewing construction plans in the mechanical equipment room are C. H. Behr, H. D. Carter and J. R. Miller. Four Westinghouse magnetic reversing Life-Linestarters, mounted on the wall, control motors driving auxiliary equipment. At the right is a Westinghouse CDP distribution panelboard, feeding power circuits in the room. Famed Westinghouse AB De-ion® circuit breakers insure foolproof protection for equipment against short circuits and dangerous overloads.

CENTER: A preliminary stage of the project sees C. H. Krieger, Consulting Electrical Engineer; T. Rhodes, President, Hilp & Rhodes, General Contractors; and A. E. Alexander, Architect, reviewing store electrical system.

BOTTOM: C. H. Behr and H. D. Carter converse normally beneath a quiet Westinghouse 15-kva DS-3 dry-type transformer. Many of these small, lightweight units are installed adjacent to selling areas where noise would be objectionable. Wherever quiet operation is essential, specify Westinghouse transformers. They test below 45 db in an ambient of 24 db and only Westinghouse sound-tests every production line dry-type transformer. This DS-3 transformer provides 120/240 volts for distribution by the NPLAB lighting panelboard shown below.

J-94153-4

OWNER: Montgomery Ward & Co., Chicago, Ill.  
 ARCHITECT: A. E. Alexander, San Francisco, Calif.  
 CONSULTING ELECTRICAL ENGINEER: Charles H. Krieger, San Francisco, Calif.  
 GENERAL CONTRACTOR: Hilp & Rhodes, San Francisco, Calif.  
 ELECTRICAL CONTRACTOR: Newbery Electric Corp., Richmond, Calif.  
 DISTRIBUTOR: WESCO, Oakland Calif.

Westinghouse





FOR THE HUNT LIBRARY  
CARNEGIE INSTITUTE OF TECHNOLOGY  
PITTSBURGH, PA.

# CURTAIN WALLS

IN ALUMINUM  
by GENERAL BRONZE  
CORPORATION

Here's an example of a beautiful classical-modern effect achieved through the use of narrow window bays and deep, vertical mullions of contrasting shades of anodized aluminum.

In designing the new Hunt Library at Carnegie Tech., the architects, Lawrie & Green, used Permatite fully reversible, vertically pivoted aluminum windows set in narrow, aluminum framed bays. Thirty-six inch deep mullions between windows not only act as functional sun shades, but also add to the distinctive architectural beauty of the building.

General Bronze's vast experience in designing, fabricating and erecting curtain walls covers every style of architecture and every type of material. On your next job call in the General Bronze representative. You'll find him ready and anxious to be of service. Our catalogs are filed in Sweet's.

Hunt Library  
Carnegie Institute of Technology  
Pittsburgh, Pa.  
Architects: Lawrie & Green  
Contractor: George A. Fuller Co.

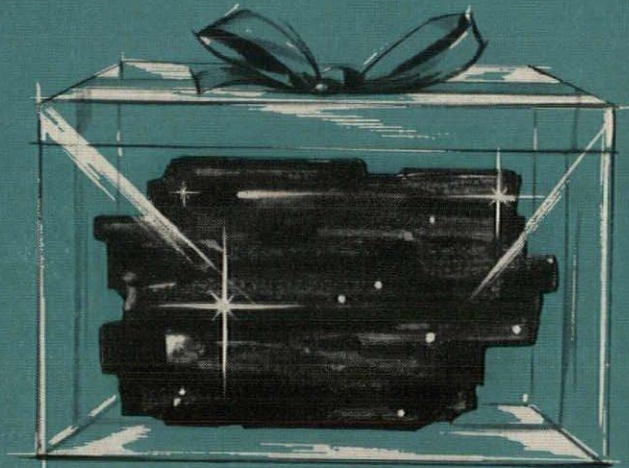
**GENERAL BRONZE**  
CORPORATION · GARDEN CITY, N. Y.  
SALES OFFICE: 100 PARK AVE., NEW YORK 17, N. Y.



PERMATITE DIVISION—Windows, Curtain Walls, Architectural Metal Work.  
ALWINTITE DIVISION—Stock-size Aluminum Windows and Doors.  
BRACH MFG. CO. DIVISION—Radio, Television and Electronic Equipment.  
STEEL WELDMENTS, INC. DIVISION—Custom fabrication in Steel and Iron.  
GB ELECTRONICS DIVISION—Telemetry and Tracking Antenna Systems



# REDISCOVER



**A modern boiler room in pastel colors has a clean, almost clinical appearance. Automatic sealed handling of coal and ash eliminates dust. Advance-design combustion equipment gets top BTU's from your fuel dollar.**



# ER COAL!

## **COAL IS CLEAN** because of advanced techniques in processing and combustion

The clean handling, clean burning characteristics of coal brought about by technological advances in preparation and combustion equipment, have made it an even stronger logical choice for low-cost, efficient fuel.

To provide a cleaner, more uniform product, the progressive coal mining industry has developed and installed radically new techniques in mining and preparation. More are on the way, too, as new mines become truly push-button mechanized.

Phenomenal, too, are the strides made in handling and combustion equipment. Sealed conveyor systems, dustless operation, fly ash reinjection, hydraulic ash carriers, electrostatic precipitators, and other innovations give coal a *clean* bill of health.

Through low-cost and high efficiency, coal provides more energy for your fuel dollar. Chesapeake and Ohio transports it economically from the world's finest bituminous coal reserves. Coal is the one fuel that will be available for centuries.

### **Chesapeake and Ohio Railway**

TERMINAL TOWER, CLEVELAND 1, OHIO

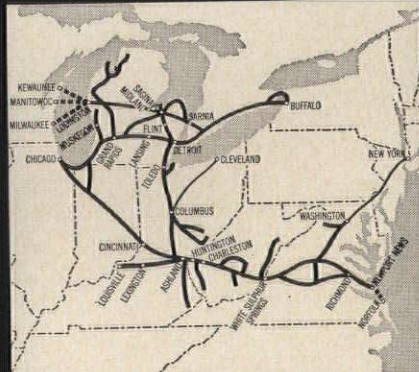
*Outstandability in Transportation*



Coal is a good neighbor because of developments in modern equipment that offer stoker-to-stack cleanliness. Textile plants, laundries, hospitals now avail themselves of this reliable, efficient and convenient fuel.



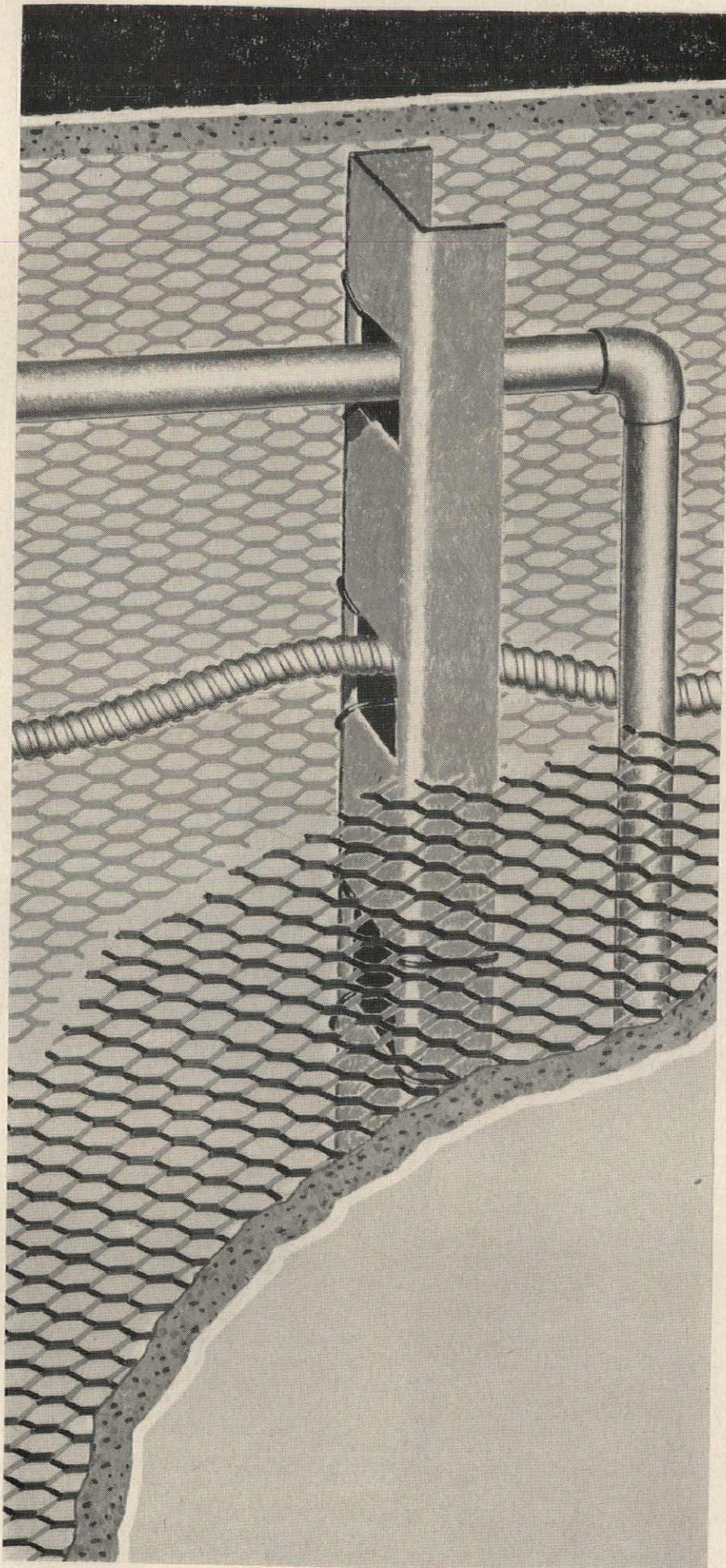
C&O Fuel Service Engineers provide free consultation to C&O patrons on combustion, application, equipment, or plant arrangement problems. Write to R. C. Riedinger, General Coal Traffic Manager, above address.



The 5,100-mile Chessie Route directly serves over 300 mines in America's richest bituminous coal reservoir with the finest fleet of 68,000 coal cars. Specify C&O routing for dependable, efficient delivery.

**CHESSIE SERVES THE COAL BIN OF THE WORLD**





# 1 5/8"

## New slim stud saves space in utility walls

Now you can design utility walls as much as an *inch* thinner, and *still* have plenty of room for pipes and wiring! The new Gold Bond 1 5/8" stud gives you a finished wall only 3 1/8" thick, when metal lath is used. This can bring savings of several thousand dollars in apartment or school building costs. Yet the holes in the stud are large enough (1 1/4 x 1 1/8") for pipes and wiring.

The 1 5/8" stud comes with a full set of accessories. Construction is fast, simple and economical. Ask your Gold Bond® Representative for complete details, or write Dept. AR-1160 for free samples and technical information.

NATIONAL GYPSUM COMPANY  
BUFFALO 13, NEW YORK

a step ahead  
of tomorrow

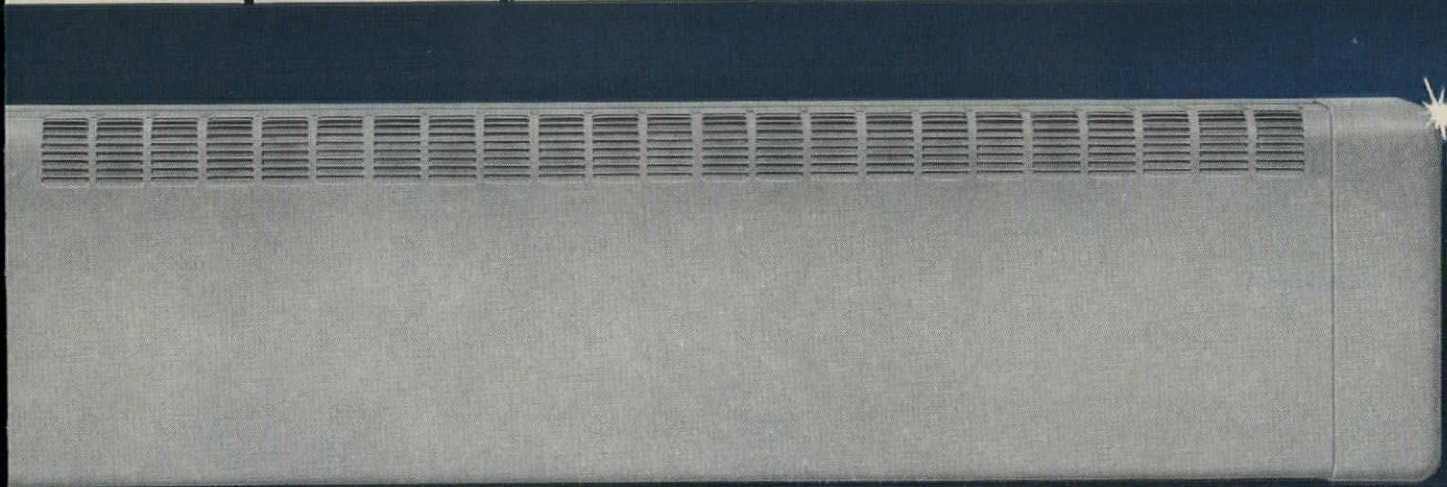
**Gold Bond**  
BUILDING PRODUCTS





# Why take Chinese copy?

**Nesbitt SILL-LINE**  
*is often imitated*  
*but never duplicated*



## Check before you choose!

If it gives you all of these standard features it is the genuine Nesbitt SILL-LINE. . . . No checkee, no takee!

16-gauge enclosures fully braced at least every four feet to equal strength of 14-gauge	✓
The three-sided front locks to a full back panel to form the strongest unit-type assembly	✓
Five styles of enclosure, 11" to 24" heights to meet all requirements of capacity and use	✓
All accessories are expensively die-formed to compliment enclosure design and fit perfectly	✓
Eight-step rust-inhibited baked enamel finish in a choice of six modern decorator colors	✓
Seven stock lengths of enclosure and heating element; any wall-to-wall fit without cutting	✓
Ten types of steam-or-hot-water fin-and-tube heating element; and four types of electric	✓
Wide range of capacities, from 700 to 2900 Btu per hr. per lineal ft. (steam)	✓
All ratings approved under the latest edition of the IBR testing and rating code	✓

**L**OOK-SEE, my friend! Compare NESBITT SILL-LINE with any other manufacturer's wall fin type of radiation. Decide on the basis of what you can see and feel!

Start with Nesbitt's full one-piece back panel which fits anywhere, even over mullions, wall-to-wall without cutting, insuring perfect alinement and saving of wall trim. Then examine Nesbitt's three-sided front enclosure, die-formed, with turned edges. Note how this front interlocks with the back panel for the *full length of the top and bottom grilles*. Constructed of 16-gauge steel and braced from top to bottom at least every four feet, *this enclosure is as strong as one of 14-gauge — but without extra cost!*

Now examine the Nesbitt accessories — not "after-thoughts," like some accessories, but all smartly designed and expensively die-formed to complete the "world's most beautiful perimeter radiation."

Add Nesbitt's baked enamel finish — flawless result of an 8-step process under strict inspection.

Compare all the Nesbitt features with any others! Remember, like Confucius say: "Chinese copy cost less, worth less, is less. Take real thing, take Nesbitt!"

Like to have Nesbitt man bring you sample of Sill-line?  
 You write us . . . he come, chop chop!

MEMBER

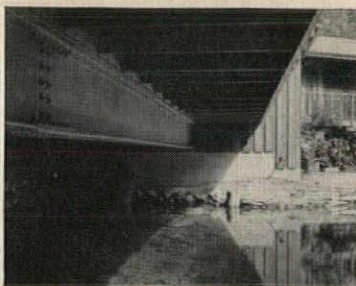


Sill-Line Radiation is made and sold by  
 John J. Nesbitt, Inc., Philadelphia 36, Pa.





*TWO STEEL I-BEAMS* extend between river banks to support the weight of the structure. Incidentally, the dam below the house is opened each Fall to avoid damage during heavy Spring run-offs.



*SAW-TEXTURED REDWOOD* was specified for siding as being particularly appropriate for the heavily wooded setting. It was left unfinished, except for a simple water-repellent treatment, to weather naturally and beautifully.



*THE INTERIOR* is also of saw-textured redwood. The 1 x 8 board on board pattern is similar in appearance to the new Santa Rosa pattern of CRA mills.





*Spectacular setting . . . brilliant design . . . perfect use of redwood*

Here in the historic Mother Lode country of Northern California is dramatic evidence of redwood's natural affinity to the living forest. Everywhere you look, inside and outside, there is redwood. And there is a warm, natural beauty that creates any other building



a feeling of restful harmony between home and surroundings. It's hard to imagine material that could have contributed so much to the architect's basic design.

*All the wonderful warmth of wood . . . lastingly yours in redwood.*

**CALIFORNIA REDWOOD ASSOCIATION • 576 SACRAMENTO STREET • SAN FRANCISCO • CRA-CERTIFIED KILN DRIED REDWOOD**





Specify low-cost  
**SONOCO**  
**SONOVOID**<sup>®</sup>  
**FIBRE TUBES**  
 for voiding concrete slabs, decks,  
 and precast members



Planetarium Building, Marine Historical Association, Mystic Seaport, Mystic, Connecticut. Architect: Rogers & Butler. Contractor: A. Ceccarelli & Son

## VOIDS Reduce Weight—and Costs—in Concrete Construction

Voids in concrete slabs and decks, formed with SONOVOID Fibre Tubes, displace non-working concrete and reduce weight and overall building costs. How? Voided slabs require less concrete and reinforcing steel, and their lighter weight permits the use of smaller, less expensive foundations and supporting members.

In addition, weight-reducing voids make longer span, flat plate slabs practical—and that means greater design flexibility. Such flat slabs offer greater freedom in locating partitions, eliminate the need for dropped ceilings, and re-

duce overall cubage—especially in multi-story buildings.

When you plan a voided system, specify the use of SONOVOID Fibre Tubes—*especially designed* to form voids in concrete construction. They are economical, lightweight and easily handled . . . and save both contractors and owners time, labor, materials and money.

Contractors can order Sonoco SONOVOID Fibre Tubes from 2.25" to 36.9" O. D., in standard 18' lengths or as required. End closures available.

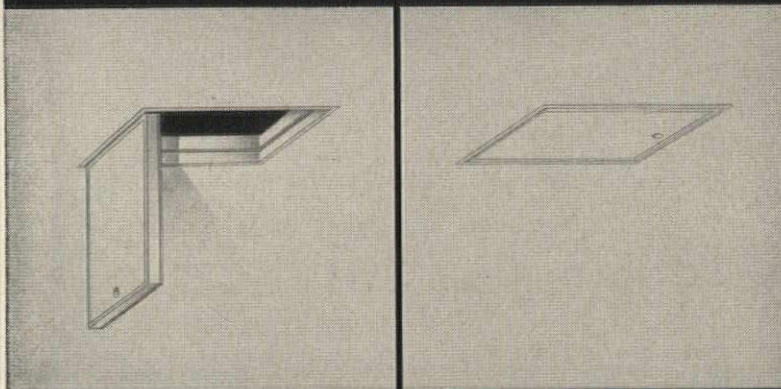
*See our catalog in Sweet's, or write for complete information, slab design tables, and prices.*

**SONOCO**  
 Construction Products 5165

SONOCO PRODUCTS COMPANY, HARTSVILLE, S. C. • La Puente, Calif. • Fremont, Calif. • Montclair, N. J. • Akron, Indiana • Longview, Texas • Atlanta, Ga. • Ravenna, Ohio • Brantford, Ont. • Mexico, D. F.

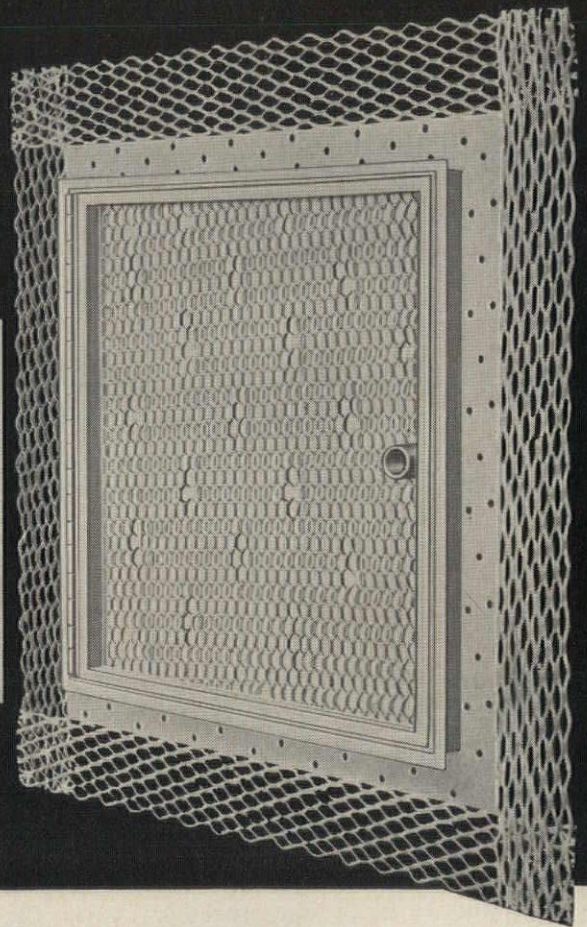


**NOW** you see it  
*...now you don't!*



door open

door closed



NEW...for acoustical plaster

## MILCOR STYLE B ACCESS DOOR

Acoustical plaster is troweled over the recessed door panel and finished flush with the surrounding plaster. When the job is done, you can hardly tell an access door is there. There is no exposed door panel to break the ceiling surface or impair acoustical efficiency.

The plaster is securely bonded to the door by self-furring Milcor Furlath welded to the panel. Plaster edges are protected by Milcor No. 66 Casing Bead around the panel's perimeter. The same bead on the outer frame enables the plasterer to get a neat, clean finish with the surrounding plaster area.

Three sizes are available, 12" x 12", 12" x 24", 24" x 24" — for 1", 1 1/8", and 1 1/4" grounds. Catalog 210 describes them. Write for your copy.

ML-42

**MILCOR**<sup>®</sup>

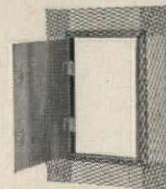
the  
 industry's  
 most complete  
 line of  
 access doors



Style A for standard acoustical tile up to one inch thick.



Style M for masonry, brick, stone, tile, etc. With overlapping flange.



Style K for plastered walls. With expansion wings. Style L, without expansion wings.

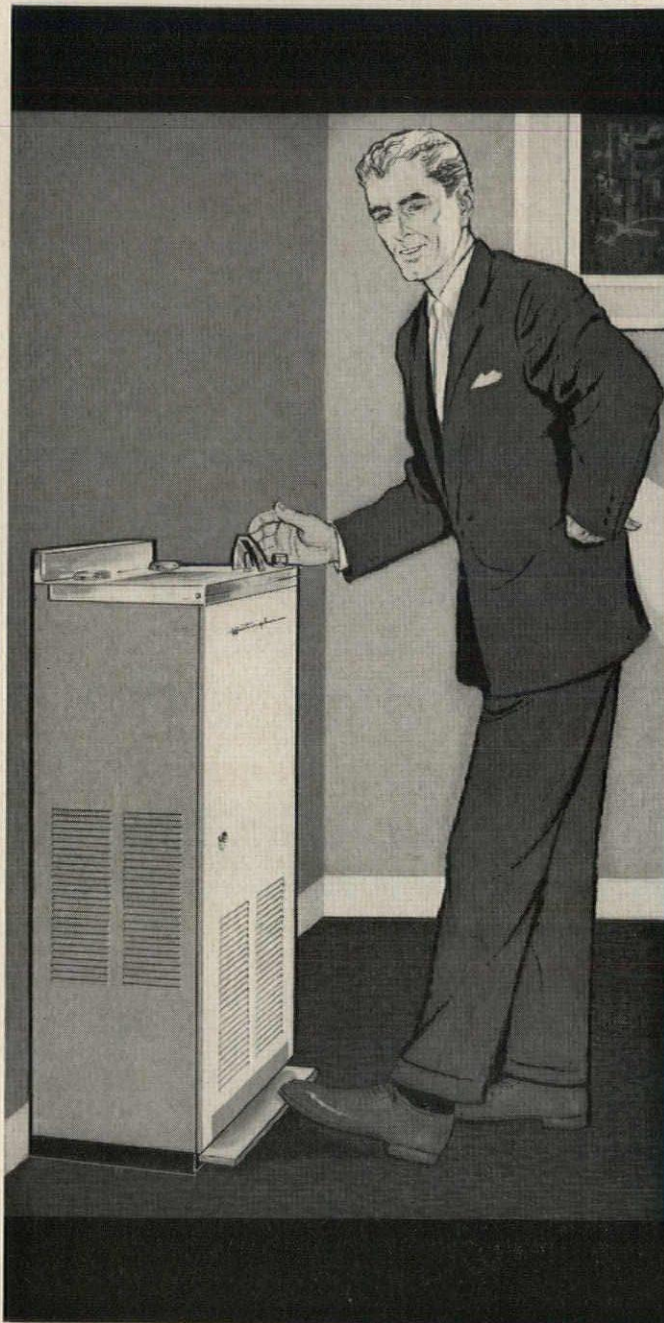
INLAND STEEL PRODUCTS COMPANY, DEPT. K, 4033 W. BURNHAM ST., MILWAUKEE 1, WISCONSIN

Member of the **INLAND** Steel Family

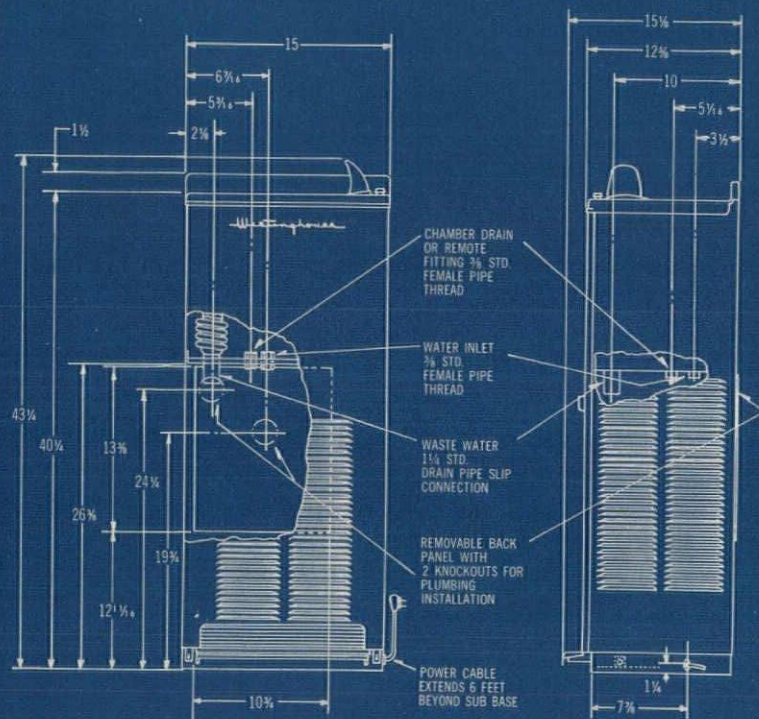
BALTIMORE, BUFFALO, CHICAGO, CINCINNATI, CLEVELAND, DETROIT, KANSAS CITY, LOS ANGELES, MILWAUKEE, MINNEAPOLIS, NEW ORLEANS, NEW YORK, ST. LOUIS



# NEW FLUSH-TO-WALL WATER COOL



## ROUGHING-IN DIMENSIONS



## ON-THE-FLOOR MODEL

## EXCLUSIVE WESTINGHOUSE "WALL LINE"

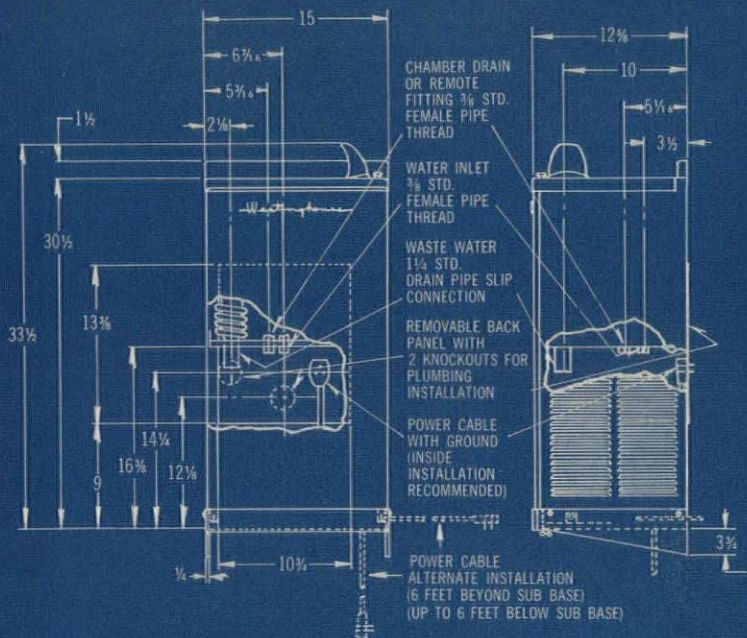
**No unsightly plumbing—far faster . . . easier—less expensive to install.** Now, Westinghouse makes water coolers as up-to-date as today's architectural designs! No more exposed plumbing to mar clean, functional lines . . . or to catch trash and dirt. No more jutting into passageways and work areas. With the Westinghouse "Wall Line" all plumbing is concealed neatly inside. As a result, instead of the usual 18" to 22", these Westinghouse Water Coolers project only 12 1/2", take 30% less space, keep corridors clear! New slip connections make installation far faster and easier, too. What's more, the Westinghouse "Wall Line" includes models for *on-the-floor*, *on-the-wall*, and *in-the-*



# ERS INSTALL NEATLY-ANYWHERE!



## ROUGHING-IN DIMENSIONS



## ON-THE-WALL MODEL

... offering you complete flexibility of design. On-the-wall models can be mounted on the floor to provide correct drinking height in schools. Call your Westinghouse Water Cooler Distributor listed under "Water Coolers" in the Yellow Pages—or mail the coupon. Specify electrically refrigerated water coolers for schools, they are only slightly higher than non-refrigerated fountains. You can be sure . . . if it's Westinghouse.

**Westinghouse**



MAIL COUPON NOW

WESTINGHOUSE ELECTRIC CORP.

Water Cooler Dept., Columbus, Ohio.

Please send me more information on your new Westinghouse "Wall Line" Water Coolers.

NAME \_\_\_\_\_

NAME OF COMPANY \_\_\_\_\_

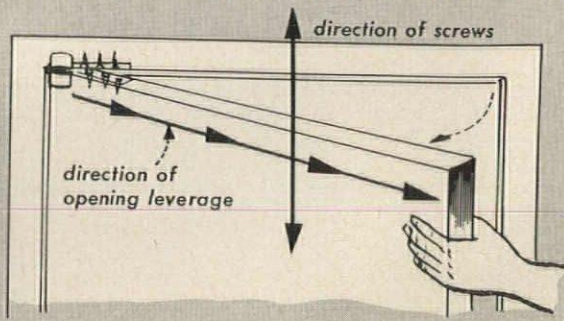
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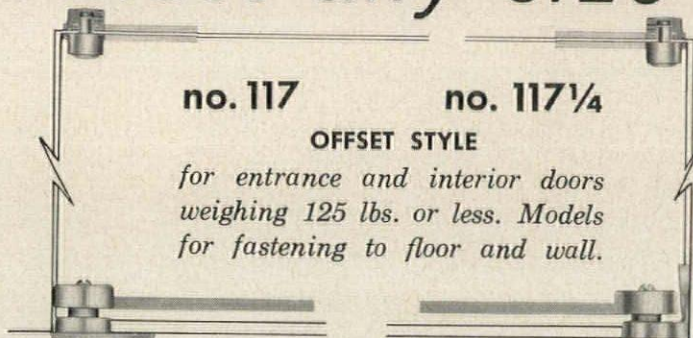


PIVOTAL HUNG DOORS ARE MORE SECURELY ATTACHED

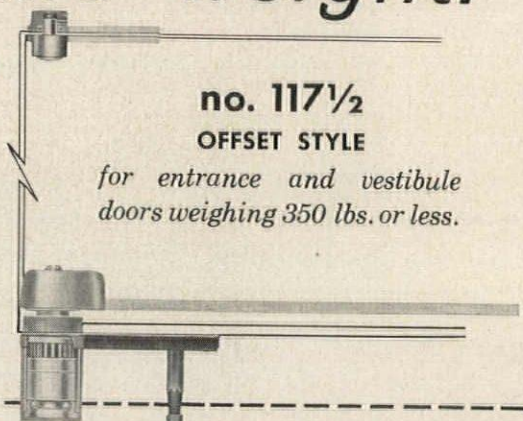


Direction of mounting screws is at right angles to the door leverage. Weight of door is carried by the bottom half of the pivot set.

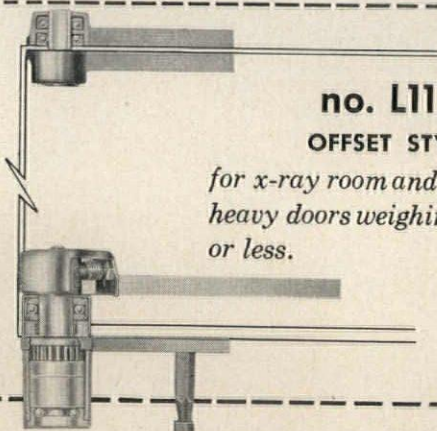
there's a **RIXSON** pivot set for pivotal hanging of doors... most any size and weight.



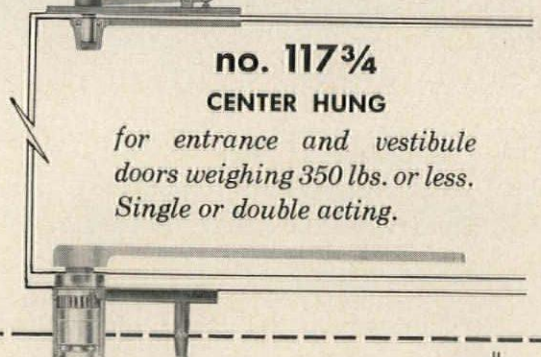
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**OFFSET STYLE**  
 for entrance and vestibule doors weighing 350 lbs. or less.



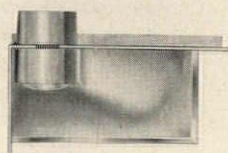
**no. L117**  
**OFFSET STYLE**  
 for x-ray room and other extra heavy doors weighing 1500 lbs. or less.



**no. 117 3/4**  
**CENTER HUNG**  
 for entrance and vestibule doors weighing 350 lbs. or less. Single or double acting.

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is recommended for the utmost in secure mounting and to relieve racking stress. Door portion is surface mounted with thru bolts.



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View of the modern Ivanhoe Elementary School in Gary, Indiana, showing its walls of Natco Uniwall. The buff colored vertical walls show Uniwall's exterior rugg-tex finish. The light green panels under windows show a unique use of Uniwall's interior face installed in reverse. Architect: Jos. P. Martin & Assoc.

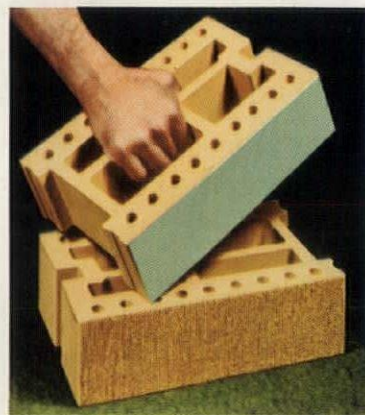
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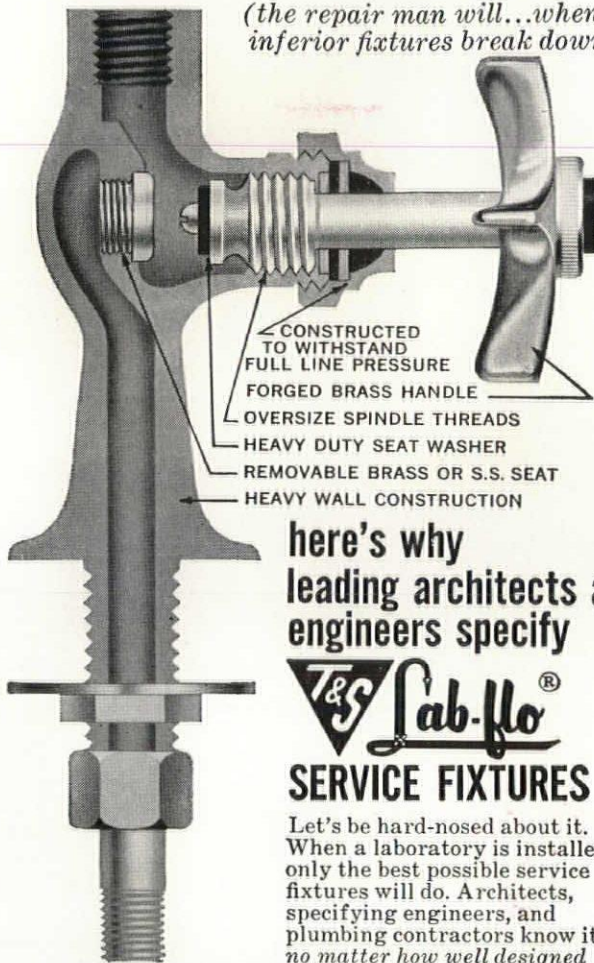
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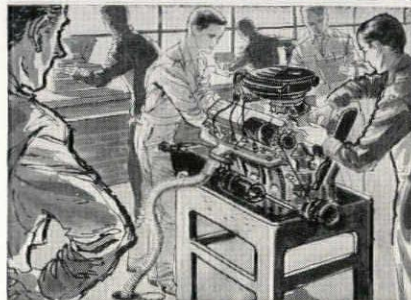


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# COLLEGE BUILDINGS

BUILDING TYPES STUDY 288

## CAMPUS PLANNING

### *The Unique World of the University*

*By Eero Saarinen*

Over the last ten years there has been a building boom on our campuses. Building by building these plants have almost doubled in capacity, as indeed they had to, for today they serve 3.8 million students as against 1.1 million in 1930, when the last boom stopped. It is now time to evaluate what has been done.

This evaluation must take place on two levels. The first concerns the general matters which underlie all campus architecture: the master plan, the policies of land acquisition, the question of costs, and the intent of college and university architecture. The second evaluation—and it is the most provocative—concerns the aspect with which we are most familiar because it is the most publicized and the closest to us: the individual buildings that have been built in our time.



## THE MASTER PLAN

First, there is the matter of the master plan. At certain times universities rise to Olympian heights and decide that an over-all master plan is necessary, which indeed it is. But far too often such a document is treated superficially by the architect, by the administration, and by succeeding architects.

Here is what generally happens. The architect presents the over-all plan to the administration. When and if it is accepted in principle and the immediate buildings under consideration are placed and released, the architect then sometimes forgets all about the master plan and concentrates on the current buildings, disregarding their relation to the master plan. The administration generally treats the master plan with similar superficiality, and in many instances forgets all about or ignores its existence. Frequently the only intent of the master plan was for fund raising purposes. The administration often

neglects to show an existing master plan and its intent to each new architect commissioned to do a building, and there is usually very little enthusiasm on the part of new architects to dig up exactly what was intended by earlier studies.

Now, these are situations created when there is a master plan. In many instances, colleges and universities have no real master plan. A new building looms on the horizon and the Board of Directors try to place it themselves. The result of this investigation is generally that the best and openest lawn is decided upon. Not until this decision is reached is the architect called in. Too often the architect then fails to take any responsibility about placing the building, and simply says "yes" to the job. I have even heard of a case where an architect designed a building and told the college officials, "You decide where it should go."

## LAND ACQUISITION

Second, there is the matter of the land acquisition policy of a college or a university. This, of course, has much to do with determining what can or cannot be done and, to a large extent, land acquisition policy becomes the key to many planning problems. Universities tend to create dense cities around them, with the result that land becomes prohibitively ex-

pensive when the institution must expand. I have even seen cases where universities, during some financial crisis, have short-sightedly sold land that has ten years later become of top priority for an orderly expansion. A master plan is an absolute necessity, and a policy of orderly land acquisition must be part of the master plan.

## THE BUDGET

Third, there is the problem of money. A new building is donated but the amount of money is set. Generally, I believe our universities are making the very grave mistake of building on starvation budgets. A policy of holding out for quality would in the long run be wiser and more successful, and would make possible buildings that would ultimately be lower in maintenance cost. The whole question of how much a university should pay for its buildings is a chapter in itself. The pattern of past generations was that of proud buildings on beautiful campuses. The pattern at that time was also forward-looking expansion plans and considerable land acquisition. Those were the golden days. Since then, universities have gone through many financial crises and the costs of buildings have risen many times. As a result, they tend to neglect every consideration except hardboiled, expedient building programs. Too many universities have acted very much like building committees for schools. The purpose has been to build for the lowest price per sq ft; or in dormitories, the lowest price per student housed. This is, I believe, a very short sighted policy. Because of their unique place in society, universities should look toward the

future. A practical, simple argument is, of course, that the lowest price per student today may not prove to be the lowest cost in the long run, when maintenance and obsolescence are considered. The question is, however, much larger than that.

The greatest assets that a university has are beauty and harmonious surroundings. In a sense, universities are the oases of our desert-like civilization. And, as the monasteries of the Middle Ages, they are the only beautiful, respectable pedestrian places left. Their greatest potential financial asset is, of course, the attraction they hold for their alumni bodies—for the largest support of building and academic programs comes from alumni and alumni inspired foundations. The opportunity of becoming forever a part of a permanent, respected, intellectual environment is a primary attraction for the donor. Does it not stand to reason that any university that can maintain a standard of excellence in these memorials will gain? Can we not recognize that what is being done today follows a pattern of living on borrowed time? Universities are living on the proud environmental homogeneity of a past generation, but very often today may build isolated build-



ings out of pure expediency and disregard a controlled and coordinated total environment. It will suddenly become apparent to all that the university campus is not any more the permanent, beautiful environment it has been for so long in our mind's eye.

## RECENT CAMPUS BUILDING

Now, what of the campus buildings themselves that have been constructed in our time? We are familiar with what has been done through the publication of individual buildings, and many such command great respect. Our best architectural talent is working on campuses today. The battle of modern architecture has been won, and these buildings are in general contemporary in design, and have made the break with the past. College buildings have taken the form of additions to existing buildings; new buildings among or adjacent to older structures; and in a few cases consist of entirely new plants built from scratch, such as the Air Force Academy. The overwhelming bulk of building has, however, consisted of buildings adjacent to or among the old campus group. This problem is the most common, the most important, and the most difficult to solve.

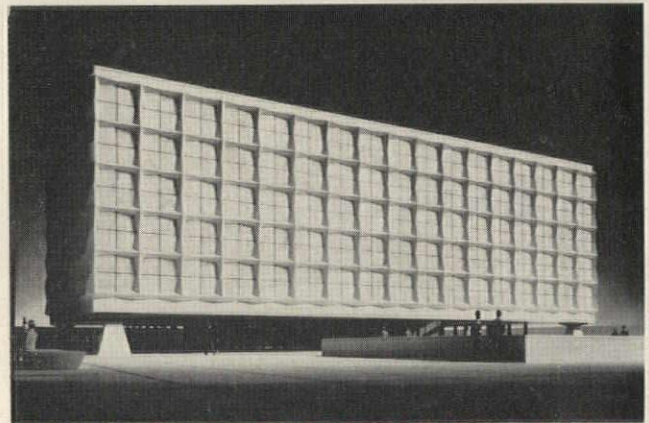
The primary characteristic of this period seems to be building buildings—buildings thought of as entities in themselves. Whether they are nonentities or significant buildings, from their conception onwards the *buildings themselves* have been thought of as the unique problem. Very little has been produced recently in the form of over-all campus building concepts. Many plans have been published, but they remain only two dimensional solutions to a problem, not plans with the third dimension in mass brought into the study, and practically never plans in which an over-all architectural discipline has been brought into the study. Other characteristics and problems of campus building today: a rash of comparatively small building units, due primarily to small private donations; the great pressure (as we have said) to stretch the building dollar to the last penny; and the necessity of using limited building locations due to the absence of farsighted land acquisition policies.

If we forget the published presentations of individual buildings and visit the campuses to evaluate them, how do these buildings stand up? We find some remarkable and some alarming things. Paul Rudolph's Art Center at Wellesley stands out as one of the best examples of a building carefully designed to harmonize with a dominant existing pattern. Gordon Bunshaft's Rare Book Library for Yale carries great promise of being a beautiful building, of our time and yet fitting into an existing surrounding. Henry Shepley's Lamont Library at Harvard is a building sensitive to its surroundings.



WELLESLEY: Jewett Arts Center; Paul Rudolph, Architect

Joseph W. Molitor



YALE: Proposed Rare Book and Manuscript Library; Skidmore, Owings & Merrill, Architects—Gordon Bunshaft, partner in charge of project

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On the other hand, we all know of examples of buildings wrongly placed and of discordant material and scale built by our eminent colleagues which will forever ruin the general harmony beyond their own four corners. Some of these are treated with respect by architectural magazines, with no question of fitness or relationship to their permanent neighbors ever being raised. We find other alarming things.

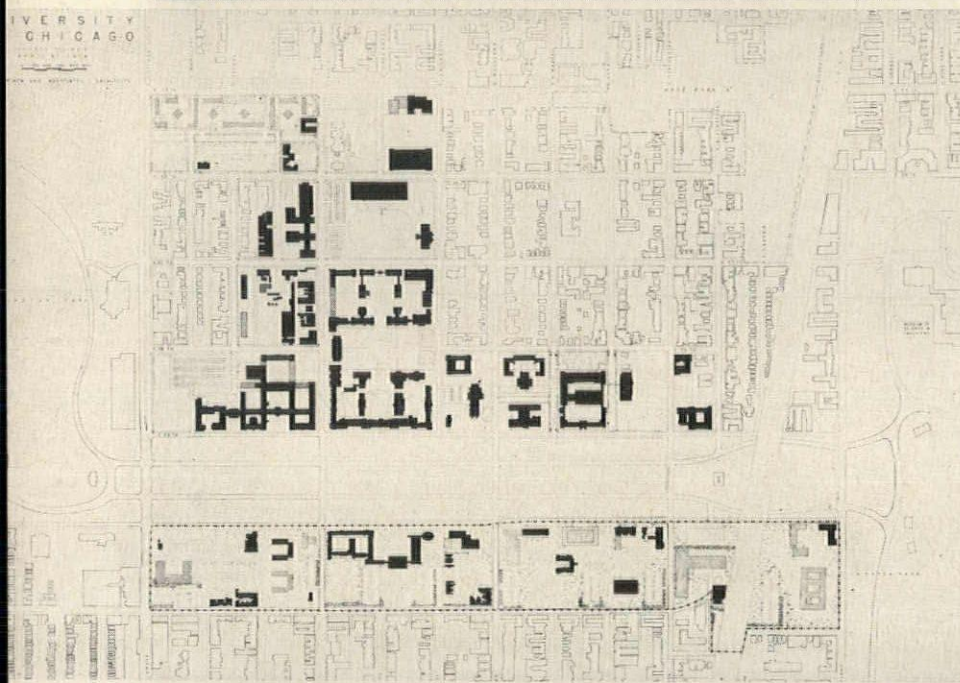
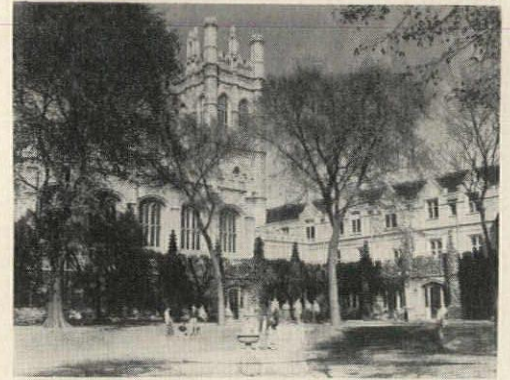
You gradually begin to question the whole set of values by which we have been building campus buildings today. Is it perhaps true that the building itself is *not* the primary thing, but that the total harmony of the outdoor space which it and other buildings create is the important thing? Is it not perhaps true that the campus as a whole, the old and the new together, is the unit to consider, and not just the new building? While on campus we considered what the last generation did—by wandering around, by looking at plans, and by looking up some of the old writings. Let me tell you about some of the campuses I know best.



*Architectural Record, October, 1894*



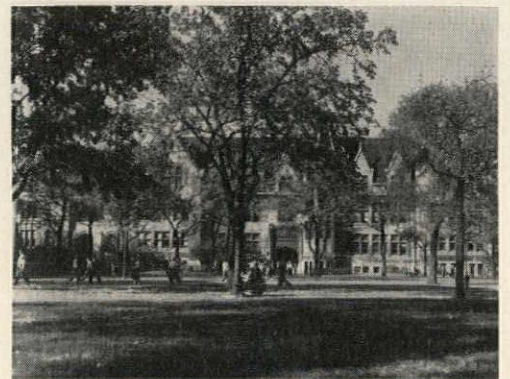
*Town & Country*



CHICAGO: Top left, the original scheme for the University, made in 1892 by architect Henry Ives Cobb. Left center, the present master plan, which includes areas more recently acquired—especially the strip to the south of the Midway. The three photographs show the general character of the campus; note the view of Hutchinson Court, above, bounded by buildings designed by three different architects over a period of 36 years—see text



*Chicago Aerial Industries, Inc.*



*Town & Country*

**SOME OLDER CAMPUSES**

The older parts of the University of Chicago or Yale University, the former built mostly in the 20's and the latter in the 20's and 30's, are both dressed in pseudo-Gothic, and both of them were sneered at by us as young students for their eclecticism.

Wandering in the University of Chicago today,

one is amazed at the beauty achieved by spaces surrounded by buildings all in one discipline and made out of a uniform material; where each building is being considerate of the next, and each building—through its common material—is aging in the same way. One is now far enough removed from the fight



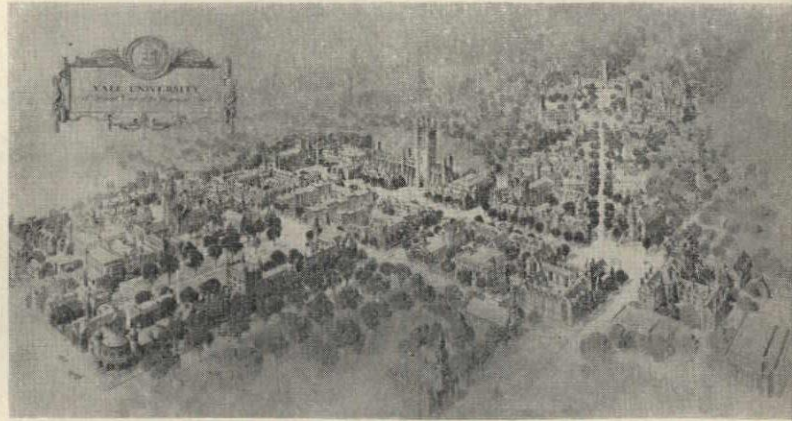
against eclecticism to admire the largeness of vision of the time, and one becomes interested in finding out how all this came about.

It is significant that on a small court on the University of Chicago campus built between 1894 and 1930, three different architects—Henry I. Cobb, Shepley, Rutan & Coolidge, and Charles Klauder—built the four different sides of the court. All are in the Gothic style, and the court gives us today a beautiful, harmonious visual picture (false stage scenery of a bygone era, it is true). Imagine what would have happened if three or four equally eminent architects of our day were asked to do the four sides of a square! (As a matter of fact, we are sweating it out on Lincoln Center and it *is* a problem). One begins to realize the great value an over-all discipline like the Gothic had in making the problem of unity simpler.

But we must look further to see how the total master plan was achieved. At Chicago, Henry I. Cobb made the master plan not a two-dimensional one but a three-dimensional one, and set the pattern of the Gothic. This plan was respected. The strong minded, architecturally enlightened members of the Board of Trustees insisted that the plan be carried out substantially as conceived.

The phenomenon of the unity of the Yale buildings is another one to examine. Charles Haight built several of the early buildings on the old campus, including Vanderbilt Hall and Phillips Tower. A leading architectural critic of the time, Montgomery Schuyler—visually sensitive and aware—praised him for his deliberate manipulations in the interests of harmony through mass and fenestration. This was a period when there was real concern over how buildings actually related to each other, and also a period when critics used their eyes and were not afraid to speak up. Later (1919), John Russell Pope was commissioned for \$100,000 to make a master plan for Yale, and it was published in a beautiful document. Some of the existing buildings were classical, but Pope proposed to hide some of these and turn the whole complex into a Gothic Oxford-like university. His plan was abandoned, but in the thirties, James Gamble Rogers took over the job of rebuilding Yale and consolidated a modification of Pope's plan into a new over-all master plan. The thing one sees in this is a great deal of concern by the architects, by the administration, and by the critics for the big concept of a total plan, a total unity of form, and the creation of planned outdoor spaces. (No generation has talked so much about "space" in architecture as our own; and no generation has done so little about it).

We now go to another institution, M.I.T. The oldest part of this group, the buildings designed by Welles Bosworth, stand out among all its buildings as the only homogeneous group. These were the buildings that we all disliked in the thirties and



YALE: Proposed Master Plan (1919) by John Russell Pope, Architect



YALE: The old campus, a focal point in University life



MIT: The original scheme for the Institute, designed by Architect Welles Bosworth



forties because of their pseudo-classic sterility. But let us not dismiss them so easily just because we once disliked them. One can now see that they form a unity: they create an environment. They have also proven quite useful. They were built in parts and X-number of units was added. They were built on the principle of continuous space—continuous usage of standard space. Fortunately, Welles Bosworth chose a bay width which has proven very workable despite hundreds of shifts and alterations within. It is possible that had the buildings been done on a complete modular system with movable partitions they would have proven less flexible. Parenthetically, the Bosworth M.I.T. buildings have been called dull and monotonous, but I have come to the point where I would welcome more dullness and more monotony in our cityscapes instead of all the visual clashes typical of our time. Another building of the same type of plan as the Bosworth group is the Chicago Medical Center and Hospital, which has proven its durability. Here also many internal changes and additions have been made but because it is continu-

ous space—not fitted around departments, but in a sense universal space—it has proven modern today.

By these examples, Yale, Chicago and M.I.T.—and by many others that I could name also—we come to find that the last generations did not do badly in many respects. In fact, in many ways they did better than we are doing. They saw the problem in a larger way; they provided for total plans and environment more than we do; and some of their buildings have been proven by the test of time. Of course, they had in many respects an easier time. They relied on disciplines such as Gothic or Georgian for their buildings. They relied on prototypes such as the courts of Oxford and Cambridge for their planning—or as at M.I.T., a Louvre-like plan. All this is true, but the revelation of how much better and more durable their results are makes it necessary for us to pause and think. It is time to re-examine our own aimlessness in many fields, our national purpose, etc. It is likewise time to re-examine and try to re-define our purpose when we build the college campus.

#### AIMS AND MEANS

What is the real purpose of building at a university? Is it to provide space at the lowest dollar cost? Is it to provide beautiful memorials to donors? Is it to provide distinguished buildings for each department? Is it to provide space? Is it to provide memorials to architects? Is it to provide the lowest maintenance cost possible? Is it to provide space and keep up with the times? Is it to provide space and provide a setting such as Colonial Williamsburg? Or what is it?

It seems clear to me that the primary purpose is to provide space for instruction that in its *long term* aspects proves to be economical. But combined with that purpose must be its esthetic purpose, which is not the esthetics of a single building, but the esthetics of the whole organism—the university as a total. The esthetic purpose of the building must be to enhance the total organism. The practical purpose is not just to provide sq ft that ideally fit a department in 1960—departments may grow and change; instruction methods may change; the technical facilities of lighting and air-conditioning may change as they have in the past. Specialized space (auditoriums, etc.) is different; but it seems to me that for academic instruction, space such as that in the old M.I.T. buildings provides an excellent example of what in the long run proves to be economical space.

The esthetic purpose to enhance the total university organism. Exactly what does this mean? Are we to continue with eclectic buildings? Are we to find a neo-pseudo-eclecticism to go with the surrounding existence buildings? Must we keep from building the most beautiful buildings just because there are

ugly ones around? Should we not build functional buildings any more? These are questions that arise when the problem is to build on an existing campus. I would say that there is no clear formula, but that unselfish wisdom must be exercised by the architect and college officials. We must face each problem as it comes. The range of answers can be very great.

If a building project involves only a small addition to an existing dominant eclectic style, the answer might well be to build in the eclectic style and, in a sense, hide the addition. In another case, where the building is an independent structure more remote, much more freedom can be expressed. If the building is an axial building, such as a library at the end of an axis, then the library might be different as a contrast while the unity of the bordering buildings should be preserved. An architect must be conscientiously responsible towards the master plan and he must be conscientiously responsible towards all the buildings around. If the dominant trait of a university is a certain colored brick (as at Vassar) or limestone (as at Chicago) he must follow this pattern. He must think of his building when it has grown old and how it will become part of the permanent surroundings. Colored curtain walls, for instance, are dangerous in the campus milieu. They do not weather and take on the patina of their neighbors. The architect must make a conscientious effort to develop a mass which is sympathetic and enhancing to the total mass developed by the older buildings. High rise towers, so fashionable today, may spoil a skyline which was beautiful. The scale and dominance of vertical or horizontal in surrounding buildings has a great bearing on what characteristic a

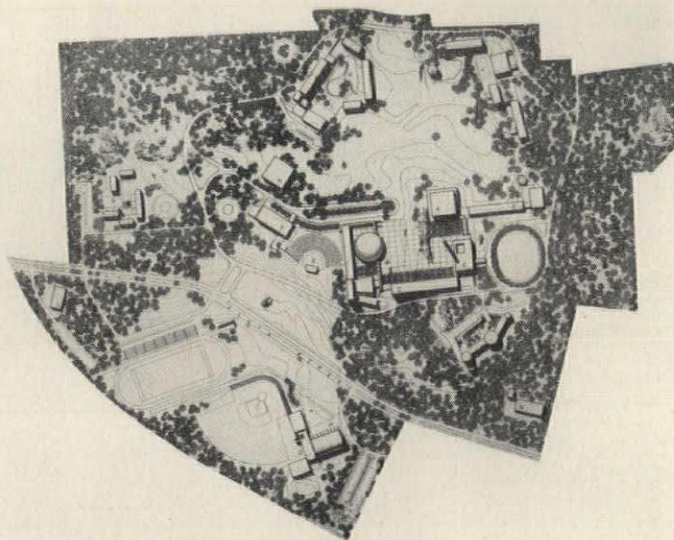


new building should have. If the character of the university or of the immediate neighbors is, for instance, a vertical one, then verticality should be stressed. It is in fact very seldom and only in unique situations that a stressed horizontality will work at all with closely placed buildings. Horizontally emphasized buildings closely related remind me of express trains running rampant against each other. It is only in recent years that a vertical dominance has been a part of modern architecture. This is what we wanted to emphasize in our first Brandeis master plan. Matthew Nowicki and I tried to lay down a prototype that could be followed with later buildings having a vertical character.

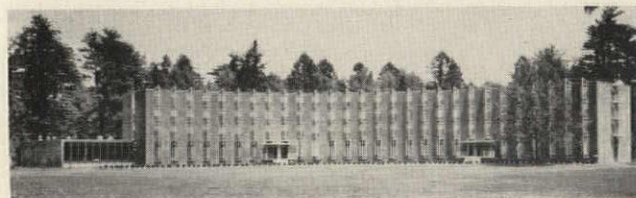
I said we must think of the campus—old and new—as a total unity. This does not mean that we should not express in our architecture that we are living in a new era which no longer tries to adorn itself in the dress of other times. Nor does it mean that we should proudly proclaim that we are in a new era at the expense of the campus. Nor must we become timid just in order to preserve a unity. There is a way always—not necessarily within the current enthusiasms—or a way must be invented by means of which that of the old that is good does not become obsolete because of its new neighbor or addition. Often the way is a combination of material and mass and vertical or horizontal emphasis.

#### AN APPRAISAL

I suppose at this point it would appear appropriate for us to try to appraise objectively our own successes and failures in these respects, quite aside from the merits or demerits of the building or buildings. I feel that Noyes Hall, the dormitory we did at Vassar, carries out the general spirit of the campus without compromise. What about the Hockey Rink at Yale? I feel that the open location of this building, removed from the compact campus and the special problem, warranted a special solution—and the freedom to express the structure freely. The Yale Colleges presented quite another problem both by the character of the program and the proximity of the neo-Gothic buildings. For this reason we arrived at the vertically oriented polygonal architecture carrying out the stone walls of surrounding buildings. Concordia Senior College was quite another problem. Here there were no existing buildings and the establishment of a character for the whole was part of the problem. At the Law School and the Women's Dormitories at Chicago we deliberately continued the existing material—limestone—and the vertical scale. The Law School group represents a meticulous effort to create a mass sympathetic to the surrounding buildings. In the Library of the Law School group a change in material seemed warranted—in order to create a central accent sharp enough to hold the whole group together.



BRANDEIS: Master Plan; Eero Saarinen, Architect—not followed as campus construction developed



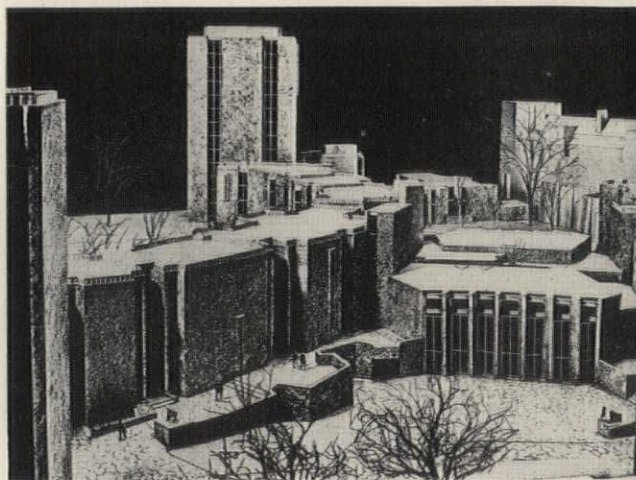
Joseph W. Molitor

VASSAR: Emma Hartman Noyes House, Women's Dormitory; Eero Saarinen, Architect



Joseph W. Molitor

YALE: The Hockey Rink; Eero Saarinen, Architect



YALE: Proposed New Colleges; Eero Saarinen, Architect





MIT: top left, aerial view; top right, the Rotunda—Welles Bosworth, architect; bottom left, the Kresge Auditorium—Eero Saarinen, architect; bottom right, the chapel—Eero Saarinen, architect

Two top photos courtesy of MIT; bottom left, Robert D. Harvey; bottom right, Ben Schnall

At M.I.T., the earliest of our campus work, the dome and the chapel can be criticized as being too egocentric. The shapes of these buildings are closed and they do not contribute anything to creating a unity within an area which so sadly needs unity. From the beginning we conceived of these buildings as buildings on a great square but neglected to define and crystallize exactly how this square would be

achieved. This we should have done. I am delighted that M.I.T. now has building plans in which I hope to have the opportunity to correct this error. And my hopes are that we will be able to create a large court pulling all surrounding buildings together into one homogeneous whole—in a sense continue the spirit of the Bosworth buildings—not in actual architecture but in largeness of spirit.

#### THE "NEXT LARGER THING"

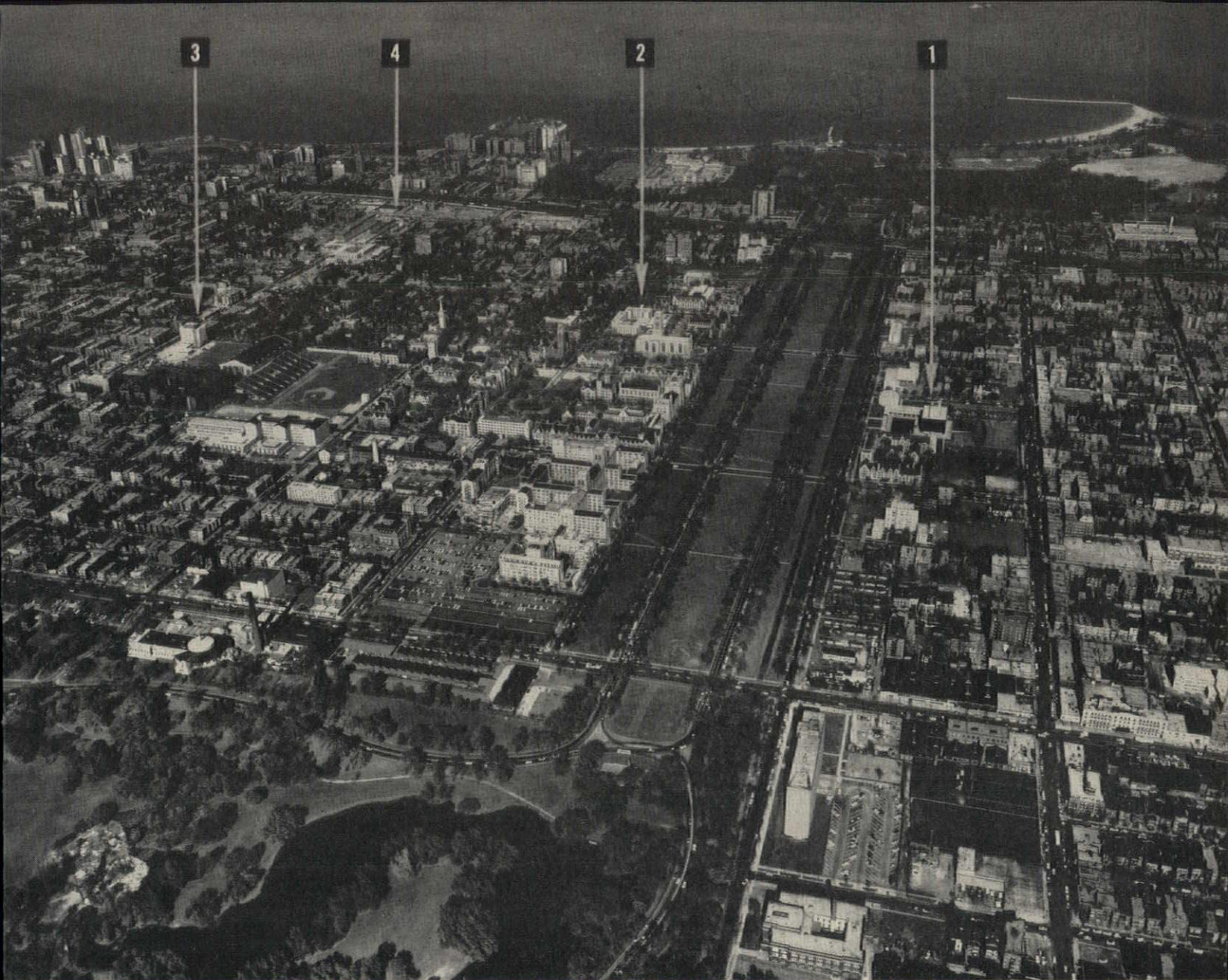
In conclusion, it is time for us to realize that the existing patterns, architectural as well as administrative, by which our universities are being built are not the ones by which a worthwhile result can be achieved. Both architects and university officials have to re-examine their ways of doing and seeing, and establish a new method for reaching higher goals. Everybody is at fault but there is no use sitting around waiting for the other fellow to start. It seems to me the start for a new deal should be made by the architectural profession. We should stop thinking of our individual buildings. We should take the advice my father gave me, "Always look at the next larger thing." When the problem is a building, we should look at the spaces and relationships that that building creates with others. When the problem is those spaces we should look at the campus plan as a whole. When the problem is the campus plan as a whole we should look at its relation to the city plan.

If we can carry the "next larger thing" as a crusade and also at the same time stop looking at things in only two dimensions—make models; large models showing whatever it is in the context of the next larger thing—then we can consider our side of the responsibility toward the campus well done.

But to think that we can do it all is living in an

ivory tower. Our process of thinking in larger ways must generate action within the universities. They must spend more money and time on master planning (and I mean three-dimensional master planning). They must commit themselves to architects for larger areas of planning and building, so that the architect can have a continuous responsibility. They must take stronger positions (than they often do) against the wishes and whims of donors which are often harmful to the over-all plan. They must organize a method of checks and balances between individual architects working on single buildings in the interests of the total plan. This can be done by the method of planning consultants reviewing all actions, such as at the University of Chicago, or by a Board of Design, or by many other methods. There are many problems for all concerned, but the place to start is, as I said, with the architect. It is up to him to emerge from his self-made cocoon and expand his vision into the next larger thing and then again the next larger thing. In the process he will gradually formulate strong convictions about outdoor space—the beauty of the space between the buildings—and if he does, he will carry his convictions on to his most important challenge—how to build cities. This is the next chapter, the one we have not yet begun to face—esthetically.





Chicago Aerial Industries, Inc.

The central area of the above picture is occupied by the University of Chicago campus, with property extending on both sides of the tree-lined Midway Plaisance, site of (in 1893) the Columbian Exposition. Refer to master plan, page 126; and map, page 140. 1—The Law School; 2—Women's Residence Hall; 3—Men's Residence Hall; 4—The Hyde Park Kenwood area

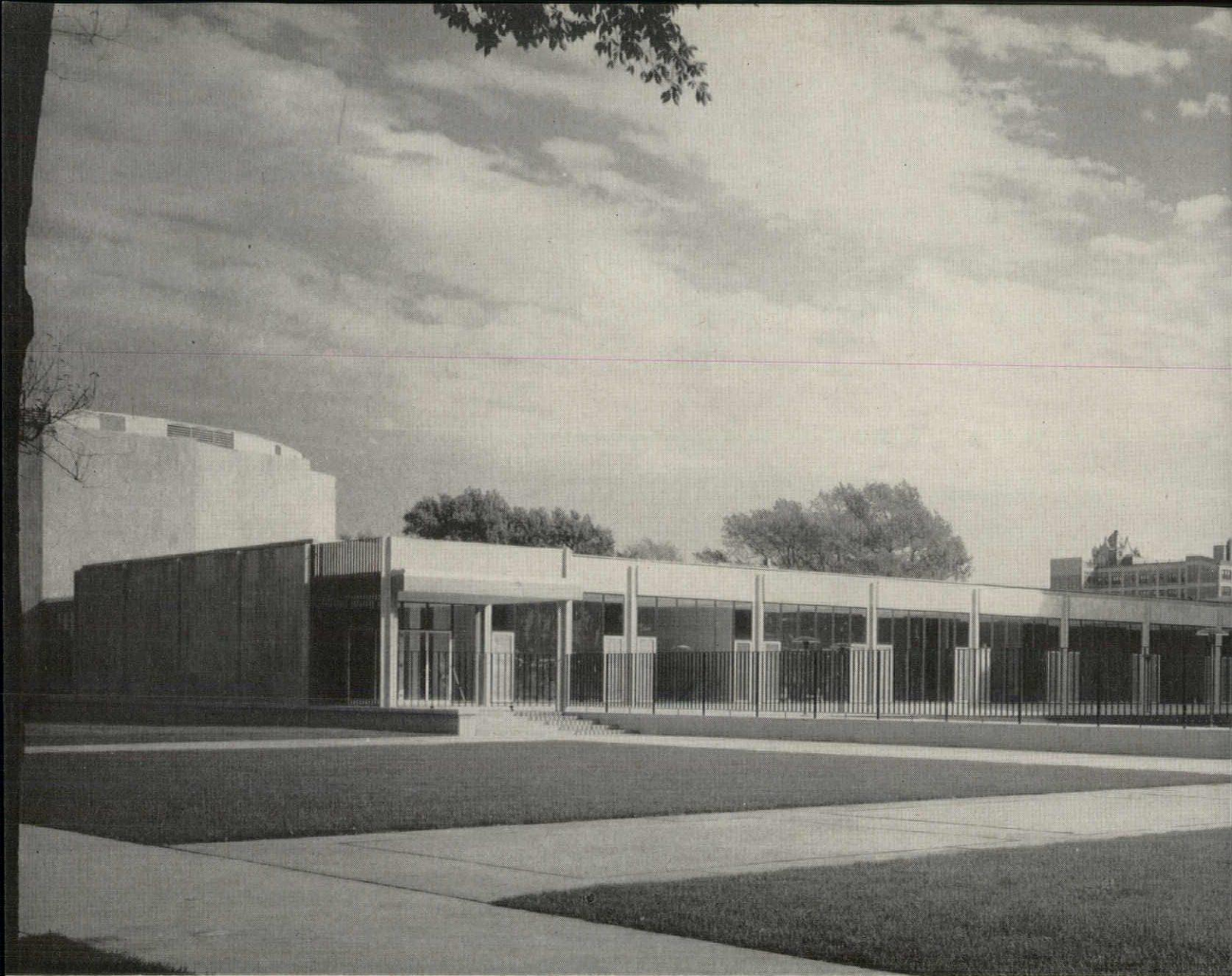
## THE RE-MAKING OF SOUTH-EAST CHICAGO

*Twin program will give 1000 acres of that city a new and better look*

**ON CAMPUS:** The University of Chicago's \$50 million building program is proceeding—with several notable buildings finished and presented herewith

**ADJOINING THE CAMPUS:** The University has joined with citizens to carry forward a \$135 million rehabilitation plan for the surrounding 900-acre Hyde Park-Kenwood area





## LAW SCHOOL CENTER, UNIVERSITY OF CHICAGO

LOCATION:  
*Chicago, Illinois*

ARCHITECT:  
*Eero Saarinen & Associates*

CONSULTING ARCHITECT:  
*J. Lee Jones  
for the University*

The new Law School at the University of Chicago consists of four buildings—dominated by the 6-story library and office building—massed about an open court and reflecting pool. From left to right the units are: a circular, two-level auditorium and courtroom building; a low classroom-seminar building; the library; and a two-level administration building. The new group connects with existing law school dormitories to the right.

Architect Saarinen says, "By stressing a small, broken scale, a lively silhouette, and especially verticality in the library design, we intended to make it a good neighbor with the neo-Gothic dormitories. It is likewise sympathetic to the classroom wing, which becomes in turn a link to the moot court and auditorium building, which is related to the style of the existing Bar Association Center beyond. The dark glass eliminates glare, and through its darkness is compatible with the somber tone of the weathered masonry of the existing dormitory."

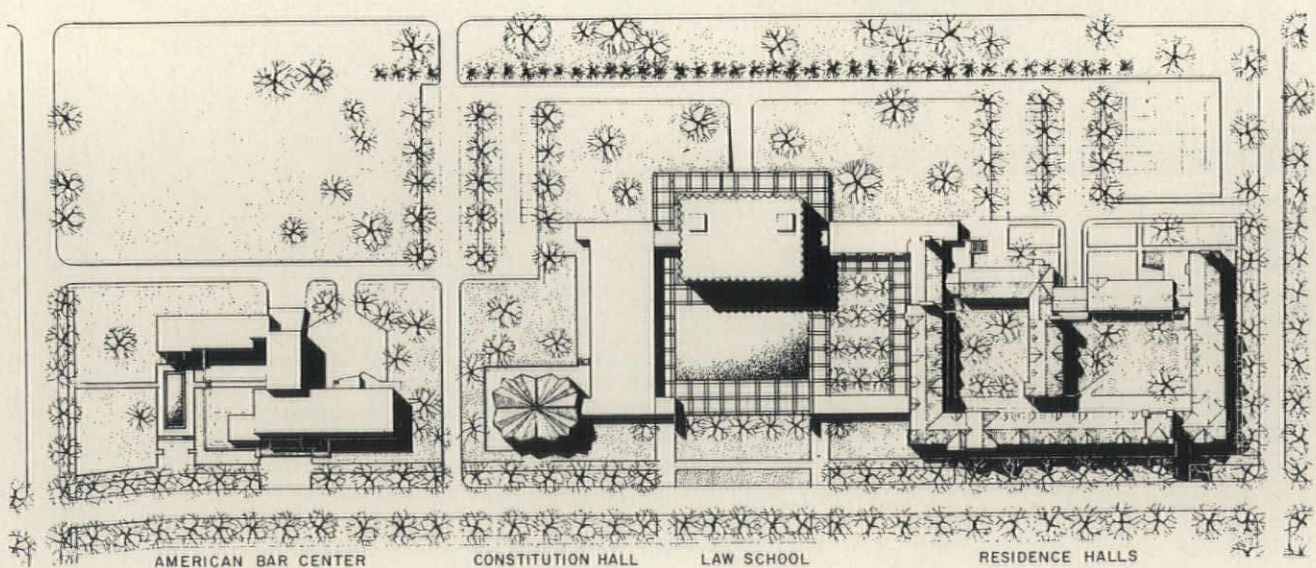
MECHANICAL & ELECTRICAL ENGINEERS: *Samuel R. Lewis & Associates*;  
STRUCTURAL ENGINEERS: *Severud-Elstad-Kreuger Associates*; ACOUSTICAL CONSULTANTS: *Bolt, Beranek & Newman*; BUILDER: *S. N. Nielsen Co.*



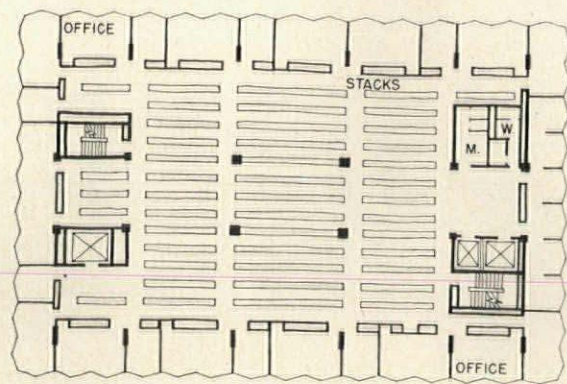
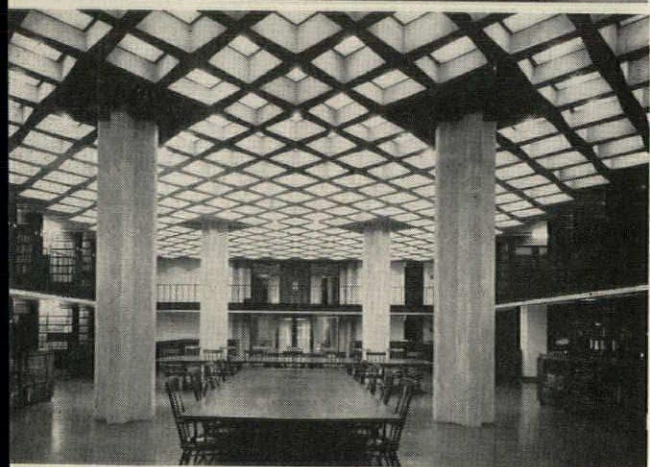
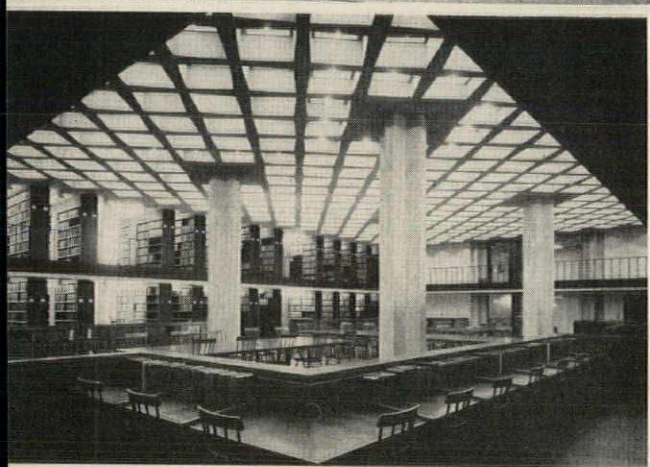


All photos: Hedrich-Blessing

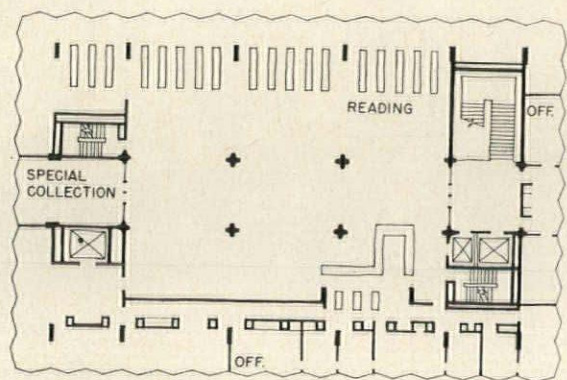
Saarinen: "Considering the site plan, the problem was to relate the pseudo-Gothic architecture of the residence halls (right) with the architecture of the American Bar Association on the other side by creating a group of buildings that would embrace the whole. That is how the central emphasis came to be placed on the library-office building and a spacious court and pool before it."



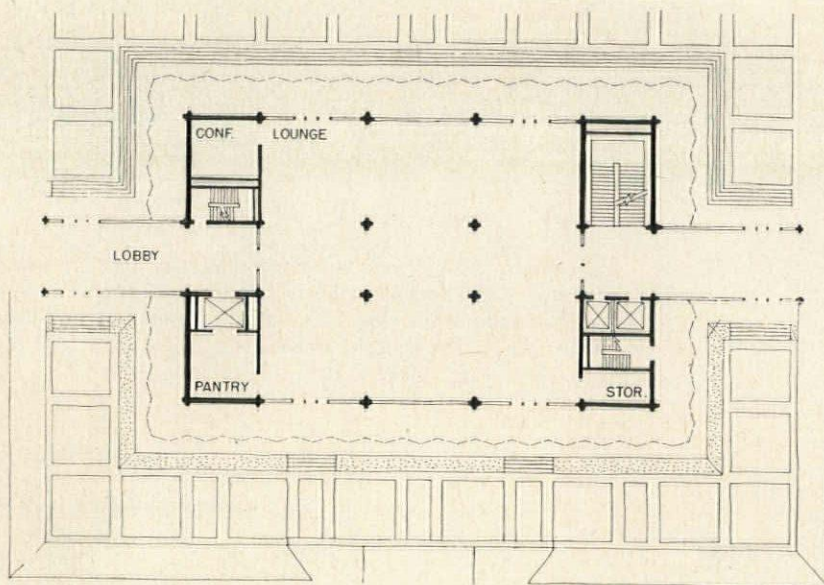




STACK FLOOR



READING FLOOR



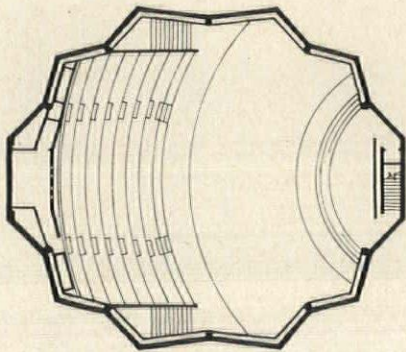
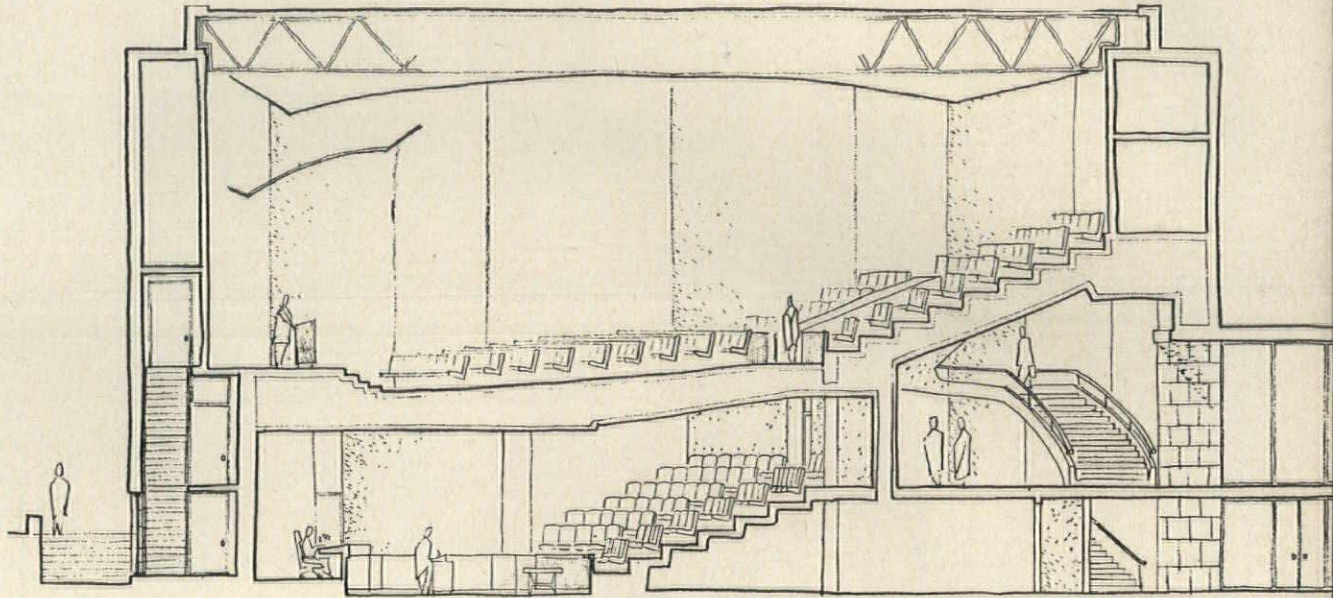
LOUNGE FLOOR



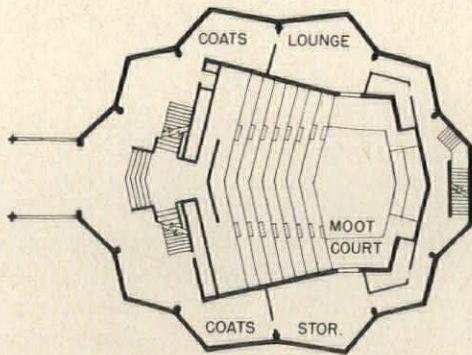
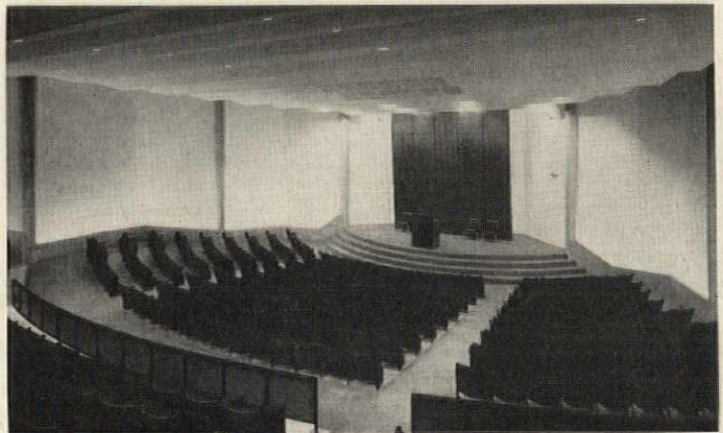
### LAW SCHOOL LIBRARY AND OFFICE BUILDING

The entire ground floor of the library (above) is a lounge—or exhibit and conference—area, where regularly scheduled luncheons give students a chance to meet Bar Association leaders. The second floor reading room is surmounted by a balcony occupied by special study areas and a Law Review Office; stacks and faculty offices occupy the upper floors. The auditorium and moot court building (right page) contains an auditorium seating 475 and a court room seating 190. This room is arranged and equipped so the Illinois Supreme Court (and other courts) may hold sessions in it. The administration building, which contains offices and a conference room, serves as a link to the dormitories





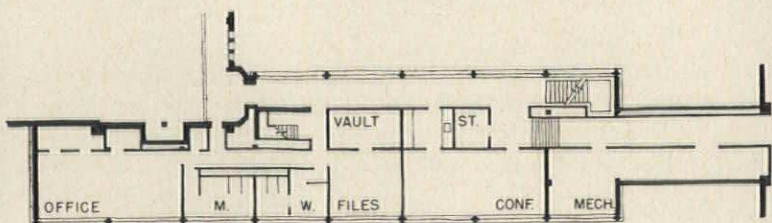
AUDITORIUM FLOOR



FOYER FLOOR

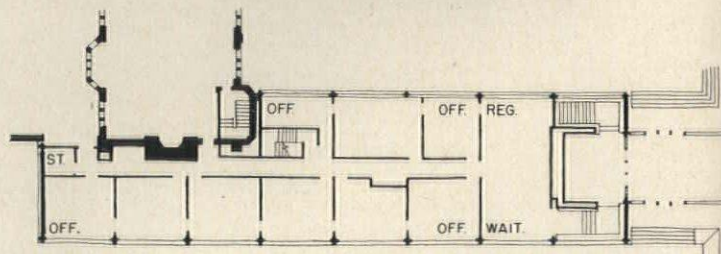


MOOT COURT—AUDITORIUM BUILDING



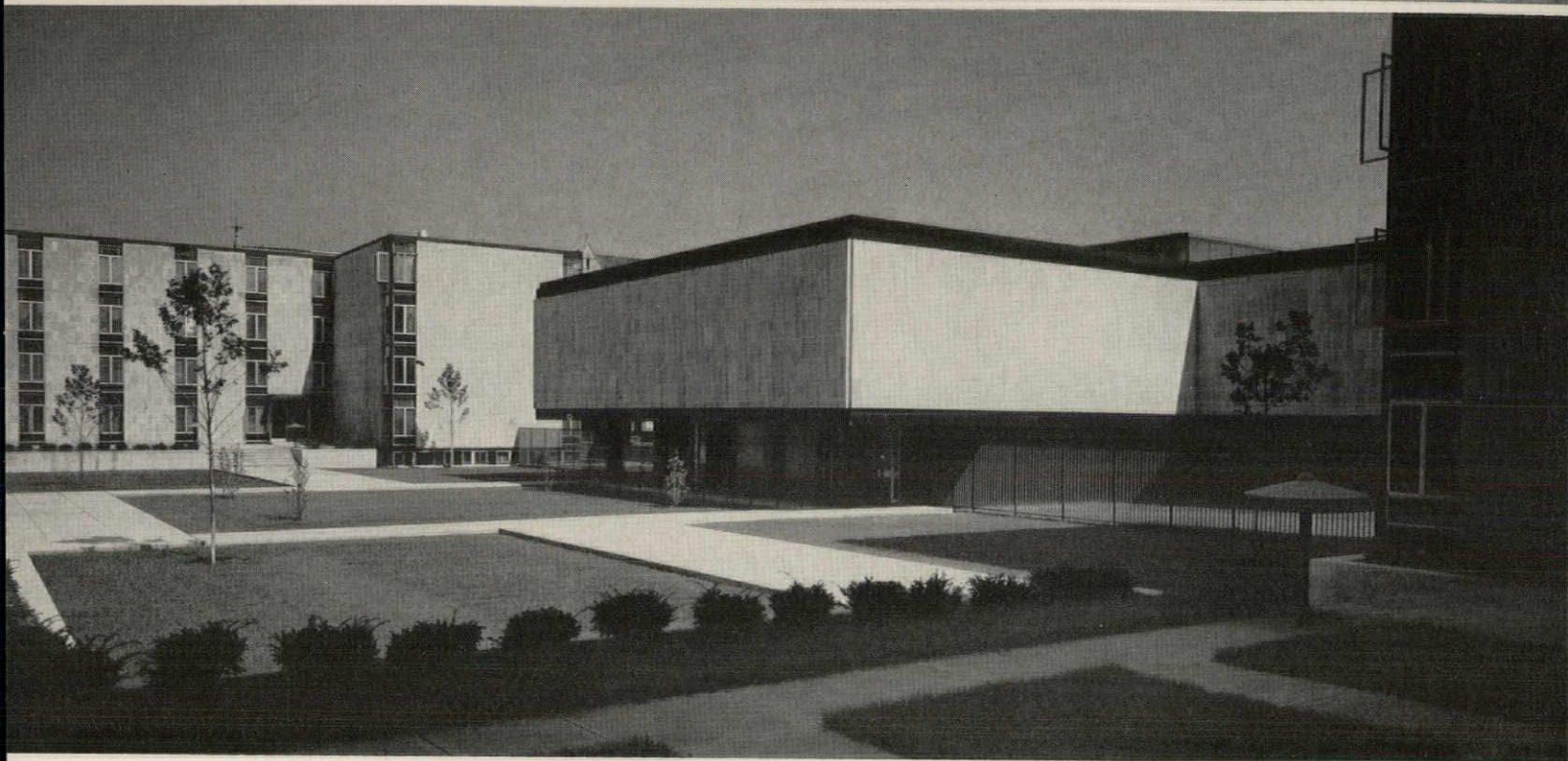
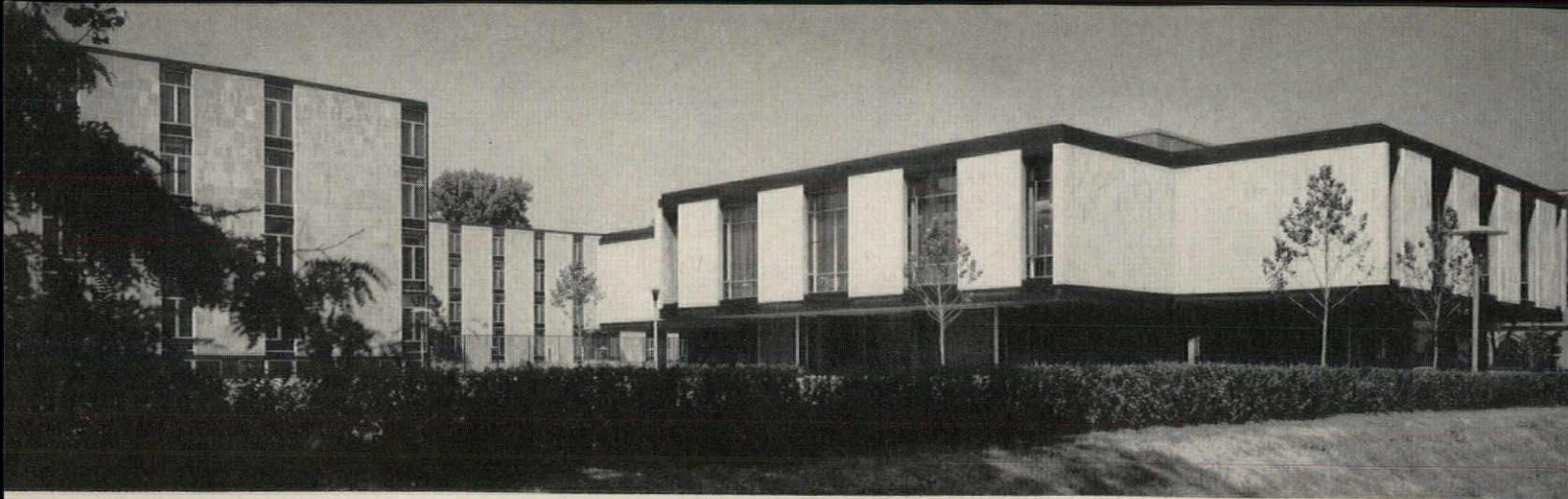
LOWER LEVEL

ADMINISTRATION BUILDING



UPPER LEVEL





## WOMEN'S DORMITORY, UNIVERSITY OF CHICAGO

LOCATION:  
*Chicago, Illinois*

ARCHITECT:  
*Eero Saarinen & Associates*

CONSULTING ARCHITECT:  
*J. Lee Jones  
for the University*

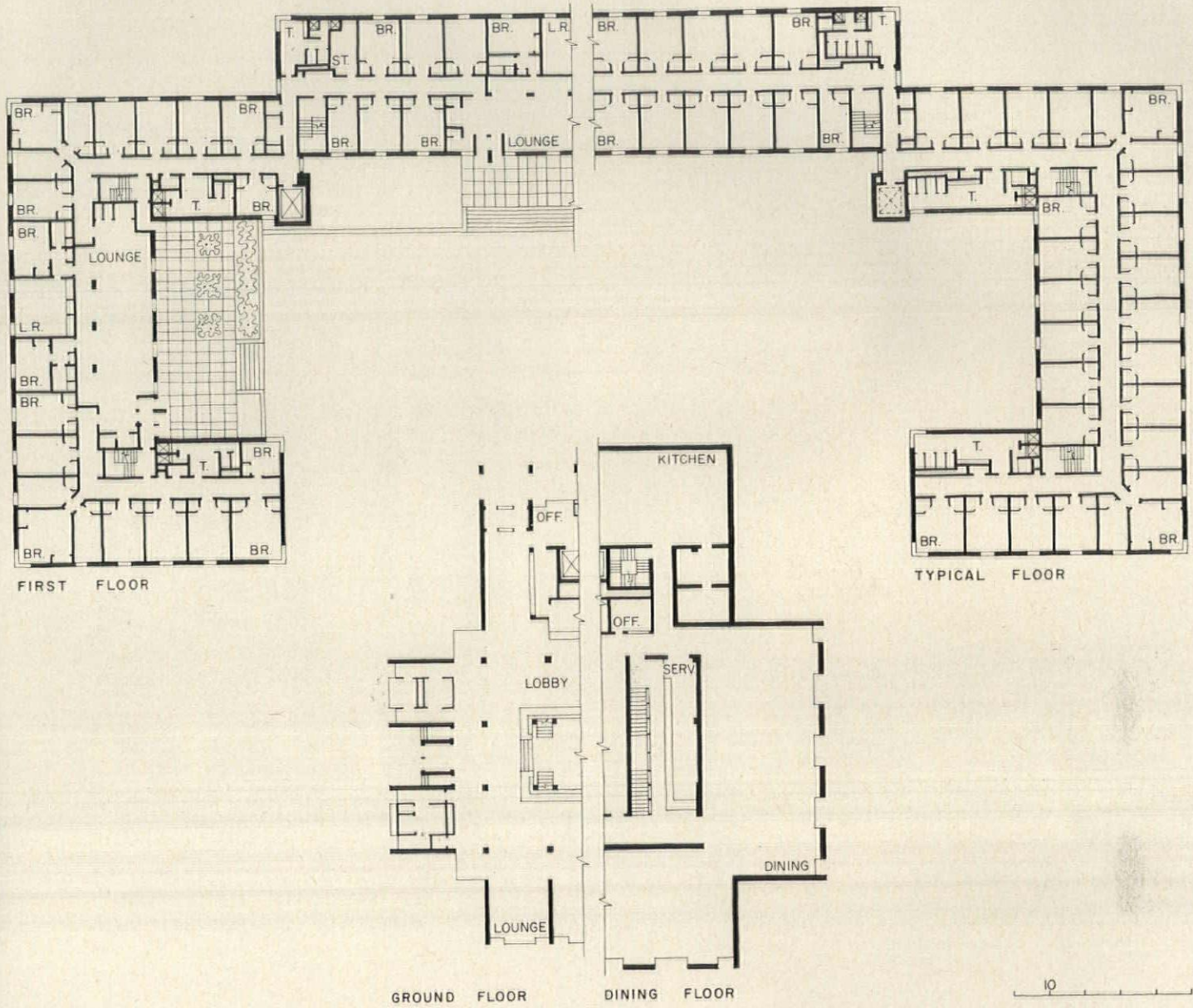
LANDSCAPE ARCHITECT:  
*Dan Kiley*

The recently completed women's residence hall and dining commons at the University of Chicago is designed to echo the spirit of the older quadrangles of the campus in scale, in material, and in recurrent use of the vertical line. The new construction consists of a U-shaped dormitory element, four stories in height, which centers on a free-standing, axially placed dining hall, two stories in height. The dormitory becomes the northern boundary of a new quadrangle-like outdoor space, which is terminated at its southern end by Ida Noyes Hall, an existing neo-Gothic building. The spaces thus created are singularly successful in extending the feeling and scale of older portions of the campus.

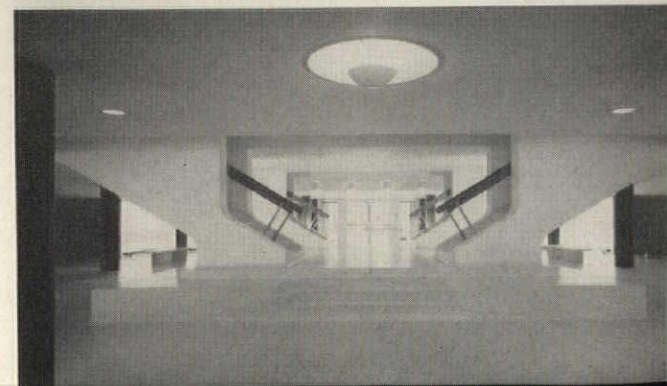
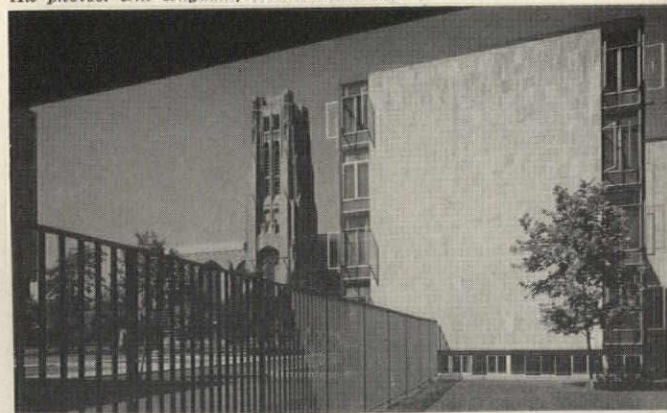
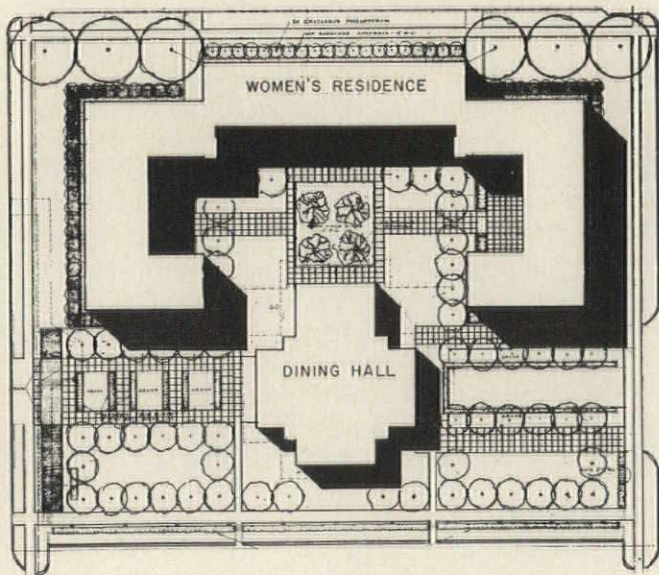
These units have structural frames of reinforced concrete; are faced with shot-sawn limestone ashlar, to remain in keeping with the earlier stone buildings, and eventually to achieve similar weathering. The strongly vertical fenestration pattern also recalls the lines of older structures.

*MECHANICAL & ELECTRICAL ENGINEERS: Samuel R. Lewis & Associates;  
STRUCTURAL ENGINEERS: Severud-Elstad-Kreuger Associates; GENERAL  
CONTRACTOR: George Sollitt Construction Company.*





All photos: Bill Engdahl, Hedrich-Blessing







## MEN'S DORMITORY, UNIVERSITY OF CHICAGO

LOCATION:  
*Chicago, Illinois*

ARCHITECT:  
*Harry Weese & Associates*

CONSULTING ARCHITECT:  
*J. Lee Jones  
for the University*

ACOUSTICAL CONSULTANTS:  
*Bolt, Beranek & Newman*

This residence for men—the first stage of which has just been completed—will eventually consist of two, low-linked towers symmetrically placed about a central pavilion (at left in photo above). Its unusual design was published as a project in considerable detail in ARCHITECTURAL RECORD for September, 1959, pages 171-175.

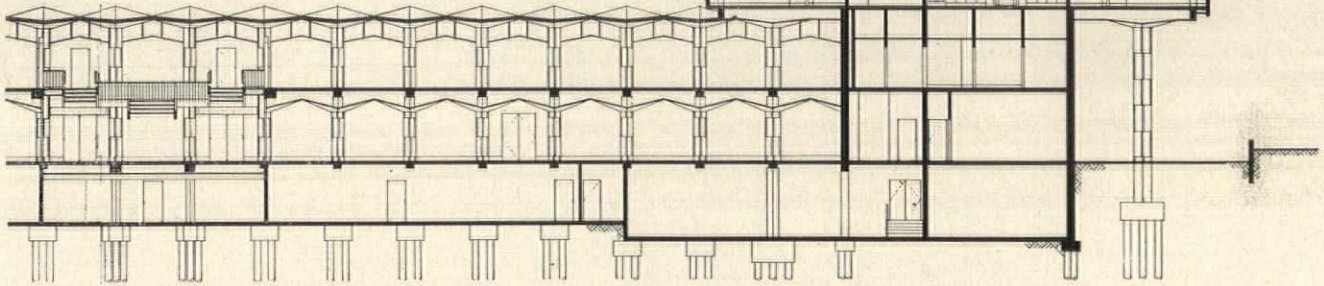
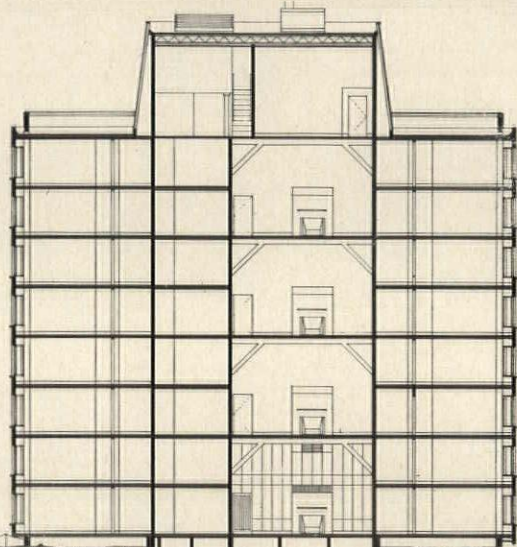
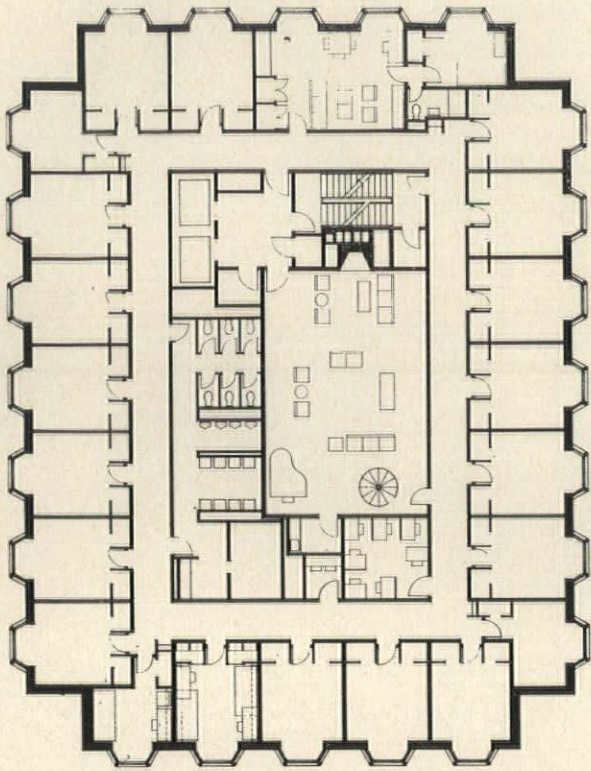
The concept is that of "house" groupings of approximately 80 men under a proctor, with each "house" given identity. This was done by stacking four two-story "houses" around their interior two-story lounges, with elevator access to lower floors only, and upper floor access to the lounge by either spiral or required stairs. The rooms thus ring the central facilities, which act as a core area furthering the idea of identity. Dining and game rooms are located in the two-story horizontal element.

The building is located on the extreme northern boundary of the campus, and its brick and limestone exterior ties in with the stone academic buildings and also recognizes the surrounding residential community.

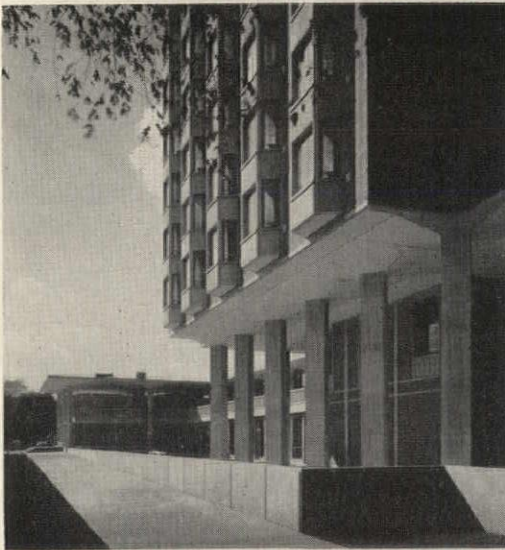
MECHANICAL & ELECTRICAL ENGINEERS: *Samuel R. Lewis & Associates;*  
STRUCTURAL ENGINEER: *Frank Kornacker*



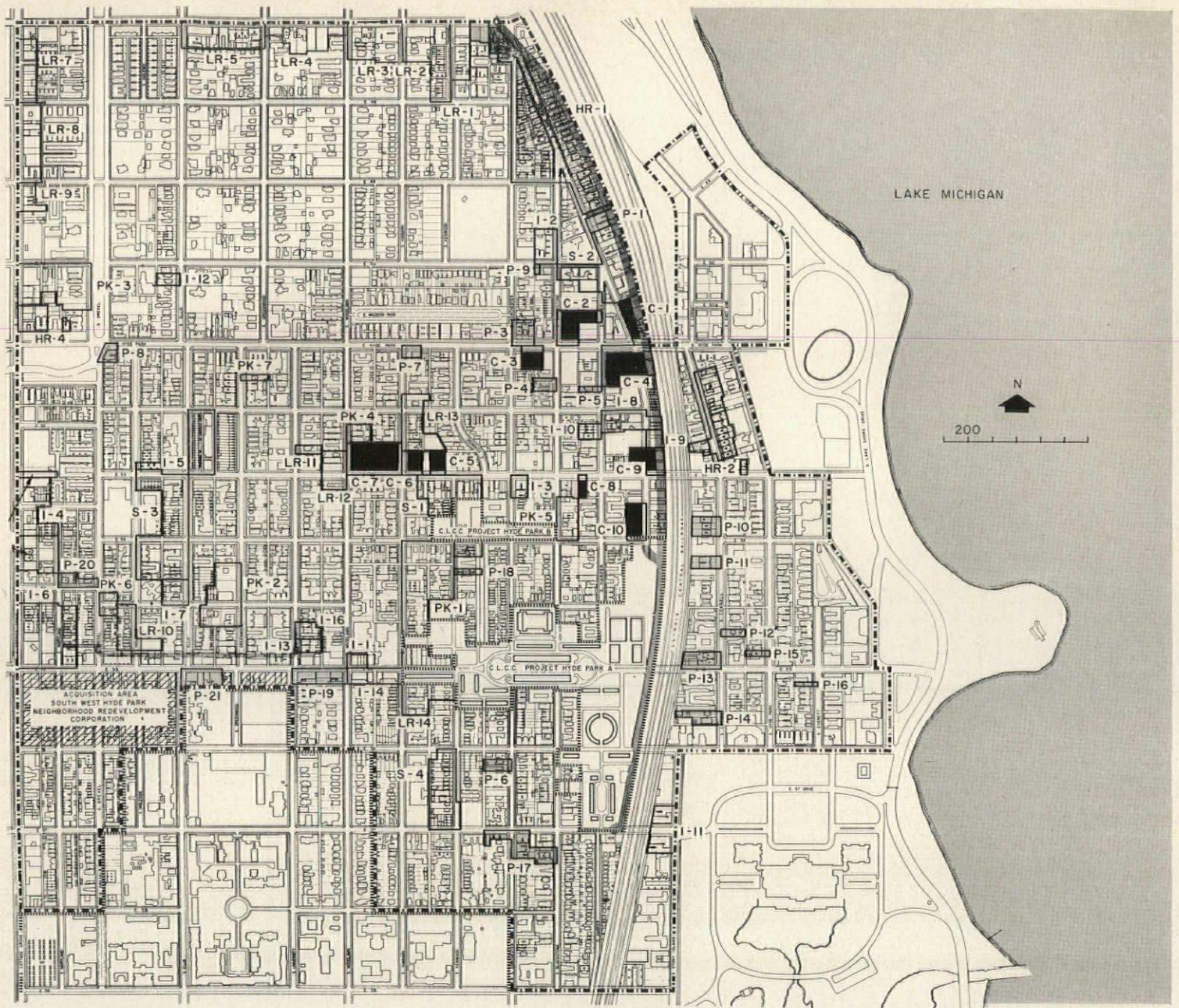
Architect Weese says, "Here, the character and quality of the building was to a larger degree than usual predetermined by the surroundings. The emphasis on individuality and privacy, nonetheless, achieves a building with its own shape and flavor, which cannot be confused with hotels or apartment buildings."



All photos: Bill Engdahl, Hedrich-Blessing







## RAPID PROGRESS IN HYDE PARK-KENWOOD

**THE PLAN:** During a 5 year period renew, rehabilitate, and restore to health 900 Chicago acres located 5 to 6 miles south of the Loop—a once “best” residential area of tree-lined streets and spacious Victorian houses called Hyde Park-Kenwood, centering on the Gothic-spired University of Chicago as a cultural focus—an area which for the past 20 years has suffered increasingly from creeping blight and spreading slum pockets. The present population of HP-K is 100,000. The idea is not merely slum clearance (which breeds more slums), but rehabilitation and renewal. Only 20 per cent of the existing buildings will be demolished for parks, playgrounds, schools, or new buildings; those remaining will be renovated where necessary.

**SIZE:** The largest urban renewal project of its kind in the nation, 3rd only in total size to Lincoln Center in New York and Eastwick in Philadelphia.

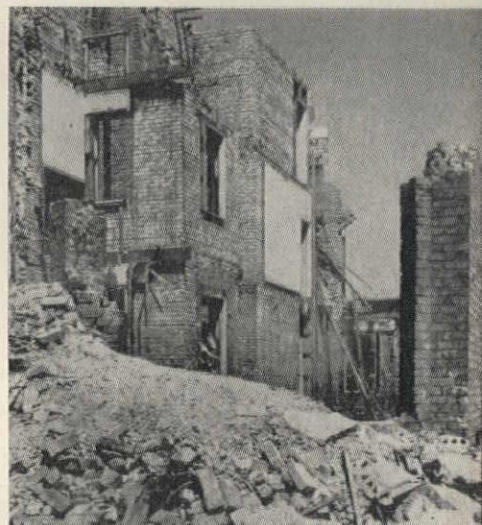
**THE COST:** Nearly 200 million in university, city, Federal, and private funds.

**PRIME MOVERS:** The University of Chicago and aroused citizen groups; especially the South East Chicago Commission, an agency jointly sponsored and financed by the university and local residents.

**PROGRESS:** Remarkable, considering the many obstacles—political, financial, legislative, etc.—that had to be removed or circumvented. Half of the buildings scheduled for demolition will have been acquired by December of 1960; all by the end of 1961. Acres of slums have been leveled; many new buildings dot the area, and others are under way; widespread renovation and “toning-up” are proceeding under the watchful guidance of citizen’s block committees (an action tool originated here).

Webb & Knapp are well advanced with their \$31 million, 45-acre share of the project. The new shop-





Before and after views, at left above, show in dramatic fashion the changing face of the area. In the lower picture, the twin high-rise University Apartments near completion (middle distance); and the new shopping center (right) in operation. Both are part of the Webb & Knapp project called "Hyde Park A."

Photos: top left, Mildred Mead; lower left, Al Henderson

ping center is open; one half of the 240 townhouses proposed are occupied or nearly finished; two 10-story apartment buildings are nearly complete.

**THE PRESSING NEEDS:** Of the university—a compatible neighborhood in which it can thrive; more land for growth. Chancellor Lawrence A. Kimpton says, "We are fighting for our lives—we simply cannot operate in a slum area."

Of the citizens—to make safe and attractive their homes and neighborhoods, which are convenient to the university (for culture), the Loop (for business), and the lake (for recreation).

**SIGNIFICANCE:** More than 20 other urban universities across the nation (Columbia, MIT, George Washington, Pennsylvania, Minnesota, etc.) face similar or parallel problems. The University of Chicago's active role in the HP-K project can well serve as prototype for others; emphasize the cold fact that

if urban universities are to thrive and grow, their officials must take on the new task of contributing forcefully and directly to the aggressive remaking of their metropolitan environment.

Beyond this, U. of Chicago sociologist Philip M. Hauser explains, "Hyde Park Kenwood will become a pilot and model community for the entire nation, demonstrating that man not only can build a city, but can also prevent its decay."

**THE METHOD:** When Dr. Lawrence A. Kimpton became university chancellor eight years ago, he declared war on the encroaching slums and crime. He mobilized the brains, money, and influence of the university, and joined with already aroused citizen's groups in a mass meeting to form the South East Chicago Commission—an organization with 3000 members and an annual budget of \$50,000; \$10,000 of which comes from the university. Kimpton was

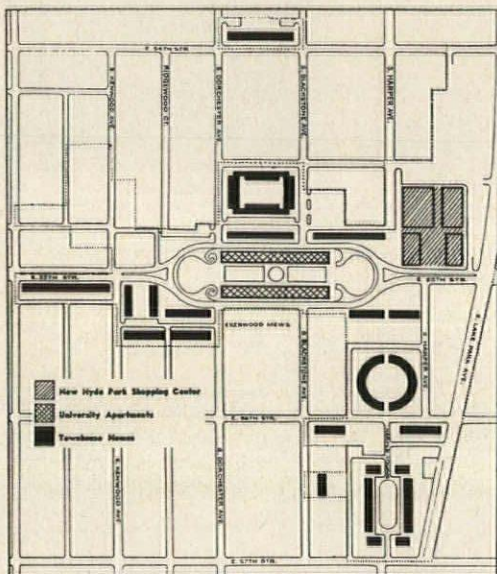


## College Buildings: Hyde Park-Kenwood

Photos: left, Mildred Mead; right, Al Henderson



From slums to clearance to new buildings



Shown on these two pages: the Webb and Knapp project, as well as a private house, and the Atrium Houses now under way in nearby Kenwood. The shopping center (above) and the Townhouses (right) were designed by architect I. M. Pei with Harry Weese associated; the high-rise apartments by I. M. Pei with Loewenberg and Loewenberg associated. The master plan at left shows the extent of the Webb & Knapp project

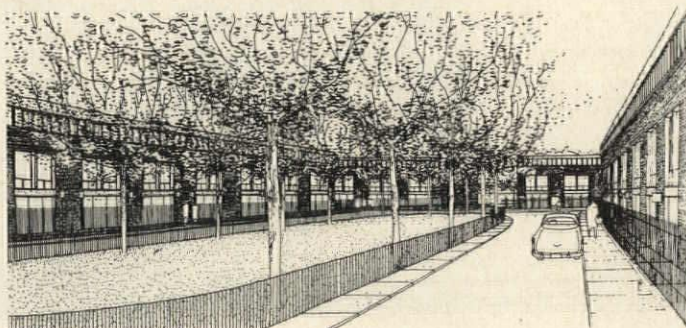
made president of SECC: Julian H. Levi, an alumnus and a smart, hard-hitting lawyer, gave up his practice to become executive director, a job he has carried forward with notable vigor. Characteristically, he said, "the university has no business getting into this unless it becomes hardheaded. Urban redevelopment is not an exercise in sociology."

Levi's measures have included: legal actions against slumlords and illegal bars; pressure on insurance companies to cancel insurance on criminal hangouts or the properties of chronic housing law violators; working with police officials to reduce the crime rate 50 per cent in 7 years; gaining the approval and help of various city agencies and officials for the project; nudging lethargic bureaucrats into action; pushing enabling measures through the state Legislature to facilitate repairs, conservation, and clearance; working with vice president George

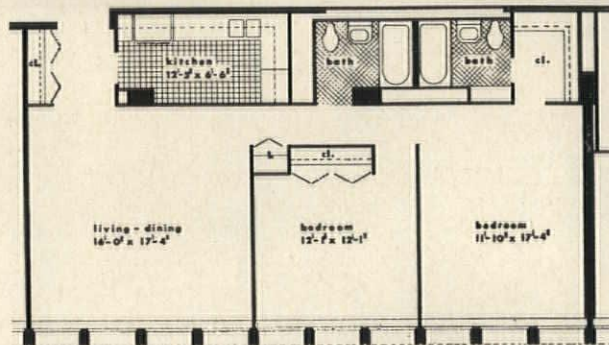
Baughman of NYU to have the Congress amend FHA section 220 so university expenditures for additional land can be credited to the city involved for Federal matching at 2 to 1; bringing into play (for the first time) Federal rehabilitation financing, which is applicable to existing buildings in all urban renewal areas on a "do it yourself basis."

In sum, Hyde Park-Kenwood appears as one of the largest, most aggressive, most imaginative urban renewal schemes in the nation, and the role of the University of Chicago in its implementation has been an impressive one. Julian Levi says, "It would have been far easier and much pleasanter to remain in the ivory tower and deplore conditions from on high. The university chose otherwise. It elected to give leadership to the end that American cities become not the symbol of failure, but rather evidence of the success of American democracy."

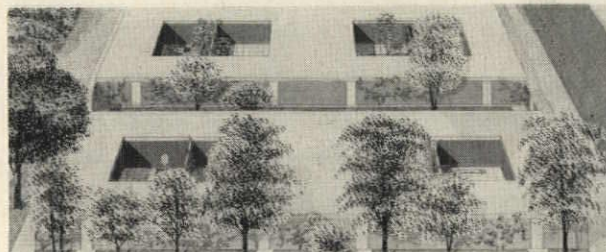




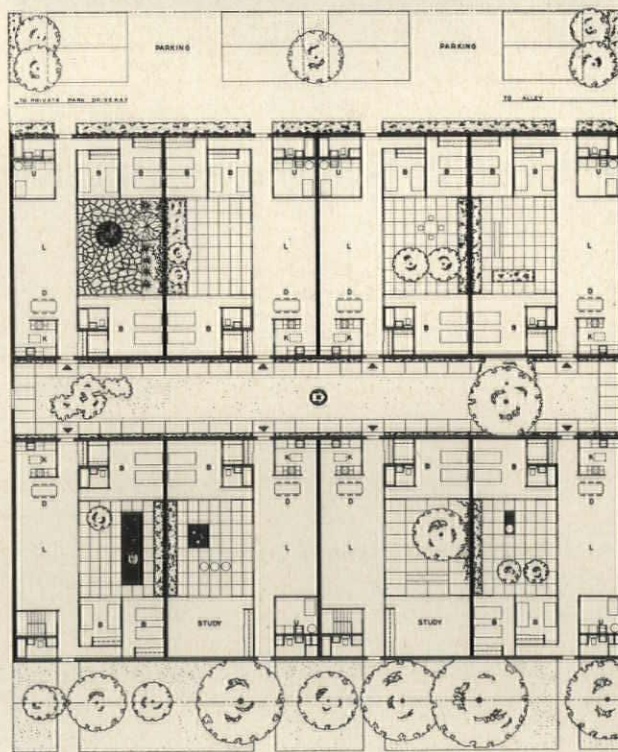
Harper Square



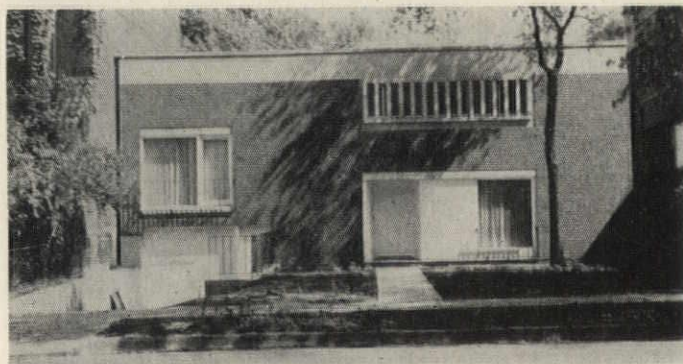
University Apartments, now renting



Completed Townhouses on 54th Street



Atrium Houses, Yau C. Wong, architect



Private house, Harry Weese, architect





## TWO BUILDINGS, CHRISTIAN BROTHERS COLLEGE

*Classroom and  
Dormitory Buildings,  
Christian Brothers College*

LOCATION:  
*Memphis, Tennessee*

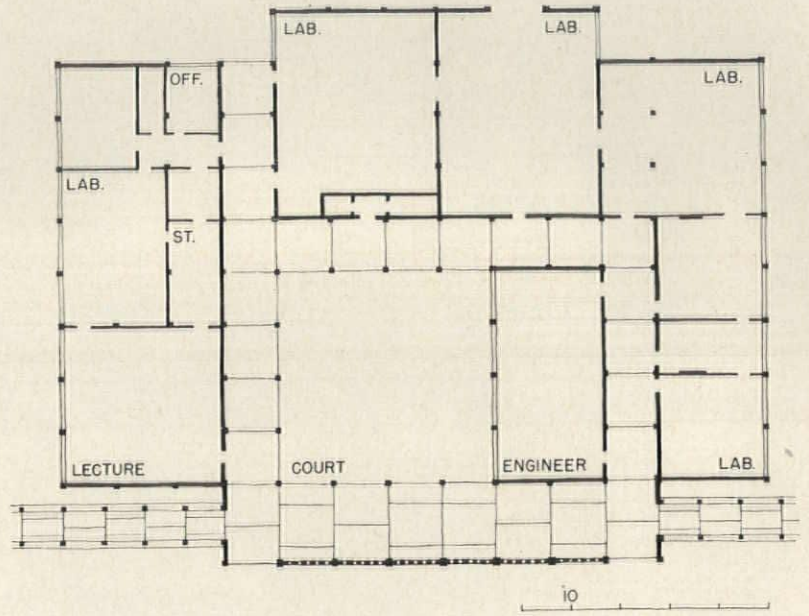
ARCHITECT:  
*A. L. Aydelott & Associates*

These two new buildings for Christian Brothers College were designed to be compatible with three existing brick and stone pseudo-Gothic-Tudor structures designed by a firm no longer in existence, and to provide an arrangement suitable for further additions, since the college has a strong potential for future growth.

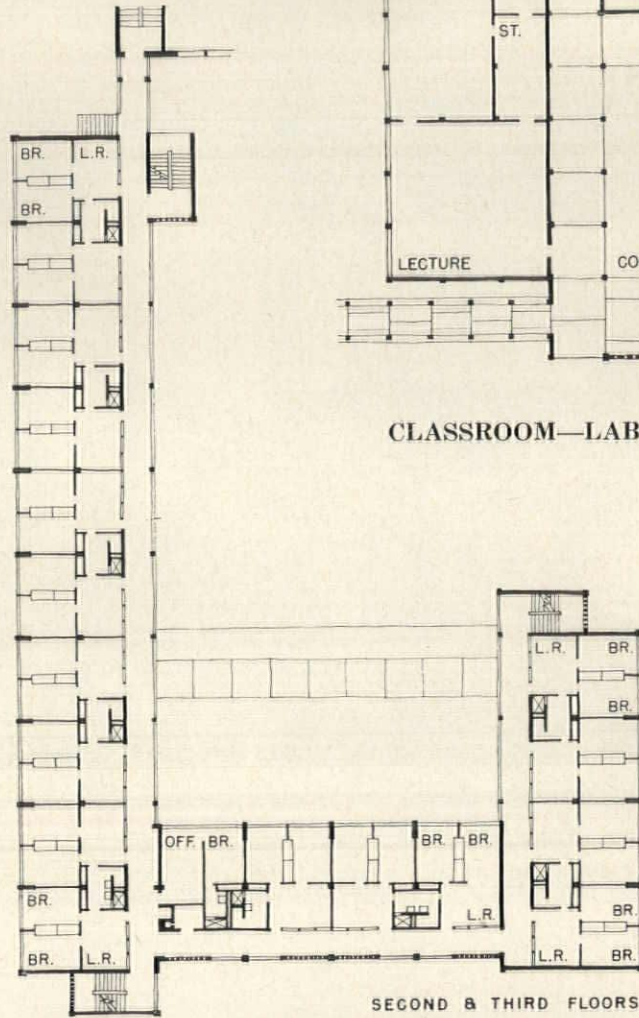
Using the new bell tower as symbol and visual focus, this scheme provides a new entrance gate on axis with an arch linking the original two buildings, and also ties in stylistically with the older buildings by means of patterns in the brickwork, by similar scale and alignment of basic dimensions, and by the use of the groined domes of precast concrete supported on masonry piers. For the future, additional quadrangles could be built to the east (left in photo above) to recall the orientation, scale, and character of the recently completed buildings.

The budget was limited, and costs were carefully considered and held in line. The classroom—laboratory building was built for \$9 per sq ft; the dormitory (including the bell tower), which accommodates 260 students and 6 proctors, was erected for a total of \$580,000.



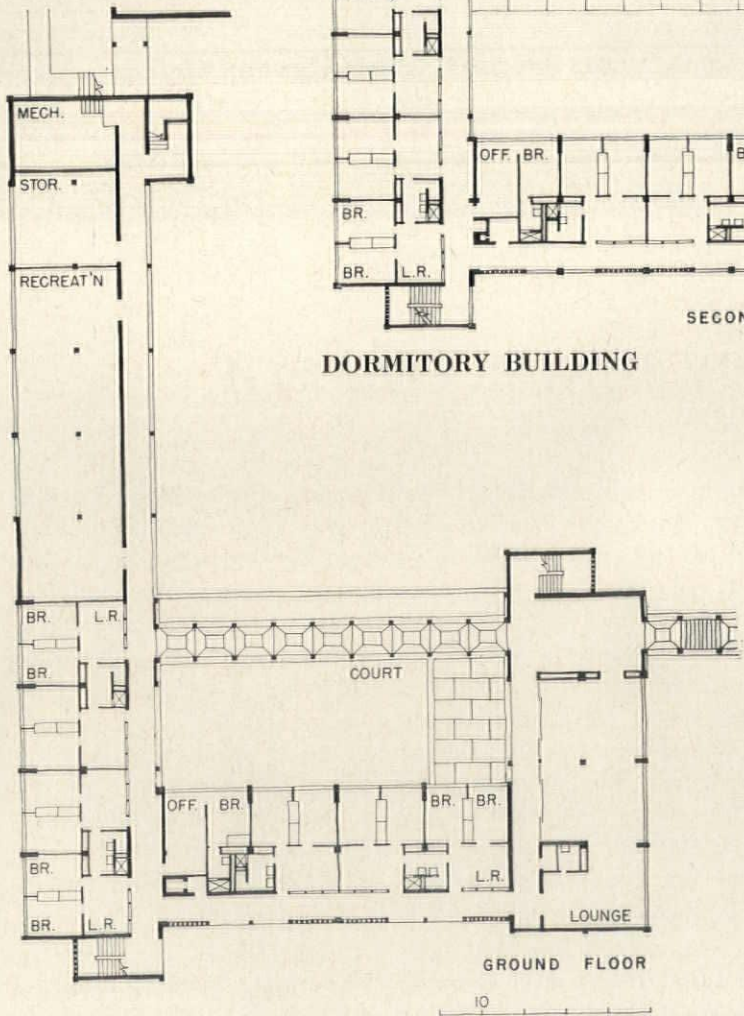


CLASSROOM—LABORATORY BUILDING



SECOND & THIRD FLOORS

Both buildings have structural frames of reinforced concrete, left exposed; the classroom-lab building has infilling panels of face brick—the dormitory of either brick or porcelain enameled metal; interior walls and partitions are of exposed concrete block; floors are of terrazzo in principal areas and asphalt tile otherwise; sash are steel, painted



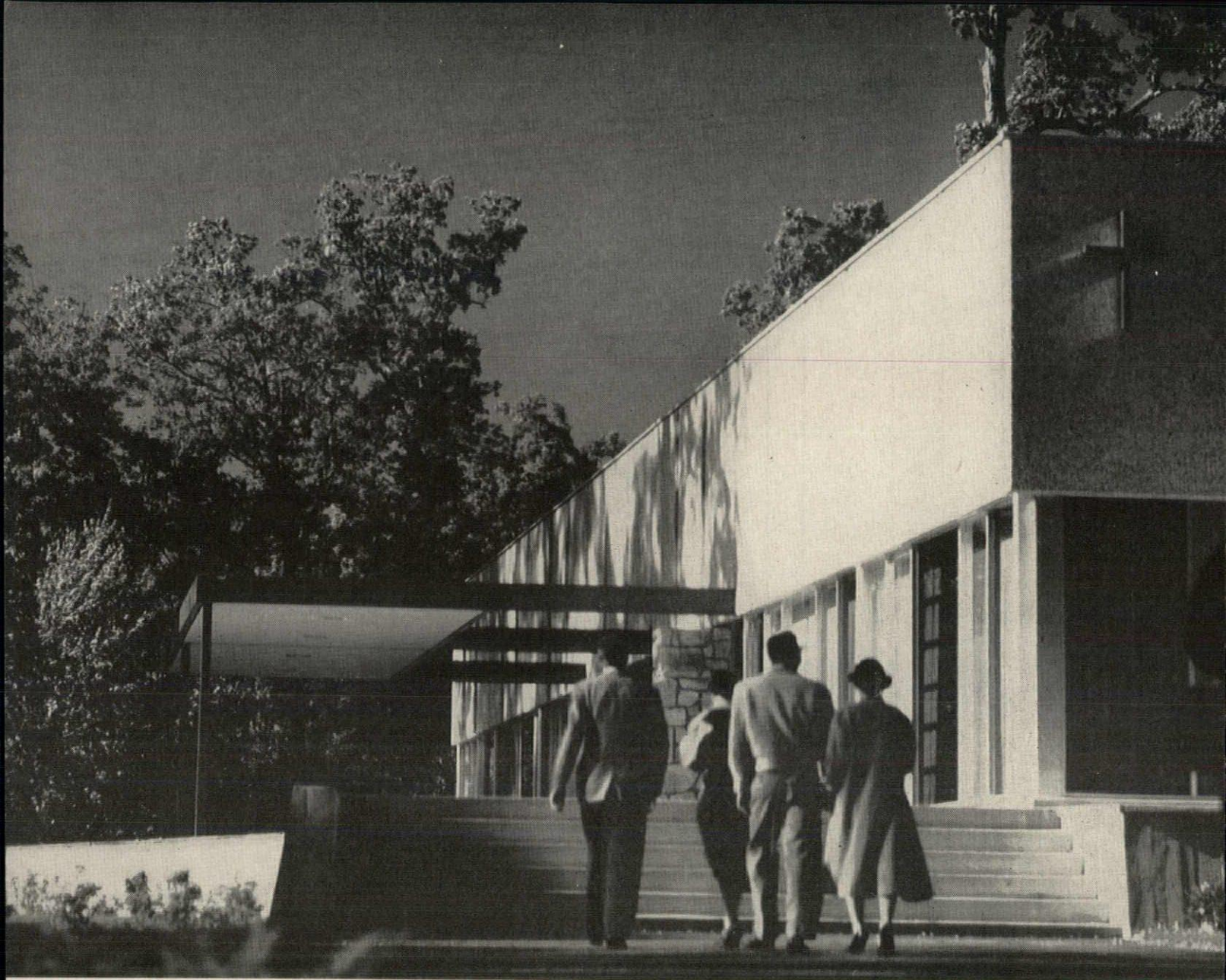
DORMITORY BUILDING

GROUND FLOOR

Photos: Alexander Georges







## LIBRARY, GWYNEDD MERCY JUNIOR COLLEGE

LOCATION:  
*Montgomery County, Penn.*

ARCHITECTS:  
*Nolen & Swinburne*

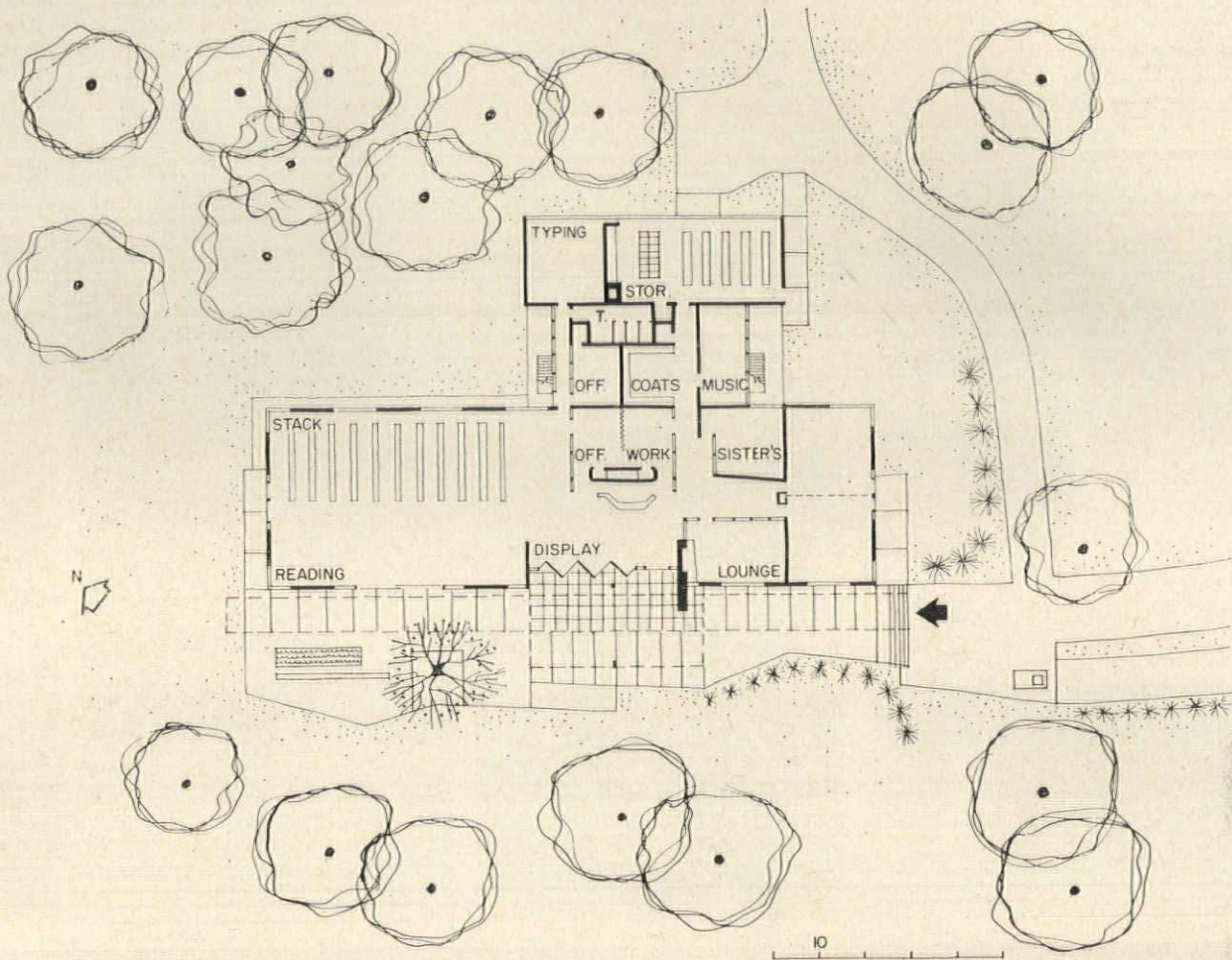
ASSOCIATES:  
*John H. Welsh, in charge*  
*Chard F. Webb, Victor H. Kusch*

Regarding the design of this attractive library near Philadelphia, architect Swinburne says, "Since the wooded setting was both isolated and attractive, we opened up the entire building (except for storage and typing rooms), using multi-colored glass panels. A further important consideration was provision for future doubling of the stack capacity in such a manner that the present building would not appear awkward. This was taken care of by making the ceiling in the main area 15 ft high, so that additional stack space may be gained, when needed, by adding a mezzanine. The present classrooms can then be converted to additional reading room area. 150 acres have been purchased to allow for expansion of the campus. The interiors were designed to have a generally informal character—especially the smoking room and music listening room."

The contract price for the air conditioned, 10,073 sq ft building, unfurnished was \$222,700. On a unit basis, this equals \$23 per sq ft.

*MECHANICAL & ELECTRICAL ENGINEERS: Robert C. Burns Associates;*  
*STRUCTURAL ENGINEERS: Allbach & Rennis; BUILDER: John P. Donovan*





The frame of the building is of structural steel with long span roof joists and composition planking; exterior walls are precast concrete with a special exposed aggregate; most interior walls are finished with burlap mounted on plywood supported by studs; ceilings are acoustical plaster; partitions are concrete block, plastered; floors are typically of vinyl tile, applied to the slab on grade, with limited areas carpeted; sliding doors and sash are aluminum with  $\frac{1}{4}$  in. plate glass; lighting is a combination of incandescent and fluorescent

Photos: Cortland V. D. Hubbard







## SORORITY HOUSE, DE PAUW UNIVERSITY

*Delta Zeta House,  
De Pauw University*

LOCATION:  
*Greencastle, Indiana*

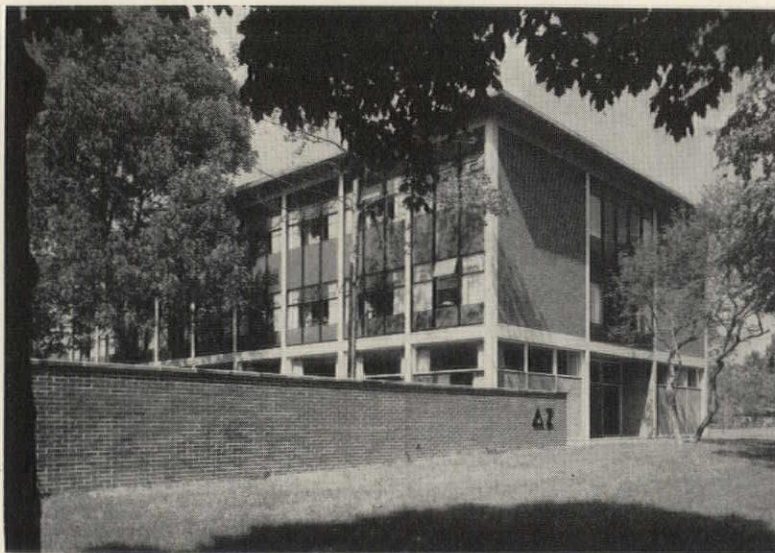
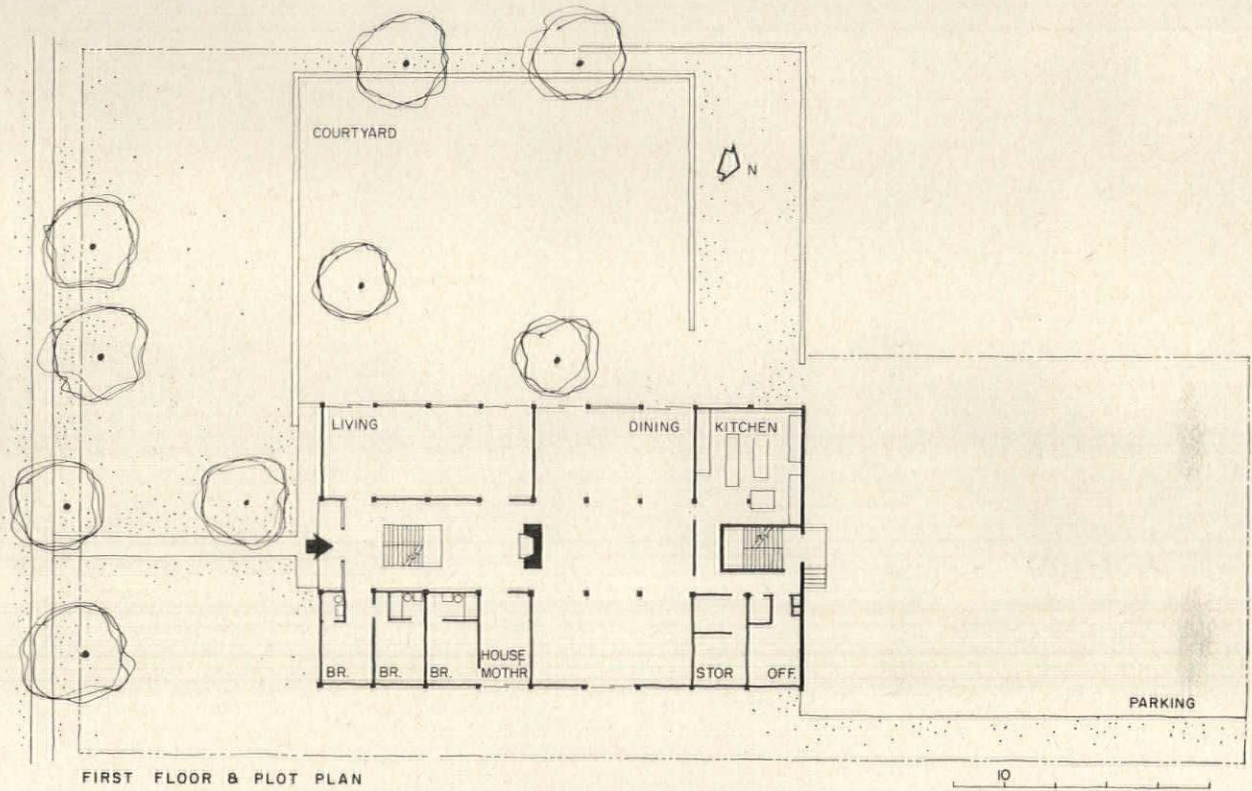
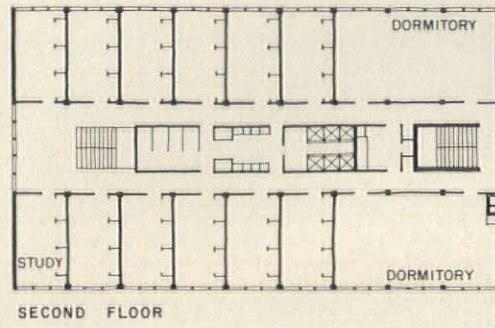
ARCHITECT:  
*Evans Woolen*

Architect Woolen says, "The building is sited assymmetrically on its L-shaped lot. In order to enjoy its own walled courtyard to the west and the neighboring open yard to the east, the building is placed as close to the street as law will permit. Such a site arrangement relates to but does not imitate its neighbors. The building to the east is very deep in its lot; the masses thus enhance each other.

"The cost was \$14 per sq ft. With such a budget neither space nor materials could be used luxuriously; a steel frame was the economical path. A typical study room became the module throughout the building. The exterior structural cage is sheathed in white Alabama marble, hung on steel lath welded to the structural members. Into this cage are inserted variously: red brick; steel window panels; and gray, sand-finished stucco. The brick reappears in the garden wall and also in several nearby structures of 19th century vintage. This sorority is the first building of modern design to be introduced into the small, mid-western campus."

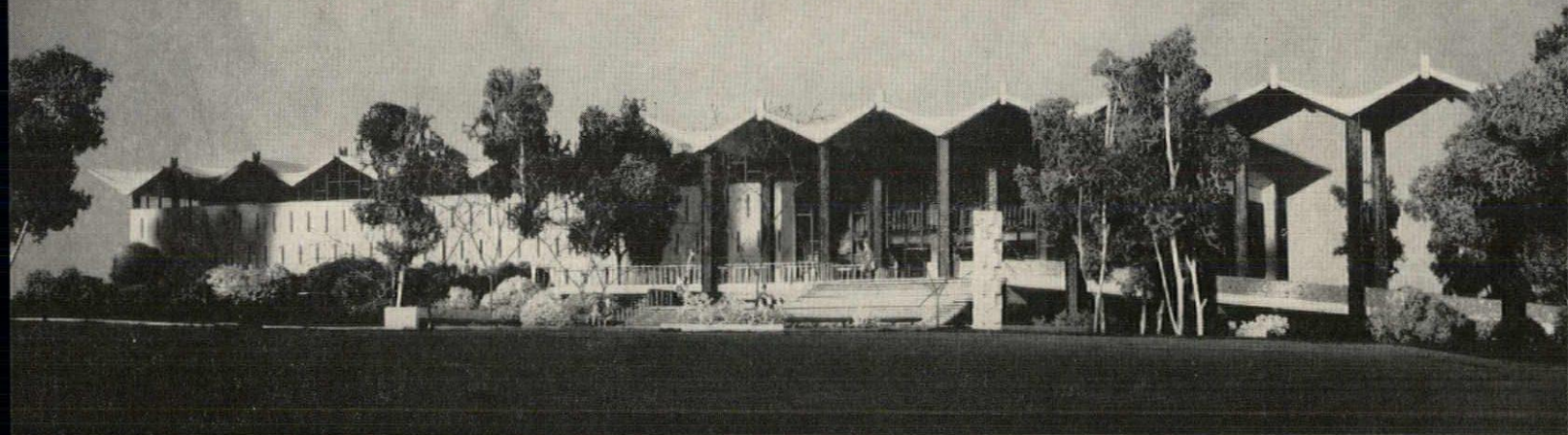
MECHANICAL ENGINEER: *James T. Lee*; STRUCTURAL ENGINEERS: *Fink, Roberts & Petrie*; GENERAL CONTRACTOR: *Ostrum Construction Co.*





Photos: Bill Engdahl, Hedrich-Blessing





## LIBRARY, UNIVERSITY OF NEVADA

LOCATION:  
*Reno, Nevada*

ARCHITECTS:  
*Robert E. Alexander & Associates*

DESIGN CONSULTANT:  
*Malcolm Leland*

RESIDENT ARCHITECTS:  
*Vhay Associates*

ASSOCIATE ARCHITECT:  
*Dion Neutra*

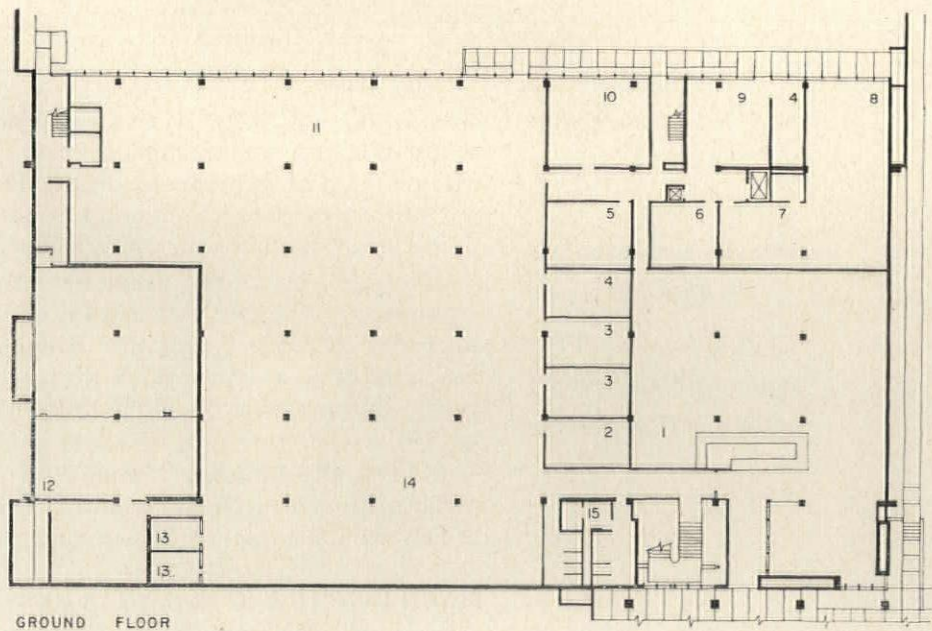
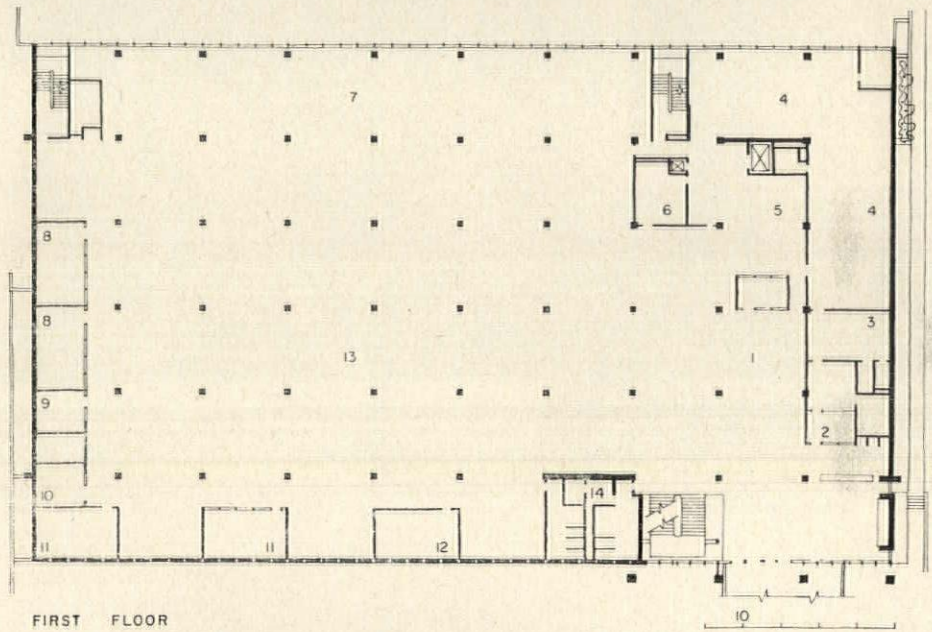
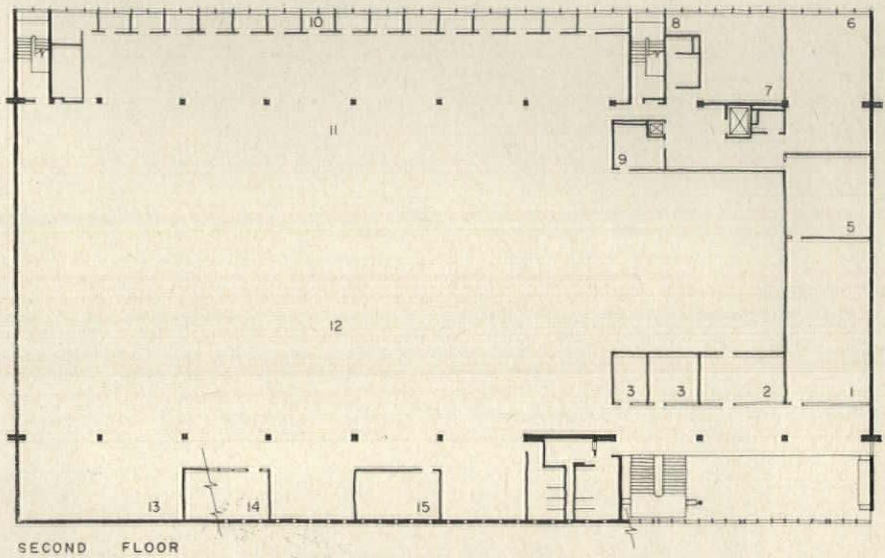
This university library—now under construction—is located in the center of classroom activity on the Nevada campus, and will be tied to the main quadrangle by a covered arcade. The three-story high, 100,000 sq ft building will serve 1400 students and have a capacity of 350,000 volumes.

The 4-in.-thick folded plate concrete roof will span 90 ft., with 25-ft cantilevers at each end. The ends of the overhangs will be shaped in bird-like forms and covered with silver mosaic; the supporting columns will be clad in red granite. The east and west walls will be of brick to harmonize with that of surrounding structures; the south wall will be a limestone screen, echoing the material of entrance porticos nearby.

The plan is notable for its flexibility. Stacks can be supported at any point, and moved as needs change. The entire north wall (at the top in the plans at right) can be dismantled and moved outward.

*MECHANICAL ENGINEER: Boris Lemos; ELECTRICAL ENGINEERS: Frumhoff & Cohen; STRUCTURAL ENGINEERS: Parker-Zehnder; ACOUSTICAL CONSULTANTS: Vern Knudsen & Donald Sykes-Free; LANDSCAPE ARCHITECTS: Baldwin, Eriksson & Peters*





SECOND FLOOR

- |                        |                     |
|------------------------|---------------------|
| 1. Collections         | 8. Kitchenette      |
| 2. Conference Room     | 9. Work Room        |
| 3. Study and Typing    | 10. Faculty Study   |
| 4. Curriculum Workshop | 11. Stack Area      |
| 5. MS Preparation      | 12. Social Sciences |
| 6. Mechanical          | 13. Maps Area       |
| 7. Staff Conference    | 14. Conference Room |
|                        | 15. Micro Materials |

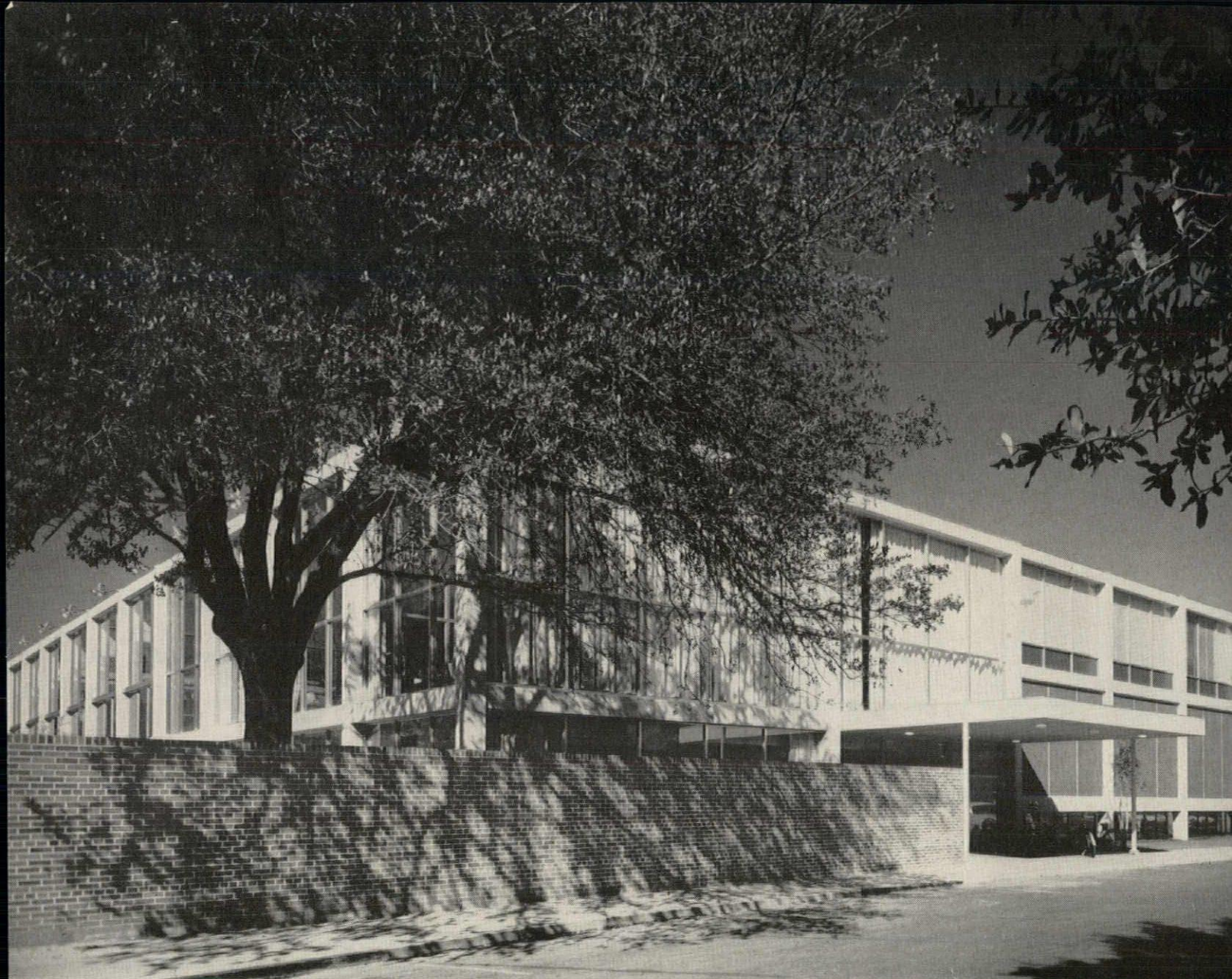
FIRST FLOOR

- |                      |                     |
|----------------------|---------------------|
| 1. Reception Area    | 8. Listening Room   |
| 2. Circulation Desk  | 9. Typing Room      |
| 3. Director's Office | 10. Group Study     |
| 4. Technical         | 11. Conference Room |
| 5. Circulation Work  | 12. Micro Materials |
| 6. Work Room         | 13. Humanities      |
| 7. Stacks            | 14. Janitor         |

GROUND FLOOR

- |                       |                      |
|-----------------------|----------------------|
| 1. Reserve Book Room  | 8. Gifts, Duplicates |
| 2. Work Room          | 9. Truck dock        |
| 3. Conference Room    | 10. Bindery          |
| 4. Micro Materials    | 11. Stacks           |
| 5. Storage            | 12. Mechanical       |
| 6. Photo Repro.       | 13. Study & Typing   |
| 7. Newspaper or Stor. | 14. Science          |
|                       | 15. Janitor          |





## STUDENT CENTER, TULANE UNIVERSITY

LOCATION:  
*New Orleans, Louisiana*

ARCHITECTS & ENGINEERS:  
*Curtis & Davis*

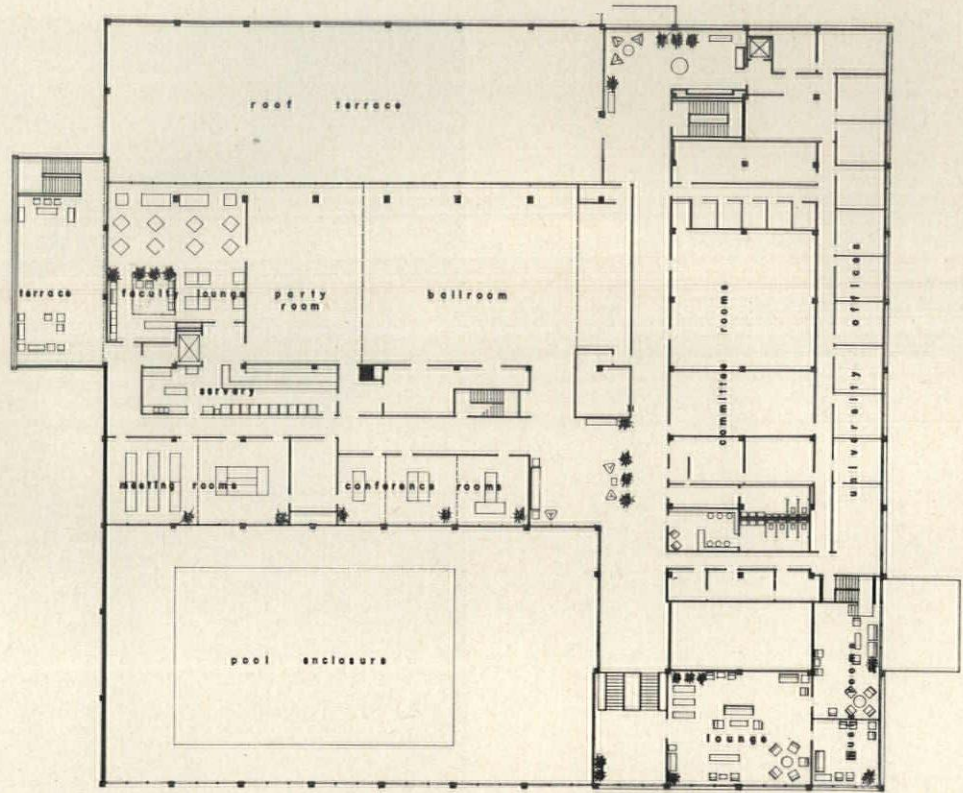
ASSOCIATED ARCHITECT:  
*Edward B. Silverstein*

The architects say, "It was considered exceptionally important that the many complex functions of different sizes, volumes, and degree of importance should all be conveniently housed in as simple a structure as possible within a rectilinear volume; but at the same time, the interrelationship of many of the activities should be felt by the students and visitors.

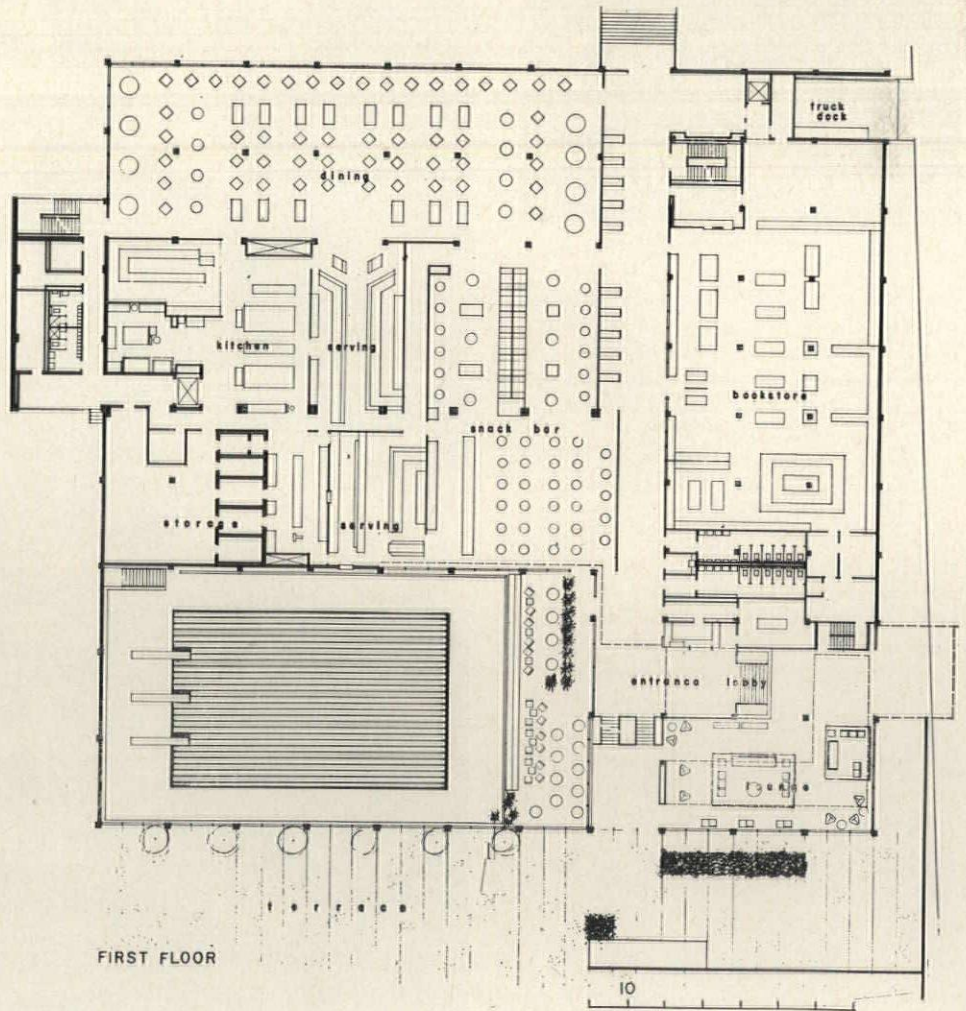
"Since many of the areas required large volumes and others smaller volumes, it was felt that within the cube of the structure there could be diversity of levels in order to honestly express these requirements, and at the same time enhance them by permitting the students to view from different perspectives the parts of the building by opening the plan vertically as well as horizontally. The real goal was to achieve these objectives, and still keep the building simple and devoid of unnecessary complications structurally, as well as avoiding any sort of projections or indentations which would complicate the visual image."

*MECHANICAL & ELECTRICAL ENGINEERS: Leo S. Weil & Walter B. Moses;  
GENERAL CONTRACTORS: Farnsworth & Chambers Co.*





SECOND FLOOR

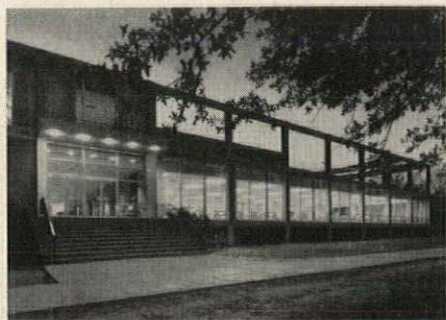
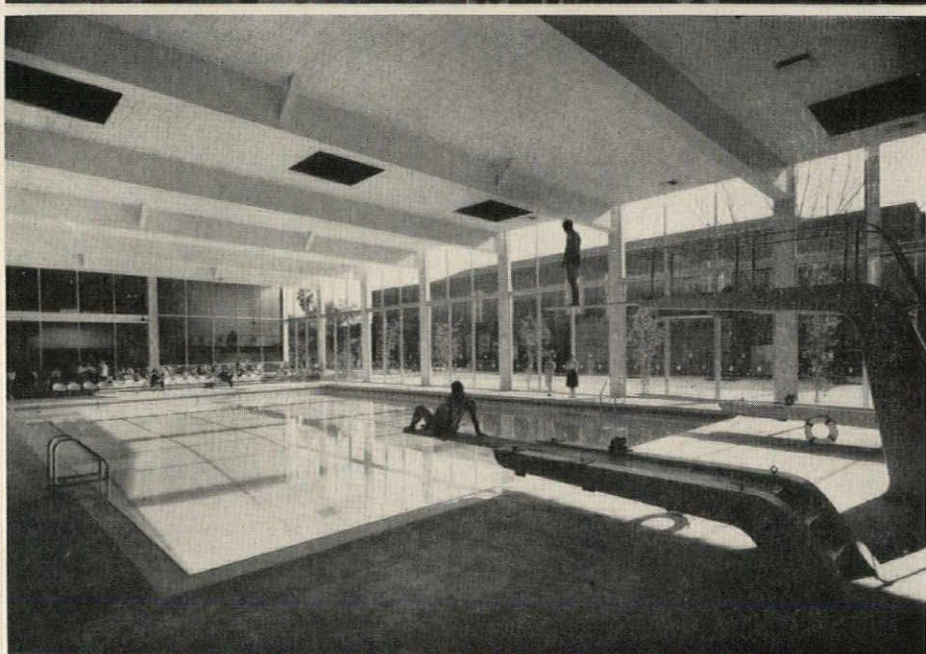


FIRST FLOOR



All photos: Frank Lotz Miller





From the main floor entrance level stairs provide access up to the second floor and down to the basement, and the building elements are located so that one will seldom be required to walk up or down more than one flight of stairs.

The swimming pool enclosure is two stories high and has been designed as a large covered patio with the entire south wall opening up to give access to a raised, outdoor terrace. The second floor meeting rooms and main stairway overlook the pool patio. Dressing rooms and pool facilities are located down a short flight of stairs at the pool's deep end



Joseph W. Molitor



# THE CURRENT PACESETTER

Skidmore, Owings and Merrill's new office building for the Union Carbide Corporation belongs in the company of its Park Avenue Prototypes, Lever and Seagram.



## Union Carbide Building

ARCHITECTS: *Skidmore, Owings & Merrill\**

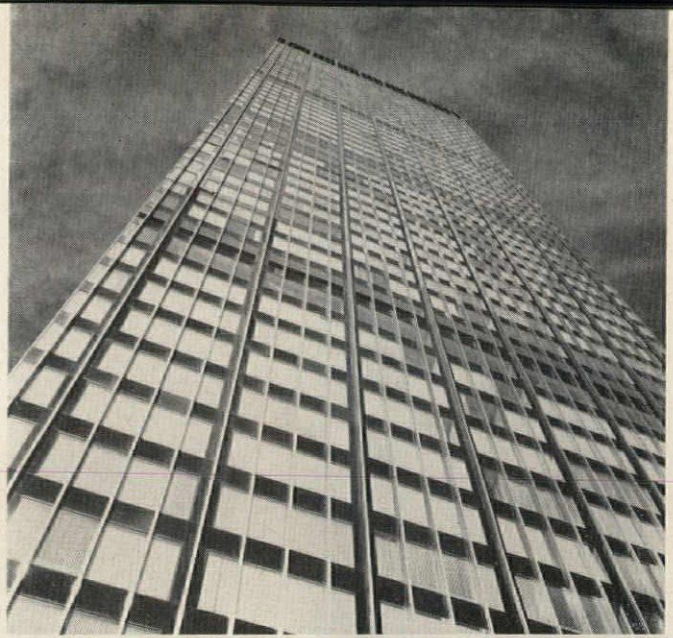
STRUCTURAL ENGINEERS: *Weiskopf and Pickworth*

MECHANICAL, ELECTRICAL AND LIGHTING

CONSULTANTS: *Syska and Hennessy*

ACOUSTICAL CONSULTANTS: *Bolt, Beranek and Newman*

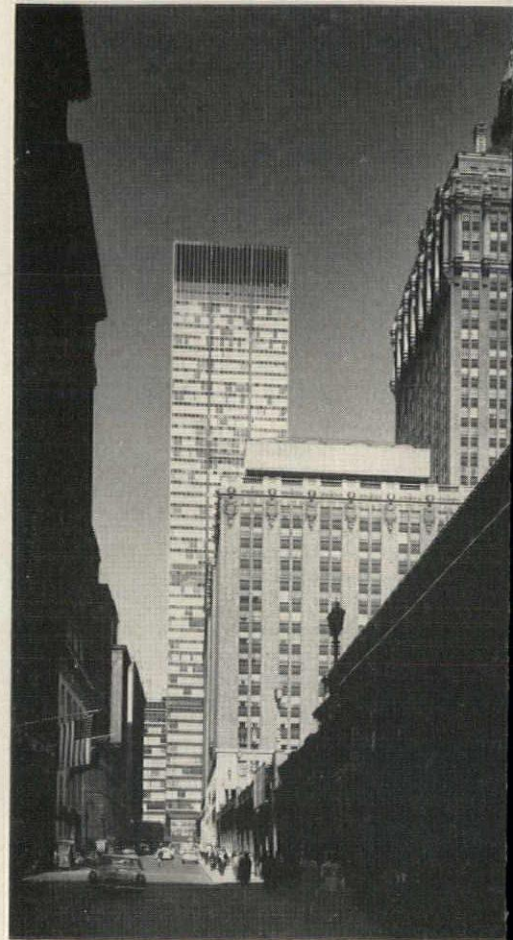
GENERAL CONTRACTOR: *George A. Fuller*



The good modern skyscraper seems predestined to resemble the best of its immediate predecessors. Most recent skyscrapers are steel frame with metal and glass curtain walls. The efforts of architects to find fresh pretexts to generate new and stirring forms and surfaces and to adapt new materials and structural systems to this purpose, have not yet made a decisive mark in the big building field. Firms like Skidmore, Owings & Merrill continue to refine their basic details as one building follows another. At Union Carbide the modular ceiling lighting and air conditioning system becomes better integrated, partitions relate more cleanly to the ceiling module and are more flexible, the detailing is a further step in the direction of simplification and clarity of statement.

The shape of the Union Carbide building was determined in part by a request of the owners that 60% of its working space be peripheral if possible. The architects developed and assembled costs on three distinct schemes for the selected site, the block between Madison and Park, from 37th to 48th streets at the former location of the Marguery apartment-hotel. They explored a ziggurat arrangement which would have covered the entire plot in its lower stories, with the upper stories set back as required by zoning regulations. It turned out to be the most

*text continued on page 160*

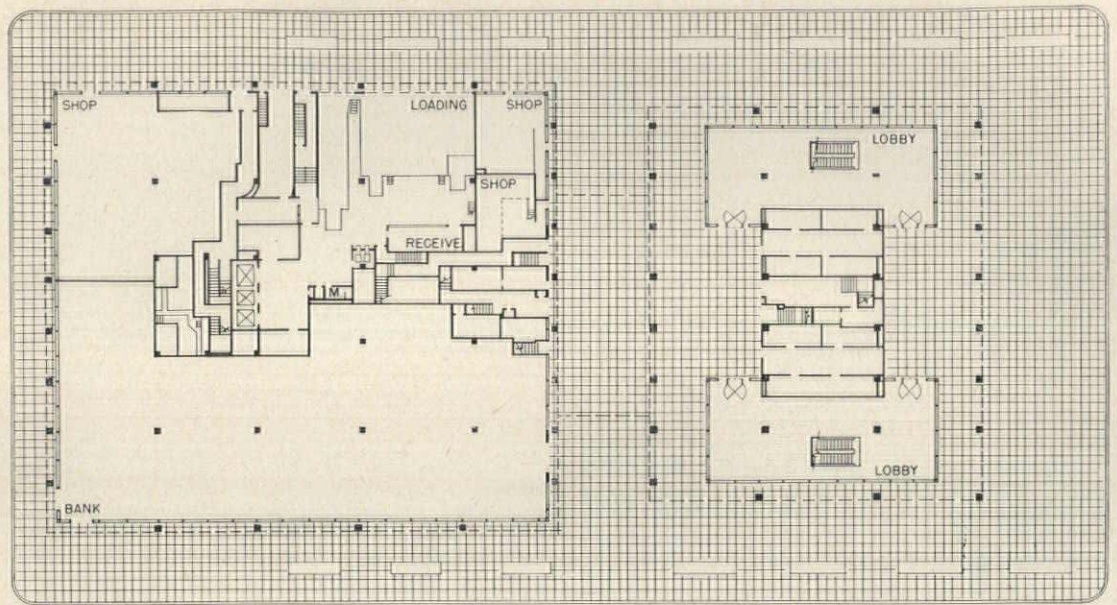


*Joseph W. Molitor*



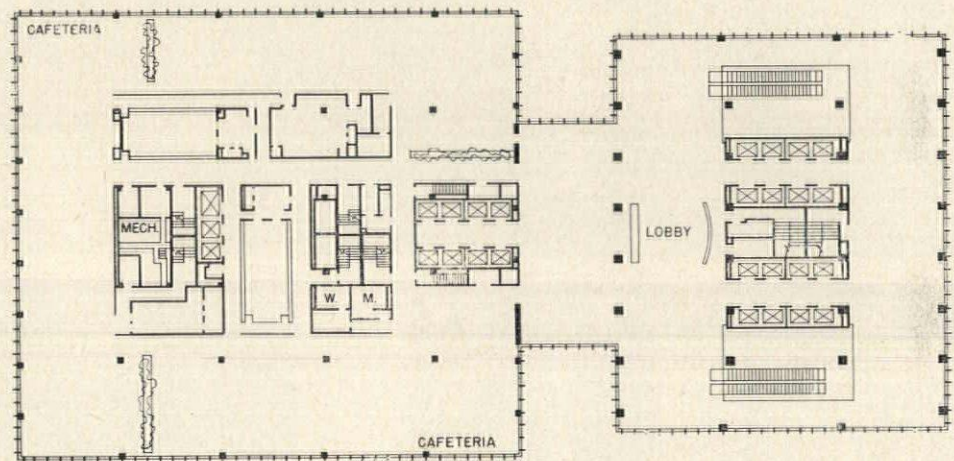
*\*William S. Brown, partner in charge  
Gordon Bunshaft, partner in charge of design  
Robert K. Posey, project manager  
Natalie de Blois, project designer  
Jack G. Dunbar, interior designer*



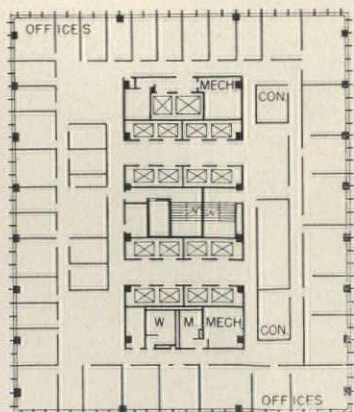


GROUND FLOOR

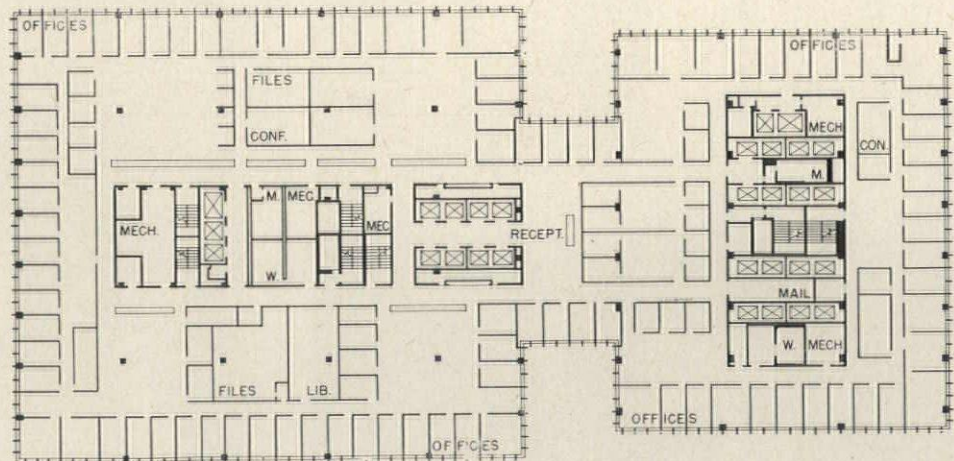
Entire site between Park Avenue on right and Madison Avenue on the left. 48th street is at the top of drawing, 47th at bottom. Grand Central Station is five blocks south



SECOND FLOOR

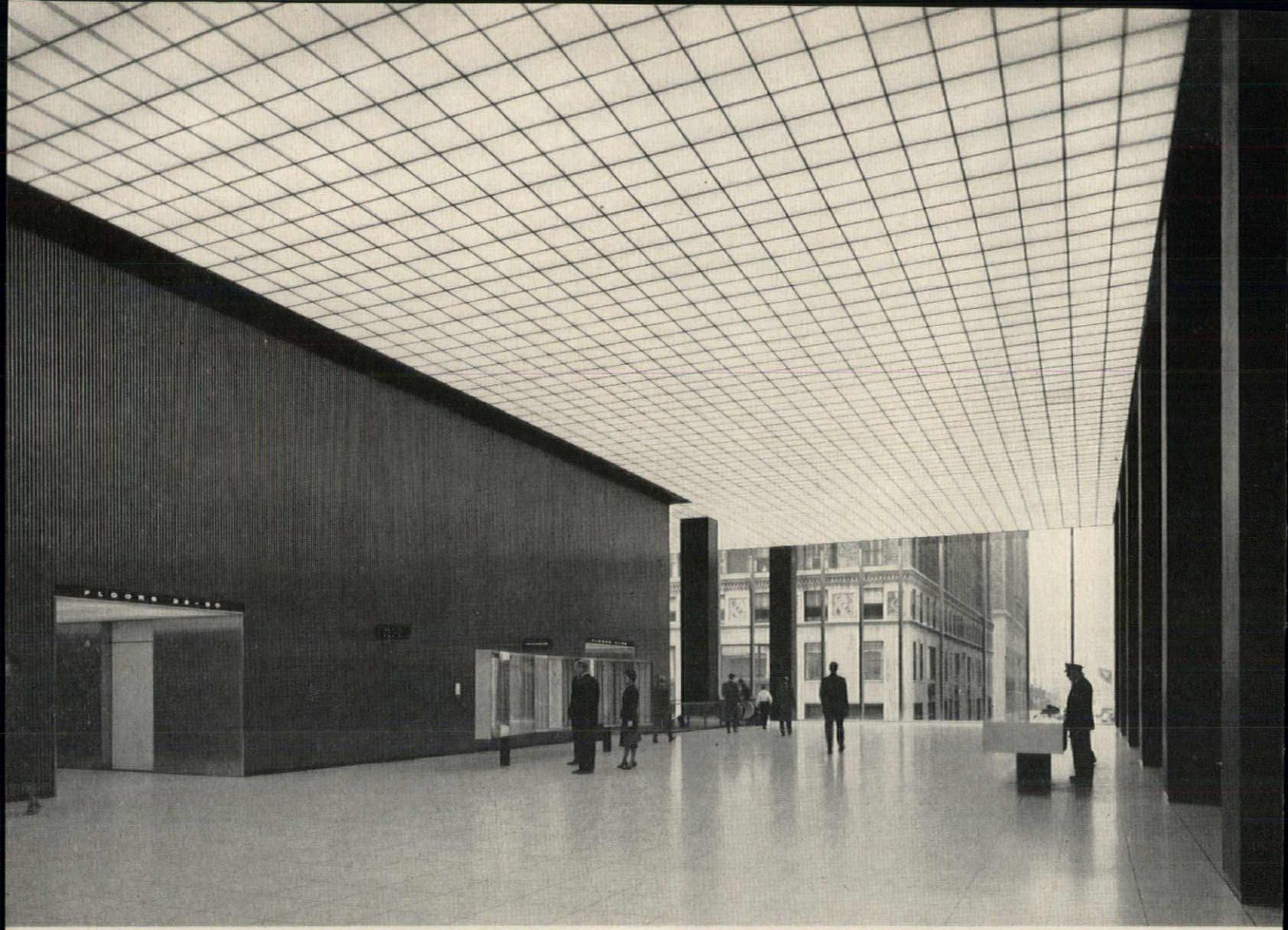


TYPICAL TOWER FLOOR



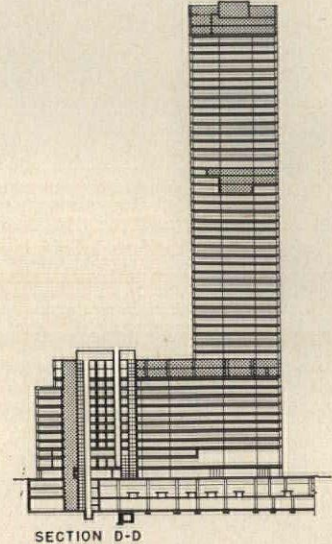
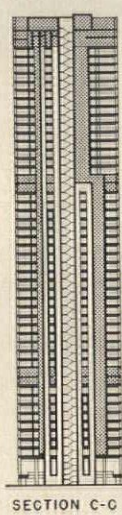
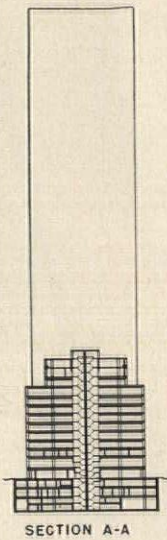
TYPICAL FLOOR



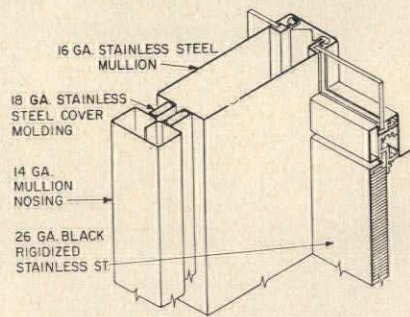




Shaded areas are mechanical floors and shafts

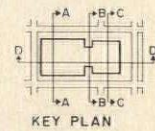


The tracks beneath were a problem, and its solution, partially accommodating the building to track spacing below, strongly influenced the tower proportions and module. As can be seen in section D-D above there are two track levels heading south toward Grand Central. The tower columns are spaced on 20 ft centers in the north-south direction to fall between the 20 ft spacing of existing track support columns. In the east-west direction column positions were established by the desirability of getting three rows of columns directly to footings without the need of transfer girders to avoid tracks or their columns. The fourth row of columns on the Park Avenue side required them because of curved tracks at the second level. The established module for the building based on the 20 ft north-south spacing of the structural columns was 2½ by 5 ft. It was considered ideal by the architects for the coordinated ceiling lighting and air conditioning installations, and for arrangement of office and corridor partitions. In order to maintain the module completely, the exterior columns on 47th and 48th streets were positioned to make bays divisible by 5 ft. Thus it was necessary that these columns also reach their footings by means of transfer girders



ISOMETRIC OF MULLION AT FLOOR LEVEL

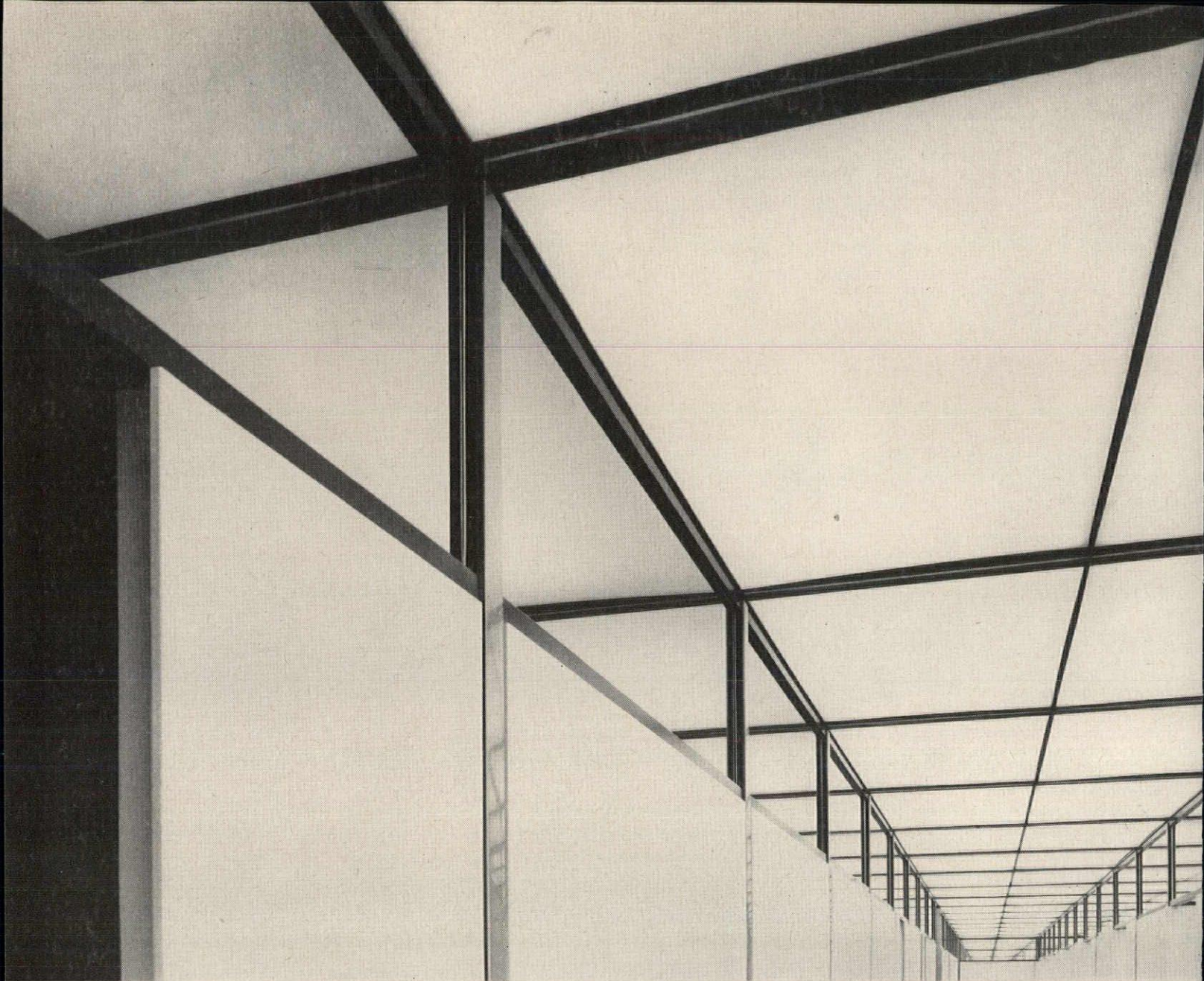
Joseph W. Molitor



The high speed, high rise elevators which the building required, needed a deep pit for which there was no room below the street level. The elevator machinery is housed therefore on the ground floor and the main lobby floor is reached by escalators. This two level entrance is a powerful and imposing architectural element. *Opposite page top:* Upper lobby. Elevator control panel is free standing at right, curved directory is free standing at left. Wall is of corrugated stainless steel its interstices painted black. Columns are faced with rigidized black steel. Steel was used wherever possible throughout the building since one of the Union Carbide Corporation's major activities is the production of raw materials used by the steel industry. *Opposite page bottom left:* Escalator lobby and main elevator lobby above looking toward Park on the 47th street side. *Opposite page bottom right:* Escalators provide impressive and dramatic approach







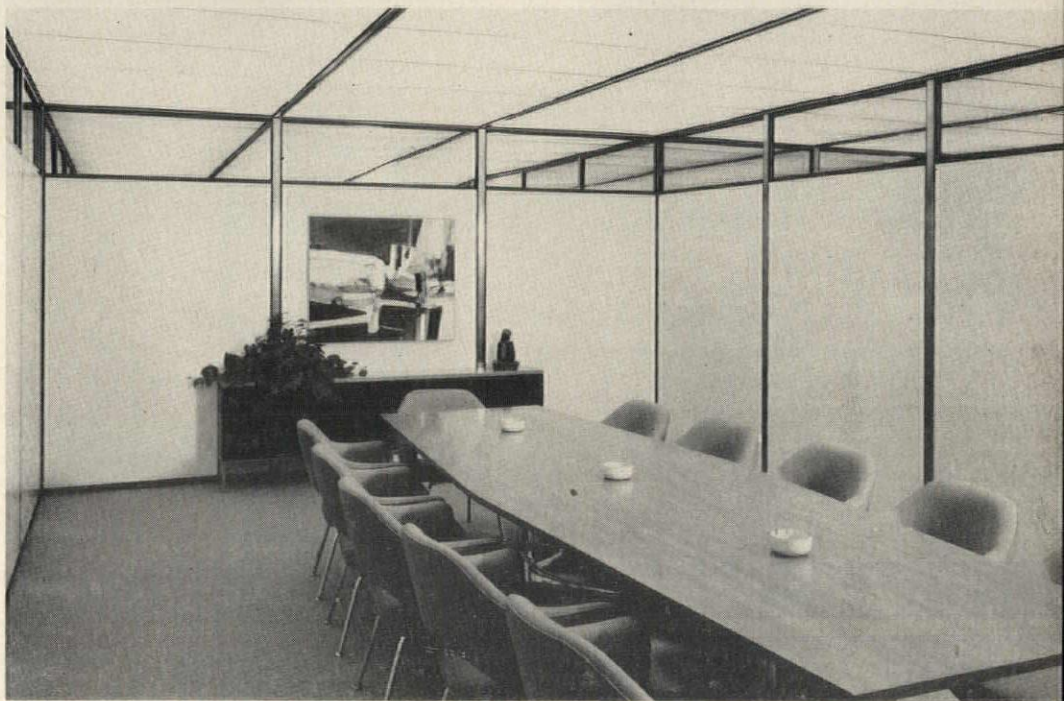
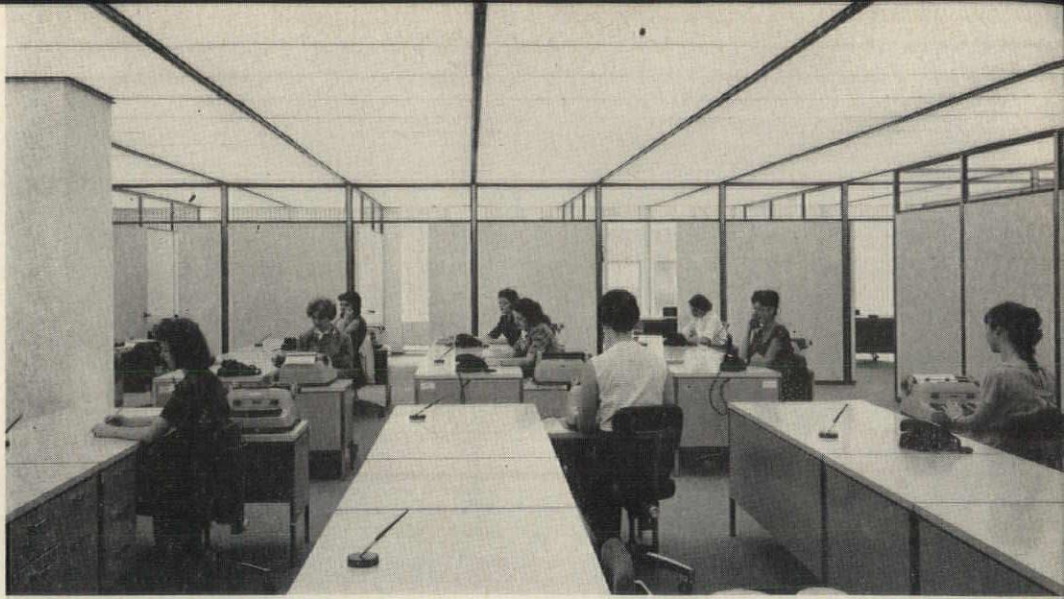
Almost all partitions have clear glass at the top to permit the ceiling to read as a uninterrupted plane. In rooms like the one above which must occasionally be darkened, mirrors replace the clear glass

expensive (increased lineal footage of cornice was a factor), and although the scheme provided more space, it was second rate space and did not meet the "window for as many as possible" requirement of Union Carbide.

A tower surrounded by lower elements with ground floor shops, but set back far enough to avoid having to place columns and footers among the tracks leading into Grand Central was a second alternative. In this scheme the tower would have been on Madison, it would have missed the tracks and been easier to build, but it seemed wrong to throw away the Park Avenue location for the dominant element. Shops would have been located on Park which is not essentially a shopping street.

The third proposal which placed the tower on Park Avenue over the tracks with two lower elements at the rear was the most reasonable solution as well as the handsomest, and it was carried out. The scheme cut the tower area to 25% of the property and thereby gained the advantage of unlimited height provided by the zoning ordinances when this condition is met. It offered a plaza off Park Avenue and wider pavements on 47th and 48th streets. The twelve story lower element off Madison Avenue protects the tower's light and view from that side. Shops are off Park and on Madison and the side streets where they belong, and the tower faces Park where it belongs. Its soaring height provides 64% peripheral space.





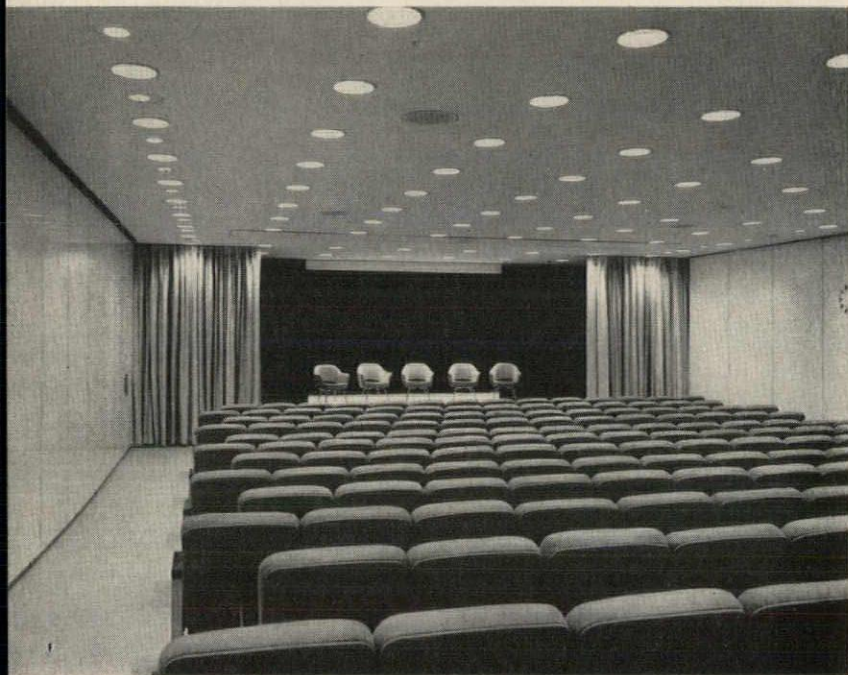
Joseph W. Molitor

A detailed account of the integrated lighting, air conditioning and sound control system in the Union Carbide building's ceiling was presented in ARCHITECTURAL RECORD in February 1960 and it includes photographs of the ceiling during installation. In brief, Union Carbide has the most completely integrated and flexible ceiling and partition system yet developed by Skidmore, Owings and Merrill. It can be called a "fixture" ceiling because it consists of metal reflectors 2½ by 5 ft, which adjoin each other on all four sides and correspond to the basic module of the structure. Ceiling runners of stainless steel which receive the moveable partitions also hold the vinyl plastic diffusers but do not support the metal reflectors concealed above. The major runner on 5 ft centers is shaped and perforated in such a manner as to distribute and return conditioned air. It is suspended from the ceiling and supports the minor runner placed on 2½ ft centers in the opposite direction. A polyurethane gasket seals the runners to the metal reflector frame thus reducing leakage of sound from one office to another. All office and corridor floors are carpeted providing the needed sound absorption to control reverberation. Partitions can be moved without disturbing the ceiling





Executive office



Auditorium



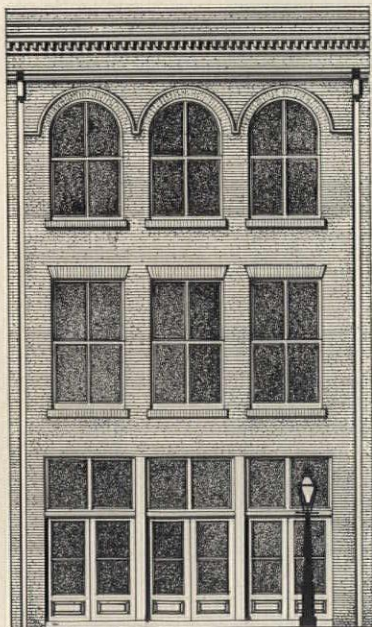
Cafeteria and dining room at upper lobby level

A major effort was made to make the building a showplace for the many materials with which Union Carbide is involved. New or better uses for stainless steel and plastics were developed. The architects completely designed all interiors with the exception of ten tower floors which have been leased to others. All furniture is either custom designed or carefully adapted from standard lines. Ashtrays, desk sets, all objects in fact, have been scrutinized and restyled by the architects. A number of manufacturers got a styling service free thereby, and we can expect to see some new office furniture and accessories on the market, which first appeared at Union Carbide





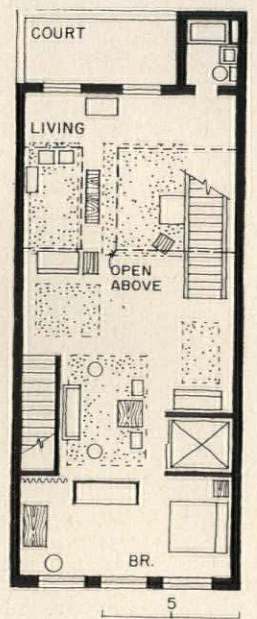
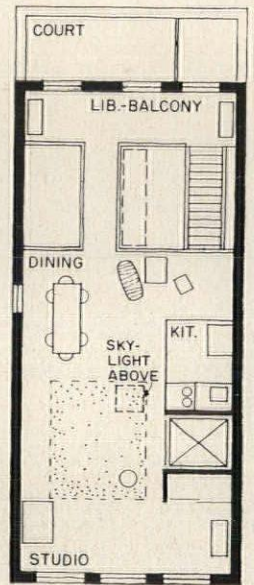
V. Thoma Kersh—Mercury



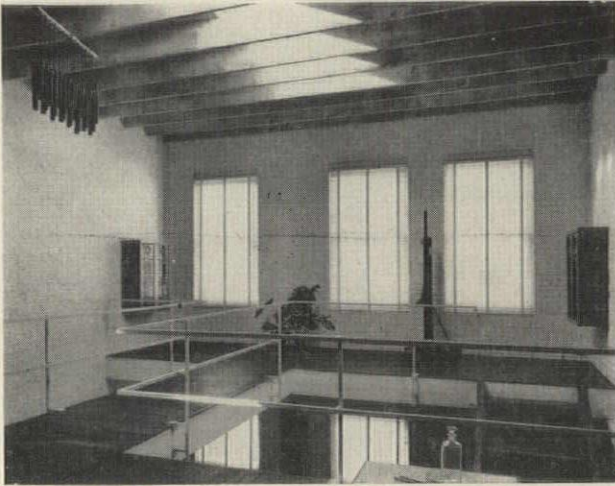
## SIX ARCHITECTS' OWN HOUSES

1. *James R. Lamantia, Jr.,  
of Burk LeBreton and Lamantia,  
Architect and Owner  
New Orleans, Louisiana*









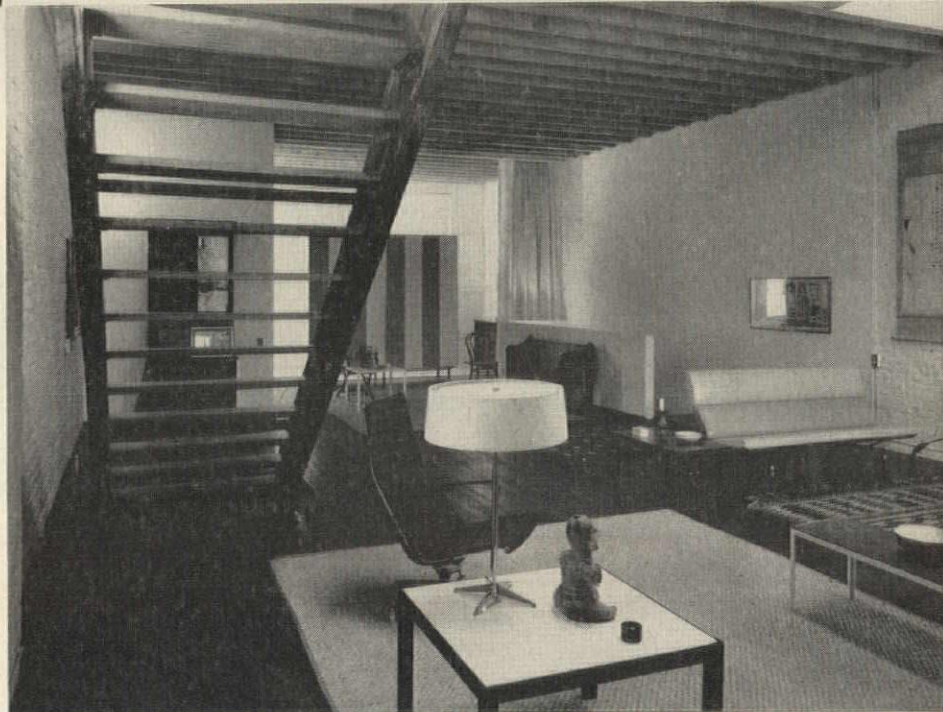
1. James R. Lamantia, Jr., Architect

This remodeling of an old building on one of the borders of New Orleans' French Quarter deftly solves four of the major problems confronting the house field today: spaciousness, economy, ease of upkeep, and convenience to work.

The building (note sketch of façade on the preceding page) was a three-story loft structure, with very little tearing out needed to be done. The ground floor was allocated as a small office rental unit plus a small entrance hall for the owner's quarters on the two upper floors.

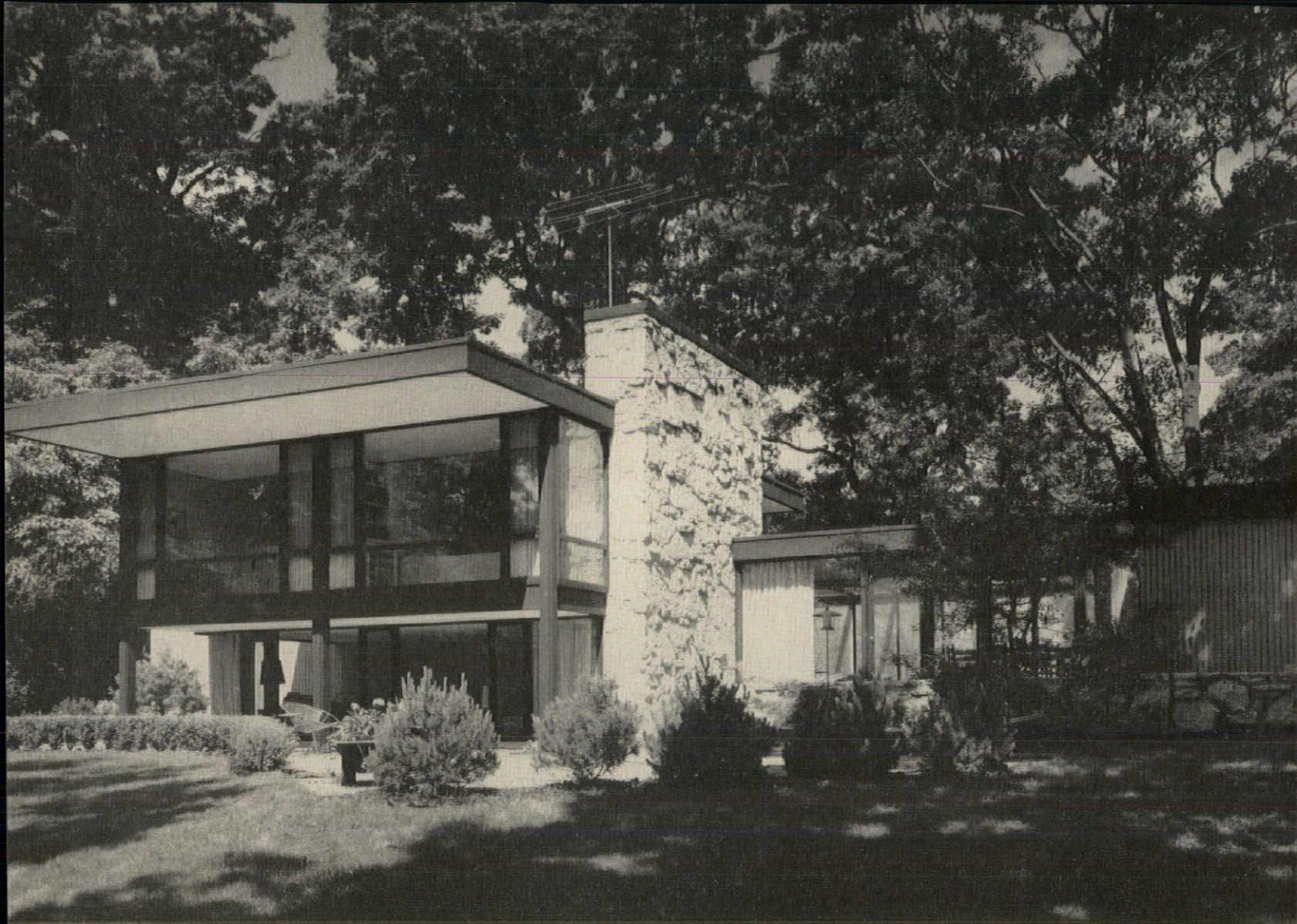
The two brick party walls were bridged by substantial (3 by 14) timbers. Some of these were removed to create a well and integrate the space of the two levels. Together, they total some 28 ft in height. The timbers were left bare and finished by a light spray of white paint. Prior to this, the entire inside of the building was sandblasted to revive the timbers and even out the brick texture. The walls are painted bone white. The floors and stair stringers are longleaf pine, original to the building, lightly stained in a raw umber wash. An existing freight elevator has been refurbished and serves for communication between studio and ground level.

A meticulous arrangement of furnishings and accessories within this free-wheeling space creates a series of living, dining and work spaces. The sleeping area is shielded by a wardrobe backed with gray and white striped plastic; curtains close it off completely. The main color notes are a series of brilliant rugs.

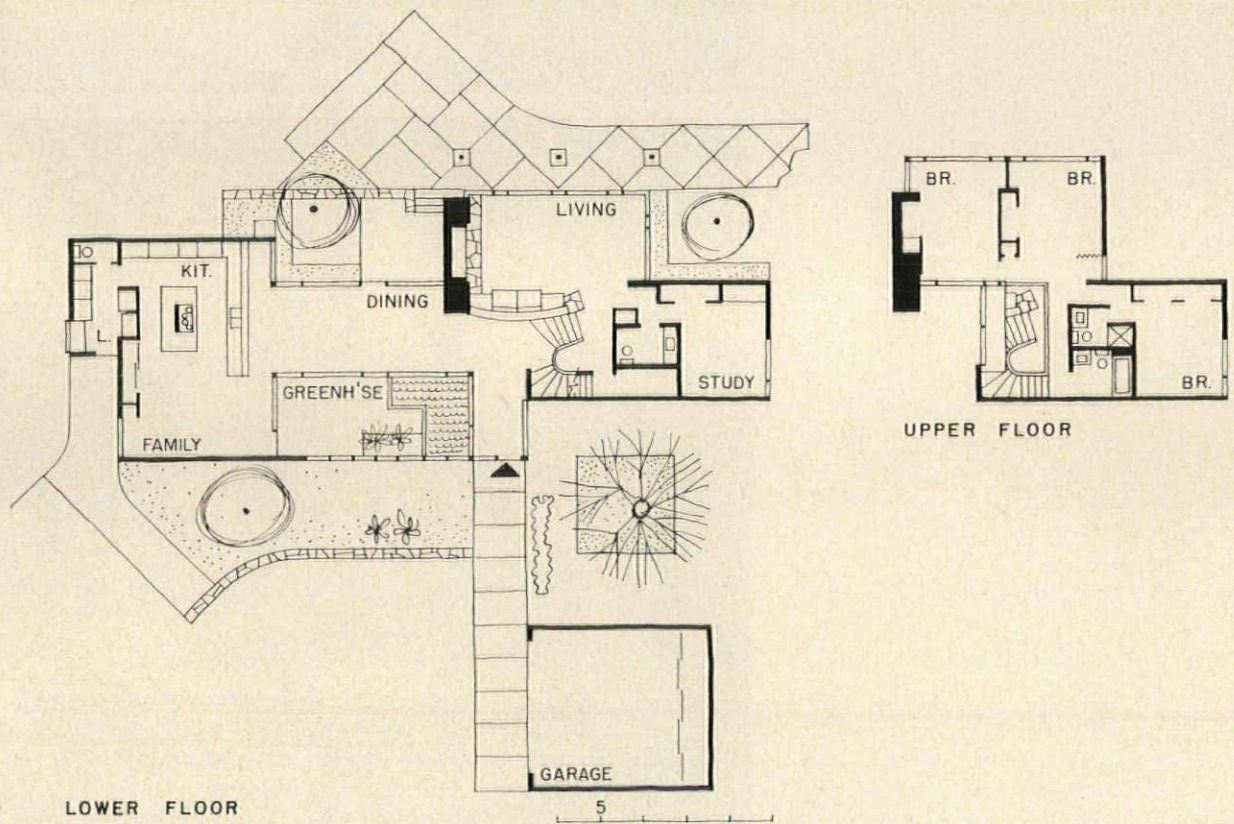


V. Thoma Kersh—Mercury





Nowell Ward







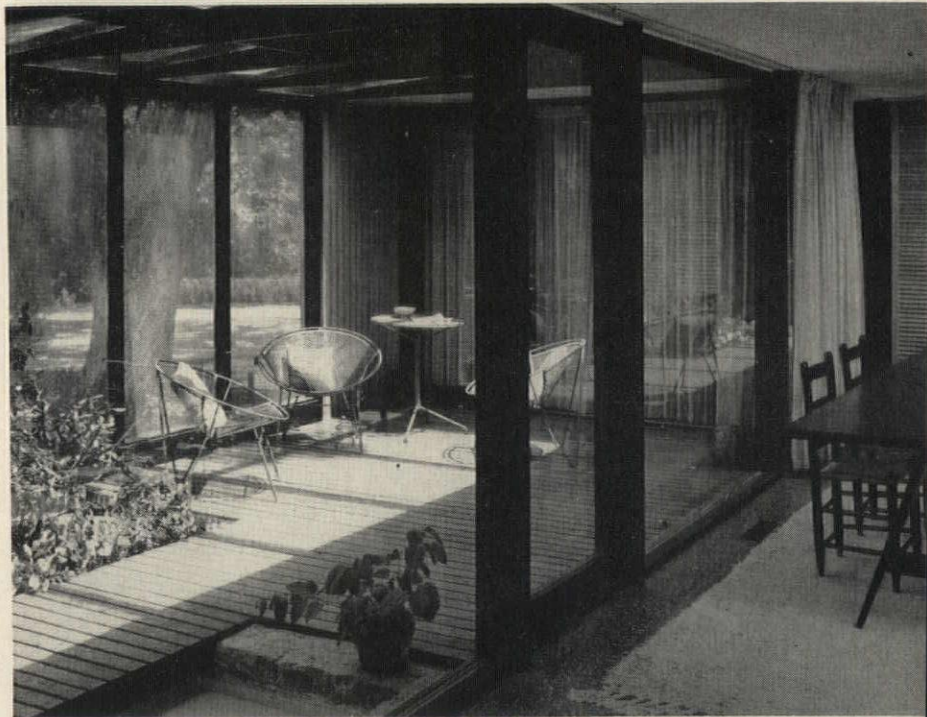
2. *Edward D. Dart, Architect and Owner*  
*Barrington, Illinois*

The hub of this very liveable house is an "all-year porch" (labeled "Greenhouse" on the plan at left) designed to add a sense of outdoor living and added space to the main areas of the house during all sessions. As an actual outdoor porch or terrace has a very limited season of use in the Illinois climate—and often presents a rather bleak prospect the rest of the time—the screened plastic-roofed area can be adapted for winter use by storm sash and heating.

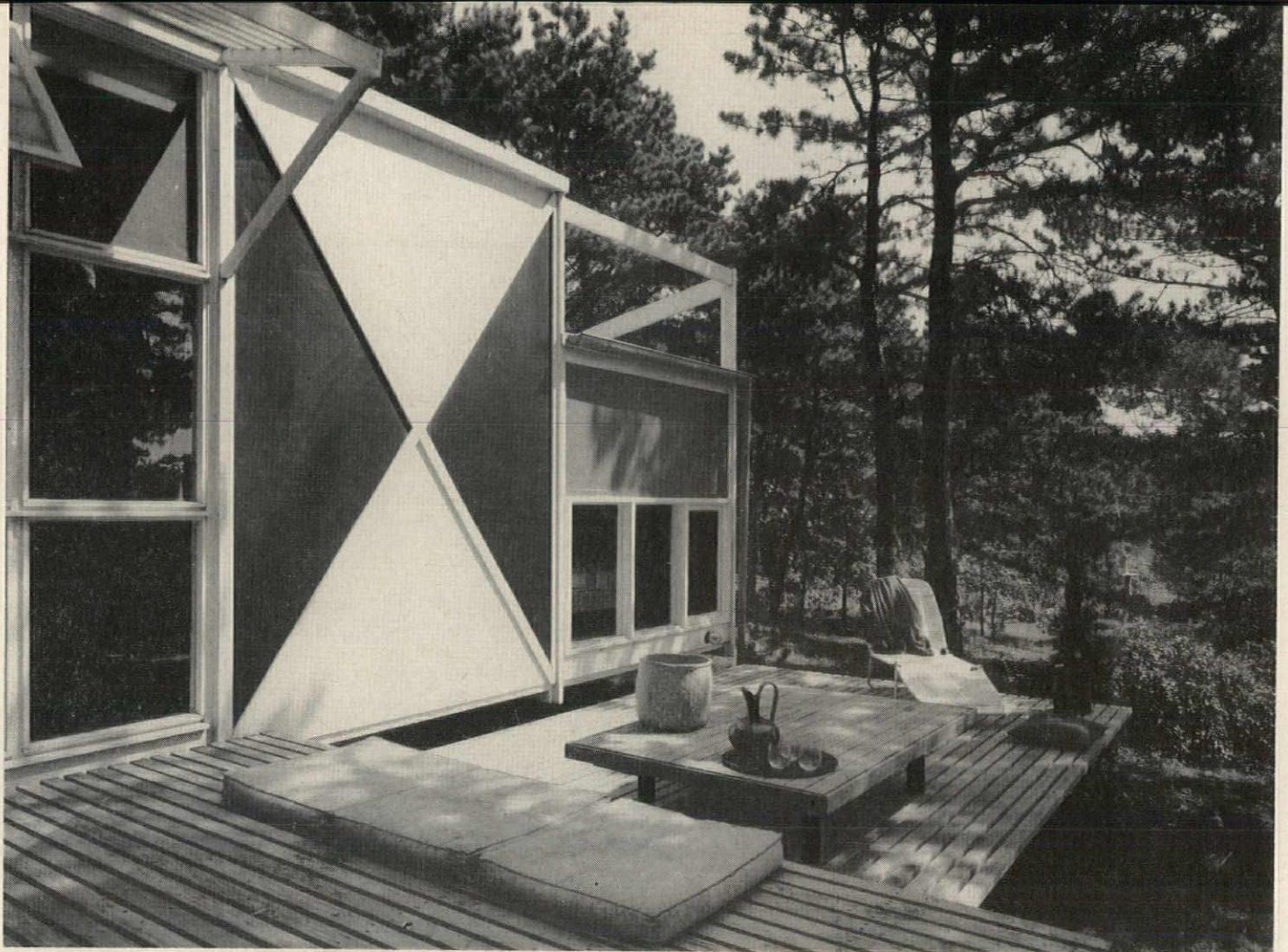
The plan of the house is arranged in three levels to adapt to the slightly rolling, wooded site, and "to avoid the box-like aspect of the normal two-story house". General living areas and entry are on the main level, with adult living room and study a half-flight below, bedrooms a half flight up. A curved stair has been used to make an interesting connecting link to these split levels.

The structure of the house is of steel and wood frame on concrete foundations. The exterior is surfaced with local quarry stone, laid rough, and wood and glass. The roof is built up. Interiors have sand-finish plaster ceilings, walnut and plaster walls. Floors are wood and carpet upstairs, terrazzo in the entry, dining and kitchen areas, carpet in the living room.

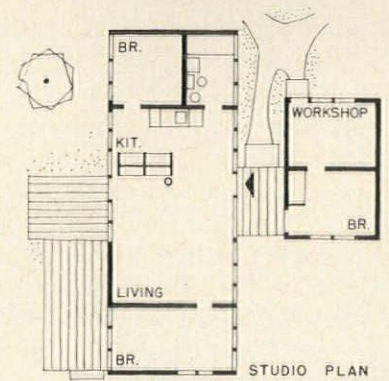
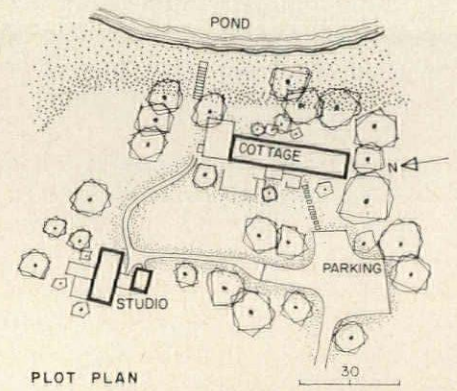
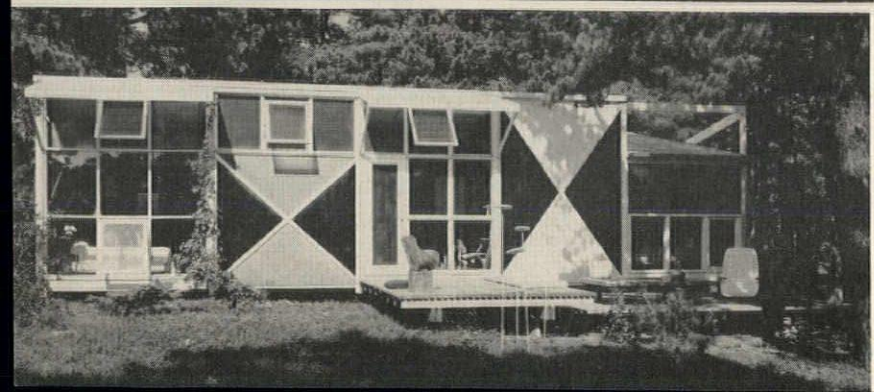
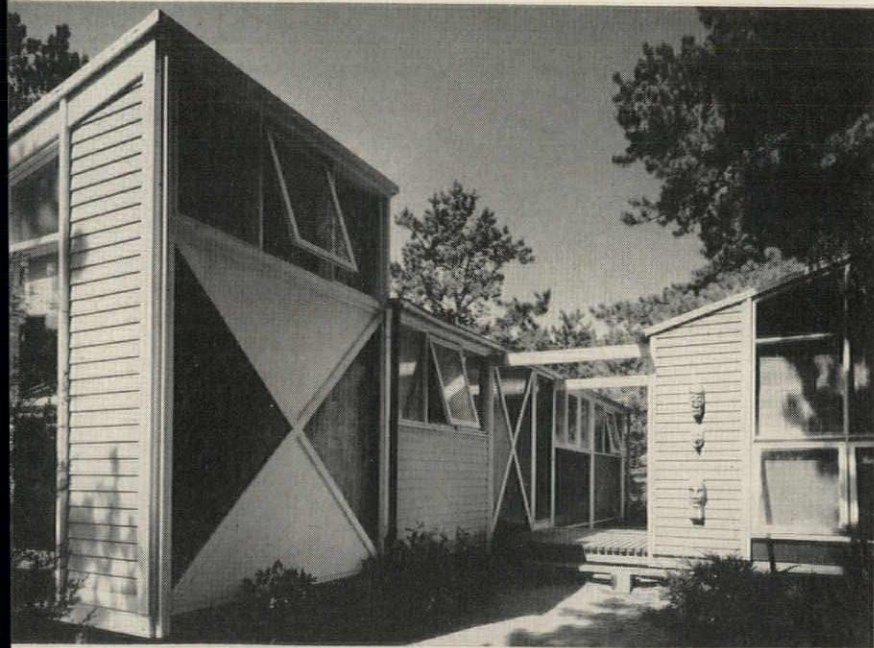
A pleasant motor court was created on the entry side of the house, and long distance views are cleared at the rear.







Joseph W. Molitor





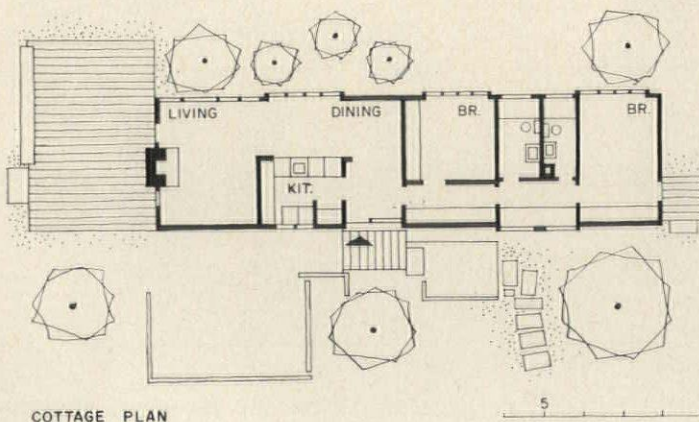
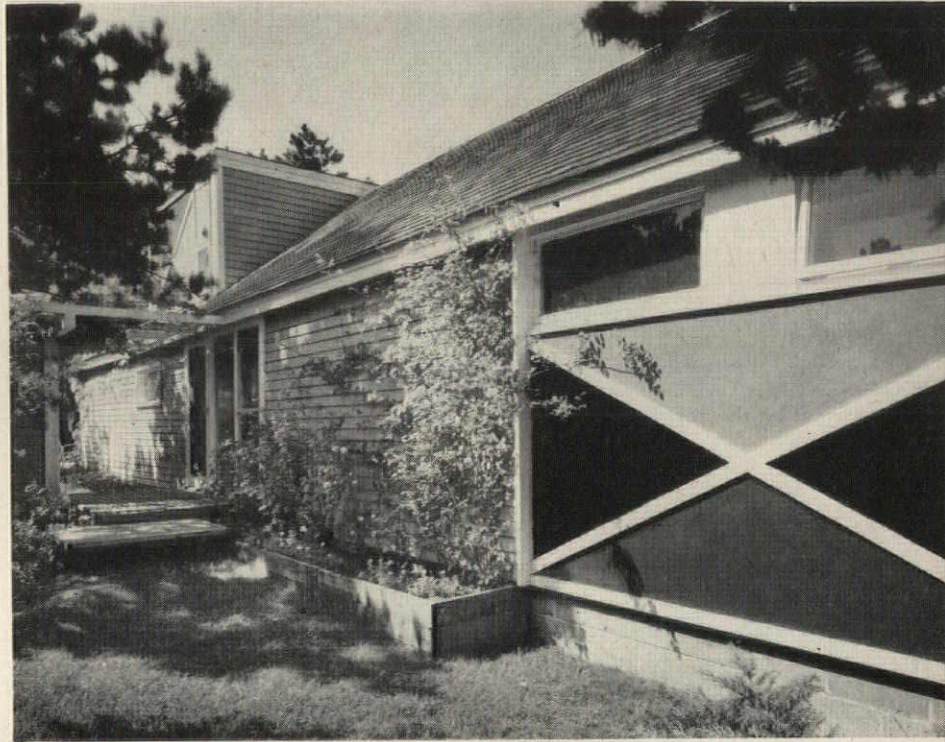
3. Serge Chermayeff, Architect and Owner  
 Slough Pond, Truro, Massachusetts  
 Edward T. Whiting, Contractor

The device of painted pennants or "flags" forms an interesting catalytic and stylistic link between the basically Cape Cod idiom of the cottage (right) and the more contemporary manner of the adjacent studio (left).

The original cottage was built some years ago as a very small house. The construction of the studio, and subsequent additions to each building, posed the problem of compatibility of the designs; the pennants form a highly effective and festive way of achieving it. The bright colors give them a similar spirit, and make them complementary parts of a unified scheme. The structures are gray clapboard, with white trim. The pennants are red, black and white.

Construction is similar on the two units. Foundations are concrete block and concrete piles, frames are wood. Exteriors are hardboard and clapboard. Roofs are cedar shingles and aluminum. Interiors are finished with hardboard, vertical siding and clapboard (see photos on next page). Floors are pine, plywood or vinyl tile; ceilings are exposed timber. The cottage fireplace is a "brick-covered steel box"; it has hot air heating, and the studio has a floor furnace. Thermal insulation is glass fiber. All kitchen and laundry equipment in both buildings is electric.

The plans—and general atmosphere—of the place are well suited to the casual summer life of the Cape, and the disposition of the buildings makes the most of the beautifully wooded site adjoining a large pond.

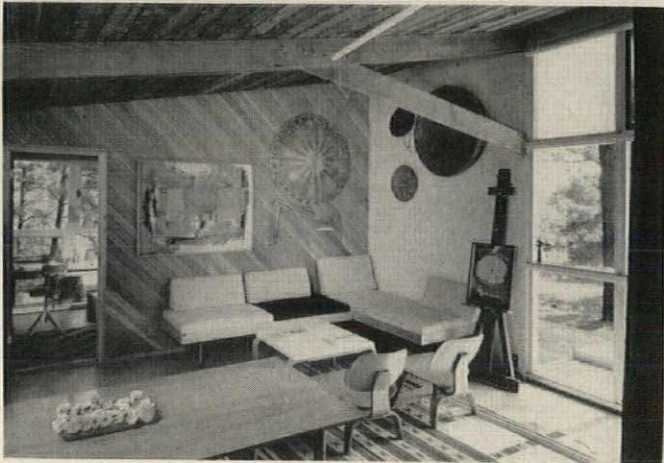






### Chermayeff Studio

The two photos at right show the living area and one of the bedrooms of the Studio building. Chermayeff states that he has "avoided as far as possible unnecessary and modish 'finish'. I can pin up anything anywhere, and do all the time."



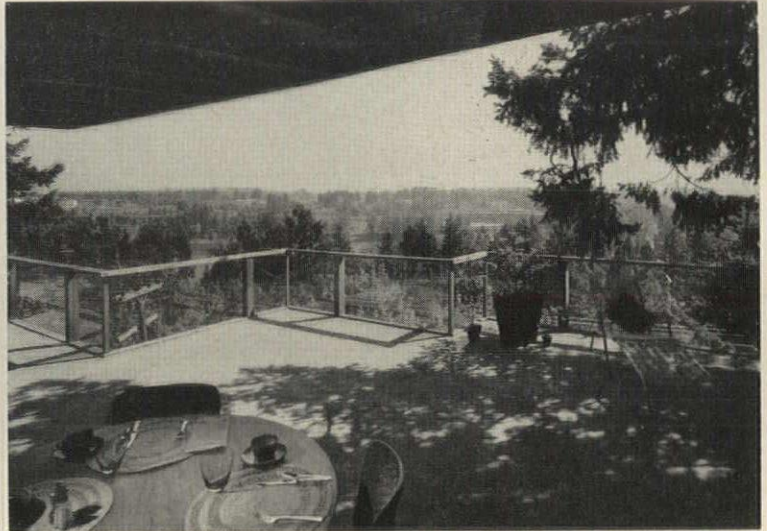
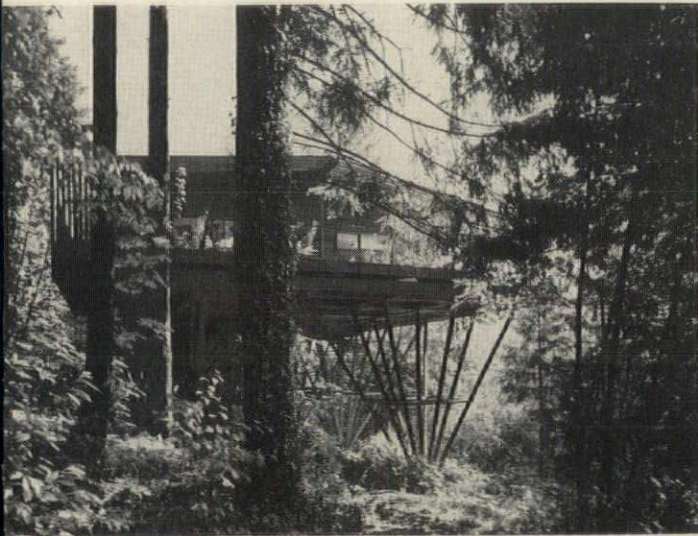
### Chermayeff Cottage

The living and dining areas of the cottage wrap around a central kitchen, which has an open "bar counter" for quick and easy service. A staircase (not shown on plan) goes up one side of the kitchen to a dormered room in the attic



Joseph W. Moïtor





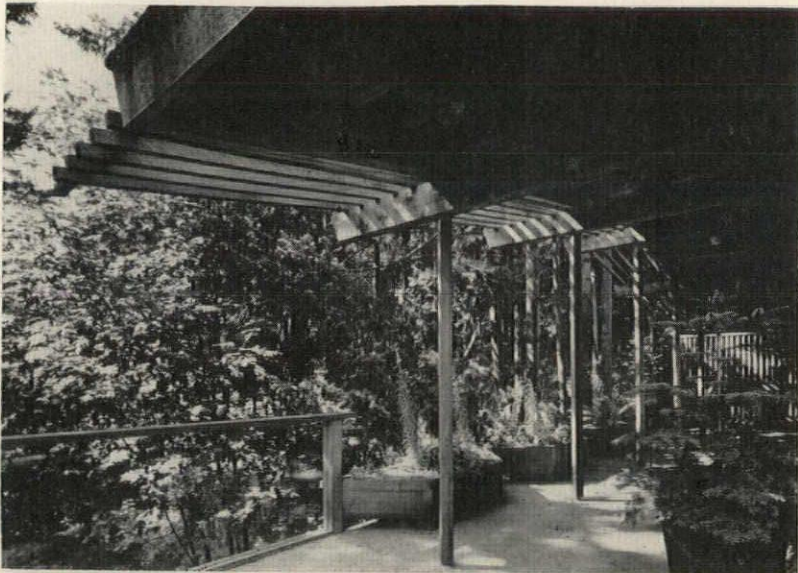
*4. Van Evera Bailey, Architect and Owner  
Portland, Oregon*

- Barnard & Kinney, Contractor*
- Mary Loomis, Interior Designer*

*Roger Sturtevant*







4. *Van Evera Bailey, Architect*

Probably one of the most challenging items about an architect designing a house for his own family is the chance to experiment with some pet ideas. With desirable level building sites, in Portland and elsewhere, becoming harder to find and more expensive, Van Evera Bailey has for a number of years been thinking of inexpensive methods of building on steep, hillside ground.

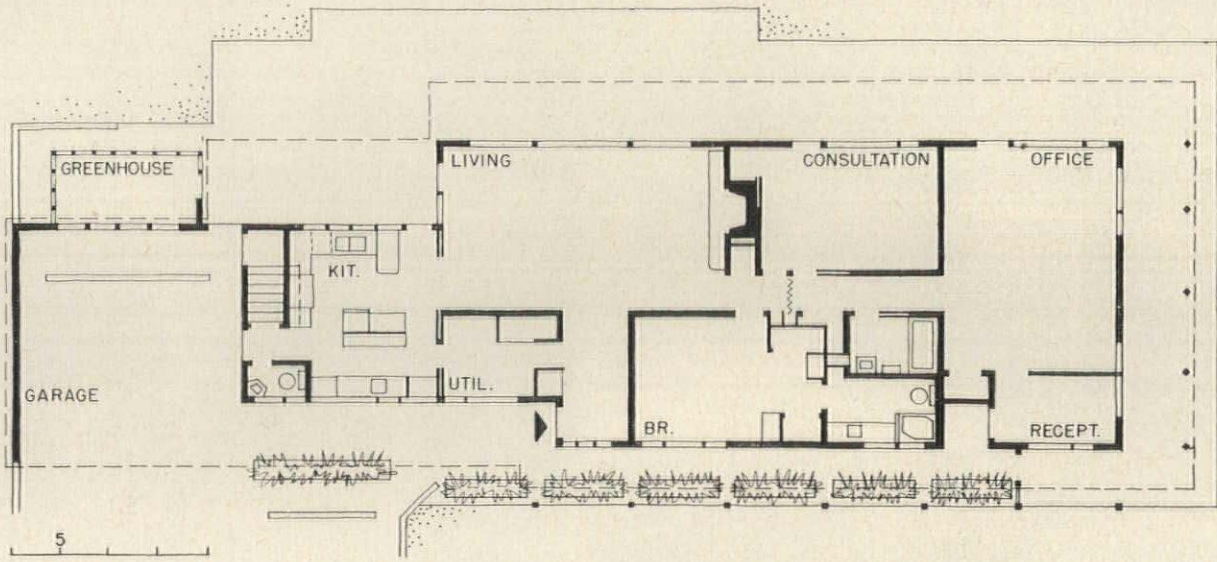
This extremely pleasant house is the successful result of his building his scheme for himself and his wife. The entire house, as well as a parking deck for ten automobiles, is contained on a platform built out over the hillside. (See photos on preceding page.) The platform is of light frame construction, "consistent with hand labor," and supported by a series of diagonally placed posts (usually nine to each concrete footing) to obtain lateral bracing and closer vertical support from the same member. The framing proceeded outward as the deck was built, with all the materials placed on the platform as it grew in area. The footings, four-ft diam. at the bottom, two-ft at top, and five-ft high, were placed with a re-usable metal cone form. They were spaced so each would support about 400 sq ft of platform. Thus each of the posts carry only 50 sq ft of platform weight, which could be carried by 4 by 4 rough sawn members; taller posts have some intermediate bracing.

The house is of conventional lightweight frame construction, with cedar siding, plasterboard interiors. The roof is built up.

At present, the house plan combines residence with office facilities; later, the consultation room will become a den, the office will become two bedrooms.



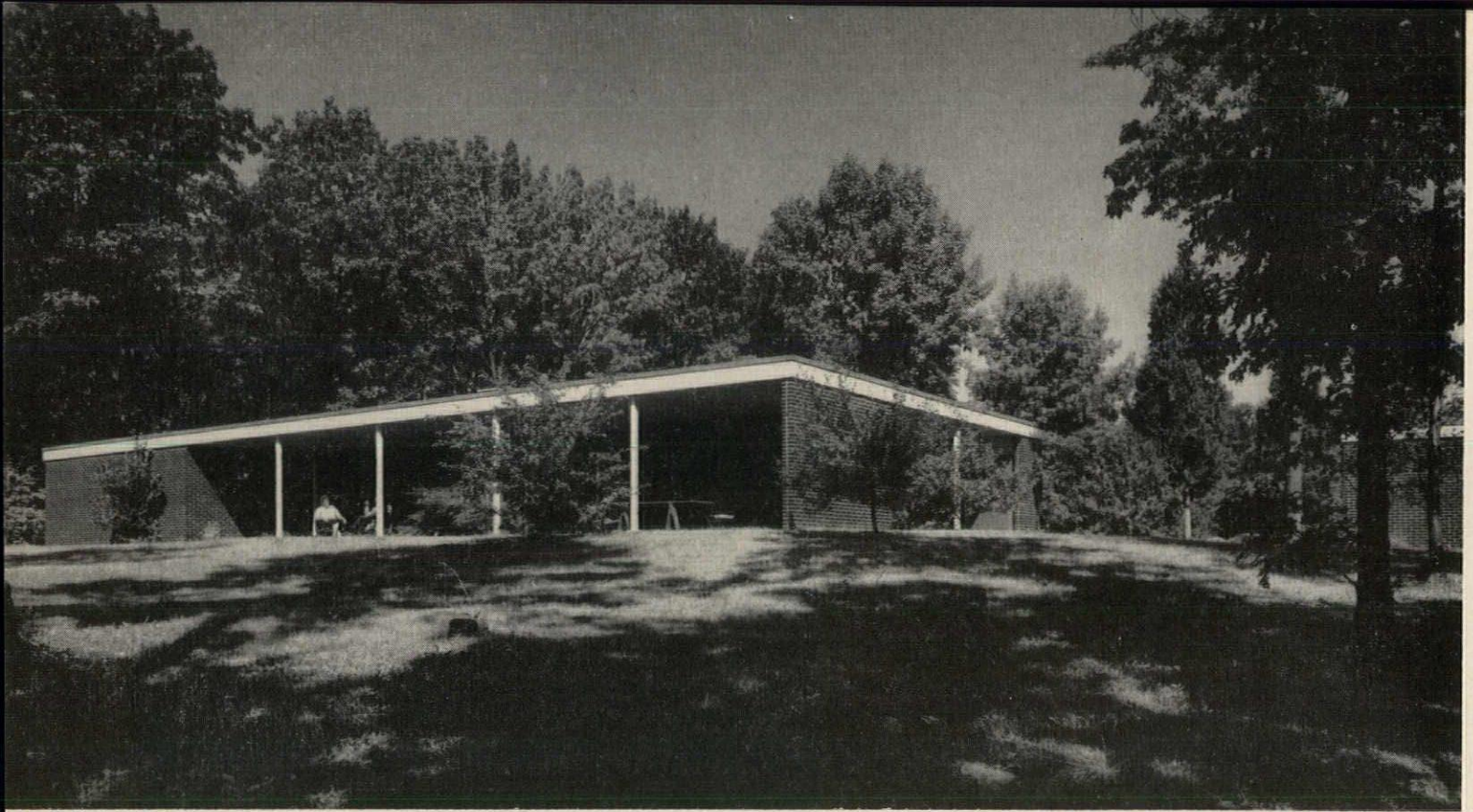




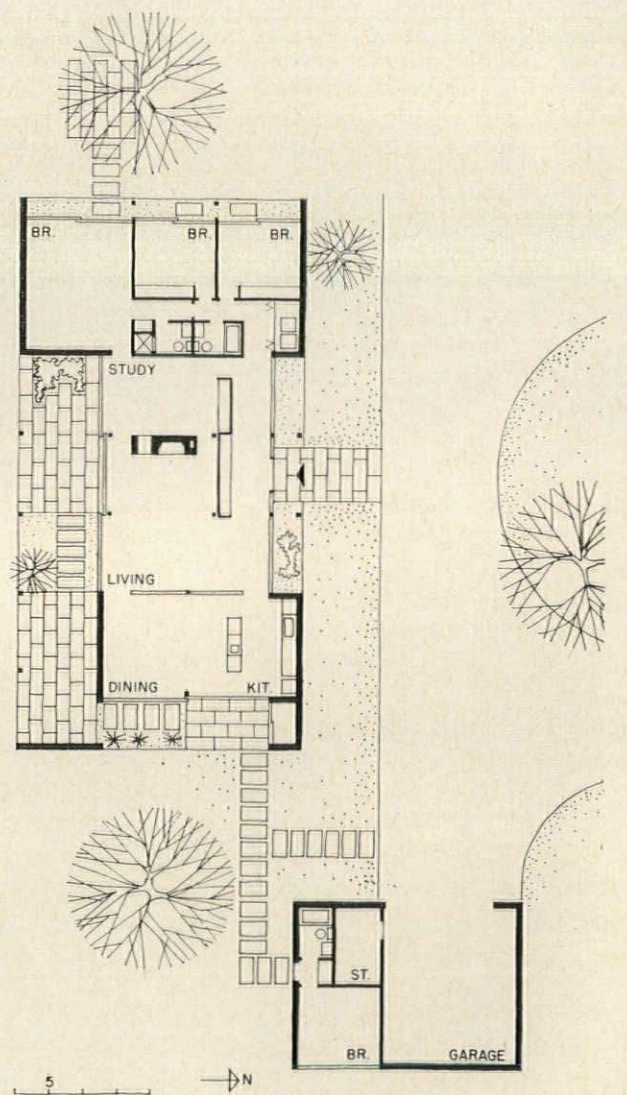
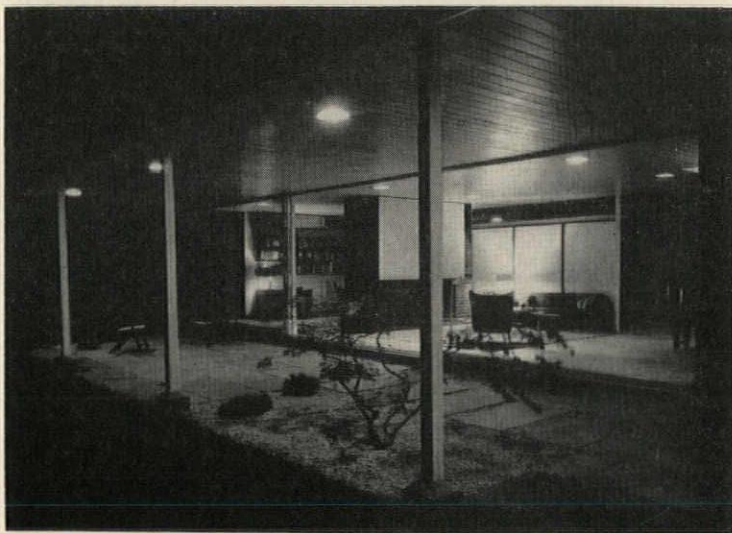
Roger Sturtevant



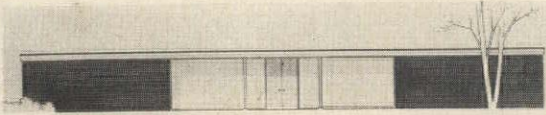




Robert Stahman





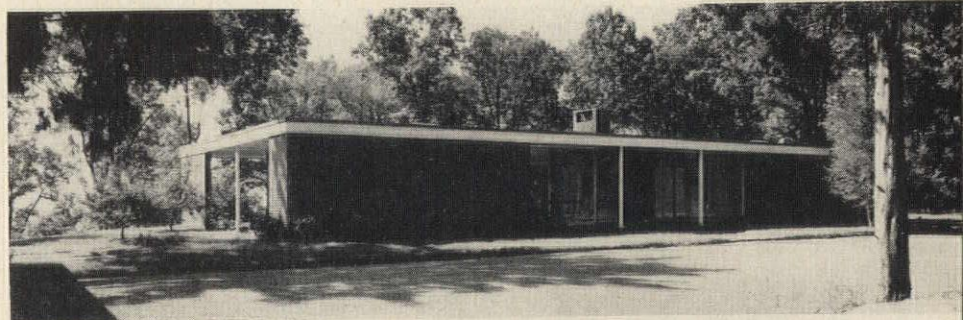
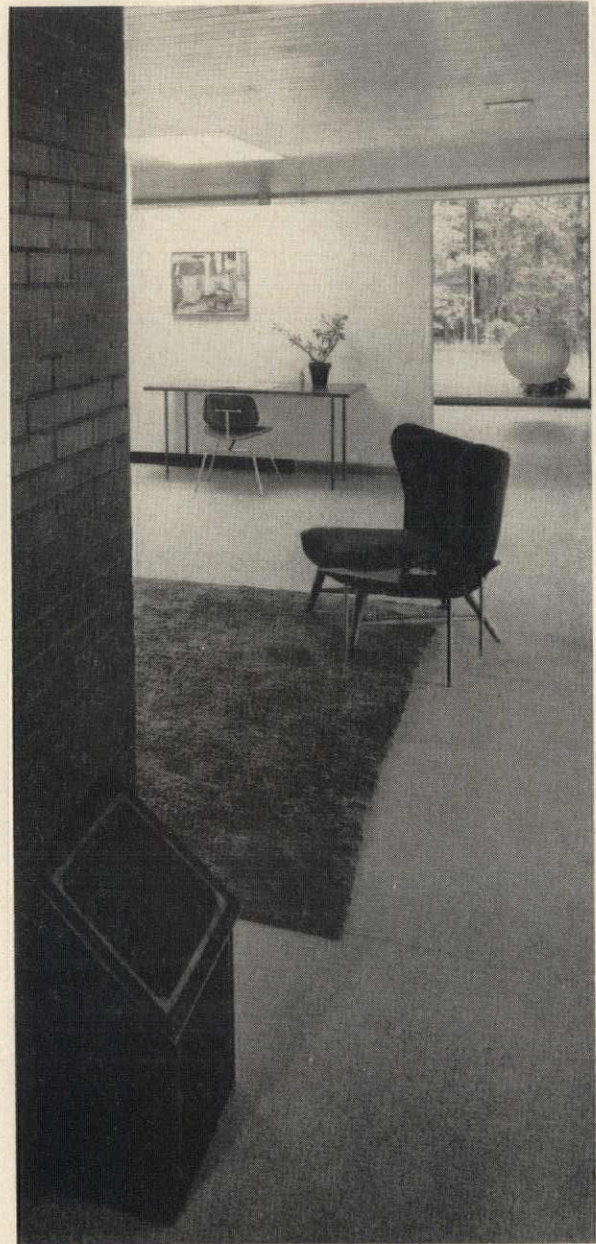


5. *Thomas A. Norton of Sherwood, Mills and Smith, Architect and Owner*  
*Bedford, New York*  
*Werner-Jensen and Korst, Structural and Mechanical Engineers*  
*Chris Anderson, Landscape Architect*

Within a simple, trim rectangle, this formal house incorporates a number of contemporary devices to achieve a great sense of space. Major rooms are created in one large space, with a minimum of doors, and an interplay of walls—with views over and beyond. Skylights and glass walls add to the effect, as does the continuation of the ceiling planes to the sheltering overhangs and terrace roofs. Simplicity of background and underfurnishing point up some fairly rich accessories.

One of the most interesting rooms is the Dining-Kitchen area—finished as a dining room rather than a kitchen (see photo center left). It has proven a very convenient and attractive arrangement for the owners. Orientation was carefully considered to give morning sun in this room, sun and view in the living areas, breezes in the bedrooms.

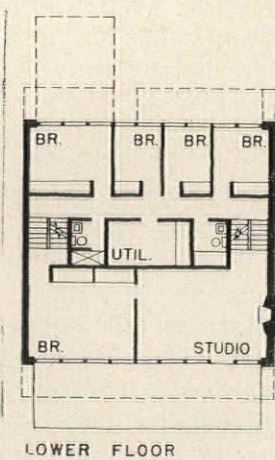
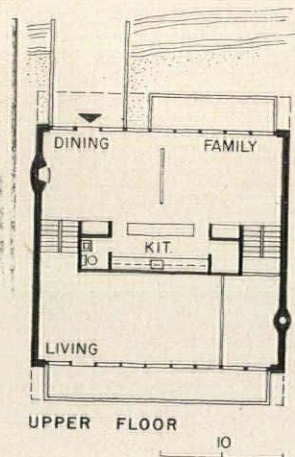
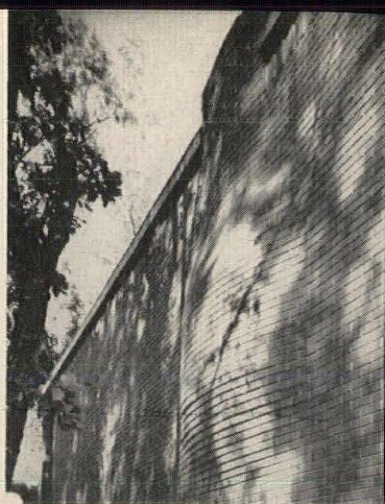
The frame consists of wood joists framing into steel beams on square steel columns. The foundation slab is concrete. Exterior walls are either black-glazed-brick cavity walls or aluminum-framed sliding glass walls. Interior partitions are concrete block with unpainted sand finish plaster. Floors are latex terrazzo with sienna yellow marble chips in a white matrix. The ceilings are edge grain fir boarding, cabinets walnut, doors oak. Heating is in two zones, with oil-fired warm air furnace for each. Air is blown through the hollow floor slab to window grills to check condensation.





*Six Architects' Own Houses*

*Warren Reynolds, Infinity Inc.*





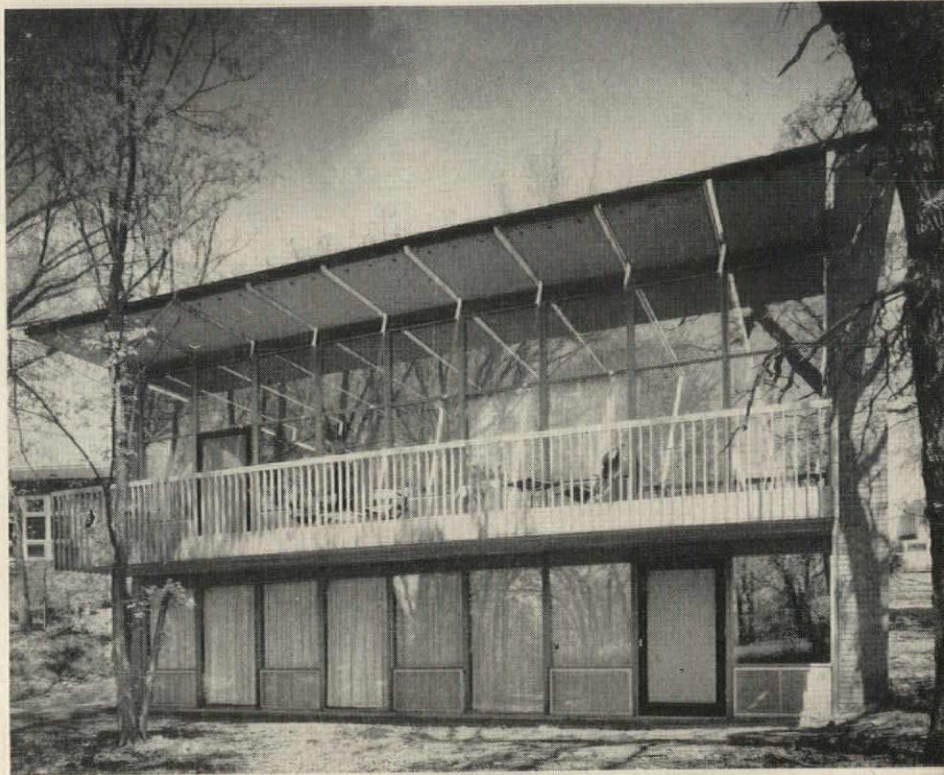
6. James E. Stageberg, Architect and Owner  
Minneapolis, Minnesota  
Joe Peterson, Contractor

Some extremely interesting details and spatial effects are incorporated in this house. Within a simple cube shape, some tricks with levels, and a central utility core, are used to pack in five bedrooms and an unusual lot of living space. The two levels at the front of the house are designated primarily for children's use, the two at the back for adult use. The 3200 sq ft of rather elegantly finished space was constructed for \$36,000.

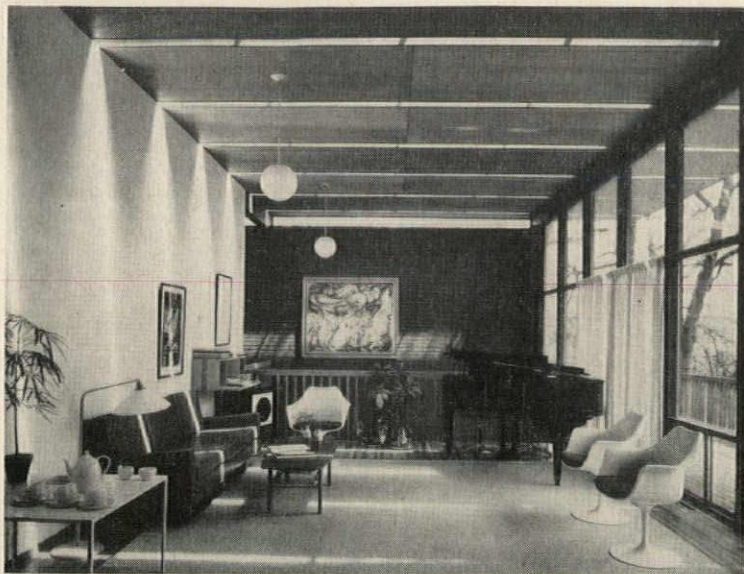
The site was a by-passed city lot, extremely sloping to the south, where a secluded view exists. The house was nestled into the hill, and the interior levels step down with it, with the last level—study and master bedroom, opening directly on grade. A window well left at front is spanned by a little entrance bridge.

Perhaps one of the most unusual features of the house is the use of 3½-in. skylight strips between roof panels throughout the house. Besides adding a dramatic effect to the major rooms (see interior photos on the next page), the skylights illuminate the stairs and utility core. The roof panels are stressed-skin plywood, built on the job.

The structure has 16-in. brick cavity walls, concrete block foundations. The brick walls are unbroken by openings and non-bearing—they stop just short of the roof, and are topped by a glass strip. The structural frame is redwood, rabbited to receive fixed glass, sliding windows or doors. The fireplace is a nice detail (two photos at left)—a rather sculptural bulge in the brick wall.







*Warren Reynolds, Infinity Inc.*

**Stageberg House**

The living room (top photo) has a 12-ft ceiling, and opens to the study below at one end (below) to make a fine space 21 ft high. The kitchen is placed in an alcove opening on the dining-family room area (this can be divided by a screen) for convenient service





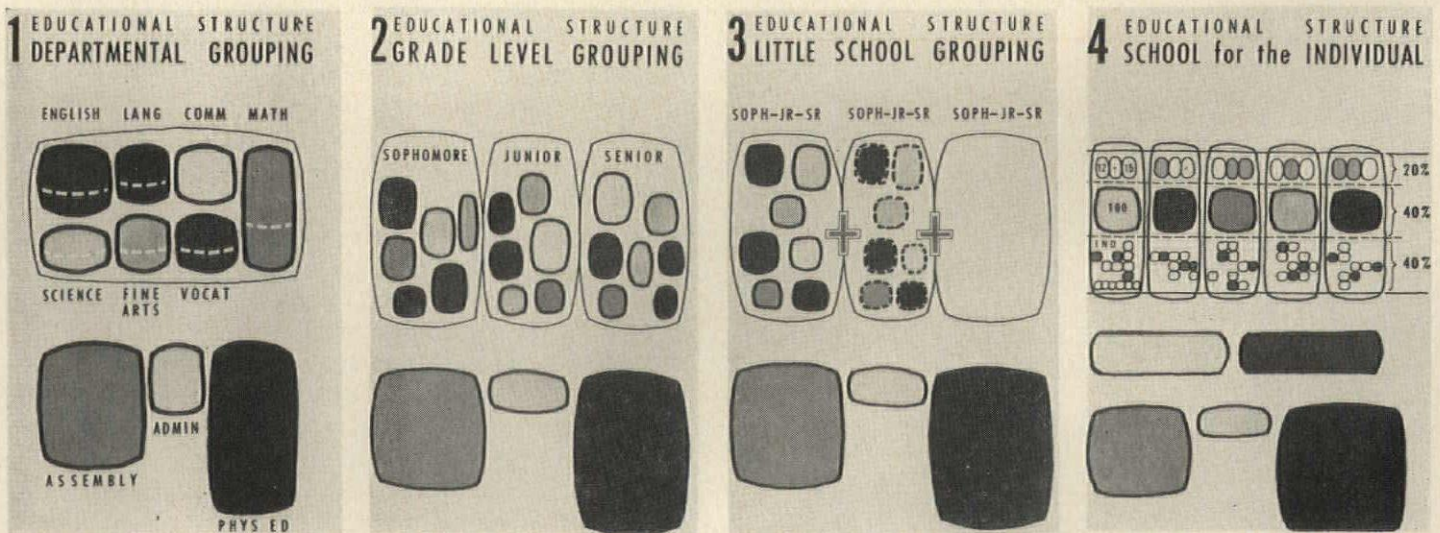
# ORGANIZATION FOR EFFICIENT PRACTICE

The basic personal relationships in architecture—since it is essentially a profession—are apt to be those between the individual practitioner and his client. Most architects would agree that this is right and proper. But as architectural services become more complex and complete and are performed for buildings far from the home offices of firms, it is increasingly difficult to maintain the traditional relationships with clients, yet expand geographically, offer more complete services, and perform those services better.

After some experimentation during the years, Caudill, Rowlett and Scott has developed a system to answer some of these problems. The firm members call it the “squatters” technique. It consists of sending out a team of CRS specialists, headed by a project architect, to the location of a building commission. These people set up shop on the spot, work closely with the client. Concept drawings and related materials are developed. After client approval of these, the team goes home to complete the preliminaries and contract drawings.

## 4. Caudill, Rowlett and Scott, Architects- Planners-Engineers

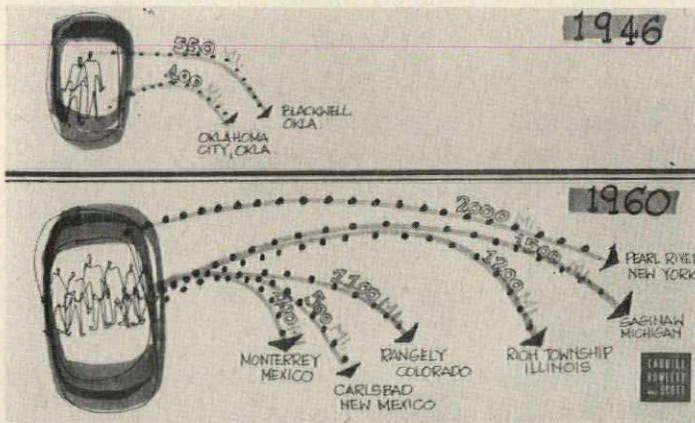
The “squatters” technique is only one CRS answer to the problems of their expanding practice. But it is an important one. Some of the details of the technique are discussed here.



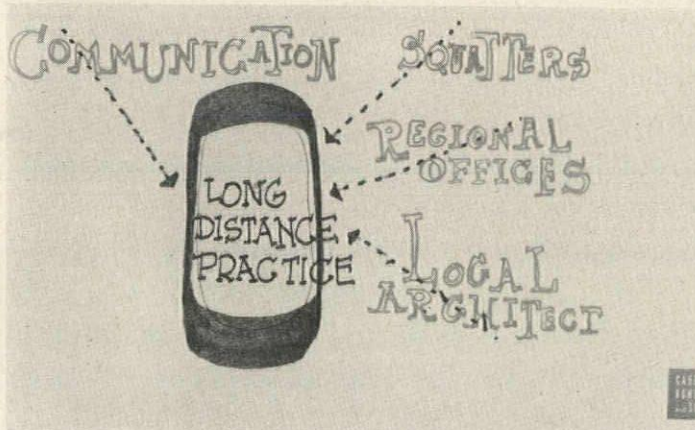


# Long Distance Operation By An Architectural Team

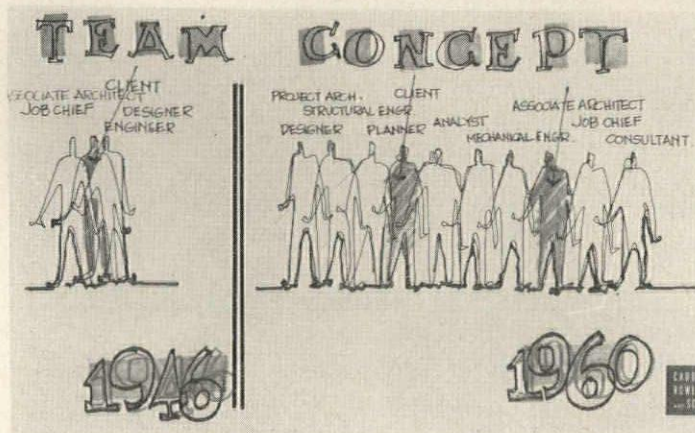
by Thomas A. Bullock, Partner,  
Caudill, Rowlett and Scott



Increasing Range of CRS Operations



Elements of Long Distance Practice



Evolution of Firm's Team Concept

## A KALEIDOSCOPE ORGANIZATION

Caudill, Rowlett, and Scott is a postwar firm. In the fourteen years of its existence, a lot of organizational changes have taken place—changes to fit the needs of clients—changes necessary to survive the architect's number one problem of either too much work or not enough, while at the same time building a firm for the long term. The name has been changed from Caudill-Rowlett, the partnership from two members to seven, and the total staff from two to eighty. The firm's growth, though it breaks no records, has been (even with the usual ups and downs) consistent organizationally and architecturally. Like a kaleidoscope, the CRS organization has been constantly changing. With so many changes, the question might well be, "What has been constant"? Some tracing back may reveal the answer . . .

## LONG DISTANCE PRACTICE— FIRST CRS CONSTANT FACTOR

The firm, located in a small town, got its first big opportunity—not within the city limits but 400 miles away. This was a shopping center. Next, a second opportunity except that this time, it was a school 525 miles away from home base. Until the present time, the trend has continued with projects covering seventeen states and two foreign countries. So the fact that CRS has been willing to go anywhere to have a better opportunity to practice architecture has been constant.

A long distance practice has its problems. We know, for we have our local or home based projects with which to compare. We don't wish to be misleading by giving the impression that CRS has only a long distance practice. The fact is, we have local and national clients, but we are trying here to point out the unique and we believe the present organization is largely the result of our long distance practice. A basic reason for our great amount of travel is that CRS specializes in educational architecture. The firm is called upon by many out-of-town clients because of this, although some 20 to 25 per cent of our volume (locally and nationally) is in non-school building types.

There often seems to be a conflict between local and national practice. CRS believes that it is possible to do both. There simply cannot be an embargo on professional talent, if our profession is to assume a major role in the future. Certainly it is much less complicated to have a client just down the street from the office as opposed to one across the state line. This may be oversimplification, but it is true. We have had to face this problem and have had to devise methods to give equally good service to a far-away client as to another who is located nearby.

To eliminate the problems of operating at great distances, we have devised the following operating techniques:



1. *On-the-Spot Design*—Working in the client's backyard has been a method of shortening the operating distance. This CRS technique may well be unique. Here's how it works: in the beginning stages of planning, a team of architects, city planners, and engineers (carefully selected for the specific job in mind) moves into the location, where the project is to be constructed, for a three to ten day period. The time depends on the size of the job. The designers set up shop in space near the client's office, in a hotel or in the office of a local professional associate. This is a highly concentrated night and day endeavor. The method enables the client to look over the shoulder of the designers and see his project grow from the rough sketches. It enables CRS to solve the client's problems better by on-the-spot analysis of the site, engineering-architectural problems, and functions required by the program. In CRS we refer to this as the "squatter's technique". We do not attempt to make complete preliminary plans, but only the sketches and other materials necessary for concept approval. From here we return home for preliminary drawings.

2. *Regional Offices*—In 1952 we established our first regional office in Oklahoma City. We recognized then that there were certain phases of architectural practice that require close contacts with the client, principally in programming and supervision. The regional office also plays a major role in CRS new business development.

3. *Communications*—We have worked hard through the years to develop clear lines of communication between the client and the firm. Very often the difference between good or bad communications will mean the difference between a good or bad building. To help shorten the distance we have strengthened communications to a high degree in the form of programming reports, research reports, and analysis cards.

4. *Local Associate Architects*—Approximately 40 per cent of our work has been in association with other architects. To be perfectly frank, this undoubtedly would not have occurred if our practice had been strictly local. Still, local associates often have much to offer that we cannot, and vice versa.

#### TEAM CONCEPT—SECOND CRS CONSTANT FACTOR

CRS definitely believes in the team concept of practice. This was more belief than actual practice in the early years. Although the original partners practiced the team approach by using consultants and outside specialists, it has only been possible for CRS to become a fully integrated team of specialists within the past three years. It takes time, plus a substantial business volume, to build a team. It simply takes more money to operate with a team than with a singleheaded organization. To us it has been worth the cost. It will continue to be if our architecture is better because of it. In a sense we have "talked

the game" for years and now we can finally play it. In what league? We wouldn't venture a guess, but we do feel that we have a long way to go to approach really great architecture.

English architect David Medd talks of horizontal and vertical firms. In this sense, CRS would be horizontal because of its broad organizational base. For project participation, we insist on a team of creative specialists working together under strong practical leadership—leadership for stimulation and guidance, not dictation. This does not mean one architect working only with other architects. It means a complete team of specialists—the project architect, the architectural analyst, the designer, the city planner, the cost engineer, the electrical engineer, the mechanical engineer, the structural engineer, as well as the architect—stimulating each other to do a better and more complete job.

What may be unique about our particular team are the facts that:

1. *The Client is an Integral Part of our Team*—Without the client, our team would be incomplete. We know that when we insist upon bringing in our client as an active member of the team, the building will be better because of it. And when the building is complete, the client (having been involved in the planning process) is going to know how to use it more efficiently.

2. *The Local Associate Architect is a Team Member*—A CRS association is based more on a merging of talent and assignment of responsibility according to talent than on a strict division of responsibility. CRS believes in association on the basis of—together we can do it better than alone. Otherwise the project will probably suffer by an association. The local architect has much to contribute from his experience and knowledge of his own particular region.

3. *The Team Members Are Involved in the Concept Stage*—Engineers are brought in at the very beginning of the project instead of at the start of working drawings. This goes for each team specialist. Each is then continuously involved until his phase of the work is completed. The associate architect, whose usual responsibility is supervision only, is included in all phases of the work from programming through final inspection.

1960 Plus—To sum up . . . . To take advantage of opportunity, CRS has had to span distance. In an attempt to do better architecture, CRS has held to the team concept. Where do we go from here? Well, we expect to grow. And as architects, engineers and planners, we do have a long range plan. For the plan to work we believe many operational changes will take place and many new techniques of operation will need to be invented and adopted. But the two constants, *long distance practice* and *team concept* will probably remain major factors in any growth that may take place.

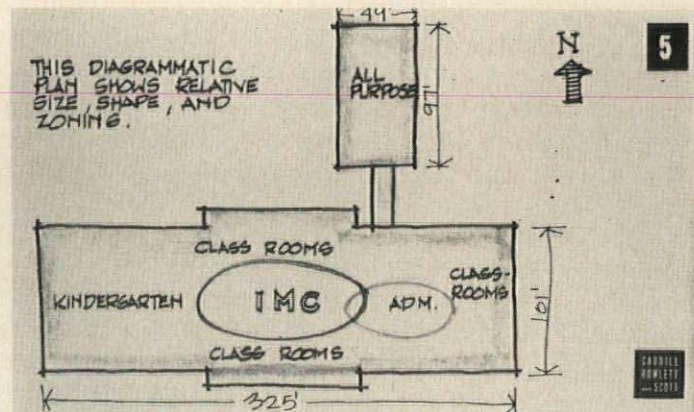


Reproduced here are some of the analysis studies done in Gary, Indiana by a CRS design team for an elementary school to be constructed there. After presentation to the clients for concept approval, the team went home to continue preliminaries

**1**

YOUR STAFF AND OUR FIRM HAVE BEEN CHARGED WITH THE RESPONSIBILITY TO:

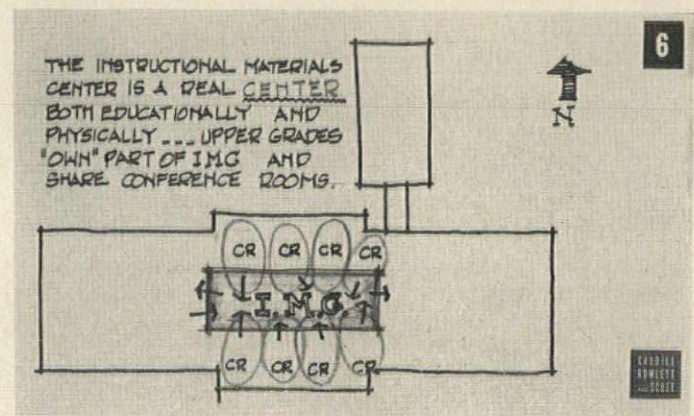
- DESIGN A HIGHLY FUNCTIONAL SCHOOL.
- IN A HURRY-- PRELIMINARY PLANS IMMEDIATELY AND AFTER APPROVAL PRODUCE W.D. WITHIN 90 DAYS
- AND COME OUT WITH AN ECONOMICAL, 25 CLASSROOM SCHOOL ABOUT \$600,000.



**2**

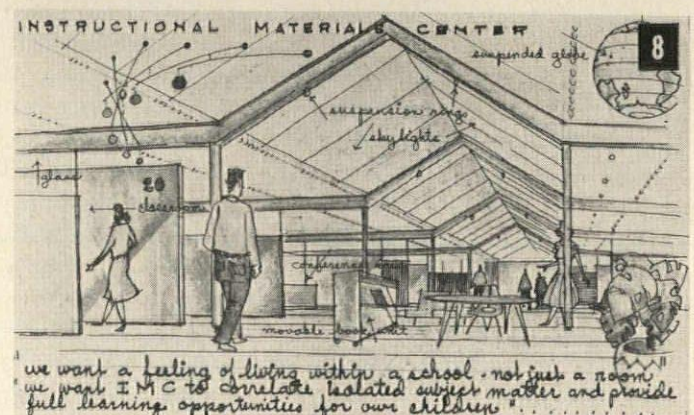
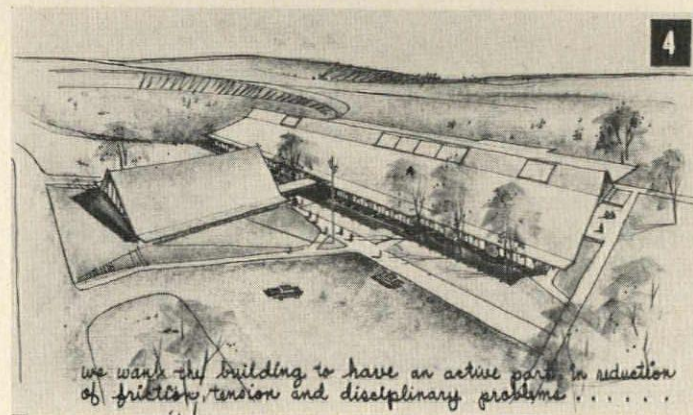
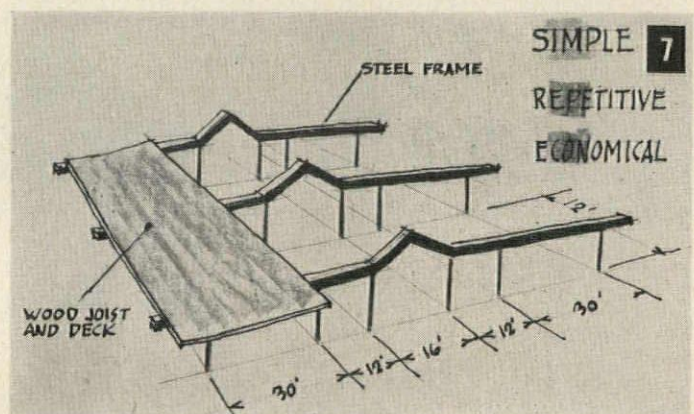
DESIGN PREMISES

- THE "INSTRUCTIONAL MATERIALS CENTER"-- ONE OF THE MOST IMPORTANT EDUCATIONAL CONCEPTS-- SHOULD BE THE REAL CENTER, BOTH EDUCATIONALLY AND PHYSICALLY.
- SCHOOL SHOULD HELP THE CONSULTANT PROGRAM BECOME MORE EFFECTIVE
- MANY GROUP ACTIVITIES OCCUR BOTH WITHIN AND OUTSIDE OF THE CLASSROOM -- BOTH SMALL AND LARGE GROUPS AS WELL AS INDIVIDUAL ACTIVITIES
- ELIMINATION OF HALLS NOT ONLY CUTS COST BUT ALSO ELIMINATES A LARGE NUMBER OF DISCIPLINARY PROBLEMS CAUSED BY HALLS



**3**

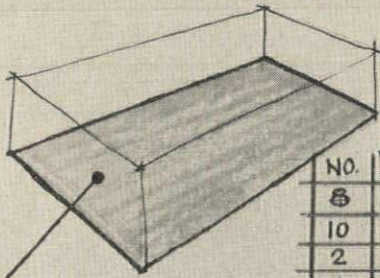
- ECONOMY CAN BE ACHIEVED BY SIMPLICITY OF CONSTRUCTION, BY COMPACTNESS, BY LOW PERIMETER, BY LOW VOLUME.
- A BUILDING CAN DO SOME TEACHING WITHOUT THE TEACHER -- PROVIDING A PLEASANT ATMOSPHERE, PHYSICAL AND EMOTIONAL COMFORT, QUIETNESS, UNRESTRICTED SPACE -- BUT THE BUILDING IS, IN ESSENCE, A TEACHING TOOL OF THE TEACHER
- CLASS SOMETIMES DIVIDED INTO GROUPS -- 3 OR 4 -- ON BASIS OF ACHIEVEMENT IN READING, SOCIAL STUDIES AND ART/ARTHEIC.
- BUILDING SHOULD FACILITATE "SELF CONTAINED CLASSROOMS" TO PROVIDE MAXIMUM OPPORTUNITY TO DISCOVER ABILITY, INTERESTS AND NEEDS OF EACH CHILD, PLUS A PROGRAM FOR FULL DEVELOPMENT OF THE NEEDS OF THE INDIVIDUAL CHILD.





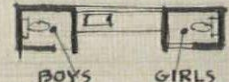
CLASSROOM AREA ANALYSIS

9



NO.	"A" OF EACH
8	900 SQ.FT.
10	940 "
2	980 "
1	1130 "
4	1160 " KIN.

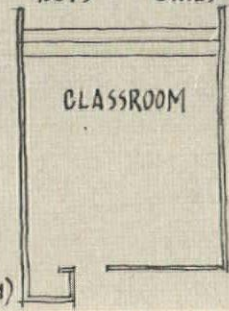
A=AREA



13

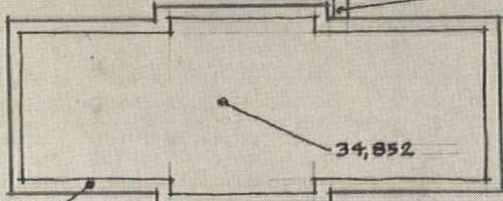
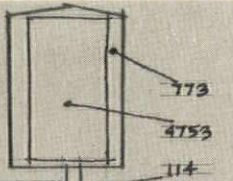
TOILETS

16 OF THE 25 CLASSROOMS HAVE BOTH BOYS AND GIRLS TOILET (SELF CONTAINED CL.RM)



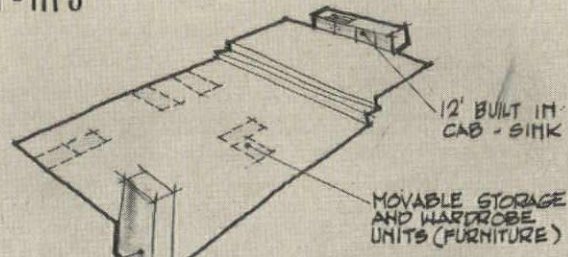
ACAD. BLDG 34,852  
ALL PURPOSE 4,753  
OVER HANG @ 1/3 3,440  
TOTAL AREA 43,045'

10



CLASSROOM BUILT-INS

14

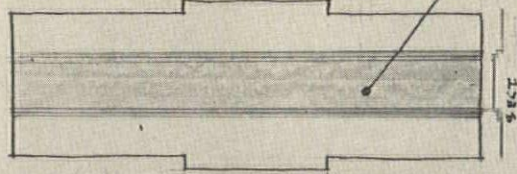
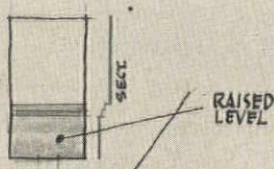


TEACHER'S CLOSET 3x5' UNDER LOCK AND KEY.

PARTRIDGE BOWEN 1965-1967

BY USING RAISED LEVELS WE CAN MAKE THE FLOORS BE HORIZONTAL TEACHING SURFACES.

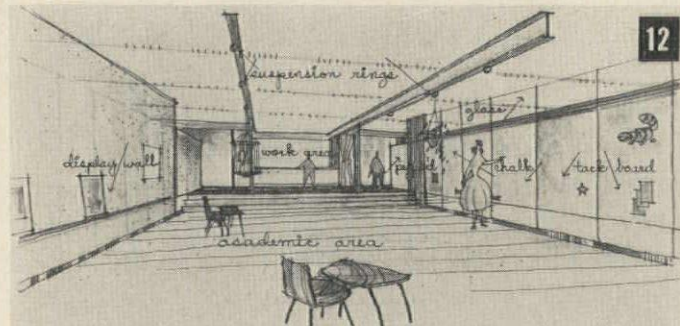
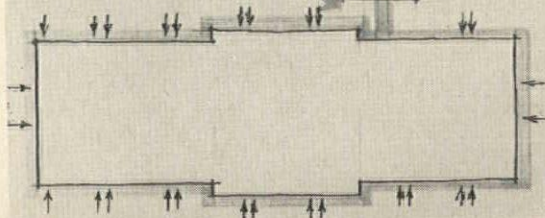
11



SAND FOR FILL ON SITE--GOOD ECONOMICAL....

EVERY CLASSROOM HAS AN OUTSIDE EXIT--SAFE, QUIET AND CONVENIENT. EXTENDED OVERHANG PROVIDE ECONOMICAL CORRIDOR AROUND BUILDING.

15

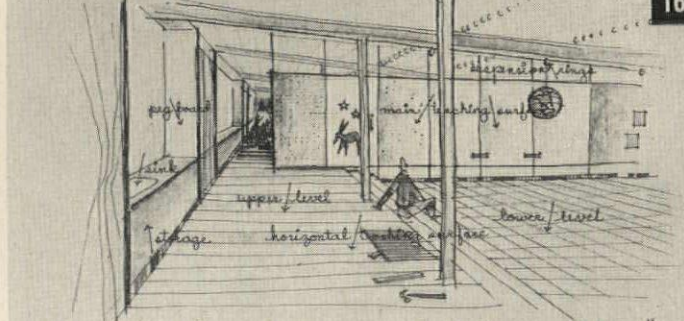


12

SPLIT-LEVEL CLASSROOM walls floors and even the ceilings are put to work for better teaching....

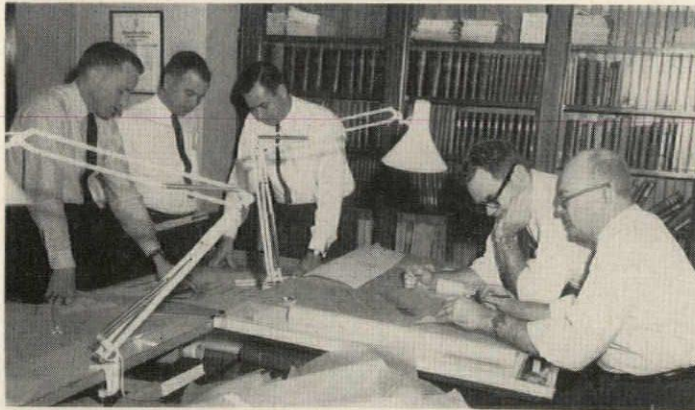
HALL SPACE IS TEACHING SPACE

16



"no hall - no discipline problem"  
"we want a feeling of living within a school - not just a room"





Above: a CRS team works out the conceptual design of a new high school, in the client's backyard. Included on this team are (left to right): Charles Estes, project architect, Joe Thomas, mechanical engineer, Jerry Thornton, production specialist, Bill Caudill, partner-in-charge, Frank Lawyer, designer

*Caudill, Rowlett and Scott:*  
**DESIGN GROUP IN ACTION**

The basic constants in the story of the growth of the Caudill, Rowlett and Scott firm have been the development of the team concept in order to practice at long distance. By working within these constants, the firm believes it can offer better and more complete architectural services to clients wherever they may be. An important method used by CRS is what they call the "squatters" technique, described in these pages.

The actual events of one "squatters" session, that for the elementary school in Gary, Indiana, are described by Bill Caudill as follows:

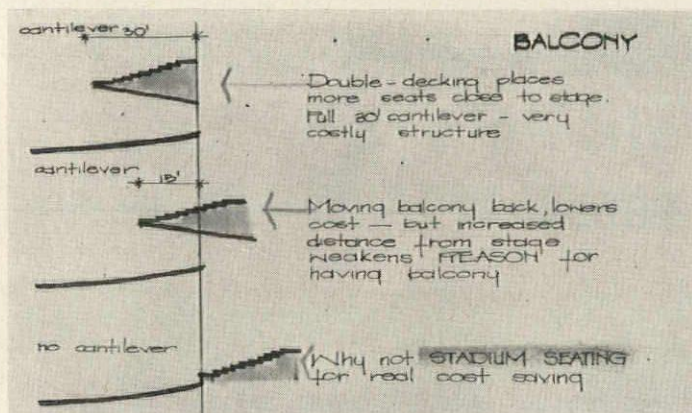
"The squatters at Gary, Indiana, lasted, as I now recall it, only three days. The team set up an office in the Gary Hotel. We had a suite of rooms. One of these was converted into a drafting room, another into a conference room where we could work with the school board and staff. Like all squatters sessions, this was a night and day endeavour.

"The school superintendent, the school plant specialist, the supervisors, and various school board members looked over our shoulders and actually participated as members of the design team.

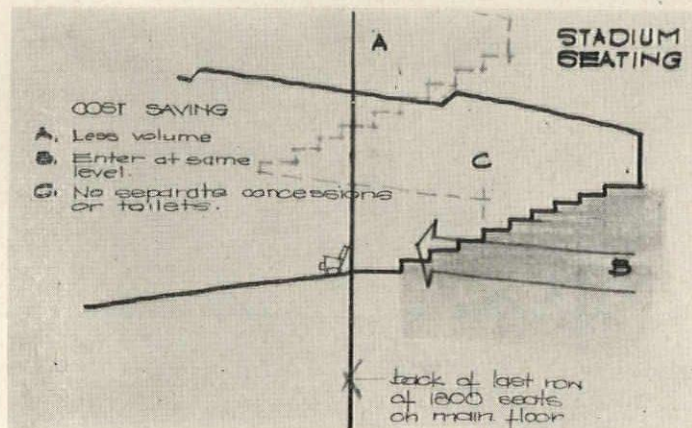
"The total package we turned out during these three days included not only the analysis cards shown, but also a set of measured floor plans, cross-sections, elevations, and a cost analysis.

"These materials were presented to the official board during the evening of the last day we were in Gary. Since the presentation was made to 20 or so people, the cards were used in an opaque projector and blown up on a screen so every one could see the performance. I think this is a good technique for the multi-headed client."

The "squatters" technique or some variation of it could make it possible for many medium-sized firms (or even small ones) to establish long-distance practices. In this way, they might be able to obtain bigger and more satisfying commissions than might otherwise be possible.



Above and below: two of a set of special analysis cards prepared to show the thinking behind an idea for stadium seating in a school auditorium. The analysis cards shown represent a tentative solution to a particular problem and may be augmented, if necessary, by further and more detailed studies





# Architectural Engineering

## Plastic Design Comes Of Age

For the Engineering Institute of Canada, whose heterogeneous membership is by no means wholly concerned with building, to dedicate a full issue of its *Transactions* to plastic design is symptomatic of the current interest in this latest development in steel construction—an interest that would seem to be justified by the contents of the published papers, all but one of which are the in-depth studies of special design problems that commonly mark the coming of age of a new engineering technique. The single exception confirms the progress made in plastic design since its introduction. In a paper on "Developments in the United States", T. R. Higgins of the American Institute of Steel Construction discusses the new AISC *Rules for Plastic Design and Fabrication*, which were adopted after more than a decade of research. More important, he was able to supplement his discussion with selected examples of plastically designed buildings recently constructed in this country: Only three years ago there were no examples at all.

## Thin Shells: Theory, Practice—and Semantics

On the other side of the fence, the ACI *Journal* of the American Concrete Institute, in a similar role of bellwether, is heralding thin shells with an issue featuring hyperbolic and elliptical paraboloids. The rapid evolution of the thin shell from a mathematician's plaything to a designer's problem is brought home here by the fact that half of the papers included emphasize such practical matters as construction techniques and cost rather than theories of analysis and design.

The widespread use of the hyperbolic paraboloid is also reflected in the engineer-authors' apparent need to substitute for the term "hyperbolic paraboloid" a name that can be pronounced three times fast without exceeding the elastic limit of the human tongue. This practical matter is also dealt with in the *Journal*, though briefly and something less than conclusively. While one author contends that "superior phonetical force has made an 'h.p. shell' out of a 'hyperbolic paraboloidal shell,'" another introduces the nickname "hypar." At this point, one can only wish for some force—phonetical or otherwise—superior enough to rule once and for all on the proper manner of addressing a hyperbolic paraboloid.

## Better Brick, Bigger Buildings

From Switzerland via Canada comes evidence that brick masonry has no intention of lagging behind steel and concrete when it comes to structural advances. The National Research Council of Canada's Technical Translation 792 is a report on "The Technological Properties of Brick Masonry in High Buildings," by Dipl. Ing. P. Haller of the Federal (Swiss) Institute for Material Testing and Research. The studies he discusses make feasible load-bearing masonry structures up to twenty stories high, but their real import lies in the light they have shed on the fundamental structural properties of brick masonry, and on the effects of the materials (brick and mortar) employed and the measures taken by the building designer and the mason.

## Technology 2000: A Preview

As if to ward off any temptation toward smugness in the face of proven advances in building technology, we received this month a Chrysler Airtemp release which bills one Daniel J. Hunt of New York City's Controlled Weather Corporation as "the only *human* engineer to have air conditioned a flying saucer." This careful disclaimer of familiarity with extraplanetary engineering practice is followed by a description of Mr. Hunt's previous qualifications for the job—it seems that most of the buildings he'd air conditioned were pretty square.

However, he finally figured heat loss for the un-square saucer, determined where to place some thirty tons of air conditioning equipment, and managed to insert the required ductwork. As it turned out, the saucer was grounded at Freedomland, U.S.A., a new amusement park in the Bronx, but Hunt's future is doubtless insured. He's a natural for a Pentagon desk, or at least for a berth as special government adviser on interplanetary engineering.

## This Month's AE Section

*TRENDS IN AIR CONDITIONED SCHOOLS.* pp. 186-190. *SIZES AND SHAPES OF DIVING POOLS.* pp. 191-193. *TIME-SAVER STANDARDS.* Structural Forms: Metal Domes, pp. 194, 195, 196. *BUILDING COMPONENTS.* Neoprene Gaskets, pp. 203-206; Product Reports, pp. 207; Office Literature, p. 208.



## A Design Trend:

# AIR CONDITIONED SCHOOLS

by Henry Wright, Architectural Consultant

*Compact plans cut construction costs; are not only suited to, but often require, air conditioning. Yet design is not strait-jacketed since there are numerous ways open to the architect to get a visual change of pace*

A number of factors, including the pressure to cut costs, the demand for better environmental control (i.e. elimination of glare, heat and visual distraction), and new concepts in teaching, are tending to produce compactness in the new schools, with air conditioning its natural concomitant. With compactness, air conditioning is frequently necessary—in interior classrooms, for example; and with the lower construction costs and reduced heat load of a compact school plant, it also becomes practical.

Another trend that affects the air conditioning picture is the lessening dependence on the window, as such, for illumination. The complicated gadgetry to control heat and light from the sun is seen much less frequently in schools. Now, in the compact schools, there are interior classrooms with heat-rejecting skylights supplemented by electric light, or, with electric light only, and perhaps a horizontal strip of glass at the top of a corridor wall to give a sense of openness. Exterior spaces, including classrooms, in some of these compact schools have vertical strips of glass which, while offering a view to the outside, minimize the heat load, and may, if the lighting situation is properly handled, keep the glare problem under control.

Still another trend that is likely to encourage air conditioning is the use of the school plant in summer, as well as for the regular school year. Enrollments in summer courses have expanded rapidly, and educators are talking more and more about all students attending school year-round.

The modern school has none of the dreariness and drabness associated with those of a few decades ago. There is little likelihood of any retrogression in the way of amenities in the compact school, as will be dem-

onstrated in this article, if the architect, while treating the classroom purely as a learning space, takes advantage of such areas as cafeterias, lobbies, patios and corridors to give a visual change of pace.

The fear that compactness in air conditioned schools might put planning in a strait jacket is not borne out in fact. On the contrary, educators seem to feel that the compact arrangement gives them considerably more flexibility in applying such modern teaching techniques as the core curriculum. And there still is a great deal of freedom in plan shape and in the arrangement of various plan elements.

What this all adds up to is a re-orientation in planning in which the visual environment is more closely related to the educational needs, and the thermal environment is under constant, year-round control to provide optimum comfort.

It is doubtful that *completely* windowless designs will become prevalent, however, since it is by no means necessary to replace windows and outlook with blank walls and interior classrooms in order to save construction money, reduce the heat load and provide a more controlled teaching environment. There are, of course, obvious advantages to the windowless classroom in secondary schools, since this makes it more convenient to use audio-visual aids, televised instruction, and so forth. Also, freedom from the distractions of events taking place outdoors should encourage greater concentration on learning materials.

Nevertheless, some concern has been expressed over the "artificiality" of a situation in which the students are cut off from the outdoors. What this thinking ignores, however, is the fact that secondary school pupils move from class to

class throughout the day, and thus have numerous opportunities in a suitably designed building to reestablish contact with the outside world.

Many people seem to forget that we have been building windowless corridors in schools for years, in spite of the desirability of providing outlook and a pleasant atmosphere for socializing between class periods. But the use of windowless, or nearly windowless, classrooms certainly does not demand that the cafeteria be windowless. And, as numerous designs have indicated, it is easy to provide window-walled corridors, not necessarily throughout the building, but at intervals.

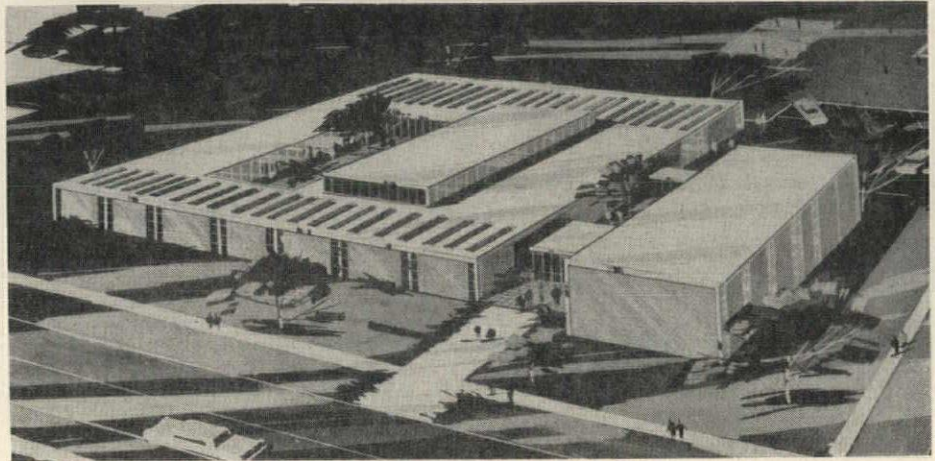
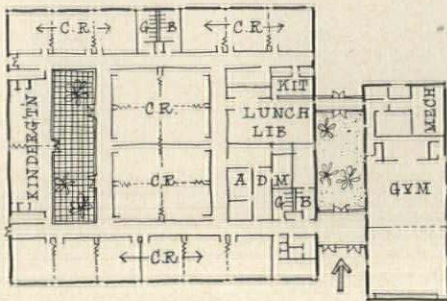
The total atmosphere of a school plan—as John Lyon Reid's pioneer Hillsdale school so thoroughly indicates—can encompass a great deal of esthetic and visual excitement in the means of circulation between and among largely windowless instructional space, including attractive outdoor landscaped areas, as well as inside lobbies and corridors.

As the Hillsdale School, and the more recent Mills School, also indicate, windowless classrooms can be the avenue to greater flexibility, since it is much easier to plan for the combination of teaching spaces when it is not assumed that they must each have a flank exposed to the elements.

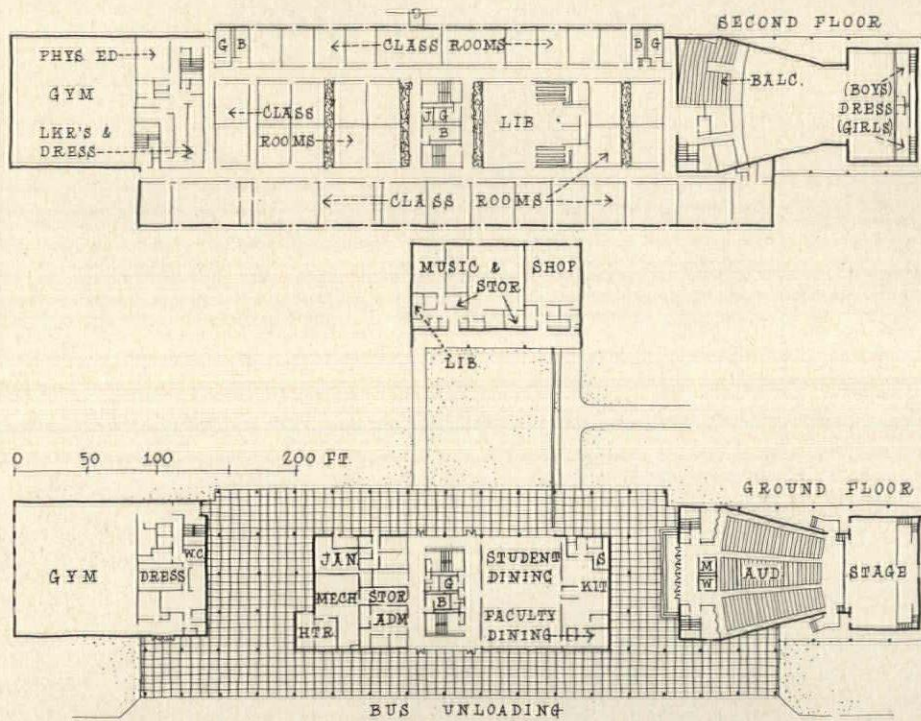
This article will demonstrate the effect of shrinking the exterior walls on school costs and school design. Several examples give actual (or actual and estimated) costs of extended plans without air conditioning versus compact plans with air conditioning for equivalent, or nearly equivalent, schools. All examples suggest the many variations in plan that are possible plus the many ways in which contact can be maintained with the outdoors.



**ELEMENTARY SCHOOL: CHICAGO**



**HIGH SCHOOL: TERREBONNE PARISH, LOUISIANA**



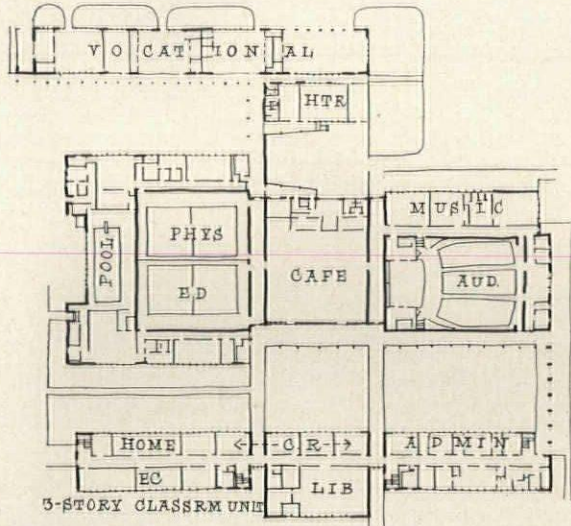
85TH ST.-LANGLEY AVE. Elementary School (above) has a minimum of exterior wall and windows. The eight interior classrooms for 1st and 2nd grades get daylight from a clerestory. Other classrooms are skylighted. The outdoor kindergarten play court is entirely surrounded by corridor, except for the side adjoining kindergarten rooms. This school is planned for air conditioning and electric heating. Windows are to be double glazed. *Samuelson and Sandquist, Architects and Engineers.*

SOUTH TERREBONNE HIGH SCHOOL, Terrebonne Parish, Louisiana, is a fully air conditioned, 1200-student high school to cost \$1,860,000. The second floor level is designed with two double-loaded corridors, back to back, which is feasible with air conditioning and results in a reduction in exterior walls. Classrooms in the center of the building will face planted sky-lighted patios giving natural light and an exterior view; those along the exterior will have strip windows shielded by metal jalousies. *Curtis and Davis and Associated Architects and Engineers. Cary B. Gamble & Associates, Mechanical Engineers.*

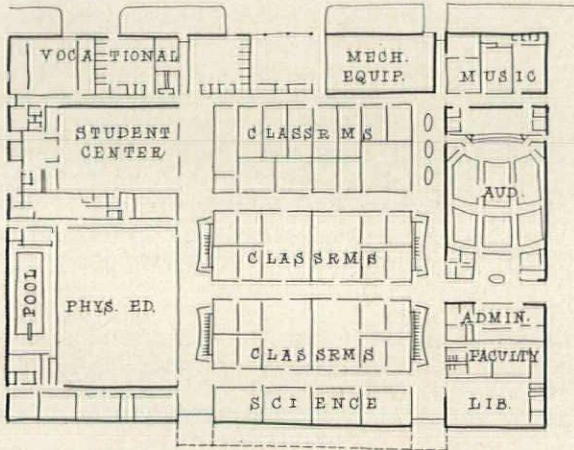




# HIGH SCHOOLS: HOUSTON, TEXAS



Bellaire Senior H. S.



Proposed ("EFL") Compact H. S.

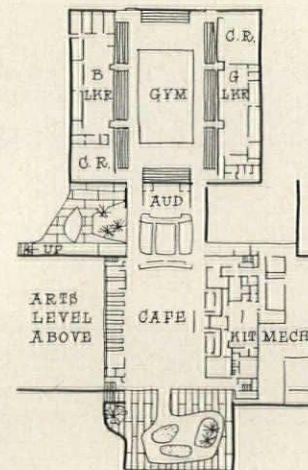
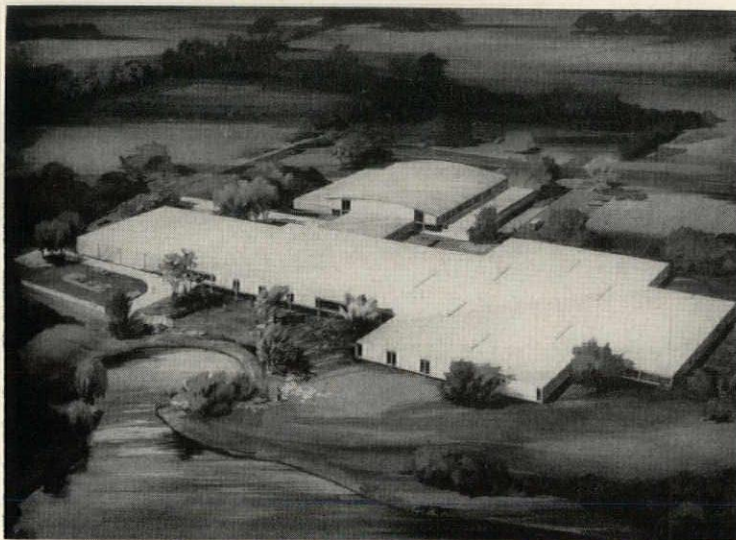
\*Called "Environment for Learning" H. S. by Architects Goleman & Rolfe

	1/1/1954 Bellaire Actual Cost	1/1/1960 "EFL" Estimated Cost
<b>First Costs</b>		
Sitework	\$ 139,843	\$ 125,000
General Construction	1,726,440	1,237,000
Plumbing and Heating	305,900	88,297
Electrical	202,780	274,000
Air Conditioning	NONE	205,677
Acoustical Work	NONE	51,068
Profit	---	59,438
<b>Total</b>	<b>\$2,374,963</b>	<b>\$2,040,713</b>
Figuring 9 per cent increase in costs since 1954 (Conservative)		
	<b>1960 Bellaire Est.</b>	<b>1960 "EFL" Est.</b>
6 per cent architect's fee	\$2,588,710	\$2,040,713
<b>Total</b>	<b>\$2,744,033</b>	<b>\$2,163,156</b>
<b>Annual Costs</b>	<b>Bellaire</b>	<b>"EFL"</b>
Fixed Costs. 20-Year Amortization	\$235,987	\$186,031
Maintenance and Operation	83,786	92,015
<b>Total</b>	<b>\$319,773</b>	<b>\$278,046</b>
Fixed Costs. 30-Year Amortization	\$189,338	\$149,252
Maintenance and Operation	83,786	92,015
<b>Total</b>	<b>\$273,124</b>	<b>\$241,267</b>
<b>"EFL" SAVINGS ON OWNING AND OPERATING COSTS</b>		
20-Year Amortization	\$41,727 per year	\$834,540 total
30-Year Amortization	\$31,857 per year	\$955,710 total

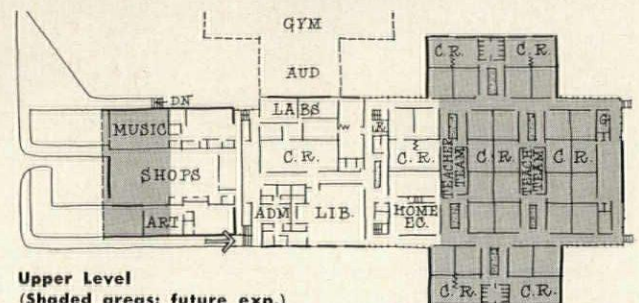
  

Unit Costs	Bellaire	"EFL"	Saving
Area in Building	174,760 sq. ft.	171,336 sq. ft.	3,434 sq. ft.
Area in Covered Walks	19,828 sq. ft.	9,508 sq. ft.	10,320 sq. ft.
<b>Total Area</b>	<b>194,588 sq. ft.</b>	<b>180,844 sq. ft.</b>	<b>13,754 sq. ft.</b>
Area Exterior Wall	86,199 sq. ft.	38,232 sq. ft.	47,967 sq. ft.
Cost per Square Foot (Walks at 1/2)	\$14.02	\$11.59	\$2.43
Cost per Student	\$1,177.	\$927.	\$250.

# HIGH SCHOOL: OLYMPIA FIELDS, ILLINOIS

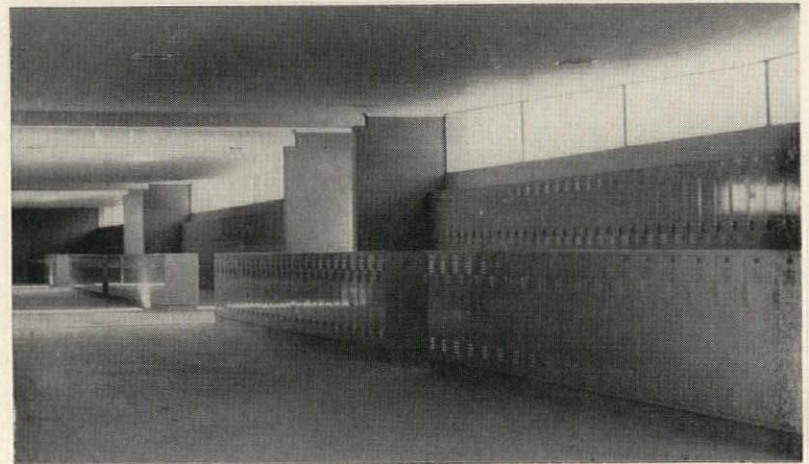
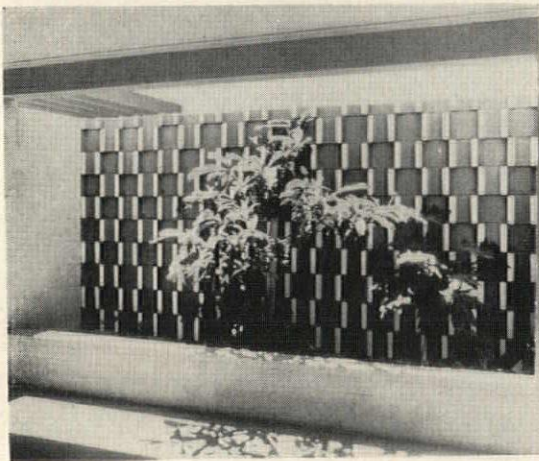
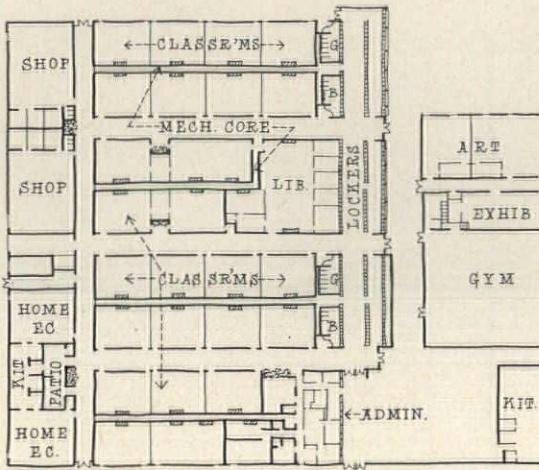


Lower Level



Upper Level  
(Shaded areas: future exp.)





JR. HIGH SCHOOL: CLARK CO., NEVADA

BELLAIRE SENIOR HIGH SCHOOL, Houston (across page), designed by *Golemon & Rolfe, Architects*, is compared in cost with a proposed compact plan with air conditioning by this firm called the "Environment for Learning" research school. In the research school, the fenestration has deliberately been restricted and illumination is by electric light: exterior glass is used only at the nine entrances. Change of pace is provided by lighting effects, murals, exhibits, etc. along corridors and near the cafeteria. Air conditioning is by a high velocity, dual-conduit, all-air system. Air conditioning load in summer breaks down as follows: lights, 48.3 per cent; people, 22 per cent; outside air, 17.8 per cent; transmission losses, 9.5 per cent; motors, 2.4 per cent.

RICH TOWNSHIP HIGH SCHOOL (across page, bottom) in Olympia Fields, Ill., a Chicago suburb, will be air conditioned by a heat pump, circulating hot and cold water through a 4-pipe system to unit ventilators in the classrooms and to packaged air handling units in remaining spaces. Its plan is

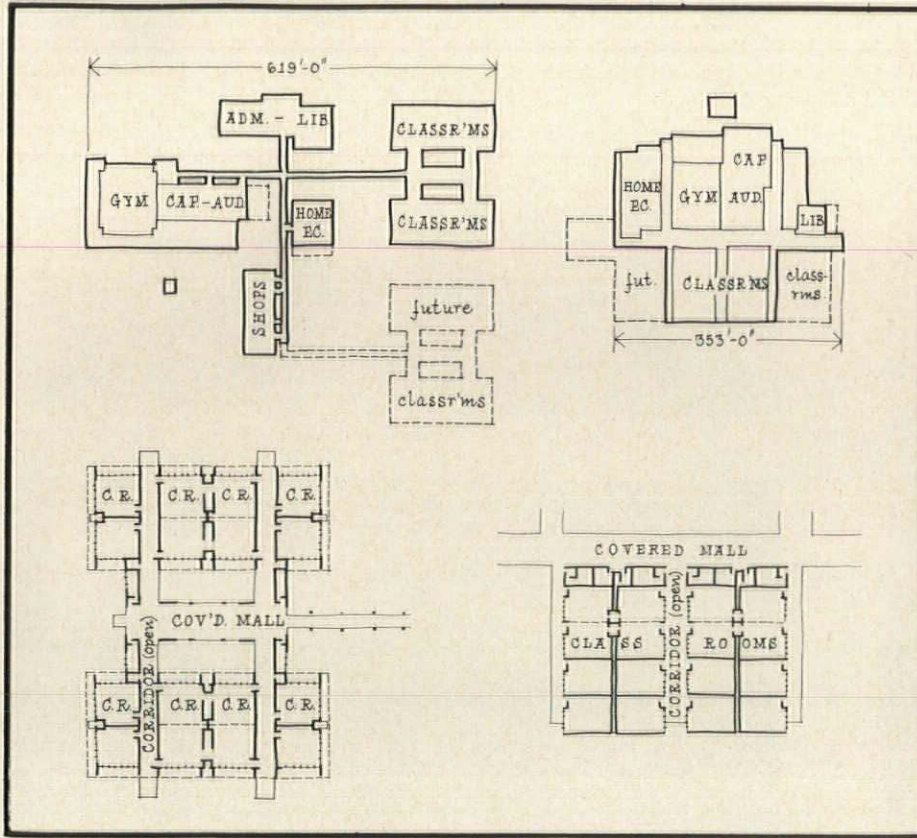
tri-level, with a two-story portion in the center between two knolls. The architects have taken advantage of this to open the cafeteria-commons area to the outside through glass walls. Classrooms on exterior walls have a minimum of vertical strip windows, but face onto skylighted courts containing planting beds. The original unit is designed for 750 students, but will be expanded to accommodate 1500. At first there will be two 150-hp heat pumps; a third 150-hp heat pump will be added for expanded sections. Deep well water at 53 F will be supplied to the heat pump. Total cost for the original school with the heat pump system will be \$1,550,800 or \$16.15 per sq ft. With a two-pipe system (conventional refrigeration and boiler plant), the school would cost \$22,040 more; without refrigeration it would cost \$33,337 less. Cost for a four-pipe system (conventional refrigeration and boiler plant) would be \$38,610 more; without refrigeration, \$17,167 less. *Caudill, Rowlett, and Scott and McPherson-Swing and Associates, Associated Architects; Robert G. Burkhardt and Associates, Consulting Me-*

*chanical and Electrical Engineers; Robert G. Werden, Heat Pump Consultant.*

HYDE PARK JUNIOR HIGH SCHOOL, Clark County, Nevada. A desert environment with the omnipresent problems of dust and solar heat are recognized in this design. Both glare and heat were eliminated by reducing classroom fenestration to strip windows at top of inside walls, which face onto corridors daylighted through an open strip in the roof. In another school these architects elevated the roof section over the corridor, providing light and a sky view on both sides (this idea could be used in climates where rain and snow are a problem). Unit ventilators on the inside walls of classrooms are connected to a mechanical core which contains all utilities and serves as a fresh air plenum. Special air filters at each end of the core catch dust; air is refiltered by unit ventilators. Planting areas provide visual relief at strategic spots. Lockers are in enclosed daylighted areas. *Walter Zick & Harris Sharp, Architects-Engineers.*

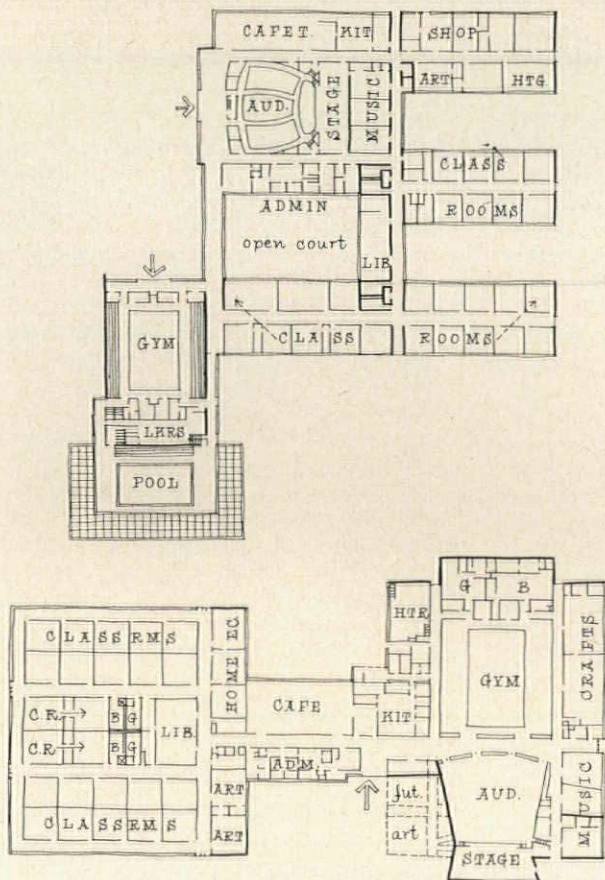


JR. HIGH SCHOOLS: PINELLAS CO., FLORIDA



These two schools, both in Pinellas County, Florida, have virtually the same area, but the PINELLAS PARK JR. H.S. (far left) is a one-story central building with classroom wings, and is non-air conditioned; the OAK GROVE JR. H.S. (left) with a compact plan is air conditioned. Cost of the non-air conditioned school was \$584,749; for the air conditioned school, \$582,900. In the Pinellas Park school, classrooms have windows on two sides or exhaust fans to meet state regulations for ventilation. Heating is by residential-type gas-fired furnaces serving adjoining classrooms. In the Oak Grove school, classrooms face 16-ft-wide covered corridors, daylighted by plastic skylights, and have high-sill windows to give an "outdoor" effect within classrooms. Air conditioning is by unit ventilators located on the inside walls, where adjoining classrooms are separated by a continuous space for utilities and ventilation air. Architect for Pinellas Park was Charles L. Colwell; for Oak Grove, Bruce and Parish (Technical Consultant, Henry Wright); Mechanical Engineer for both schools was Healy & Latimer.

JR. HIGH SCHOOL: SYRACUSE, NEW YORK



F. WARE CLARY SCHOOL		CONVENTIONAL SCHOOL	
Gross floor area	127,541 sq. ft.	126,916 sq. ft.	
Volume	2,279,765 cu. ft.	2,284,024 cu. ft.	
Ground line perimeter	2,079 ft.	3,050 ft.	
Projected wall perimeter	2,644 ft.	3,726 ft.	
<b>GENERAL CONSTRUCTION</b>		<b>GENERAL CONSTRUCTION</b>	
<b>Exterior wall</b>			
Foundations, wall framing coping	\$ 83,500	Foundations, wall framing coping	\$ 122,000
Exterior masonry, flashing base, painting	118,000	Exterior masonry, flashing base, painting	146,000
Fixed sash and glazing	34,200	Operating sash and glazing	79,500
<b>Interior partitions</b>			
6,750 lineal feet glazed transoms classroom to classroom and corridor	65,700	6,547 lineal feet no transoms	58,900
<b>All other general construction</b>			
Structural steel, concrete millwork, flooring, etc.	1,077,600	Structural steel, concrete millwork, flooring, etc.	1,084,100
<b>Total general construction</b>	<b>\$1,379,000</b>	<b>Total general construction</b>	<b>\$1,490,500</b>
<b>PLUMBING AND ELECTRIC</b>			
Compact domestic water sanitary and storm systems	\$ 98,000	Extended domestic water sanitary and storm systems	\$ 106,000
Compact power distribution reduced conduit and wire size	178,000	Extended power distribution larger conduit and wire size	215,000
	\$ 276,000		\$ 321,000
<b>CLIMATE CONTROL</b>			
Year around central station air conditioning	\$ 378,000	Heating and Ventilating	\$ 276,000
<b>TOTAL CONSTRUCTION COST</b>	<b>\$2,033,000</b>		<b>\$2,087,500</b>
<b>NET SAVING WITH AIR COND.</b>			

Above are cost comparisons for the air conditioned F. W. CLARY JUNIOR HIGH SCHOOL in a compact plan vs. an extended plan. A net savings of \$54,500 is indicated for the former. The air conditioning is central station. Architects were Pederson, Huber, Hares and Glavin; Mechanical Engineers, Robson & Woese.



# SHAPES AND SIZES OF DIVING POOLS

by R. Jackson Smith, A.I.A.  
Eggers & Higgins, Architects

*Separation of swimming and diving pools has been common practice abroad, and is becoming a trend here. This article presents six examples, stadium type to day camp, along with a chart and diagram giving required dimensions for competitive swimming, prepared by the author. A former diving champion, he is a member of both U. S. and international diving committees.*

It has become increasingly apparent to pool planners that areas for diving and areas for swimming should be entirely separate. Aside from the danger of divers and swimmers cracking heads, diving is primarily a vertical performance, while swimming is a horizontal exercise. Diving is esthetic as well as athletic, but rather than being a practical means to an end (propelling oneself through the water from one point to another), diving is a performance of coordinated and graceful movement in space.

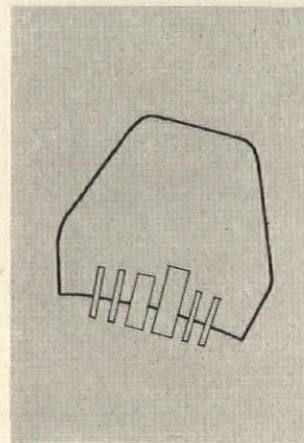
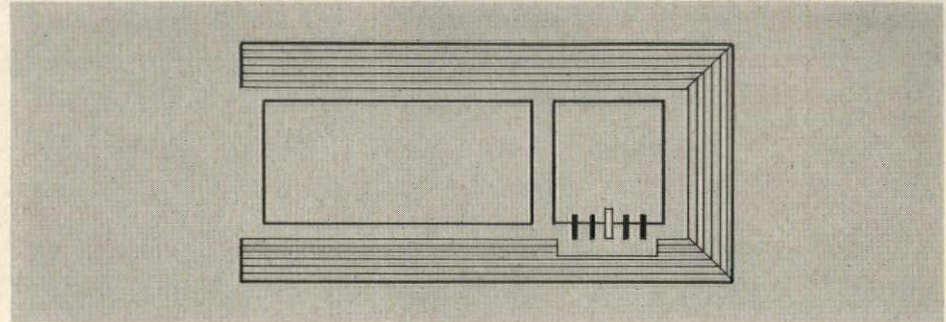
People who really work at diving, whether professionals or amateurs, do not require a large pool, but it should be 15 ft deep directly below a 10-meter platform. A swimming pool need not be over 4 or 5 ft deep, but it should be long enough or wide enough so that persons interested in swimming more than diving can swim to their hearts' content and not worry about coming in contact with a vertical body traveling straight down at approximately 20 mph.

The best arrangement seems to be for the diving pool to be at one end of the swimming pool, and, if outdoors, oriented so that the sun is not in the diver's eyes. Ideally the diver should be facing north. However if his eyes are shielded by the landscape itself, trees, buildings, or if the pool is in a building, orientation is not very important.

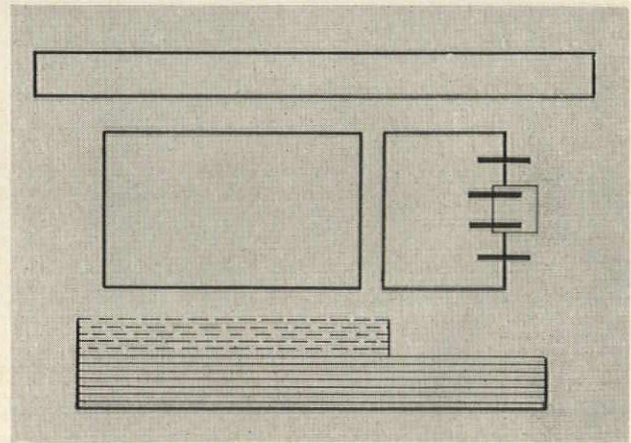
A watercurling arrangement should be built in so that the diver can see some motion in the clear water and have no doubts as to where the surface is. In a completely tranquil pool, the water is too transparent and the illusion from the diving board is one of looking down on a magnifying glass, and the water distance and depth is extremely uncertain.

If the diving pool is going to be used for diving exhibitions it must meet Olympic requirements. Diving platform charts as well as the pool measurements for Olympic competition are diagrammed on page 193.

1.



2.



3.

1. STADIUM POOL, TOKYO. Pool: 22 m. by 50 m. by 2 m. depth; diving pool: 20 m. by 22 m. by 4.5 m. depth. Boards vary in height from 1 m. to 10 m. This is the most basic of the separate pool shapes: a slight separation between the parent swimming pool and the diving pool. The construction method, materials and equipment constitute a single economical contract as well as a very direct answer to the problem. The entire ensemble is direct and compact and the arrangement suitable for either an outdoor or an indoor installation. The seating arrangement on two sides and one end (the diving pool end) is typical of many pools from Japan to Germany and works well for exhibition meets.

2. MICHAELI POOL, MUNICH. Pool: 50 m. by 30 m.; diving pool: 18 m. by 18 m.; 4.5 m. depth. Diving boards varying in height from 1 to 5 m., and a 10-m. platform, are placed at the "stage" end. The diving pool in this case has assumed its own form as well as independence from the Olympic-size swimming pool (not shown). The finger arrangement of diving boards and platform aims each diver in a slightly va-

ried direction. The form of the pool makes possible an amphitheatre seating arrangement ideal for exhibition diving. The form is also good for outdoor pools since it is informal.

3. PROPOSED GYMNASIUM POOL, COLUMBIA COLLEGE. Eggers and Higgins, Sherwood, Mills and Smith, Architects. Planned as a complete aquatic "plant," the facilities here are clearly designed for training in specialization: (1) a 75- by 45-ft Olympic pool for swimming, (2) a 45- by 35-ft pool for diving, and (3) a 50-meter above-deck swimming tank, 4 ft deep and 12 ft wide with a thick glass sidewall running its entire length, for teaching and observing at close range the swimming style of college athletes. The plan of the related pools is similar to Example No. 1 in their close proximity to each other, but instead of being outdoor pools arranged thus for purely economic reasons, these have been designed to be seen by enthusiastic college critics, and seen from one side only. The pools are indoors in a two-story room which is 140 ft long and 90 ft wide.





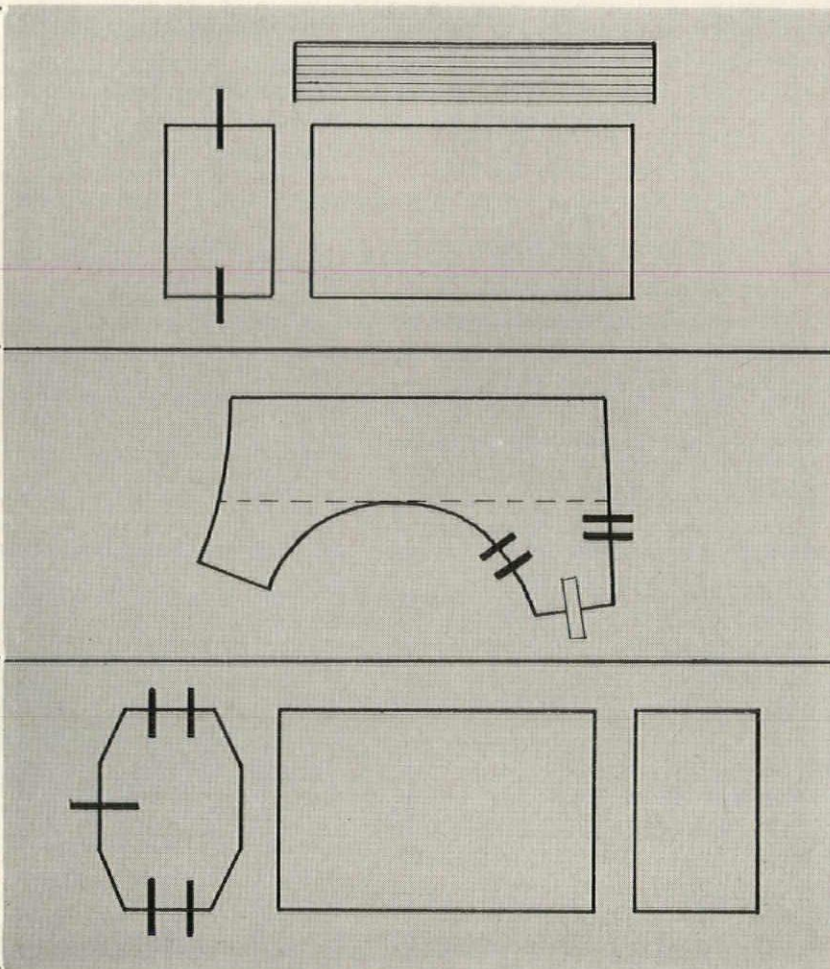
4.



5.



6.



4. PHILLIPS ACADEMY POOL, ANDOVER, MASS. Eggers and Higgins, Architects. Diving pool: 25 by 40 ft; one-meter board at 11-ft end, three-meter board at 12-ft end. Adjustable fulcrum is provided on boards to accommodate boys of considerably varying weights. Facilities include a regulation swimming pool and a separate diving and practice pool, making Andover the first major prep school in the U. S. to have a separate diving pool. The architects recommended this step both as a safety measure, and to increase the number of pool users. Conforming to the A.A.U. and N.C.A.A. diving pool regulations, the pool measures 25 ft by 40 ft and varies in depth from 11 ft to 12 ft. The pool also has an under-water observation window located in a corner of the pool. Recessed ceiling fixtures, soft green wall color, and ten high window panels made of glass block cut light reflection. Spectators are seated along one side of the pool.

5. INDIANA UNIVERSITY POOL. Essentially a club type, the Indiana University pool was designed to meet the requirements of the students, faculty members and their families. Separate pools were first recommended, but their consolidation, or inter-relation, proved too economically attractive to ignore. The diving pool area, which will have a depth of 12 ft, is actually a continuation of the swimming pool—but in a separate wing. There is no real need for an exhibition diving pool as a separate entity since the University has other facilities that already meet such requirements.

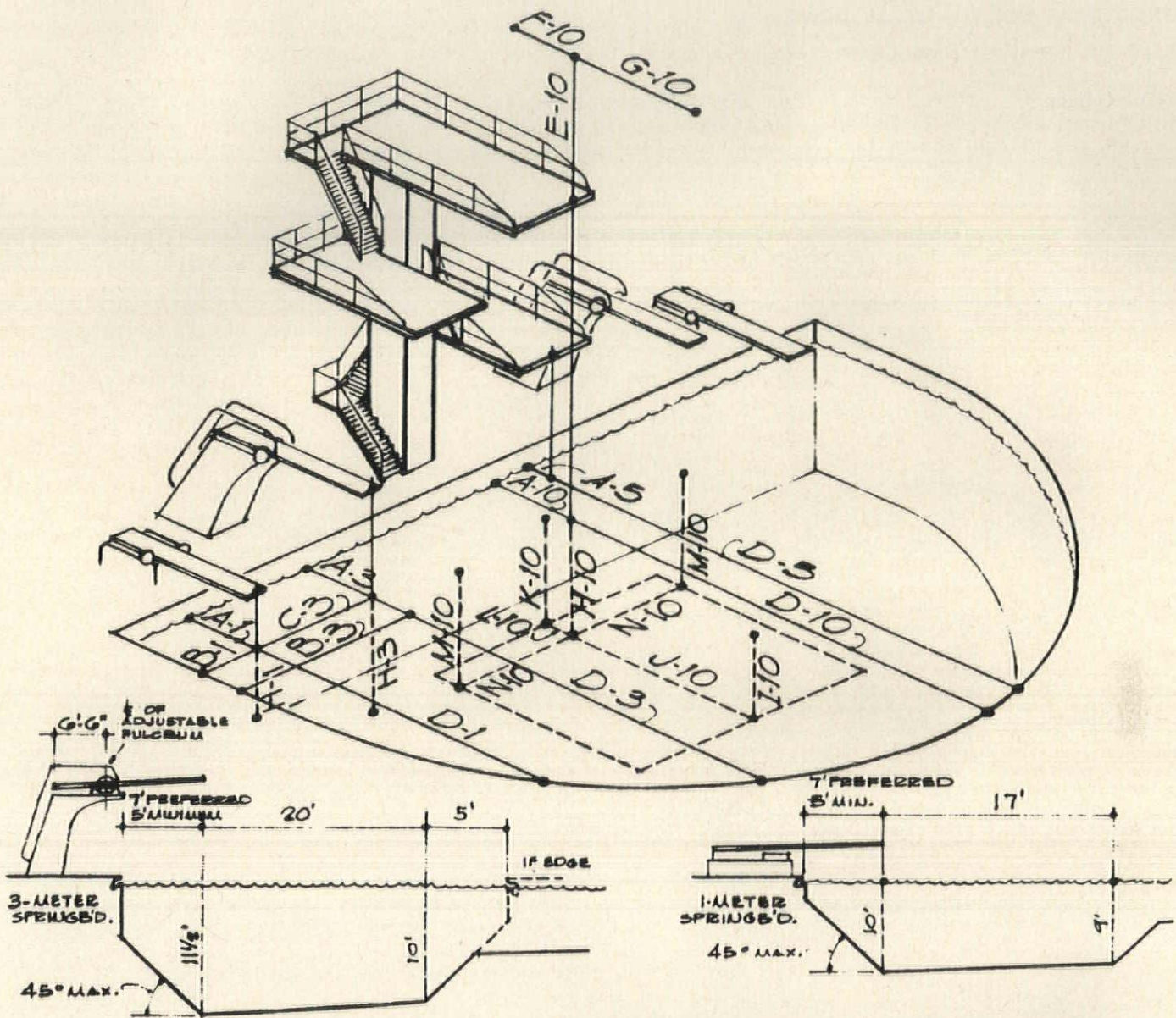
6. MARYDALE DAY CAMP POOL, MELVILLE, L. I., N. Y. Eggers and Higgins, Architects. Pool: 50 ft wide by 75 ft long, 3 ft 6 in. to 4 ft depth; beginners pool: 50 ft wide by 35 ft long, 12 ft depth; diving pool: 50 ft wide by 35 ft long, 12 ft depth. This pool group was intended as the main attraction of a

day camp facility to be used by approximately 1000 children between the ages of six and fourteen. Beginners, swimmers and divers were separated so that instruction and control as well as instructor observation were simplified. The diving pool was shaped to expedite construction, to "cut the corners" where water in a diving pool was unnecessary, and to increase the instructor's field of vision.

Built in three stages under one contract (all completed in the summer of 1960) the adjacent pool facilities have proved economical as well as functional. Centrally located mechanical equipment services all three pools.

A similar arrangement indoors, while not impossible, would require a large building. However, the development of year-round, plastic domes and similar enclosures makes it economically feasible to enclose one pool for all-purpose (diving and swimming) use in winter.





DIVING POOL AND PLATFORM DIMENSIONS FOR COMPETITIVE SWIMMING  
(in accordance with Olympic requirements)

BOARD SIZE		KEY TO FIGURES		HT. ABOVE WATER LEVEL	DISTANCES										DEPTHS					
LENGTH	WIDTH	KEY	MIN. SAFE DIM.		A FROM EDGE OF POOL TO END OF BOARD	B FROM CENTER OF BOARD TO SIDE OF POOL	C FROM CENTER OF BOARD TO CENTER OF BOARD	D FROM END OF BOARD TO WALL AHEAD	E FROM BOARD TO BEAM OR CEILING ABOVE	F CLEAR OVERHEAD BEHIND BOARD	G CLEAR OVERHEAD AHEAD OF BOARD	H PER PER	MIN. DEPTH	W/ASGA MEASURED FROM POINT BELOW END OF BOARD						
					I	J	K	L	M	N			I	J	K	L	M	N		
16'	20'	1-METER SPRING'BD.	3'-3"	3'-3"	A-1 7' 5"	B-1 10' 8"	C-1 8' 6"	D-1 28' 25"	E-1 15'	F-1 6' 5"	G-1 15' 12"	H-1 11'	10'	I-1 9'	J-1 17'	K-1 9'	L-1 3'	M-1 9'	N-1 8'	
16'	20'	3-METER SPRING'BD.	9'-11"	9'-11"	A-3 7' 5"	B-3 15' 12"	C-3 10' 8"	D-3 33' 30"	E-3 15'	F-3 6' 5"	G-3 15' 12"	H-3 12'	11 1/2'	I-3 10'	J-3 20'	K-3 9'	L-3 3'	M-3 10'	N-3 10'	
18'	7'	5-METER PLATFORM	16'-5"	16'-5"	A-5 7' 5"	B-5 15' 12"	C-5 10' 8"	D-5 43' 35"	E-5 15' 15"	F-5 8' 6"	G-5 15' 12"	H-5 14'	12 1/2'	I-5 11'	J-5 25'	K-5 9'	L-5 3'	M-5 11'	N-5 10'	
20'	10'	10-METER PLATFORM	32'-10"	32'-10"	A-10 8' 5"	B-10 20' 15"	C-10 10' 8"	D-10 52' 45"	E-10 15' 12"	F-10 8' 6"	G-10 15' 12"	H-10 16'	15'	I-10 14'	J-10 35'	K-10 10'	L-10 3'	M-10 14'	N-10 10'	



**STRUCTURAL FORMS—METAL DOMES: 1**

by SEYMOUR HOWARD, Architect, Associate Professor, Pratt Institute

**Metal Domes**

Metal domes are generally built on some variation of the radial principle (see Sheet 25 in the series "Useful Curves and Curved Surfaces," AR October, 1957). The principal types are illustrated in Figures 1 and 2.

One of the initial decisions to be made is whether the dome should be a portion of a true sphere or a polyhedron. Rolled steel sections are most commonly used, since the depths of section needed can easily be found in the standard sizes. As straight

members they form a polyhedron. If the members are closely spaced, however, the visual effect will be that of a sphere, particularly if the roof decking can be curved. For curved members are desired, light trusses can be fabricated to the correct radii.

Lengths of members are typically in the range of 15 to 25 ft. This will determine the spacing of radial and parallel ribs.

The most usual ratio of rise to span (diameter) is in the range  $\frac{1}{5}$  to  $\frac{1}{8}$ . Often the span is taken

as equal to the radius, which gives a ratio of 0.134.

**Schwedler System**

The original Schwedler dome or cupola (first published in 1866) is shown here as the "basic type with diagonals." Such a polyhedron is statically determinate and is indeformable, since the entire surface is divided into triangles. As a three-dimensional framework it satisfies the statical conditions for rigidity.

*continued on next page*

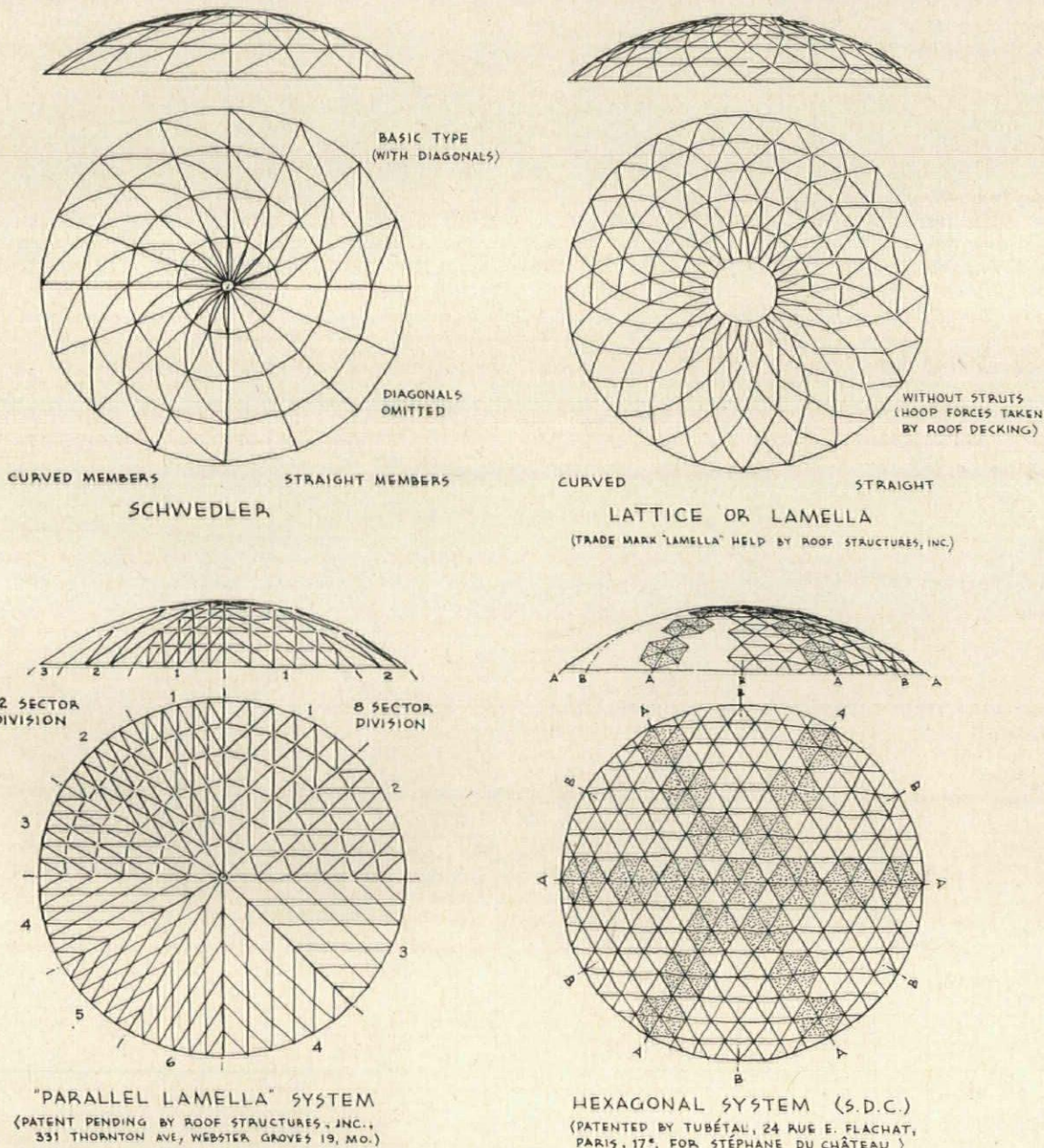


Figure 1. TYPES OF STEEL DOMES



**STRUCTURAL FORMS—METAL DOMES: 2**

by SEYMOUR HOWARD, Architect, Associate Professor, Pratt Institute

Recent investigations by Professor Paul Anderson of the University of Minnesota indicate that in practice the diagonals are not necessary. The simplest type, therefore, is a Schwedler dome with diagonals omitted, consisting of straight members which are the chords of meridian (longitude) and parallel (latitude) circles.

**Lamella System**

In the lattice or lamella system all of the intersections of members lie on radial lines but each meridian rib is replaced by a pair of diagonal ribs. These ribs together with the struts, which are chords of latitude circles, form a triangular, three-dimensional network which is rigid. The roof decking panels can be designed to replace the struts, a technique commonly used in the case of wood lamella domes with wood planking.

The "Parallel Lamella" System was developed to reduce the number of ribs at the top of the dome, where the close spacing makes assembly difficult and requires a reduction in the size of members if they are not to be grossly overdesigned for the forces acting on them. Although each sector is symmetrical about its own centerline, the visual effect is to emphasize one of the radial ribs at the edge of the sector, causing an apparent dissymmetry which is somewhat disturbing esthetically.

**Hexagonal System**

The hexagonal system was developed for a framework of steel tubes which are fitted into special joints of cast or pressed steel and welded. The tubes in turn can support roof panels of sheet steel, steel plus concrete, terra cotta blocks covered with concrete, and so forth. Because of the characteristics of the sphere and the hexagon (see Sheets 25, 26, and 27, "Useful Curves and Curved Surfaces", AR, October, 1957) all of the tubes cannot be of the same length, although the variation can be kept small. The typical length of one bar is about 6 ft. In the diagram the shaded hexagons (along lines A) are all

identical hexagonal pyramids; the six center bars of each must be slightly longer than the six edge bars. The lines B are axes of symmetry for the regions in between, where the lengths of bars tend to be shorter, but all the joints still lie on the surface of the sphere.

**Thin Shells**

Not illustrated, but occasionally used, are the ribless steel shells in which all forces are carried by the steel plating. The danger of buckling is the principal design problem. As a result the plating must be quite thick: for example, 5/8-in. plate at 25.6 lb per sq ft of surface was needed for a 200-ft diameter hemisphere built according to the specifications of the American Petroleum Institute.

**Forces**

An approximate idea of the magnitude of forces involved can most easily be found by assuming the spherical structure to act as a membrane. The most heavily loaded member is of course the tension ring at the lower edge. If the sphere is brought down to the ground by means of inclined piers, buttresses or A-frames, a continuous footing can be used as the tension ring; or the thrust can be taken directly by the ground if the soil is suitable.

**Geodesic Domes**

This type of dome might be considered as derived from an effort to construct a spherical dome solely by means of elements of uniform length. (Its inventor, R. Buckminster Fuller, describes it as "a structure impervious not only to extreme differential between internal and external loads or impact forces—yet permitting omnidirectionally effective controlled penetrability.") But the sphere is a surface which cannot be divided by any arbitrary number of arcs of the same length. Therefore, the elements must be of different lengths, although the pattern is more or less uniform. For a complete study of this problem see Sheet 25, "Useful Curves and Curved Surfaces."

One of the advantages of this type of dome is the simplicity of erection. One method is to fasten sections of the dome together like a skirt around a central mast. This portion is raised up enough so that another zone of sections can be fastened to the first portion, and so on. Or it can also be built like other domes, from the bottom up: the lowest zone erected on the piers, forming a complete circle; the next higher zone erected on the lowest, and so on. Since any complete zone is stable in itself, this procedure can be followed with a minimum of scaffolding.

Because the pattern of members or truss elements in the geodesic dome is an "overall" one, always related to the entire sphere, the perfect geodesic dome is the complete ball. As such it is ideally suited to withstand radial pressures and should prove of value in gas storage tanks and vehicles and stations for outer space. The depth of the space truss usually employed as the surface of the sphere gives it great stiffness and resistance to high winds.

When other than hemispherical or plane truncated segments are used, the edges are the main architectural problem. These lie along segments of five great circles and are sometimes supported by several piers, all at different heights. They can also be supported by arches, making only five points of support for the whole dome. These piers of edge arches must be designed to carry the thrust of the dome, and the drag and uplift due to wind loads. The connections of the dome to the piers are designed to permit a considerable amount of radial movement due to temperature changes (on the order of 3 in. for an aluminum dome with a sphere radius of 112 ft). If soil conditions are poor the piers must be held together by a tension ring of steel or prestressed concrete.

R. Buckminster Fuller, who received U.S. patents on his spherical geodesic dome in 1954, now has 100 licensees using some of his principles. Synergetics, Inc., 3013 Hillsboro St.,  
*continued on following page*



**STRUCTURAL FORMS—METAL DOMES: 3**

by SEYMOUR HOWARD, Architect, Associate Professor, Pratt Institute

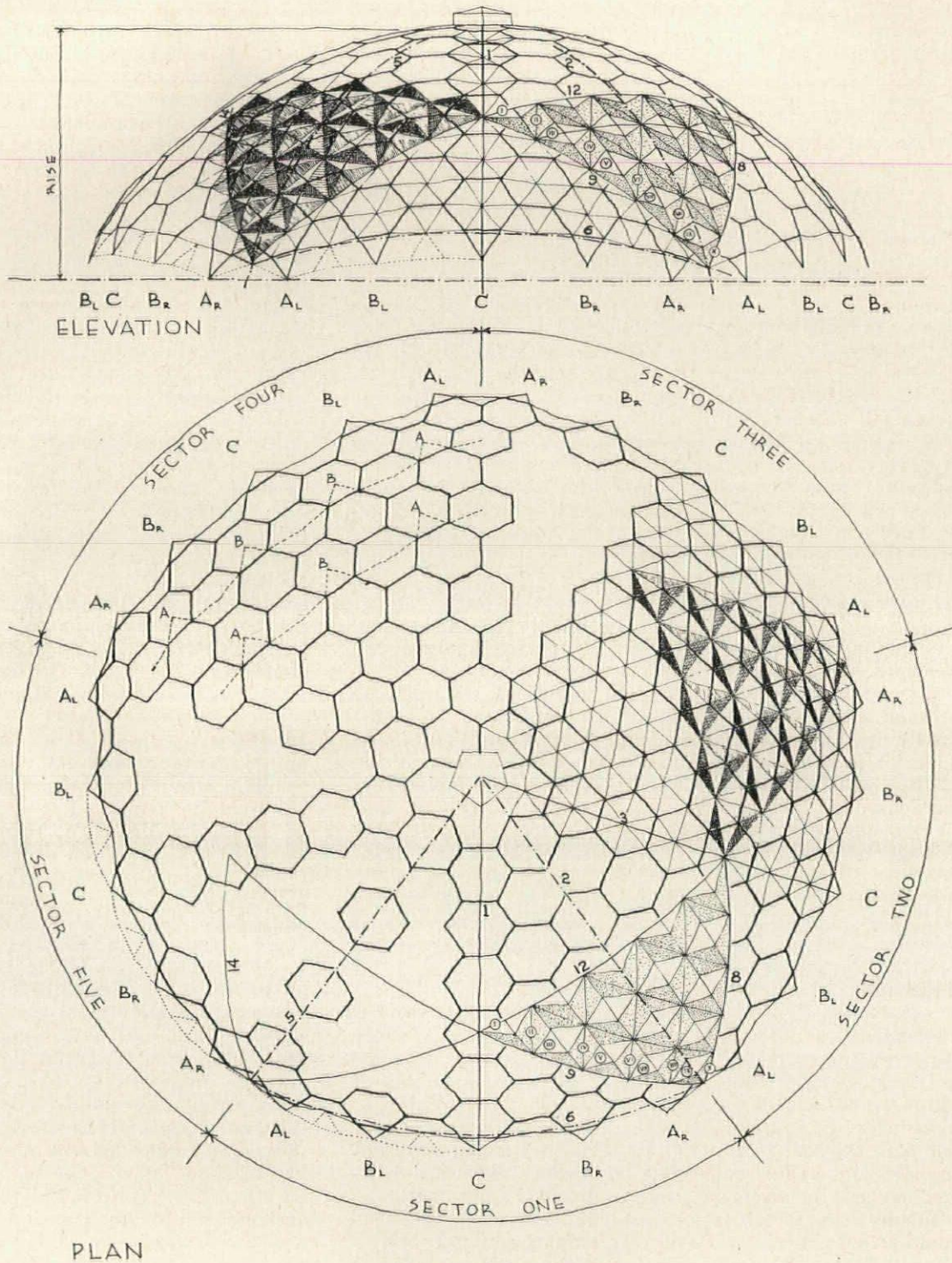


Figure 2. GEODESIC DOMES

Raleigh, North Carolina (James W. Fitzgibbon, Executive Vice-President) has designed some of the special domes such as:

1) Steel dome for the Union Tank Car Co., in Baton Rouge, La. Plan diameter 384 ft; rise 120 ft; frequency 36; 48-in. deep space truss; 2) Aluminum dome

for the American Society of Metals, near Cleveland. Plan diameter 277 ft; rise 102 ft; frequency 24; 30-in. deep space truss; 3) Projected dome for Shoppersville in Montreal. Plan diameter 525 ft; rise 96 ft above tension ring; frequency 56; 72-in. deep space truss.

All of these are designed with a space truss using an octahedron as the basic unit instead of a tetrahedron. (See Sheet 28, "Useful Curves and Curved Surfaces," AR, April, 1958, for the tetrahedron unit; octahedron unit will be seen on sheet 4.)

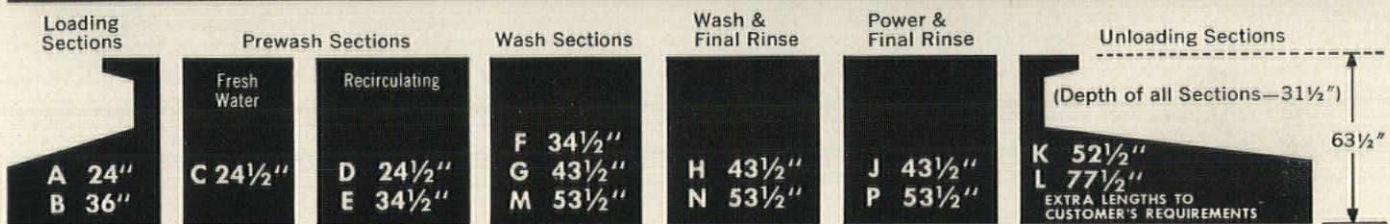
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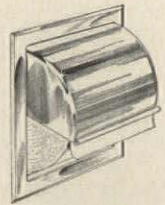


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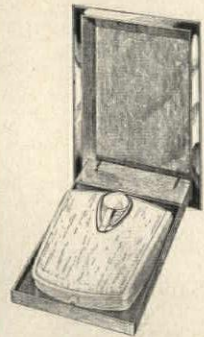
## bathroom accessories



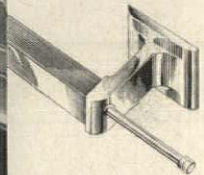
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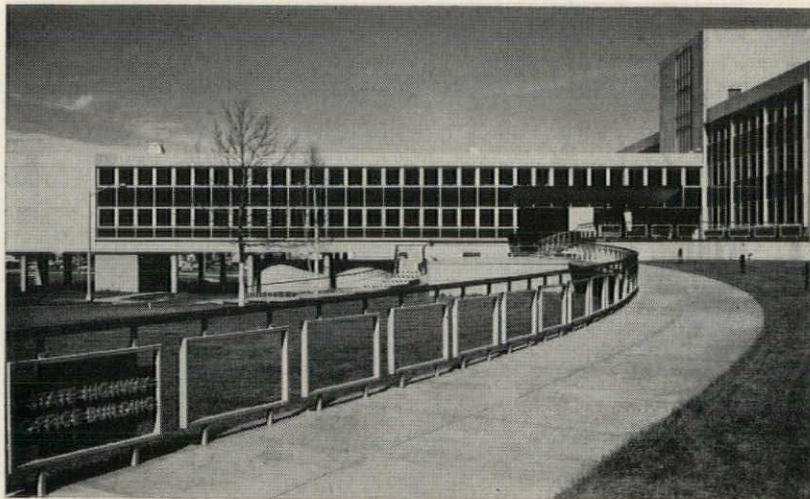


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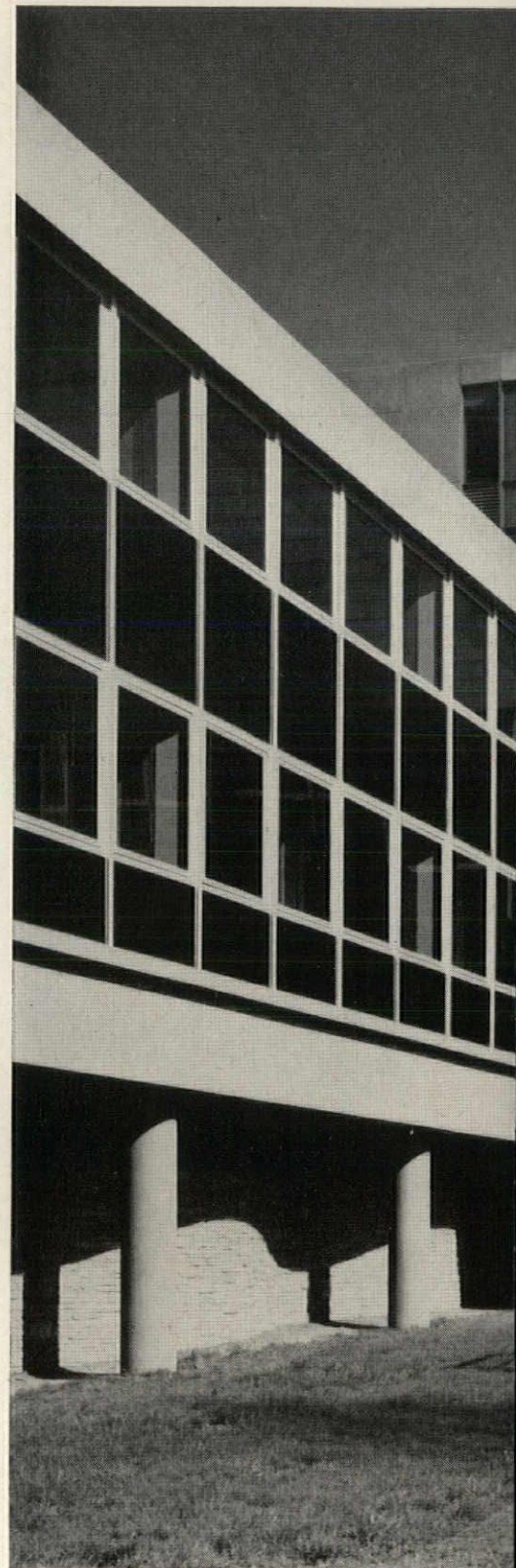


*Architect:* Henry F. Ludorf, A.I.A., Hartford, Conn.  
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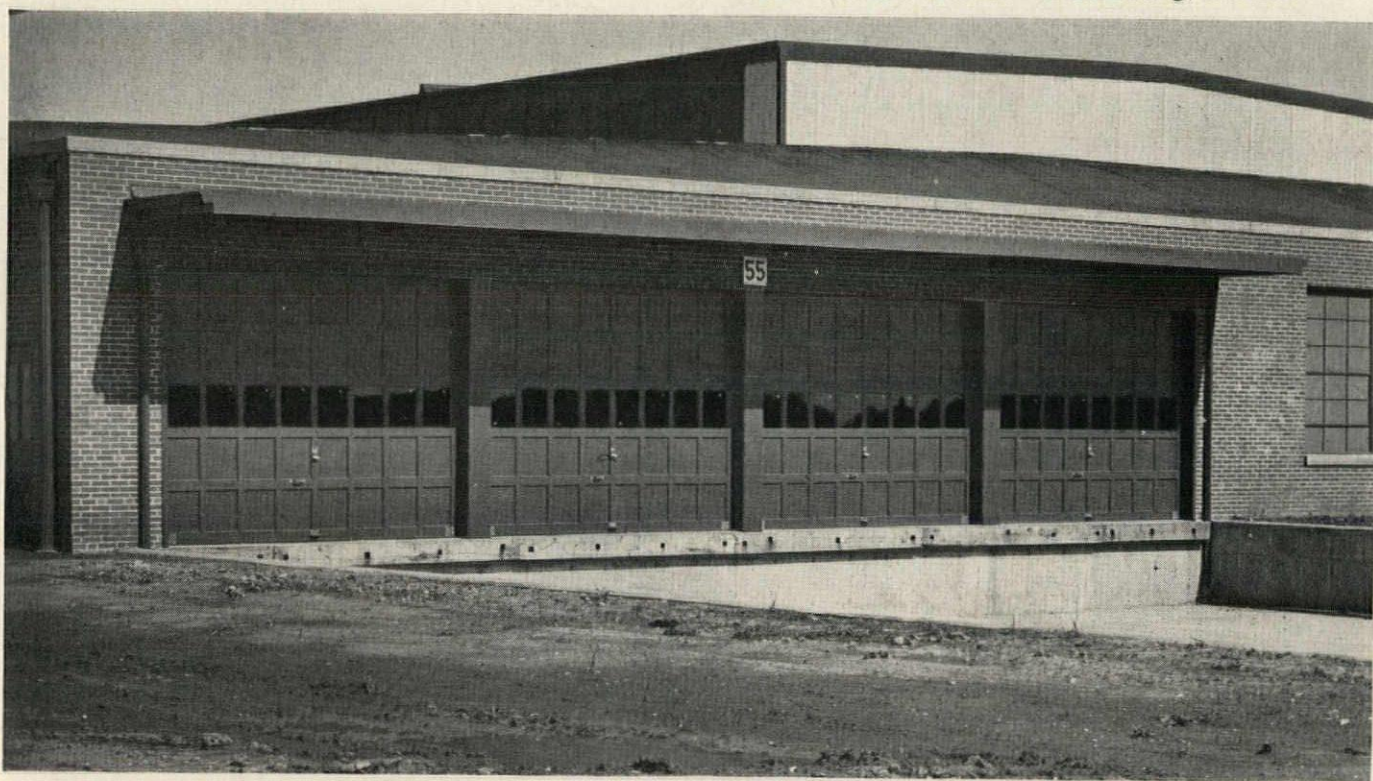


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### NEOPRENE GASKETS: Prefab Seals for Thin-Skinned Buildings

As is often the case with new construction techniques, the unique advantages of the curtain wall are accompanied by a unique problem: providing a foolproof weather seal between components that are in almost constant motion. The very thinness and light weight that have given the curtain wall its popularity lie at the root of the difficulty. Because such a wall heats and cools rapidly, it may undergo between midnight and noon dimensional changes as great as those undergone by a masonry wall between summer and winter—a problem aggravated by the wide differences in the coefficients of expansion of the different materials assembled into the wall. Moreover when glass is used instead of a metal panel, the seal must not only accommodate considerable relative movement between panel and frame but must also permit deflection under wind loads that would shatter a rigidly-held light of glass.

The curtain wall had not long been on the scene when it became apparent that conventional caulking and glazing compounds were simply not elastic enough to cope with the dimensional changes in these thin multi-material walls, and architects turned instead to three basic types of seals that are still in more or less extensive use.

The first is the *labyrinth seal*, which consists of thin metal sections loosely interlocked so as to prevent ingress of wind and weather.

More common is the *adhesive seal*, which uses a resilient, rubber-like compound that bonds to the glass or panel on the one hand and the supporting frame on the other. (Figure 1 shows a multi-component joint based on an adhesive seal.)

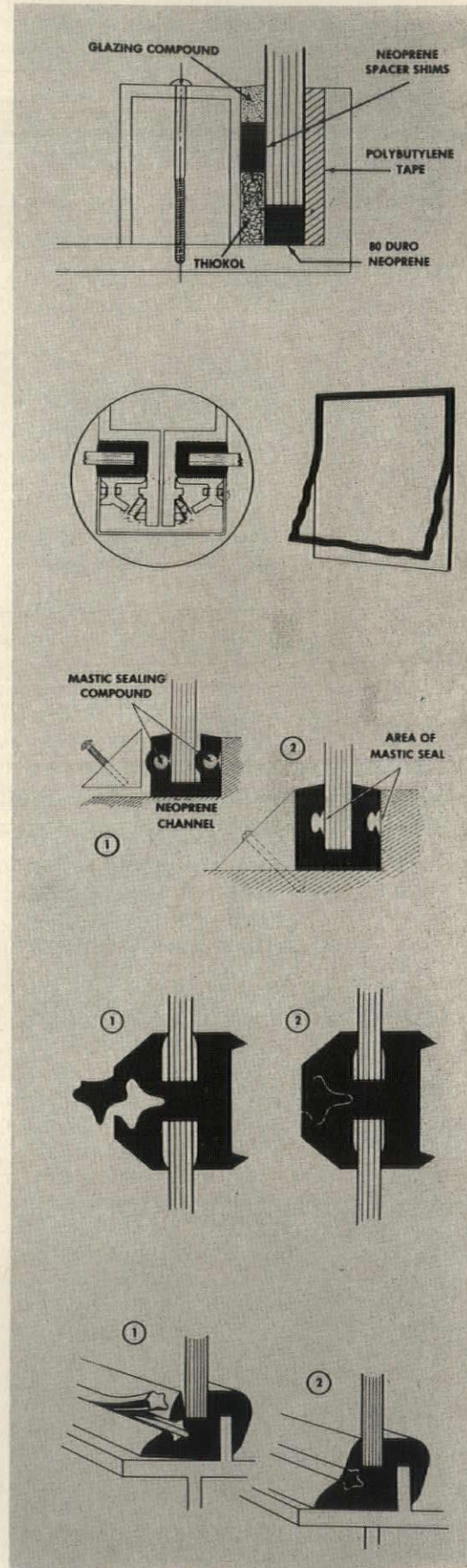
The third type of seal is the *compression seal*, a relative newcomer to construction but an old-hand at

general sealing jobs. Such seals are practical for several reasons. They are simple in design: two flanges, a gasket, a means for applying pressure. Components may be manufactured to fairly casual tolerances. Assembly is a simple mechanical operation that can be successfully performed even by unskilled workmen. And the seal is permanent as long as the gasket and source of pressure remain intact.

In adapting the general principles of the compression seal to curtain wall construction, architects and manufacturers have turned primarily to preformed strips and channels extruded from synthetic rubber. As the case histories on the following pages show, the details vary from project to project, but all contain the essential elements of the pressure seal: gasket, flanges and pressure source. They vary principally in the way in which the necessary pressure is applied. In some the gasket is brought under compression by the frame, via fixed, movable or snap-in stops; others use self-compressing gaskets with pressure applied by an added or integral rubber wedge.

Figure 2 at right shows perhaps the simplest version of the compression seal: a continuous U-channel snapped around the glass (or metal) panel. After the panel has been inserted in the supporting frame, pressure is applied by a movable stop. (The detail shown here was developed by Skidmore, Owings & Merrill for the curtain wall of the Arrivals Building at New York's Idlewild Airport.)

Figure 3 details a variation on this simple compression seal, the Pawling Rubber Corporation's "Wet Seal." Here the extruded channels are designed with mastic-filled reservoirs on the inner or outer faces (wherever the seal is required) so





that when pressure is applied, the adhesive is forced out through slots in the reservoirs, adding an adhesive seal to the compression seal.

Inland Manufacturing's *Inlock* strip (Figure 4) is a self-sealing gasket whose sealing pressure is derived from the insertion of a rubber locking strip which is squeezed into a slot in the gasket, forcing the lips of the gasket hard against the glass and the frame.

The *G. A. T.* strip made by the General American Transportation Company (Figure 5) is similar in principle, but differs from the *Inlock* strip in that the locking wedge is an integral part of the extrusion itself.

It should be noted here that each of the compression sealing systems described above employs a gasket extruded from neoprene synthetic rubber, and that the following discussion of the factors that must be considered in the design of pressure seals refers particularly to neoprene. There are other compounds that share with neoprene many of the required properties, and indeed polyvinyl chloride is widely used in factory-fabricated unit panel constructions and movable windows. However, all thermo-plastic materials lack the resiliency of the thermosetting natural and synthetic rubbers. Of the thermosetting materials, neoprene has, for the present at least, the most favorable combination of properties—and the most favorable price. A quick run-down of the characteristics by which resilient materials for compression seals are evaluated will show why this should be so.

The most essential property, by the very nature of the seal, is resiliency: the ability to accommodate thermal expansion and contraction as well as (especially in the case of glass) wind pressure, without breaking the seal. If the gasket flows under pressure, or relaxes its back pressure in time, it becomes a mere space filler and a dubious seal.

Neoprene of course comes through the resiliency test with flying colors. But equally important, it retains its resiliency over a long period of time—at least 25 years—and under all the adverse conditions it must undergo in place. It has good resistance to aging; to sunlight, either direct or reflected through a glass panel; to ozone; and to the oils and chemicals which may be present on adjoining materials either originally or through later maintenance operations.

Neoprene compression seals further prove themselves in their performance on the job site during erection. The bulk of the installation has been taken care of on the architect's drawing board or in the supplier's plant. By the time the gaskets arrive on the job, they are ready to be snapped over the panels or inserted in the frames. Installation from that point on becomes a matter of slipping gasketed panels into frames, or glass into gaskets, and applying pressure. No special skills are required.

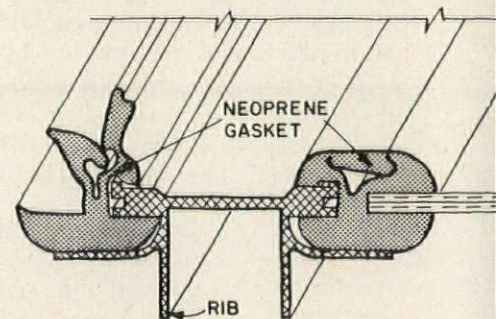
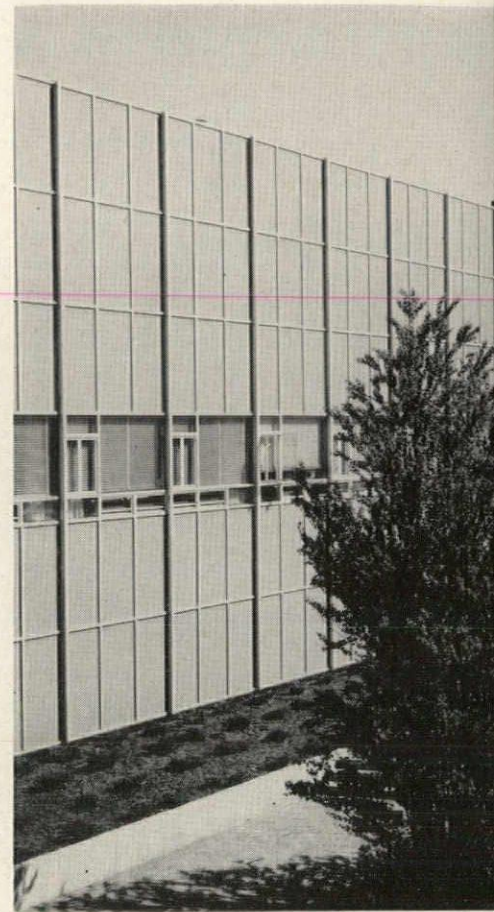
Other advantages also show up on the job. Installation can be made in any weather. There is ample leeway for reasonable dimensional variation in the frame, the glass, the pressure stop and the gasket, and even for the almost inescapable warping and racking of large curtain wall frames. Irregularities in the mating surfaces are of no consequence, and those same surfaces need not be scrupulously clean as they must in sealing systems which depend on an adhesive bond.

Thus neoprene compression seals are relatively foolproof so long as adequate attention is given to a few essential design considerations.

*Application of pressure.* Although this is the crux of the design there are no rigid rules or even "preferred" methods for achieving it. As the examples on these pages show, the architect is free to adapt any of the basic methods of applying pressure to conform with other desired details—flush jambs, for instance, or glazing from inside the building. Or he can, if he wishes, use a method no one has thought of yet.

*Frame corners.* An all-welded framework is no more or less necessary with compression seals than with any other sealing system. Compression seals around lights and panels can be used as successfully with non-welded frames as with welded frames, provided ordinary care is taken to insure tight corners in the framework.

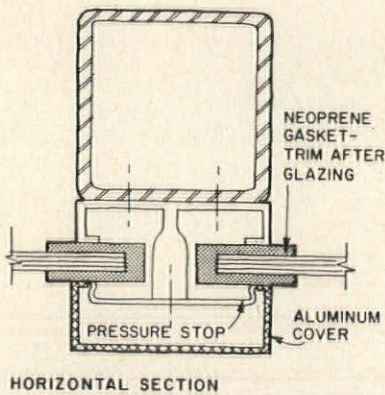
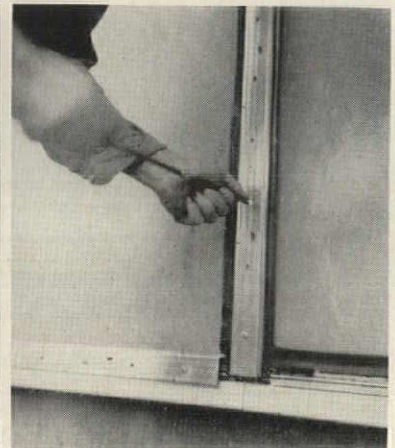
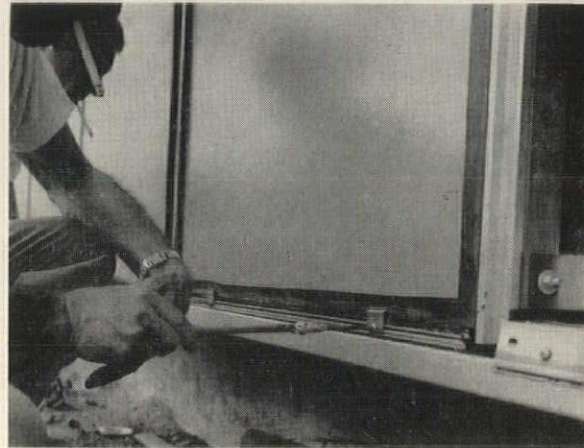
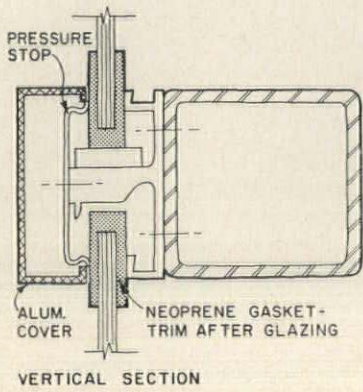
*Hardness of gaskets.* Neoprene is available in a wide range of hardness, with compounds used for compression seals generally falling between 40 and 70 durometer. (As a matter of interest, the heel of a shoe is about 70 durometer; a tire tread about 60; an inner tube about 50, and a rubber band about 40.) The movable-stop systems generally use a soft compound in the vicinity of 40 durometer; the patented filler



SHAW'S GARDEN, *Tropical Display House, Missouri Botanical Gardens, St. Louis, Mo.* Architects: *Murphy and Mackey*

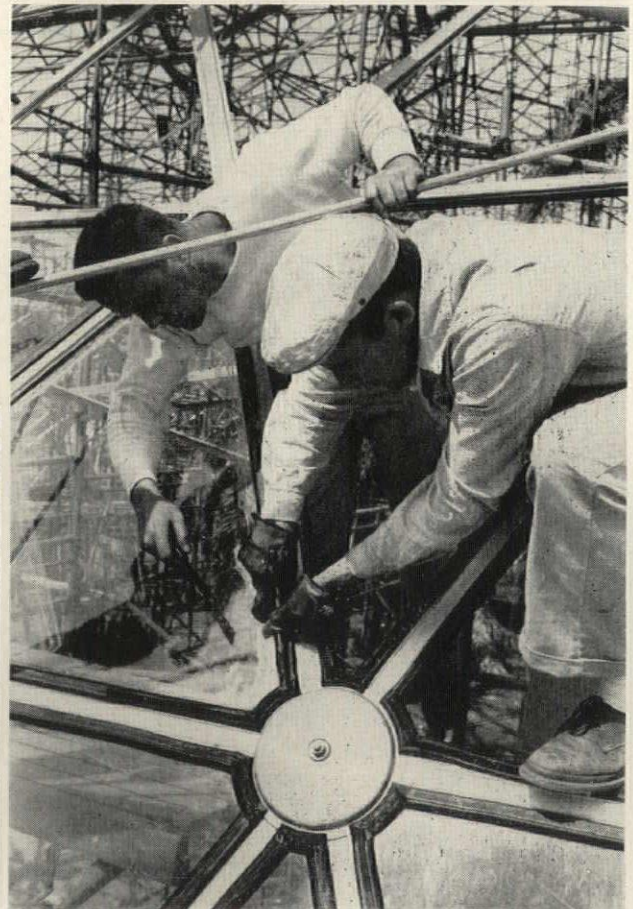
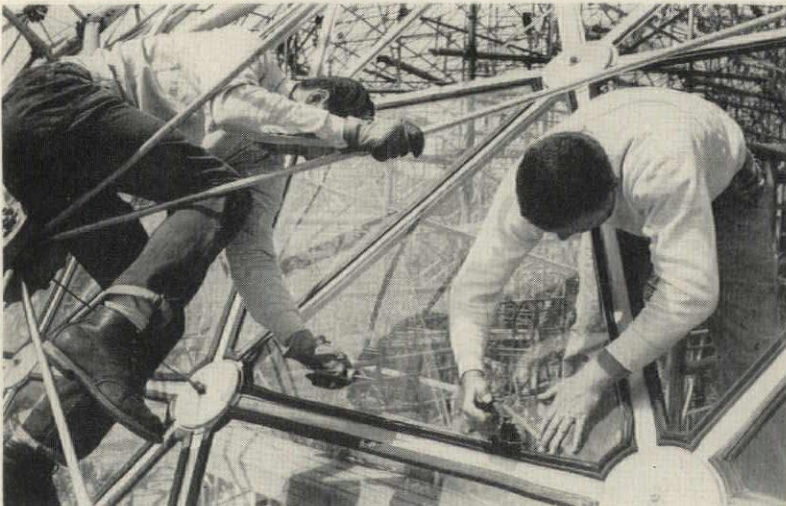
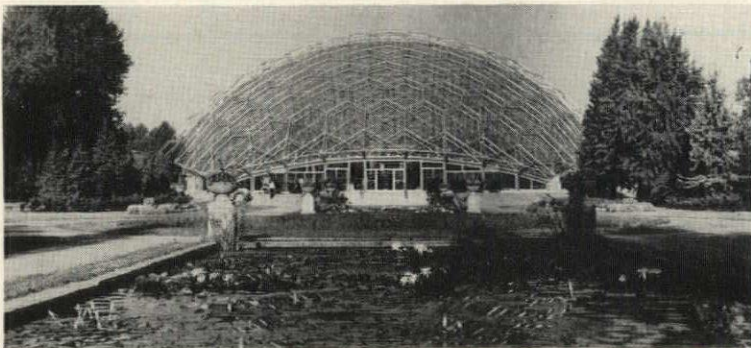
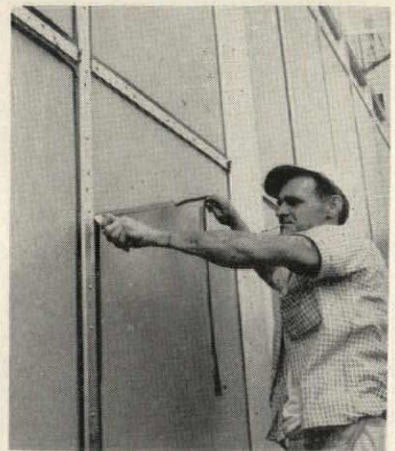
This double geodesic dome features a plexiglas-glazed weather surface suspended below the outer framework. The neoprene gaskets used to seal the plastic roof were manufactured and delivered to the job site in continuous loops, positioned in special flanges on the channel ribs of the dome, and looped over their upper edges with an awl-like tool. The plexiglas panels were then set into the gasket. (Gasket and channel flanges were soaped to ease insertion.) The required sealing pressure was applied in this case by a locking strip which was extruded integrally with the gasket and forced into place with a specially-designed "crochet hook" (see photos right)



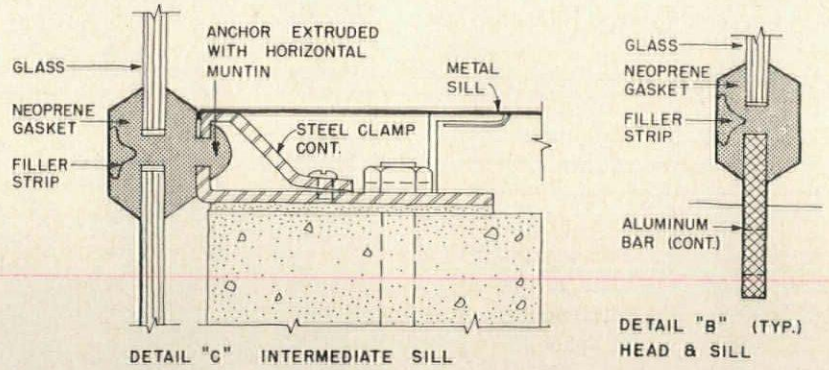
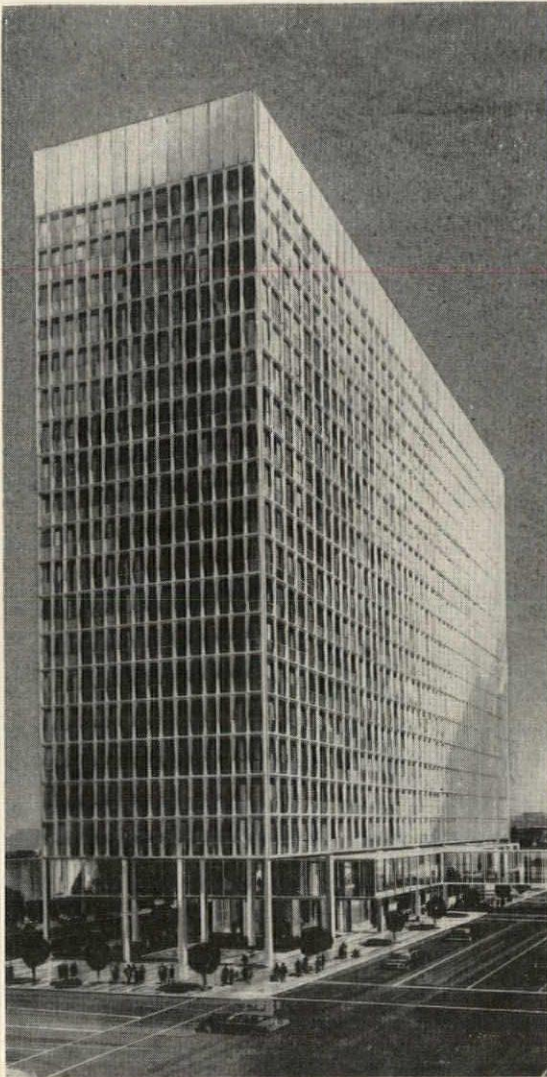


ATHLETIC CENTER, *Massachusetts Institute of Technology, Cambridge, Mass. Architects: Anderson, Beckwith and Haible*

This sleek but simple curtain of colored glass panels set in aluminum frames uses an equally sleek and simple version of the compression seal. Continuous neoprene gaskets were snapped around the lights of glass on the job. The panels were then set in the frame and held in place with flanged aluminum channels screwed to a pressure stop (see detail) that controls the sealing pressure with which the channel flanges clinch the neoprene gaskets. The job was completed by adding projecting mullion covers and trimming the gaskets for a clean line

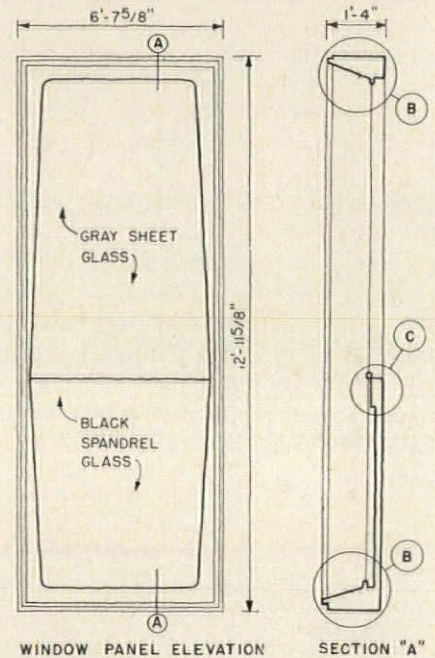






CULLEN CENTER, OFFICE BUILDING, Houston, Texas. Architects: Welton Becket and Associates

The lacy curtain wall for this 21-story office building is made up of precast rectangular frames with glazing set back one foot from the face of the wall. The upper section of each concrete panel will be glazed with glare-reducing glass and the lower portion with black spandrel glass. Window and spandrel are both attached to the frame via a neoprene gasket and a continuous aluminum bar surround embedded in the concrete (detail "B"). At the intermediate sill between spandrel and window, the gasket is anchored so that it also serves as a horizontal muntin (detail "C"). Pressure is applied by a separate filler strip



strip seals are usually harder, about 70 durometer. Within this range it is no problem to produce extrusions with the required dimensional tolerances. Hardness is important to the designer because it affects the stiffness required in the pressure-stop and framework. The exact bolting pressure needed will depend on the design of the gasket as well as on its hardness, and should be worked out by the architect and the supplier.

**Vulcanized corners.** Ease of handling in the field and prevention of leaks at corners are aims that argue strongly for the corners of gaskets to be mitered and bonded. On large jobs where many gaskets will be used, it is economical to have the gasket supplier mold and vulcanize corners in his factory. On smaller jobs, corners can be cut and cemented in the field.

**Corrugations.** Corrugations on the pressure stop and frame are desirable because they yield lines of very

high sealing pressure without excessive bolting pressure. In the case of aluminum extrusions, corrugating the metal parts is no problem. Corrugation of rolled sections, however, is not so easy and if these are used the simplest expedient is to specify corrugation of the gasket. The sealing result is the same in either case.

**Gasket thickness.** Rubber and neoprene, like other materials, are not compressible. The illusion of compressibility is created through deformation, but there is no reduction of volume and the displaced rubber must have some place to go. This means that the designer must not totally enclose the gasket. There must be an unconfined surface that is free to bulge as pressure is brought to bear on the other surfaces of the gasket.

The gasket must also be thick enough to absorb surface irregularities without resorting to unduly high pressure. As a rule,  $\frac{3}{16}$  in. is about

the right thickness for the sides of a U-channel.

**Limit stop.** The use of a deflection-limiting stop (See Figure 2) is not a required feature of compression sealing systems, but it is desirable since it gives more precise control over the amount of strain placed on the pressure stop and frame. If used, the limit stop should be placed so as to yield the desired maximum of 15 per cent deformation in the gasket.

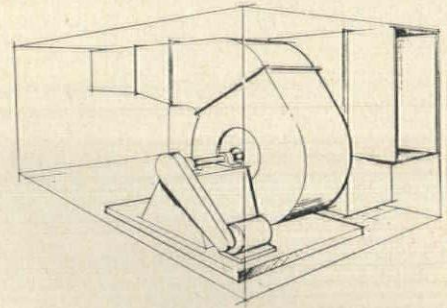
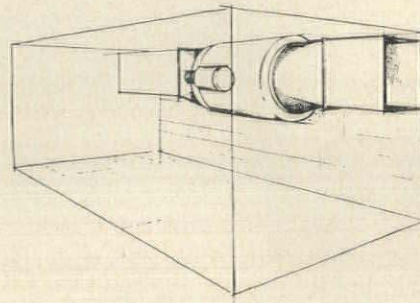
**Specification of neoprene quality.** Although many designers are not well-acquainted with neoprene, its quality can be controlled by specifying the kind of elastomer, tensile strength, compression set characteristics, weathering resistance, low temperature flexibility, and staining characteristics. Each of these properties can be defined in terms familiar to the rubber industry, and established by standard laboratory tests that allow the architect to check shipments against his specification.



## Straight-Line Flow Centrifugal Fan Reduces Space Requirements

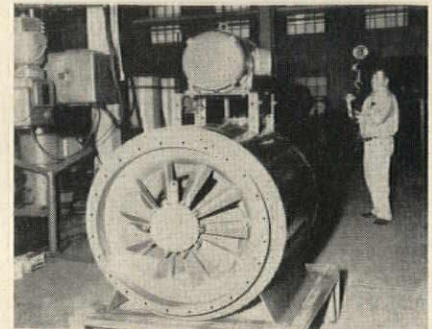
The development of a straight-line flow centrifugal fan makes possible the installation of air conditioning and air handling fans in less than one-half the space previously required. The unit, trade-marked *Centriline*, combines the advantages of *Airfoil*-bladed centrifugal fan performance with the space-saving features of straight-line air flow. Small areas, formerly considered waste space, can now be utilized because the compact design makes it feasible to hang the fans from the ceiling, mount them on the wall or stack them one above the other. Installation is simplified by inlet and outlet dimensions being exactly the same so that one size duct can be used. This permits more supply and exhaust systems to be installed in the same space, thereby reducing the number of equipment rooms required. In addition, smaller equipment rooms constitute a saving in construction investment.

By shaping the housing to provide "straight-through" air flow rather than conventional right-angle flow,



the *Centriline* fan ranges up to 50 per cent less in size than scroll-type units. The high efficiency of this centrifugal fan is achieved primarily through the use of the *Airfoil*-bladed centrifugal wheel which enables the air to follow the blade contours closely and prevent noise-producing turbulence on the upper blade surfaces.

The fan is available in six sizes, with *Airfoil* wheels from 27 in. to 44½ in. in diameter. Volumes range from 4,700 cfm to 46,800 cfm; pressures up to 9 in. of water static. The heavy steel all-welded, internally braced casing allows for two methods of mounting: the motor base right on the fan housing and the motor



mounted separately on an integral vibration base. Both arrangements are V-belt driven. *Westinghouse Electric Corp., Sturtevant Div., Hyde Park, Boston 36, Mass.*

## Insulated Curtain Wall Cuts Heating, Air-Conditioning Costs

*Insu Wall*, a new insulated aluminum curtain wall that reduces thermal conduction, cuts the cost on heating and air-conditioning in buildings using large expanses of aluminum curtain wall. The wall solves the problem of condensation damage to carpeting, draperies, plaster and veneering on room interiors and is also effective in areas or rooms with high relative humidity. *Insu Wall* is the first insulated curtain wall to be introduced with the same structural properties and erection techniques as most non-insulated aluminum curtain walls.

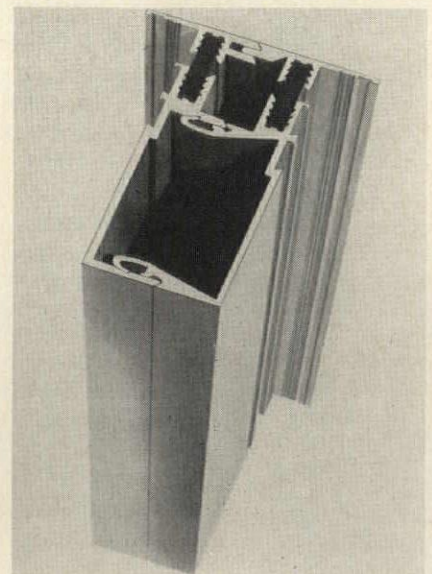
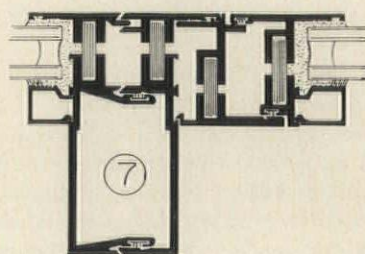
In effect, *Insu Wall* is a sandwich-like grid panel in which the exterior metal is separated from the interior with a special insulating material bonded between exterior and interior metal. This provides a complete barrier for all metal-to-metal thermal conductivity. The insulator is a plastic material similar in composition to *Formica* counter tops, but formulat-

ed to expand and contract at the same rate as aluminum frame members. It is permanently bonded with an epoxy resin and is pinned into the mulls, against shearing stress.

A recent test report on the performance of the 8442 curtain wall series establishes the thermal transfer, or U factor, of *Insu Wall* to be a low .408, as compared to .58 for 1-in. *Thermopane* or insulated glass. Results also showed that at a temperature differential of 105 F. (74 F above zero, interior; and 310 F below zero, exterior) at 35 per cent relative hu-

midity, frost would form on glass in the *Insu Wall* test section before forming on the metal. *Marmet Corp., Bellis St., Wausau, Wis.*

more products on page 214





**Crouse-Hinds Sportslighting**

(A.I.A. 31-F-30) Bulletin 2721 is a revised edition featuring nearly 100 suggested lighting layouts for all sports requirements. The bulletin gives general information and application data as well many photos and installation drawings. 68 pp. *Crouse-Hinds Co., Syracuse 1, N.Y.*

**Heat Transfer Equipment**

Offers information on Young radiators, heat exchangers, supercharger air coolers, industrial and oil field equipment and heating and air conditioning products. Catalog No. 160. *Young Radiator Co., Racine, Wis.\**

**Signaling Equipment**

Bulletin S-100, a 60-page catalog issued by the Edwards Company, covers signaling equipment. In addition, Bulletin S-100 C-1 describes Edwards' industrial and commercial building products; Bulletin S-100-OEM details original equipment-type products; and Bulletin S-100 R covers residential products. Product description, illustrations, specifications and ordering data are included in each. *Edwards Co., Inc., Norwalk, Conn.*

**Industrial Incandescent Lighting**

Diagrams and describes units for general lighting and specific industrial needs such as reflector holders, lampholders, lamp extensions and reducers. Detailed specifications are given along with suggestions for usage of particular units and various installation methods. 32 pp. Bulletin G. *Thomas Industries, Inc., Benjamin Div., 207 E. Broadway, Louisville, Ky.\**

**Airport Concrete Pavement**

Offers airport designers information, data, tables and design criteria. Some of the topics covered are basic factors in design, concrete pavement design fundamentals, pavement thickness, reinforcement design and construction practices. 96 pp. *Wire Reinforcement Institute, Dept. AP-11, 1049 National Press Bldg., Washington 4, D.C.*

**Visqueen Polyethylene Film**

Gives specifications for *Visqueen* film as a water vapor barrier under slabs, in crawl spaces, on flooring, subflooring, warm side of walls, ceilings and concealed flashing. Also cov-

ered is the use of *Visqueen* film for protective enclosures in cold weather and as a concrete curing blanket. 8 pp. *Special Products, Visking Co., 6733 West 65th St., Chicago 88, Ill.\**

**Refrigerated Storage Installations**

Deals primarily with vapor barriers, insulations, and interior finishes and installation. The report is the result of an analysis of 44 installations in the U.S.A. \$2.00. *Printing and Publishing Office, National Academy of Sciences-National Research Council, 2101 Constitution Ave., Washington 25, D.C.*

**Miracle Thin-Set Adhesive**

A handbook covering all phases of the *Miracle Thin-Set* adhesive method of installing clay tile also includes illustrations and diagrams, complete details for application and a listing of suitable surfaces with special recommendations in connection with each. *Miracle Adhesives Corp., 250 Pettit Ave., Bellmore, L.I., N.Y.\**

**Thinlite Curtain Wall**

(A.I.A. 17-A) Presents one of the newest features of *Thinlite*: color-in-the-glass units in both clear and prismatic glass tile panels. Also shown are recent improvements to simplify erection and installation. *Owens-Illinois, Owens-Illinois Bldg., Toledo 1, Ohio\**

**Plaster and Concrete Bonding**

*Plaster-Weld—Bonding Agent For Plaster* (A.I.A. 21-F) and *Weld-Crete—For Concrete Bonding* explain and describe the unique features of these two Larsen products. Also included in both booklets is cost data and performance specifications. *Larsen Products Corp., Bethesda 14, Md.\**

**Dust Control Equipment**

*AAF Equipment for the Control of Dust* discusses the four main types of dust control products—dry centrifugals, wet collectors, fabric collectors and electrostatic precipitators, and explains and illustrates their capacities and specific applications. Bulletin No. 271. *American Air Filter of Canada, Ltd., 400 Stinson Blvd., Montreal 9, P.Q.*

\*Additional product information in *Sweet's Architectural File* more literature on page 266

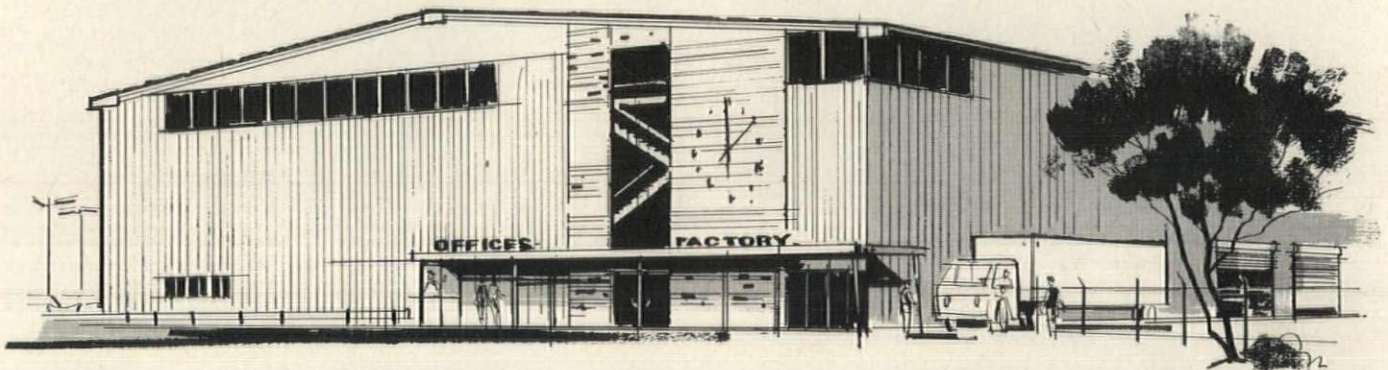
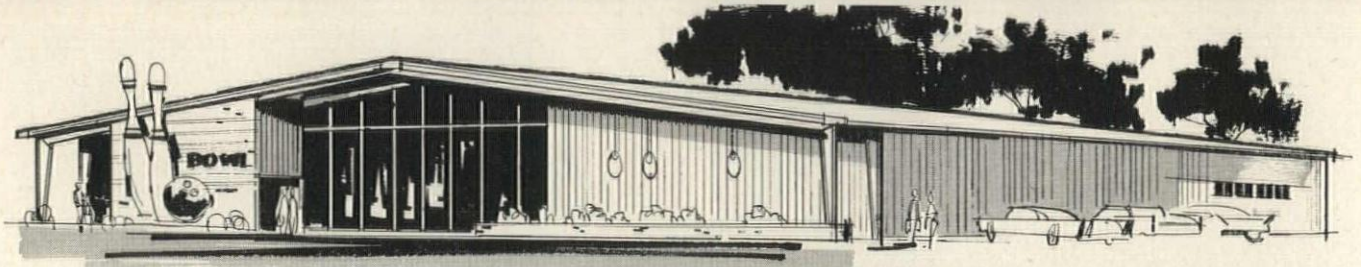


**CONCRETE CURTAIN WALLS**

(A.I.A. 4-K-1) presents color illustrations and brief descriptions of outstanding examples of concrete curtain walls. A full discussion of such design considerations as color, texture, patterns and panel shapes, and such practicalities as cost, availability, handling and attachment, insulation, maintenance and fire resistance, is followed by a portfolio of details showing the attachment methods used on a number of concrete curtain-walled buildings. 32 pp. *Portland Cement Assn., 33 W. Grand Ave., Chicago 10, Ill.*



# IDEAS



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New Widths and New Heights  
Offer Unparalleled Variety

To provide you with even greater flexibility in designing for both function and appearance, Armco Steel Buildings are offered in bigger, wider sizes. Now you can specify modular Armco Buildings in clear-span widths up to 120 feet in a choice of two framing systems and three roof slopes. In addition, wall heights up to 40 feet are now available—featuring the dramatic new Sculptured STEELOX® Wall Panel. These are only a few of the sweeping new features just introduced by Armco. Send for the complete story on all-new Armco Steel Buildings. Clip and use the handy coupon. Armco Drainage & Metal Products, Inc., 7000 Curtis Street, Middletown, Ohio.



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## ARMCO DRAINAGE & METAL PRODUCTS



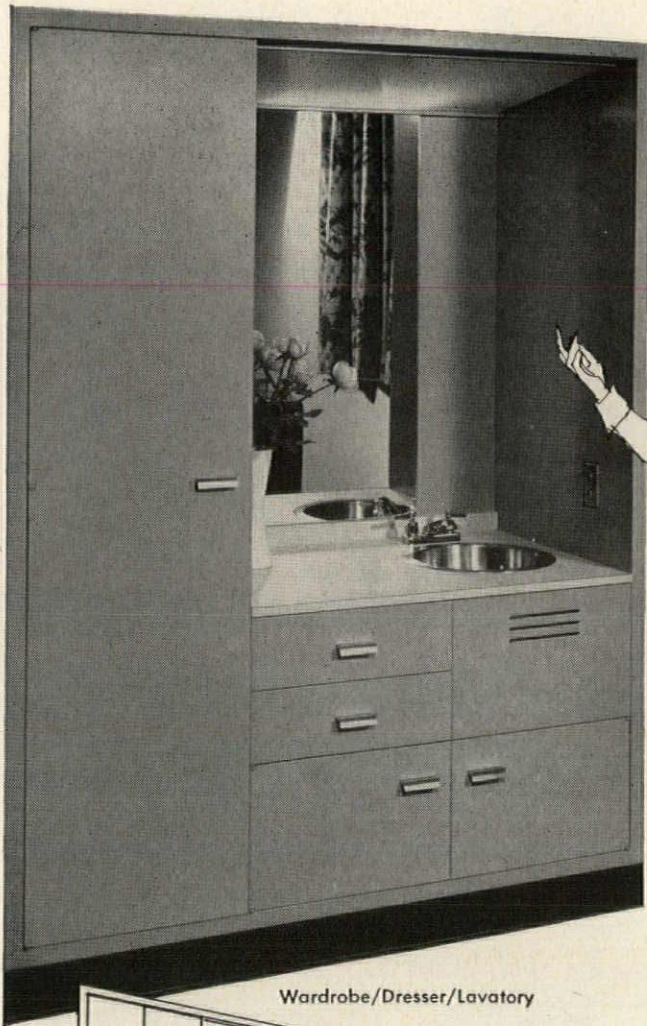
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New developments  
in patient care...

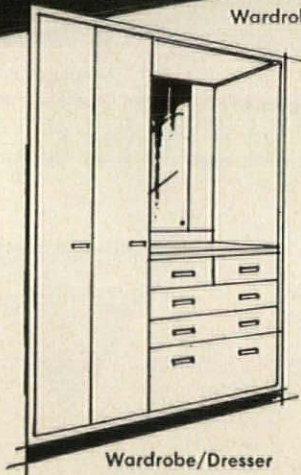
by *St. Charles*



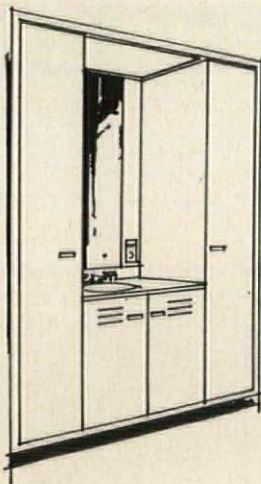
Wardrobe/Dresser/Lavatory



Medi-Serv Unit



Wardrobe/Dresser



Wardrobe/Lavatory



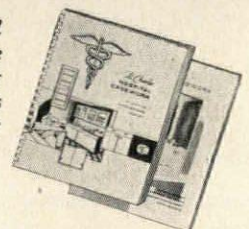
Nurses Station

**"Patient Line" Wardrobes.** Functionally designed to meet all storage, vanity and lavatory requirements. An attractive, efficient and economical solution to patient room storage and grooming convenience. Completely flexible . . . built-in or free-standing . . . meets varying patient room needs in new plans or alterations of existing buildings.

**Nurses Station.** Compact, space-saving "Medi-Serv" Unit includes sink, refrigerator and adequate storage for medicine preparation needs. Custom designed nurses desk includes nurses call unit.

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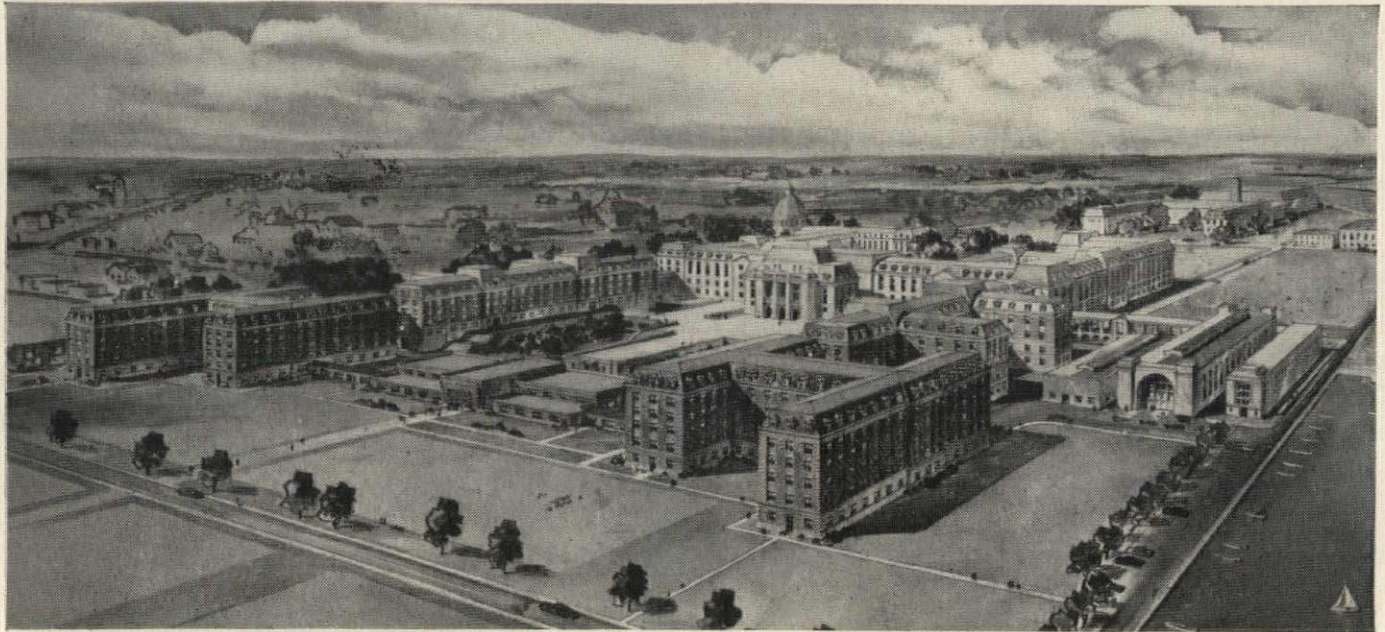
*St. Charles*



**Hospital Casework Systems**

St. Charles Mfg. Co., Dept. ARH-11, St. Charles, Ill.





Bancroft Hall  
U.S. Naval Academy, Annapolis, Md.

Architect: George M. Ewing, Philadelphia & Washington  
General Contractor: Baltimore Contractors, Inc., Baltimore

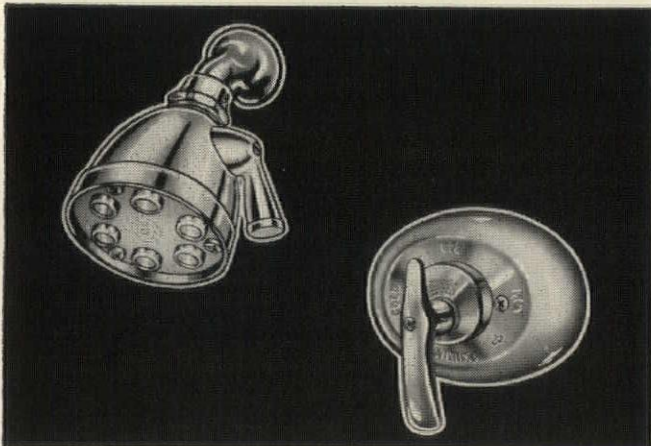
Mechanical Contractors: Pirone Co., Inc., Baltimore  
Jobber: Thos. Somerville Co., Annapolis

## **SPEAKMAN fittings serve men who serve us**

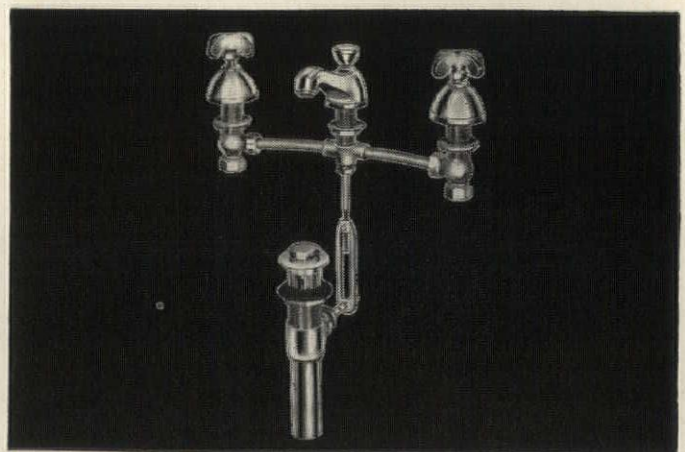
Service academies, like other schools and institutions, must have plumbing fixtures that can stand years of tough treatment. Little wonder, then, you'll find Speakman fixtures in the newest Naval Academy dormitory addition to famous Bancroft Hall. Comparison once again proved Speakman showers and fittings the top choice in every respect: appearance, durability and economy in installation and maintenance.

Built to the highest standards of quality in every detail, Speakman brass will give years of dependable, trouble-free service. Their reputation for long wear, outstanding design and low-cost maintenance has made Speakman showers and fittings the choice of hundreds of prominent architects, engineers and contractors—reason enough for you to investigate Speakman fittings for your next job.

S-1710-IS-TLS-2AF SPEAKMAN Built-In SENTINEL Shower  
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# MULTI-STORY OFFICE BUILDINGS: 3 design problems and 3 practical Gold Bond solutions

Architects and owners of multi-story office buildings know how hard it is to use floor space efficiently and still keep control of noise between offices. Here are three special Gold Bond Construction Systems that protect the tenant from noise next door and also increase usable office space with good fire protection. Save this ad for handy reference on your next multi-story job. Your Gold Bond® Representative can give you complete structural details. Or, write Dept. AR-1160 for free samples and literature.

NATIONAL GYPSUM COMPANY, BUFFALO 13, NEW YORK

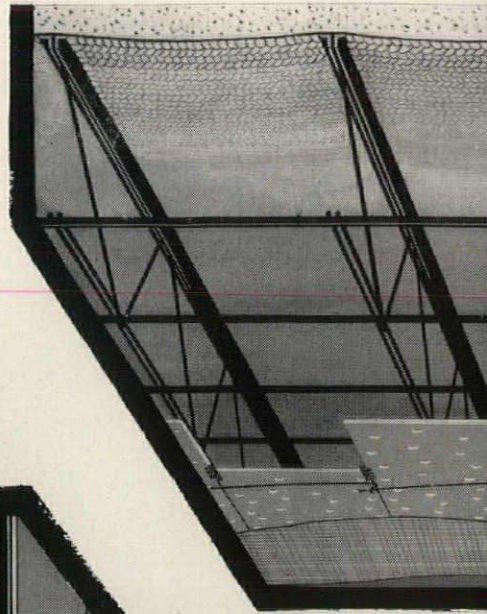
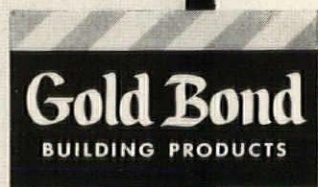
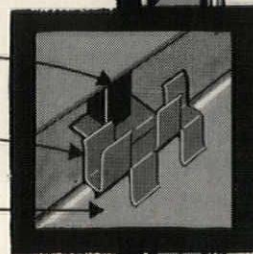
**PROBLEM:** NOISE BETWEEN OFFICES

**SOLUTION:** GOLD BOND HOLOSTUD  
PARTITION WITH RESILIENT CLIPS,  
LATH AND SANDED PLASTER

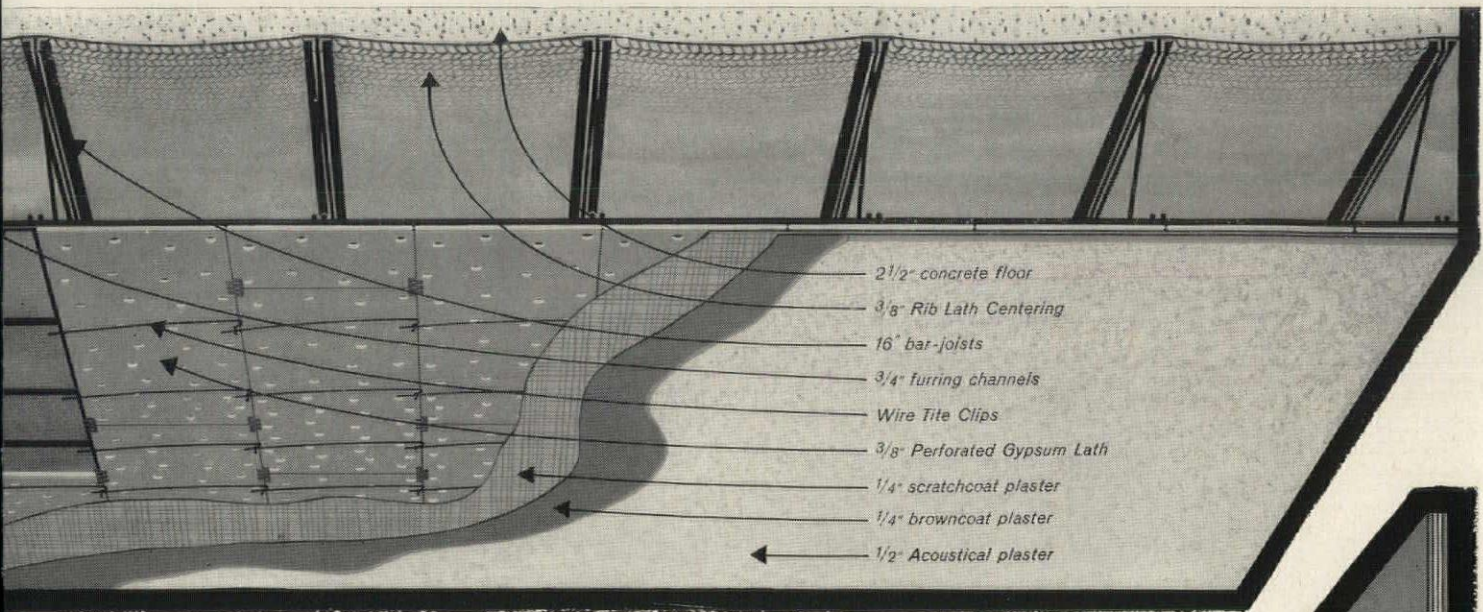


This non-load-bearing Holostud® Partition effectively isolates noise between offices. Gold Bond Resilient Clips hold the Gypsum Lath out from the Holostuds, reducing sound transmission and minimizing plaster cracking. Large open spaces in studs leave plenty of room for plumbing and other utilities. Recognized Laboratory Sound Transmission Loss Rating Average is 46 db. Fire rating one hour.

Gold Bond Holostud  
HS-5 Clip  
3/8" Gypsum Lath







**PROBLEM:** FIRE-PROOFING

**SOLUTION:** GOLD BOND WIRE-TITE CEILING, GYPSUM LATH, GYPSOLITE PLASTER AND ACOUSTICAL PLASTER

This unique Gold Bond Ceiling System combines acoustical treatment with an excellent fire rating (1 to 4 hr. fire endurance), all at low cost. Perforated Gypsum Lath is attached to furring channels with Gold Bond Wire-Tite Clips. Perlite basecoat plaster adds to fire resistance. Gold Bond Sprayolite Acoustical Plaster adds an NRC of .60. Structural system consists of bar-joists and concrete floor with Rib Lath Centering.

**PROBLEM:** INCREASE RENTABLE OFFICE SPACE

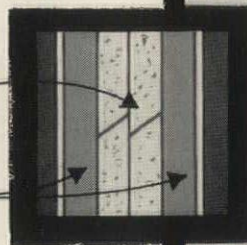
**SOLUTION:** GOLD BOND 2" SOLID LATH AND PLASTER PARTITION WITH 1" CORE



This space-saving partition system (only 2" thick) increases floor area by approximately 1 sq. ft. for every 4 lineal ft. of non-load-bearing partition compared to conventional construction. Structurally strong, it has a one-hour Fire Endurance Rating and adequate Sound Transmission Loss (approx. 37 db). No bracing is required up to 8 ft. This speeds erection and reduces in-place partition costs.

Gold Bond 1" patented interlocking gypsum lath core

Gold Bond 1/2" gypsum sanded plaster each side



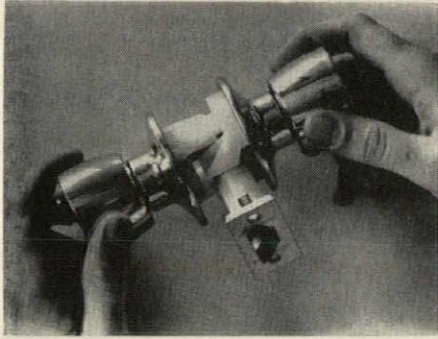


## Product Reports

continued from page 207

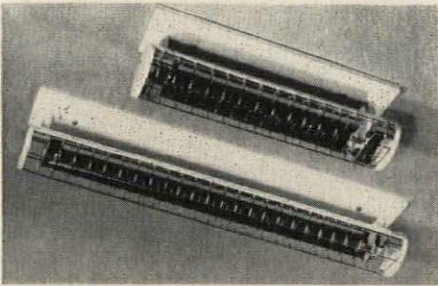
### Granite-Epoxy Resin Panels

*Granilite*, a new building material, has been developed by a process which utilizes granite aggregate permanently embedded in epoxy resin. The panels are stronger and lighter than natural granite panels, less expensive, and can be used for interior and exterior panels, floors and decorative areas. *Granite Research Industries, Inc., Somerville, Mass.*



### Locksets with Nylon Mechanism

Locksets using *Zytel* nylon resin for all major internal parts provide functional advantages unobtainable in all-metal locksets: quiet operation, no lubrication, resistance to impact distortion, and automatic compensation for door shrinkage. The internal mechanism is designed to withstand rust and climatic change, give longer service and eliminate electrolytic corrosion. The lockset can be quickly and easily installed. *E. I. DuPont de Nemours & Co., Wilmington, Del.*



### Compact Infra-Red Heater

*Infra-Mite*, a compact unit heater for zone-controlled spot heating indoors or out, uses a high energy infra-red emitter to give almost instantaneous heating concentrated on specific areas. Safe, economical and highly efficient, it comes in ten models and three sizes (19½, 33 and 39 in.) with semi-parabolic reflectors and special end reflectors to assure optimum coverage. Ceiling and wall-mounted units, and a portable wall-hanging type with cord, are available in wattages from 500 to 2000, UL-approved. *Apextro Products Co., Div.*

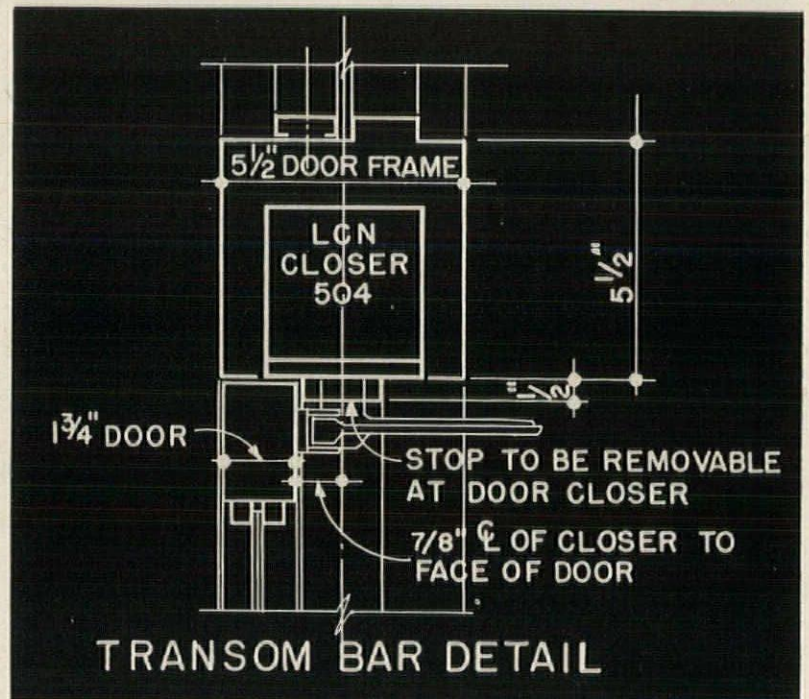
*Apex Sheet Metal Works, Inc., 1821 N. Eastlake Ave., Los Angeles 31, Calif.*

### High Strength Sub-Purlins

Bulb tee sub-purlins produced from high-strength prime billet steel (ASTM A-440) rather than rail steel or its equivalent are expected to offer a number of extra advantages at no increase in price. The A-440 grade steel has low carbon content for good weldability; high manganese content for high strength and

ductility; and copper content for minimum corrosion. More important, its higher design stress (27,000 psi) will enable designers to specify lighter weight, lower cost sections at no sacrifice of strength or reliability. Additional savings in mill and shipping costs are provided by the new weight-saving contour of the Connors C-158 HS bulb tee sections. *Advertising Dept., Connors Steel Div., H. K. Porter Co., Inc., P. O. Box 2562, Birmingham, Ala.*

more products on page 218



## CONSTRUCTION DETAILS

for LCN Overhead Concealed Door Closer Installation  
Shown on Opposite Page

*The LCN Series 500 Closer's Main Points:*

1. Efficient, full rack-and-pinion, two-speed control of the door
2. Mechanism entirely concealed; arm visible on inside of an out-swinging door
3. Hydraulic back-check prevents door's being thrown open violently to damage door, walls, etc.
4. Double lever arm provides maximum power to overcome wind and drafts
5. Arm may be hold-open type, 90°—140° or 140°—180°

Complete Catalog on Request—No Obligation  
or See *Sweet's 1960, Sec. 18e/La*

LCN CLOSERS, INC., PRINCETON, ILLINOIS



Walter Scholer and Associates, Architects

Modern Door Control by *LCN* • Closers Concealed in Head Frame

LIFE SCIENCE BUILDING, PURDUE UNIVERSITY, LAFAYETTE, INDIANA

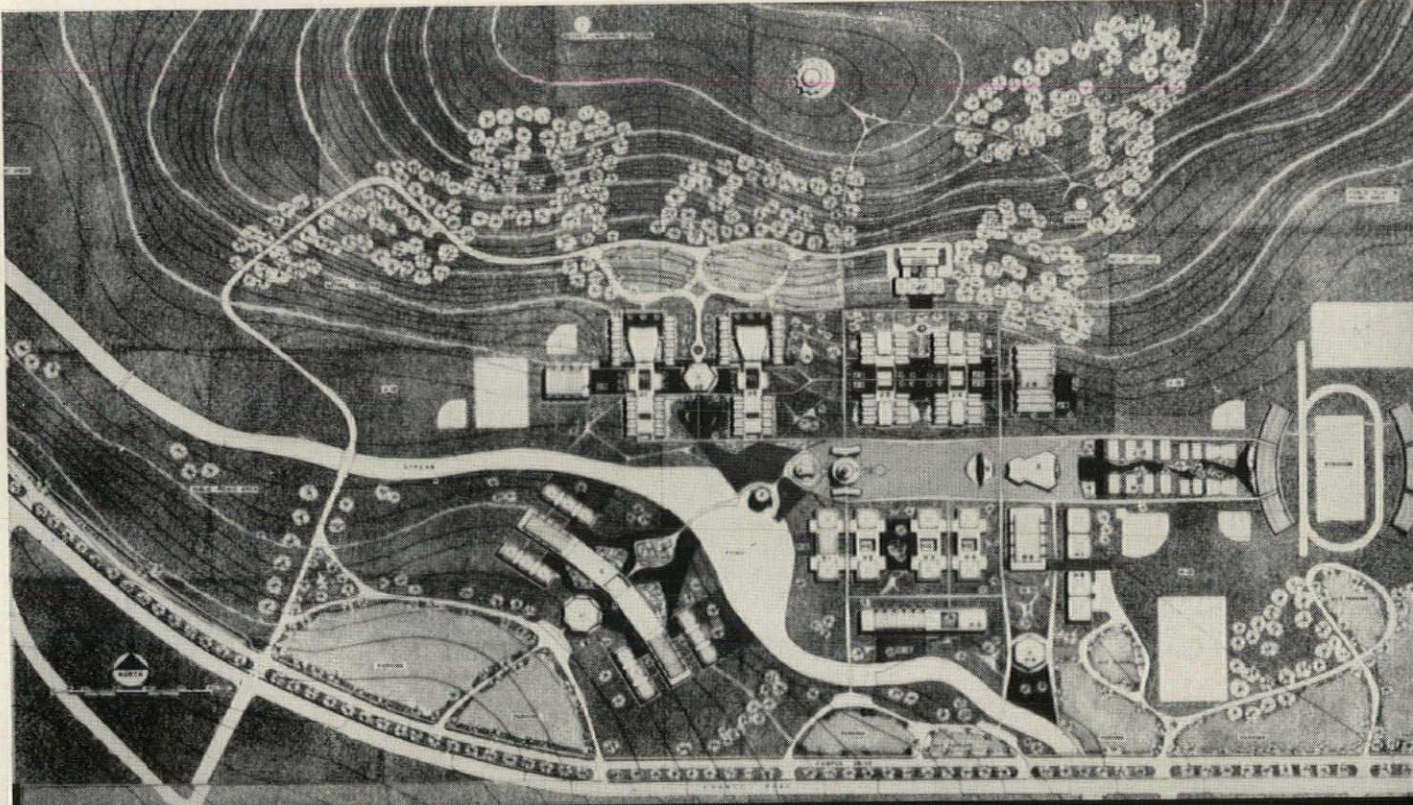
LCN CLOSERS, INC., PRINCETON, ILLINOIS

Construction Details on Opposite Page



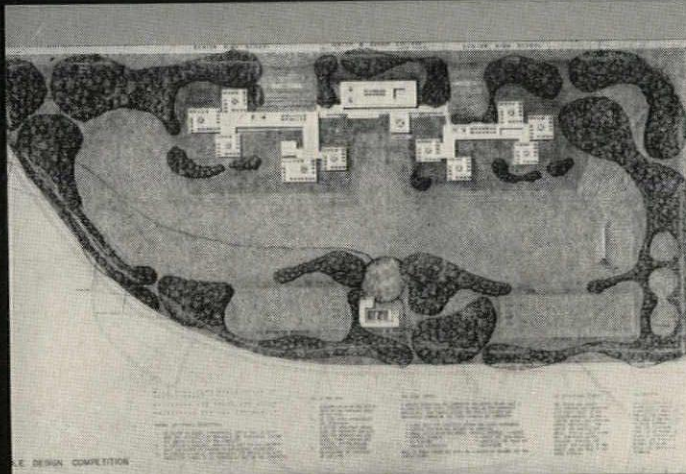


# 1960 AWARD



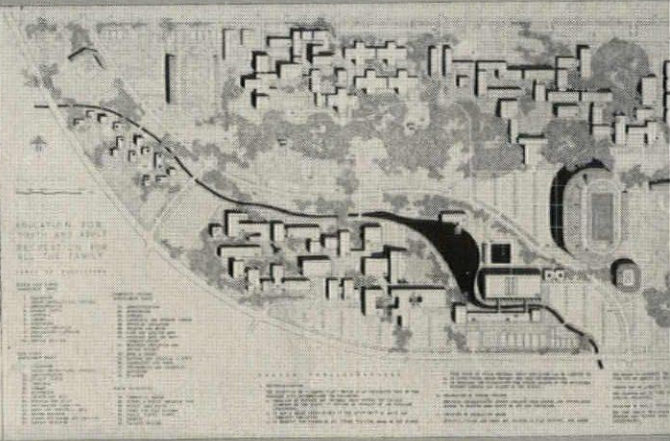
## GRAND PRIZE

Edward Colbert, A.I.A. and Alfred J. Petrilli. — "The main feature was the total plan, with center of plant revolving around the information center. Most impressive."



## 2nd prize

Edwin F. Harris, Jr. — "The accent is on planning, with Junior High School, High School and the College planned on one very large space module."



## 3rd prize

Marvin Hatami. — "It is one of the best decentralized plans; for instance, the Junior High School itself is ten or so buildings. A well-integrated job."



# WINNERS

*Second Annual Design Competition*

**The RUBEROID Co. • MASTIC TILE DIVISION**

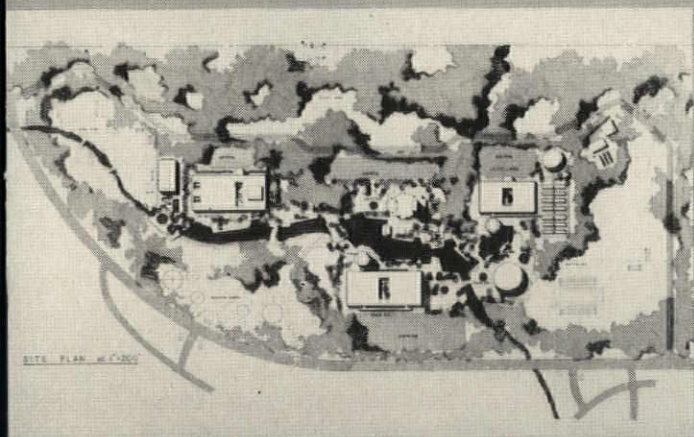
*to stimulate a major contribution to*

**More Effective Utilization of School Plant**

- Education for youth and adult
- Recreation for all the family

"This program not only serves to stimulate interest of those in the architectural profession primarily concerned with the designing of educational plants but, perhaps more importantly, centers the attention of the non-architectural layman upon educational changes and problems and helps him to realize more clearly his responsibility to collaborate wisely with his fellow citizens in solving the problems to which these changes give rise."

*...from comments by the Jury*



**STUDENT  
DIVISION**

**1st prize**

John Scarlata, Pratt Institute. — "The design was particularly liked for the development along the water's edge, and related the community and educational facilities very well."



**The RUBEROID Co. • MASTIC TILE DIVISION**

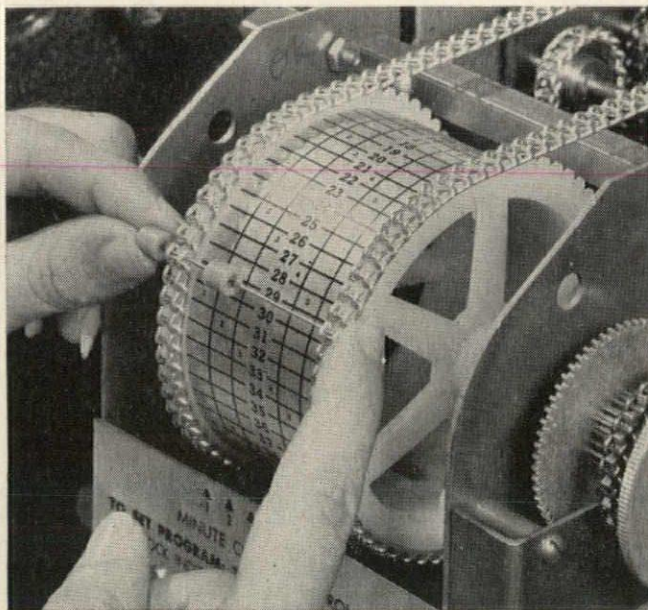
Vinyl Tile • Vinyl-Asbestos Tile • Asphalt Tile

*RUBEROID: Superior Building Products for Better Building*



# HOW TO

## SET A SIGNAL PROGRAM SCHEDULE



### THE EASY WAY WITH A **Cincinnati** CLOCK AND PROGRAM SYSTEM

Push a roller on a pin—Your signal is set. It's that simple with a Cincinnati System! Anyone can set a signal program schedule in minutes. No tools are required. And, pins and rollers are re-usable.

Contrast this simple procedure with any other system.

You'll also find features like wall or flush mounting and the exclusive swing-out construction make a Cincinnati System simple to install and maintain. There's also an automatic 12 hour reset correction and spring reserve to help overcome power failure and assure continuous, accurate signal and clock operation.

Get the complete story by contacting your nearby Cincinnati representative; or, send for your free copy of the "Time Systems Handbook" covering "Clock and Program" and "Fire Alarm" systems.

**IF IT'S ABOUT TIME . . . CALL FOR . . .**



**THE Cincinnati TIME RECORDER CO.**  
1740 Central Avenue  
CINCINNATI 14, OHIO  
SINCE 1896

Gentlemen:

Without charge or obligation, please send my new "Time Systems Handbook."—A basic guide to clock and program systems.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

Organization \_\_\_\_\_ Position \_\_\_\_\_

## Product Reports

### "3-D" Colored Glass Tile

The American distributor of the thick stained glass designed and executed by Gabriel Loire of Chartres, France, is now offering a thick, colored glass relief tile at less than \$10 a sq ft. Each tile, except for a standard  $\frac{9}{16}$ -in. border that allows it to be set in a metal frame, is completely hand-molded. Each is different, though the maximum difference in thickness between high and low points in the relief is held to  $\frac{1}{4}$  in. The tiles' "three-dimensional" appearance is produced by the lines in the design; by differences in thickness which give differences in color values; by air bubbles left in the glass during melting; and by varying refractions of light. Each measures  $9\frac{13}{16}$  in. square by  $1\frac{3}{16}$  in. thick. *Loire Imports, Inc., 150 East 35th St., New York 16, N. Y.*



### Space-Saving Water Cooler

General Electric's new shape in water coolers saves space by permitting drinking from the sides as well as the front; thus preventing drinkers' blocking aisles. The wall and floor units now available also mount flush to the wall, eliminating at least six inches of plumbing space behind the unit and keeping all plumbing components hidden from view. A carafe-filler for restaurant and cafeteria use, and a hot water accessory are available; and the standard gray cabinet finish may be replaced with stainless steel as an optional extra. *Marketing Services, Commercial Equipment Dept., General Electric Co., 14th & Arnold Sts., Chicago Heights, Ill.*

*more products on page 229*



# IMPORTANT

# ANNOUNCEMENT

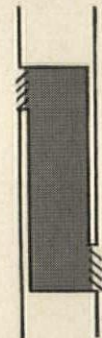
## to people who hear voices\*



\*voices that intrude or disrupt and noises that project when they should be hushed.

## The new Aircoustat<sup>®</sup> Model W Return Air-Vent Silencers stop the transmission of noise without blocking air flow

Aircoustat Return Air-Vent Silencers eliminate the distracting sound of voices that spill from one area to another. Their slim design gives you a choice of installation. You can install them within a wall or ceiling or hang them on doors or walls. Let Koppers long experience in sound control help you. Write today for information to: KOPPERS COMPANY, INC., 3011 Scott Street, Baltimore 3, Maryland.



Model W  
Return Air-  
Vent Silencer

### In sizes for all applications:

Model	Thickness	Width	Length
W-1	3½"	30"	48"
W-2	3½"	42"	48"
W-3	5"	30"	48"
W-4	5"	42"	48"
W-5	7"	30"	48"
W-6	7"	42"	48"




**SOUND CONTROL**  
METAL PRODUCTS DIVISION  
® Engineered Products Sold with Service



**NEWS from Dow Corning**

---



# SILANE

keeps brick

*Specify Silaneal protection when you specify brick.  
Now available from many leading brick manufacturers.*

For list of suppliers and more information, write





**SILANEAL<sup>®</sup>**

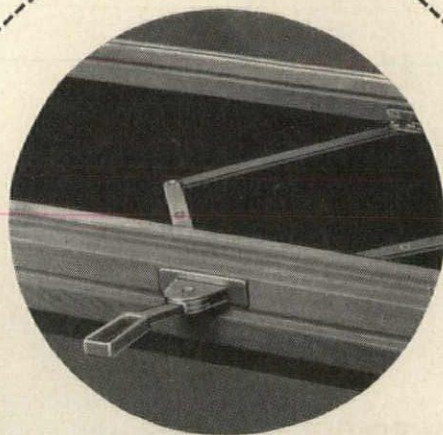
clean

NOTE: There are several brick manufacturers who produce brick having low suction which already perform similar to a Silaneal treated brick. Little improvement in efflorescence control and reduction in dirt pickup could be accomplished by treating this type of brick with Silaneal.

Dept. 0811 Dow Corning Corporation, Midland, Michigan



another first from **Bilt-Well**  
by **Caradco**



### The Original Lever Operated Awning Window

One easy motion of unique  
BILT-WELL lever operator opens  
and closes sash. Positive locking,  
trouble-free operation, minimum  
interior projection.

## Bilt-Well Awning Windows

...with removable sash and lever operators

Full opening for easy cleaning and maximum ventilation. Sash is completely removable to facilitate installation and maintenance. Unit also available with rigid bar, jointed bar, gear operator or locking handles.

**The BILT-WELL Line of Building Woodwork—**  
WINDOW UNITS, Double-hung, Awning,  
Casement, Basement. CABINETS, Kitchen,  
Multiple-use, Wardrobe, Storage, Vanity-  
Lavatory. DOORS, Exterior, Interior,  
Screen and Combination.

Manufactured by  
**CARADCO, INC.**  
Dubuque, Iowa

#### Check these other outstanding BILT-WELL Features:

1. Same basic window can be used as awning, hopper, casement or fixed unit.
2. Brass or nylon bearings at all moving joints.
3. Hinge is fully concealed making unit prowler-proof.
4. Easily removed wood bead (patented) for simple reglazing.
5. New gold-tone finish on operators.
6. Surpasses F.H.A. minimum property requirements.

For ultimate design flexibility specify **BILT + WELL**  
**WOOD + WORK** by Caradco



## Specify the BILT-WELL Line by CARADCO



### Super double-hung windows



#### Super-hold

with ingenious sash-holding device for budget homes.



#### Super-lift

with fingertip operation for medium priced homes.



#### Super-therm

with double insulating glass for custom built homes.

### Casement Windows



Sleek, trim, double-weather-stripped casements with concealed hinges and hardware. Unitized sill permits side-by-side installation in long ribbons.

### Awning Windows



New releasable hinge permits removal of sash for easy cleaning. Lever, jointed bar, rigid bar or gear operator available. Use these windows as casements, awning, hopper or fixed sash.

### Kitchen Cabinets



Beautiful, streamlined cabinets of Ponderosa Pine with pine or birch doors and drawer fronts. Cabinets come in 3" modules to fit any size kitchen. Wide choice of accessories.

### Storage Walls



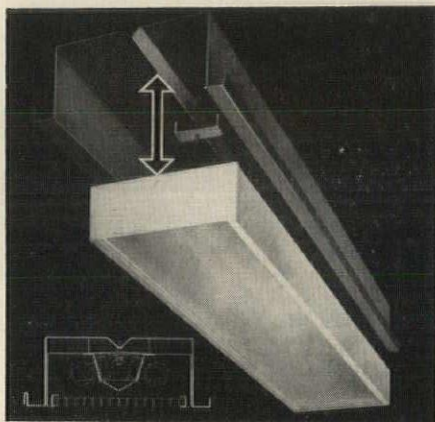
Economical and practical arrangements of door and drawer units form complete storage walls. Easy to install in out-of-the-way corners for additional storage, too.

## BILT-WELL Products

by CARADCO, INC.

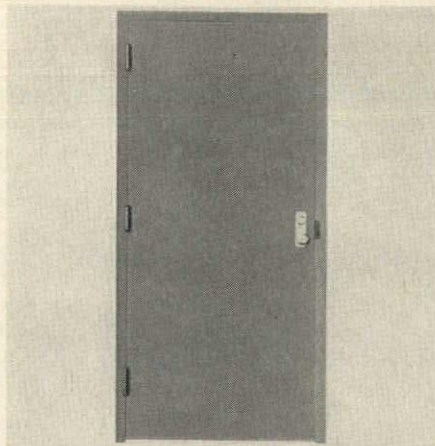
Dubuque, Iowa

## Product Reports



### Fluorescent Troffer for Roof Decks

When combined with steel roof deck, a new fluorescent troffer provides an economical flush ceiling-lighting system whose appearance can be enhanced by closing off adjacent deck cells with acoustical material. The UL-approved steel troffers come wired complete, ready to go in; are simply installed and easily maintained. A wide choice of diffusers facilitates selection of an appropriate troffer for most applications. *Lighting Products, Inc., Highland Park, Ill.*



### Full-Flush Fire-Door

*Steelcraft's* full-flush fire-door successfully demonstrates its ability to hold back flames for more than the three-hour period required by Fire Underwriters for "Class A" fire-door. Safety is assured by the ruggedness and fire resistance of steel and a new type of asbestos cellular insulating core material. Another feature is a flush design with no exposed joints which can be used with any type of underwriters' laboratory approved hardware, including single point hardware. *Steelcraft Mfg. Co., 9017 Blue Ash Rd., Cincinnati 42, Ohio.*

more products on page 236



SPECIFY

**Rauland**

the very finest in

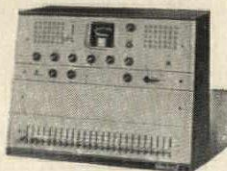
## Central Control Sound Systems

for:

SCHOOLS  
INSTITUTIONS  
INDUSTRY



designed  
to stay modern  
for years



your choice of every desirable  
modern feature & program facility

RAULAND Central Control Sound Systems are available to fit your exact sound distribution needs. Available features include:

**FM-AM Radio**—selects any radio program on FM or AM for distribution to any or to all locations as desired

**Phonograph**—distributes phono program (transcription player or record changer); also available for use with tape recorder

**Microphone Origination**—selects and distributes sound from multiple microphone locations

**Intercom**—permits 2-way conversation with any or all locations (up to a total of 220 locations or rooms)

**Special**—Emergency Switch; all-call; signal clock provision; telephone intercom; remote control, etc.

RAULAND SYSTEMS are available to meet all your sound distribution needs. Send for FREE catalog and detailed specification sheets.

WRITE TODAY

**Rauland**

RAULAND-BORG CORPORATION  
3535-R Addison Ave., Chicago 18, Ill.

Send full details on all RAULAND Central Control Sound Systems

Name \_\_\_\_\_

Firm \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_



**Glass makes a grand entrance**—Doors should be more than just openings. They should be a better way of doing business. PPG doors are like that. They complement the inviting window wall look of modern commercial architecture.

PPG offers you three styles of entrances specially designed to fit into any type of architecture. There are PPG HERCULITE<sup>®</sup>, West and TUBELITE<sup>®</sup> doors—each with a smart, distinctive look, each with the rugged strength that is the trademark of Pittsburgh doormanship.

PITTCOMATIC<sup>®</sup>. All Pittsburgh doors can be mat or handle operated by the PITTCOMATIC automatic door opener—a simple, hydraulic, motor-driven unit. PITTCOMATIC is easy to install, easy to maintain. Its instant response and smooth, gentle action make it the nation's number one buy in automatic door openers.

For complete information on Pittsburgh Doors, see Sweet's 16a, 16d or write for our Pittsburgh Door catalogs today. Pittsburgh Plate Glass Company, Room 0207, 632 Fort Duquesne Blvd., Pittsburgh 22, Pennsylvania.



**Pittsburgh Plate Glass Company**

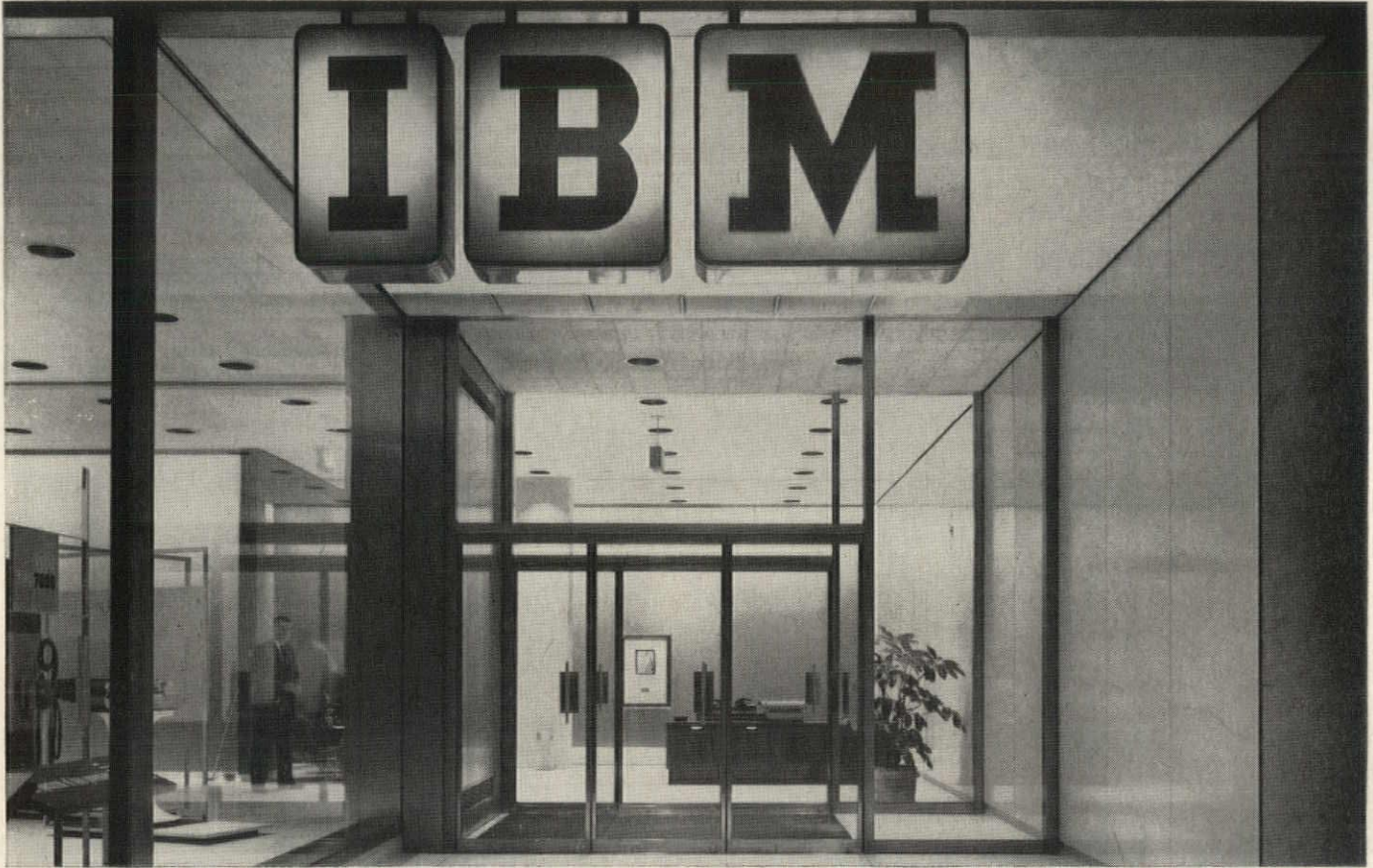
*Paints • Glass • Chemicals • Fiber Glass In Canada: Canadian Pittsburgh Industries Limited*



**TUBELITE DOORS** installed in a PPG Open-Vision front—Harris' Super Market, Waycross, Georgia. PPG's heavy-duty, high-traffic Tubelite entrances have concealed channel type anchors which keep frame seams to a hair line. Door frames have an exclusive interlocking feature that insures rigidity. For shopper convenience, doors are mat operated by PPG's Pittcomatic automatic door opener. Contractor: Business, Inc., Waycross, Georgia.



**WEST TENSION DOORS** add style and beauty to the entrance of the I.B.M. Corporation Office Building, Chicago, Ill. Narrow stiles of West doors give that pencil line look without sacrificing strength. Their  $\frac{1}{2}$ " thick glass held under compression in the metal frame makes a completely solid unit that won't sag or rack. Architects: Eliot Noyes & Associates, New Canaan, Conn. Associate Architects: McClurg, Shoemaker & McClurg, Chicago, Ill. Glazed by Cadillac Glass Company, Chicago, Ill. Contractor: B. W. Handler Construction Company, Chicago, Ill.



**HERCULITE DOORS** set in bronze Herculite door frame assemblies and sidelights—First National Bank of Topeka, Topeka, Kansas. Herculite tempered plate glass doors will last a building's lifetime without maintenance. These doors are handle operated by Pittcomatic—PPG's exclusive automatic door opener. Architects: Kiene & Bradley, Topeka, Kansas. Contractor: M. W. Watson, Topeka, Kansas.





## Von Duprin 66

**"the safe way out"  
in stainless steel**

- Stainless steel . . . slim silhouette  
. . . sure safe operation.

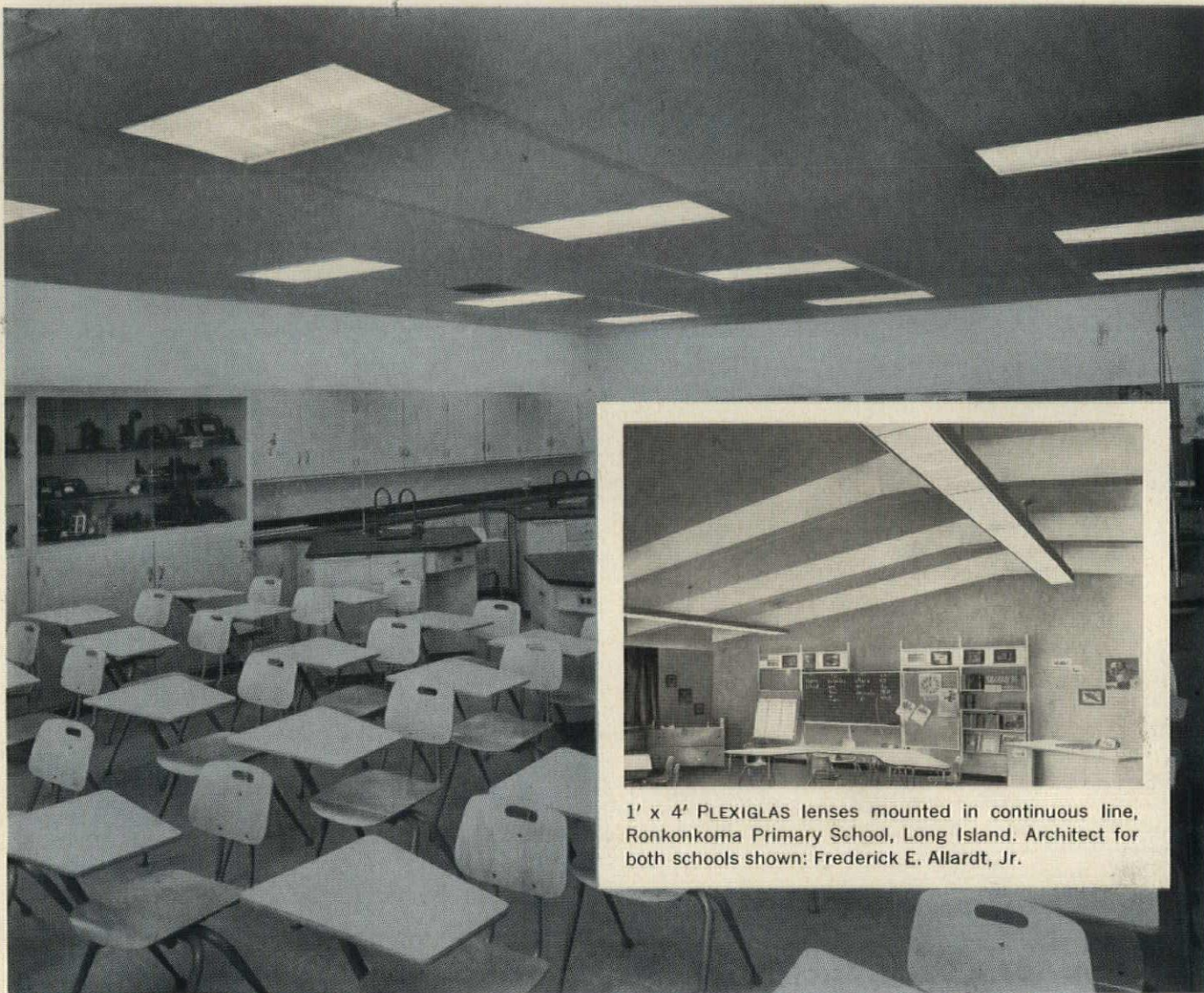
They're all yours in the Von Duprin 66, the exit device that introduced the industry to the practical beauty of stainless steel.

Available in rim, mortise lock and vertical rod models (in bronze as well as stainless steel) with a smart new series of matching outside trims.

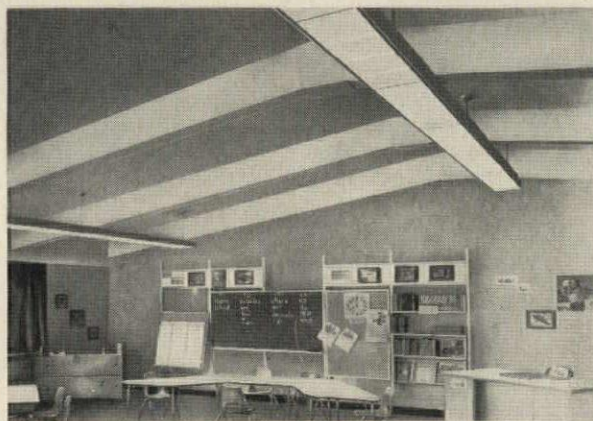
Write for your copy of Bulletin 581 . . . full details on construction, function and accessory items.

VONNEGUT HARDWARE CO. • VON DUPRIN DIVISION  
402 W. MARYLAND ST. • INDIANAPOLIS 25, INDIANA





2' x 2' PLEXIGLAS lenses mounted in pairs, Southampton High School, Long Island.



1' x 4' PLEXIGLAS lenses mounted in continuous line, Ronkonkoma Primary School, Long Island. Architect for both schools shown: Frederick E. Allardt, Jr.

# PLEXIGLAS

for lighting that stands out and stands up

When lighting equipment includes control lenses molded of PLEXIGLAS® acrylic plastic, the result is illumination of the highest quality—because PLEXIGLAS is:

- molded accurately to the lens pattern, to produce a precisely designed optical element which achieves functional quality illumination. With lenses of the types shown in the installations above, light rays are "bent", providing complete freedom from glare at any normal viewing angle.
- impervious to discoloration from years of exposure to fluorescent light.
- strong and rigid yet light in weight, resulting in safety overhead and ease of maintenance.
- crystal clear, assuring full utilization of light with complete visual comfort.

Full details on PLEXIGLAS as a lighting material are contained in our new technical bulletin, "PLEXIGLAS for Lighting". We will be glad to send you a copy.



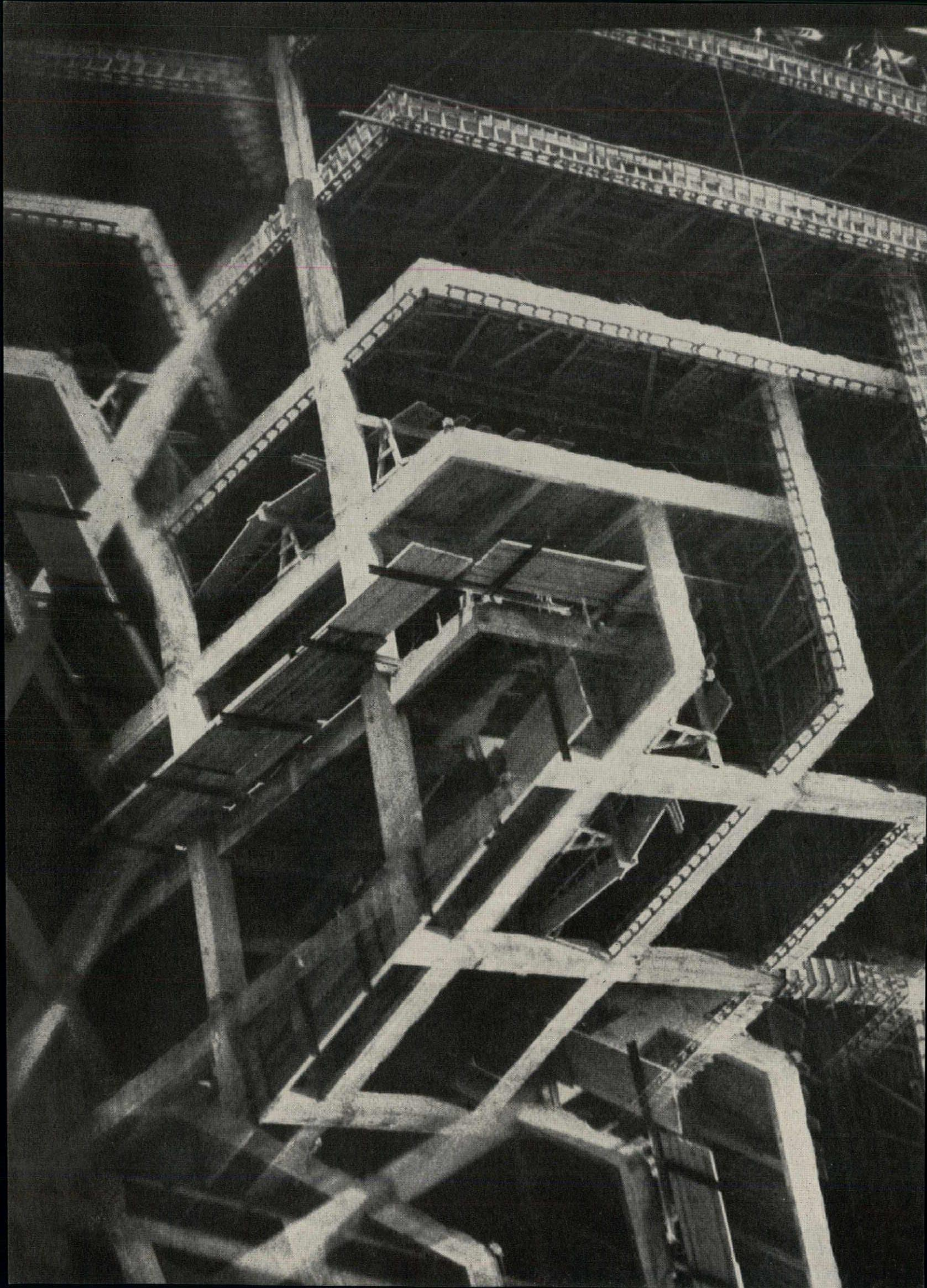
*Chemicals for Industry*

**ROHM & HAAS  
COMPANY**

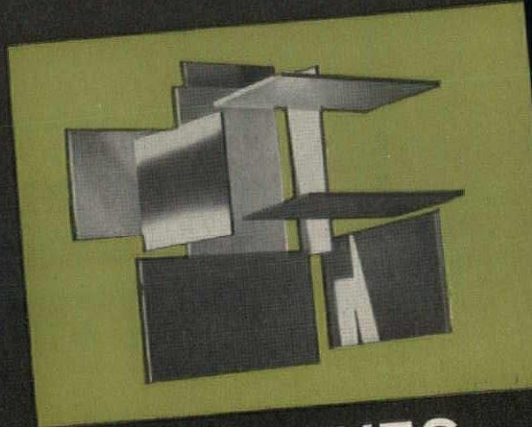
WASHINGTON SQUARE, PHILADELPHIA 5, PA.

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









## NEW PERSPECTIVES *with gypsum drywall systems*

## PLAN WITH NEW FREEDOM... BUILD WITH NEW CONTROL

*with five new partition, wall,  
and ceiling systems by U.S.G.*

Now you can approach the industrial, institutional, and commercial building fields with "new perspectives," as U.S.G.'s new gypsum drywall systems *unite freedom with control*: freedom for imagination in planning, greater control of cost and performance! In these new systems, used individually or jointly, you'll find *everything you want in design*: flexibility in application, new concepts in space and weight, mobility and permanency, plus adaptability to even your most dramatic decorative idea. And you'll find *everything you and your clients want in performance*: structural durability, lasting beauty, high resistance to sound and fire, plus outstanding economy in material cost and construction time. To find out how you can apply U.S.G.'s "new perspectives" to your planning, call your local gypsum drywall contractor, your U.S.G. sales representative, or write United States Gypsum, Dept. AR-08, 300 W. Adams St., Chicago 6, IL.



## UNITED STATES GYPSUM

*the greatest name in building*

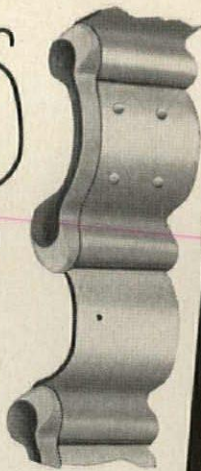
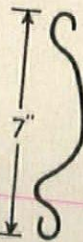
Photography: Arthur S



# now

## MAHON ADDS A NEW DIMENSION TO ROLLING STEEL DOORS

...7-INCH WIDE  
SLATS FOR  
HEAVY-DUTY USE



Newest addition to the family of Rolling Doors from Mahon is a curtain design that fills a real need in many door applications. It uses 7-inch-wide interlocking slats of heavy (16- or 14-gage) Bonderized steel to provide *extra-long life in hard and constant usage*. These new Mahon Rolling Steel Doors have been proven-in-use to be economically and functionally ideal for industrial plants, railroad, truck and maritime warehouses and similar installations, particularly involving extra-wide door openings. Shown: Four of the new Mahon Doors—these are 48' 5" x 15' 6" sizes. Write for information.

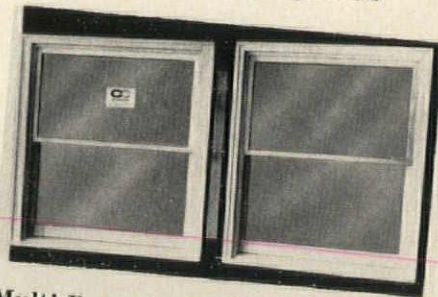
MAHON BUILDS A COMPLETE LINE OF ROLLING DOORS IN GALVANIZED OR STAINLESS STEEL, ALUMINUM OR BRONZE—MANUALLY, MECHANICALLY OR POWER-OPERATED MODELS IN STANDARD, UNDERWRITERS' LABELED, OR SPECIAL TYPES.  
**SEND FOR CATALOG G-60 OR SEE SWEET'S FILES**

**THE R. C. MAHON COMPANY** Detroit 34, Michigan

MANUFACTURING PLANTS—Detroit, Michigan and Torrance, California  
SALES-ENGINEERING OFFICES—Detroit, New York, Chicago, San Francisco and Torrance.  
Representatives in all principal cities.

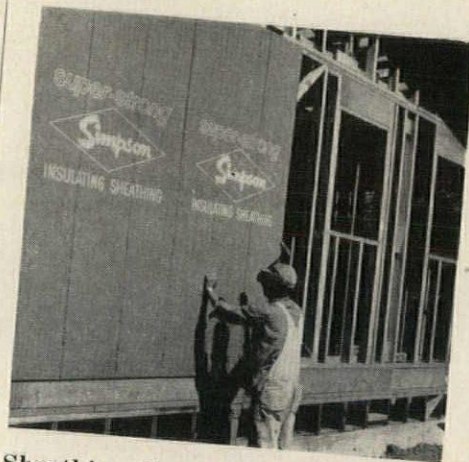
# MAHON

## Product Reports



### Multi-Purpose Windows

A new multi-purpose window line fits modular construction panels without extra 2 by 4's and without extra labor for special cutting, fitting or bracing. Because the 3-in. casings come flush with the outer edges of 4-ft modular panels, finishing of the panel from its edge to the outside of the casing is no longer necessary. Adjacent windowed panels butt together, eliminating the need for finishing between windows. The new windows come in modular sizes in double-hung, sliding, fixed sash, casement, awning and hopper styles. *Curtis Companies Inc., Clinton, Iowa*

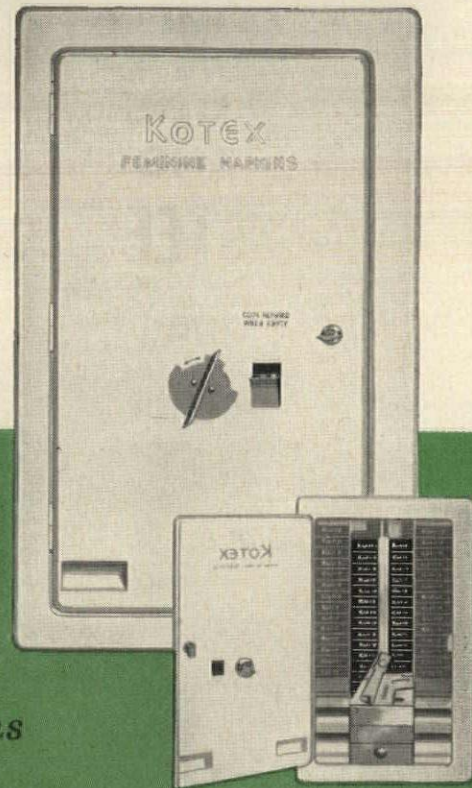


### Sheathing Sans Corner Bracing

*Super-strong* sheathing, a high-strength wood fiber board integrally treated with asphalt, cuts costs by enabling builders to eliminate corner bracing. The light-weight, easy to handle sheets come in 4 by 8- and 4 by 9-ft sizes and 1/2-in. thickness; can be quickly applied without building paper; and permit direct nailing of wood and asbestos shingles with annular ring nails of specified size. They also have high insulation value and high resistance to wind infiltration, and are pre-treated against termites, rot and mildew. *Simpson Logging Co., 2041 Washington Bldg., Seattle 1, Wash.*

more products on page 240





*The ultimate in built-in convenience...*

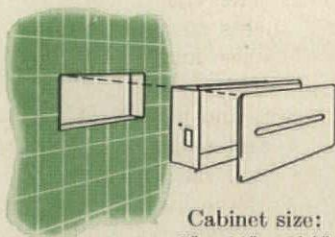
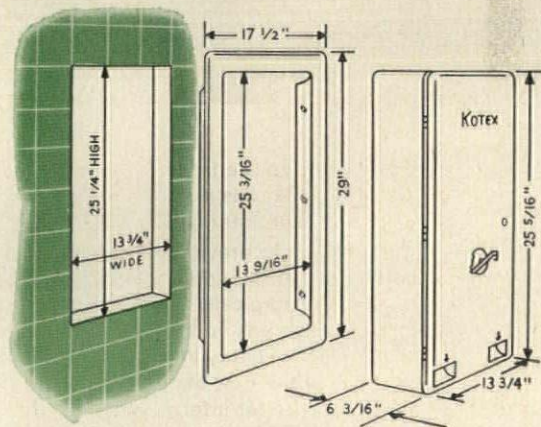
## RECESSED VENDORS

for **KOTEX** *feminine napkins*

**T**O KEEP PACE with the latest architectural designs, Kimberly-Clark has styled a brand new recessed dispenser for Kotex feminine napkins for rest room use in schools, offices, stores; industrial and public buildings. This unobtrusive, built-in vendor holds 63 individually boxed napkins. 33 vend from a single loading, 30 are held in storage.

These streamlined, sturdy, pilfer-proof vendors add a much appreciated service to any public building. They are available with either a five-cent or ten-cent coin mechanism.

Available in durable white enamel, satin chrome, gleaming polished chrome and stainless steel. Matching frame for recessed installation. (Other vendors that can be surface mounted are also available.)



Cabinet size:  
5" x 11" x 2 1/16"



## RECESSED DISPENSERS FOR KLEENEX TISSUES

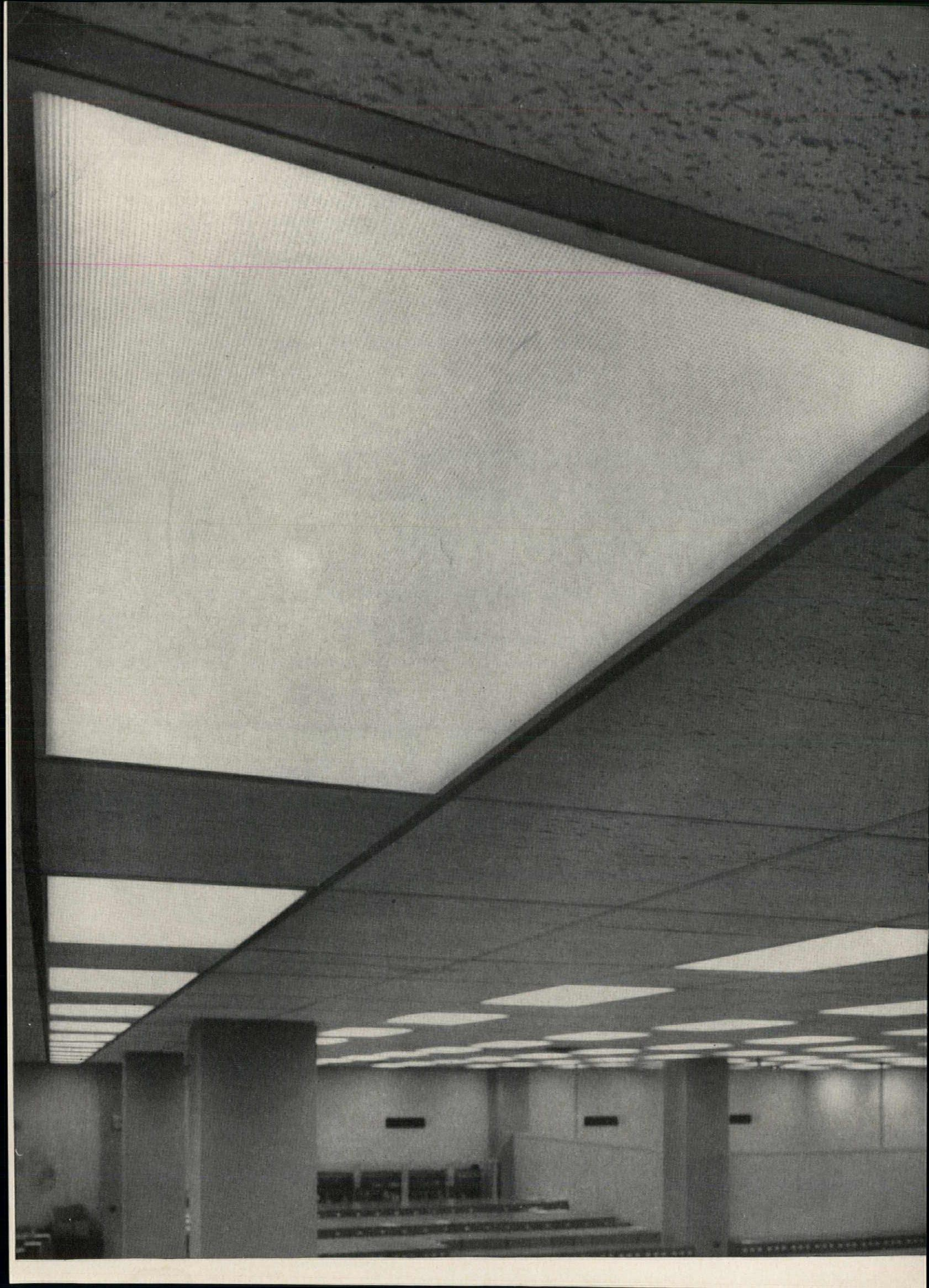
Holds full box of Kleenex 200's. Dispenses one tissue at a time. Mirror-chrome finish. Holes in back and side make it easy to fasten to studding.

For further details on how these attractive new dispensers can fit into your plans, see Sweet's 1960 Architectural File Cat., Section 19a/Ki. or write to Kimberly-Clark Corp., Dept. AR-110, Neenah, Wisconsin.

KOTEX and KLEENEX are trademarks of KIMBERLY-CLARK CORPORATION

**KIMBERLY-CLARK CORPORATION** NEENAH, WISCONSIN







# “Extensive testing proved that we should specify prismatic shields cast from Du Pont MONOCITE\* by The Polycast Corporation”

Says Gunnar Anderson, Manager of Newark's beautiful new Mutual Benefit Life Insurance Building: "Achieving the finest and most efficient lighting system possible was so important to the architects, design engineers and electrical contractors that a special 'mock-up' room was created. All types, shapes and makes of lighting designs were installed and carefully analyzed. The unanimous selection was to use acrylic prismatic shields\*\* made from Du Pont MONOCITE and cast by The Polycast Corp. of Stamford, Conn.

"We've had absolutely no problems with any of the more than 3,500 fixtures made from cast acrylic sheet since they were installed in 1957. And we don't anticipate any for a long, long time. These fixtures provide us with virtually glare-proof lighting—soft illumination that gives maximum efficiency to eliminate eyestrain. Also, our maintenance problem is at a minimum with acrylic shields made from MONOCITE. When the fixtures need cleaning, lukewarm water and mild soap keep them spotless and free from yellowing or streaking. I'd say that this lighting system with acrylic shields has contributed greatly to the beauty of the building."

It will pay you to find out how Du Pont's customers are using Du Pont MONOCITE to produce lighting-fixture shields that will give you outstanding service with a minimum of maintenance. For further information write to: E. I. du Pont de Nemours & Co. (Inc.), Dept. B-11, Room 2507M, Nemours Building, Wilmington 98, Delaware.

\*Trademark for Du Pont's methacrylate monomer.

\*\*Polycast acrylic R-1 1/4 diamond-pattern shields.



The Mutual Benefit Life Insurance Building, Newark, N. J., is one of the city's most modern landmarks. (Architects, Eggers & Higgins, New York City; Design Engineers, Syska & Hennessy, New York City; Fixture Manufacturer, Gruber Lighting Inc., Brooklyn, N. Y.; Installation, The Beach Electrical Company, East Orange, N. J.)

POLYCHEMICALS DEPARTMENT

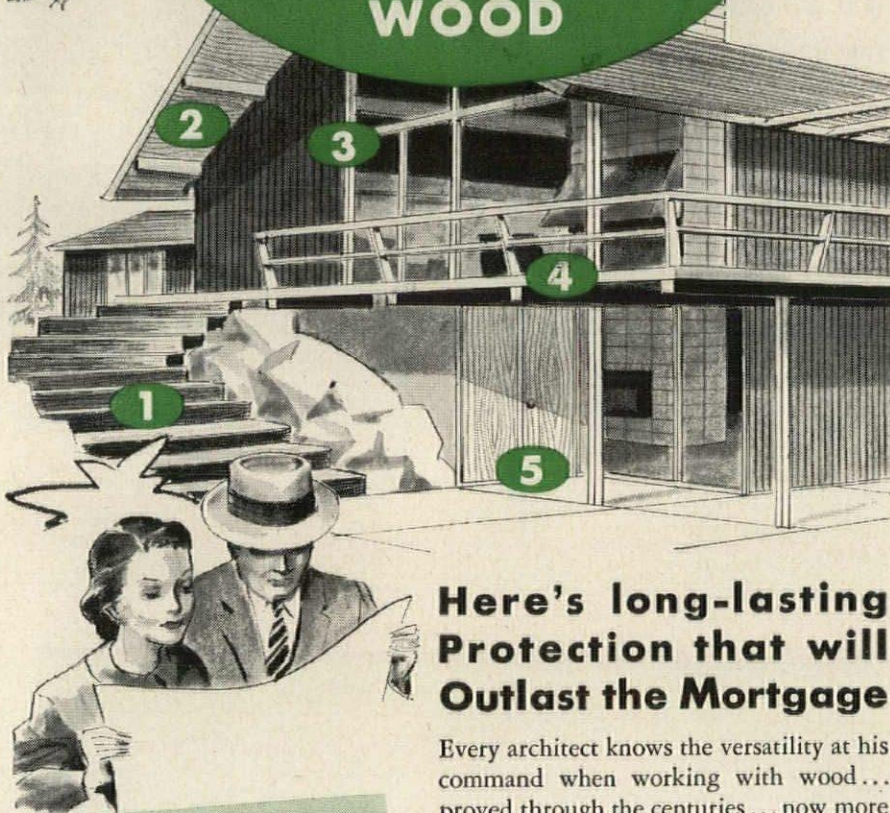


BETTER THINGS FOR BETTER LIVING...THROUGH CHEMISTRY



for More **BEAUTY, ECONOMY, DURABILITY**  
in new home **CONSTRUCTION**

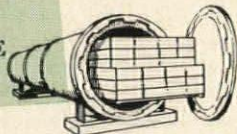
SPECIFY  
**Osrose**<sup>®</sup>  
PRESSURE TREATED  
WOOD



Typical areas requiring protection of OSMOSE Pressure Treated Wood

- 1 All stair timbers and retaining posts.
- 2 All weather-exposed rafters, plates and headers.
- 3 All exterior siding and job-framed millwork.
- 4 All porch framing, supports, decking and hand rails.
- 5 All sills, headers, studs and plates within 18" of ground or in contact with concrete or masonry walls (24" in south).

For MORE Freedom of Design, look to OSMOSE Pressure Treated Wood.



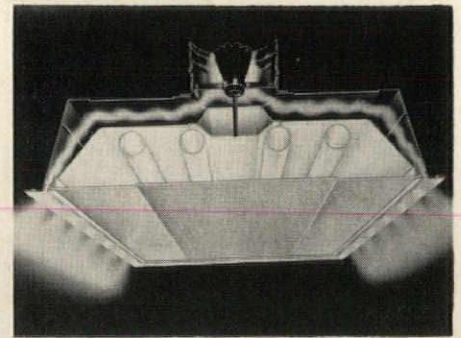
Pressure Treating Plants from Coast to Coast make Osrose Pressure Treated Wood readily available.

## Here's long-lasting Protection that will Outlast the Mortgage

Every architect knows the versatility at his command when working with wood... proved through the centuries... now more true than ever with OSMOSE Pressure Treated Wood. OSMOSE treated wood lasts 3 to 5 times longer than untreated wood... gives positive protection against termites and decay, serves as a prime coat and holds paint better. And the cost is surprisingly modest. For instance, the sills required for a 30' x 40' home add up to 140 running feet of 2 by 6's. At an average cost of 4 cents per board foot, the cost of treating the sills would only come to \$5.60. So design with wood and protect it with OSMOSE Pressure Treated Wood. Meets all Federal and State specifications. Look for our catalog in Sweets.

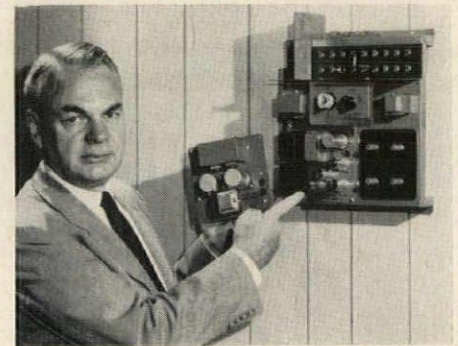
**OSMOSE WOOD PRESERVING CO. OF AMERICA, INC.**  
983 Ellicott Street • Buffalo 9, New York

## Product Reports



### Light and Air Diffuser Units

This complete line of combination lighting and air diffusing equipment now eliminates the placement problems of lighting and air distribution elements. It can also be integrated with conventional units in the same installation. Supply and return air distribution elements are interchangeable in any location from the same unit and apertures are inconspicuous. Double wall construction enables air to pass through a separate chamber from the fluorescent lamps. The dual-purpose units are available in both 12 by 48 in. and 24 by 48 in. sizes. *Day-Brite Lighting, Inc., 6260 N. Broadway, St. Louis 15, Missouri.*



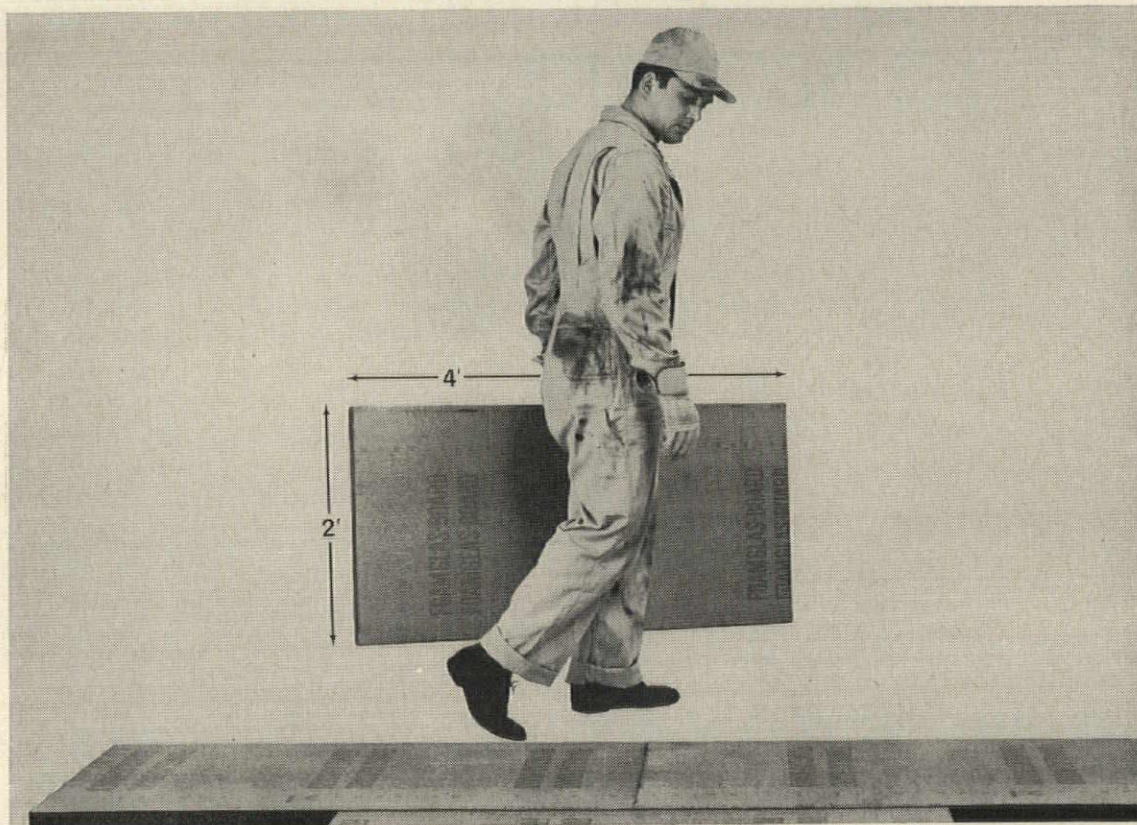
### Transistorized Control Panels

Transistors have replaced vacuum tubes in the entire line of Honeywell's electronic temperature-control panels. By eliminating vacuum tubes the biggest problem has been overcome—tube unreliability. In addition to longer life expectancy, the transistorized amplifiers will consume less power and give off less heat. Electronic control is more flexible, has faster response, and offers simple, reliable remote panel adjustment. *Minneapolis-Honeywell Regulator Co., 2747 Fourth Ave. South, Minneapolis 8, Minn.*

more products on page 248



See why  
Pittsburgh Corning Products  
make the things you build  
look better, last longer, cost less



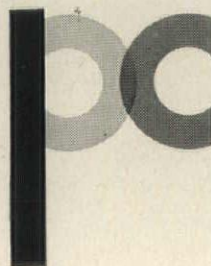
example:  
**NEW FOAMGLAS-BOARD™**  
Roof Insulation

The acknowledged quality of FOAMGLAS is now available in a new, reduced thickness in a large unit size which reduces the number of roof insulation joints and promotes fast, economical handling and installation. FOAMGLAS-BOARD is composed of multiple blocks of FOAMGLAS, 1½" thick, faced on each side with a special asphalt-laminated paper.

FOAMGLAS-BOARD has been approved by the Associated Factory Mutual Fire Insurance Companies for Class I insulated steel roof deck construction when applied with hot asphalt.

A new brochure contains complete information. For a copy, simply mail the coupon on the fourth page of this advertisement.

PITTSBURGH



CORNING



# example: GEOCOUSTIC™... PC's new acoustical material and method

**Clap your hands in the average room and listen.** The echo you may hear . . . or the flutter . . . or the deadness . . . all signal a room in which improper acoustical balance frustrates good intelligibility of sound in the room.

Sound intelligibility depends upon proper balance of sound reverberation and sound diffusion. Orthodox acoustical materials call for total surface coverage which utterly defeats this balance by eliminating one or more of a room's vital hard, reverberant surfaces. The solution to the problem has long been known.

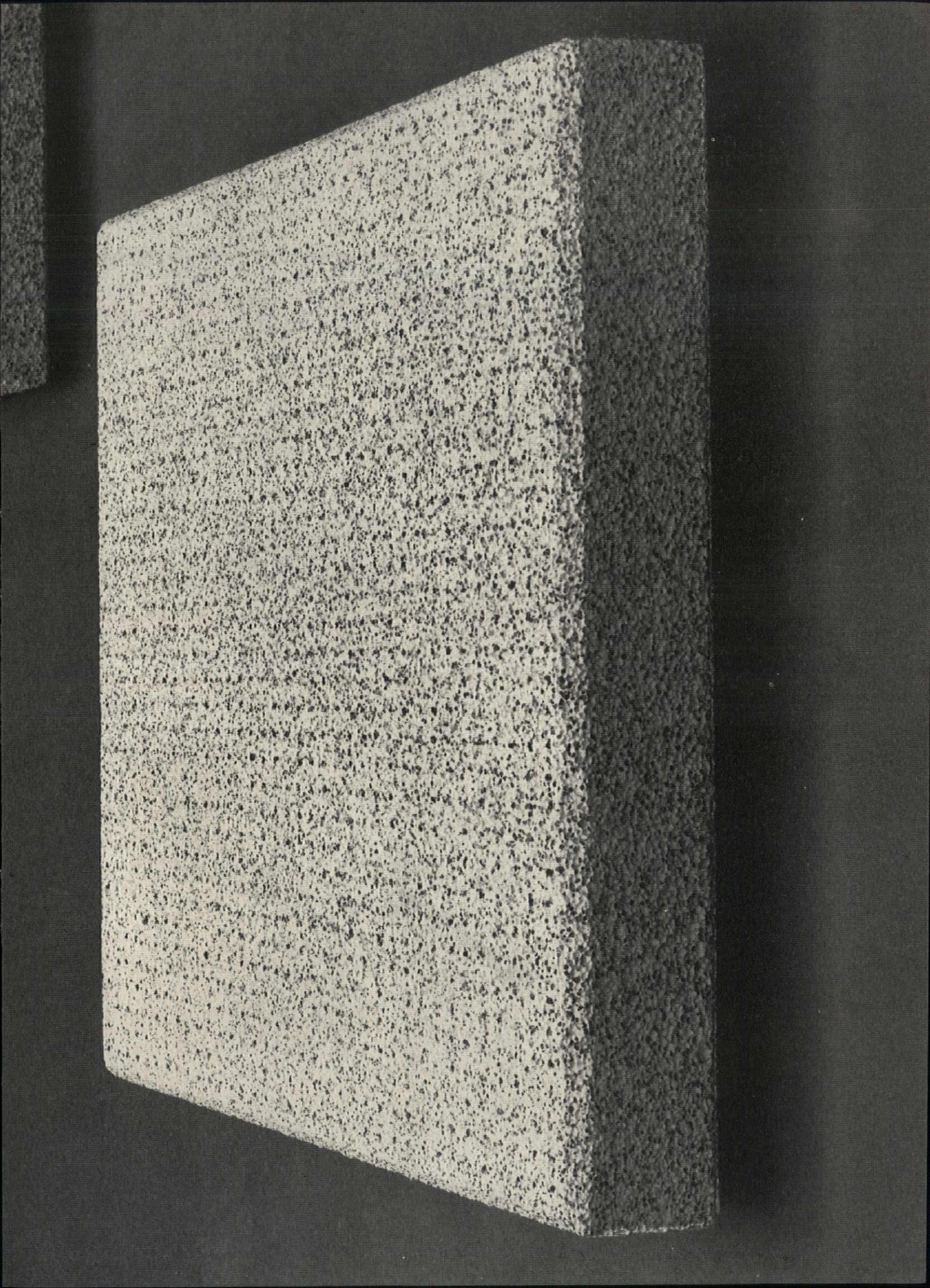
Good acoustical balance in a room can best be achieved by the patch technique—application of spots of sound absorption in order to balance absorption with reverberation. Acoustical materials available until now have made it virtually impossible to take advantage of the patch technique.

Now Pittsburgh Corning announces GEOCOUSTIC, the first material to make practical the patch technique for balanced room acoustics. If it is important to hear and be heard in the rooms you design, you must learn more about Geocoustic—the exciting new acoustical material and the method it makes practical. For complete details, mail the coupon on the fourth page of this advertisement.



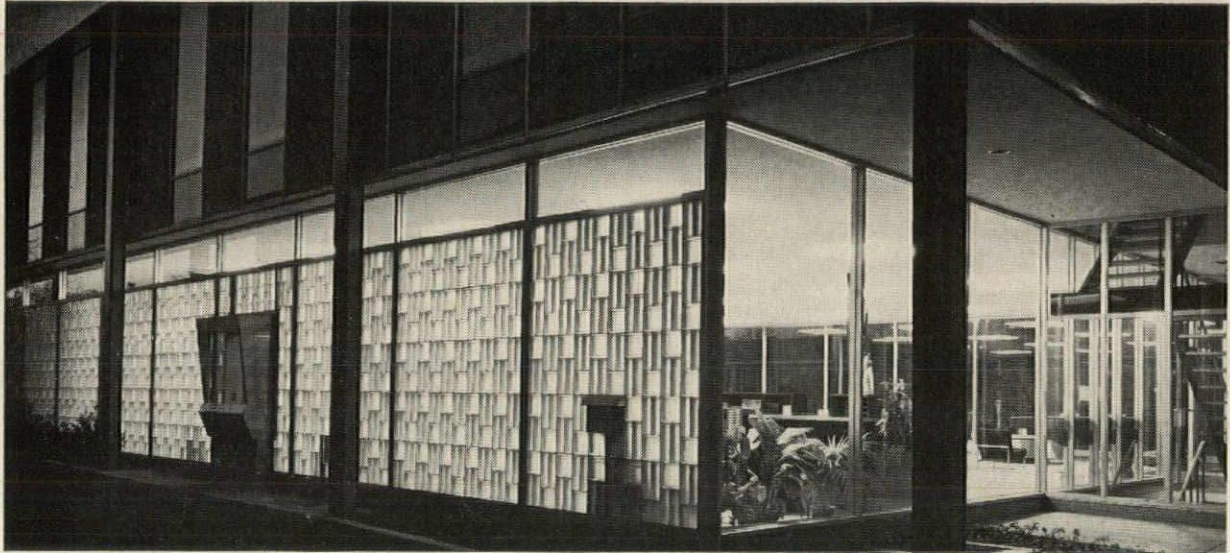
PITTSBURGH **PC** CORNING







# example: PC 4 x 12 Glass Blocks give dignity a new flair at Media Savings & Loan



The retreat from cold austerity in bank design has called for creative use of materials. That, in turn, has called for materials which offer increased latitude in their design use. That is what the PC 4 x 12 is all about. Design authority.

Here—in a striking dimensional variation of the PC Glass Block—the architect has been given almost limitless capacity to inject new visual vitality into the daylight wall. Take for example the design by architects Clifford E. Garner—Arthur B. White, Associates, Philadelphia, Pa., for the Media Federal Savings and Loan Assn. Building, Media, Pa. Creative interpretation of the light transmitting wall presents an attractive contemporary flair without sacrificing the characteristic dignity of the building.

Such results are made easy by the design authority inherent in the growing line of PC Glass Blocks and Sculptured Modules. For a colorful new catalog describing them, simply mail the coupon below.

PITTSBURGH CORNING CORPORATION  
Dept. B-110, One Gateway Center, Pittsburgh 22, Pa.

Please send me descriptive literature on the products checked below.

- |  |  |
|--|--|
| <input type="checkbox"/> FOAMGLAS-BOARD™   | <input type="checkbox"/> PC GLASS BLOCKS                                   |
| <input type="checkbox"/> FOAMGLAS Roof Insulation  | <input type="checkbox"/> The PC 4 x 12 Block                               |
| <input type="checkbox"/> FOAMGLAS Low Temperature Insulation                             | <input type="checkbox"/> PC Color Glass Blocks                             |
| <input type="checkbox"/> FOAMGLAS Insulation for Industrial Piping                       | <input type="checkbox"/> FOAMSIL,® the Acid-proof<br>Insulating Refractory |
| <input type="checkbox"/> FOAMGLAS STAY-DRY Pipe Insulation for<br>Building Service Lines | <input type="checkbox"/> PC Sculptured Glass Modules                       |
| <input type="checkbox"/> FOAMGLAS Insulation for Curtain Wall Panels                     | <input type="checkbox"/> GEOCOUSTIC™                                       |

Name \_\_\_\_\_

Company \_\_\_\_\_ Title \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

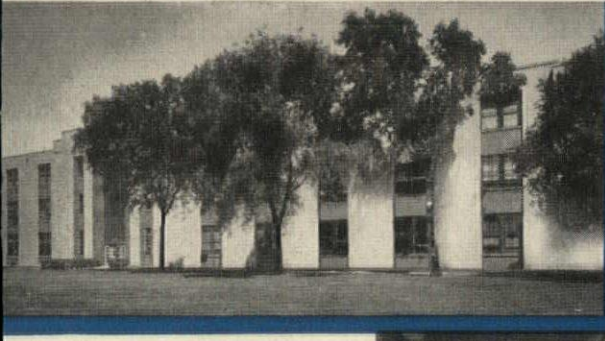
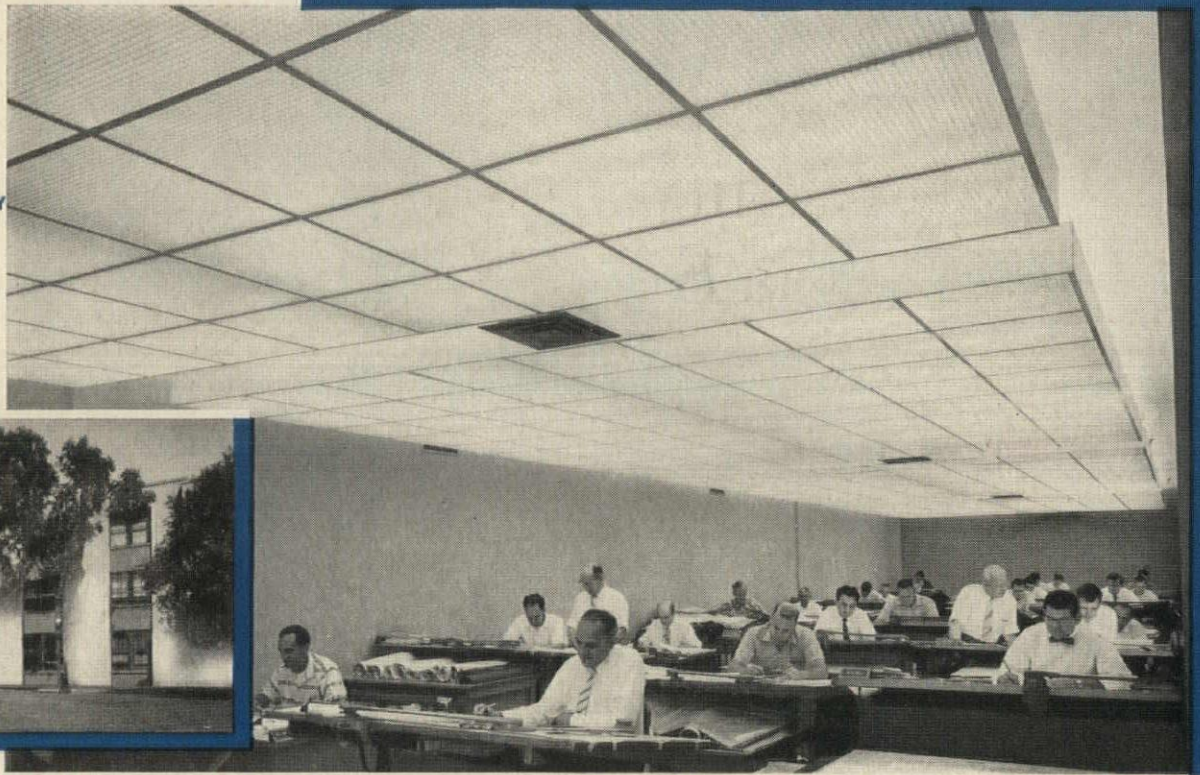
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CORNING



COMMONWEALTH EDISON COMPANY  
TECHNICAL CENTER  
MAYWOOD, ILLINOIS  
ENGINEERING DEPARTMENT



## American plastic louver diffusers equipped in Panelaire luminaires.

provide — shadowless easy seeing illumination — improves efficiency — lessens fatigue for accurate speedy work...

Lighting Products suspended lighting Panelaire luminaires equipped with AMERICAN PLASTIC 45° x 45° shielding louver diffusers, installed in the engineering department of the Commonwealth Edison Co. Technical Center, Maywood, Illinois.

The system provides 150 footcandles (maintained) of high level illumination, with the utmost in visual comfort of soft, smooth blend-in diffused light on the working plane.

American louvers are impervious to discoloration from years of exposure to fluorescent light. They provide extra toughness and flexibility, high resistance to abnormal abuse, and lighter weight for easy maintenance.

*American louvers is our one and most important product — Designed, developed, manufactured and patented by the American Louver Company.*

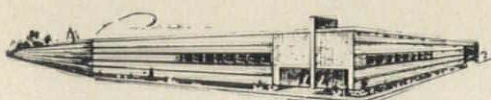
*Available in . . . .*  
**55° - 45° - 42° SHIELDING**

LOUVERS IN WHITE ALSO AVAILABLE IN PASTEL COLORS, PINK —GREEN —YELLOW—BLUE AND LOW BRIGHTNESS.

Special sizes, cuts, shapes or grooves can be supplied to meet your particular requirements.

Only the exclusive process of the American Louver Company is covered by these patents:

USA Pat. No. 2,566,817 Canadian Pat. No. 484,346  
USA Pat. No. 2,607,455 Canadian Pat. No. 497,047

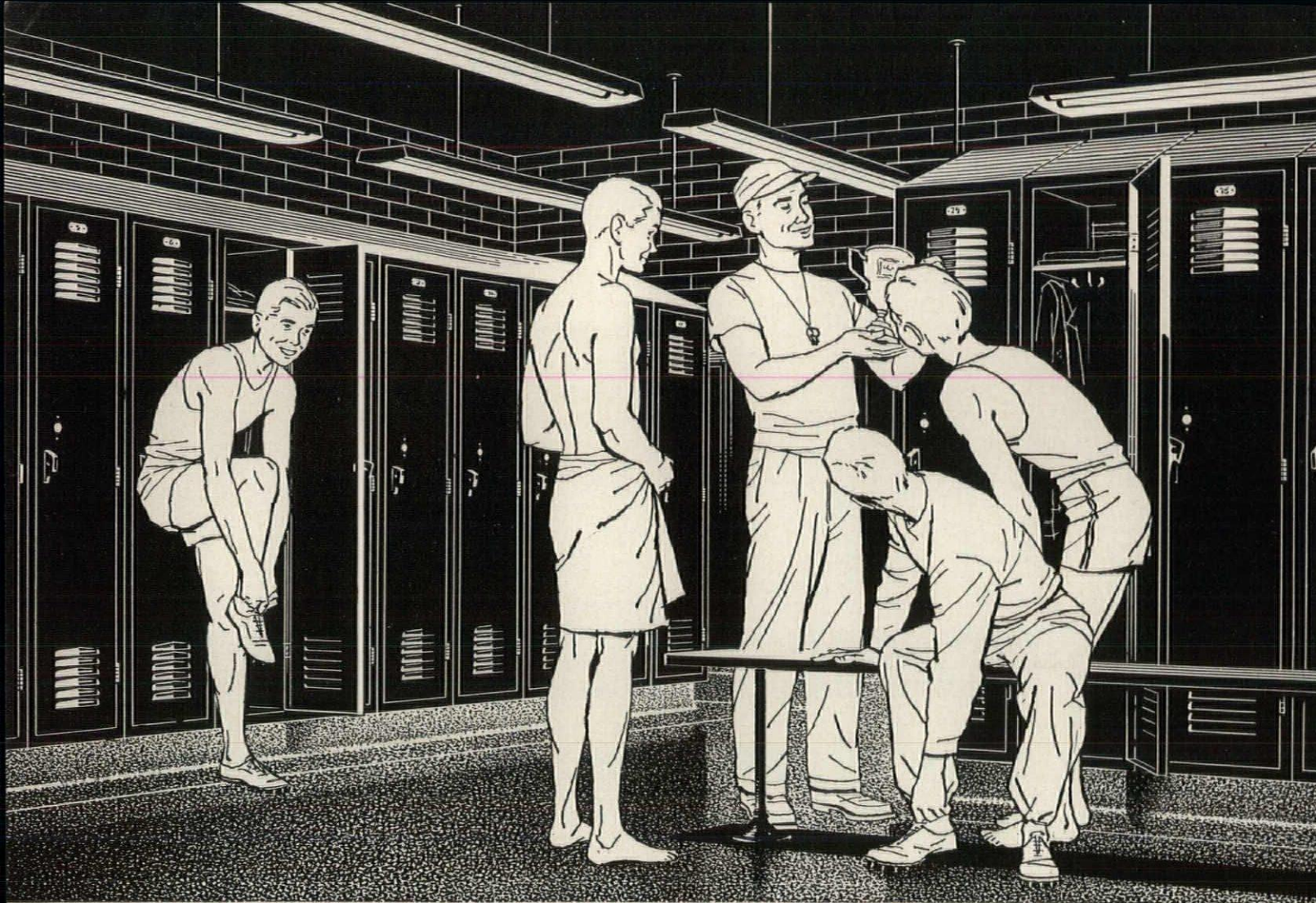


NEW HOME OF AMERICAN LOUVER

**american louver company**

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# REPUBLIC STEEL LOCKERS

*rate straight "A" for outstanding performance*

EVERY SCHOOL SYSTEM  
**REPORT CARD**

FOR

*Republic Steel Lockers*

<i>a</i>	BONDERIZED FINISH
<i>a</i>	LOW MAINTENANCE
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<i>a</i>	LONG SERVICE LIFE
<i>a</i>	BAKED ON COLOR
<i>a</i>	TAMPER PROOF

*School Administrators*

SIGNED

Republic Steel Lockers offer school administrators student accepted advantages in service and economy. With low maintenance, too.

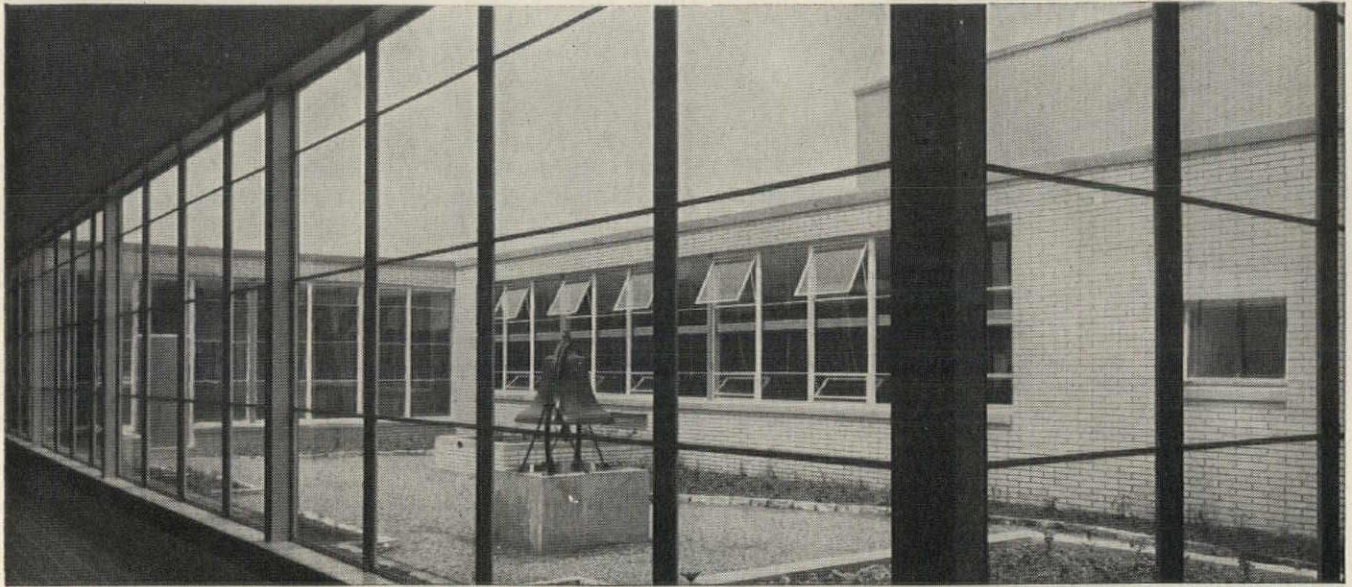
Big and roomy interiors are designed for student convenience. Built-in shelves hold extra books and personals. Built-in louvers assure free-flow ventilation—keep locker interiors fresh and clean smelling the year 'round. All steel construction—fire proof.

*Bonderized*, too! This exclusive Republic feature provides a superior base for the baked-on enamel finish. Offers protections against rust and corrosion. Restricts bumps, scratches, abrasions of everyday service to the site of the injury. Reduces maintenance costs.

Republic Steel Lockers are available with any of the popular locking devices. Handle is attached with a tamper-proof Gulmite screw and lockwasher.

Your Republic representative will help you with your locker planning and assume full responsibility for complete installation. Call, or write today.

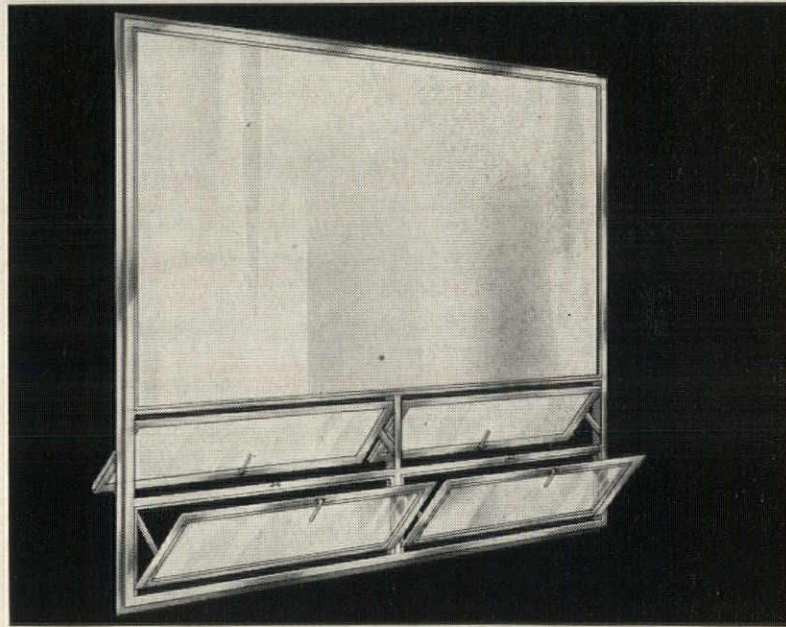




**TRUSCON METAL BUILDING PRODUCTS** are designed and produced to preserve the beauty of modern school architecture. Slim, trim, Truscon Aluminum Windows let more sunlight and fresh air in, give depth to exterior vertical and horizontal building lines.

**TRUSCON ALUMINUM CLASSROOM WINDOWS** offer the economy of large glass areas combined with a wide selection of projected ventilator arrangements. Weatherstripped with vinyl plastic around the entire vent perimeter of the inner weathering contact. Hardware is polished, white bronze. Call your Republic-Truscon representative for details and specifications. Write for A.I.A. FILE No. 16-E.

**REPUBLIC BOOKSHELF UNITS** offer school administrators complete flexibility in designing modern library facilities. Sturdy, steel shelving is adjustable to any book height. Available in sizes 36" wide, 9 1/4" or 12 1/4" deep, and 84" or 90" high, and counter size, 42" high. Economical, too. Six popular colors. Available from convenient warehouse locations. Write for more information.



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*World's Widest Range  
of Standard Steels and Steel Products*

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Please send information on the following products:

- Republic Steel Lockers     Truscon Aluminum Windows  
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**LOOK BEHIND THIS NAMEPLATE**



**.. you'll find a background of 231 years' experience**

It's almost fifty years ago that our founder, Halsey W. Taylor, pioneered the development of drinking-water equipment with a revolutionary, health-safe mound-building projector. He is still active today. Add his many years of specialized knowledge to that of our key personnel in research, design and engineering . . . and you'll find a combined experience of 231 years!

That's why it pays to look for this nameplate. It distinguishes a fountain or cooler that's Taylor-made . . . a product of ripened experience designed with an eye to tomorrow.

*The Halsey W. Taylor Co., Warren, O.*



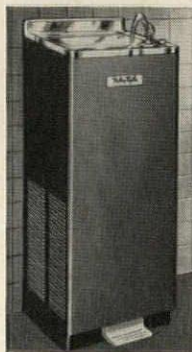
**New Wall-Mount**

A Halsey Taylor first. Mounts on wall, off the floor. Easily kept clean.



**New "All-Climate" Outdoor Wall Fountain**

Designed for outdoor use where temperatures drop below freezing. New all-weather features.



**The Popular Wall-Tite**

No exposed fittings. Fits tight against the wall. Space-saving!

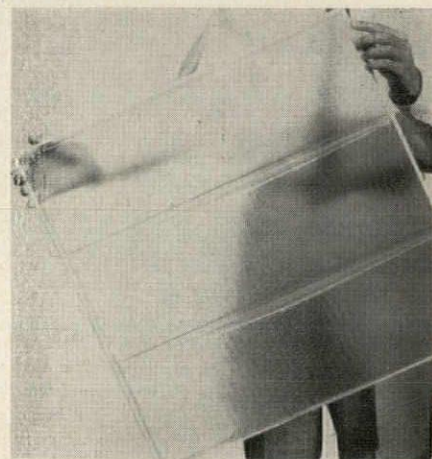
460

**ASK FOR LATEST CATALOG, SEE SWEET'S OR THE YELLOW PAGES**

*Product Reports*

**Protective Masonry Finish**

*Adfinish* adhesive coating for finishing exterior or interior masonry walls beautifies and protects in a one or two coat application. The coating comes in a smooth or textured finish and can be applied to dry, damp, or painted surfaces. No time consuming preparation is required and on exterior finishes it can be applied without pre-treating. Available in three colors: white, yellow or pearl gray. *Swift & Co., 4115 Packers Ave., Chicago 9, Ill.*



**Low Cost Light-Controlling Lens**

The new *Prismacon* prismatic lens is said to achieve the high light levels (up to 40 per cent increase in light output) and low surface brightness commonly associated with more expensive lenses at a cost comparable to that of ordinary vinyl diffusers. The light-controlling lens, which is easily installed in any 24-in. wide modular fixture or luminous ceiling, is made of a stable, double-thick material that, according to the manufacturer, insures long life and efficiency with no discoloration. *Lead-light Div., Wellmade Metal Products Co., 860 81st Ave., Oakland 21, Calif.*

**Vinyl Tile in New Solid Colors**

Eight versatile shades of solid colors comprise the "designer palette" series in vinyl tile to answer the demands of modern decorative styling. The new color series, which includes such shades as Avocado, Bangkok Pink and Burnt Orange, is available in either regular 9 by 9 in. tiles or as interesting feature strips. *Kentile, Inc., 58 Second Ave., Brooklyn 15, N. Y.*

*more products on page 256*





**1**

Make a cylinder of Brixment mortar and a cylinder of 50-50 cement-and-lime mortar. Cure for 30 days. Then put  $\frac{1}{4}$ " of water into a tray and place tray in a freezer.



**2**

Keep water in tray, and alternately freeze and thaw. After a number of cycles, you will be convinced that Brixment mortar is far more durable than cement-and-lime mortar.

## **BRIXMENT** mortar is far more **DURABLE!**

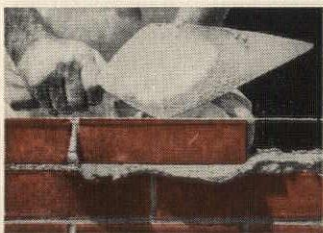
Good mortar must be durable—must be able to withstand the alternate freezing and thawing to which it is subjected many times each winter.

*Brixment mortar is durable.* Its greater durability is due partly to the strength and soundness of Brixment mortar—partly to the fact that an air-entraining and water-repelling agent is completely intermixed into Brixment during manufacture. This helps prevent the mortar from becoming saturated, therefore protects it from the destructive action of freezing and thawing.

But greater durability is only *one* of the characteristics in mortar necessary to produce top-quality masonry at lowest cost. Several others are listed below—and *no other mortar combines ALL these characteristics to such a high degree as Brixment mortar.* It is this combination of advantages that makes Brixment superior to any mixture of portland cement and lime—and which also accounts for the fact that Brixment has been the leading masonry cement for over 40 years.

Louisville Cement Company, Louisville 2, Ky.

### **BRIXMENT MORTAR ALSO COMBINES THESE 8 OTHER ESSENTIAL CHARACTERISTICS**



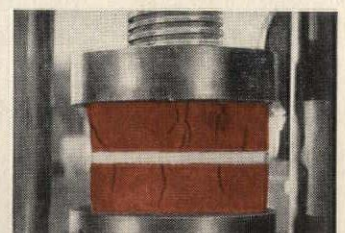
**PLASTICITY**



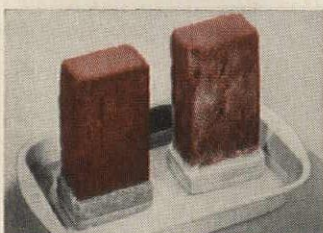
**WATER RETENTION**



**BOND**



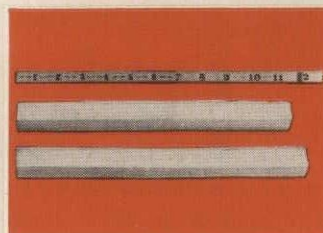
**STRENGTH**



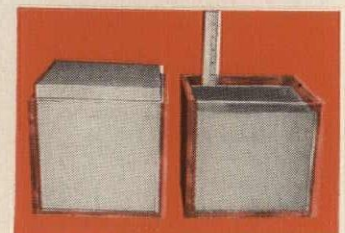
**LOW EFFLORESCENCE**



**IMPERMEABILITY**



**SOUNDNESS**



**YIELD**





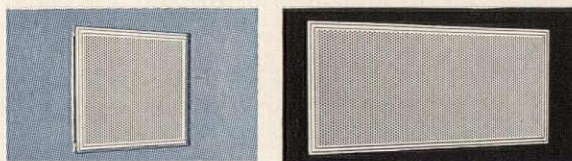
**SQUARE AND  
RECTANGULAR** **perforated**  
**ceiling diffusers . . . .**

Here's a *new level of perfection in diffuser concealment and performance* never before reached by any similar line of ceiling outlets! Titus new architecturally designed TCS and TCR CEILING DIFFUSERS blend more perfectly into all types of acoustical tile ceilings . . . actually look as if they are a part of the ceiling design. *And there's no compromise in performance!* These diffusers give superior air diffusion on the widest variety of ceiling applications.

TODAY'S MOST COMPLETE LINE: supply and returns in square and rectangular models . . . for surface mounting and recessed mounting . . . one, two, three and four-way air patterns. Made in sizes to fit standard tile dimensions.

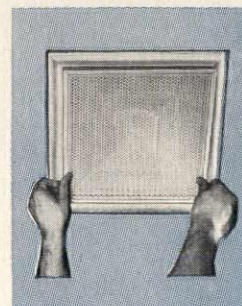
TITUS TCS (SUPPLY) PERFORATED DIFFUSERS are comprised of extruded aluminum mounting frame, deflector mechanism and perforated surface plate. All parts are finished in off-white baked enamel for maximum blend into ceiling.

**TODAY'S MOST COMPLETE LINE . . . SIMPLEST, FASTEST TO INSTALL . . .**



**CHOICE OF 3 BORDER STYLES FOR MATCHING SUPPLY AND RETURN UNITS**

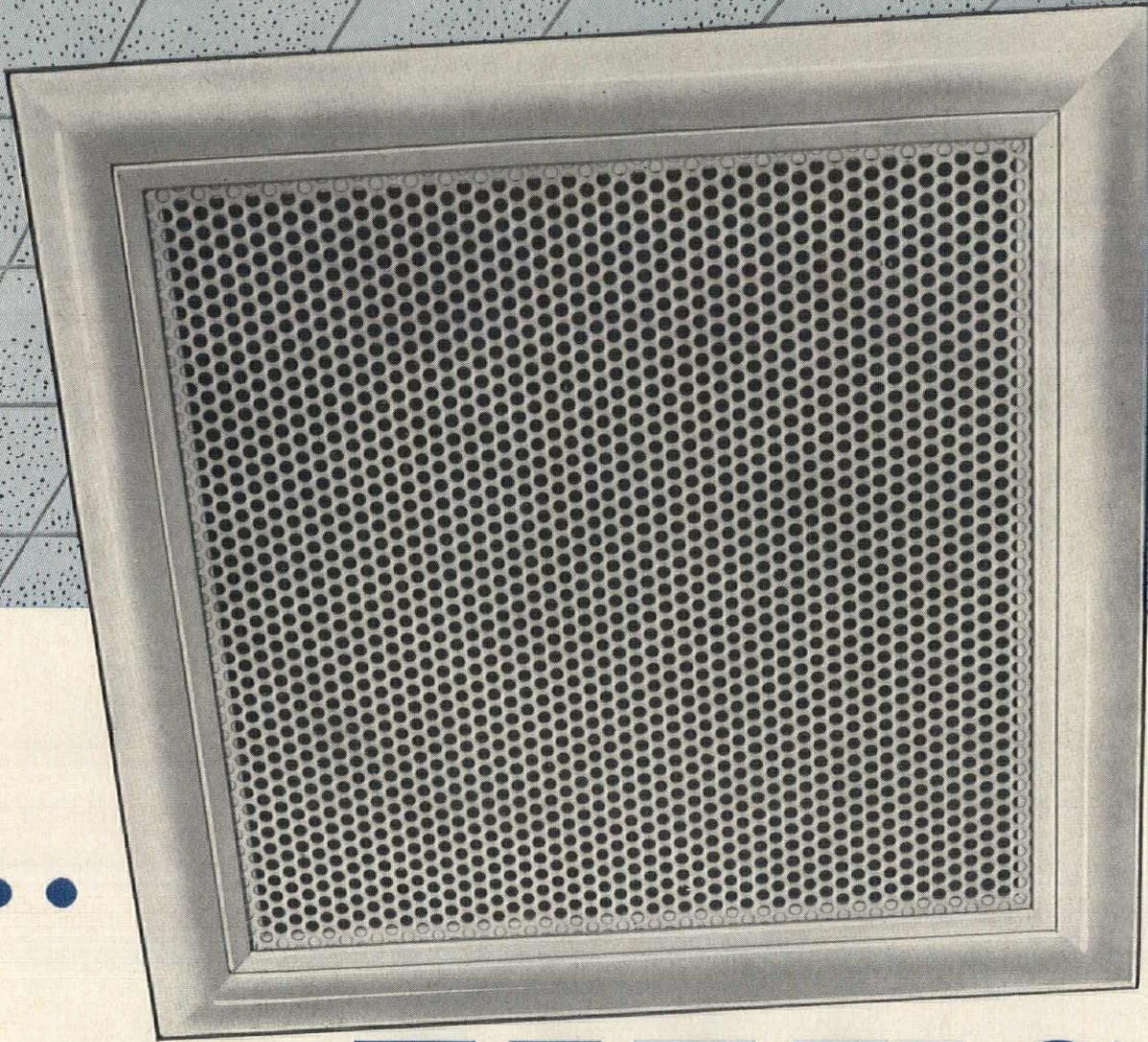
. . . Models for surface mounting are available with curved border or flat border. Models for recessed mounting (Pictured above) have border that snaps into standard tile or can be used with T-bar construction.



**INSTALL IN 3 QUICK, EASY STEPS**

1. Attach mounting frame to duct.
2. Insert tabs of deflector mechanism into slots of mounting frame.
3. Snap perforated surface plate into frame.





by

# TITUS

These new "concealed type" ceiling diffusers open up a new world of design freedom . . . yet assure the very finest in air distribution performance. New TITUS CATALOG TPD-60 fully illustrates these units and gives complete performance data for easy, accurate diffuser selection. MAIL COUPON TODAY.



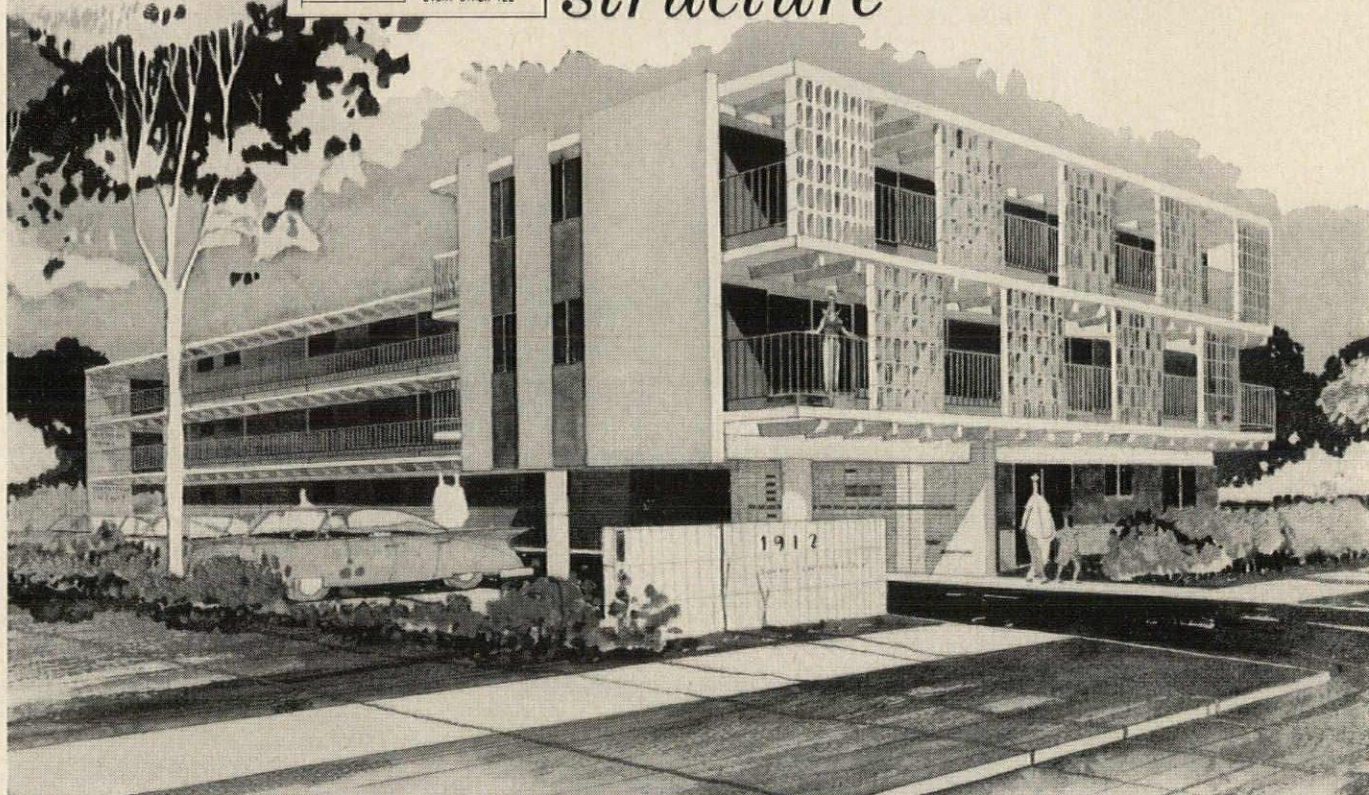
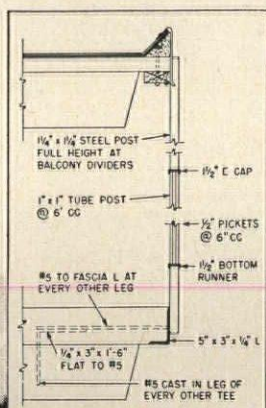
**TITUS MFG. CORP., WATERLOO, IOWA**

Please rush new TITUS CATALOG TPD-60 which gives complete details, including performance data, on your new line of PERFORATED CEILING DIFFUSERS.

name \_\_\_\_\_ title \_\_\_\_\_  
address \_\_\_\_\_  
city \_\_\_\_\_ state \_\_\_\_\_



another  
**PRESTRESSED  
 CONCRETE**  
 structure



Architect: Leon Brin, A.I.A., Denver; General Contractor: Norman Construction Co., Denver; Prestressed Concrete Fabricator: Prestressed Concrete of Colorado, Denver.

Architect Leon Brin cites 'acoustic comfort' as a 'sound' reason why prestressed concrete was used in this Denver apartment

The only thing we've added to Mr. Brin's remarks, quoted below, are italics.

"My apartment owners know their tenants are demanding two features: generous balconies to accommodate their outdoor living requirements, and a sound-proof structure.

"In this 20-unit apartment, the double cantilever balcony is easily achieved with the prestressed concrete deck. *Further, the deck and the concrete topping eliminate the troublesome floor to floor sound transmission to provide tenants with the acoustic comfort they demand.*

"In addition, the deck becomes the scaffolding for the brick masons to work on each floor. The steel balcony railing is readily attached to the balcony angle iron fascia. (See detail above). With masonry

bearing walls and the prestressed concrete deck *the structure is fireproof with no additional treatment required.*

"The exposed tee sections provide an interesting beam effect within each room as well as from the exterior. Floor to floor heights were actually reduced 8 to 10 inches by using 7 feet 4 inches to the bottom of the tee and 8 feet to the deck. *Weather had no effect upon the erection or quality of the deck which was placed quickly and directly.*

"This construction has worked out so satisfactorily that work is about to begin on a similar apartment building containing 36 units."

Roebling has been a strong partisan for prestressed concrete since its introduction into this country some fourteen years

ago. The knowledge and experience gained from this activity puts us in the favorable position of being able to share information and data on prestressed concrete's different phases with you.

Please do not hesitate to ask us about whatever particular aspect concerns or interests you. It may be design methods, tensioning details or information on the finest prestressing wire and strand available, as manufactured by Roebling. Just write Roebling's Construction Materials Division, Trenton 2, New Jersey.

**ROEBLING** 

Branch Offices in Principal Cities  
 John A. Roebling's Sons Division  
 The Colorado Fuel and Iron Corporation



this is  
NEW  
Sand Flash

one of  
a new line of  
FLASHTILES\*  
by  
**murray**

**Here is a new kind of burnished-buff beauty** that gives floors a lovely soft-textured visual effect. Its subtle flashed shading has just the right touch to bring out the full warmth of the underlying color. **Also new Ember Flash**—the same flashed effect on a rich red body.

**Murray V-Bak® for Uniform Size, Better Installations.** All Murray quarries are ground *after* firing, for more uniform size. Joints as narrow as  $\frac{1}{8}$ " can be specified with Perfected Grade tile. And Murray's exclusive V-Bak design has more bonding area, yet requires less bonding material, than conventional quarry tile.

*WRITE FOR complete information about the full line of Murray Quarry Tile.*

Sand Flash and Ember Flash are now available in 6" x 6" x  $\frac{1}{2}$ " size. Other sizes on special order.

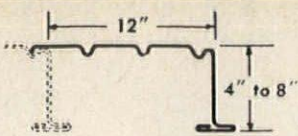
\*Trademark



**murray** TILE COMPANY INC.  
109 Melanie Drive, Lewisport, Ky.

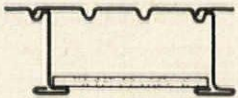
DIVISION OF AMERICAN OLEAN TILE COMPANY



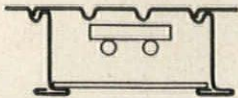


**T-STEEL** — New! Galvanized. For clear spans to 32'0". Adaptable to acoustical and flush, luminous ceiling treatments. Provides superior diaphragm to transmit seismic and wind loads.

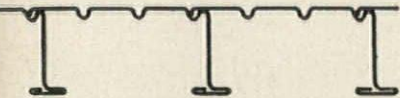
**Ceiling Treatments with T-Steel Deck**



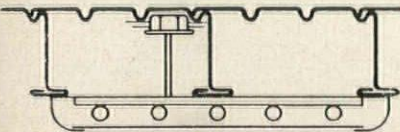
Standard Tile or Board



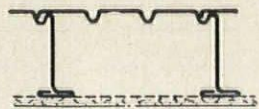
Corrugated Diffuser



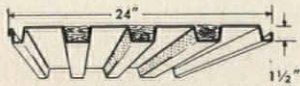
Exposed (Underside painted for increased reflection)



Surface-mounted Fixture

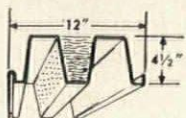


Lath-and-Plaster Fireproofing



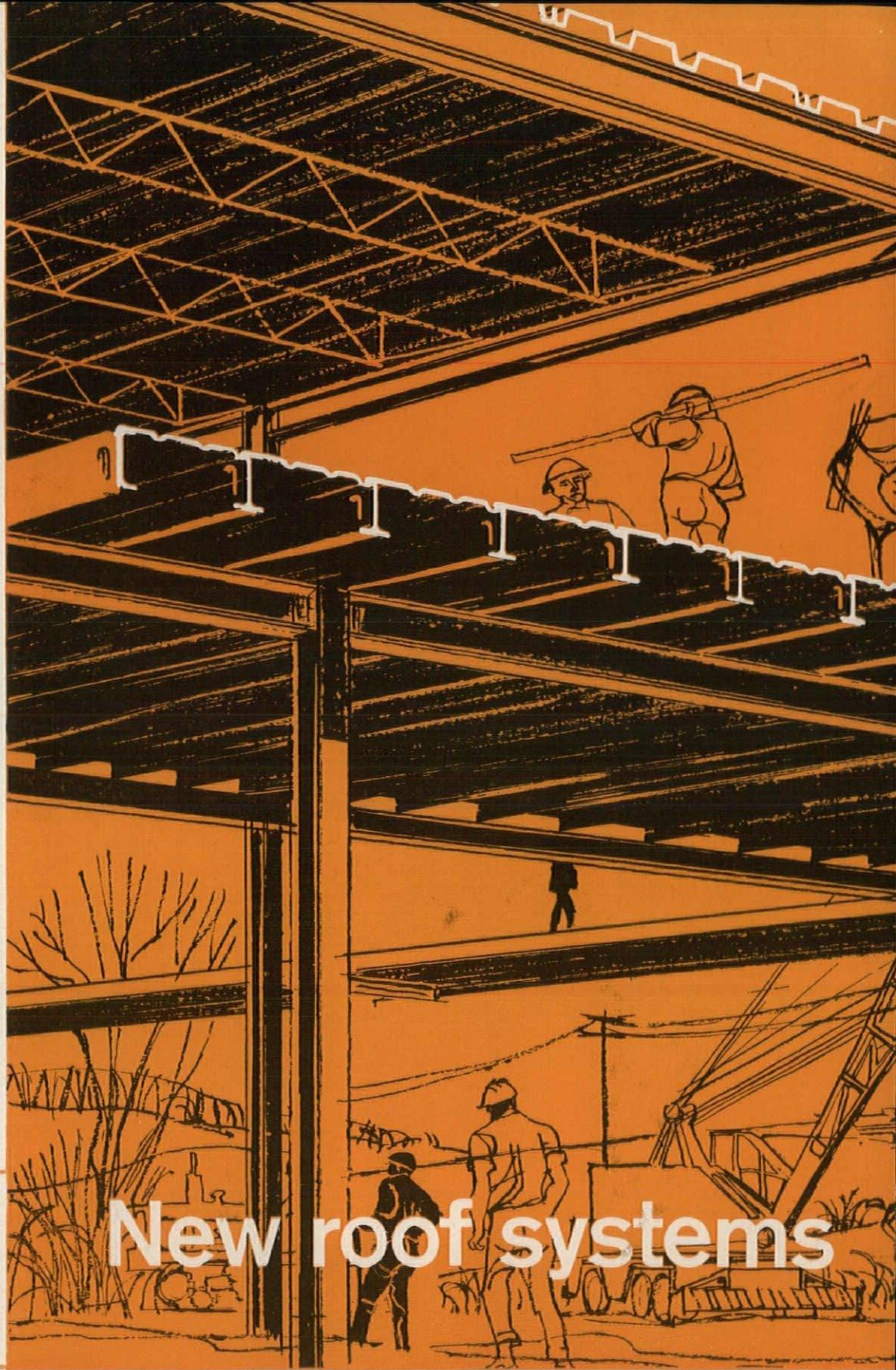
**TYPE B ACOUSTIDECK**

For purlin spacings from 6' to 10'. Uses minimum of 1 1/2" rigid insulation board.



**TYPE C ACOUSTIDECK**

For purlin spacings from 10' to 24'. Uses minimum of 1 1/2" rigid insulation board.



# New roof systems

*Complete structural systems that broaden your latitude in planning ceilings, lighting, acoustics — within realistic budget boundaries*

**1.** Acoustideck for gymnasiums, other activity areas

Two-in-one panel combines steel roof deck and acoustical ceiling. Provides acoustical treatment that is considerably less subject to damage than other types — Noise Reduction Coefficient of .70. Installed by welding in the same manner as regular steel deck.

Acoustideck has all the additional advantages of steel-deck construction: It is erected fast — in any weather that a man can work. Its Bonderized baked-enamel prime finish cuts painting costs in half. The interesting ribbed underside can be left exposed as an attractive ceiling.





for schools . . . by INLAND

**2.** New Inland T-Steel Roof Deck  
for clear-ceiling classrooms

Especially suitable over classrooms of 26' to 32' spans — or other areas where you want a large expanse of unbroken ceiling surface for a contemporary feeling.

You can provide practically any acoustical treatment — T-Steel permits installation of acoustical tile at an economy no other roof system can match. You can provide a flush, luminous ceiling — or you can leave the underside of T-Steel exposed and painted.

T-Steel deck provides a superior diaphragm to

resist seismic and wind thrusts . . . as proved by full-scale shear tests conducted by independent engineering firms.

Write for catalogs 240, 241, and 246 or See Sweet's, sections 2c/Inl and 11a/In for full information on T-Steel and Acoustideck. Inland Steel Products Company has developed a force of trained sales engineers who are capable of giving you the benefit of their diversified experience on specific problems. Write or call your nearest Inland office,



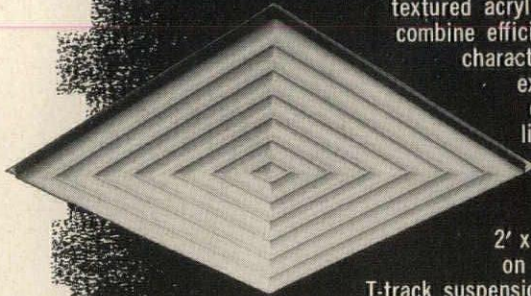
ENGINEERED PRODUCTS DIVISION  
**INLAND STEEL  
PRODUCTS COMPANY**  
Dept. K, 4033 West Burnham Street  
Milwaukee 1, Wisconsin

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



**ACRILUME SOUND-ABSORBING LIGHTING DIFFUSERS**

New architectural concepts utilizing sculptured decorative designs for luminous ceilings and other lighting applications are now possible with Acrilume Lighting Diffusers. These pre-formed diffusers of rich, textured acrylic composite combine efficient acoustic characteristics with excellent light diffusion and light stability.



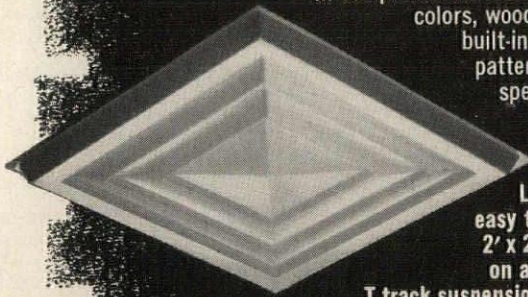
2' x 2' — Install on any inverted

- T-track suspension system
- Other sizes available on special order
- Hi-impact strength — won't crack or break
- Completely washable
- No destaticizing required

comfort takes a NEW form  
**CONTREX SCULPTURED ACOUSTIC PANELS!**

**CUSHIONALL OPAQUE ACOUSTIC PANELS**

A multitude of original designs in acoustic ceilings and other applications are made possible by Cushionall Acoustic Panels, available in sculptured decorative designs, colors, woodgrains and built-in color-style patterns to your specifications.



Lightweight, easy to handle •  
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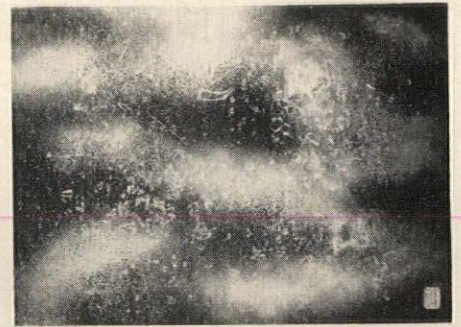
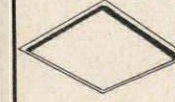
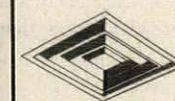
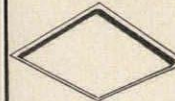
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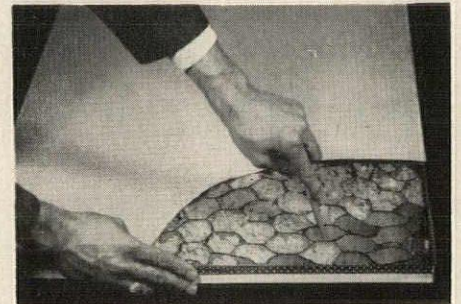
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**Accoustical Metal Ceiling Panel**

*Soundlock*, a new metal lay-in ceiling panel that decreases room-to-room sound transmission, is said to be especially useful in spaces with ceiling-high movable partitions. Lightweight and non-breathing, the panels absorb sound in fiberglass-filled honeycomb cells sandwiched between a solid steel back and a perforated face. Average sound transmission loss is 39.3 db. The textured, white-enameled face provides excellent light reflectance and a non-metallic appearance. *Soundlock* also features low original and installed cost, the latter because partitions may be supported by the panels and no sound attenuation baffles are necessary above them. The standard 2 by 4-ft panel is supplemented by special modules up to 2 by 6 ft. *Kemp Corp., Engineering Offices, 124 S. Woodward, Birmingham, Mich.*





6105

## NEW MARLITE DECORATOR PANELS newest look in wash-and-wear walls



MARLITE LACE PATTERN



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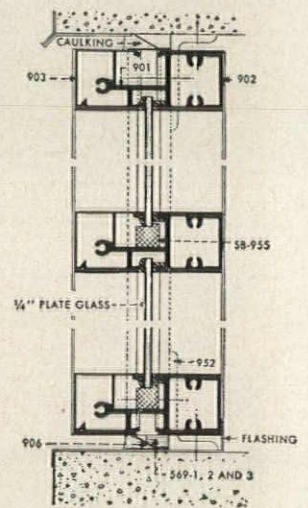
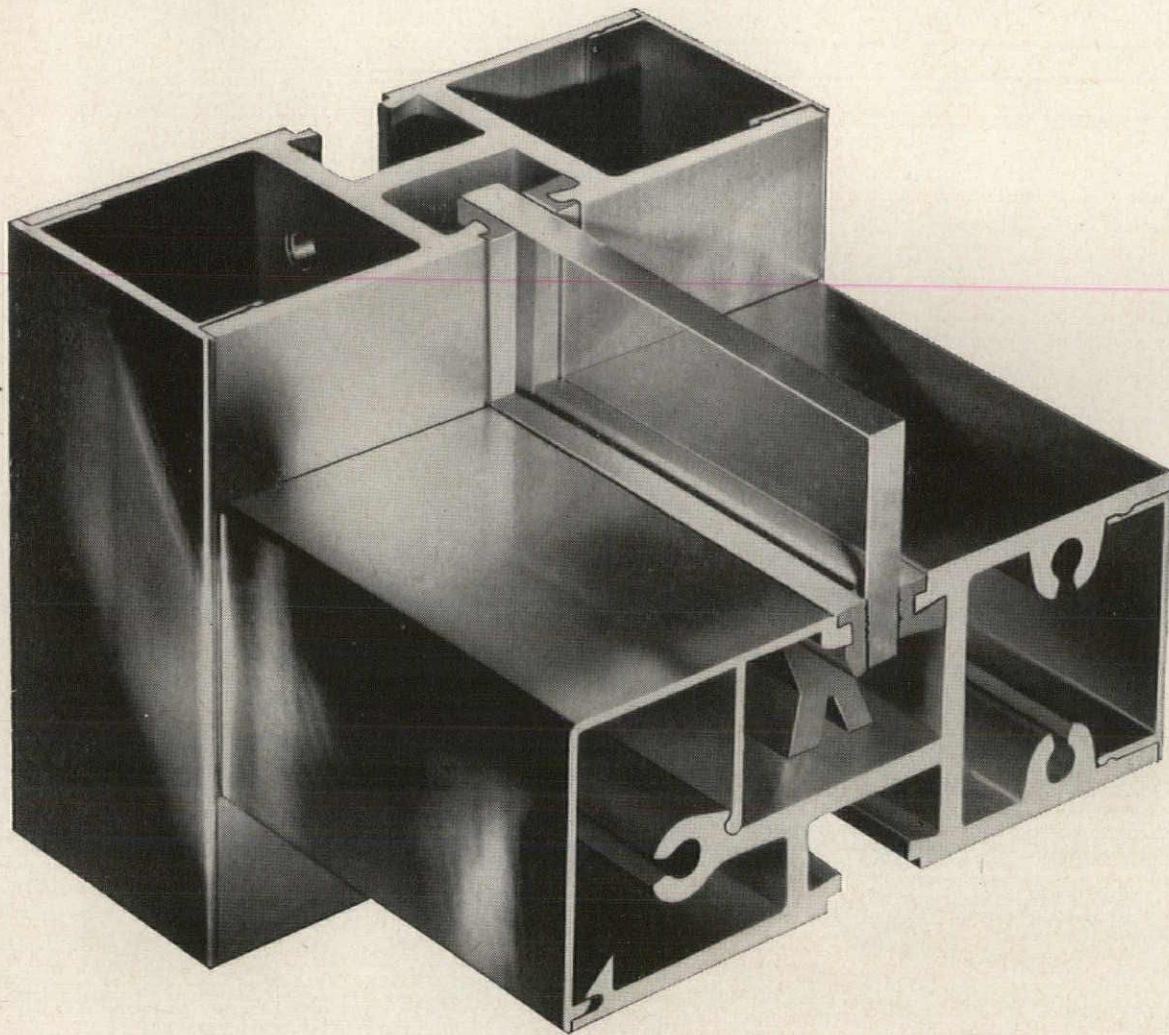
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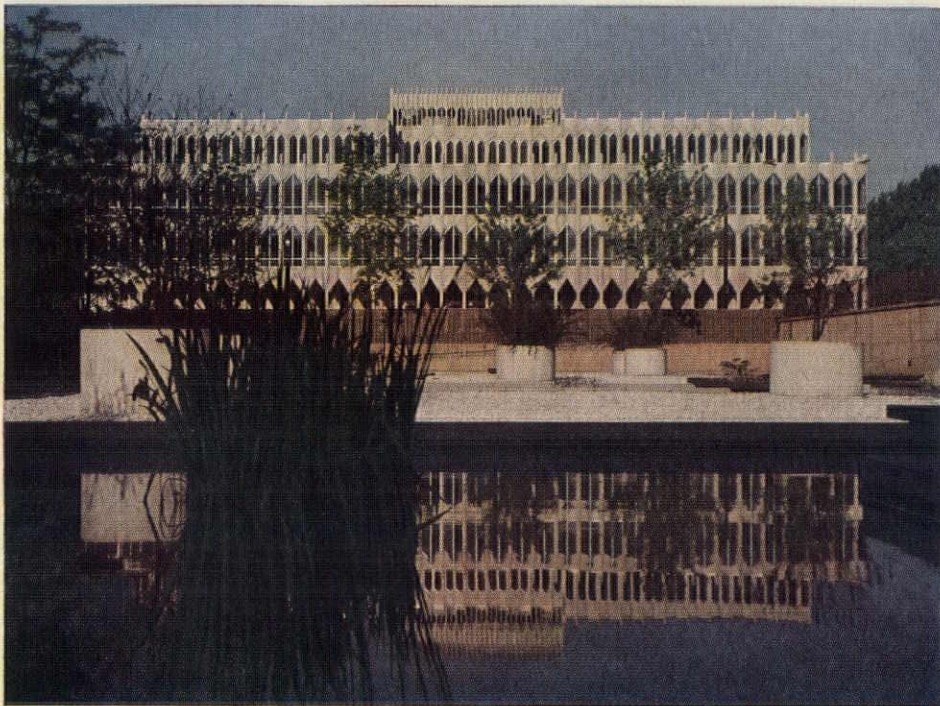
 Pittsburgh Plate Glass Company

*Paints • Glass • Chemicals • Fiber Glass In Canada: Canadian Pittsburgh Industries Limited*



## YAMASAKI

designs in precast white concrete to create a structure of geometric beauty at Wayne State University. The facade consists of load-bearing reinforced concrete



College of Education Building, Wayne State University, Detroit. **Architects:** Minoru Yamasaki & Associates, Birmingham, Michigan. **Engineers:** Ammann & Whitney, New York. **Contractor:** O. W. Burke Co., Detroit. **Panel Fabricator:** Aggregate Surfaces, Inc., Dearborn. **Dealer:** The Boomer Co., Detroit.

“trees” of exposed quartz aggregate and ATLAS WHITE

portland cement. These 40-foot panels are repeated 120 times around the building, welded to double “T” prestressed concrete beams.

□ Creative architects are today expressing their ideas in precast concrete, a material that offers design freedom and construction economy. Any size, shape, color or texture can be specified and installation is fast, simple, trouble-free. For information on white portland cement in precast concrete, write Universal Atlas, 100 Park Avenue, New York 17, N. Y.

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**Transite Pipe**

. . . *Storm Water Drainage Systems* gives detailed cost comparison, illustrations on installation, and complete design data on available pipe and couplings, fittings, and adaptors as well as a guide for selection of pipe and sample specifications. No. TR-252A. *Johns-Manville, 22 E. 40th St., New York 16, N. Y.\**

**Colorline Partitions Booklet**

Shows with full-color illustrations the great variety of materials which

can be used for wall paneling or movable partitioning systems for modern offices and commercial buildings. *Unistrut Products Co., 933 W. Washington Blvd., Chicago 7, Ill.\**

**Schlage Hardware for Schools**

Provides information on school locks based on efficiency, economy and trouble-free quality. Also included is a chart to serve as guide to the proper lock choice for every door function. *Schlage Lock Co., P.O. Box 3325, San Francisco 19, Calif.\**

**The Dorr-Oliver Completreator**

Describes a unit providing complete sewage treatment in a single tank, using modern, mechanized sanitary engineering methods. Bulletin No. 7315, 8 pp. *Dorr-Oliver Inc., Stamford, Conn.*

**Hydrocide Colorcoat**

Describes the special properties of a heavy bodied, water repellent coating for above grade exterior and interior masonry surfaces. Instructions for application are given and a full page color chart shows the eleven standard shades. 8 pp. *Building Products Div., Sonneborn Chemical and Refining Corp., Dept. H, 404 Park Ave. South, New York, N. Y.\**

**For the Best**

. . . *In Masonry Performance* discusses where and how to use such new silicone masonry water repellents as *Dri-Film 144*, and gives a standard guide form for specifying materials. Also outlined are some of the common causes of masonry damage and tips on how to prevent them. Bulletin CDS-242, 8 pp. *General Electric, Silicone Products Dept., Watertford, N. Y.\**

**Perforating, Slitting and Blanking**

Discusses suggested applications, materials, and how to specify all types of flexible materials, rigid sheets and foam, including plastics, cellophane, fabrics, rubber and paper. Catalog No. 60, 20 pp. *Perforating Industries, 606 Commerce Rd., Linden, N. Y.*

**Air Control**

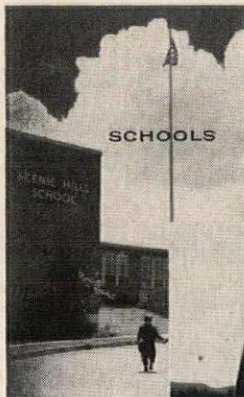
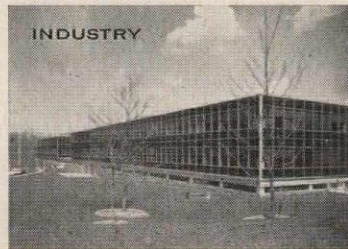
. . . *Registers, Grilles, Diffusers* (A.I.A. 30-J) gives complete data on products in the Air Control line. Full description of *SPEE-D* self drilling and sheet metal (tapping) screws is included with complete data on sizes, operation, packaging and prices. Catalog No. 60-AC, 72 pp. *Air Control Products, Inc., Coopersville, Mich.*

**Safety Enclosures Catalog**

(A.I.A. 35-E) Illustrates and describes glove, vacuum and dry boxes and controlled atmosphere systems for research and production purposes. 32 pp. *Keweenaw Scientific Equipment, 4052 Logan St., Adrian, Mich.*

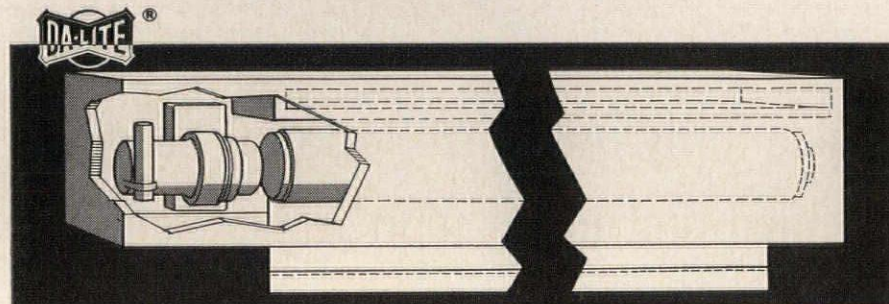
\*Additional product information in *Sweet's Architectural File* more literature on page 274

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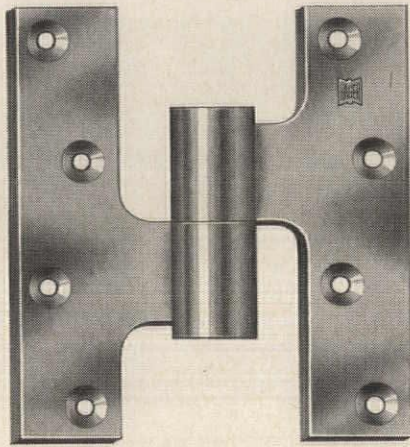
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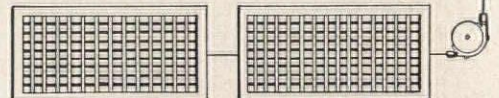
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See our Catalog in Sweet's Architectural File or Engineers' Product File, or write for copy.

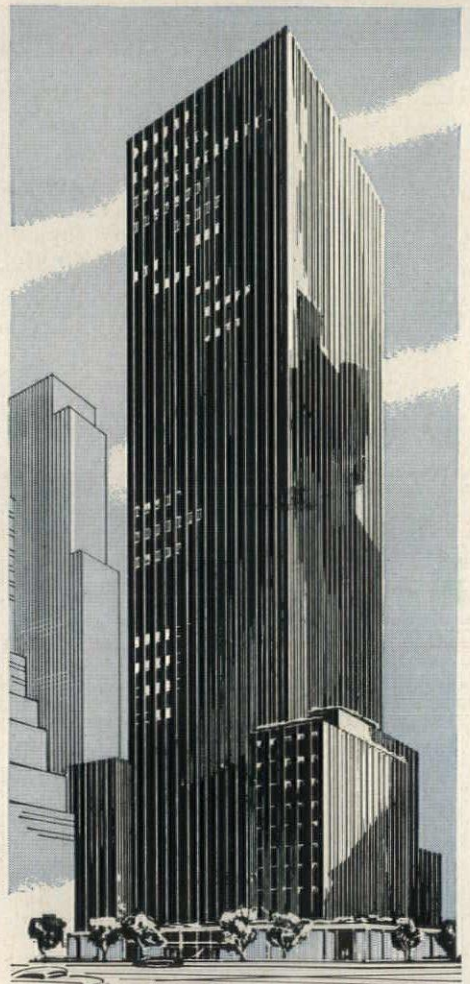
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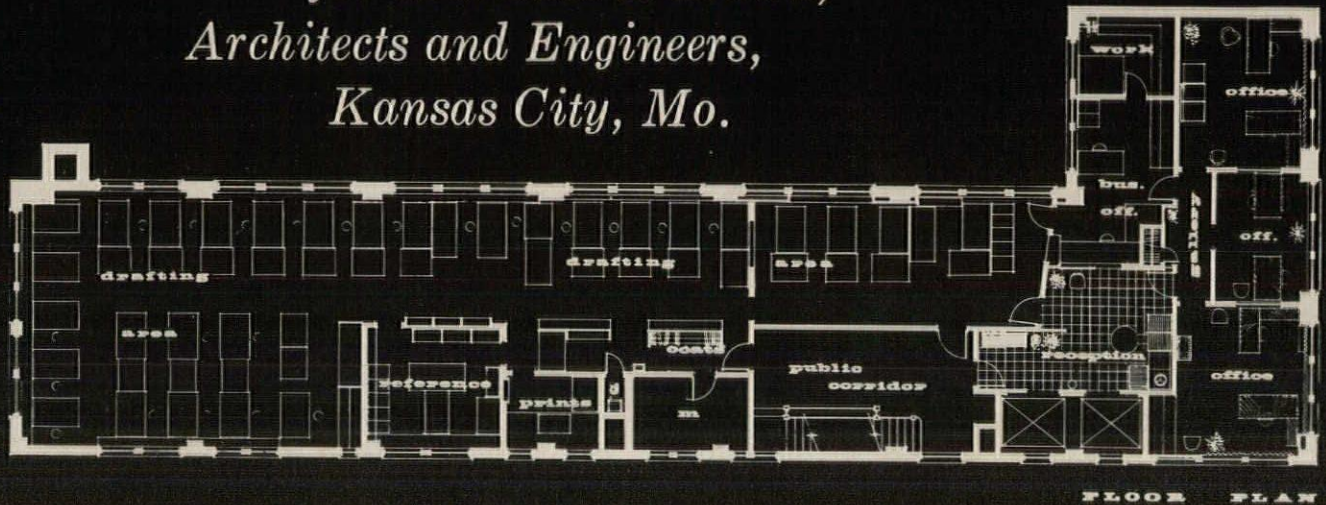
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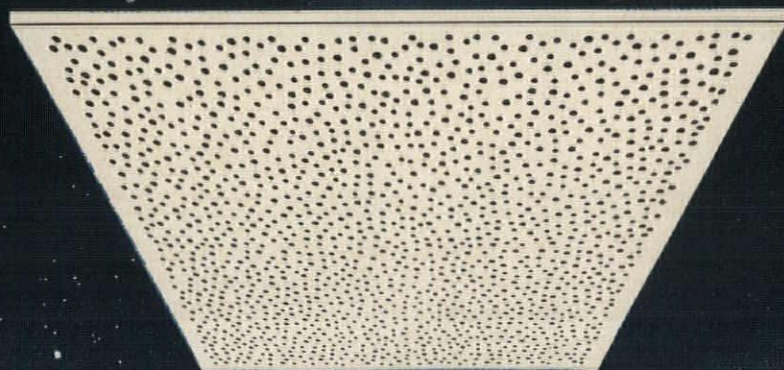
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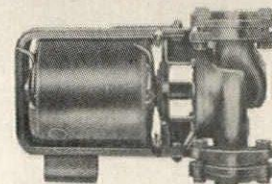
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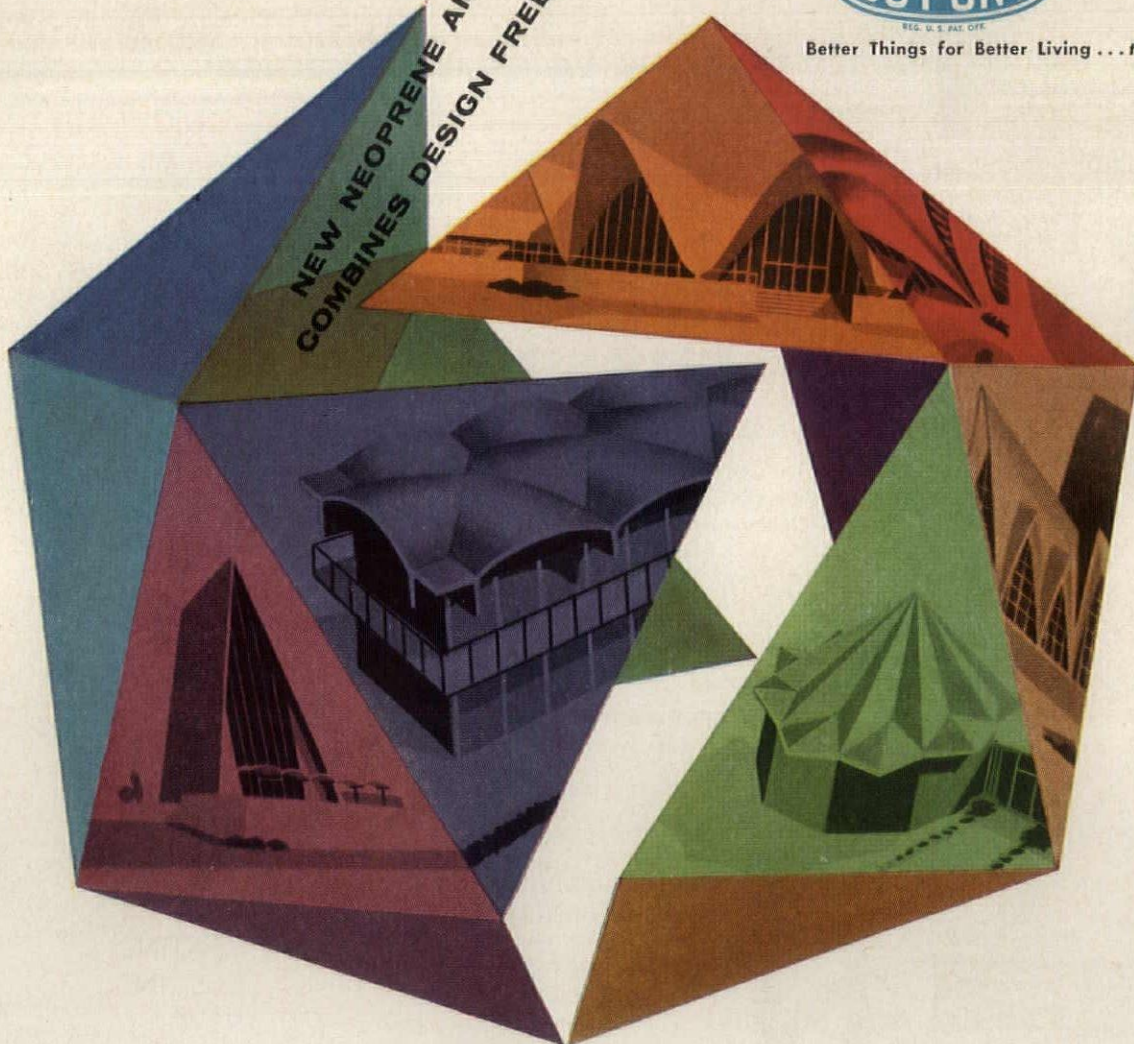
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**American Standard Specification . . . for Polysulfide Base Sealants for the Building Trade** covers appli-

cation of polysulfides to concrete, aluminum, stainless steel and glass surfaces and can also be used as a frame of reference for suggested minimum performance of sealants. No. A116. *Thiokol Chemical Corp., Trenton, N. J.*

**Concrete Admixtures**

*Effect of Water-Reducing Admixtures and Set-Retarding Admixtures on Properties of Concrete* consists of ten papers and a summary, four papers representing the joint con-

tribution of four producers of admixtures. Extensive tabular material, charts and references are also included. 246 pp., \$7.50. *American Society for Testing Materials, 1916 Race St., Philadelphia 3, Pa.*

**Light Reflectance Charts**

Answer common queries on light reflectance values of *Mastic Tile* products. The chart shows the difference in reflectivity of asphalt and vinyl-asbestos tile colors. *Mastic Tile Div., Ruberoid Co., 500 Fifth Ave., New York 36, N. Y.\**

**Sound System for Schools**

Describes twelve standard sound systems to meet every school need, including two-way communications, and "all-call" facilities for emergency messages and distribution of AM or FM broadcasts, recorded programs and taped material. Also described are automatic telephone systems. *Dukane Corp., St. Charles, Ill.\**

**Toilet Compartments**

Describes, and gives details and specifications for full line of toilet compartments, dressing enclosures, cubicle partitions and shower stalls in baked enamel, porcelain and stainless steel. 8 pp. *Global Steel Products Corp., 10014 Avenue D, Brooklyn 36, N. Y.*

**West Coast Lumber Grades**

Covers in detail the uses and specifications of West Coast lumber with illustrations and conversion tables for both construction and finish lumber. Also included is information on stress grades for construction lumber, a brief summary of kiln drying and a list of typical and special West Coast lumber products. 20 pp. *West Coast Lumbermen's Assn., 1410 S.W. Morrison St., Portland 5, Ore.\**

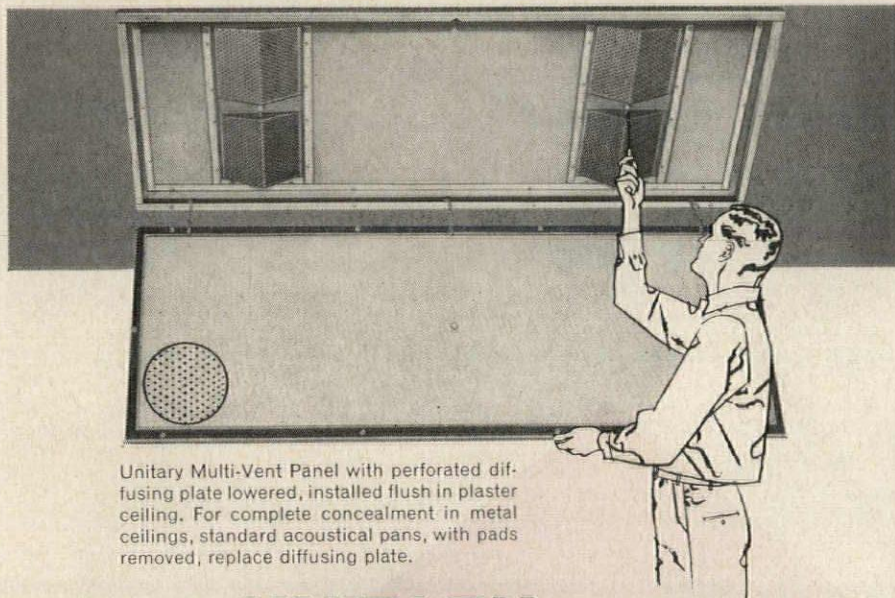
**Lightolier Portfolio**

(A.I.A. 31-F-23) Offers over a hundred imaginative designs in decorative lighting. *Lightolier, 11 E. 36th St., New York 16, N. Y.\**

**Outdoor Dial Bulletin**

Gives information on outdoor clocks and thermometers featuring ultra-thin casings of aluminum and stainless steel. Bulletin A-24. *Electric Time Co., Inc., 16 Union St., Natick, Mass.\**

*\*Additional product information in Sweet's Architectural File*



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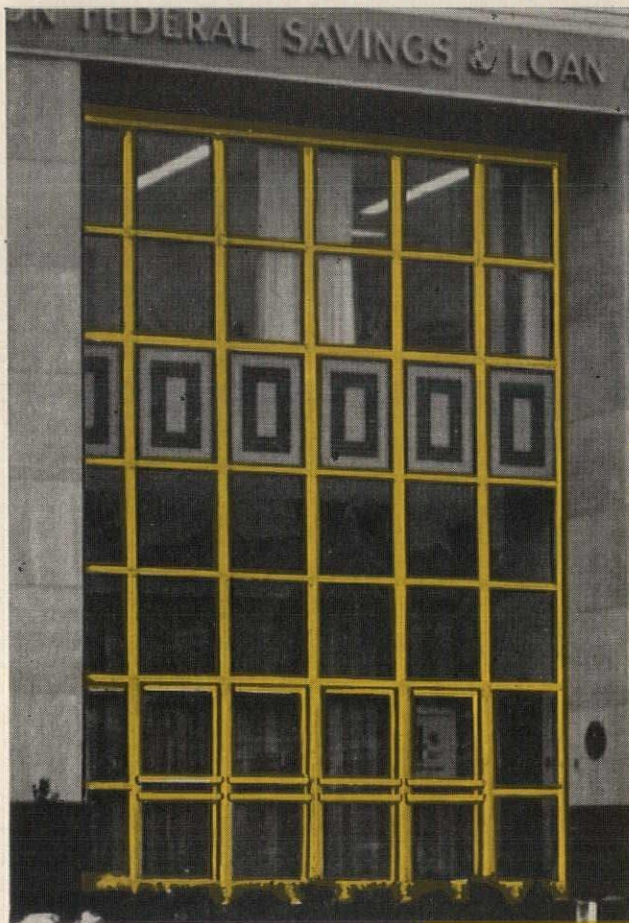
- ... eliminates need for air directional adjustments by diffusing vanes or baffles.
- ... eliminates dirt impingement on ceiling and wall surfaces.
- ... eliminates sound of rushing air.
- ... permits diffusers to be located anywhere in ceiling.
- ... permits partitions to be relocated with no diffuser adjustments necessary.

**Engineering data book available to system design engineers on request.**



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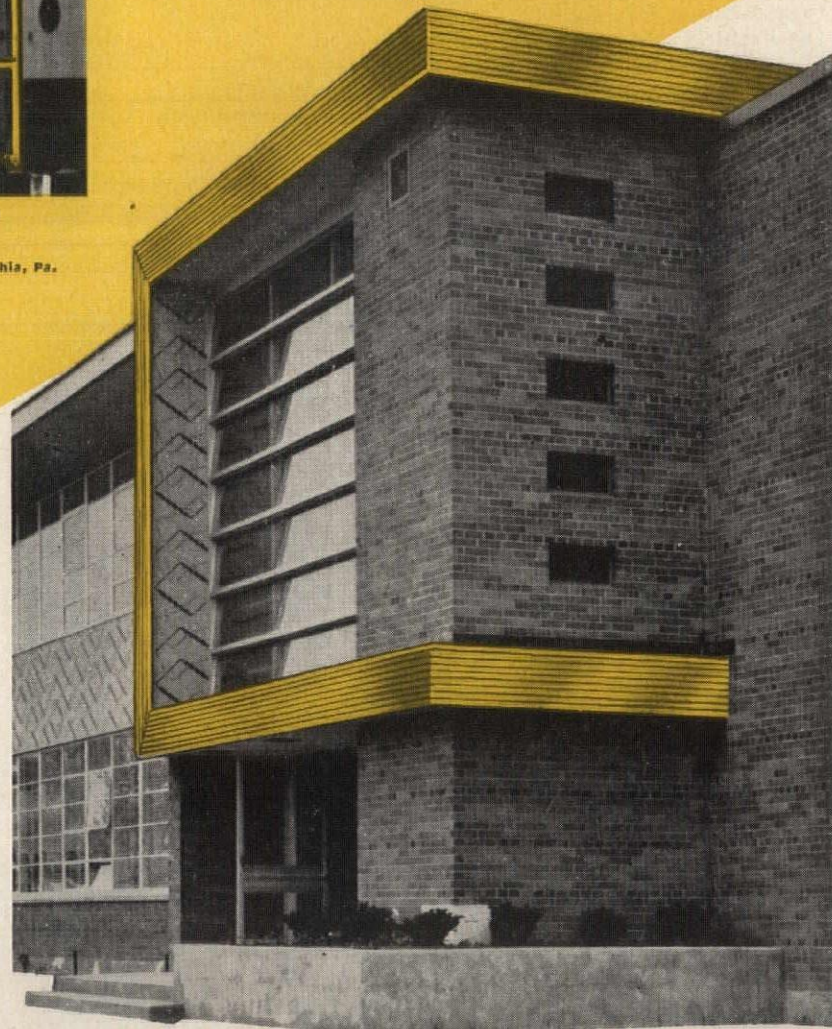




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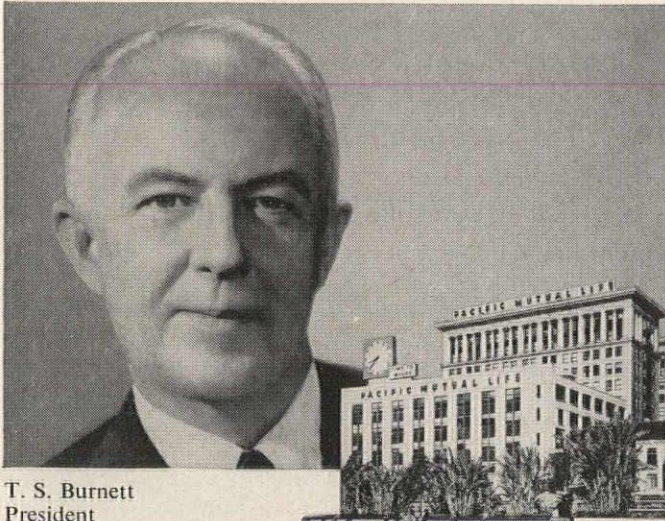
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# These Pacific Coast Decision-Making WESTINGHOUSE ELEVATOR "30-MINUTE



T. S. Burnett  
President  
Pacific Mutual Life Insurance Co.  
Los Angeles, California

“ Our elevator problem was to move up to three thousand people per hour—quickly, pleasantly and dependably. Engineering studies and demonstrations decided us on nine Westinghouse Selectomatic units. They’ve proved exactly the right solution. ”



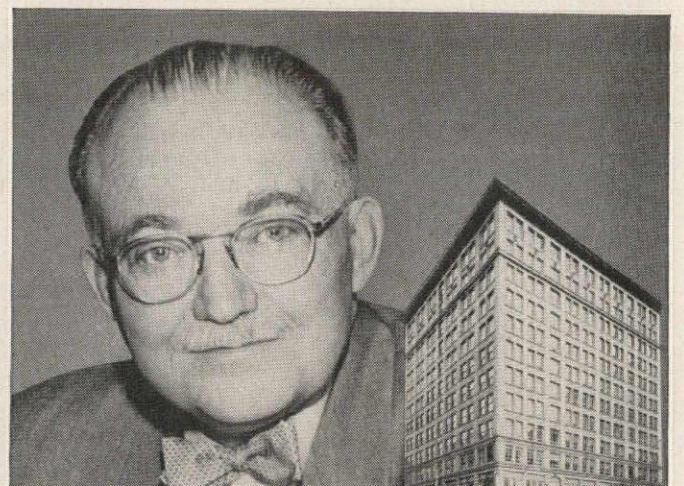
Joseph R. Burres  
2nd Vice President & Manager  
City Real Estate  
California-Western States Life Insurance Company  
Sacramento, California

“ My behind-the-scenes look at Westinghouse automated Traffic Control proved that safe operatorless elevating is here today. Once more, this ‘Eye-Opener’ demonstration showed me that there is, indeed, a big difference in elevator systems. Westinghouse leadership in electronic automation certainly sold me on this system for the California-Western States Life Insurance Company Building. ”



L. C. Lavachek, Vice President  
Ladd Building Company  
Portland, Oregon

“ Before we modernized the Pacific Building, we looked at many types of automatic elevator installations. We decided on Westinghouse because we were most favorably impressed with its many fine features, particularly the manner in which the Westinghouse Selectomatic System handled traffic demands placed on elevators during the heavy up and down peak periods of the day. I was convinced of the tremendous amount of research and engineering that went into the design of Westinghouse operatorless elevators. ”



J. A. Zimmerman, President  
Olympic National Life Insurance Company  
Seattle, Washington

“ The Westinghouse ‘Pre-Investment Eye-Opener’ demonstration gave me an opportunity to see what makes an elevator system ‘tick.’ It pointed up the fact that there’s much more to an elevator than the cab. Seeing the equipment as it went through its operational paces was dramatic evidence of Westinghouse quality in action. The demonstration convinced me that our decision favoring Westinghouse was a wise one for Olympic National. ”



# Executives Experienced the PRE-INVESTMENT EYE-OPENER"

## WESTINGHOUSE DEMONSTRATION ANSWERS YOUR IMPORTANT QUESTIONS ABOUT BENEFITS OF MODERN OPERATORLESS ELEVATORS

Westinghouse invites you to participate in a demonstration of the most advanced elevator system in the world. You must experience elevator performance to appreciate the remarkable results of Westinghouse engineering skills. Here are elevators that "think" for themselves *electronically* and *automatically*. They are as new as tomorrow—and more dependable than any elevator system previously devised. Tenants expect to find them in new buildings—and more and

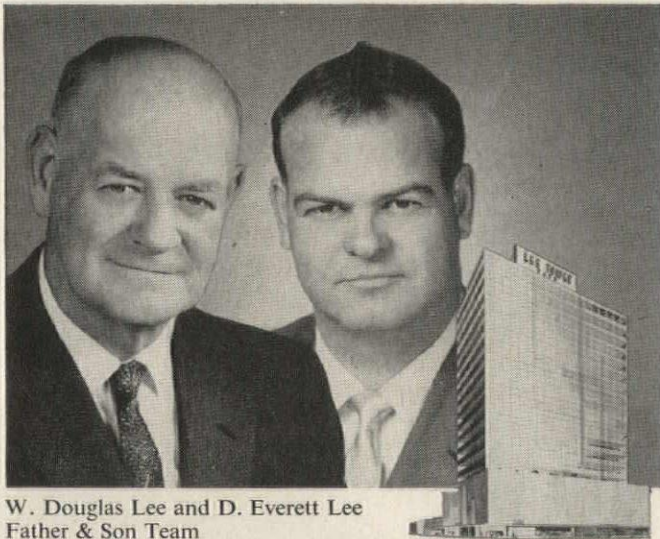
more managements of existing buildings specify them at modernization time.

Selecting an elevator system is a key decision which deserves your personal attention and approval. As a building owner or manager, it pays you well to investigate before you invest. Make arrangements to see this behind-the-scenes demonstration by calling the Westinghouse Elevator Division Sales Office in your city. You can be sure . . . if it's Westinghouse.



J-98777AA

ELEVATORS AND ELECTRIC STAIRWAYS



W. Douglas Lee and D. Everett Lee  
Father & Son Team  
Architects, Owners and Builders of the  
22-story Lee Tower  
Los Angeles, California

“We, as architects, know the merit of good vertical transportation relative to the population demands of a structure of this nature. The Westinghouse 30-minute demonstration crystallized our research study for Lee Tower. We are convinced that Westinghouse Selectomatic Automatic Elevators will deliver the maximum performance with minimum maintenance.”



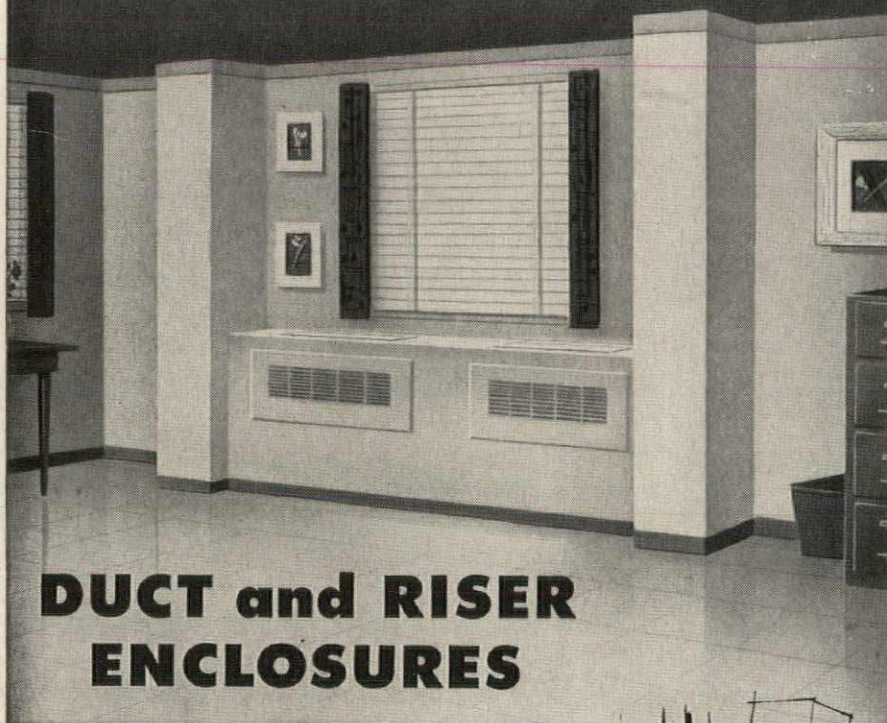
Willard E. Abel  
Vice President  
Western Hotels, Inc.

“Three important questions had to be answered before we selected a modernized elevator system for the Sir Francis Drake Hotel in San Francisco . . . Would the elevators start and stop with the greatest smoothness and comfort?—Were operatorless elevators going to be faster and more efficient?—Would they *automatically* take care of changing traffic demands in our hotel? The ‘Eye-Opener’ demonstration provided the answer to all three questions, a decided *yes*. Westinghouse was our clear choice.”



# MET-L-WOOD

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## DUCT and RISER ENCLOSURES

- ... faster, cleaner installation
- ... lasting finished beauty
- ... complete accessibility

Installing Met-L-Wood riser enclosures, air ducts, convector covers and paneling benefits everyone connected with the job:

Architects and contractors plan on substantial installation time savings and know that smooth, uniform Met-L-Wood needs only paint to finish after installation.

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## The Record Reports

### Ten Serve as 1960-61 Critics at Cornell

The heads of two of Britain's leading schools of architecture and professionals from Sweden and Peru are among the ten who now serve as Visiting Critics in the College of Architecture at Cornell University during 1960-61.

The Britons are Dean Ralph Cowan, head of the School of Architecture and Town and Country Planning at Edinburgh College of Art; and Douglas Jones, director of the School of Architecture at Birmingham College of Arts and Crafts. From Sweden comes Jean Allpere, graduate of the Royal Institute of Technology and the Royal Academy, Stockholm. The fourth Visiting Critic from a foreign nation is Santiago Agurto-Calvo of Lima, Peru.

Participating American critics are: Robert Little, Miami, Fla.; Quincy Jones, Los Angeles; Charles Warner, New York, N. Y.; Edwin Thurlow, Raleigh, N. C.; Peter Blake, New York, N. Y.; and Paul Hayden Kirk, Seattle, Wash.

Critics come to Cornell for periods varying from two to 15 weeks and work with fourth-year students in architectural design courses. The relationship between students and critics is informal, and critics are encouraged to conduct a problem of their own choice in any manner they see fit.

### Yale Faculty Members Honored By University in Peru

Two Yale University faculty members have been honored by the National University of Engineering of Lima, Peru. They are Dean Gibson A. Danes, Yale School of Art and Architecture, and Walter De Salles Harris, assistant professor of city planning, who has been on leave this year serving as director of the Inter-American Housing and Planning Center in Bogota, Columbia.

Dean Danes, who became head of Yale's School of Art and Architecture in 1958, was awarded an honorary professorship. He was lauded for "international university collaboration and the furthering of knowledge

*more news on page 282*



# "We bank on Gulistan,"

says WALTER R. WILLIAMS, Jr., President, Union Dime Savings Bank, New York, N. Y.



Main office, Union Dime Savings Bank. Custom carpet by Gulistan Design Department. Carson and Lundin, New York, Architects.

"Six years ago, we said: *Wall-to-wall carpeting for the depositors, not just the vice-presidents!* And we opened our new 39th Street branch with Gulistan Carpet in the whole banking area—the first bank in town to take such a step.

"Naturally, we chose Gulistan again when it was time to cover the floors of our new main office. With Gulistan economy and lasting luxury, we'll *always* bank on Gulistan Carpet!"

With all these advantages—beauty, long wear, mothproofing, soundproofing, safety—Gulistan needs so little care it cuts costs of floor maintenance up to 50% over other kinds of flooring. In limitless colors and original designs. Ask your Gulistan dealer about them. Or let us work out a one-of-a-kind design carpet for you.

More distinguished banks, hotels, restaurants, theaters, choose Gulistan than any other carpeting.

Write: Commercial Department AR-11, A. & M. Karagheusian, Inc., 295 Fifth Avenue, New York 16, N. Y.





# Long Beach Memorial Hospital

Architects Associated  
Long Beach, California.

J. C. BOESPFLUG Construction Co.  
Los Angeles, California.

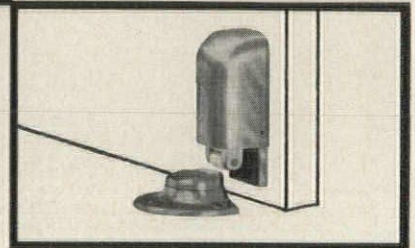
Builders Hardware & Supply Co.  
Los Angeles, California.

Arthur V. Geringer, A. H. C.

SG-3920 SERIES DOOR HOLDERS were selected for their fully adjustable holding power, smoothness of operation and design to facilitate hospital cleanliness.

The clean contours of the case with its concealed attaching screws are pleasing in appearance, and discourage dirt collection. The smoothly rounded strike permits power scrubbing and polishing machines to ride over and around it, virtually eliminating unclean and unsanitary areas.

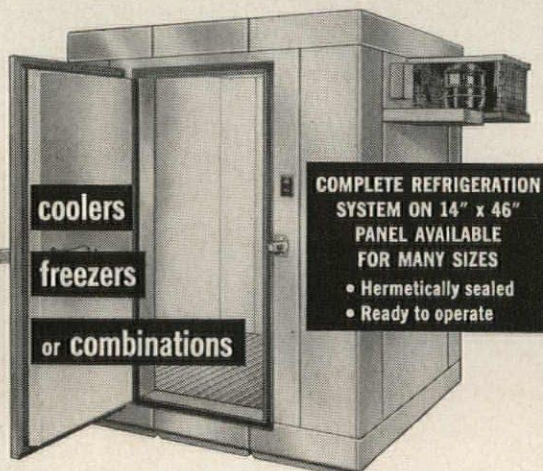
The nylon holding pawl quietly engages the strike, showing consideration to sensitive patients. Thoughtful selection of superior hardware always compliments superior buildings.



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Aluminum or steel sectional construction



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or combinations

**COMPLETE REFRIGERATION  
SYSTEM ON 14" x 46"  
PANEL AVAILABLE  
FOR MANY SIZES**  
• Hermetically sealed  
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Sanitary! Strong! Efficient! You can assemble any size cooler, freezer or combination in any shape from standard sections. Add sections to increase size as your requirements grow. Easy to disassemble for relocation.

**ARCHITECTS:** see 8 pages of engineering data in Sect. 26/A of Sweet's Catalog.

**Bally Case and Cooler, Inc., Bally, Pa.**

Get details—write Dept. AR-11 for FREE book.

For a safer... more  
comfortable... more  
enjoyable home...



## New Talk-A-Phone

ALL-TRANSISTOR  
**HOME INTERCOM-RADIO SYSTEM**

Provides complete intercommunication  
as well as radio all thru your house.

- Listen-in on baby, children or sick room... You can keep an ear on loved ones from any room in the house, day or night.
- Answer outside doors from any room... without opening doors to strangers. Saves time... saves steps... gives you that added safety in the home
- Talk from room to room... upstairs or downstairs, talk back and forth with anyone in kitchen, bedroom, work or play room.
- Enjoy radio in every room... Your best liked radio programs follow you throughout the house with the simple flick-of-a-switch.

A touch of elegance—distinctively styled by Dave Chapman, internationally renowned industrial designer. Beautifully finished in richly blended tones of satin silver and polished gold. Easily installed in homes already constructed as well as in new construction.

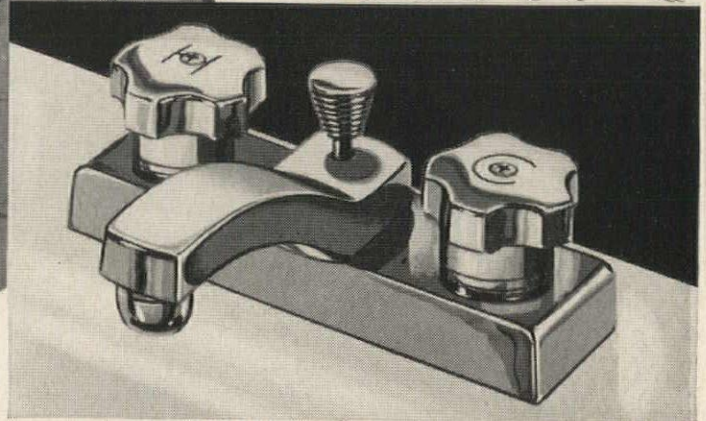
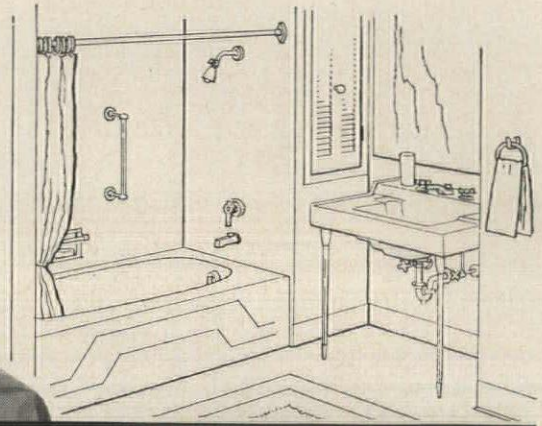
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*Kohler Centra Constellation lavatory fitting, K-7400.*

## “Kohler Fixtures and All-Brass Fittings

# will cut your apartment maintenance costs!”

*“That’s mighty important!”*

“It sure is . . . as builder-owner you’ve got a long-term investment in this apartment house . . . As your architect it was my job to protect it.”

*“Right! . . . But how do I save on maintenance?”*

“For one thing, you’ll have far fewer repairs and replacements with Kohler All-Brass Fittings.”

*“Why?”*

“Because genuine brass resists wear and corrosion. Also takes and holds chrome finish better than any other metal.”

*“Sounds fine! . . . Now tell me—”*

“Wait! There’s more . . . Every Kohler fitting has the Valvet unit that works with a smooth piston-like movement . . . Eliminates the grinding action that wears out washers so fast in conventional faucets.”



*“Do these faucets work easily?”*

“At a finger-touch . . . and easy shut-off means no dripping—less rough handling.”

*“I’ll tell my tenants these are Kohler—”*

“They’ll know anyway . . . All Kohler fittings have the Kohler name on the handles . . .”

*“Kohler fixtures certainly deserve Kohler fittings—the finest.”*

“Of course! . . . Kohler fixtures are outstanding for looks—for durability . . . Installing them with matching Kohler fittings was one of the two smartest things we did.”

*“What’s the other?”*

“Specifying *two* Kohler bathrooms for all three-bedroom apartments . . . Extra bathrooms are the biggest trend in today’s apartment and home building because there’s no greater modern convenience!”

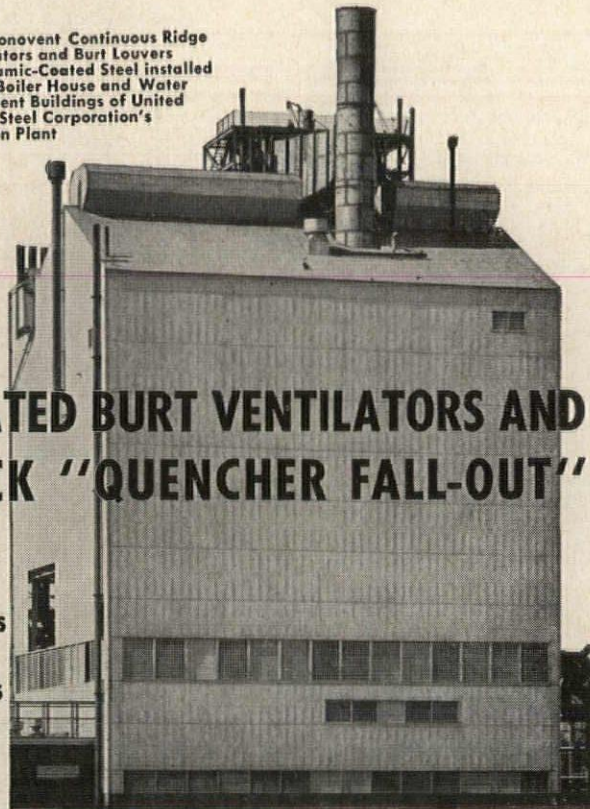
KOHLER Co. Established 1873 KOHLER, WIS.

# KOHLER OF KOHLER

ENAMELED IRON AND VITREOUS CHINA PLUMBING FIXTURES • ALL-BRASS FITTINGS • ELECTRIC PLANTS • AIR-COOLED ENGINES • PRECISION CONTROLS

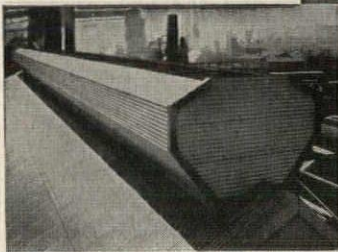


Burt Monovent Continuous Ridge Ventilators and Burt Louvers of Ceramic-Coated Steel installed in the Boiler House and Water Treatment Buildings of United States Steel Corporation's Clairton Plant

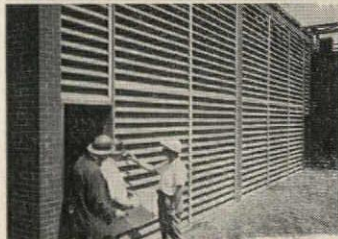


## CERAMIC-COATED BURT VENTILATORS AND LOUVERS LICK "QUENCHER FALL-OUT"

End  
Hazardous  
Maintenance Problems  
in World's Largest  
Coke and By-Products  
Plant



Two runs totalling 75' of 96" Burt Continuous Monovent are installed on the Boiler House. 101' of 48" Burt Continuous Monovent Ventilators serve the Water Treatment Plant in this photo.



4,268 sq. ft. of Burt Adjustable Louvers and 635 sq. ft. of Burt Fixed Louvers are in the installation. Illustrated is a 16' x 24' Fixed Louver in the transformer Room Wall.

Coke areas have probably the greatest roof and ventilator replacement in steel mills. At the United States Steel Corporation's Clairton Works, the Boiler House and Water Treatment Plant, because of prevailing winds, are subjected almost constantly to quencher fall-out.

Tests show that V-Corr ceramic-coated sheets are fully resistant to emission acids, rust and salt. The Burt ventilators and louvers, of ceramic-coated steel and stainless steel, assure long, trouble-free operation under probably the most highly corrosive conditions in the country.

There is a particular type and size of Burt Ventilator and Burt Louver to solve your ventilating problems too. Send for the Burt Data Book now for your present or future needs.



Send for **FREE Data Book!**

Write for Burt Data Book SPV-101-1-60. It supplies quick data on Burt's complete line of modern Roof Ventilators.

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# The Burt Manufacturing Company

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MEMBER AIR MOVING & CONDITIONING ASSOCIATION, INC.

## The Record Reports

continued from page 282

Syracuse University's School of Architecture, he has served on the School's Senior Thesis Jury and on the Cooperating Committee of Architecture.

### Ohio "Distinguished Alumnus" Award Given Arthur T. Brown

Architect Arthur T. Brown, Tucson, Arizona, was among five recipients of the "Distinguished Alumnus" Award from the faculty of the College of Engineering at Ohio State University.

These five annual awards were established by the College of Engineering faculty at Ohio State University in 1954 "to recognize distinguished achievement of alumni in the field of engineering by reason of significant inventions, important research or design, administrative leadership or genius in production." Nominations are made by faculty members, evaluated by the Committee on Honorary Degrees and Honors of the College of Engineering, and are finally granted by secret vote of the faculty.

Mr. Brown was cited for "his creative genius and renown in the field of architecture and architectural research, his contributions as an author and inventor, and his leadership in the affairs of his profession."

The recipient in 1949 of an Award of Merit in residential architecture from the American Institute of Architects and annual regional A.I.A. awards for churches, residential, and hotel projects, he is a member of the A.I.A. and past president of the Arizona State Chapter. He is presently a member of the Ohio State Alumni Advisory Committee, formed in 1949 to work with the School of Architecture.

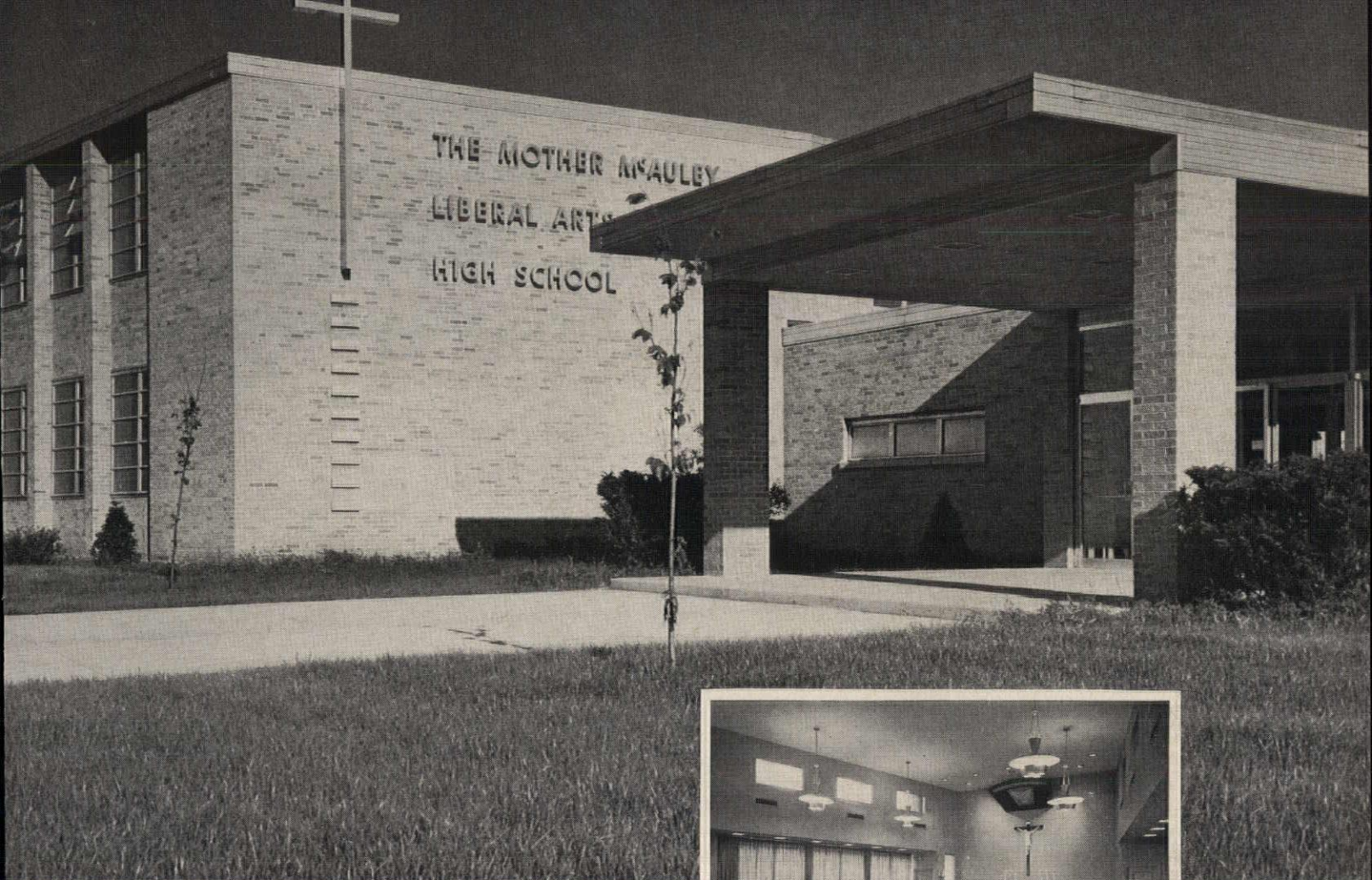
### Illinois Gets Ford Grant for Experimental Urban Program

The Ford Foundation has awarded a grant of \$125,000 to the University of Illinois for a three-year experimental training program in urban affairs.

Designed to permit the University to develop techniques whereby it can do as much for Illinois urban areas as it has done for the state's agricul-

more news on page 290





Mother McAuley Liberal Arts High School, Chicago. Architects: Fox & Fox, Painting Contractor: M. H. Roberts Company, 515 South Cicero Avenue, Chicago.



### NEW CHAPEL AND SCHOOL DECORATED WITH DEVOE PAINTS

The modern beauty of Mother McAuley Liberal Arts High School is a combination of many things. It's the architecture of Fox & Fox, the color scheme of Sister Augusta, and the paints applied by M. H. Roberts Company—Devoe paints, for both the interior and exterior.

On your own projects you'll find working with Devoe advantageous. Not only for the matchless beauty and quality of the paints themselves, but for the Devoe Color Consultant Service as well. It's free and without obligation.

If you wish, Devoe's Color Consultants and architectural representatives will thoroughly analyze your paint requirements . . . taking into consideration such important factors as cost, climate, use, maintenance, and durability as well as color and appearance. Or they'll assist your specification writer or color specialist. They'll save you time, costs, and details. Make you color presentations to show your clients. Build you a color reference library. All without obligation.

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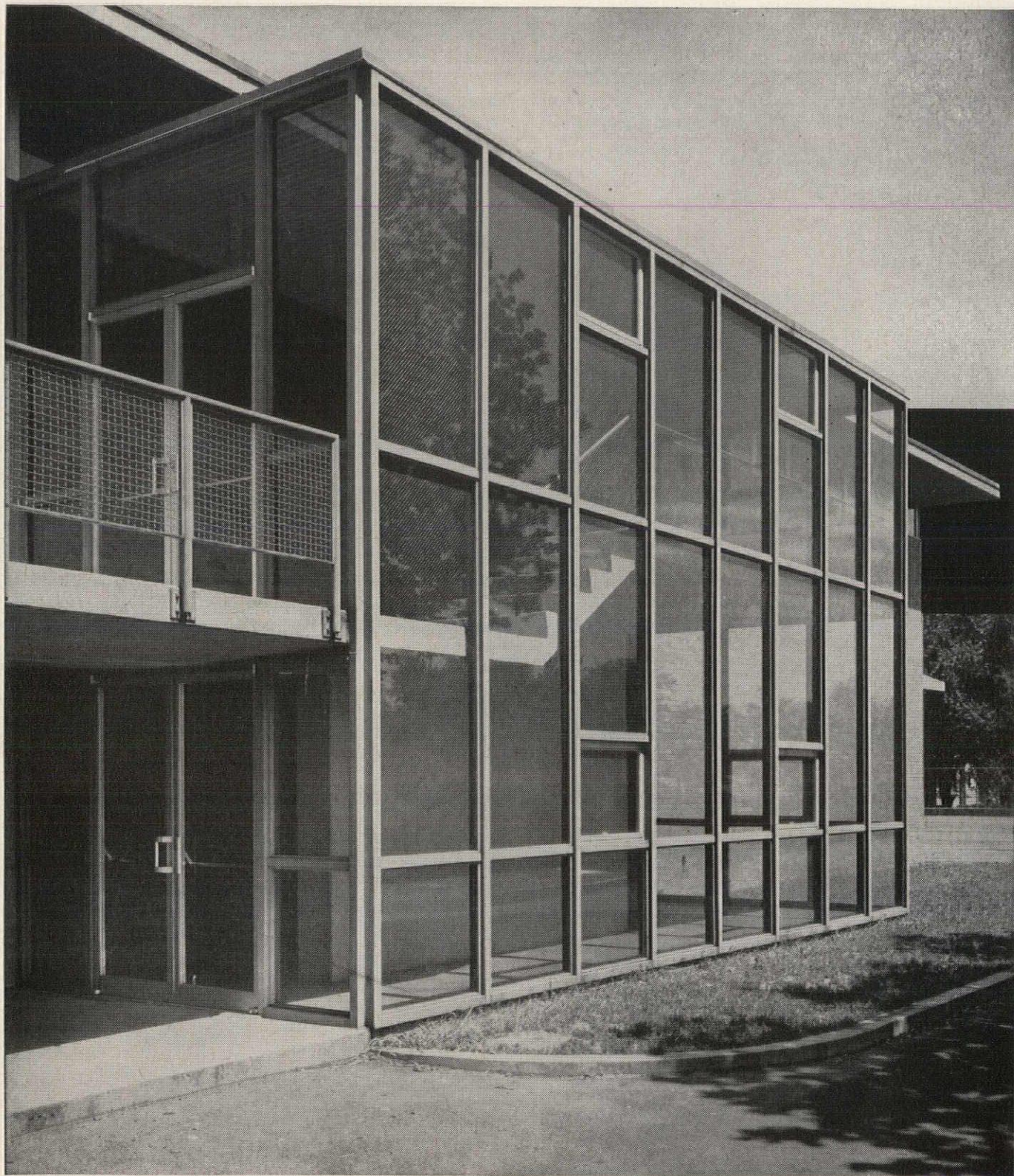
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Stairwell of Polished Misco Wire Glass contributes to overall appearance as well as safety in the Fort Saunders Elementary School, Knoxville, Tenn.  
 Architect—Painter, Weeks & McCarty, Knoxville, Tenn.

For details, see your nearby distributor of quality glass or write for latest catalog. Address Department 7.



WORLD'S LARGEST



Impact and fire resistance are twin features of this Polished Misco Wire Glass installation in Tennessee School for the Deaf, Knoxville, Tenn. Architect—Painter, Weeks & McCarty, Knoxville, Tenn.



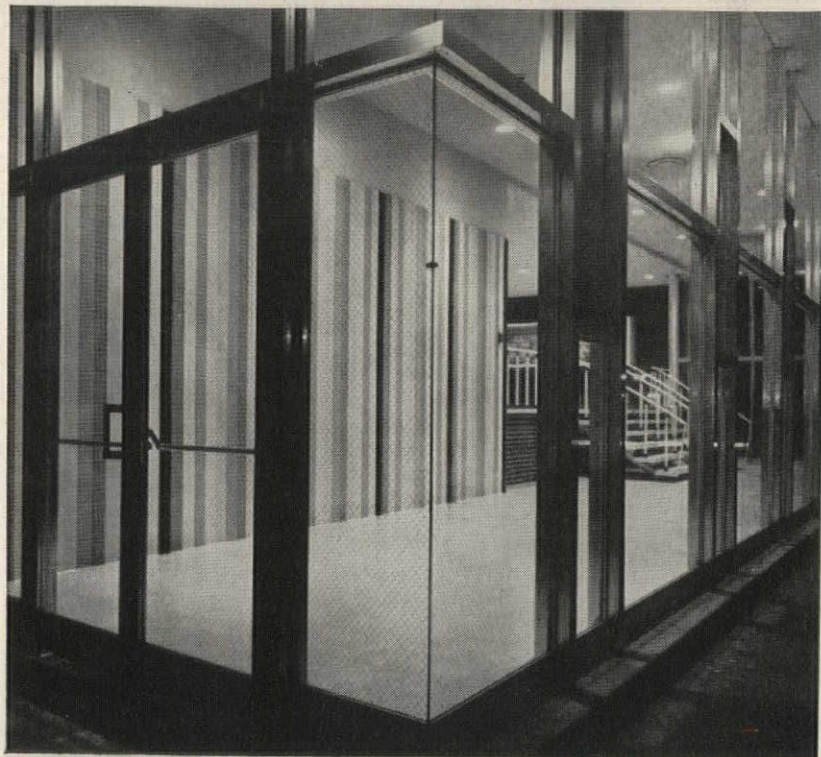
## MISSISSIPPI GLASS...

LEADS THE WAY IN

*Daylighting*

WITH SAFETY

Combining beauty, utility, and economy, Mississippi leads the way by making available an extensive selection of translucent glass patterns that do wonderful things with daylight. In addition, rugged Mississippi Wire Glass, whether for obscurity or clear vision, affords effective but inconspicuous fire protection while enhancing the appearance of any structure . . . when installed in partitions, skylights, stairwells, windows, doors, or wherever else fire and breakage protection is required. The versatility of Mississippi glass provides architects and engineers with a practical solution to virtually every daylighting problem, including safety with decoration, with heat absorption and with light diffusion and direction.



Polished Misco Wire Glass glazed in main entrance of Hellertown High School, Hellertown, Pa. Architect—Heyl, Bond & Miller, Allentown, Pa. Contractor—Gottlieb-Schneider, Bethlehem, Pa. Glazing Contractor—Penn Allen Glass Company, Allentown, Pa.

## MISSISSIPPI GLASS COMPANY

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88 Angelica Street • St. Louis 7, Missouri  
MANUFACTURER OF ROLLED, FIGURED AND WIRED GLASS



# The Record Reports

continued from page 286

tural community, the project will involve study of possible services of the University to urban areas, training of "urban generalists" to carry out these services; and specialized University aid to selected Illinois urban communities.

Key agencies in the project are the University's Institute of Government and Public Affairs, headed by Professor Gilbert Y. Steiner and the Bureau of Community Planning under Professor Louis B. Wetmore.

"Urban Generalists" prepared in the project will be persons competent to carry University research findings in a variety of fields to the urban areas and to bring back to the campus information on urban developments of interest to University researchers in political science, planning, sociology, economics, education and other areas of study.

At present Illinois is believed to be the only university concerned with the development of "urban general-

ists" of this type. Urban studies at the University of Wisconsin and Rutgers University, also sponsored by the Ford Foundation, have been duplicating for urban areas the kind of service provided by agricultural research, education and extension programs of the land-grant colleges.

## Kentucky Sets Up Five-Year Curriculum in Architecture

The five-year curriculum in architecture has been formally established at the University of Kentucky, Lexington, Ky. With the fall freshman class of approximately 50, architectural students number over 100.

Staff members are: Charles P. Graves, professor and head of the Department; Dr. James P. Noffsinger, associate professor, Architectural History; Grady Clay, visiting lecturer in Civic Design (currently on leave with the Ford Foundation); David P. Fogle, visiting critic; Richard Schubert, visiting critic; Jasper D. Ward, visiting critic; and James A. Clark, visiting lecturer.

Valuable assistance in setting up the architectural program was given by a visiting American Institute of Architects team composed of Alex Cochran, Walter Taylor, Leonard Currie and Frank Montana.

## Student-Backed Scholarship Originated in California


A scholarship paid for by students to help other students has been originated by the California State Polytechnic College Chapter of Tau Sigma, honorary engineering fraternity. The \$250 scholarship is available to any student in need, if his grades are in the upper one-third. He does not have to be a member of the fraternity. Funds come partly from fraternity dues.

Tau Sigma officers originating this scholarship idea include Donald Lee Parker, San Luis Obispo, past president, and Bruce C. Parent Jr., San Luis Obispo, new president.

## Michigan Fellowships Awarded To Two Graduates

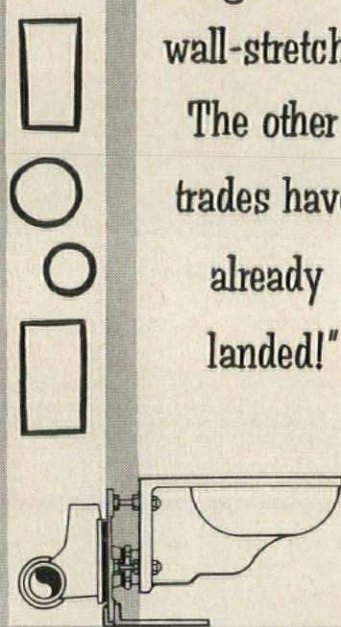
Two graduates of the University of Michigan College of Architecture and Design are currently enjoying the  
*more news on page 294*

"Okay, Charlie



bring in the  
wall-stretcher.

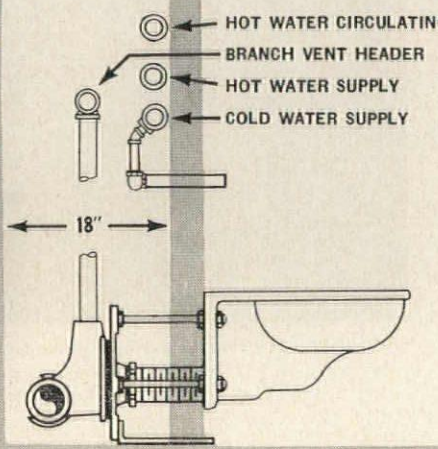
The other  
trades have  
already  
landed!"



---

**THE REAL ANSWER:**

Don't be space wise and dollars foolish: provide at least the space shown at right. Then all the trades — plumbing, heating, air conditioning, ventilating — will find room to work.



### WADE CARRIER-FITTINGS

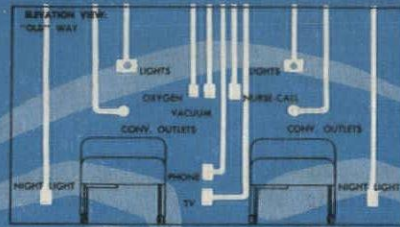
Write for WADE Carrier-Fittings Dimensional Standards Charts.

**WADE MANUFACTURING CO.**  
Elgin, Illinois

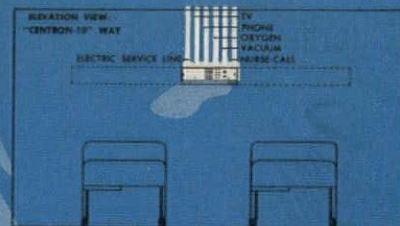


# Centron-10 means a pleasant recuperative environment

In one centralized system, Centron-10 incorporates up to ten hospital bedroom services normally installed separately. This means more comfort to the patient and more convenience to the hospital staff.



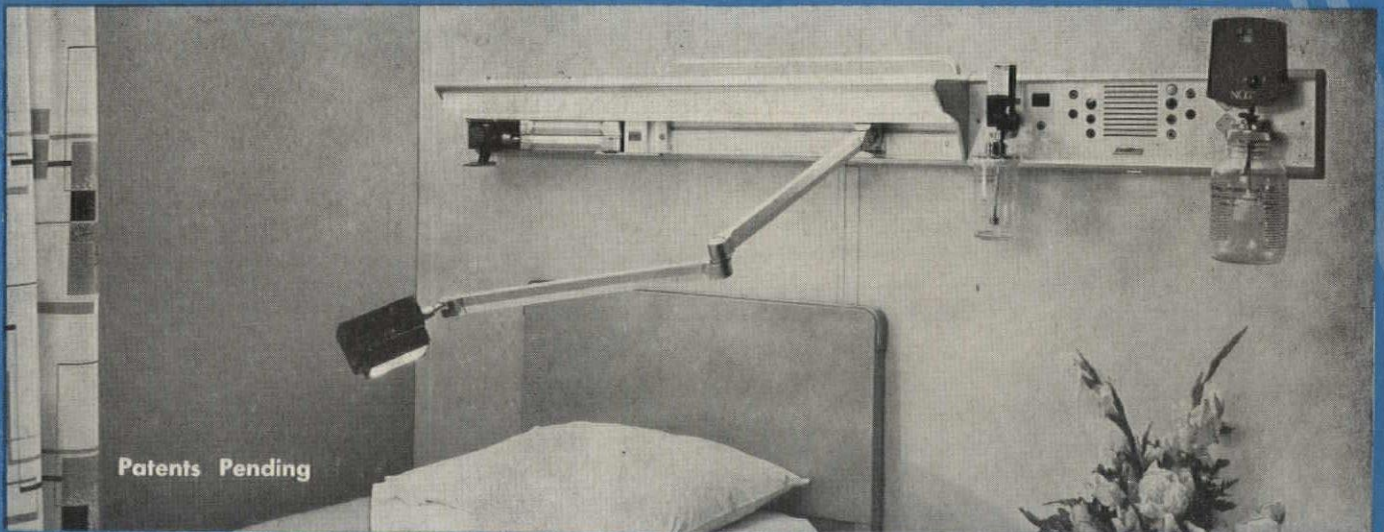
"OLDWAY"—Up to 22 service outlets clutter the walls of two adjoining rooms. Various fixtures and accessory equipment must then be separately ordered and installed.



"CENTRON-10 WAY" — Requires only 8 service lines for back-to-back installation. All auxiliary equipment may be consolidated into the one neat console. No separate fixtures need be ordered.

With Centron-10, hospital bedrooms can be bright, cheerful and almost home-like which may reduce the patients' anxieties and hasten his recuperation. For pleasant general illumination, Centron-10 features a fully enclosed, plastic shielded indirect lighting component. The narrow beam reading lamp adjusts to any convenient and normal reading position. A high intensity, color-corrected exam light on an extendable arm remains in whatever position the doctor chooses. The integral night light is usefully located. Centron-10 also provides for 2-way nurse call systems,\* oxygen and vacuum systems,\*\* phone outlets, TV lead-ins and convenience outlets. An intravenous apparatus support which swivels out of the way when not in use is also available.

\*Such as Executone \*\*Such as N.C.G.



Patents Pending

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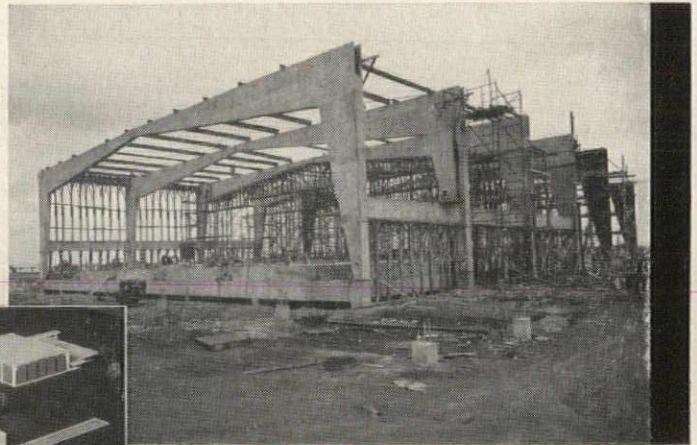
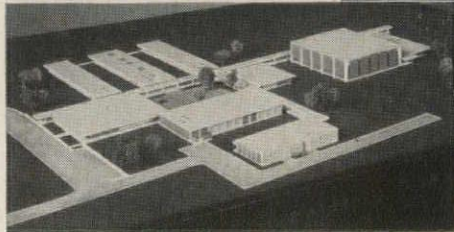


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The Gym for Robstown High School has 117 ft. span (outside to outside of column) using The Prescon System to post-tension the prestressed concrete three hinged arch. Savings over conventional methods approached five figures. T. Y. Lin observed that this is one of the most outstanding structures in the country. Of the other buildings, four made use of The Prescon System in a cast in place beam and slab structural system.

Savings, design flexibility, and materials that are readily available are possible when you plan with prestressed concrete using The Prescon System of post-tensioning. For details of this and other types of



Robstown High School, Robstown, Texas  
Architect and Engineers: Donnelly & Whittet, Corpus Christi

structures write or contact a Prescon representative.

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- Pier 40 Superstructure, New York City • Titan Missile Silos, South Dakota • Belcher 13 Story Apartment Building, San Francisco • Beverly Hills Parking Structure, Hollywood • Highway Bridges, California • Memorial Stadium, Charlotte, N. C.

See our catalog in Sweet's.



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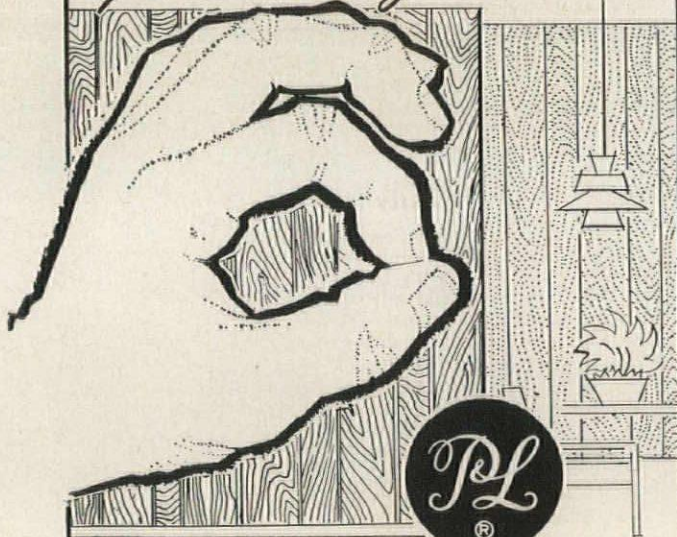
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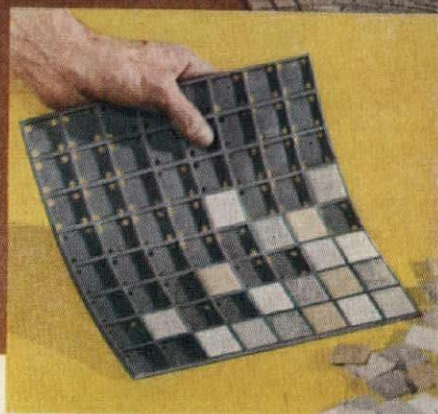
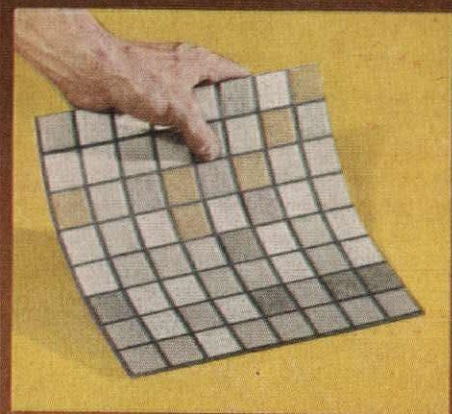
New floor tile discovery  
from Romany·Spartan...

# CERAMAFLEX\*

rubber-cushioned ceramic mosaics  
in 9" squares



Plate No. 1099



## It's flexible and resilient!

Ceramaflex, because of its unusual flexibility, adjusts automatically to minor imperfections in sub-floor. But the rubber grid which makes this possible serves other functions, too. Ceramaflex floors are quiet because they are mounted in *resilient* rubber which acts as a cushion between the ceramic mosaic tiles and the sub-floor, and they are easy on the feet. Heavy furniture and appliances will not dent the surface.

## Tiles are mounted in rubber pockets!

Each of the 64 ceramic mosaics that make up one 9" x 9" unit is permanently bonded in a pre-formed rubber grid. Because the edges of Ceramaflex 9" x 9" units are beveled, they lay up so tightly that joints are unnoticeable in the finished job.

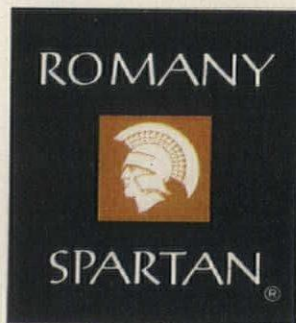
## So easily installed!

Because Ceramaflex is pre-grouted, installation is simple and fast. It's ready for use the instant it's laid. Ceramaflex is installed with a special adhesive as quickly and easily as conventional resilient floor tile. It can be installed satisfactorily on or below grade as well as above grade, over proper sub-flooring. Simple, rapid installation results in application cost substantially lower than that of conventional ceramic mosaic floors.

**To You, Mr. Architect,** CERAMAFLEX opens a broad new field for floor application of ceramic mosaics. This labor-saving, high quality product embodies all the most-wanted qualities of ceramic tile, plus *two important additions*: floors that are both *quiet* and *easy on the feet*. This makes Ceramaflex a superior flooring material for many areas in schools, institutions, retail, commercial and industrial establishments. And in residential work resilient Ceramaflex can be used advantageously in kitchen and family rooms as well as the more frequently tiled areas.

Ceramaflex is as *new as tomorrow*, so if you don't yet have samples and information...call your nearby Romany·Spartan sales representative or distributor, or write for Bulletin RS-228. United States Ceramic Tile Co., Dept. AR-18 Canton 2, Ohio.

\*Trade Mark. Ceramaflex is the exclusive product of United States Ceramic Tile Company.



## PRODUCT DATA

**CONSTRUCTION.** Made of Romany·Spartan unglazed 1" x 1" ceramic tiles which are securely bonded in a flexible rubber grid.

**DIMENSIONS.** Ceramaflex flooring units are 9" x 9" squares...and 7/32" thick. Each Ceramaflex floor unit is composed of 64 ceramic mosaic tiles approximately 1" x 1".

**FINISH.** The surface of Ceramaflex is sealed at the plant with a protective coating to prevent wearing-in of dirt and grime.

**COLORS.** Random medley patterns in twelve handsome color combinations.

UNITED STATES CERAMIC TILE COMPANY



receipt of awards for the academic year 1960-61. Robert J. Frasca, Lewiston, N. Y., has been awarded the \$1500 George G. Booth Traveling Fellowship in Architecture, annual award established in 1923 by a gift from the late George G. Booth of Detroit; and Paul O. Heyer, Brighton, England, has been awarded the \$1000 Albert Kahn Graduate Fellowship, sponsored by Albert Kahn Associated Architects and Engineers, of Detroit.

## N.Y.U. Names Roberto As University Architect

Joseph J. Roberto, A.I.A., has been named to a new post of New York University, that of university architect.

The post was created because, according to George F. Baughman, vice president for business affairs and treasurer for N.Y.U., "New York University's expanding academic and research programs require extensive

physical planning and evaluation of their effect on the surrounding community."

## City Planning Firm Sets Up Fellowship at Penn

A research fellowship in city planning has been established by Harland Bartholomew and Associates, city planning consulting firm, at the School of Fine Arts of the University of Pennsylvania in Philadelphia. The first fellowship has been awarded to Olin J. Mitchell, a graduate student in city planning at the University.

## Five Engineering Scholarships Awarded by Armco and N.S.P.E.

Continuing for the second year, as part of the Armco Foundation and National Society of Professional Engineers' program for developing the nation's engineering resources, four-year civil engineering scholarships have been awarded to five high school seniors in the U.S.

Recipients of the \$3000 scholarships were chosen by a committee made up of professional engineers, members of N.S.P.E., and representatives of the Armco Drainage & Metal Products, Inc., a subsidiary of the Armco Steel Corp.

The five scholarship winners for 1960 are: Leroy E. Baker, Omaha, Neb.; Gary R. Bourne, Cashmere, Wash.; Thomas F. Francis, Poland, N. Y.; Peteris A. Porietis, Marion, Ohio; and Philip J. Stockhausen, Ormond Beach, Fla.

## R.A.I.C. Awards Scholarship To Outstanding Student

The Royal Architectural Institute of Canada College of Fellows has awarded a scholarship of \$2500 to Jean Garreau of Montreal.

Winner of the R.A.I.C. Medal for the most outstanding student in the final year, Mr. Garreau graduated with Honors in Architecture from Ecole des Beaux Arts, Montreal, in 1957. At present he is senior architect with Andre Blouin, architect and town planner.

He plans to use his scholarship to travel in western Europe, where he will study public housing with *more news on page 300*

**1** **1-PART** Tremco formulation permits immediate use of factory-mixed 100% liquid polymer sealant.

**2** **1-PART** Tremco formulation eliminates failure hazards and higher cost of on-the-job mixing.

**3** **1-PART** Tremco formulation assures exceptional adhesive qualities and long-life elasticity.

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**TREMTAPE**  
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**MONO LASTO-MERIC**

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**TREMCO MONO LASTO-MERIC®** has this important basic superiority over conventional sealants; it is formulated with Tremco-developed and Tremco-manufactured pure 100% liquid polymer. Conventional sealants require the use of ingredients that will migrate or disappear in time, thus

lowering sealant life and efficiency. The desired requirements of exceptional adhesion and enduring elasticity are *inherent* and *permanent* parts of the Tremco basic polymer.

Tremco 1-Part 100% Liquid Polymer supplies the difference that assures absolute weathertightness for controlled joints, expansion joints and conventional caulking joints. Ask your TREMCO Man for a Mono Lasto-Meric data sheet or write: The Tremco Manufacturing Company, Cleveland 4, Ohio, or The Tremco Manufacturing Company (Canada) Limited, Leaside, Toronto, Ontario. See our Catalogs in *SWEET'S*.

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BUILDING MAINTENANCE & CONSTRUCTION

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... you specify a Tremco service!"



## CLOSED CELL STRUCTURE KEEPS ROOFMATE DRY

That's why the insulating efficiency stays high permanently; why Roofmate keeps heat, water, moisture out, regardless of weather conditions.

*Roofmate\* doesn't soak up water.* The millions of tiny non-interconnecting air cells in Roofmate provide high water resistance. This insulation can even act as its own moisture vapor barrier, eliminating the need for a separate vapor barrier. Water and moisture vapor won't pass through or build up inside Roofmate.

Roofmate has a rigid core of expanded polystyrene foam (Styrofoam®), enclosed in asphalt-laminated Kraft paper. The closed-cell structure of the foam core bars water and moisture vapor entry so effectively that foam of this type is used as unsinkable flotation material for floating docks! This same water resistance makes Roofmate a permanently effective insulating material.

Low "C" factor gives Roofmate maximum insulating efficiency with minimum thickness. This lightweight material is strong and rigid, too, spanning fluted steel decks without danger of cracking. In addition, the high moisture vapor resistance of Roofmate reduces the possibility of blistering.

Roofmate can be bonded to any conventional deck—poured concrete, pre-cast panels, poured gypsum, wood, steel—and the built-up

roof can be applied directly over it using any of the conventional hot-applied systems.

The advantages offered by Roofmate add up to quick, easy installation for the contractor, long, trouble-free service life for the owner, and dependable, economical performance which the architect can plan on with confidence. For more information about Roofmate, contact the nearest Dow sales office, or write THE DOW CHEMICAL COMPANY, Midland, Michigan, Plastics Sales Dept. 1702N11.

\*Trademark

### Other Dow Building Products

**STYROFOAM®**—Long lasting insulation for cavity walls; an effective insulating base for plaster and wallboard. Low "K" factor, resistant to water and water vapor.

**SCORBORD®** (pat. applied for)—Superior moisture-resistant insulation for foundation perimeters, slab floors. Pre-scoring speeds installation.

**SARALOY® 400**—Durable, elastic flashing material that's cut to size right on the job, conforms to irregular shapes, bonds to most common construction materials.

**POLYFILM®**—High-quality polyethylene film for use as vapor barrier or dust stop.



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spect to siting, planning, implementation and building techniques.

Chicago A.I.A. Makes First Materials Research Grant

The Chicago Chapter of the American Institute of Architects has awarded the first Material Service Foundation Fellowship of \$2500 for postgraduate study in new uses of concrete and masonry to Chester L. Sprague, 29, of Lake City, Minn.

Chosen because of his interest in developing a new method of forming concrete by using a plastic or lightweight concrete which would become an integral part of the structure, Mr. Sprague will begin his research immediately at M.I.T., from which he graduated with the degree of Master of Architecture in 1958.

Mr. Sprague said he hopes to develop hollow forms of plastic or lightweight concrete which will serve as decorative or acoustical surfaces

for exterior and interior concrete walls, floor and ceilings. He said such forms would assist in locating steel reinforcement in the concrete and permit easier pouring of horizontal and inclined surfaces.

Mr. Sprague was chosen for the Fellowship by W. J. Bachman, president of the Chicago Chapter, A.I.A., and Irving Crown, vice chairman of the Board of the Material Service Division of General Dynamics Corporation.

Mr. Crown said, "We feel these fellowships will help to uncover new and better ways to use concrete and masonry. Concrete has come in many new forms in recent years such as lightweight aggregate, prestressed concrete and concrete blocks for structural and decorative applications. These developments have convinced us that concrete products have an almost endless number of uses and we hope this research will uncover some of these additional functions."

University of Illinois Plym Fellowships are Awarded

Winners of the 1960 Francis J. Plym fellowships in architecture and architectural engineering were Richard E. Carlson, Chicago, 1955 graduate in architecture at the University of Illinois, and Herbert Schneider, New York, 1957 graduate in architecture. Plym awards carry a stipend "to be applied to expenses of study in Europe for at least six months."

Statehood Brings Changes For Hawaii Registration

Statehood for Hawaii has brought many changes to the Hawaii Board of Registration for Professional Engineers, Architects and Land Surveyors.

The Board is now under the Department of Treasury & Regulation. Its offices have been moved to 450 S. Hotel Street in Honolulu, the Palace Grounds area where many state buildings and offices are located.

The executive secretary, Bill Furer, has retired due to age as required by law. New executive secretary is Morris M. Comer.

The Hawaii Board of Registration, organized in 1920, has registered 232 professional architects to date. *more news on page 306*

# Planning a laundry for a

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- INDUSTRY?
- SCHOOL?
- INSTITUTION?

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Out of this world . . .

*MicroRold*

## MOON STEEL

Because stainless steel has helped to bring man's conquest of the heavens ever nearer, it has rightfully earned a new space-age name —MOON STEEL.

Since 1955, Washington Steel has been the exclusive supplier of light gage stainless steel sheet for the outer covering of the Atlas missile. The reason is simple: Washington Steel pioneered in the art of rolling stainless steel to uniform gages and has been able to meet the exacting specifications set up by space engineers for this momentous undertaking.

This is why MicroRold\* stainless is truly out of this world!

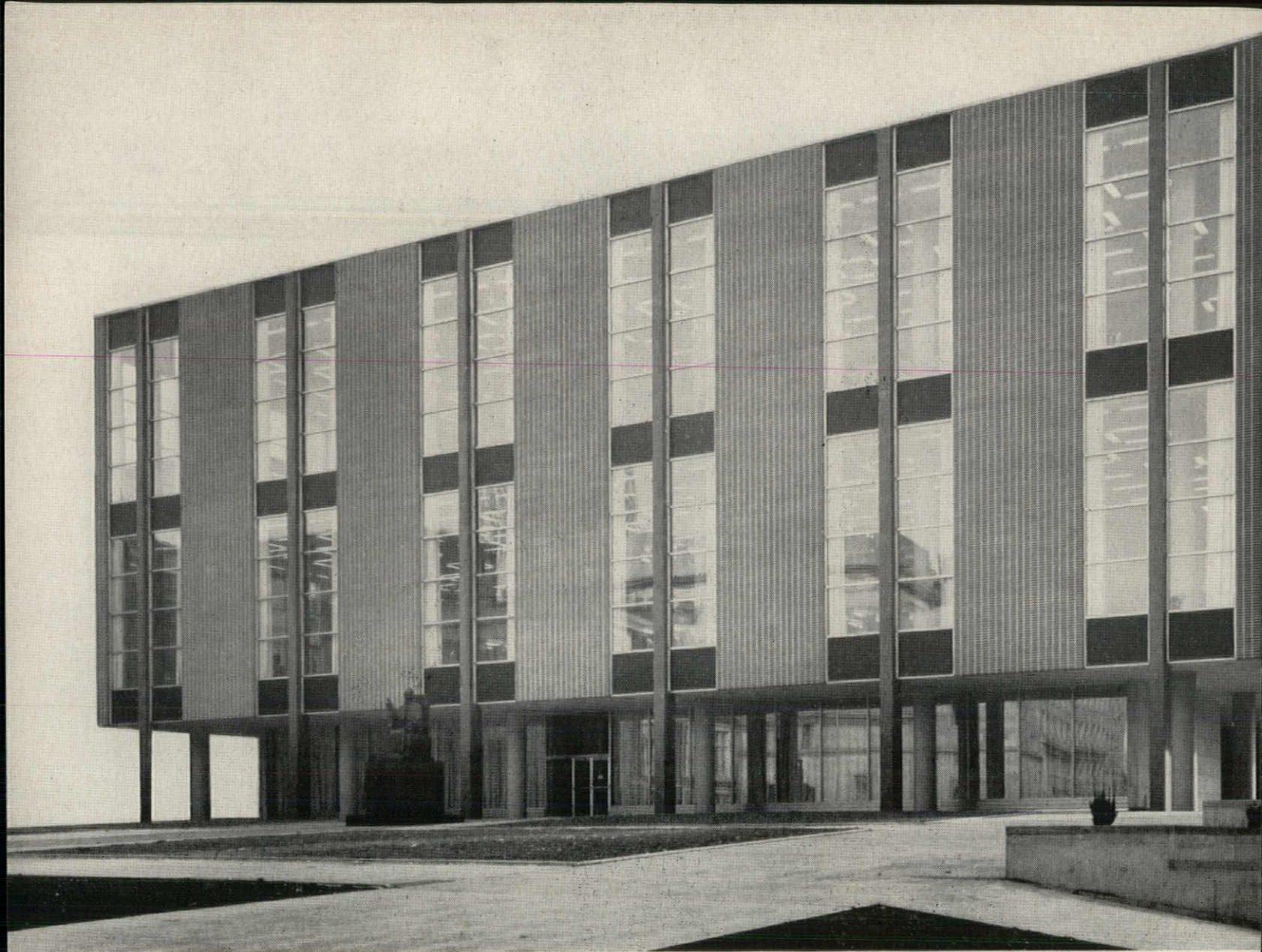


**WASHINGTON STEEL CORPORATION**

Washington, Pa.

\*REG. T.M.





Day-Brite lighting helps make the new Pius XII Memorial Library a center of attraction on the St. Louis U. campus.

Day-Brite Troffers with Cleartex® Plastic Lens Panels deliver 73 footcandles of illumination to reading areas.







Architect and Engineer: Leo A. Daly • Electrical Contractor: Sachs Electric Corp.

## How Day-Brite lighting "sells" reading in the new Pius XII Memorial Library

From the architect's first draft to the final choice of curtains, St. Louis University's modern new library was planned with one goal in mind: to encourage students to *use* it.

Self-service, open-type book shelves were used to invite "browsing" among the stacks. "Wide-open" interior design helped create a pleasant atmosphere. In addition, comfortable bright-colored furniture was contrasted against light-colored walls and a noiseless cork floor.

Lighting, of course, was a major consideration. It had to facilitate reading and, at the same time, add to the over-all cheerfulness. Day-Brite lighting was specified for high-level, high-quality illumination and clean, modern fixture design.

Good vision calls for good lighting. And you display good vision when you call in your Day-Brite representative early. *Day-Brite Lighting, Inc.*, 6260 N. Broadway, St. Louis, Mo., and Santa Clara, Calif. In Canada: *Amalgamated Electric Corp., Ltd.*, Toronto 6, Ont.



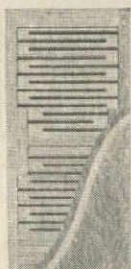
NATION'S LARGEST MANUFACTURER OF  
COMMERCIAL AND INDUSTRIAL LIGHTING EQUIPMENT



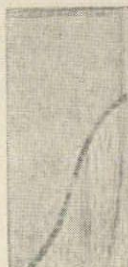
# HASKELITE INSTITUTIONAL AND ARCHITECTURAL DOORS



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Hollow Core



Particle-Board  
Solid Core

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in any specie

Complete factory fabricating, pre-finishing and prefitting of all standard and special size Haskelite doors are available per architectural specifications. This assures the architect greater freedom of design and simplification of installation.

In addition, all Haskelite doors are *Thermo-Bonded* using pressure and heat to assure maximum resistance to distortion . . . *Quality-Controlled Unitized Frame Construction* provides outstanding structural rigidity plus 100% adhesion at all points of contact with face . . . *Velvetized Surface* brings out the full natural beauty of Haskelite face veneers.

Light openings, louvers and door moldings are provided according to architectural specification or in accordance with Haskelite manufacturing detail list. Constructed weathertight. Available in solid or hollow core doors.

(See also Sweet's Architectural File 16c/Has.)



**HASKELITE**  
**MANUFACTURING**  
DIVISION EVANS PRODUCTS COMPANY  
Grand Rapids, Michigan

## The Record Reports

continued from page 300

ty-three candidates for registration were examined in August 1960.

At present there is a marked increase in nonresident applications. The reason for this is assumed to be the wide interest in the new Capital planning together with a state-wide general building expansion.

### Progress in Arc Welded Design: Aim of \$25,000 Award Program

A \$25,000 award program for Progress in Arc Welded Design has been announced by the James F. Lincoln Arc Welding Foundation of Cleveland, Ohio.

Cash awards will go to authors of papers describing the welded steel design of either machines or structures. Dr. E. E. Dreese, Foundation chairman, states that the awards are being made to advance progress in the development of better machines and structures through more efficient use of arc welded steel and to recognize individual contributions.

The competition is open to any U.S. resident who has taken part in the design, planning, or production of the design described in his paper.

Separate awards will be made for structures and machines. Papers will be judged primarily on results achieved or expected in the areas of overall cost, appearance, public acceptance, plus savings realized or anticipated by that portion of the structure fabricated by arc welding, in the structures category, and by similar standards in the machines category.

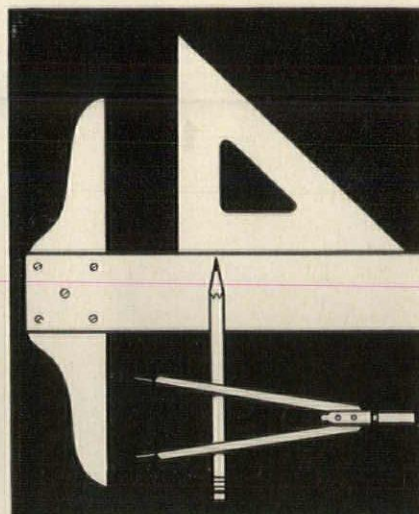
In each division, \$12,500 will be awarded to the 38 best papers. The competition closes July 17, 1961.

Complete information and rules may be had from the James F. Lincoln Arc Welding Foundation, P. O. Box 3035, Cleveland 17, Ohio.

### Rome Prize Fellowships Offered for 1961-62

The American Academy in Rome is again offering a limited number of fellowships for "mature students and artists capable of independent work" in architecture, landscape architecture, musical competition, painting, sculpture, art history, and classical studies.

more news on page 314



## Tips on savings in restaurant design . . .

Save money for your clients by creating modern restaurant plans that use paper—the personal food service.

All-paper food service makes *the big difference* in the cost of constructing and operating all types of food service operations. It reduces the capital investment required for cubage as well as kitchen equipment. Dishwashing and breakage are eliminated and service is faster where paper is used. But you will want to learn more, so—

### WRITE FOR THIS BOOK



Get this 60-page manual of helpful information on all phases of food service, with cost studies and case histories of money-saving ideas from hundreds of restaurants and institutions. Write on your letterhead for a copy.

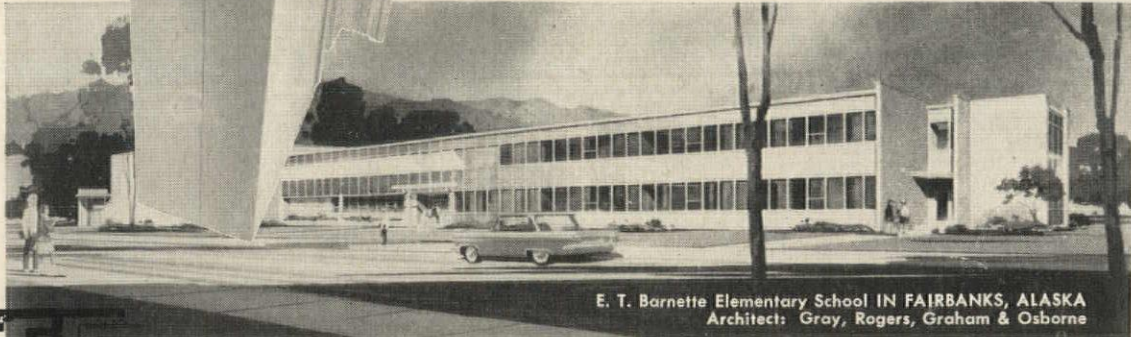
Paper Cup and Container Institute, Inc.  
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**PAPER**  
the *personal*  
food service



# new INSU-WALL

cuts thermal conduction up to **63%**  
through aluminum curtain wall grid section



E. T. Barnette Elementary School IN FAIRBANKS, ALASKA  
Architect: Gray, Rogers, Graham & Osborne

Now, exclusively from MARMET Corporation... a new aluminum curtain wall system containing a *hidden* thermal barrier between exterior and interior wall metal. Independent laboratory tests prove it cuts thermal conduction through the metal *by up to 63%!* The special insulator material is permanently bonded (with an epoxy resin) and pinned into the mullion and sash extrusions... providing identically fast erection methods to MARMET 6442-43 grid panel (non-insulated) series on the job site. INSU-WALL requires no tedious and costly *sub*-component assembly on the building. In this respect there is no comparable insulated curtain wall on the market today!

And now at last, aluminum's lightness and permanence of finish are adapted to the severest winter's cold and the most searing summer's heat. INSU-WALL has a lower U factor .408 than 1" insulated glass. We quote from "Becher-Hoppe" (consulting engineer's) test report: "... any attempt to increase the insulating value of the curtain wall (Insu-Wall) would have to include an improvement of the insulating value of the glass and banding" ... The tests showed that condensation and frost will form on the insulated glass *before* forming on the metal! THEREFORE, Insu-Wall can be used in connection with one inch insulated glass with complete assurance that if condensation and frost are not a problem on the glass, they will be no problem on the curtain wall metal.

Cross section showing mullion with fixed lite to left and operating sash to right. Fine parallel lines are thermal insulator in extrusions.

## Four Key advantages in INSU-WALL

1  
2  
3  
4

1 Reduces heat loss through curtain wall metal in severe winter cold. Because the condensation problem does not exist with Insu-Wall, perimeter heating may be replaced with less expensive systems.

2 Licks the problem of condensation forming on interior curtain wall metal... with attendant possible damage to plaster, wall paneling, carpeting, drapes and furnishings.

3 Reduces air conditioning load by preventing heat transfer into building through sun heated curtain wall framing in warm climates or summer temperatures.

4 Requires no *added* installation time or added assembly labor on the site.

INSU-WALL's many advantages in performance, design features, erection methods and types of building application are so extensive, that space does not allow fully covering them here. We strongly suggest you send the convenient coupon below for full information, including the independent laboratory test report.

### MAKES ALUMINUM CURTAIN WALL PRACTICAL IN ALL THERMAL PROBLEM AREAS



#### AIR CONDITIONED OFFICES

Heat transfer into cool inside air is minimized as temperatures build up in the sun on large expanses of curtain wall metal.



#### HUMID CAFETERIAS and RESTAURANTS

By minimizing temperature differentials between aluminum surfaces and humid inside air, INSU-WALL eliminates the condensation problem arising from steam tables and adjacent kitchen areas.



#### SCHOOLS and COLLEGES

School heating costs can be reduced by reducing the heat loss thru curtain wall used in school stairwells, entrance areas and corridor passages as well as classrooms.



#### INDOOR SWIMMING POOLS

In many cases, the esthetic effects of daylighted, curtain walled, swimming pools can be maintained without frost or heavy condensation.



CORPORATION

300-C Bellis Street, Wausau, Wis.

For additional information on the complete line of MARMET products—consult Sweet's Catalog File No. 3a or write to MARMET for catalog. Mar

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

**Another New York skyscraper** has been reinforced with USS American Welded Wire Fabric. This is Rockefeller Center's new forty-eight-story Time & Life Building, an outstanding example of contemporary architectural design. The exterior steel columns are encased in stone-faced concrete which project from the walls and serve to accent the vertical sweep of the tower.

The frame supports short span, lightweight concrete slabs reinforced with USS American Welded Wire Fabric. Each slab is 8'0" long and 4" thick. When asked why the fabric-reinforced short-span design was selected for this structure, W. B. Scofield, partner in the structural engineering firm of Edwards & Hjorth, said "This system provides first-class, fireproof construction with a long record of satisfactory service in addition to its proven economy, speed of construction, and occupancy flexibility."

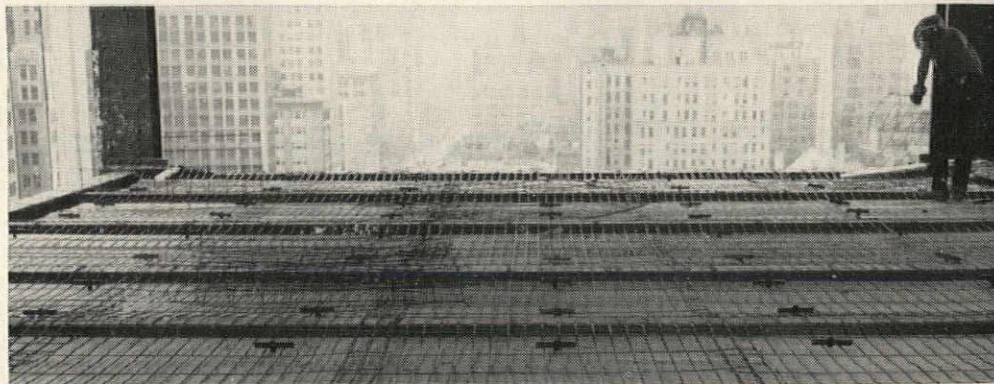
**USS American Welded Wire Fabric** was also used to reinforce the concrete fireproofing encasement of the columns, girders, and beams. Fabric is excellent for this application because the small, closely spaced members reinforced this thin concrete best. In addition, fabric is easily shaped to fit the contours and is sufficiently rigid to maintain the required shape.

Please write American Steel & Wire, Dept. 0441, 614 Superior Avenue, N.W., Cleveland, Ohio or contact our nearest sales office for complete information on these or any other uses of USS American Welded Wire Fabric.

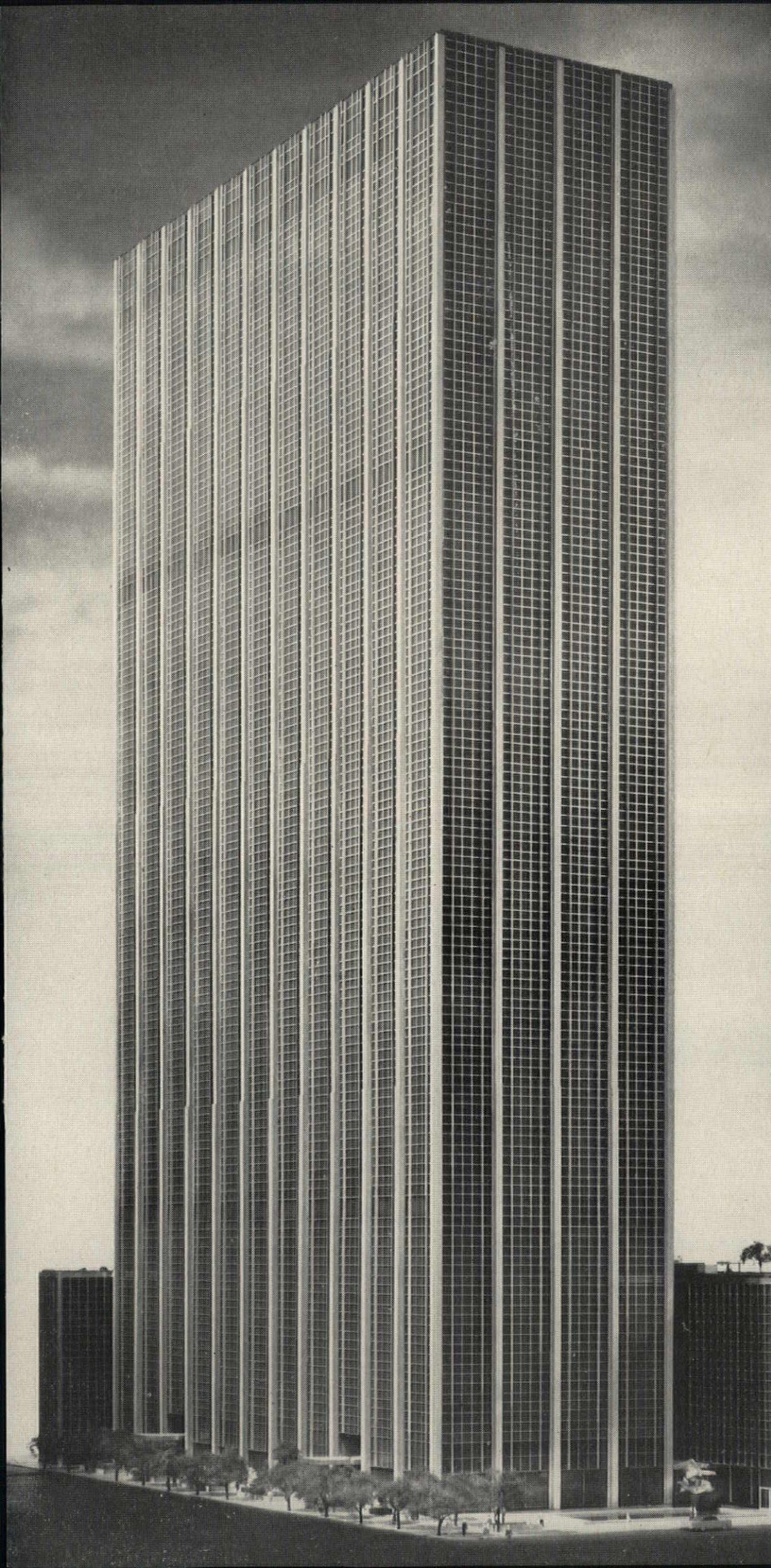
*USS and American are registered trademarks*

Short-span fabric-reinforced floor system in Rockefeller Center's Time & Life Building. American Welded Wire Fabric was furnished in long rolls and merely unrolled perpendicular to the beams and on top of the forms. It was draped from the top of the slab over the beams to the bottom of the slab at mid-span. Thus, the reinforcement is in position to best resist both positive and negative moments. The economy of steel placement is apparent. In total, over six million square feet of short-span slabs reinforced with Welded Wire Fabric have been used in New York's Rockefeller Center.

Owners: Rockefeller Center, Inc. and Time Inc.  
Architects: Harrison & Abramovitz & Harris  
Structural Engineers: Edwards & Hjorth  
General Contractor: George A. Fuller Company  
John Lowry, Inc.  
Fabric Distributor: Fireproof Products, Inc.







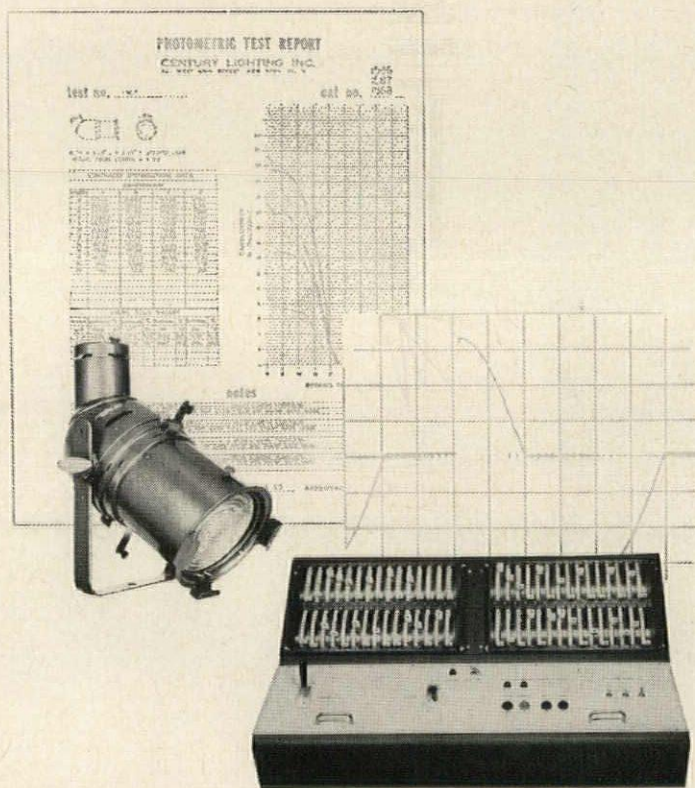
**American Steel & Wire  
Division of  
United States Steel**



Columbia-Geneva Steel Division, San Francisco,  
Pacific Coast Distributors  
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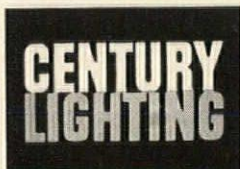
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is in control...



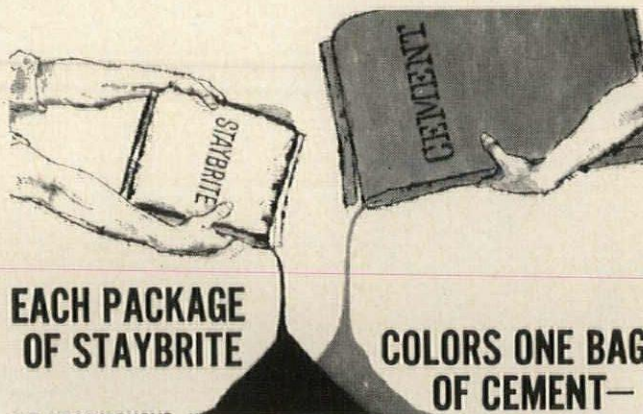
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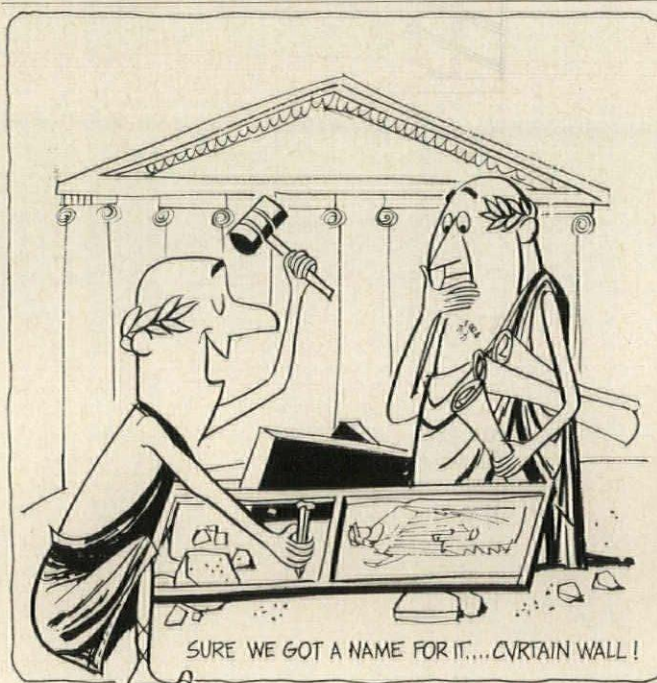
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Sun Chemical Corporation

750 Third Avenue, New York 17, N. Y.



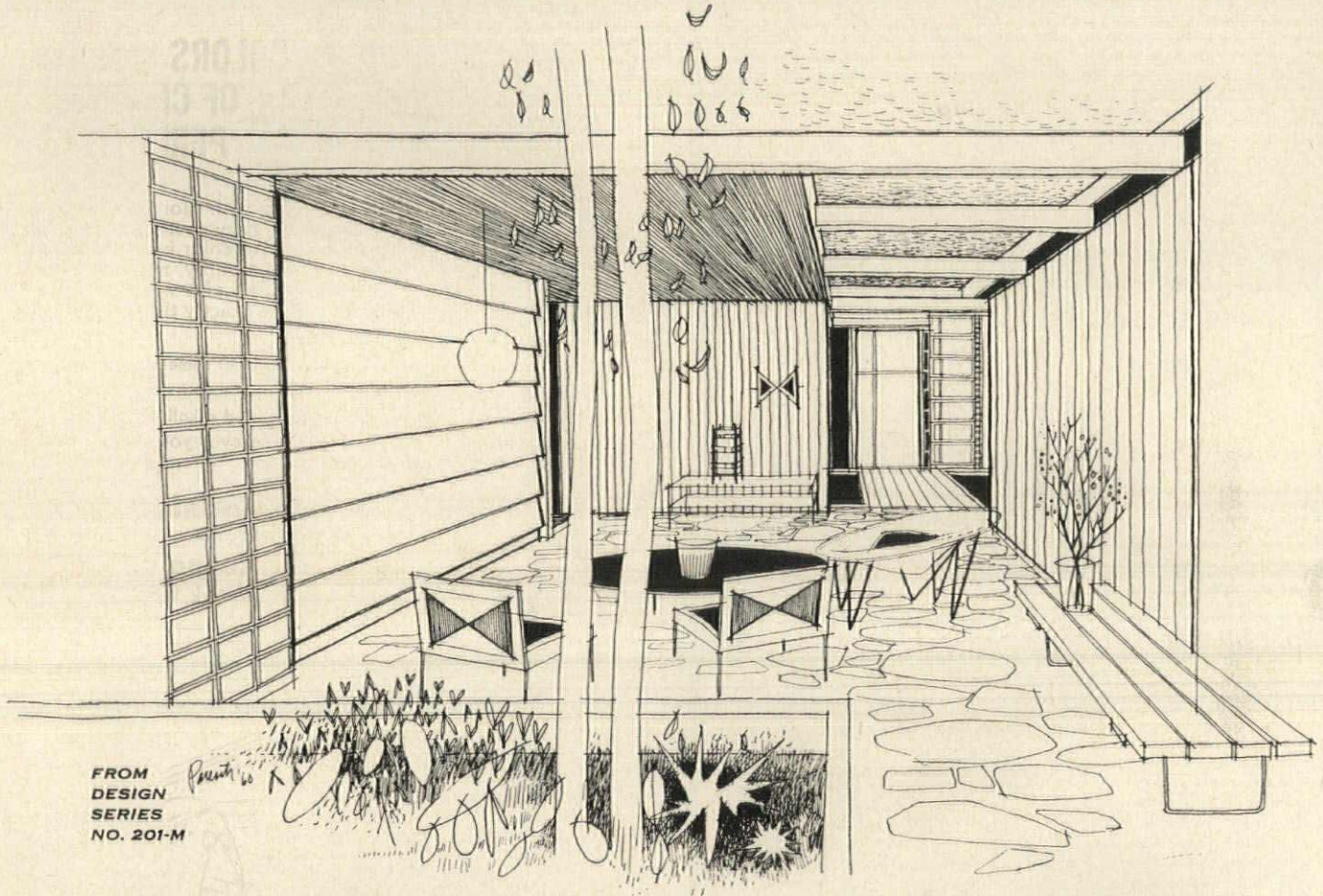
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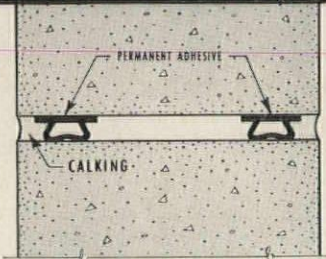
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Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_  
Zone \_\_\_\_\_ County \_\_\_\_\_



# RUBBER or VINYL SEALS and GASKETS

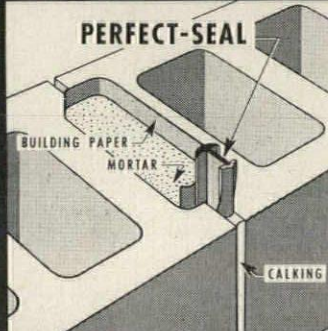
## for PRECAST CONCRETE PANELS

Williams Panel Seals (Pats. Pend.) were developed especially for use in vertical and horizontal joints of precast concrete wall panels . . . they are extrusions of expanded, closed-cell Neoprene Rubber. This closed-cell material, and the hollow-core design, provide the properties which assure a positive pressure-contact seal in panel joints under all conditions—each type of seal readily compensates for variations in joint width, irregular joint surfaces and erection adjustments.



VERTICAL JOINT  
6" Precast Concrete Panel

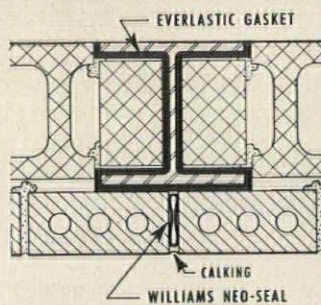
## PERFECT-SEAL for CONTROL JOINTS



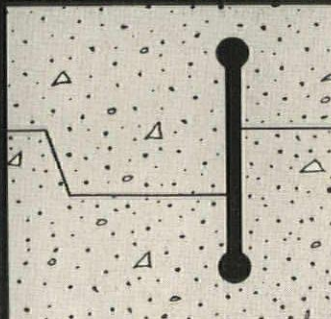
Williams "Perfect-Seal" (Pat. Pend.) is a specially designed seal for use in Mortar-Keyed Control Joints . . . it provides continuous four-point pressure-contact sealing which keeps moisture out of joints and prevents air passage. The T-Section is a high-grade rubber compound; the cross-sealing member at the base of the "T" is a strip of readily compressible, non-absorbent, expanded closed-cell Neoprene Rubber—it provides an effective pressure-contact seal directly behind the calking.

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ARCHITECTURAL RECORD, combined with American Architect & Architecture, published monthly at Concord, New Hampshire, for October 1, 1960.

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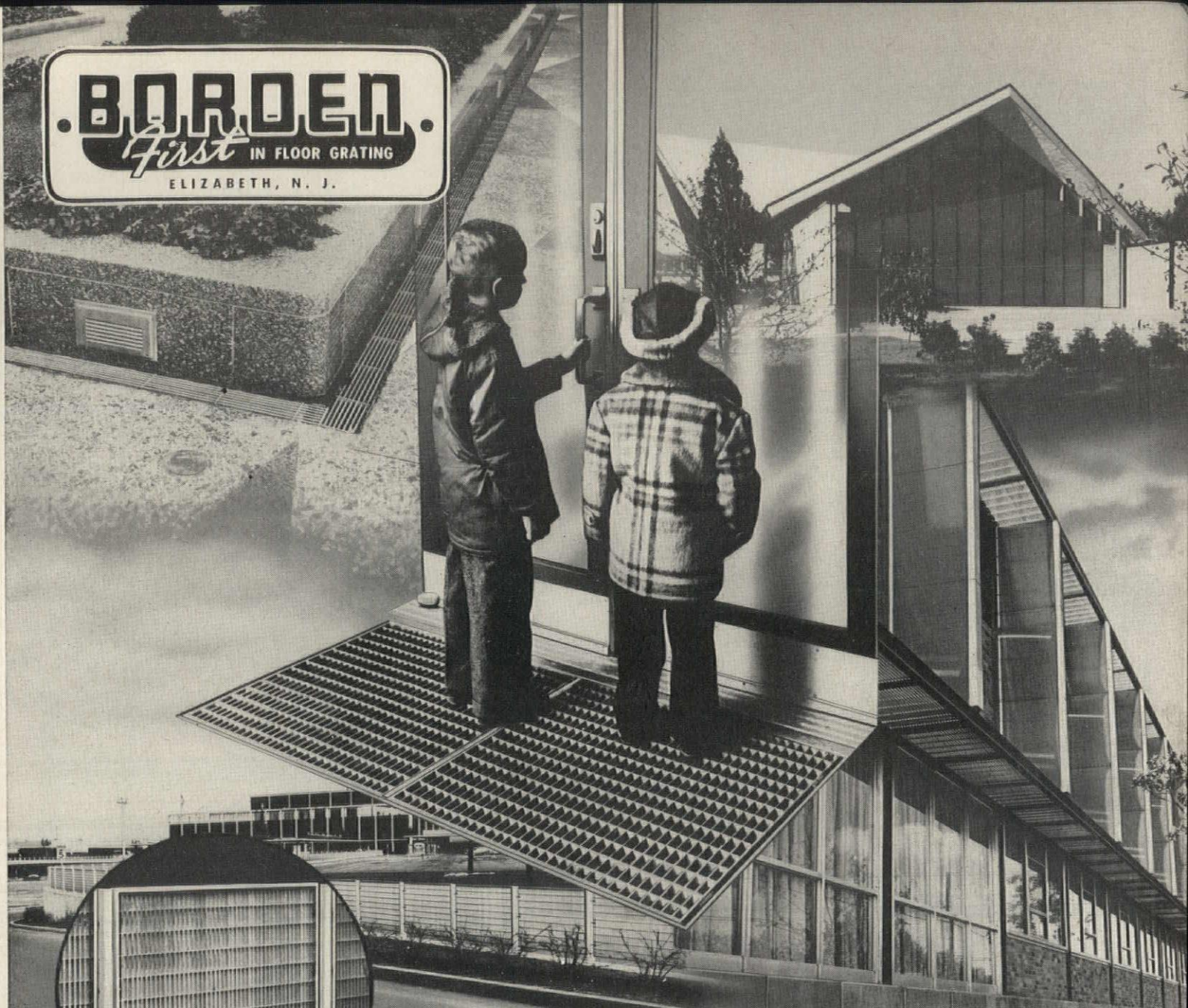
5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is required by the act of June 11, 1960 to be included in all statements regardless of frequency of issue.) 37,446.

ROBERT F. MARSHALL,  
General Manager.

Sworn to and subscribed before me this 26th day of September, 1960. [SEAL] ELEANOR D. TONECKY, Notary Public for the State of New York. Qualified in Westchester County, No. 60-9355240. Cert. filed in New York County. Commission expires March 30, 1962.



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## New Architectural Uses for Aluminum Grating

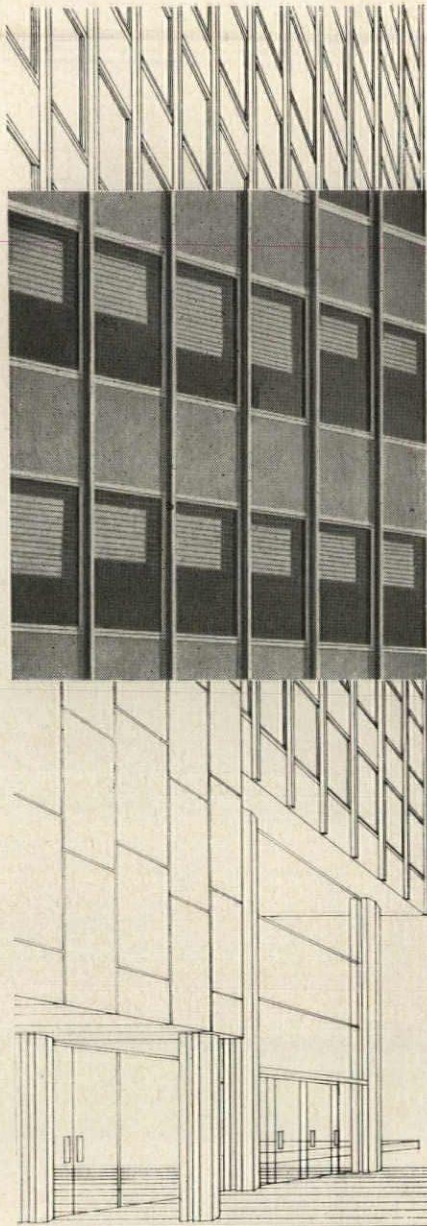
Here . . . new applications for aluminum grating . . . exacting installations where quality equal only to BORDEN'S will do:

- 1 This shows BORDEN aluminum grating used in a system of drain trenches throughout Mellon Square Park, Pittsburgh, Pennsylvania.  
*Architects: Mitchell and Ritchey, Pittsburgh, Pennsylvania*
- 2 BORDEN pressure-locked type grating, of gold-anodized aluminum, forms the facade of this dramatic new structure. The Congregation Beth El Synagogue, South Orange, New Jersey.  
*Architects: Davis, Brody and Wisniewski, New York, New York*
- 3 BORDEN pressure-locked aluminum grating fabricated as foot scrapers for use at a school in East Orange, New Jersey.  
*Architect: Emil A. Schmidlin, East Orange, New Jersey*
- 4 BORDEN pressure-locked aluminum grating used for maintenance-free fencing at J. L. Hudson's Northland Shopping Center, Detroit Michigan.  
*Architect: Victor Gruen & Associates, Detroit, Michigan*
- 5 Sunshades of BORDEN pressure-locked aluminum grating permit passage of light and air while screening strong sunlight at the Lone Star Gas Company Office Building, Dallas, Texas.  
*Architect: George L. Dahl, Dallas, Texas*

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## The Record Reports

continued from page 306

Fellowships, awarded on evidence of ability and achievement, are open to United States citizens for one year beginning October 1, 1961, with possibility of renewal. They carry \$3000 a year.

Applications and submission of work must be received by December 30, 1960. Requests for details should be sent to the Executive Secretary, American Academy in Rome, 101 Park Ave., New York 17, N. Y.

### Homes for Better Living Awards Honor Good Design

The encouragement and recognition of good design and sound construction in housing is the aim of the sixth annual Homes for Better Living Awards program, sponsored by the American Institute of Architects, in cooperation with *Life* and *House & Home* magazines.

Any house or garden apartment (walkup), designed by a registered architect, and built in any of the 50 states since January 1, 1958, is eligible for entry. In the five previous awards programs, more than 2000 houses have been considered by judges and nearly 100 honored with awards.

Awards will be made in three categories: custom-built houses, designed for a specific client; merchant-built houses, built for sale; and garden apartments, built for rental or for sale as cooperatives.

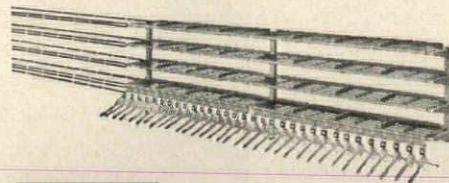
Award winning houses will be announced during the A.I.A. convention in Philadelphia in April. Deadline for entries is January 27, 1961. Entry blanks may be obtained by writing the American Institute of Architects, 1735 New York Ave., N.W., Washington 6, D. C.

### Names in the News

Appointed to the New York State Building Construction Board of Review are: Donald Faragher, Rochester architect; Thomas H. McKaig, Buffalo consulting engineer; and Charles F. Haring Jr., White Plains home builder.

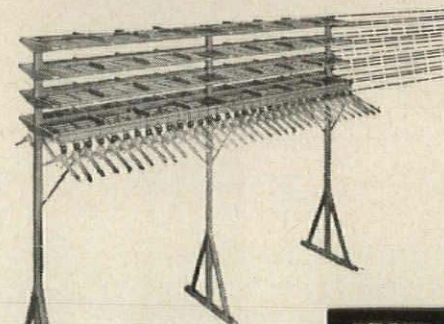
David R. Campbell, president of the American Craftsmen's Council, has more news on page 322

## Checker COAT and HAT RACKS



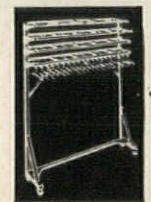
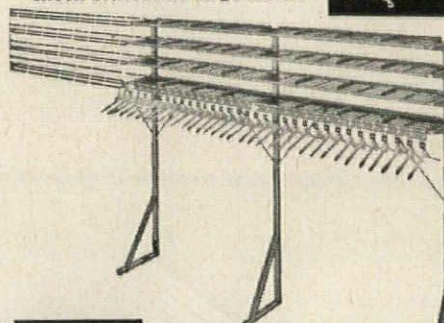
### WALL RACKS

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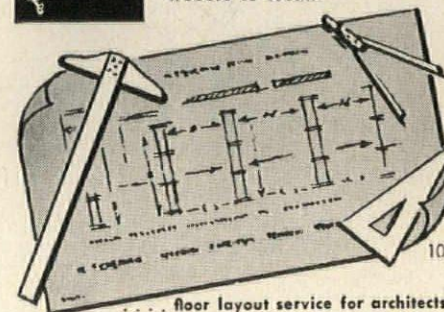
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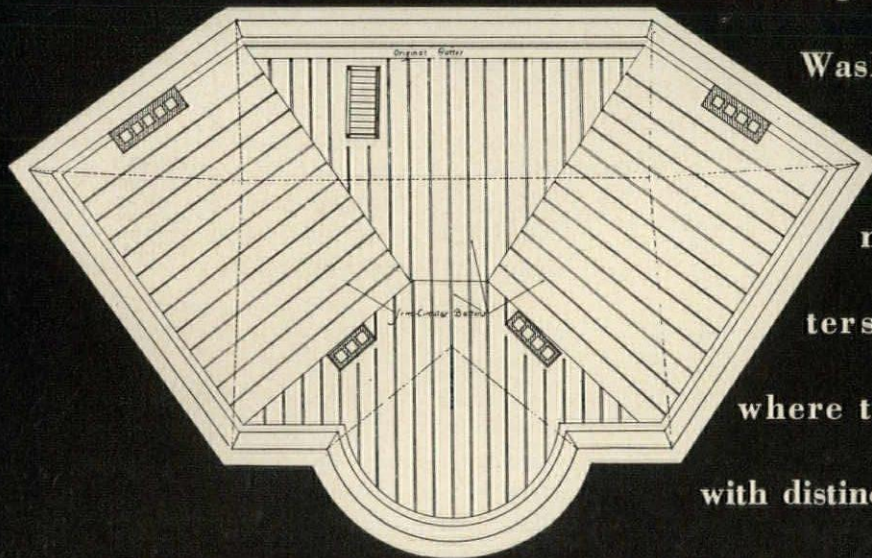
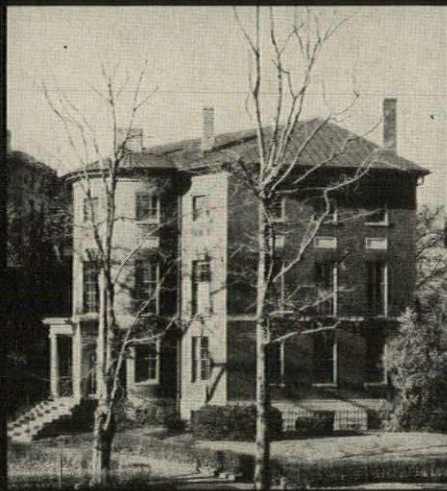
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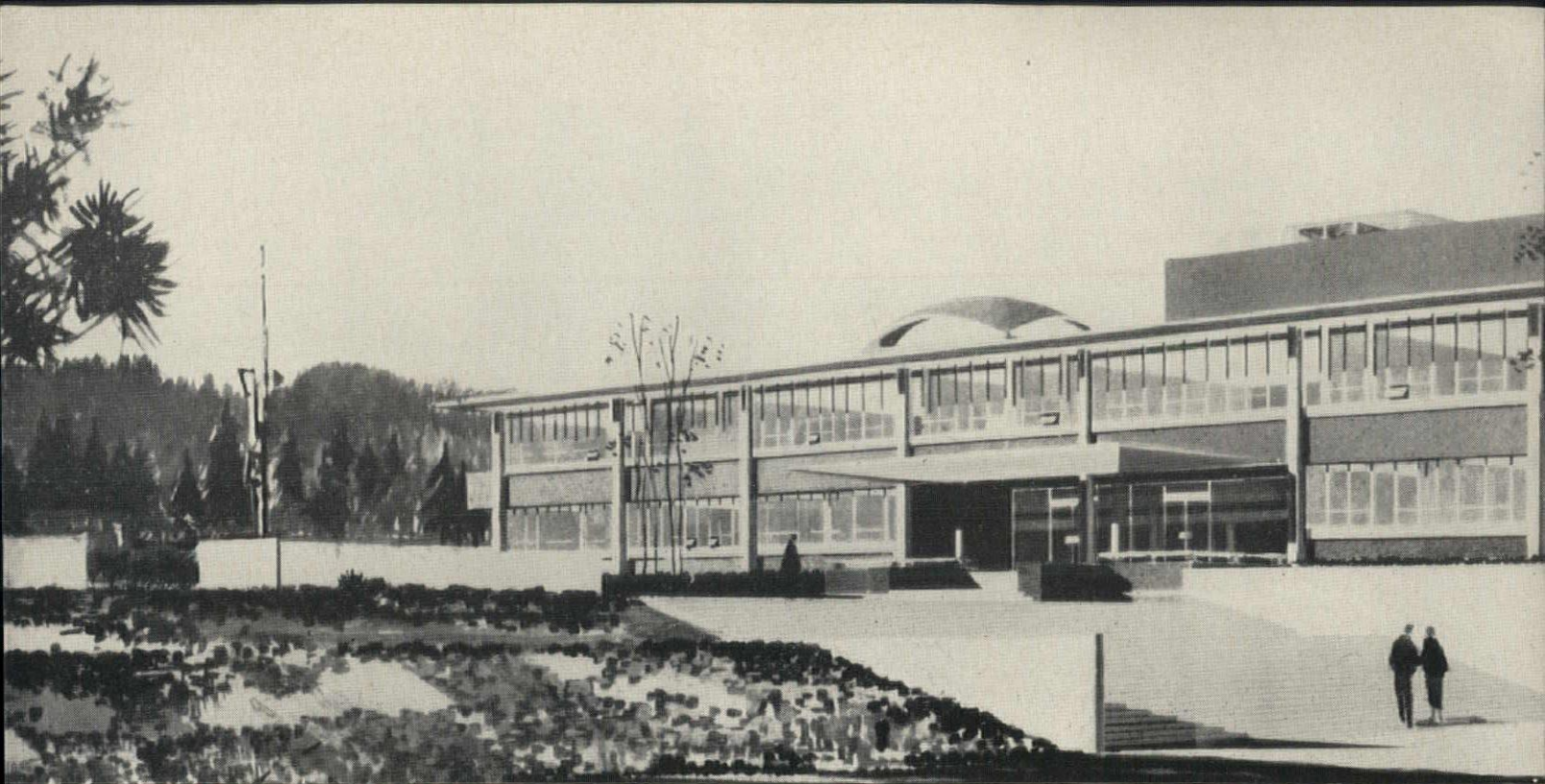
visually significant roof. And from a functional standpoint, Follansbee TERNE is almost uniquely adapted to all such roofs. Both statements find striking confirmation in

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**FOLLANSBEE STEEL CORPORATION**  
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## New science building requires complex heating and ventilating system

### **BETHCON galvanized steel for air ducts preferred by sheet metal superintendent**

This is the new science building at Western Washington College of Education, in Bellingham, Wash. The constant presence of noxious fumes makes ventilation of this building an important factor. Equally vital is the precise control of temperature. An extensive system of ductwork was designed and installed to perform these functions, involving the use of many tons of Bethcon galvanized steel sheets for air supply.

### **"Excellent Lock-Forming Qualities"**

The mechanical contractors, Diamond "B" Plumbing and Heating Co., were quite emphatic in their preference for Bethcon sheets. "We favor Bethcon," says Ken G. Peterson, sheet metal superintendent of Diamond "B" "because of its excellent lock-forming qualities." Taken for granted was the superiority of gal-

vanized sheet steel over other materials sometimes used for ductwork. Steel's inherent strength permits the forming of light-weight, rigid ducts and other assemblies which require few supporting spans.

### **Ideal Blend of Stiffness and Ductility**

You'll find that Bethcon is the ideal galvanized sheet for sheet-metal work. It has just the right balance of stiffness and ductility for easy forming and sturdy finished product. The secret lies in Bethlehem's continuous galvanizing process which includes a special annealing cycle. This galvanizing process also bonds the zinc so tightly to the steel that peeling and cracking are virtually eliminated.

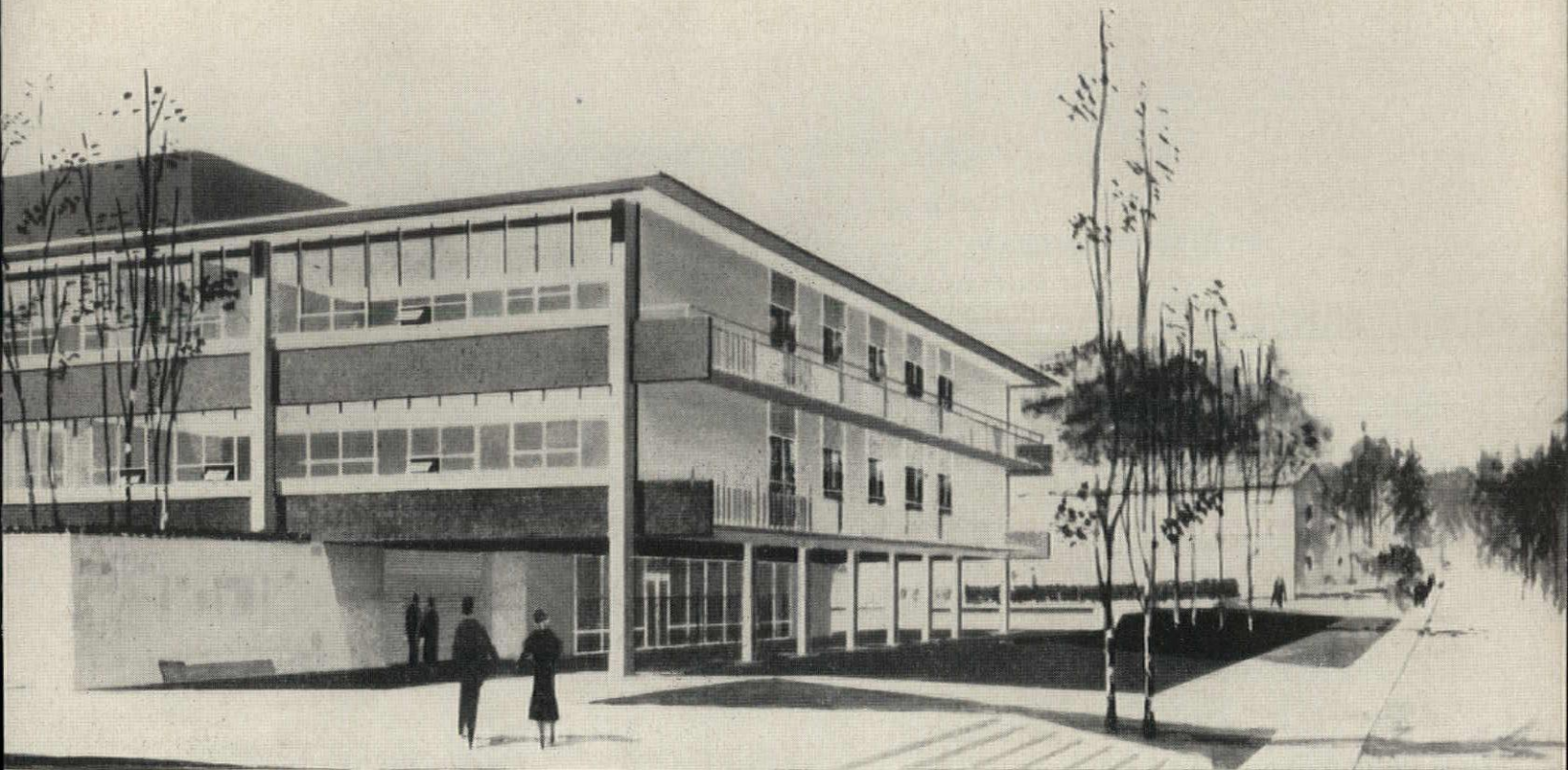
You can specify Bethcon coiled or in sheets, in a wide variety of gages, in either plain open-hearth or copper-bearing steel. For specific details, simply call or write to the Bethlehem office nearest you, or write to the address below.



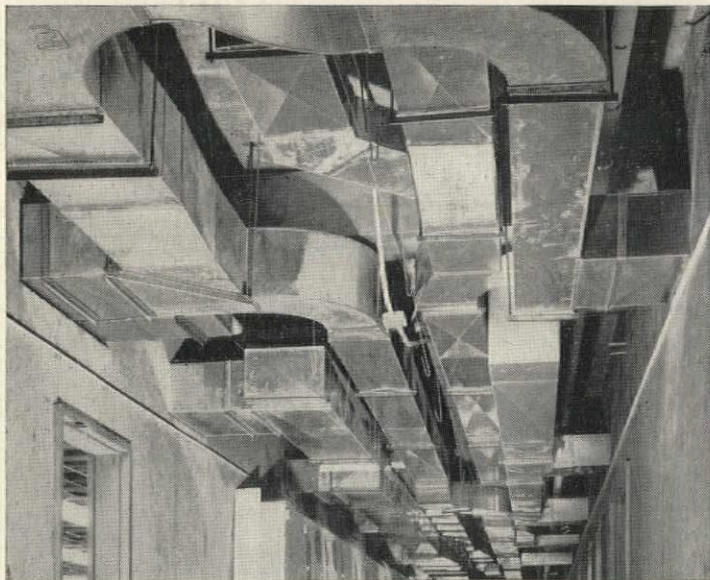
*for Strength  
... Economy  
... Versatility*

# **BETHLEHEM STEEL**

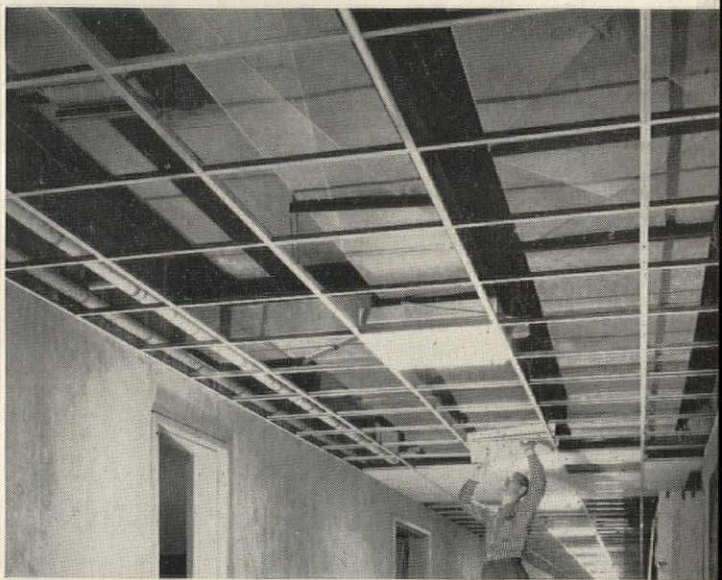




New science building for Western Washington College of Education, Bellingham, Wash., completed in July 1960. *Architect:* Paul Thiry, F.A.I.A., Seattle; *Mechanical Engineer:* James B. Notkin, & Associates, Seattle; *General Contractor:* Hebb and Narodick Construction Co., Seattle; *Mechanical Contractor:* Diamond "B" Plumbing and Heating Co., Bellingham.



This maze of ducts was needed to handle the exacting temperature and humidity requirements, as well as the removal of a wide variety of fumes from classrooms and labs.



Only the strength and rigidity of galvanized steel sheets will permit such long spans of ductwork with so little need for support.

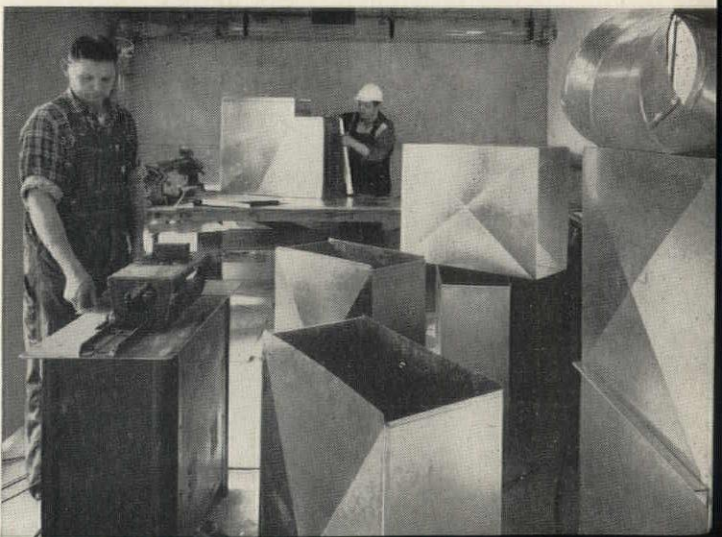
Superior lock-forming qualities led the mechanical contractors to insist on Bethcon galvanized sheets for the complex ventilating, heating and air-conditioning system.

**BETHLEHEM STEEL COMPANY**  
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Export Sales: Bethlehem Steel Export Corporation



See Bethlehem's exhibit on three of the "Top Ten Plants of 1960" at the Industrial Building Exposition and Congress, December 12-15, in the New York Coliseum.





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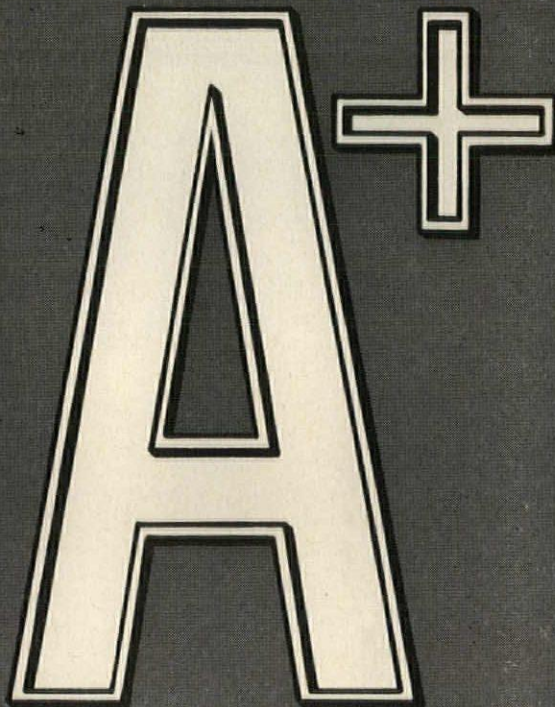
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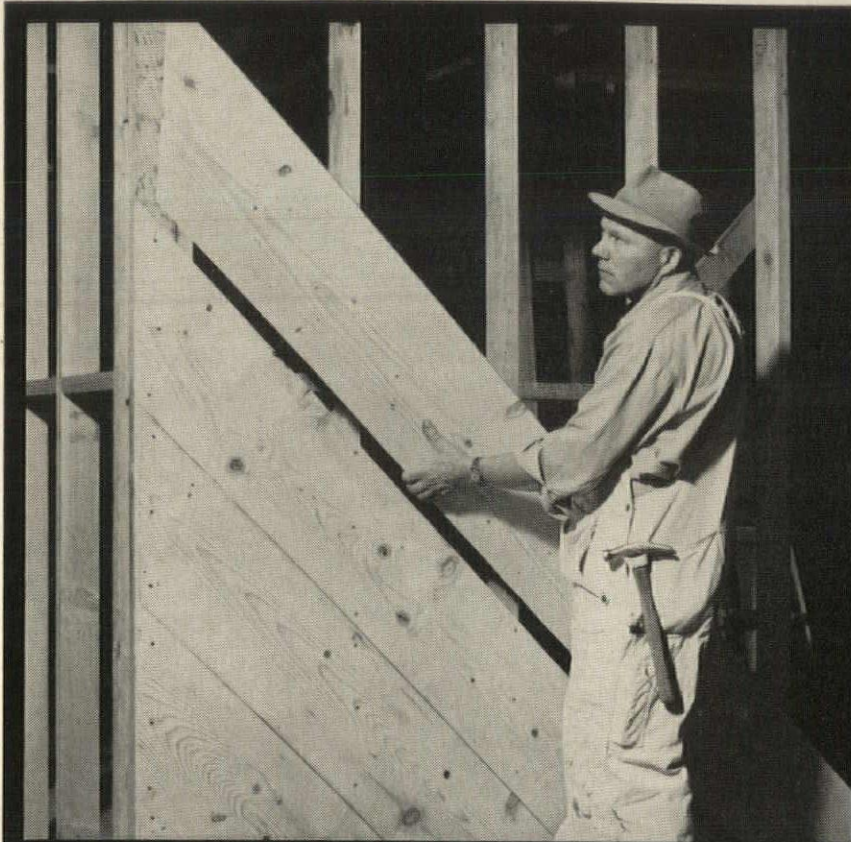
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Windows or curtain walls, **A+dlake** can't be anything but first—even in Sweets! See first pages, Sec. 17a/Ad.





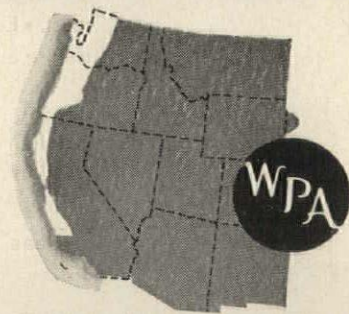
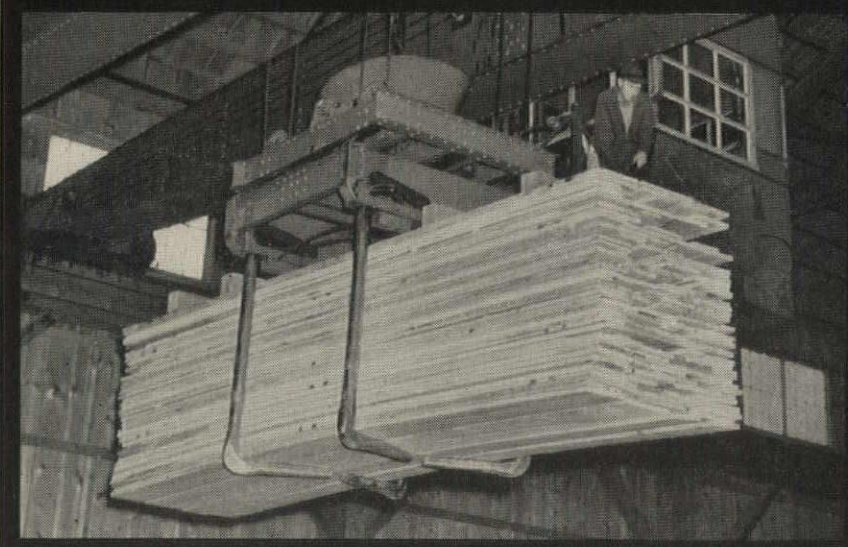
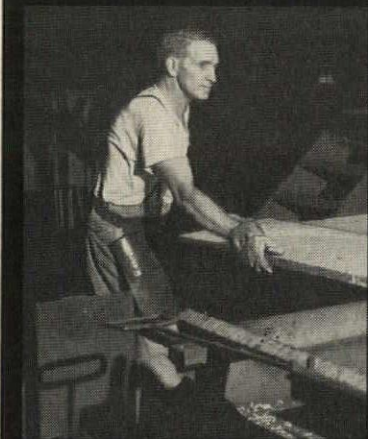
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But the extra quality you need comes from the skilled men who have given the Western Pine lumber industry a national reputation. They manufacture lumber to ALS sizes, and approved optional sizes, too. They adhere to a fine grade line based on uniform, region-wide standards. They are proud to apply their grade stamp—their mark of quality—on their sheathing or any other lumber items, when requested.

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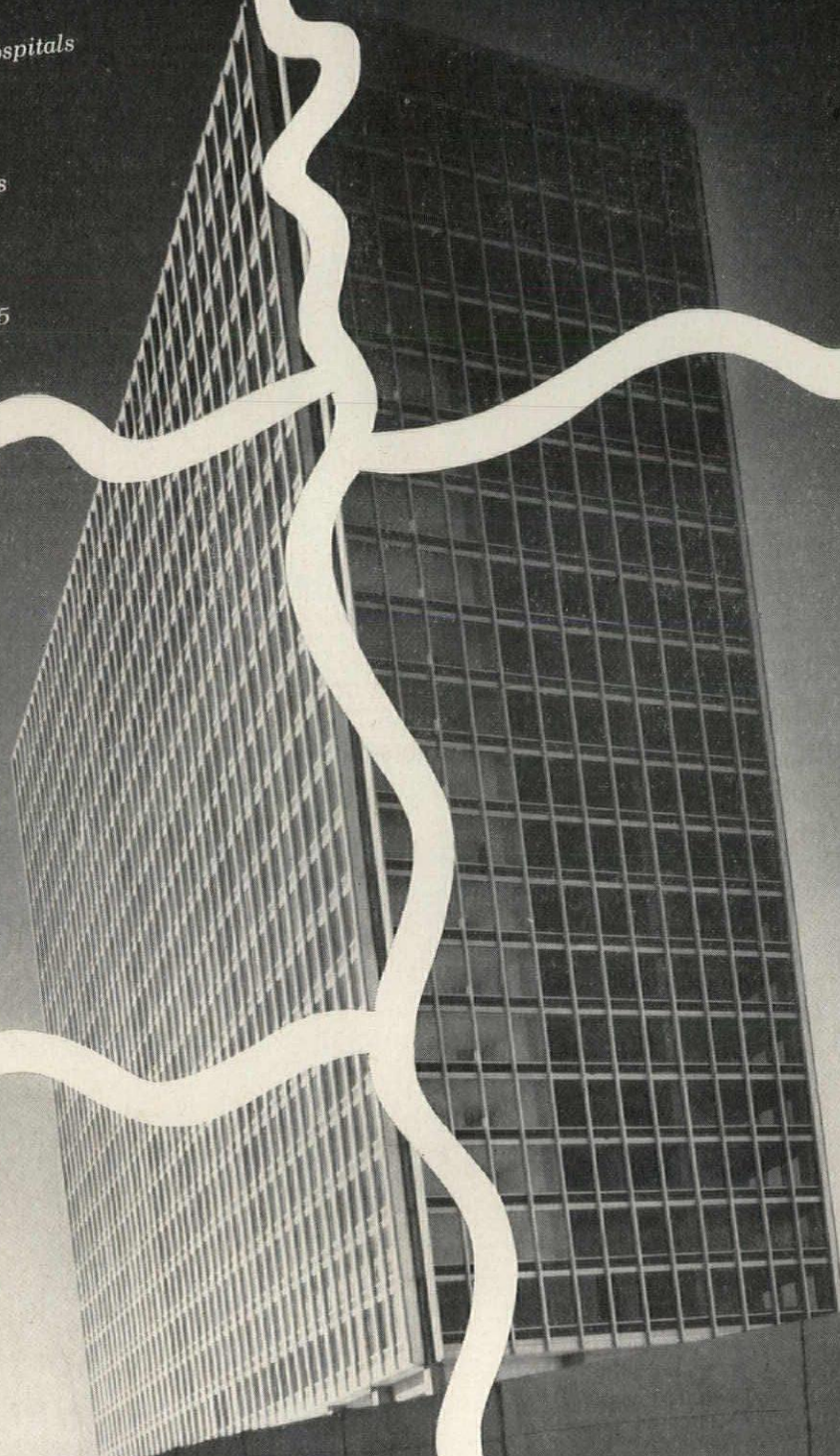
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*Mies van der Rohe*

*Two New Office Buildings*

*Houses by Wurster*

*Full Contents on Page 5*



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## The Record Reports

continued from page 314

been named Director of the Museum of Contemporary Arts. A graduate of the University of New Hampshire, Mr. Campbell received his Master's Degree in Architecture from the Harvard School of Design in 1934. He was architect for new quarters of the Museum which he now directs.

Edward J. Wolff, Edward J. Wolff and Associates, Consulting Engineers, of Chicago, has been named to the Executive Committee of the Federation Internationale des Ingenieurs-Conseils. He was elected by the International Federation at the annual meeting in Stockholm. The F.I.D.I.C. is composed of consulting engineer associations from 15 countries and is described as the consulting engineers' source of policy establishment.

Jerome J. Madigan, housing executive, has been named executive vice president of the Home Manufacturers Association.

Appointed Chairman of the Construction and Civic Development Committee of the Chamber of Commerce of the United States for 1960-61 is Stuart Davis, President, First Savings and Loan Association, Oakland, Cal. The committee deals with national problems, issues and policies affecting both the construction industry and the development of America's communities.

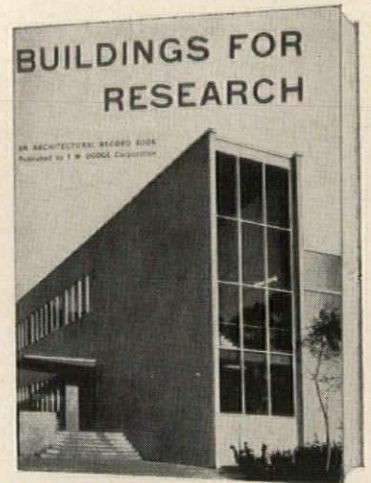
### Rogers Leaves Owens-Corning, Resumes Consulting Practice

Tyler Stewart Rogers has retired from Owens-Corning Fiberglas Corporation where he has served as assistant to both the president and vice president and manager of the Market Development and Design Division.

He will resume his former practice as consultant in the development, use and sales promotion of building materials from his home on Sturges Highway, Westport, Conn.

An acknowledged authority on building materials, Mr. Rogers is a past president and director of the Producers' Council, Inc., and former managing editor of *American Architect and Architecture*.

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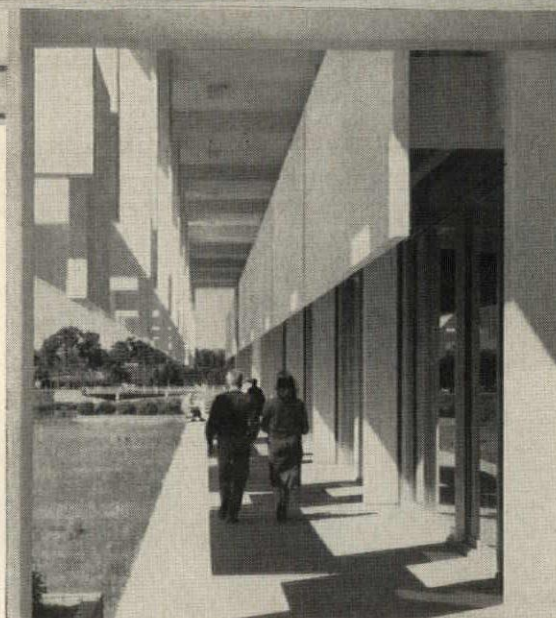
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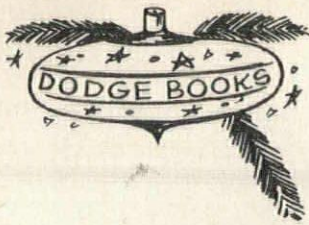
Concrete Reinforcing Steel Institute  
38 South Dearborn Street  
Chicago 3, Illinois

Sarasota Senior High School, Sarasota, Florida  
Architect: Paul Rudolph, New Haven, Connecticut  
Structural Engineer: Sidney Barker, Tampa, Florida  
Contractor: Coe Construction Co., Charlotte, N. C.  
Photographs by Ezra Stoller, Rye, New York

18-6







*In this special six-page book section, you will find useful and thoughtful gift suggestions for your friends and associates.*

### **ARCHITECTURAL RENDERING:**

**the techniques of contemporary presentation**  
by Albert O. Halse

A masterful, major treatise explains, in text and choice illustrations, every technique and medium used in architectural rendering today. For the professional renderer, the architect, and the beginner, it offers something new and complete in its field. Every aspect of rendering receives attention here: interiors, exteriors, nature; perspective, lighting, reflections, textures; all of the media in detail; how to buy and use materials, and when; professional tricks of the trade. Introductory chapters contain a history of rendering, a study of color, and other basic information. A special section of professional renderings done in various media also is included. Numerous illustrations, 17 in full color. (1960).

304 pages, 8 3/4 x 11 1/2, \$15.75

### **CONSTRUCTION ACCOUNTING AND FINANCIAL MANAGEMENT**

by William E. Coombs

The first, and only, complete manual of accounting and financial control for the construction industry, written by a specialist who has served as an attorney, accountant, and executive in the construction business.

Describes and specifically recommends proper accounting and management procedures. Tells you what records to keep, why they must be kept and several possible ways of keeping them. Relates accounting and record keeping to the size of the firm, type of job, and never loses sight of the fundamental purpose—giving you effective financial control over every operation. Contains 200 tables, charts, and sample forms. (1958)

488 pages, 6 x 9, \$12.85

### **APPLIED STRUCTURAL DESIGN OF BUILDINGS**

by Thomas H. McKaig, C.E., B. Arch.

A practical office manual containing simple, standardized procedures for solving structural design problems. This unique handbook had its inception as a series of notes used by the author in his instruction of architects and engineers preparing for state licensing examinations. Strictly a practical work, with no attempt made to develop theory.

The structural designer will find here short cuts, tables, formulae, sketches—a wealth of practical information—all designed to save countless hours of detail, help standardize office practice, and simplify the designer's work. All of this information has been tested by actual experience and proven to be reliable and useful. (1956)

442 pages, 7 1/2 x 10, \$12.50

### **THE SELECTION OF RETAIL LOCATIONS**

by Richard L. Nelson

A new book which provides the newest trends and techniques in site selection and potential volume analysis for stores, shopping centers, banks, restaurants and other establishments. The author is a noted real estate economist.

Answers your questions on anticipating geographic trends, future of the downtown area, determining the volume potential of an area, rent-advertising ratios, effects of decentralization, compatibility of store types, and many more topics. With this book you can estimate business potential of a site, evaluate its growth capacity, and appraise the influence on the proposed business of other stores in the vicinity. (1958)

422 pages, 6 x 9, \$9.00

### **MOTELS, HOTELS, RESTAURANTS AND BARS** (Second Edition)

by the editors of Architectural Record

This revised and expanded book presents, in one place, an up-to-date, detailed study of physical designs in motels, hotels, restaurants, and bars. The important relationship between good design and good business is graphically shown in over 700 photographs, drawings and plans of successful establishments. The well-planned, practical design has—in each case studied—paid off in flourishing trade and satisfied clientele. The clear text gives expert answers to the hundreds of questions asked by owners and prospective architects, designers and investors in this important type of building. (1960)

336 pages, 8 3/4 x 11 1/2, \$9.75

### **THE CONTEMPORARY CURTAIN WALL:** **its Design, Fabrication and Erection**

by W. Dudley Hunt, Jr.

One of the most important recent developments in the construction industry, curtain wall construction is still so new that there is a great demand for information on proper methods of design, construction and installation. Meeting that demand, this new book presents, for the first time in one place, a wealth of new information about this construction system.

Analyzes and evaluates the walls, their functions, their component parts, materials and installation. Lists and tables give all the known data about insulation, fire resistance, dimensional stability. Amply illustrated with drawings and photographs. (1958)

468 pages, 7 x 9 3/4, \$12.75

### **FIELD INSPECTION OF BUILDING CONSTRUCTION**

by Thomas H. McKaig, B. Arch., C.E.

A guide to the supervision of construction for architects, engineers, and field inspectors which charts a clear path through the maze of owner-architect-contractor-subcontractor relations and responsibilities. Defines responsibilities for such matters as quality of materials and workmanship, coordination of work by different trades, safety precautions, safeguarding of work in place, and many more.

Outlines the pitfalls the inspector should avoid, and gives him guidance in safeguarding the owner's interest against a variety of contingencies, without exposing him to charges and possible claims for interference or delay. (1958)

384 pages, 6 x 9, \$9.35

### **ESTIMATING GENERAL CONSTRUCTION COSTS** (Second Edition)

by Louis Dallavia

Provides an accurate, foolproof system for estimating all direct production costs in earthwork, reinforced concrete, masonry, structural steel, and carpentry. This unique system can be applied at any time and in any place with equal validity, and can never go out of date. It was developed and perfected by the author during his 22 years as an estimator in heavy construction and building.

Presents an index set of unit costs for typical shift crews, against which you compare local crews, arriving at a productivity percentage. By checking that figure against only three tables, you arrive at shift cost, output range, and unit cost for the operation. There is a total of 160 tables and checklists in the book. (1957)

205 pages, 6 x 9, \$8.50



## INDUSTRIAL ARCHITECTURE

by James F. Munce

An up-to-date, comparative survey of industrial building design in Great Britain, Germany, and the United States. Provides a stimulating review of the basic principles and newest developments upon which a factory design must be based.

Developments in such areas as design, use of master plan, employee movement, architectural character, and costs are considered. Attention is also given to the development of existing areas, the planning of new parks, and automation and factory design. Most useful of all are the chapters on the structure and fabric of the factory, and on services. These deal with general structural requirements, adequate day-lighting, maintenance, air-conditioning, lighting, sanitation and drainage. This original work will be welcomed by architects, engineers and contractors doing industrial jobs as well as businessmen responsible for the planning and construction of new facilities. (1960)

240 pages, 9 $\frac{1}{8}$  x 12 $\frac{1}{4}$ , \$14.75

## UNFIRED PRESSURE VESSELS:

the ASME code simplified

by Robert Chuse

The only comprehensive reference manual to the ASME Unfired Pressure Vessel Code. Unfired pressure vessels are tanks that are designed to hold liquids or gases under pressure and that are not directly fired. Widely used in the process industries to hold fluids and having such applications as petroleum cracking and the storage of steam, hot water and compressed air, most such vessels in the United States are designed in accordance with the ASME code.

The author's illuminating commentary makes the essential requirements of the code clear and more meaningful. He provides charts, forms and tables designed to simplify the task of designing, constructing or ordering a pressure vessel. Included is a discussion of welding qualifications under the code. This handbook will save time and work for estimators, fabricators and engineers, shop supervisors, inspectors, and vessel users and their consultants. (Sept. 1960)

144 pages, 6 x 9, \$8.75

## CENTRIFUGAL PUMPS

selection, operation and maintenance

by Igor Karassik and the late Roy Carter

A comprehensive reference book for users of centrifugal pumps throughout industry. Component parts, pump drives, performance characteristics, system-head curves, controls and priming are discussed from the point of view of the buyer and user of pumping equipment.

Covering the entire field of centrifugal pumps, their appurtenances, and control, this work describes and thoroughly illustrates all types of pumps, including vertical, self-priming, and regenerative; it also discusses pumps for various areas of industrial service. This book will be of everyday use to anyone concerned with moving liquids or gases in bulk. The consulting engineer, specification writer, buyer, layout man, plant designer, operator, maintenance man, salesman or anyone concerned with centrifugal pumps will find this a valuable sourcebook. (Dec. 1960)

480 pages, 7 $\frac{1}{8}$  x 10, \$15.75

## BOILERS:

types, characteristics, and functions

by Carl D. Shields

A practical engineering approach to boilers and their selection, application, and performance. Intended to help all those involved in the specification, design, installation, and operation of all types of boilers, this book contains 32 chapters organized within 6 major sections: Boiler Classification, Boiler Design, Steam Generating Equipment, Boiler Construction, Industry Regulation, and Industry Status.

This up-to-date reference covers the experience of the entire industry. It will have specific appeal to stationary engineers, operators, installers, maintenance personnel, and buyers, sellers, and owners of boilers. Over 500 drawings and photographs. (Nov. 1960)

566 pages, 7 $\frac{1}{8}$  x 10, \$15.00

## INDUSTRIAL BUILDING DETAILS

by Duane F. Roycraft

The only master reference of architectural details for the industrial building designer. It presents over 1,500 detail drawings which have been proved in use by architects, draftsmen, and engineers. Each is sharp and clear, drawn precisely to scale, and is large enough to trace or project for direct use or adaptation.

Every part of the contemporary industrial building is shown—from roofs and parapets to catch basins and manholes. Text is kept to a minimum, appearing only to introduce each of the seventeen major sections. Will save many man hours of tedious searching through files and folders. (1959)

352 pages, 8 $\frac{3}{4}$  x 11 $\frac{5}{8}$ , \$12.75

## ELECTRICAL EFFICIENCY IN INDUSTRIAL PLANTS

by E. S. Lincoln

A practical engineering guide to lower power costs. Designed to eliminate power waste and its resultant drain on industrial productivity. The author shows in detail the practical methods of making surveys of power load, voltage, and electrical protection—complete with a discussion of the necessary instruments and their use.

An analysis of power costs is included as well as all the elements in the distribution system. Such troublesome matters as power factor, choice of voltage, and equipment maintenance are presented directly and simply. Supplemented by helpful illustrations and tables. (1959)

288 pages, 6 x 9, \$9.50

## PLANT ENGINEERING PRACTICE

by the editors of Plant Engineering

The mammoth new reference work of plant operation and maintenance. Presents 226 separate case studies, each of which is designed to save time, work and money for the plant engineer and his staff, and architects and engineers doing industrial building work.

Written by over 100 experts in their fields, it is virtually an encyclopedia of practical, hard-earned experience. Organized into 13 sections: Sites and Layouts, Construction, Housekeeping and Safety, Materials, Handling, Maintenance, Paints and Protective Coatings, Mechanical Power and Piping, Electric Power, Lighting, Utilities, Heating and Air Conditioning, Quality Control, Shop-work. 12-page master index. Over 800 illustrations. (1958)

704 pages, 8 $\frac{3}{4}$  x 11 $\frac{5}{8}$ , \$18.50

## GROUNDS MAINTENANCE HANDBOOK

(Second Edition)

by Herbert S. Conover

The only comprehensive reference work of grounds development and maintenance. Contains all the detailed information you need to plan, supervise and maintain grounds of every type and size.

It is a big book (503 pages), and fully illustrated (over 175 illustrations). It consolidates all the needed information on planning, turf maintenance, planting and care of trees and shrubs, equipment selection, control of weeds, insects and diseases, materials specifications and erosion control. Throughout the book practical, economical methods and materials are stressed. (1958)

503 pages, 6 x 9, \$10.75

## BUILDINGS FOR INDUSTRY

by the editors of Architectural Record

An outstanding selection of new industrial buildings, together with a series of informative studies on trends and factors in present-day industrial building design. 74 projects from all over the United States, as well as a few from overseas, are completely analyzed. Explains choice of site, plan, lighting, colors, loading docks and rail spurs, employee facilities, and many more features. Over 700 illustrations. (1957)

315 pages, 8 $\frac{3}{4}$  x 11 $\frac{5}{8}$ , \$9.75



## TIME-SAVER STANDARDS

(Third Edition)

by the editors of Architectural Record

Architects, engineers, designers, builders, and other specialists in the building field consider this book the one indispensable reference to every question of building principle, practice, and procedure. As a daily working tool on construction projects of every size and description, *Time-Saver Standards* has saved endless hours of research time, immeasurable extra work, and many costly mistakes, as well as millions of dollars on construction costs. (1954)

888 pages, 8½ x 11, \$13.75

## COMMERCIAL BUILDINGS

by the editors of Architectural Record

Office buildings, banks, transportation buildings, TV studios, and theatres are shown here in photographs, plans and drawings. (1954)

406 pages, 8¾ x 11½, \$10.50

## RELIGIOUS BUILDINGS FOR TODAY

by the editors of Architectural Record

Presents 35 new religious buildings, each of which is the work of a gifted architect collaborating with a clergyman and building committee who were not afraid to break with the architectural past. Protestant, Catholic and Jewish buildings are shown, from all parts of the United States as well as Europe and Asia. Each is shown in brilliant photographs, and plans and drawings. There are several other sections. One is called "Worship and the Arts." It explores the relationship between eternity and the present, as it pertains to the design of churches. There follow six articles on worship and the arts in different traditions—Jewish, Catholic, Orthodox, Episcopal, Reformed, and Lutheran. Also contains cogent studies by leading architects, clergymen, and secular authorities. Over 300 illustrations. (1957)

184 pages, 8¾ x 11½, \$7.95

## ERIC MENDELSON (Second Edition)

by Arnold Whittick

A thoughtful, handsomely-illustrated study of the works and life of one of the outstanding architects of our time. (1956)

219 pages, 7¼ x 10½, \$9.85

## TIMBER DESIGN AND CONSTRUCTION HANDBOOK

prepared by Timber Engineering Company

The complete master handbook of timber design and construction written and edited by 34 engineers and timber specialists. Serves two purposes: it is a comprehensive timber design reference, and it is also a practical field handbook. Offers every bit of essential information needed to develop and construct the best wood structures.

The first portion covers the fundamental structural characteristics of wood. Lists types, grades, and ways of preservation. The next ten chapters analyze preliminary design considerations, design details, fabrication and erection. The final chapter presents 129 pages of design and engineering specifications and precise tabular data allowing easy conversion for particular grades and species. (1956)

622 pages, 6 x 9, \$12.75

## HOW TO BUILD MODERN FURNITURE

(Second Edition)

by Mario Dal Fabbro

Clear, easy-to-follow instructions for building your own professional quality furniture, plus step-by-step plans for 53 contemporary pieces, by a famous furniture designer.

The first section gives instruction in basic woodworking operations, selection of materials, joints, assembly, wood finishing, and upholstery. Standard measurements of all furniture pieces are listed. The second section presents 53 separate pieces: hi-fi cabinets, chests, tables, chairs, beds, and many others. Text is brief and clear—unique exploded diagrams do most of the teaching. Each project contains a list of materials and directions for assembly. Over 1200 diagrams and drawings. (1957)

224 pages, 7½ x 9¾, \$4.95

## HOW TO MAKE BUILT-IN FURNITURE

by Mario Dal Fabbro

Step-by-step instructions for constructing 102 contemporary built-ins. This practical book presents unique sequence plans and illustrations which virtually eliminate the errors and miscalculations which arise in these projects. All pieces can be built from standard grades of wood using common woodworking tools. Included are pieces for living room, kitchens, bedrooms, playrooms, attics and cellars. Hundreds of variations and adaptations can be made from these plans, and the book is also an excellent source of data for designing your own built-ins. (1955)

259 pages, 7½ x 9¾, \$6.95

## BUILDINGS FOR RESEARCH

by the editors of Architectural Record

This timely book analyzes in detail a wide variety of research facilities built by industry, government agencies, and universities during the past seven years—44 separate projects. The installations shown are in these fields: Nuclear research, Industrial engineering, Biological research, Electronics and electrical engineering, and Institutional laboratories.

Opens with a general discussion of the principles of laboratory design, with emphasis on the ingredients common to all laboratories. Every point is made clearer by the inclusion of numerous photographs, plans, diagrams—over 500 illustrations in all. (1958)

232 pages, 8¾ x 11½, \$9.50

## DESIGN OF PRESTRESSED CONCRETE BEAMS

by William H. Connolly

A rational and clear-cut method for the design of prestressed and posttensioned concrete members. Through the use of design tables, emphasis is put on the reduction of the tedious trial and error normally involved in design problems. These tables are presented with explicit instructions that make this book uniquely practical.

Selecting the cross-section is easily the most time-consuming and, for many, the most difficult aspect of prestressed concrete design. Connolly, a practicing engineer, approaches this problem in a logical, straight-forward manner in this new book.

Well organized, with lucid explanations, it treats the problem of design from the practical point of view—eliminating unnecessary frills. Contains approximately 90 illustrations of stress diagrams and cross-sections. (Nov. 1960)

256 pages, 6 x 9, \$11.50

## REINFORCED CONCRETE COLUMN TABLES, ULTIMATE STRENGTH DESIGN

by Hugh F. Fenlon

A time-saving sourcebook specially designed for the practicing structural engineer, architect and designer. Through the use of practical tables, the column designer can confidently select reinforced concrete columns for every set of conditions he is likely to encounter.

A relatively new approach to the design of concrete members, ultimate strength takes into account the fact that concrete has certain plastic characteristics which makes it stronger than it has appeared by conventional design methods. Introductory text explains the simple nature of this technique and 300 tables show over 8,500 column designs computed in accordance with the ACI building code. Tables cover round columns up to 36" in diameter and rectangular columns up to 24" x 24" in four material strengths. Pages are edge-indexed for quick reference. (1960)

316 pages, 8 x 11, \$15.00

## THE STRUCTURES OF EDUARDO TORROJA an autobiography of engineering accomplishment

Eduardo Torroja, famous Spanish architect-engineer, has written a book which illustrates, describes, and explains the 30 most significant accomplishments of his career. These structures include bridges, dams, hangars, sports arenas, factories and churches. Many are of reinforced concrete—for Torroja's most unusual engineering feats are in prestressed and post-tensioned concrete—but wood, brick, and steel are used as well.

The book shows the author's reasoning in arriving at the design of each structure, and reveals his unusual building philosophy. Engineering details are given. There is a profusion of photographs, plans and drawings—over 275 in all. (1958)

208 pages, 7 x 9¾, \$8.50





## STRUCTURES

by Pier Luigi Nervi

Pier Luigi Nervi of Rome draws on over 30 years of experience as architect, engineer, and builder. Contains much valuable information on the properties of Ferro-cemento, which is a type of reinforced concrete developed by the author and used by him in the construction of some of the largest and most beautiful thin-shell concrete structures in the world. Alternately practical and philosophical, the book considers such varied subjects as architect-client relations, training of designers and builders, theory of structures, and building in reinforced concrete. Contains photographs of all of Nervi's major works, as well as numerous sketches and plans. (1956)

118 pages, 7¼ x 9½, \$6.95

## ADVENTURES IN ARCHITECTURE

by Whitney S. Stoddard

The exciting story of the rebuilding and expansion of 100-year old St. John's monastery in Minnesota. The client is the Benedictine order of monks. The architect is Marcel Breuer. How he was selected, the rapport established between him and the building committee, and the flexible master-plan they drew is all explained here. The text has a narrative quality, and the 100 photographs and drawings cover every phase of the project. (1958)

128 pages, 8½ x 11, \$8.50

## THE CHAPEL AT RONCHAMP

by LeCorbusier

LeCorbusier's own account and explanation of the chapel of Notre Dame du Haut, which is one of the truly revolutionary buildings of our time. He presents the buildings in its 3 facets: as a place of worship, as a work of art, and as a practical exercise in architecture and construction. Contains notes and sketches in LeCorbusier's own handwriting. (1957)

136 pages, 7¾ x 8½, \$5.50

## RECORD HOUSES OF 1960

by the editors of Architectural Record

The fifth annual volume of the year's outstanding contemporary houses. After considering hundreds of architect-designed houses, the editors of *Architectural Record* selected the 20 presented here. Representative of contemporary architecture's exceptional adaptability to the cultural, social, and day-to-day living needs of the American family, they cover every climatic region of the country—from New Hampshire to Hawaii. Their price range spotlights the dramatic capabilities of the architect to serve the living needs and aspirations of families with widely varying budgets.

Presentation of each house includes: overall floor plan, accurately scaled, complete photographic coverage of exterior and interior, brief text telling why the architect designed as he did, and the equipment and materials of his choice. Half of the residences are shown in full color, one outstanding residence is featured in a special, lengthier spread. (1960)

226 pages, 8¾ x 11½, \$2.95

## THE SECOND TREASURY OF CONTEMPORARY HOUSES

by the editors of Architectural Record

A magnificent collection of 44 contemporary houses superbly described by text, photographs, drawings, and plans. They are examples of the spirit of originality and individuality that is becoming ever more important in mid-twentieth century architecture, and they are distinctive in the success with which they meet the physical and esthetic requirements of their owners. Selected from the outstanding *Record Houses* annuals of 1956, 1957 and 1958. Ranging from the inexpensive to the luxurious, and representing the various climates of this country, these houses will furnish a genuine treasury of ideas to architects, contractors, and layman alike. 8 pages in full color. (1959)

232 pages, 8¾ x 11½, \$7.75

## A TREASURY OF CONTEMPORARY HOUSES

by the editors of Architectural Record

Here are 50 contemporary houses designed by some of the world's leading architects; the ultimate in quality contemporary design. Most of the houses are depicted in 10 or more photographs, plans and drawings. The story behind each house is presented simply in its essentials, with no involved technical language. (1954)

215 pages, 8¾ x 11½, \$6.95

## 82 DISTINCTIVE HOUSES

selected from Architectural Record

82 of the finest houses published in *Architectural Record* in recent years. Each house is depicted in superb interior and exterior photographs which dramatize its design and convey its originality. These houses represent a wide range of localities, living habits, personal tastes, and sites. The last 100 pages contain special Time-Saver Standards data for houses. (1952)

437 pages, 8¾ x 11½, \$8.50

## THE ART OF HOME LANDSCAPING

by Garret Eckbo

Here is the book which helps the user recognize his landscaping needs, plan them on paper, substitute pencil work for shovel work, and eventually provide useful, beautiful outdoor space to the limits of his lot. Especially valuable to the new home buyer or builder, who cannot afford the services of a landscape architect, and cannot afford to make costly mistakes in his basic planning.

Covers in detail such topics as: Recognizing your needs, Plans, Scheduling work and money, Screenings, Walls, Drainage, Soil conditions, Solar orientation, Weather considerations, and many more. Profusely illustrated. (1956)

256 pages, 6½ x 9¾, \$5.95

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## GOOD NEWS FOR ARCHITECTS FOUND IN 1961 OUTLOOK

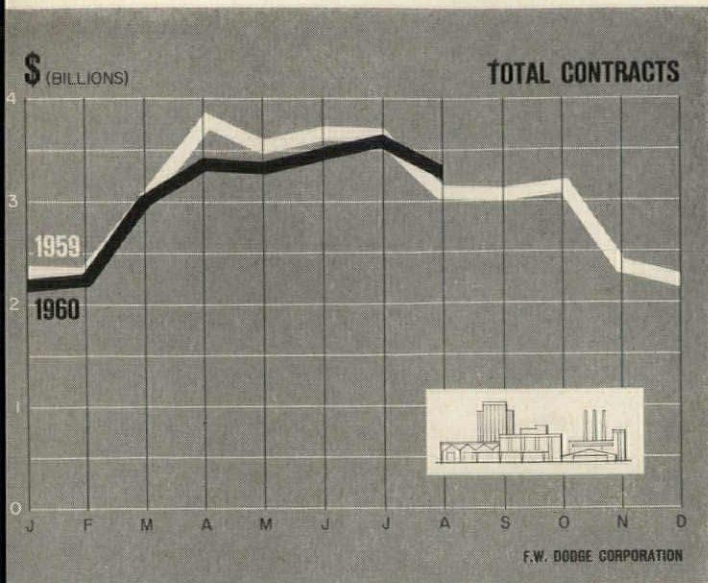
ELSEWHERE in this issue, the reader will find the Dodge outlook statement for 1961. The picture is not as rosy as it might be, but it isn't too bad, either. There is the prospect of a mild recession in business activity, with some improvement beginning to show up around the middle of 1961. As we see it, the principal downward effect of this recession on construction activity will occur in business spending for new industrial and commercial buildings. Most other areas of interest to architects should do as well as in 1960, or even better. Principal among these are schools, hospitals, religious buildings and housing.

WE HAVE estimated that new nonfarm housing starts in 1960 will total 1,300,000 and that in 1961 this figure will rise to 1,325,000. Unfortunately, we are dealing with a new and relatively untried statistical series here, since the Census Bureau assumed authority for the job formerly done by the Bureau of Labor Statistics. The old series, whatever its faults, was relatively stable, and its trends were fairly easy to spot. The new series has been bouncing like a Mexican jumping bean on a hot tin roof. For instance, the bottom dropped out of the July figures, there was a very encouraging recovery in August, and a virtual collapse in September. Something obviously is out of joint, either with the industry or with the statistics. The best housing analysts we know are in agreement on one thing: they are confused.

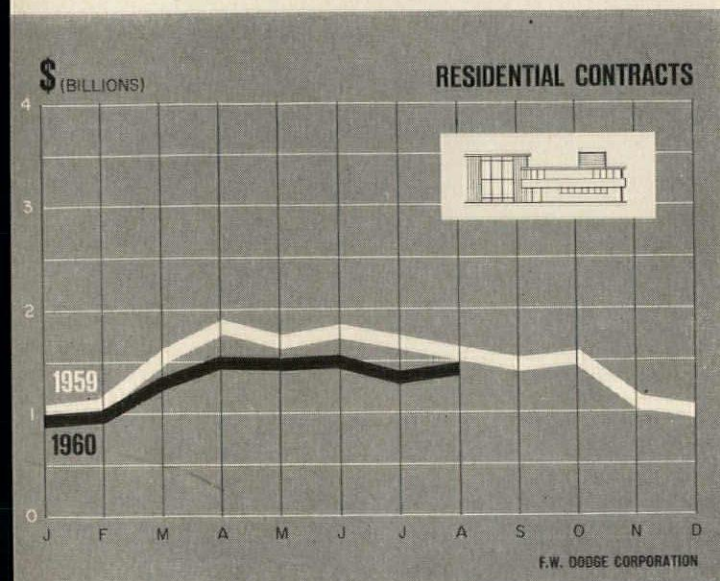
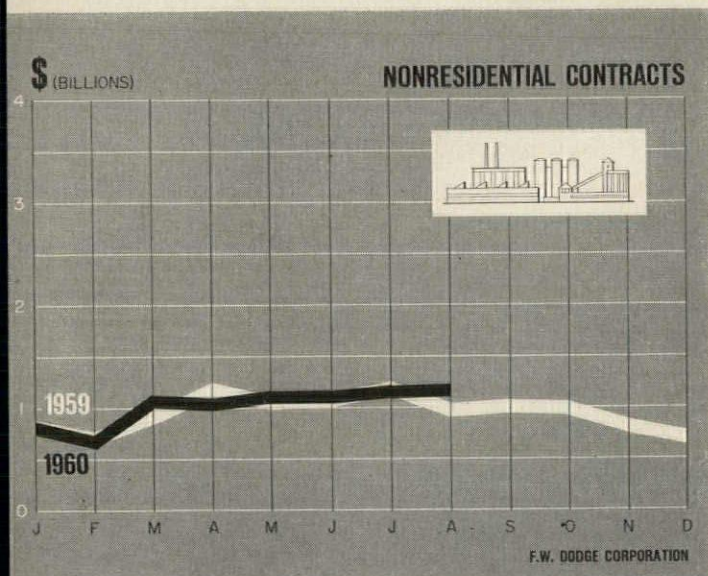
THE BIG question about housing is whether underlying demand factors are strong enough to produce an increase when interest rates drop, if business activity is also in a downtrend. In most of the postwar period, housing has tended to have good years despite recessions, because of enormous backlogs of demand and the effects of government stimulants. It seems that for the next couple of years, at least, demand will not be quite as strong as it has been. Therefore, lower interest rates may not give as big a boost as they have; and special efforts by government to provide stimulation may also have less effect. Still, lower interest rates and the prospect of some government action will probably provide some upward thrust, and therefore we expect housing to have a little better year in 1961.

ONE THING is clear: housing is now in a real buyers' market. Families are not under the same urgency to buy as they have been; they will buy what pleases them, when it pleases them. Builders will have to pay a great deal of attention to design—more than they have in the past. This is certainly not bad news for the architectural profession.

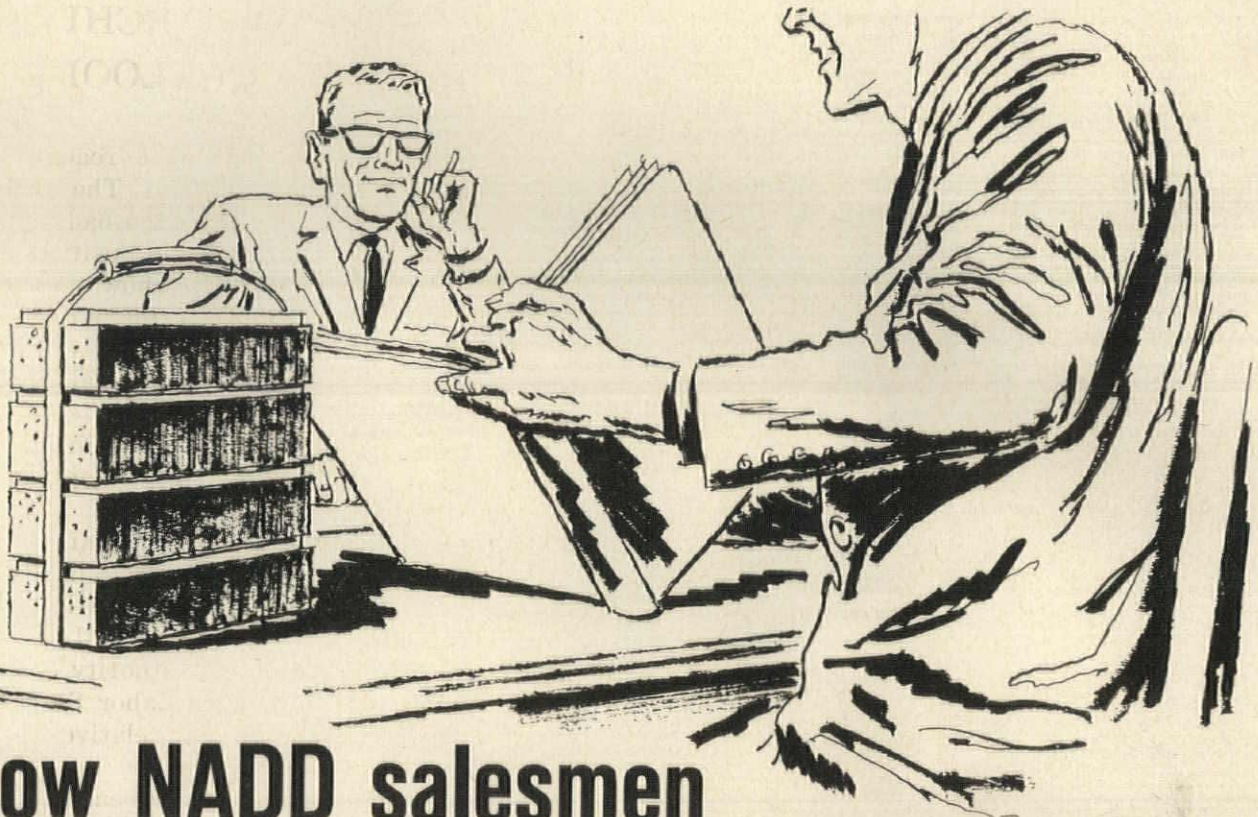
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