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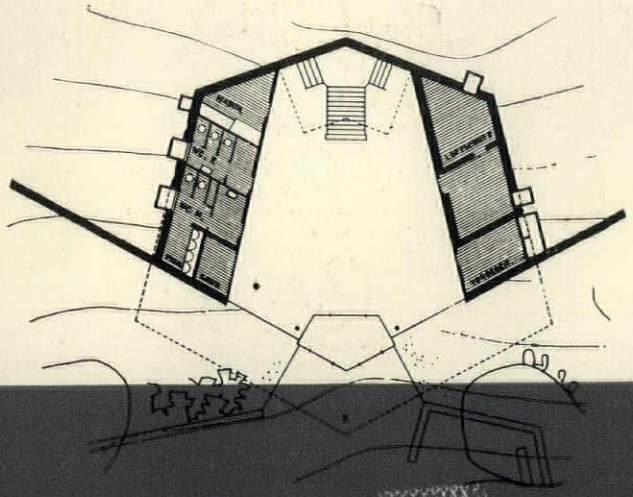

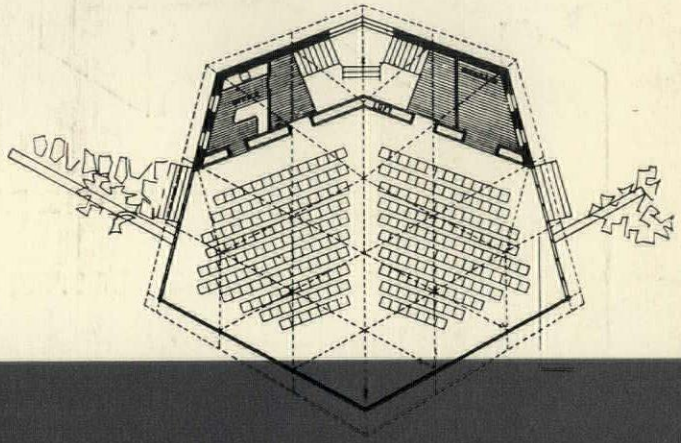

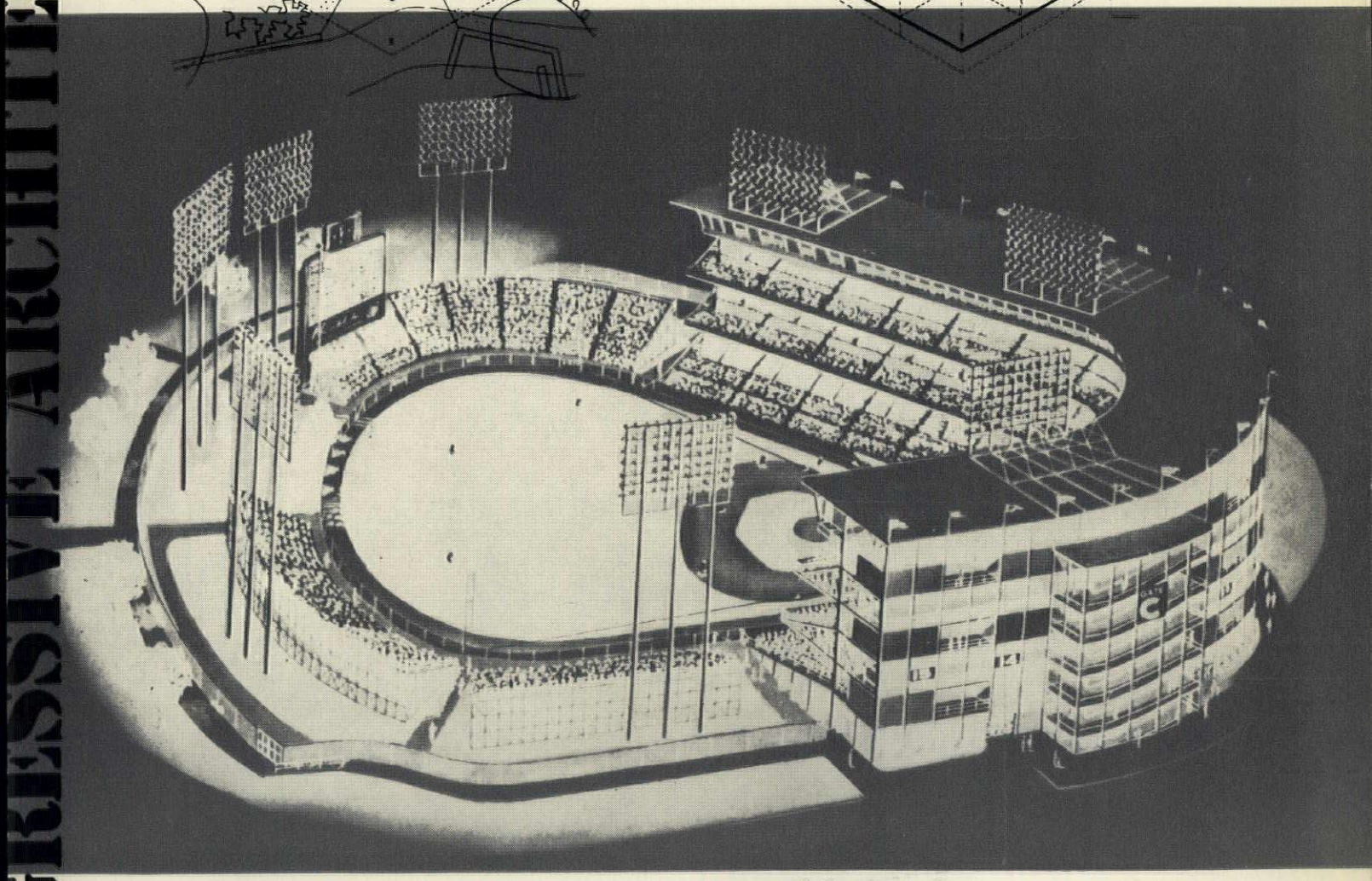

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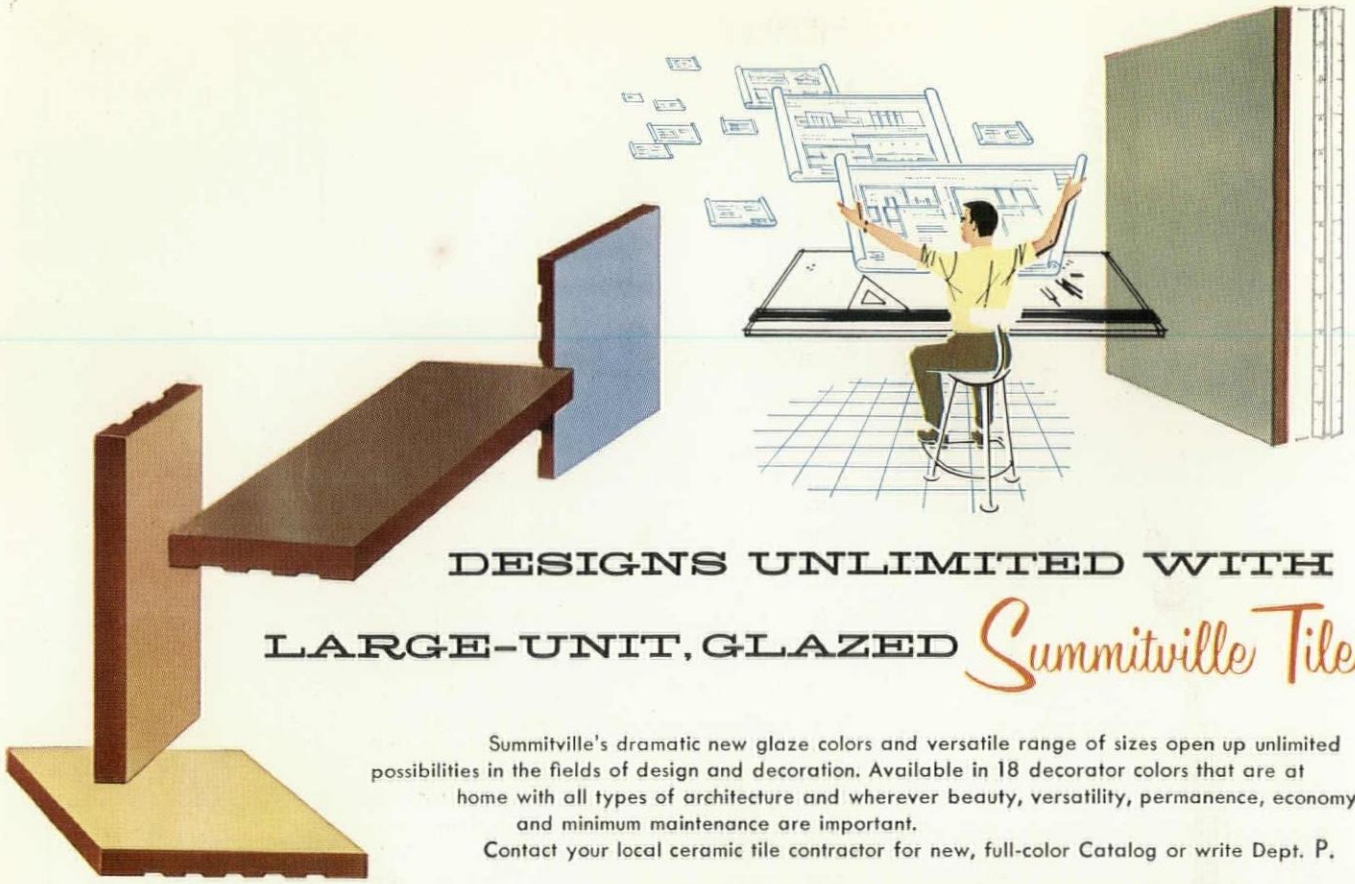

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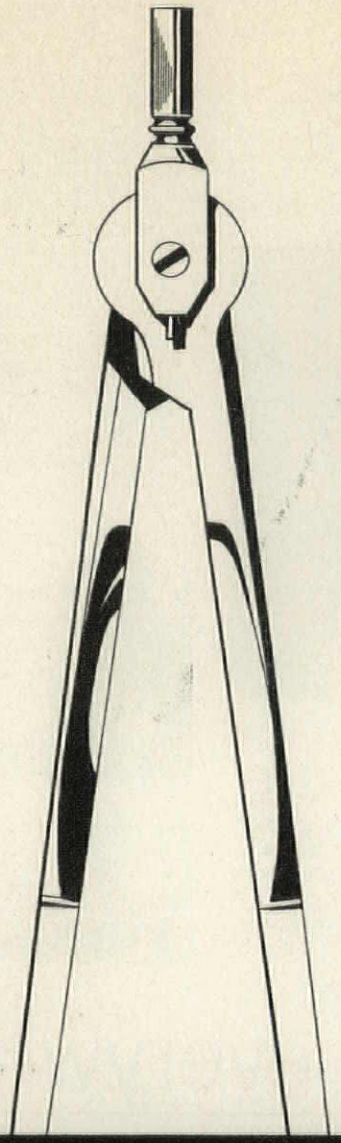

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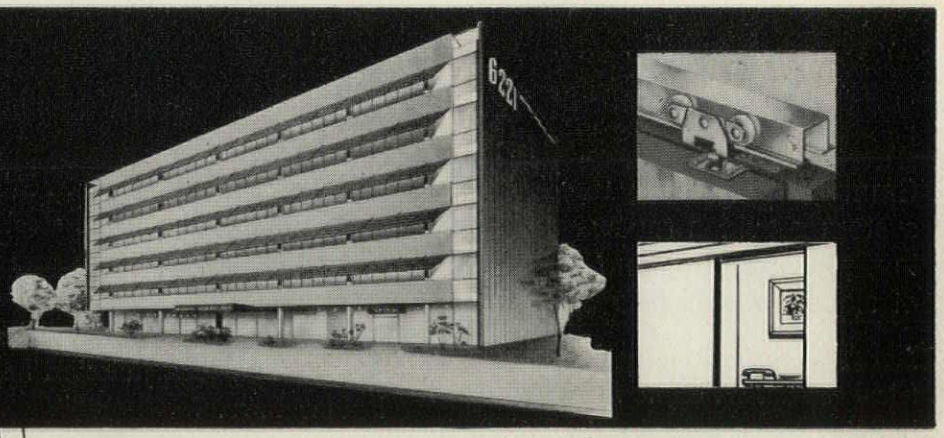

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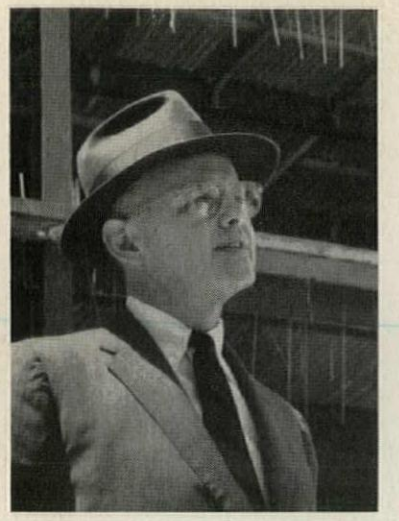

◀ OWNER representative W. F. Timoney says, "This is the most economical system we could use to attain a structural floor with under-floor electrification. Placing of E/R Cofar is fast and economical. After the steel frame and stairs were erected, we put in Cofar and had an immediate work platform on every floor of the building. We'll consider this system in all our multi-story buildings. We *know* its good!

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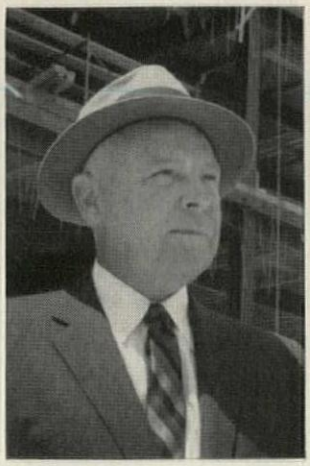

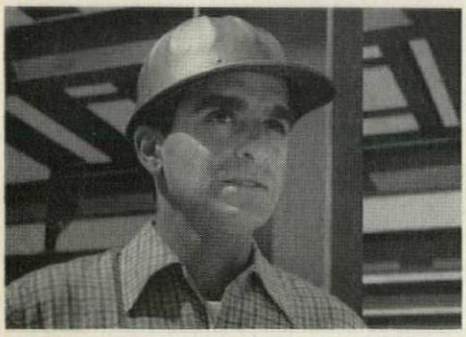

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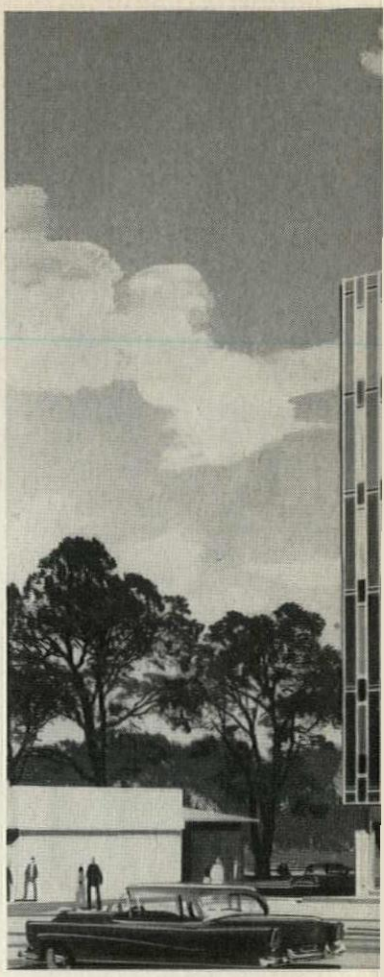

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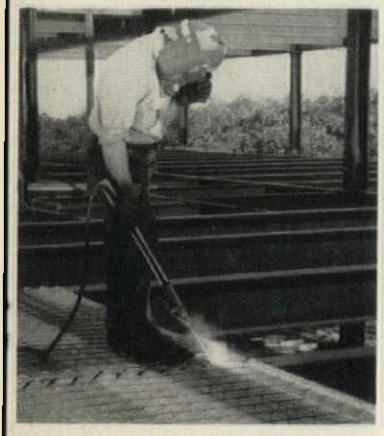

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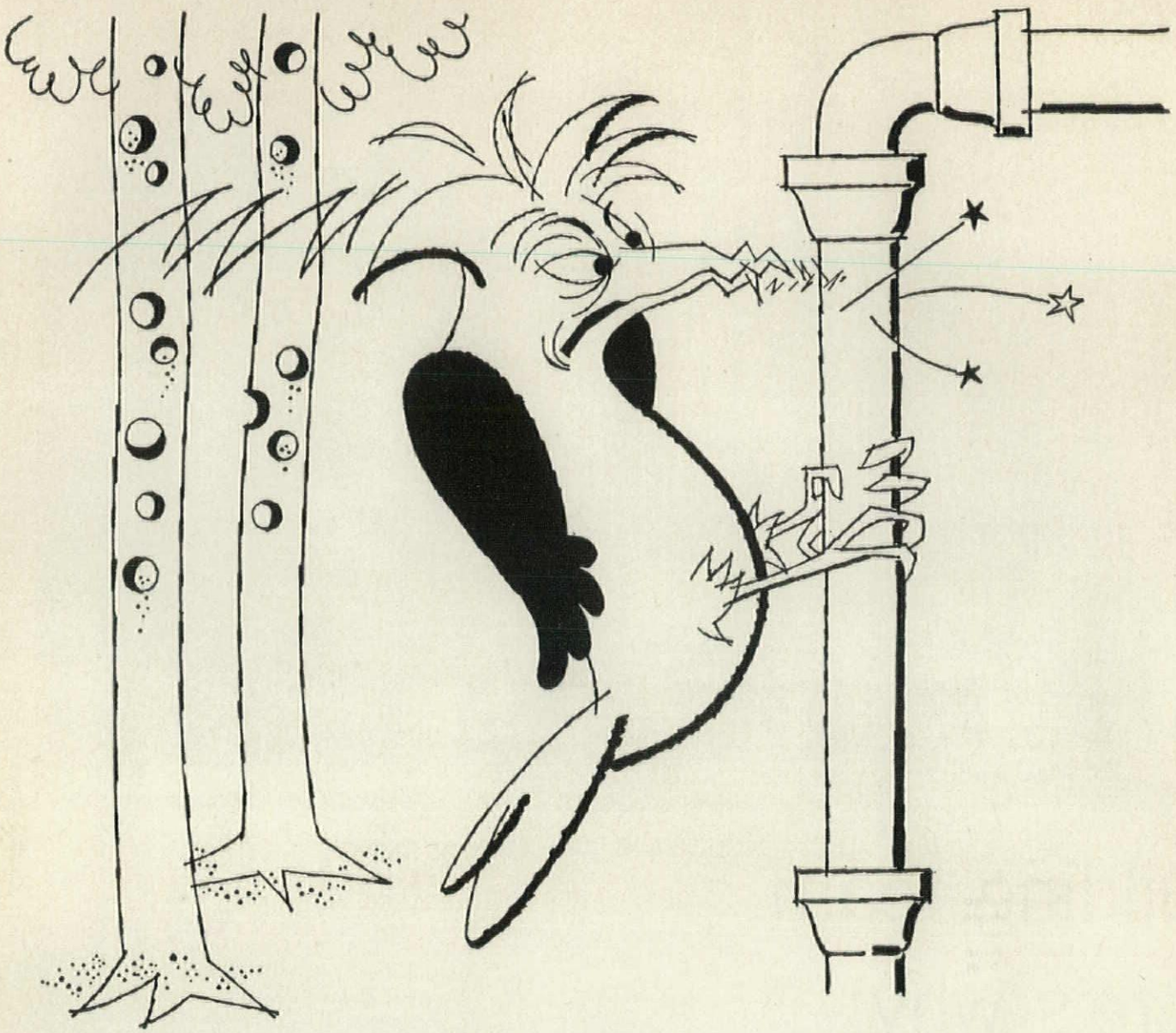

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It's the Law by Bernard Tomson

P/A Office Practice ***article based on a recent ruling concerning validity of the Architect's role as arbiter of disputes between the Owner and the Contractor.***

For the first time, the New York Court of Appeals, the highest court of New York, has ruled that a contract between an owner and contractor, which provides for the final and conclusive determination by an architect of all disputes, is valid and enforceable (*Board of Education of Union Free School, District No. 1* v. *A. Barbaresi & Son, Inc.*). This case was first reported in this column in NOVEMBER 1957 P/A, at which time an intermediate court, by a divided opinion, had also upheld the validity of the contract. The decision is of particular interest as the dispute in question concerned the construction and interpretation of an architect's own plans and specifications.

The dispute between the Owner and the Contractor concerned the installation of a certain type of ceiling in the auditorium of a school under construction. The General Contractor contended that the installation was not his responsibility but was that of the Electrical Contractor and demanded arbitration of this issue under Article 39 of the "General Conditions." The Architect, however, ruled that his plans and specifications required installation of the ceiling by the General Contractor, and the Owner refused arbitration of the question under an express provision of the contract which stated that the architect shall "determine whether the . . . plans and specifications had been fully complied with by the contractor." The contract further provided that such determination "shall be final and binding upon the parties hereto."

The ruling that a construction contract may validly provide for the conclusive determination of all disputes between Owner and Contractor by the Architect stems historically from a decision by the United States Supreme Court (*U. S.* v. *Moorman; see* IT'S THE LAW, MARCH 1950 P/A). In that case, a contract between the United States Government and a contractor provided that the Government's contracting officer was empowered to decide all questions of law and fact which might arise under the contract with a right to appeal to the head of the department, whose decision would be final and conclusive.

Following this rather harsh and sweeping decision, some courts attempted to soften its effect by construing the "Disputes Clause" contained in the Government contract as excluding, for example, disputes which did not arise during the progress of the work or by finding that the contracting officer had not acted with impartiality or good faith (IT'S THE LAW, OCTOBER 1951 P/A). However, the effect of the *Moorman* decision was to place the Federal Government in a controlling position insofar as disputes between it and parties contracting with it were concerned (IT'S THE LAW, NOVEMBER 1951 P/A).

Following the *Moorman* decision, the United States Supreme Court was called upon to determine the validity of a decision of a Government contracting officer under a construction contract which provided that his decision would be "final and conclusive." This decision had been found by the Court of Claims to have been "arbitrary," "capricious," and "grossly erroneous." Despite the finding of the Court of Claims, the United States Supreme Court upheld the contracting officer's decision, ruling that such a determination could be set aside only on the ground of proved fraud (*United States* v. *Wunderlich*; IT'S THE LAW, FEBRUARY 1952 P/A).

In discussing the *Wunderlich* case, this column pointed out that the reasoning of the Court did not distinguish between Government and private contracts and one of the apparent conclusions that could be drawn is that an architect could validly and legally act as sole and conclusive arbiter of disputes arising in construction contracts between private individuals and contractors (IT'S THE LAW, FEBRUARY 1952 P/A).

Congress, in 1954, adopted Public Law 356 which was directed at the "Disputes Clause" contained in Government contracts. This law was directed at the harsh result in the *Moorman* and *Wunderlich* cases. The statute provided in substance that no Government contract should contain a provision making the decision of a Government official final on a question of law and further provided that the decision of a contracting officer in respect to a question of fact shall not be final and conclusive if the same is fraudulent, capricious, arbitrary, so grossly erroneous as necessarily to imply bad faith, or is not supported by substantial evidence.

This column pointed out (IT'S THE LAW, SEPTEMBER and OCTOBER 1954 P/A) that Public Law 356 did not apply to a contract between a private individual and a contractor which provided for a conclusive determination of disputes by the architect.

It has been suggested that there are many advantages implicit in increasing the role of the architect as an arbiter of disputes between an owner and contractor (IT'S THE LAW, MAY and JUNE 1956 P/A). An architect is certainly in a knowledgeable position and is qualified and competent to determine such disputes and his decisions can be speedily made and can be an effective tool in respect to the supervision of the project and of a contractor.

From the viewpoint of the architectural profession as a whole, this column has urged that it establish its leadership in the construction field by increasing its role wherever possible (IT'S THE LAW, DECEMBER 1957 P/A). As pointed out, the influence of the Architect in respect to the preparation of the construction contract between the Owner and the Contractor affords an opportunity to this end. If the Architect's role as the sole arbiter of disputes between the Owner and the Contractor is generally recognized and accepted, it would be an impressive step toward the establishment of the Architect as the natural leader of the construction industry.

The legal validity of the role of the Architect as the sole arbiter of disputes between the Owner and the Contractor, even where the dispute involves an interpretation of the Architect's own plans and specifications, has been upheld. If there are ethical factors which require a limitation of the Architect's role as sole arbiter of all such disputes, then the profession should consider what limitation, if any, should be placed upon this function.

The courts have given the "legal go-ahead" for the expansion of the Architect's role as arbiter and it may be in the interests of this fact—with due consideration to ethical problems involved.

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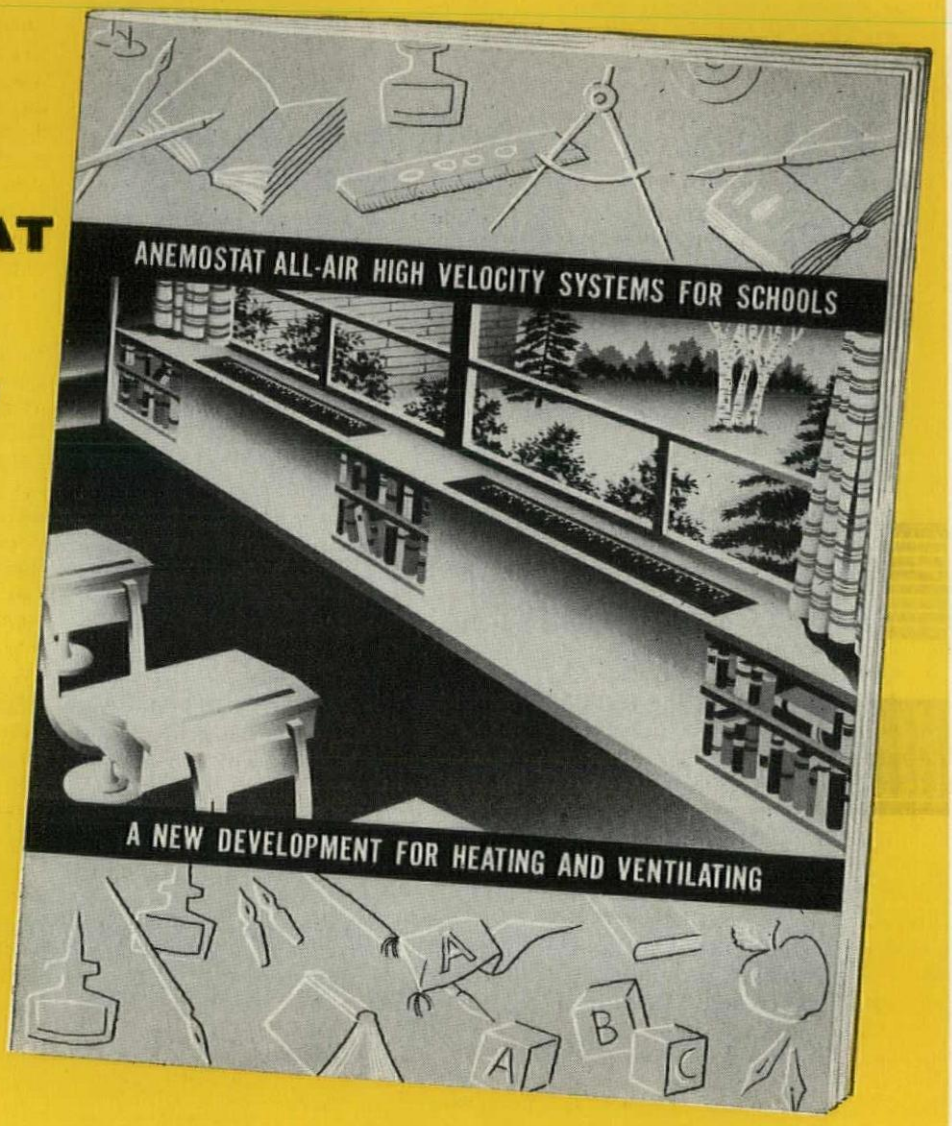

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Mechanical Engineering Critique *by William J. McGuinness*

P/A Office Practice *column on mechanical and electrical design and equipment devoted this month to heating and cooling with purchased steam.*

In hundreds of cities in the United States and in many cities abroad—including Munich, London, and Paris—owners of large buildings often find it more economical to buy steam generated in a central station than to buy fuel and to maintain their own individual plants. In New York, this kind of centralization began in 1882, shortly before electricity was similarly distributed. In that year, 62 buildings were served by the new network of steam mains which did not extend north of City Hall Park. This service, originally offered by the New York Steam Corporation, and now by the Consolidated Edison Company, is still limited to Manhattan, but it now extends from Battery Park to 92nd Street. Three principal areas are served: (1) the financial district centering on Wall Street; (2) the office, commercial, and residential areas from 34th to 60th Streets; (3) the residential districts of the East 60's and Central Park West. Other locations are served by mains that connect these three major areas.

This business, which originally fostered the growth of the skyscraper by furnishing it with steam for heat and for steam-powered elevators, still finds the owners of large buildings its principal customers. Its mains follow almost exactly the areas in which there are large buildings. The high cost of underground construction generally makes it uneconomical to extend mains to secure consumers. Along the established routes of the mains, the demand has strengthened considerably in recent years. Since World War II, almost all of the new commercial buildings on these routes have chosen purchased steam for heating and most of them for cooling. Most of the new residential buildings, apartment houses, and hotels have done the same. Very few of these buildings are provided with chimneys, space for future boilers, or fuel storage. Indeed, the savings afforded by the elimination of these items together with a reduction of staff and the liberation of space for profitable use have been the major reasons for selecting purchased steam. The greater efficiency, subjected to frequent tests, is obvious. Consolidated Edison does not provide a break-down or stand-by steam service to buildings which already possess steam-generation equipment.

Since 1944, the use of central-station steam for air conditioning has increased 20 times in number of installations, 40 times in air-conditioning tonnage—now 170,000 tons. The equipment using this steam comprises turbines to drive compressors and the increasingly popular absorption machine. The latter, because of its lightness and few moving parts, is most suitable for use in the top stories of new buildings, efficient and popular locations. Some buildings use both systems. The Socony Mobil building uses the exhaust steam from its air-conditioning turbines to operate absorption machines on the roof.

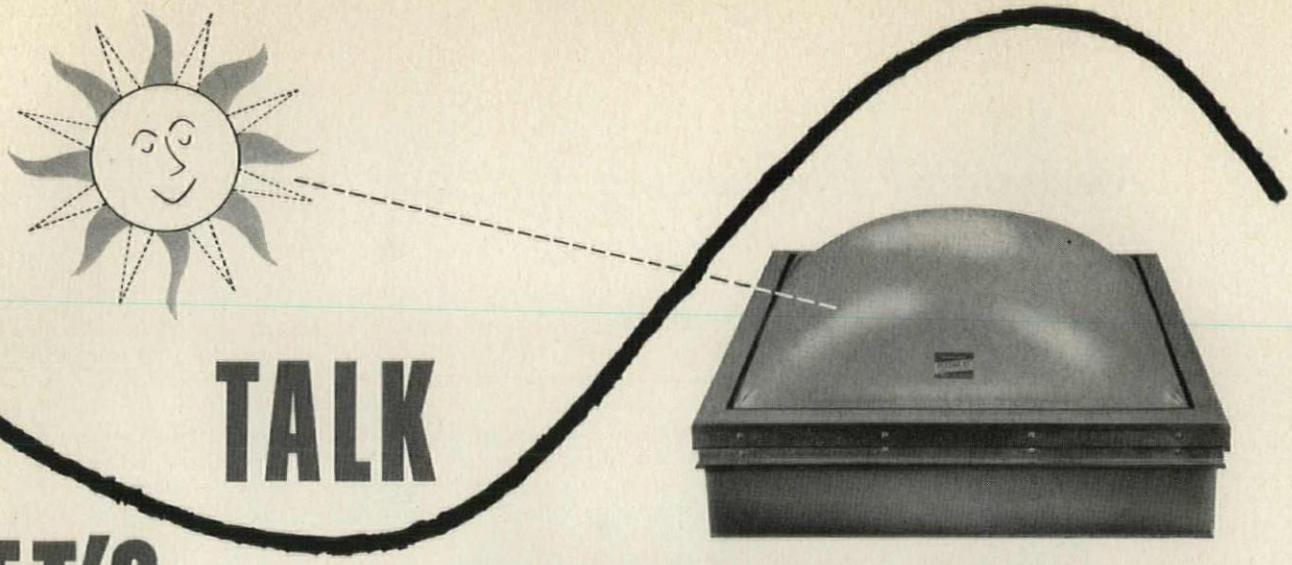
In New York, eight power stations are completely interconnected to supply steam at 160 psi, reaching the consumer at the minimum of 125 psi and in a dry condition. The user reduces this pressure in two stages to less than five psi for use in heating. He may, of course, use any pressure up to 125 psi. Hospitals, many of which are served by this system, need steam for many uses and at various pressures. Some of these uses are instrument-sterilization, cooking, cooling, laundry, heating, bedpan sterilization, and domestic hot water.

Very little of the condensed water resulting from steam is recovered. The cost of recovering all of it would be excessive. Water resulting from some condensation in the understreet mains is cooled and run off to sewers at numerous points. Consumers are required by the city to cool their condensate to 100 F, or less, before draining it to the local sewer. Generally, much of this residual heat is recovered by preheating water that feeds the domestic hot-water system.

The central stations burn anthracite and bituminous coal, oil, and some natural gas. While there may be a slight concentration in the discharge of combustion in the vicinity of a central plant, a much more complete combustion with less soot and fly-ash can be expected than if there were thousands of less efficient private plants. Water used for steam is given a very complete chemical treatment to render it harmless to central-station boilers. Its analysis is better than that of distilled water. While little of the condensate is returned to the plant, some use is made of it in laundries. It is well suited for this purpose because it has the qualities of distilled water.

Like most industries, this one has the guidance of a national association to set standards of efficiency and service. The National District Heating Association has hundreds of member companies representing this service in as many American cities. To Consolidated Edison's Robert D. Martin, General Manager, Wholesale and Governmental Sales, and Robert E. Burke, Manager, Steam Sales Bureau, it seems unlikely that high-temperature hot water will supplant in any appreciable measure the fundamental choice of steam for distribution in cities. They point out that the customer would have to stand the expense of heat-transfer apparatus to convert to steam, when steam is actually the medium they desire to purchase. This steam, metered at the building, like gas or electricity, varies in demand with the building type. The measure of comparison is pounds of steam per year per cu ft of building volume. For hospitals (all uses), this figure is approximately 15. For office buildings, it is 3½ for heating and 5½ for heating plus full air conditioning. For lofts and light manufacturing the steam use is 2½.

Some of the new Manhattan buildings that use purchased steam for heating and cooling are the Seagram building. Manufacturers Trust Company at 44 Wall Street, Chase Manhattan Bank building, and the Coliseum. It would appear that this trend may increase along the established lines of steam distribution, and that the delivery system may expand slowly to serve new communities of large buildings. Factors that favor this trend are high rentals for the space saved by eliminating boilers and other equipment, the need for off-street parking in areas that would otherwise be used for power generation, the elimination of soot at building site, the wisdom of delegating power generation to specialists, and an over-all favorable economic comparison.



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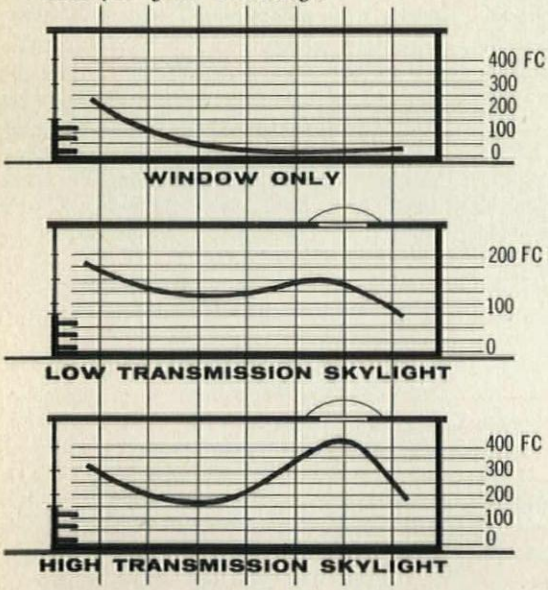

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The Style of Education

*by Herbert McLaughlin Jr.**

P/A Out of School ***article discussing the relationship of a School of Architecture to stylistic changes in architectural practice.***

Since the end of the last war, student design in the Department of Architecture at Yale University has gone through three distinct stylistic phases, which have been surprisingly well defined in both terms of forms used and the time in which they occurred. This fact raises a number of questions. If these phases are truly distinct, is their difference a function of the School, or of the students themselves? Do they reflect changes in design occurring in the work of practicing architects? Have there been three "style" phases in U.S. architecture during this time?

It has always been the philosophy of the Yale School that it is unwise to impose any particular stylistic discipline. On the contrary, there has been encouragement of as wide a variety of attitudes as possible. As a result, the student work is of particular interest in that it has been a matter of free choice with innovation highly valued, and it is of even more particular interest that, with this freedom, these very distinct phases of design have dominated the work.

Immediately the question arises: Is such a thing as style a valid term in this age? This may seem a pointless question, but for a long time architectural philosophy was dominated by the concept that while there were styles in the past, in this age in which architecture is properly based on function as influenced by sociology, climatology, and other pseudo scientific determinants, each solution is unique to the conditions obtaining. Yet, at the same time, a very definite and identifiable vocabulary of forms was developed, pretty well negating this argument even while it was being most strongly advanced.

1945-1950

It was to these forms, in fact, that the Yale School turned in the postwar period. It was an architecture which featured irregular angles, within buildings themselves and in their layout as groups. There was a definite sense of the building as being a series of related, but separated functional areas, each to be expressed individually. This was often done by actually separating these "zones," but usually by fenestrating them differently.

Detailing was spare and severe, casting small shadows on plain boxes generally of vertically sided wood, often set up on Lally columns. It was an architecture that derived a large part of its form and philosophy from Gropius and Breuer; but there was a certain amount of conflict. For these tense, tightly detailed structures often had their vertical siding stained in natural colors, and the familiar free, twin, metal-stack fireplaces were often made of rough stone, rather than the more correct plaster box. This introduction of nature-evoking materials did not, however, overshadow the general trend toward this lean architecture of the thin box, often with a butterfly roof, and the window punched through skin, the end elevation sometimes varied in detail so that the roof, the floor, and side-wall planes created a frame effect. This was a period in which presentation sheets were covered with sun-angle calculations, and flow charts formed the plans. This style was influential in the School to the point that the type of project selected was generally domestic in scale and thus favorable to this type of work. Within these limits a style—or perhaps one phase of a style—emerged.

This work was not the product of the schools alone, but was general. Breuer and Gropius have already been cited as leaders, but as there were imitators in school there were imitators in practice. The magazines were full of storefronts with vertical siding, unrelieved except for the sprawling script of the owner's name. Houses and other structures with this same detailing and siding were common and widely published. It was a general movement.

1950-1954

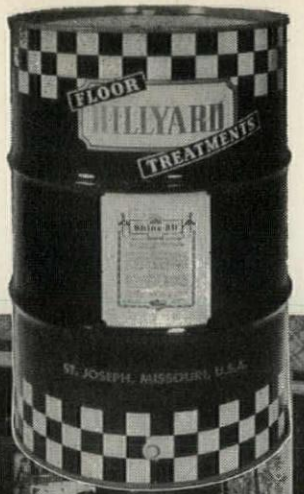
After this period, there arose with clear-cut suddenness an entirely new style within the School, so definite and prevalent that it eventually came to have a name among the students: *The Yale Box*. These Yale Boxes consisted of simple, clearly proportioned envelopes into which almost any function was fitted without jarring the symmetry. Perhaps one description of the work would be pseudo-Miesian, since it was obviously derived from the postwar work of Mies van der Rohe.

But it was Mies with some consistent variations. It was based on the values of simplicity, unity of mass and structure, refinement of proportion and detail, commonly associated with his work, but there was an element of romanticism and concern with spatial play and more dramatic structure which made this derivative architecture looser than the original. The most noted exponent of this work, and a man who was active in the School at the time, was Philip Johnson—a follower of Mies, yet one who has always been specially concerned with problems of light, the variation and sculpture of space, and openness and enclosure within the envelope.

But what the arrival in the School of Johnson himself and this style signified, more than anything else, was the beginning of an attempt on the part of the student to establish himself as an artist. This architecture, while symbolizing the classic and serene, also symbolized a rejection of the function of the architect as solely a social and sun-angle co-ordinator. Here was an architecture of aloof perfection, which very obviously ignored the old sun-god, and often the workability and practicality of a building in its drive to attain balance and clarity. If it often seemed to ignore the world sweating past, outside the thermopane, this was also a part of the beginnings of this artistic consciousness. A part of the necessary process of re-evaluation was a certain amount of withdrawal.

Again this development in the school coincided with a similar trend on the outside. This was the period in which Saarinen was working on the G.M. Technical Center, and admitting he owed a great deal to both Mies and Versailles. It was a period when, as we have said, Johnson was coming to the fore, and with him the group of New Canaan architects that still owed a great deal to the Harvard influence. And last, but certainly not least, it

* *Yale University, Department of Architecture, '58.*



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The Style of Education

was also at this time that SOM was developing its present formula.

This period was perhaps paradoxically one of groping, a period of finding a new confidence, a new set of beliefs. Then a new development began, growing more directly out of its predecessor than had the previous one.

1954-1957

Clear articulation of structure had always been an important part of the Miesian idiom, and the development and romanticising of this aspect of architecture was, and is, the focal point for the present trend in design. This romanticism of the structure generally takes the form of repetitive elements used in the roof plane, such as exposed bents, vaulting of all types, usually involving a thin shell, folded planes, paraboloids, and other shapes. This structuralism has also taken the form of space frames, whose use had originated in a desire to create one simple Miesian space. Today these space frames are used to create a complex interweaving of masses and planes within the exposed structure and thus the space itself.

A part of this new movement is interest in structure-in-tension, often in actual movement. These tension structures may also foreshadow development in another direction, in that their total forms approach abstract sculpture. However, if sculptural work is to be done we will probably need the discipline of structure to justify and to provide limits, for very few can do well this personal architecture of genius. Another important factor in limiting this type of work, however, may be the ingrained American sensibility for the rectangular, the post and beam as contrasted to the more plastic European tradition of stone, stucco, and plaster. Corbusier is an important influence, but it is likely that the Unité will be much more widely imitated than Ronchamps, which, however, is currently the most widely discussed building at the School.

Another major concern of this new movement has been a study of history, and an acceptance of past forms as valid in themselves. As a result, a great deal of effort is given to relating new buildings to old, not only in massing, but in texture and profile, something largely ignored before. Even ornament is returning.

Since Spring, 1957 (when this paper was first written), work at the Yale School has tended to develop further in this sculptural direction. This development, however, has not been in the direction of large, plastic shapes, but has tended to express itself in the abstraction of elements repeated in a pattern. These elements are usually walls, or building-block-like cubes of space, not generally structural elements. If they are structural, this function is secondary to their comprehension as forms.

This work, through this quality of abstraction, has a curious lack of scale, as we are familiar with it. Planes of glass or masonry are expressed so that customary references of proportion and door and window height are lost, and the cubes are designed to make the most of their quality of abstract geometry.

This lack of scale also tends to be important in work which still follows the structural discipline. Where before, precise detailing had always been a strong feature, buildings now appear with detail purposely cut to a minimum, again increasing the abstract quality.

It is hard to define this work, and to analyze it, because it is new, and one is unable to say whether it is a real direction, or just an aberrant. The question is asked, where is this work being done by practicing architects– Although in its specifics this work has not borne any close resemblances to the work of Louis Kahn, and although its philosophy is generally nonstructural, which Kahn's never is, there is a similarity. The similarity exists in the desire to make sculpture of the building, and in many ways, to depart from familiar forms and disciplines. In many ways this trend is reflected in the current revival of popularity of Gaudi and other highly individualistic creators of forms.

•

This history of clearly defined change, and, hopefully, development, raises two basic questions. The first: Is the idea of style valid? Obviously, this has been assumed to be true throughout this paper, and it would seem that the paper itself has borne out the assumption. There seems to be a definite relationship between work in school and that of practicing architects, and it has been seen that the work of both has existed in three distinct periods, which are definable in terms of forms. This would seem to be clear evidence of the existence of style.

As an aside, this then raises the question of the purpose and proper form of a school. If very few students can be expected to be really creative should the school, as Yale does, try as much as possible to foster originality? Or is this a lost cause, and should some other teaching method be used? The other two most widely adopted methods seem to be either to follow the work of a great master, and learn through concentration in one discipline, or to be concerned primarily with research into areas such as structure or climatology. The differences perhaps lie in what attitudes of the schools are toward the development of architecture as a whole.

This leads to the second question: Has this postwar development been one style, or a series? Generally it would seem that it has all been part of one general tendency; although the division between the first and second of the periods since the war is certainly much more distinct than that between the second and the third. In addition to this, work in these second two phases seems more likely to last for a good period of time, and is certainly more widespread than that of the first, even at this early date, in its development.

So perhaps this is our ideal: one of rectangular clarity, symmetry, and modular order, with boldness in the structure as the distinguishing mark of more important buildings. If this is true the new, very positive, so-called "brutal" architecture is a revolt. We seek the security of an ideal, but are ashamed to admit that such an absolute thing can exist. Perhaps the time has come when we are again able to concern ourselves with very firm values, and the limits they impose.

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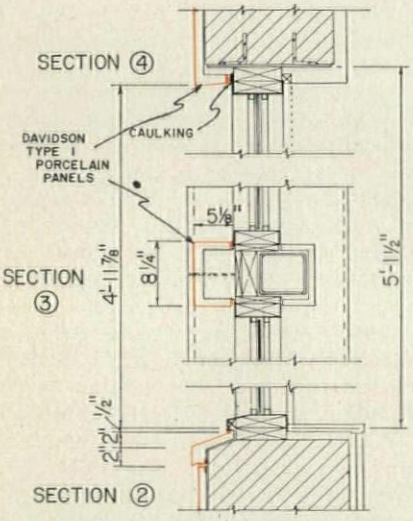

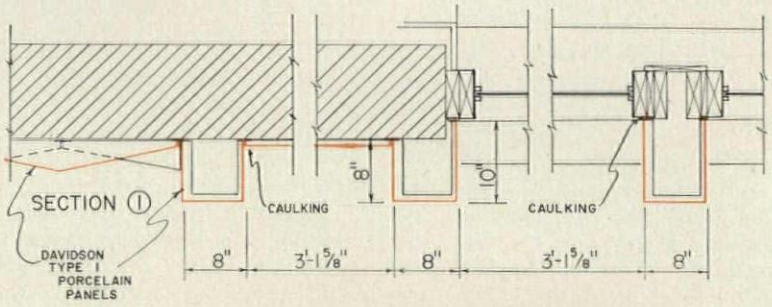

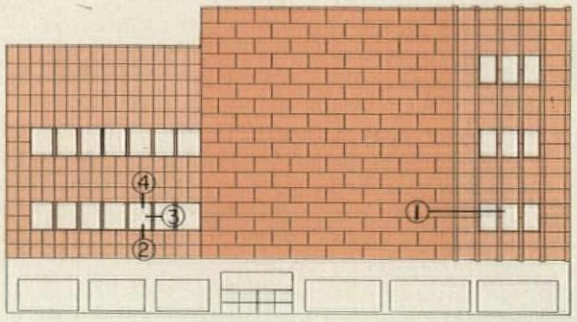

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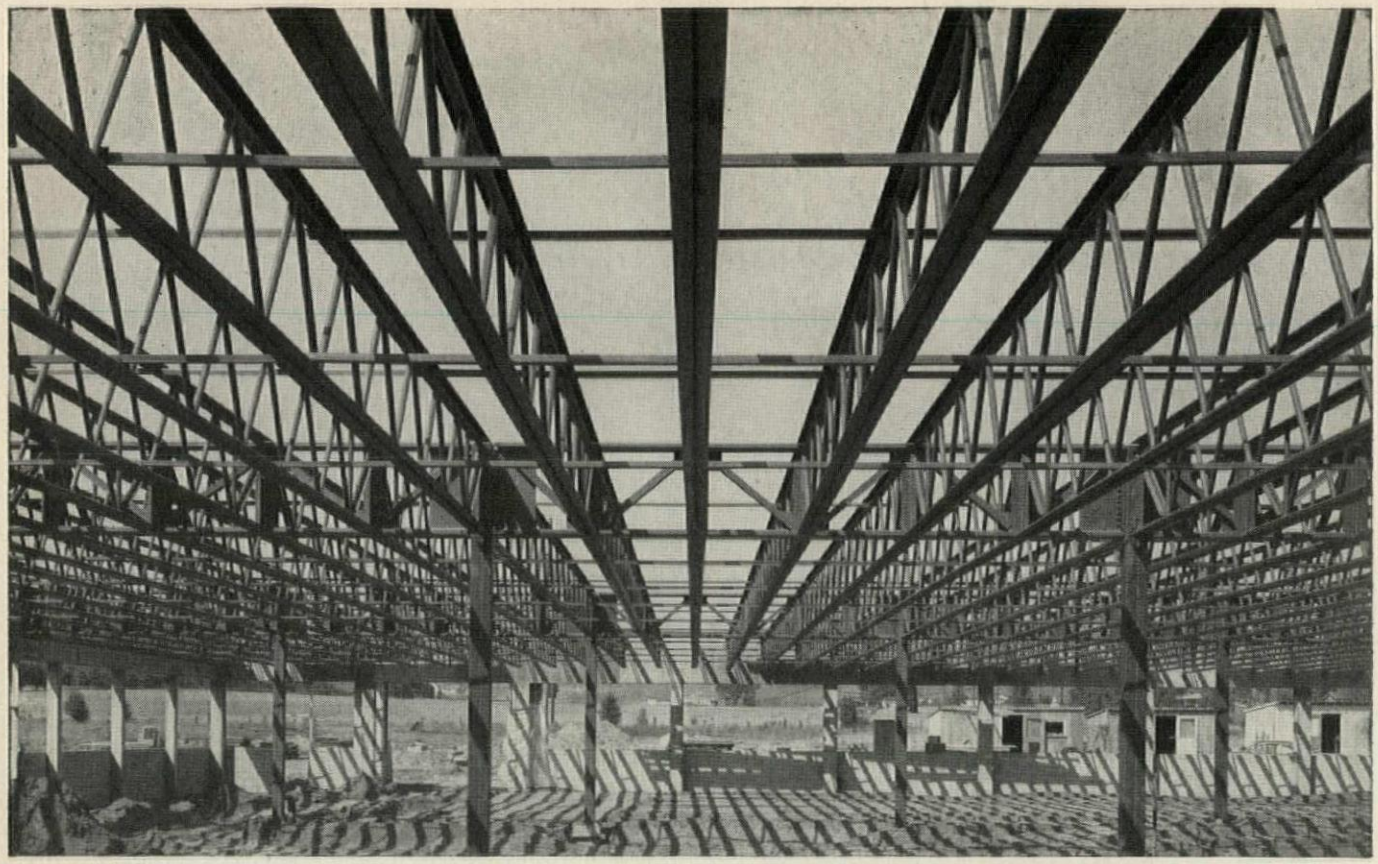

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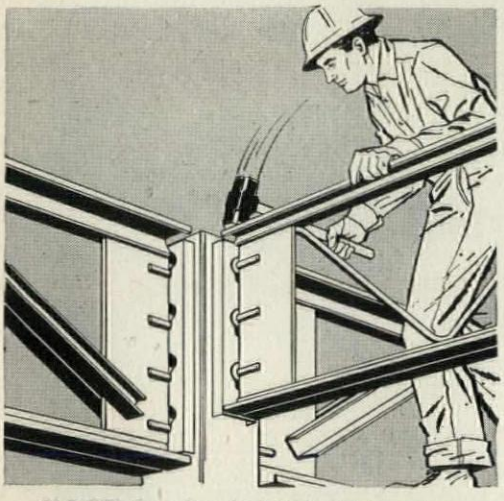

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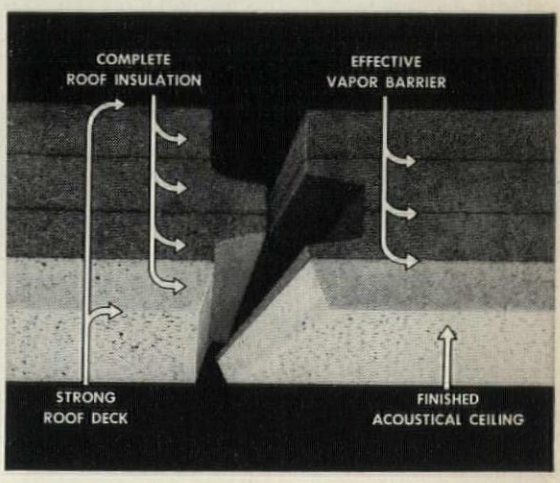

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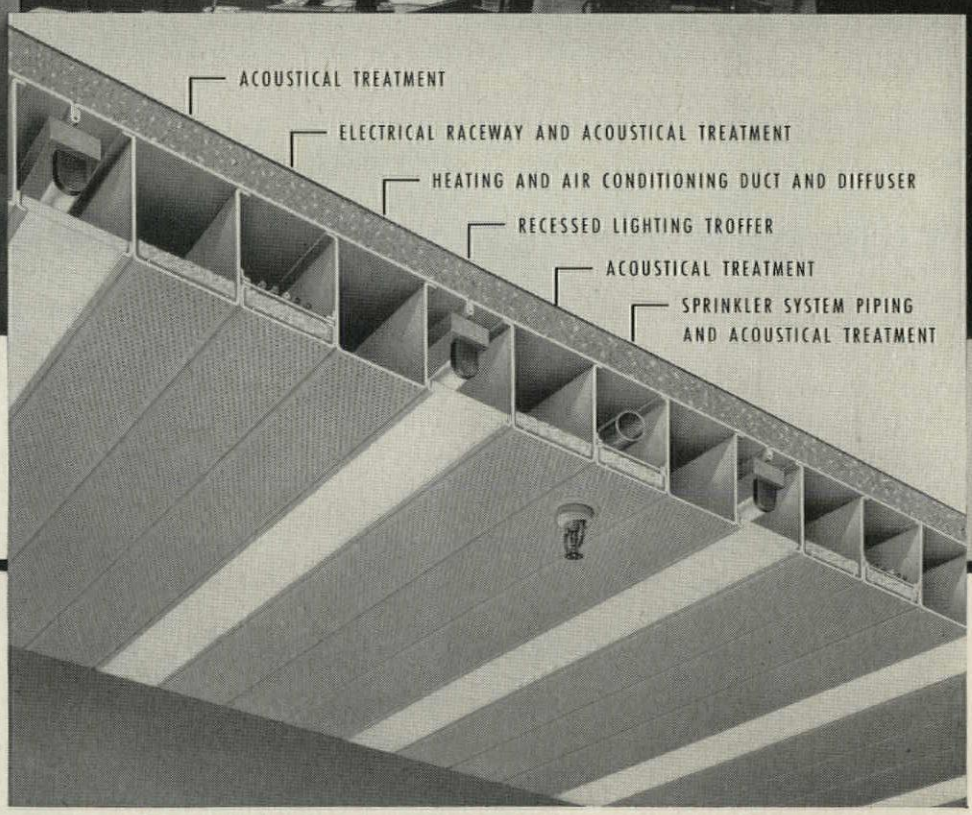

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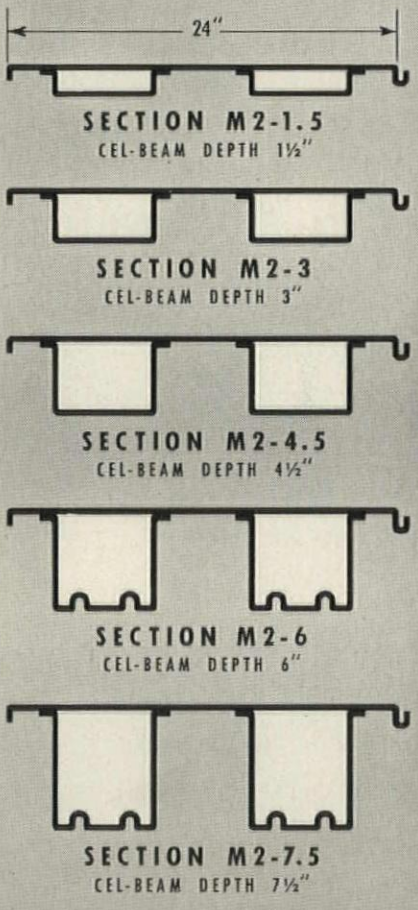

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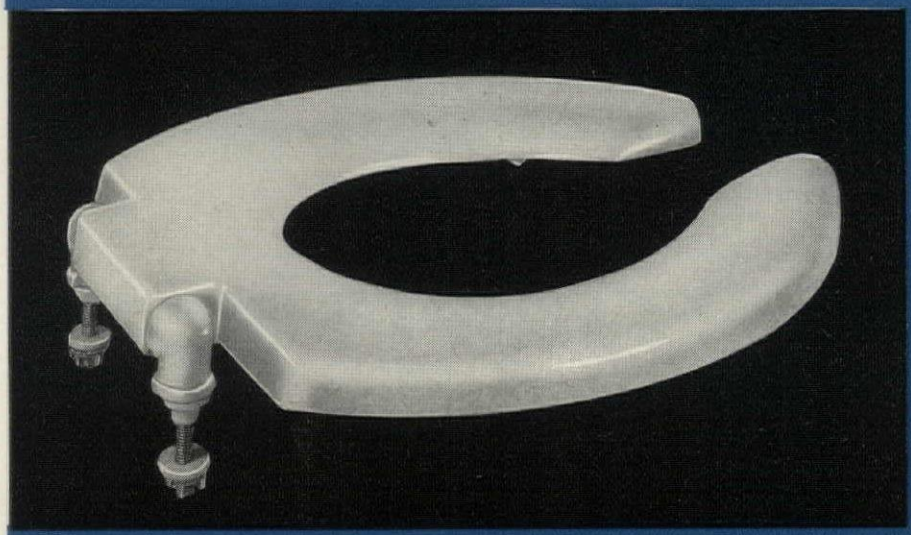

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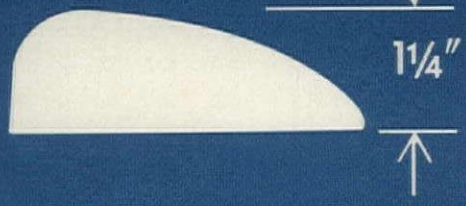

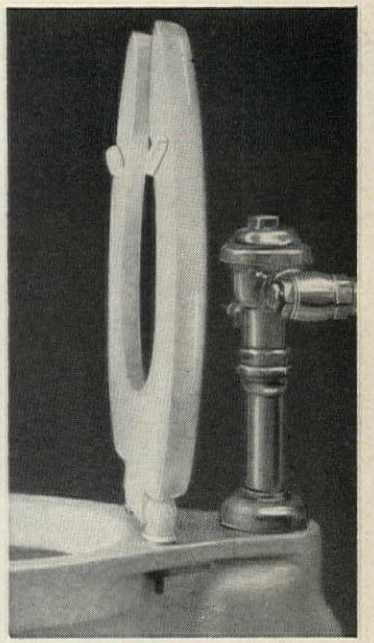

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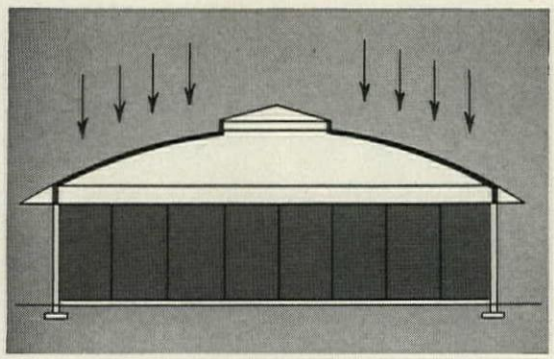

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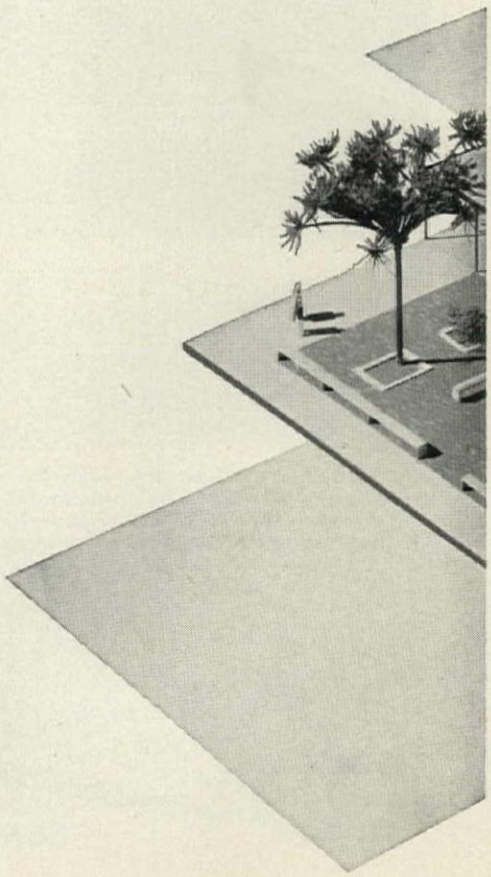

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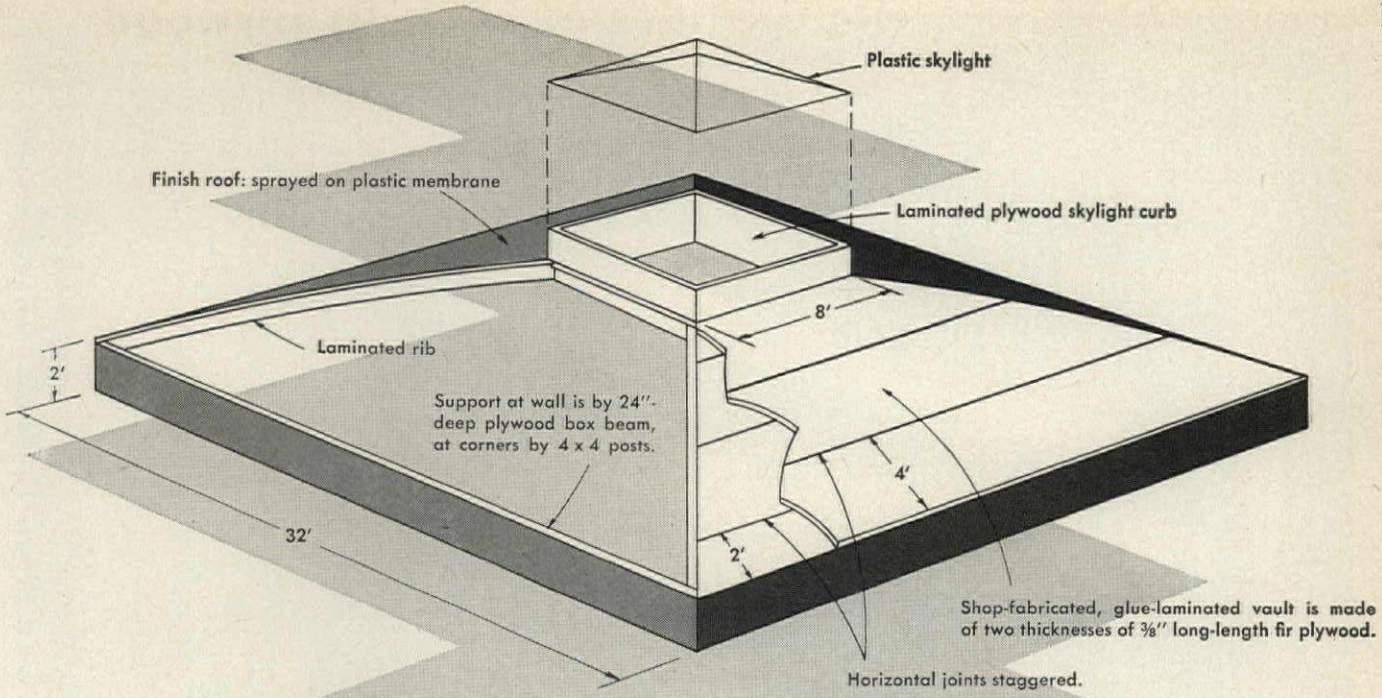
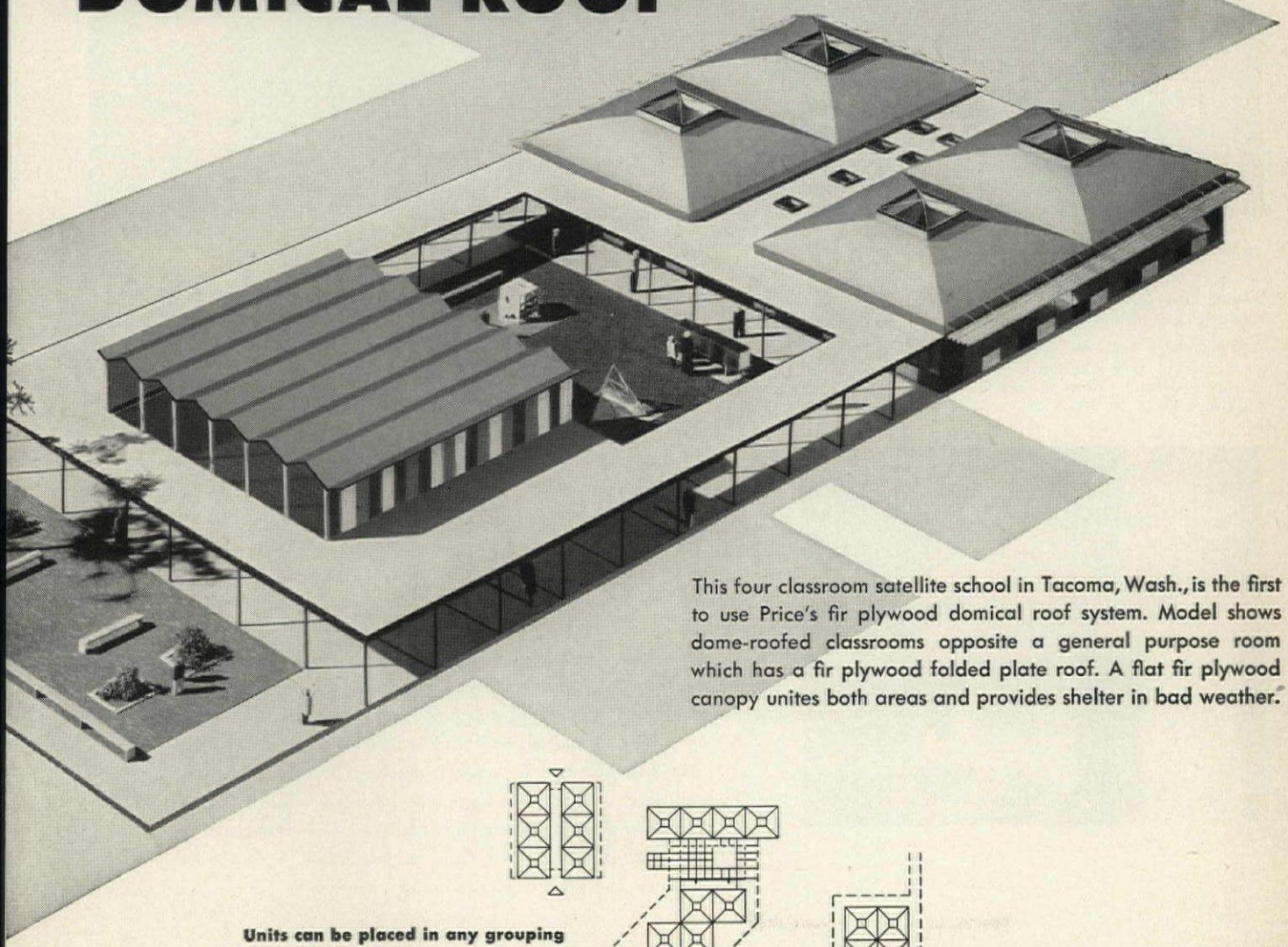


DOMICAL ROOF



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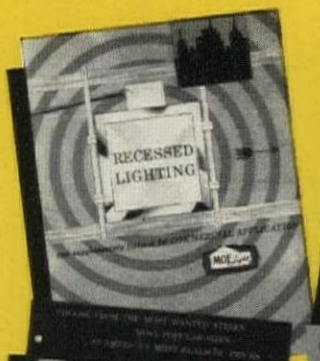

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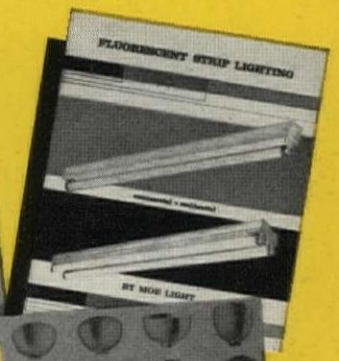

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New Economy...

with porcelain enamel aluminum wall panels by Fenestra

An exciting new development by Fenestra . . . insulated aluminum wall panels that combine the long, maintenance-free life of porcelain enamel color with the economy of fast, easy field assembly in curtain wall construction.

These Fenestra* Wall Panels give distinctive, durable beauty to any building with their rolled-in texture and deeply revealed fluted design. You can choose from scores of long-life colors for the exterior surface. You save the cost of painting and repainting year after year, and enjoy the guarantee of uniform color match.

Designed for field assembly, these Fenestra Wall Panels go up fast . . . saving important construction time and money. Only 3″ thick, but efficient glass fiber insulation gives you insulating values better than a 16″ masonry wall, furred and plastered . . . and the panels are erected in days instead of weeks.

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"LONG-LIFE" COLORS . . . Opaque, stable and uniform to the standards of the Porcelain Enamel Institute.

BOLD FLUTED DESIGN . . . combined with textured finish gives new design freedom.

FAST, EASY FIELD ASSEMBLY. . . saves construction time and money.

FREE COLOR CHART showing actual samples of 42 colors now available. Write for copy on your letterhead!

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Call the man from Fenestra for

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Business-like in appearance and durability, too! These new Fenestra® Hollow Metal Doors swing open smoothly, close quietly. There's "quiet", built into every Fenestra door. You save year after year on maintenance because Fenestra Doors can't warp, swell, stick or splinter. They last a lifetime! And in addition, you get the lowest installed cost because:

1. You buy a *complete package*—door, frame, hardware, completely machined at the factory to eliminate on-the-job cutting and fitting.

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3. You have a complete selection of door types (1⅜" and 1¾") of distinctive designs and features—*all mass produced.* Custom quality at stock door prices!

Ask your Fenestra-trained representative (listed in the Yellow Pages) to help you in your selection and specification of doors, frames and hardware. Or, write to Fenestra Incorporated, Dept. PA-7, 3409 Griffin St., Detroit 11, Michigan.

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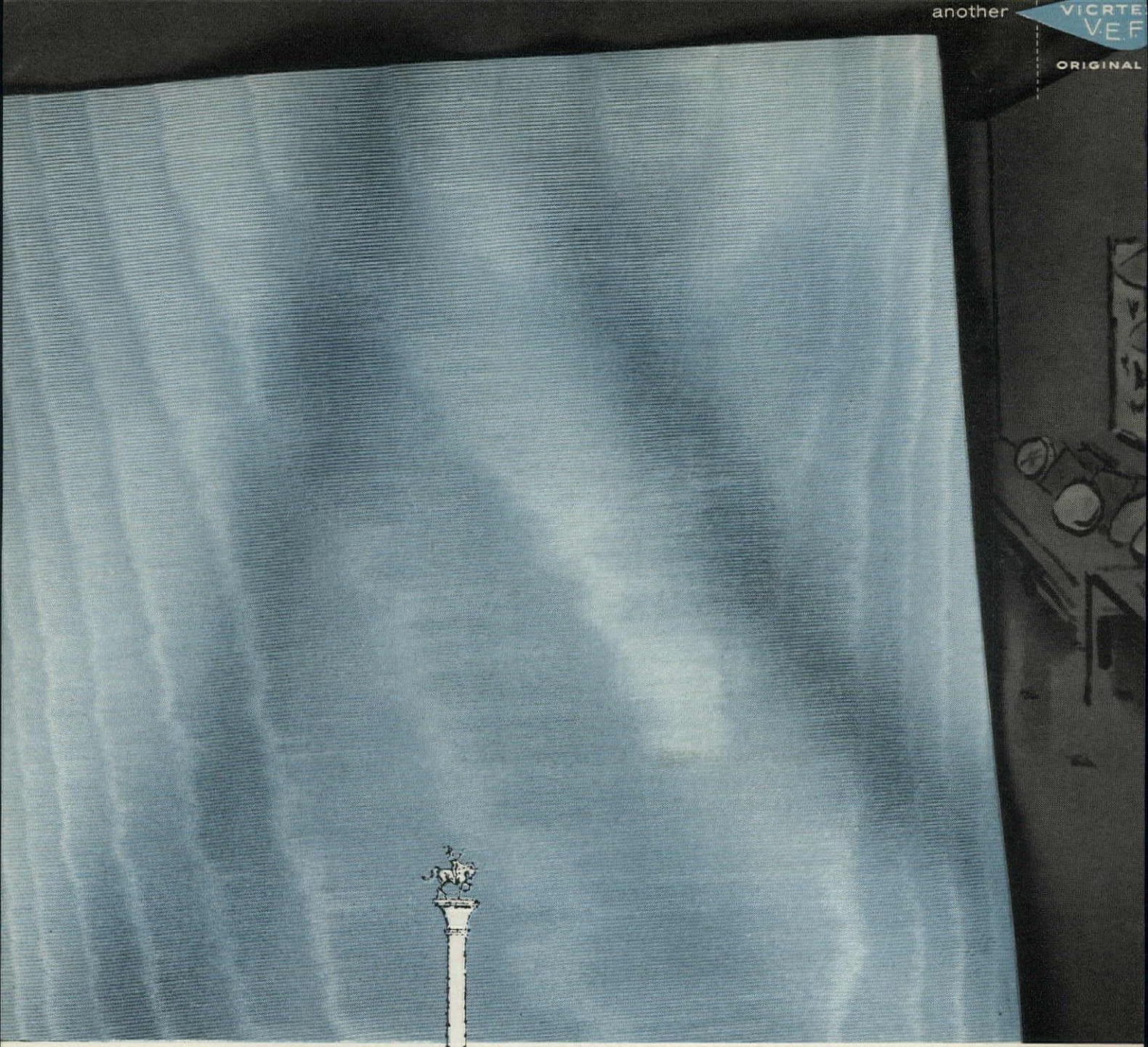
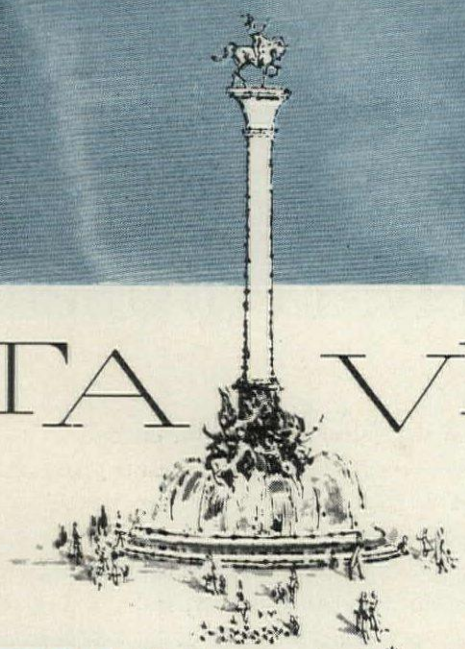


SETA VENETIA



new

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In Seta-Venetia you find the inspired coloring and visible quality that are Vicrtex characteristics. It's another pace-setter in the trend to elegance, a new star in the out-of-this-world line that's famous for design originality and unequalled performance in use.

Like all Vicrtex Vinyl Wallcoverings, beautiful Seta-Venetia is made by an exclusive quality-controlled process to assure exact pattern reproduction, complete color uniformity and exceptional wear-resistance. But see for yourself! *Write for color samples and information about the whole exciting Vicrtex series.*

* Vinyl Electronically Fused—needs no lining however used

L. E. CARPENTER & COMPANY, INC.

Refectory of St. Clair's Novitiate, Rochester, Minnesota • Architects: Maguolo & Quick, AIA, St. Louis, Missouri

Terrazzo Crosses this Floor

Handsomely, Permanently

Durable enough for an institutional refectory—beautiful enough to underscore the religious atmosphere—that's Terrazzo, the contemporary classic. An ageless material at work in modern times, Terrazzo keeps its original good looks for the life of the building it graces.

Initial cost is more than offset by the near absence of repair or replacement Terrazzo's smooth jointless surface cleans readily, is hard to stain, requires no refinishing, no painting, no waxing. Terrazzo is marble hard and concrete durable, yet it's easy to walk on, less slippery than waxed floors.

Specify any design or color imaginable for walls, stairs and wainscots. Terrazzo comes through beautifully. For detailed information write the Association in Washington, D. C. AIA Kit sent upon request.

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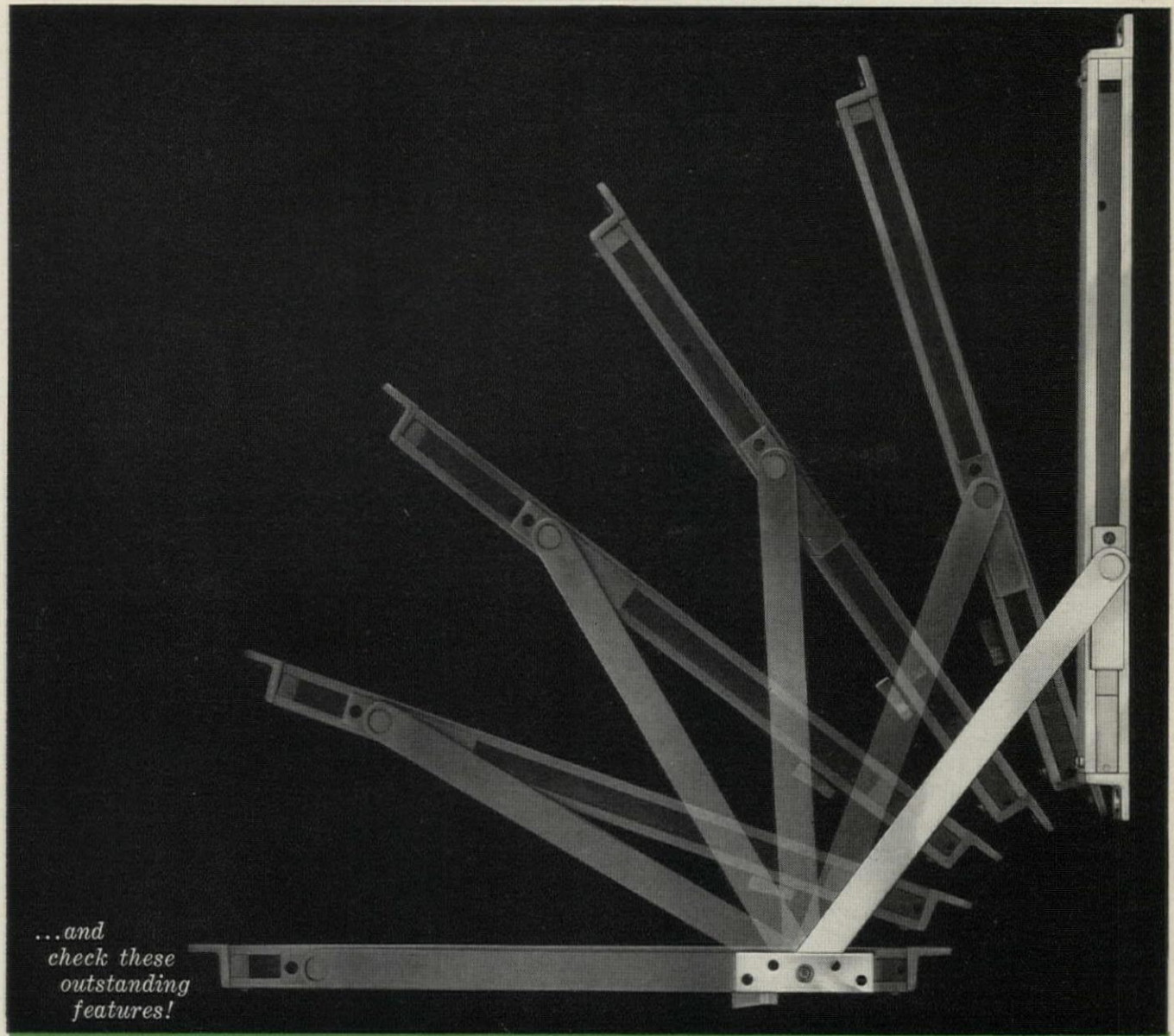
BUILT TO TAKE SLAM-BANG SCHOOL SERVICE

The 1750 Russwin Door Holder is "made-to-order" for school doors—or wherever rugged service calls for solidly built holders. ✓ ✓ ✓ One clue to the holder's long service life is the extra sturdy holding dog. After a million-cycle test, it was almost as good as new! A remarkable endurance record. ✓ ✓ ✓ Wide-contact latch design distributes the load in the 1750 holder... eliminates concentrated wear. The king-size, deeply case-hardened steel holding dog assures long life. ✓ ✓ ✓ Have your Russwin representative show you the new Russwin 1750 Door Holder. Designed for single-position holding, it is available in six sizes. Your finest choice for lasting service. Russell & Erwin Division, The American Hardware Corporation, New Britain, Connecticut.



...and check these outstanding features!

TOP-MOUNTED SLIDE
Long, rectangular top-mounted slide of exclusive design distributes load over large area of heavy, extruded architectural bronze track... reducing wear.

ADJUSTABLE HOLDING
Holding force adjustment within a wide range is provided through an easily accessible adjusting screw at the top of the slide, with finger-tip on-or-off lever.

ANTI-FRICTION PIVOTS
Heavy, hard-drawn brass arm and bracket, plus silicon copper alloy pivots, offer greater strength and longer life.

FORGED BRASS END BRACKETS
Extra-strong end brackets, with through bolts and sex nuts, assure rigid, permanent mounting.

RUSSWIN®
DOORWARE

One of 4 schools in the Ontario School District, Cal. for which Rilco supplied laminated pitched and tapered beams. Architect: Jay Dewey Harnish; Contractor: Hoefer Construction Company.

Schools with RILCO are Beautiful Fire Safe Economical

One of the schools shown here was built for $7.75 per sq. ft., one cost $10.24, another $7.30, that's economy. The beauty of Rilco laminated wood members is a plus — a beauty only wood can offer. There is no institutional chill — warmth of wood that mellows with age makes youngsters feel at home.

Rilco arches, beams and trusses help reduce erection time and costs — delivered carefully wrapped for protection—drilled for furnished hardware, they go up *fast* with regular job-site labor. Maintenance free — laminated wood is not subject to chemical change, rust, corrosion, splitting or warping.

Fire resistant Rilco laminated wood, arches, beams and Rilco Deck are slow to burn, won't collapse under high temperatures — allow time to save structure and contents.

Rilco laminated wood members bring all three *Beauty*, *Fire Safety*, *Economy* to any school. For more information on building *bigger* and *better* for *less* contact your closest Rilco office.

RILCO works wonders with wood

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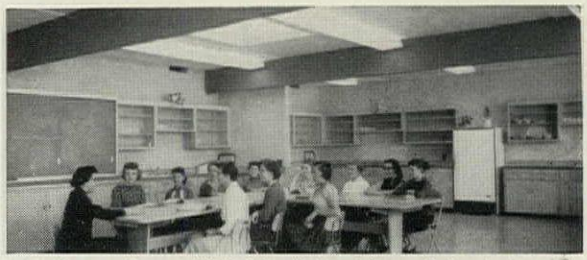
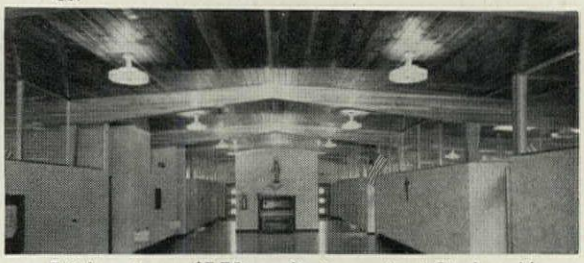
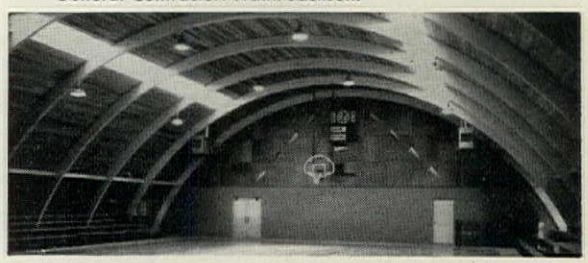


Banner County High School, Harrisburg, Nebraska was built for $10.24 sq. ft. including all fixed equipment. Architect: Robert Ditzen; Contractor: Fullen Construction Co.



Total cost was $7.75 sq. ft. to construct St. Joseph's School, McPherson, Kansas. Architect: Robert E. Marr; General Contractor: Frank Jackson.

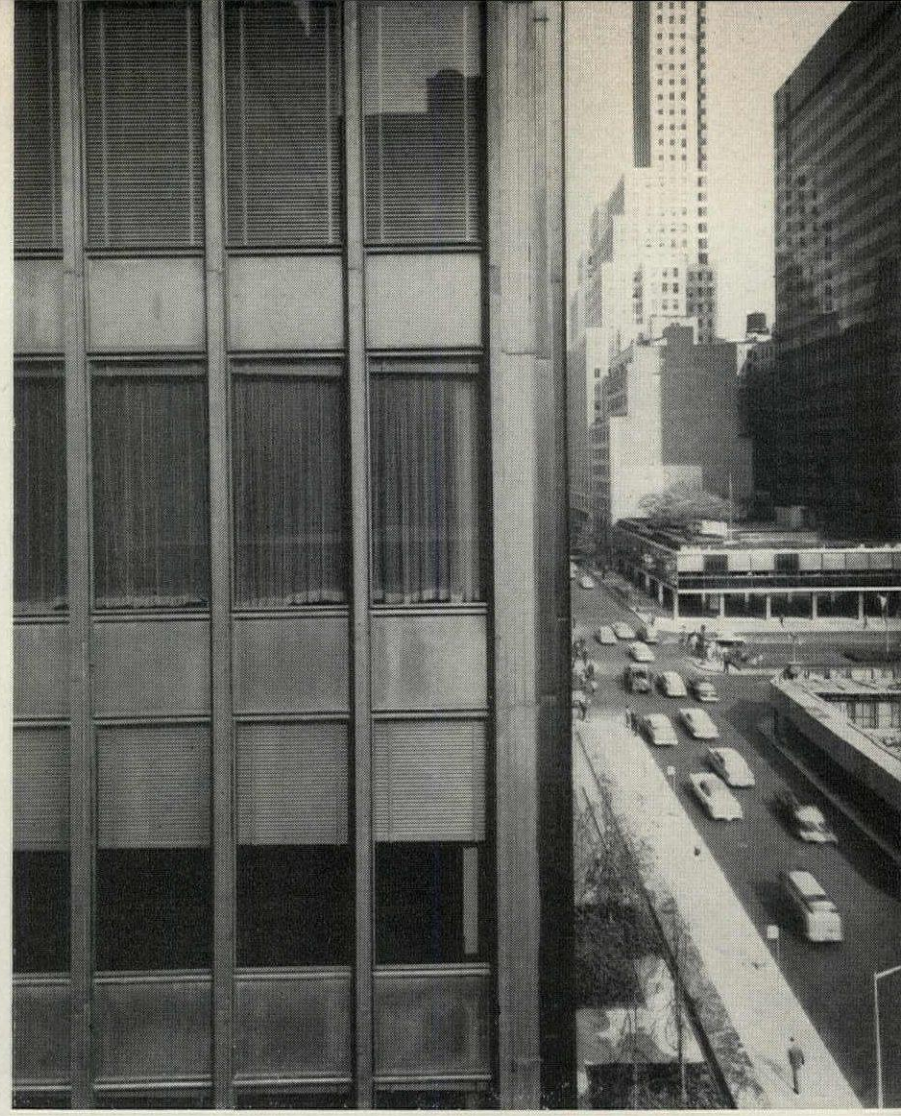


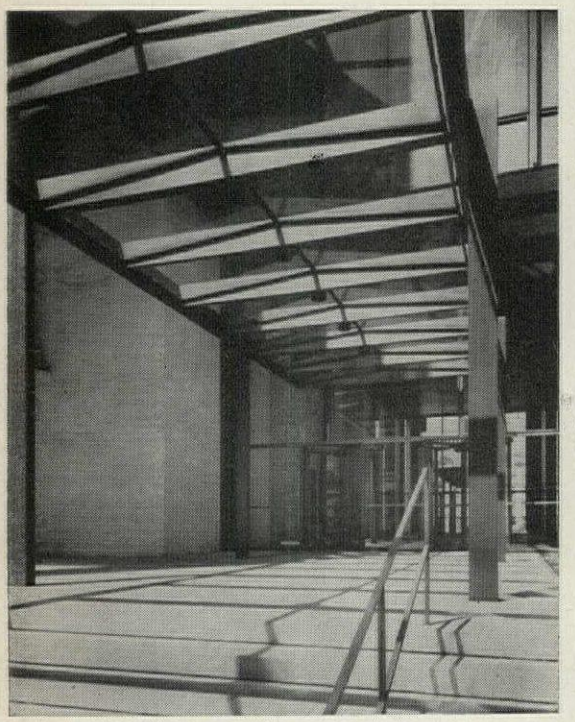
Gymnasium of Kiowa Elementary School, Kiowa, Colorado. School was built at a cost of $7.30 sq. ft. Architect: Robert W. Ditzen; Contractor: Broadway Construction Co.

SEAGRAM HOUSE FORMALLY OPENED

Photos: Ezra Stoller

p/a news survey





Probably the most heralded new building in the U.S.—375 Park Avenue, New York, the House of Seagram—is now in full operation. Phalanxes of fountains play in the plaza; European Weeping Beech trees grace planting bays at either side; the building, sheathed in bronze and brass-copper-zinc alloy, is severe by day, but becomes a stunning roseate shaft on the skyline when lighted at night, due to its gray-pink polished-plate glazing. Mies van der Rohe and Philip Johnson, Architects; Kahn & Jacobs, Associated Architects. Philip Johnson Associates; J. Gordon Carr; Knoll Associates, Inc.: office layout and furnishings; Landscape Consultants: Charles Middeleer; Karl Linn.

Washington report

by Frederick Gutheim

New headquarters of Associated General Contractors, at 20th and E Streets, reinforces the strong concentration of building industry activities in the vicinity of General Services Agency, Octagon and Building Research Advisory Board. The dedication last month of the building, designed by Chatelain, Gauger & Nolan, featured a speech by Vice-President Nixon, who hailed the continued high activity of the construction industry as an evidence of strength in the economy. Simultaneously, a Congressional Joint Economic Committee report was saying Government spending was the only really strong element in the economic picture, and predicted 5.5 millions unemployed next winter.

As earlier indicated in this column, the Administration has now decided against the use of additional public works as a depression remedy. President Eisenhower's definitive statement at his press conference disposed of it, saying that "with minor exceptions," new projects could not be developed in time "to do anything for this present recession." The President further commented that in the case of newly planned public works "it will be two years before they will be actually in construction." No reporter in attendance seems to have been quick enough to ask about the advance planning of public works under Maj. Gen. Gragdon in the Executive Office of the President, which is supposed to meet precisely the situation we have on our hands today. A substantial amount of work has been started by accelerating post-office building, military construction, housing, and urban renewal; not to add reclamation and flood-control programs. But the truth seems to be that the type of works program that has been launched very accurately reflects the Administration's concept of the kind of economic recession this is, and its belief that short-term, half-way measures are enough. That this belief is not unanimously held need not be emphasized. For architects, the disturbing thing is that if matters were worse we would be caught with our blueprints down.

• GSA has had a hard time getting Congress to authorize new office buildings in Washington. The reasonably healthy state of the local economy serves as the excuse this time for Congress to deny the two largest of three proposed office buildings. The one that seems on its way to final approval is a $16.2 millions general-purpose building just west of the Health, Education and Welfare Building. The two that didn't make it—this time—are a $22.1-millions Civil Service Commission building at 19th Street and New York Avenue; and a huge structure on a site south of the Mall, between 6th and 9th Streets on Independence Avenue, to house employes of the Internal Revenue Bureau and the Federal Bureau of Investigation. Casualties, so far, have been sched-

AIA CONVENES IN CLEVELAND

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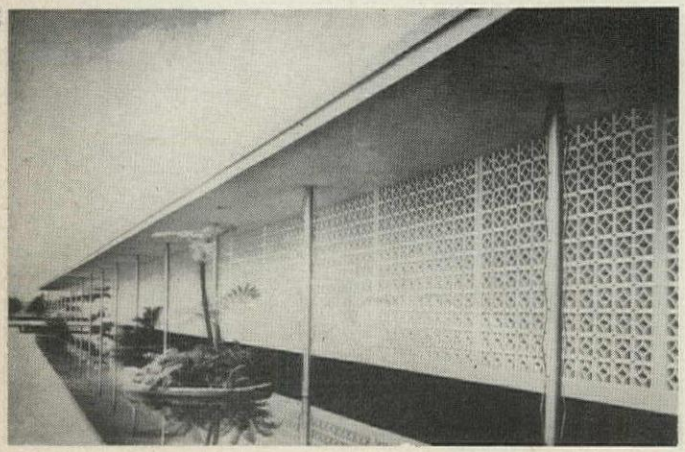

Highlights of this year's AIA Convention in Cleveland, Ohio, July 7-11, included a keynote speech, "Are Architects Becoming Technicians?" by Vincent G. Kling, architect, of Philadelphia. Other speakers announced were Harlan Hatcher, president, University of Michigan; William B. Tabler, architect; and William Hazlett Upson, author.

In the Honor Awards Program, five buildings received First Honor Awards: **1** Home Office Building, Connecticut General Life Insurance Co., Bloomfield, Conn., Skidmore, Owings & Merrill, Architects; **2** Pharmaceutical Plant Headquarters for The Stuart Co., Pasadena, Calif., Edward D. Stone, Architect; **3** Elementary School, Sonoma, Calif., Mario J. Ciampi, Architect; **4** Westmoor High School, Daly City, Calif., Mario J. Ciampi, Architect; and **5** Specialty Shop, Robinson's, Palm Springs, Calif., Pereira & Luckman, Architects. Architects winning Awards of Merit were: Edward D. Stone; Pereira & Luckman; Victor A. Lundy; Desmond & Davis; Thornton Ladd; Richard Dorman & Associates and Dan Morganelli, Associated; Smith & Williams; Mithun & Nesland and Associated Architects Ridenour & Cochran; and Curtis & Davis Architects-Engineers and Harrison Schouest, Associated Architects. The Awards Jury consisted of Prof. Jean Labatut, Chairman; Igor B. Polevitsky; Frederick MacKie; John Gaw Meem; and Welton Becket. All the premiated Awards were exhibited at the Convention.

uled lease-purchase buildings earlier agreed upon as part of the Southwest Washington redevelopment project. There is a strong moral commitment on these buildings and they should turn up again before long. At this writing, it also appears probable that Congress will soon provide funds for design of the Lafayette Square building, even though the politically powerful National Grange continues adamant in its refusal to sell its Jackson Place site.

• Washington's contribution to the national game of saving baseball via jumbo stadiums is a roofed, circular structure with rotating seats that allow conversion from baseball to football layouts. This really bright idea was advanced by Praeger-Kavanagh-Waterbury, New York stadium specialists, and has a price tag of about $8 millions, to be raised by revenue bonds. The Treasury will guarantee the stadium bonds, provided they are made taxable. The recently hatched project is now looking for acceptance by Washington professional ball clubs, which would rent the facility at some negotiated figure; and a go-ahead from Congress, which has to approve financing details. The location has been set on Government-owned land at the Washington end of the East Capitol Street Bridge, near the Armory; and the site is surrounded by car parking lots for about 15,000 vehicles, sloping down to the Anacostia River that will make those at the Pentagon look tiny by comparison. Looking at the final result, one wonders why we haven't the wit to ask Nervi to show us what a building like this in our capital city should be.

• On the heels of such fundamental decisions as the site of the new Constitution Avenue bridge, Washington has rapidly been making up its mind on a series of long-deferred projects. One of these, a performing arts center, now seems definitely located on a high and handsome Potomac River site north of the proposed bridge. Here it should be able to develop a gayer atmosphere and a more individual architectural character than would have been possible on the Mall site previously considered, with all of its heavy commitments to traditional style. That this site directy south of the National Gallery of Art is now solemnly proposed for the Smithsonian's air museum can only be considered a temporary political aberration.

I have never been convinced of the necessity of a central-area bridge, providing plans to abate the over-congestion of Government employes now in temporary buildings were complemented by their dispersal to outlying sites, and provided the planned circumferential highways and their necessary bridges were built. But now that we are to build the bridge, the architectural opportunity exists. Harbeson, Hough, Livingston & Larson have this opportunity.

• If Washington is nationally representative, as we often think it is, the winning designs in the biennial competition of the Potomac Valley Chapter of the AIA argue that things are in a healthy state. They include Ronald Senseman's Stowaway Motel, in Ocean City, Md.; Joseph Miller's handsome Agudas Achim synagogue in Alexandria, Va.; a house for Michael Straight, by Keyes, Lethbridge & Condon; and another house for Jeffery Kitchen, by Harold L. Esten.

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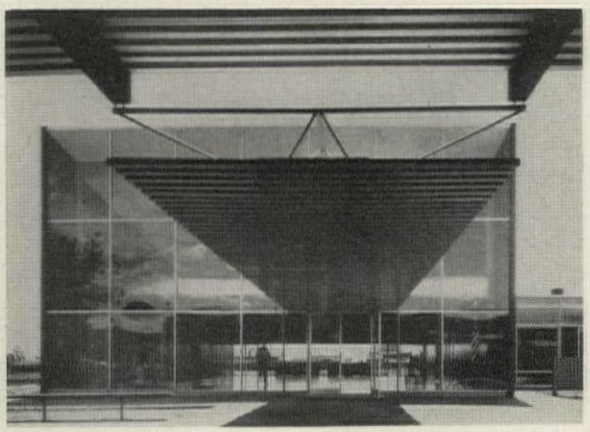

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p/a news bulletins

• Ludwig Mies van der Rohe will retire from his position as Director of Department of Architecture, Illinois Institute of Technology, Chicago, Ill., Sept. 1, 1958. Noted as director of Bauhaus in Mid-Thirties and as designer of many outstanding buildings all over the world, Mies will continue practice of architecture. Current projects include U. S. Consulate building in Saô Paulo, Brazil; housing developments in Brooklyn, N. Y., and Newark, N. J.; structure for Bacardi Rum Co., Santiago, Cuba.

• A $4-millions building program has been announced for Yale School of Art and Architecture by Yale President A. Whitney Griswold. Tentative plans include construction of $2.5-millions building to house Department of Architecture, remodeling of Weir Hall and Art Gallery to allow expansion of History of Art Department. . . . In addition, an unrestricted gift of $500,000 has been presented to Yale Department of Architecture by Helen and Thomas Hastings Fund, Inc.

• May construction activity, as reported by U. S. Departments of Commerce and Labor, showed a seasonal rise to $4.1 billions, bringing total dollar volume for first five months of 1958 to $17.7 billions, comparable to figures for like 1957 period.

• Recently sanctioned by Union Internationale des Architectes, competition for monument in honor of José Batlle, to be erected in Montevideo, Uruguay, is opened to all architects. Program may be obtained from Uruguay delagations, or Comision Nacional Pro Monumento a Batlle, 25 de Mayo, esq. 1 de Mayo, Montevideo, Uruguay. Dec. 30, 1958 is closing date for remitting projects.

• Appreciation and preservation of architectural monuments in Great Britain continue to grow, inspired by successes here of preservationists and The Society of Architectural Historians. British National Trust was formed by public-spirited Englishmen who had observed the program of The Society for Preservation of New England Antiquities. Now SAH Great Britain has been formed with more than 100 charter members and will meet Aug. 30 at York Institute of Architectural Study, when Henry-Russell Hitchcock will attend, representing SAH (founded here in 1940).

• Fifth Congress of Union Internationale des Architectes will be held in Moscow, July 20-28. Theme of the Congress and international exhibition is "Urban Construction and Reconstruction from 1945 to 1957." U. S. will be represented at conference by delegation headed by Henry S. Churchill, Philadelphia Architect, and exhibition by an 82-panel photo presentation.

• City of Winnipeg, Canada, has announced two-stage competition for design of new city hall. Competition is open to members of Royal Architectural Institute of Canada who are Canadian residents. Conditions of Competition may be obtained for $5.00 fee from Prof. J. A. Russell, Professional Adviser, The University of Manitoba. Closing date for initial stage is Dec. 18, 1958.

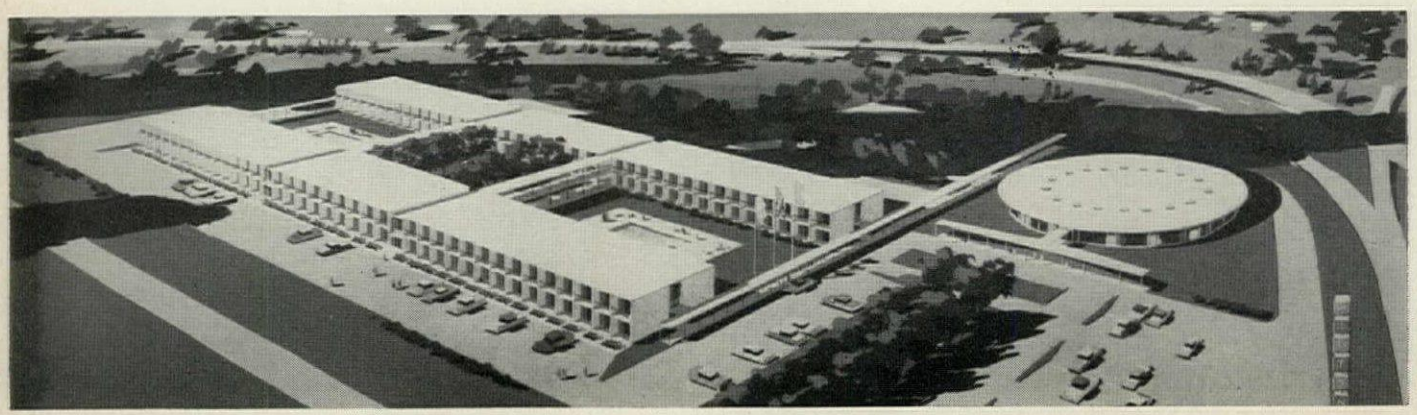
• Board of Trustees of Clemson College, Clemson, S. C., has accorded the Department of Architecture status as an independent school, to be known as School of Architecture and Allied Arts. . . . Effective July 1, Sidney W. Little assumed duties as Dean of College of Fine Arts and Head of Department of Architecture, Univ. of Arizona, Tucson, Ariz.

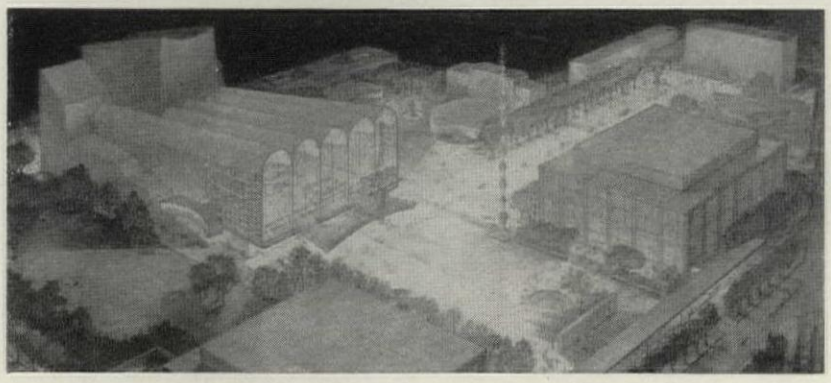
• Seven projects entered in international competition for a monument to be erected at Auschwitz have survived preliminary judging by international jury. Works by these architects—representing Poland, Italy, Germany—will be judged finally in Paris, Nov. 7-8.

• Royal Architectural Institute of Canada has elected seven Canadian Architects as Fellows, including: Randolph Cotgrave Betts, Frederic Lasserre, Pierre Morency, John Bethune Roper, John Stevenson, Francis Hilton Wilkes, Wilber Ray Winegar.

• Winner of 1958 LeBrun Fellowship for six-months travel in Europe was Bill N. Lacy, of Oklahoma State University, announces Arthur C. Holden, New York Chapter, American Institute of Architects.

• First of the new Hilton Inns is now under construction near San Francisco Internatioal Airport. Designed by William B. Tabler, inn (below) will accommodate 300 guests in two 2-story buildings of three sections each. Garden, patio, two swimming pools lie between the buildings. Circular one-story structure will contain administrative offices, restaurants, service areas. All buildings are connected by covered walkways.





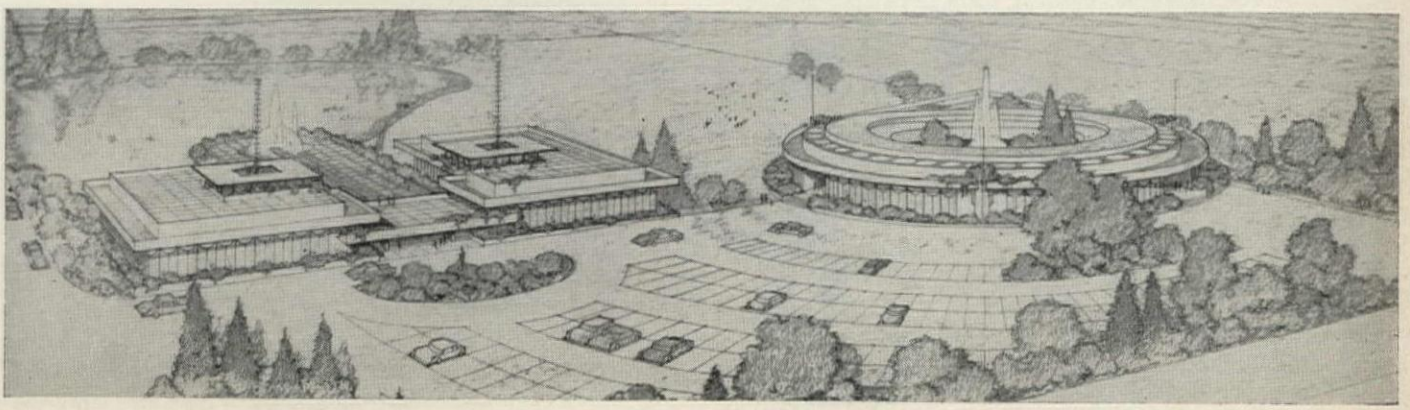
• Note: Plans are now shaping up for the Building Research Institute Conference and workshop to be held in Washington, D. C., Sept. 17-18. Subject of discussion will be "Installation and Maintenance of Resilient Smooth-Surface Flooring."

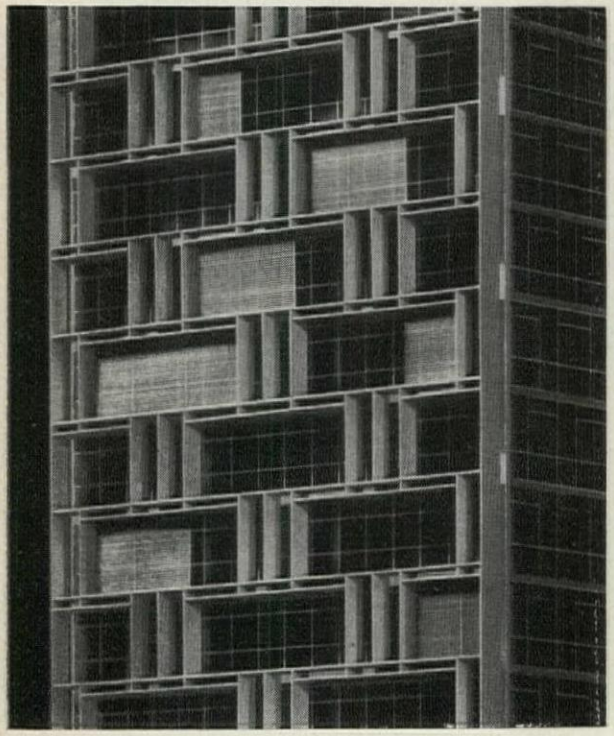
• Newly elected president of American Nuclear Society is Dr. Chauncey Starr, Vice-President of North American Aviation, Inc. Society, comprising about 3000 members, was formed in 1955 to encourage research, and to advance nuclear science and engineering.

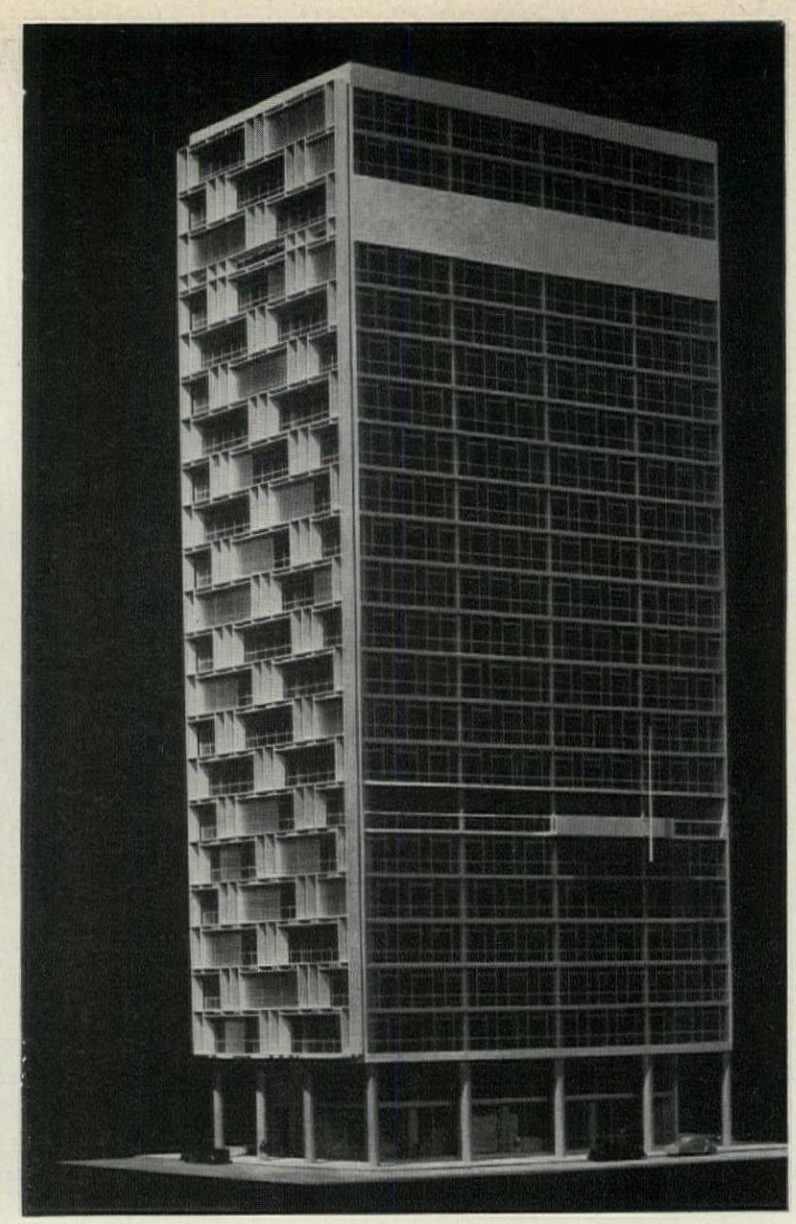
• Frank Lloyd Wright has been named architect for the proposed College of Education Center at Univ. of Wichita, Wichita, Kan. Preliminary plans provide two separate structures (below)—classroom and administration building and circular research elementary school. Elementary school will serve 250 students and includes cone-shaped area for primary grades. Flowing fountains and landscaped surroundings will enhance architectural design. Internal flexibility is featured; school will be used as a research facility for future types of elementary instruction.

• Arising from the slums of Manhattan's midtown West Side by 1964, will be the much-heralded Lincoln Center for the Performing Arts. Recently released rendering of proposed plaza (above left), which will rival Piazza San Marco, Venice, Italy, in size, shows that the supervising architects, Harrison & Abramovitz, have provided for (clockwise) a Dance Theater, Metropolitan Opera House, Julliard School of Music, Drama Theater, residence hall for Julliard students, Library-Museum, restaurant, Concert Hall for New York Philharmonic. Dominating the plaza will be Metropolitan Opera House (top left and right), designed by Harrison & Abramovitz. Five arches, 8-stories high, will form front of a gigantic vaulted ceiling, extending through lobby and auditorium areas. A glass wall reaching skyward more than 80 ft will enclose lobby on three sides; main auditorium will seat 3800 music devotées. Plans are also in formulating stage for Concert Hall (Harrison & Abramovitz project); dance theater (Philip Johnson Associates, Architects); Julliard School (Pietro Belluschi, Architect).

• Association of Women in Architecture will hold its national convention June 30-July 2 in Los Angeles, Calif.







STEEL FRAME USED FOR RIO SKYSCRAPER

Rio de Janeiro's newest skyscraper to be known as the Montepio Building—the first tall steel-framed building in that city—is currently under construction. Designed by Affonso Eduardo Reidy, this 22-story office building with basement and mezzanine will house an institution for social welfare for employes of the City of Rio. Situated on the corner of two principal avenues, its main façades will face south and west. The south elevation, a good orientation for offices there, since it is the shadiest side, will be completely glazed. The west façade, however, which is not a favorable orientation because of excessive exposure, will be protected by sun-shading devices. Protection will be afforded by a large grill of concrete fins in conjunction with movable and collapsible aluminum louvers (sketches below). Although more expensive than reinforced concrete, a steel frame was preferred because it permitted more rapid erection and a reduction of size in the supporting columns in the lower floors. Shape and size of columns at the covered sidewalk level are determined by the city code. All floors will be air conditioned.

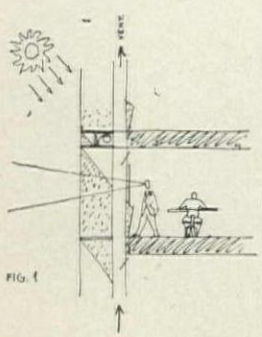


FIG. 1

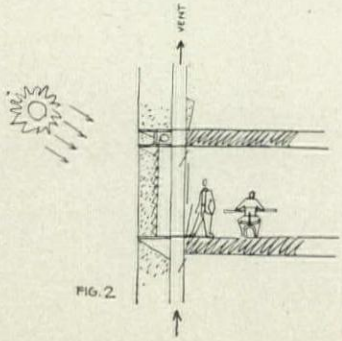


FIG. 2

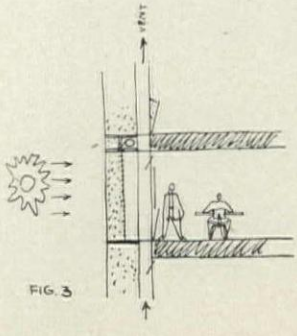


FIG. 3

See page 52 for FINANCIAL NEWS

Permanent porcelain color on aluminum or steel for store fronts and skyscrapers.

And you can specify it today:

- on store front sash and jamb members
- on door and frame glass stops
- on door hardware
- on Zourite facing
- on Color Wall facing
- and on Porcelain Unit Wall Panels

Take a step into tomorrow, today. You will find selective use of color in the design and styling of the complete building now possible. By creating color for store front sash and trim members, for door hardware, for facing materials, Kawneer offers you the opportunity to express a compatible color theme on every section of a structure.

The possibilities are exciting. A building faced with Zourite in Sunlight Yellow, for example, is enhanced by a Black accent stripe. The door hardware repeats the Black, and, for contrast, Sunset Red is used on the lower floor store front sash and jambs. Color Wall porcelain enamel panels at the entrance carry the Pepper Green into the building.

Each color is compatible with selected colors shown in the Color Harmony Manual of the Container Corporation of America. It means an established color theme may be linked perfectly with interior walls, floors or furnishings.

Kawneer is the only aluminum architectural products manufacturer to offer you such full freedom of expression in both design and style. Sash and jamb members, door hardware and glass stops are available in a selection of four porcelain colors on aluminum. The narrow and bold face profiles of Zourite and the new accent stripe for Zourite are available in nine stock colors. Steel unit wall panels and Color Wall panels are available in twelve stock colors. Special colors on request for particular architectural effects. Write today for a free color card.

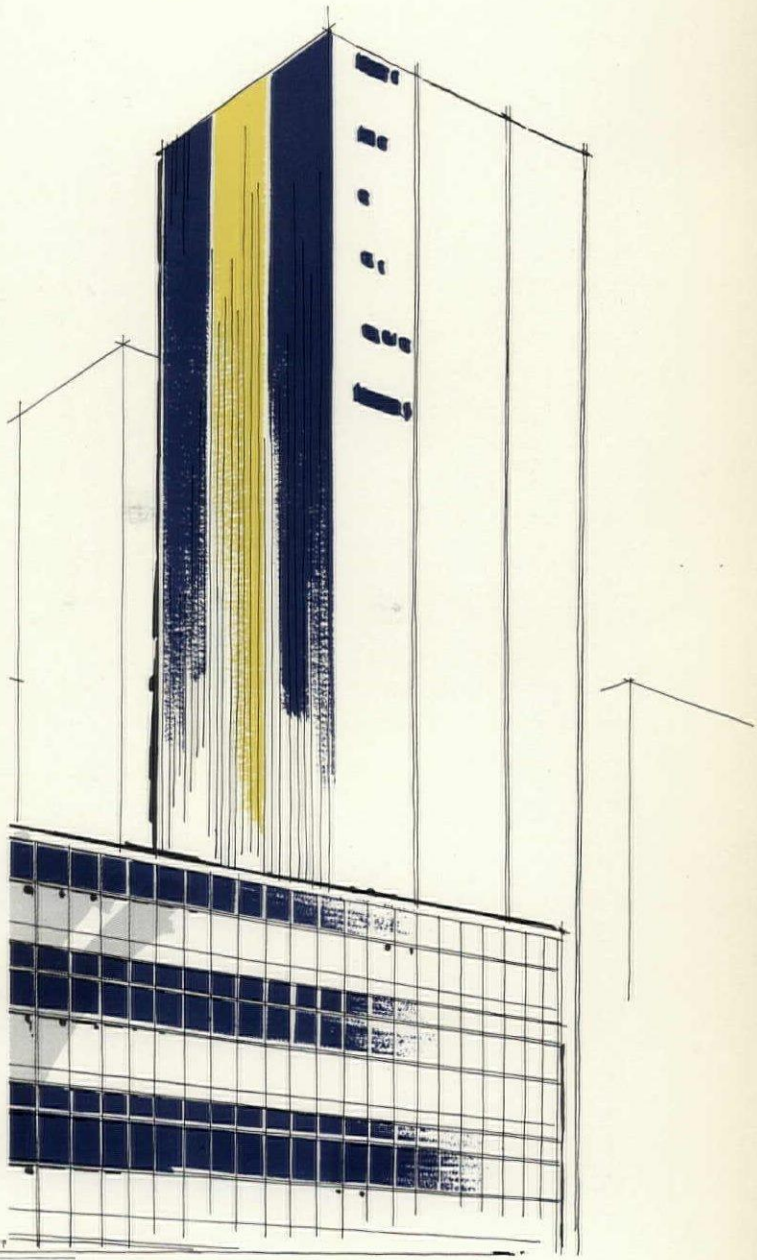
Serving Architecture and Industry

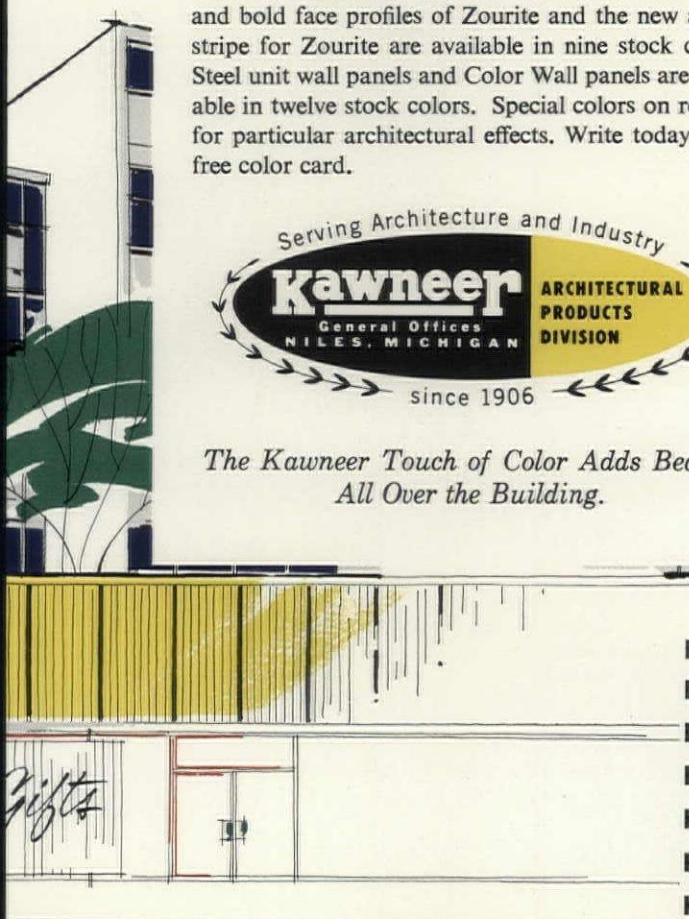
Kawneer
General Offices
NILES, MICHIGAN

ARCHITECTURAL PRODUCTS DIVISION

since 1906

The Kawneer Touch of Color Adds Beauty All Over the Building.





The Kawneer Company
Architectural Products Division, Niles, Michigan

☐ Please send me a color card of Kawneer Compatible Colors
☐ Please have a representative call with samples of Kawneer color.

Name_____

Address_____

City_____ Zone____ State_____

Accent on Excellence

Youngstown "Buckeye" steel conduit

This highly-functional modernistic department store building—only one of many new structures that will make up Denver's Zeckendorf Plaza Development—has built-in lifetime wiring protection, thanks to Youngstown "Buckeye" Full Weight Rigid Steel Conduit.

Damaging elements such as water, moisture, vapor, dust and dirt can never cause disruption of the building's all-important electrical system, because "Buckeye" Conduit will perform its protective function as long as the structure remains standing.

Installation of Youngstown "Buckeye" Conduit is shown during construction of the new May-D&F Department Store in Denver, Colorado.

Zeckendorf Plaza Development,
Denver, Colorado
OWNER: *Webb & Knapp, Inc., Denver, Colorado.*
ARCHITECT: *I. M. Pei & Associates, 385 Madison Ave., New York, N. Y.*
GENERAL CONTRACTORS: *Webb & Knapp Construction Corp., New York, N. Y.*
ELECTRICAL CONTRACTORS: *Fischbach and Moore Incorporated, B412 Mile High Center, Denver, Colorado.*
CONDUIT SUPPLIER: *The Mine & Smelter Supply Co., 3800 Race Street, Denver, Colorado.*

When you specify "Buckeye" Conduit, the high standards of Youngstown *quality*, the personal touch in Youngstown *service* will help you create electrical wiring systems with an "accent on excellence".

Carefully selected Continuous Weld pipe
is first accurately threaded. Next, the pipe is thoroughly cleaned by pickling. Then it is immersed in a bath of molten pure zinc. A special process is used to remove it from this bath so that a clean, smooth zinc coating remains on both inside and outside. Then a coating of tough, transparent lacquer is baked on both inside and outside surfaces, providing a smooth raceway through which wires may be easily fished. This is Youngstown's long-lasting, trouble-free, easy-bending hot galvanized Buckeye Conduit.

QUALITY YOUNGSTOWN SERVICE

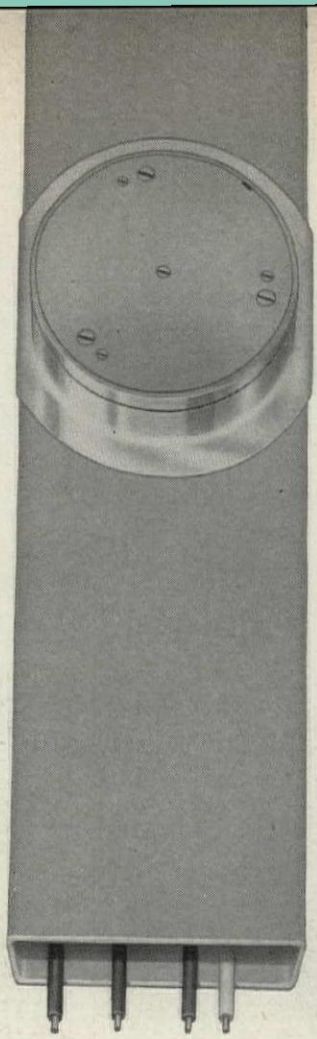
THE
YOUNGSTOWN
SHEET AND TUBE COMPANY
Manufacturers of Carbon, Alloy and Yoloy Steel
Youngstown, Ohio

NOW!

NATIONAL ELECTRIC HEADERDUCT APPROVED FOR ALL CELLULAR STEEL FLOORS

Electrified Cellular Steel Floors energized with a National Electric Headerduct Raceway system give the owner complete electrical service throughout the floor area by utilizing the large area ducts of the cellular building unit.

If you're planning for any type of cellular steel floor construction, make sure the building never grows old electrically . . . specify a National Electric Headerduct underfloor raceway system.



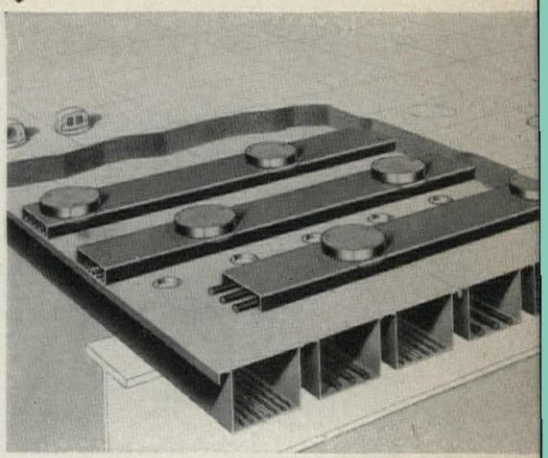
National Electric Products

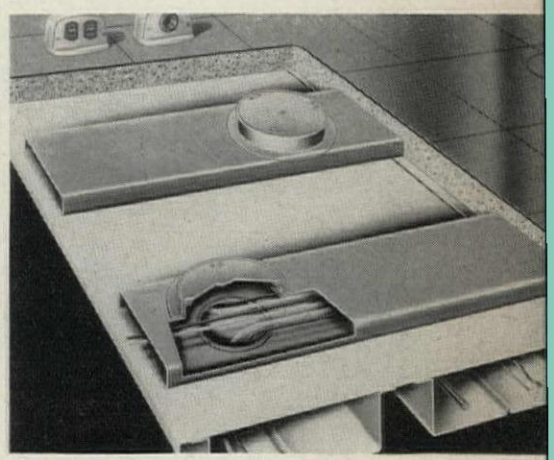
PITTSBURGH, PA.

4 Plants • 12 Warehouses • 41 Sales Offices

In Canada, Nepco of Canada, Ltd.

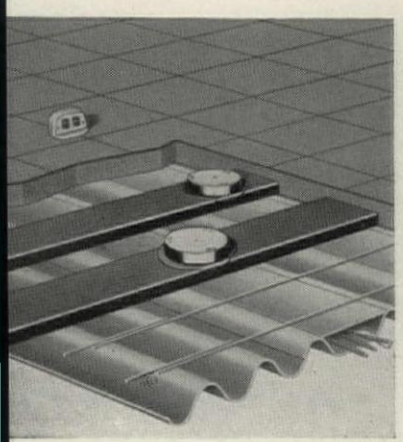
R. C. Mahon Company's M-Floor electrified by Nepco Headerduct.



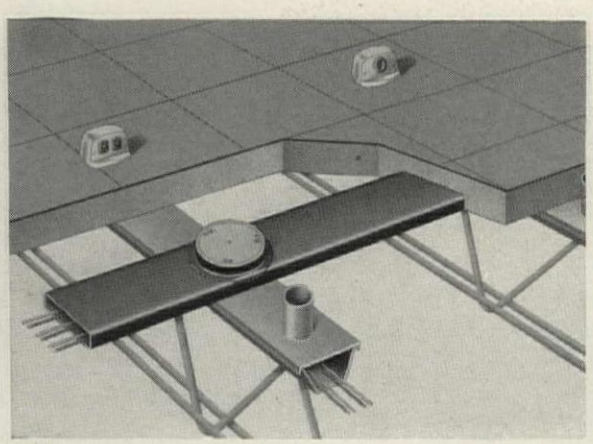


Nepco Headerduct installed on Fenestra Incorporated Electrifloor.

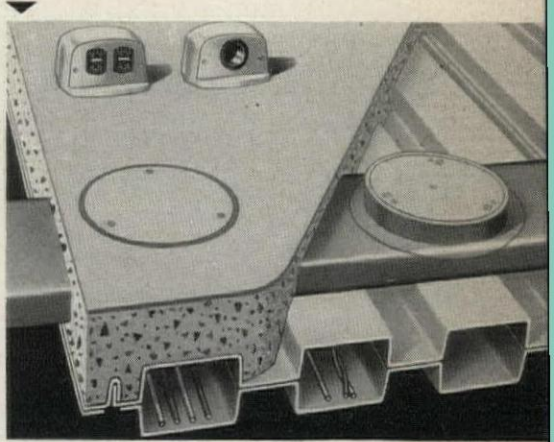
Headerduct used with Inland Steel Products Company's Milcor Cellufloor.

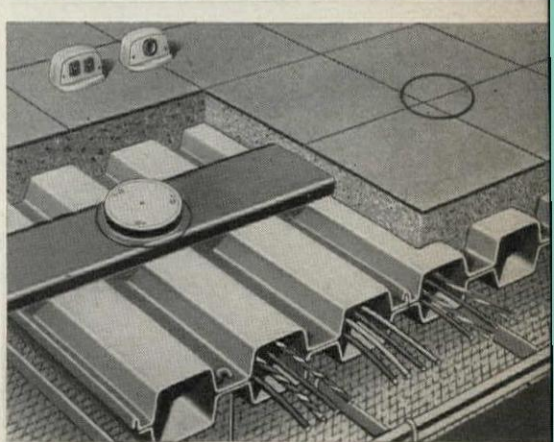


Nepco Headerduct and Granco Steel Products Company's Cofar reinforced concrete slabs.



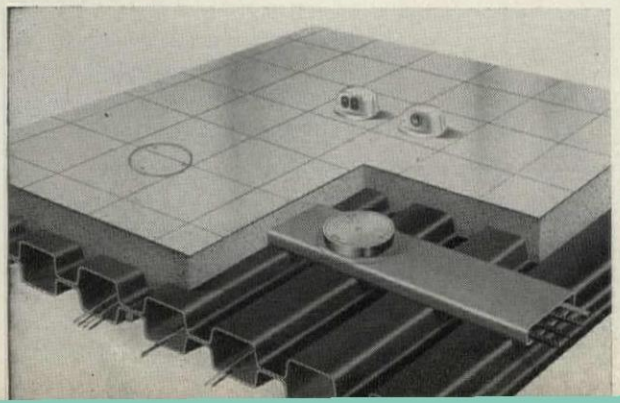
Ceco Steel Products Corporation's open web steel joist floor electrified with Nepco headerduct.





Headerduct used to energize American Steel Band

Nepco Headerduct provides easy access to large ducts in H. H. Robertson's "Q" Floor.



p/a financial news

by William Hurd Hillyer

Midyear brings good news from a sector of our economy vital to architects. The municipal-bond market, pipeline for public-building finance, is enjoying a well nigh unprecedented period of strength and activity, with no symptoms, at this writing, of weakness or curtailment. A better than $3.7 billions total of tax-exempt financing having been achieved thus far for 1958, with a monthly absorption at the rate of $800 millions being maintained, at last accounts, it is not strange that the horizon should be brightened by elevations of projected schools and other nonresidential structures. Interest rates continue low—2.80% for the Bond Buyer 11-bond average. Even President Eisenhower has given today's municipal-bond trend his official blessing, with the hope that long-term interest rates would drop ¼% or ½%.

Another ripple of optimism is borne in by "the warm West Wind, as it whispers through the wheat" (to quote Kipling). The 1958 winter-wheat harvest promises to be a record breaker, perhaps the largest in history, fully 40% ahead of last year's production. This noninflationary stimulus will pour actual wealth into the economy and is expected to turn the tide of recession in the nation's heartland. First felt in the farm-machinery sector, its benefits will extend indirectly to nonfarm construction and other basic activities. Taxpayers, however, will feel the burden of Government purchases to drain off a crop that America can neither eat nor export.

• "Fallacies" about economic controls are studied by the Bureau of Economic and Business Research of University of Illinois, in a current report. Topping such fallacies and highly dangerous in the Bureau's estimation, is the doctrine that the Government can and should do whatever is necessary to reverse the decline quickly and bring back activity at full-employment levels. The Bureau does not expect general recovery earlier than mid-'59—except, perhaps, some respite provided by temporary lessening of inventory pressure. Contrastingly, The First National City Bank of New York adds another gem to the rapidly growing lexicon of depression by declaring that the current recession seems to be "bottoming out." Other phrases that have become a part of depression semantics include "rolling readjustment," which is revived from early postwar days by the Federal Reserve Bank of Chicago. That astute observer sees increases in certain sectors as partly offsetting decreases elsewhere. For example, personal income moves up slightly, but wage-and-salary receipts continue to fall; employment still shrinks, but at a slower rate than earlier in the year; industrial production as a whole is dropping although certain lines, such as steel and farm machinery, show improvement. The Chicago Federal Reserve sums up conditions as a standoff: the downtrend "may have reached bottom, but the evidence is not yet conclusive." This may be re-phrased as the familiar

aphorism: "Things are apt to get worse before they get better." Or, in terms of conservative economics: "Liquidation normally precedes recovery." Frequently overlooked, this dictum was aptly voiced by George W. Adair, Atlanta realty pioneer of the depressed '90s who, when asked "How is real estate?" cheerfully replied, "Looking up!" and added, "Flat on its back, no other way it can look."

• New York's largest trust company warns against the two-fold threat of inflation and of Government's endeavors, "in the name of recovery" to maintain full employment in private enterprise—a program that is in the hands of persons with a predisposition toward cheap money. These tendencies are now visibly operating, the Guaranty Survey declares. "They are offered as anti-recession measures and are given a strong political appeal. . . . Business recessions pass away, but debased money and entrenched bureaucracy tend to remain . . . as long as men cling to the delusion that a government of limited powers can manipulate an economy of private enterprise into a state of perpetual boom." Nevertheless, the Guaranty reveals that business reports in general "are more encouraging than at any time since the recession began."

• Possible reversion by Federal Reserve System to its recently abandoned hard-money policy should open up the lucrative and stable field of real estate and first mortgages as investments for trade union pension funds, say Abbott & Adams, New York Real Estate Board members. As a result, money that has been flowing into other channels will be rediverted into the realty realm with consequent benefit to architects. In this connection, the Abbott firm finds reason to believe that a substantial number of pension-fund trustees are now carefully reviewing their investment programs. Mortgage holdings in these Funds will be in addition to the $96.6 billions total in bank and insurance portfolios.

• Three Indiana banks are jointly financing a unique venture which is giving Elkhart High School building-trades class an opportunity to construct a three-bedroom dwelling. First National Bank of Elkhart, St. Joseph Valley Bank, and First Old State Bank are lending the money to Vocational Building Trades, Inc., a nonprofit body. Central Labor Union (AFL) has approved the project. The house will be sold when completed and the proceeds applied to another similar undertaking. This procedure may replace the old-fashioned apprentice system and supply better-skilled workers.

• Once again, minus signs heavily predominate in the business statistics released by basic sources. Mid-June declines from a year ago are led by steel-ingot production, with a 27% drop, followed by 21% in freight carloadings. Bank clearings, that wind-vane of trade activity, are off only 1%, but at last reports are falling some 9% week-by-week. An encouraging reversal of trend is afforded by steel production, up around 7% on a sixth consecutive weekly basis. To follow the opinion of Chase Manhattan Bank, the business curve may now be seeing the low point of the recession, but that does not mean recovery is in sight.

Get rid of disturbing noise

Johns-Manville Sanacoustic absorbs up to 85% of room noise that strikes it

Johns-Manville Acoustical Ceilings cost less installed than 10 years ago

Yes—the cost of a J-M Sanacoustic® Ceiling is lower than 10 years ago! And you gain these advantages: Sound-absorbing mineral wool pads within perforated metal units give best sound control. Baked enamel finish cleans easily. Units snap into tee bar for tight, firm joints; simple to unsnap for relocating. Ceiling has high light reflection and is noncombustible. Continuing J-M improvements hold down first cost and upkeep costs.

For data on all J-M acoustical ceilings send for "Sound Control." Write: Johns-Manville, Box 158, New York 16, New York. In Canada: Port Credit, Ontario.

JOHNS-MANVILLE

JOHNS-MANVILLE JM PRODUCTS

UNIT leads trend setting pace to LOWER SCHOOL COSTS!

EXPOSED PLANK AND GLUED LAMINATED WOOD BEAM CEILING ACHIEVE STRONGER, MORE ECONOMICAL SCHOOL BUILDING CONSTRUCTION!

GLUED LAMINATED MEMBERS ARE FIRE SAFE!

Here's visual proof that glued laminated wood members are safer in case of fire. Glued laminated wood members transmit heat slowly, safely prolonging their load carrying capacity, thereby allowing sufficient time for evacuation of both inhabitants and equipment. Structural materials of exposed metal, because of their high heat conductance, collapse under intense heat causing complete loss of the building and its contents.

For the past quarter century, Unit Structures, Inc., has pioneered in the continuing development of functional, fire resistive schools through the use of soundly engineered, permanent glued laminated wood members.

Unit laminated construction leads the field in creating true school building economy . . . effectively reducing costs through simplified detailing, adaptability to modular dimensioning, faster erection. As a result, more and more architects are designing schools with dimensionally stable Southern Pine laminated structural members -- and specifying UNIT for dependable fabrication, expert finishing, speedy shipment.

Take advantage of the many cost saving ideas possible only with modern glued laminated construction -- the ideal method to frame classrooms, gymnasiums, assembly halls. Let our experienced planning staff assist you on your next school building project.

WRITE TODAY!

For your free copies of Unitecture, a periodic bulletin, containing simplified details of arch and beam connections, photographs of unusual and outstanding architecture and helpful design data on glued laminated construction.

UNIT STRUCTURES, Inc.

UNIT STRUCTURES, INC. PESHTIGO, WISCONSIN

GENERAL OFFICES: Peshtigo, Wisconsin
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CHARTER AITC MEMBER

ANNOUNCING A MERGER:

AMERICAN WINDOW GLASS COMPANY, Pittsburgh, Pa.

and BLUE RIDGE GLASS CORPORATION, Kingsport, Tenn.

(a wholly owned subsidiary of SAINT-GOBAIN of Paris, France)

have merged to form a new company:

AMERICAN-SAINT GOBAIN
CORPORATION

with executive offices in New York City

and general operating headquarters

in Pittsburgh, Pa.

The merger pools the experience and technical skill of American Window Glass Company, the quality leader and oldest producer of sheet glass in the United States, with Saint-Gobain, the oldest and one of the largest plate glass manufacturers in the world.

Operations and activities of the former American Window Glass Company will be carried on by American Window Glass Division of the new corporation, and the former Blue Ridge Glass Corporation will henceforth be operated as the Blue Ridge Glass Division.

When it enters into the manufacture of plate glass and through continuing to produce Blue Ridge's patterned glass and American's sheet glass, American-Saint Gobain Corporation will be a fully integrated, full-line producer of flat glass products in the United States. The merged company plans to build a modern plate glass factory which will employ the latest manufacturing techniques of Saint-Gobain.

This combination of diversified facilities and extensive experience will enable American-Saint Gobain Corporation to contribute to further progress of the glass industry. Through expanded research, the development of new glass products and applications will enhance the living comfort of the nation.

AMERICAN-SAINT GOBAIN BLUE RIDGE GLASS
CORPORATION

FARMERS BANK BUILDING • PITTSBURGH 22, PA.

American Window Glass Division
Plants at Arnold, Jeannette,
Ellwood City, Pa.; Okmulgee, Okla.

Blue Ridge Glass Division
Plant at Kingsport, Tenn.

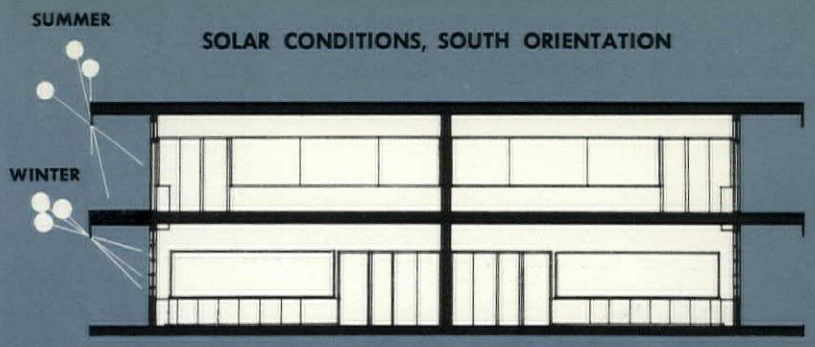
WSW 7199

A Florida firm designs school that saves money because it's AIR CONDITIONED

The design of a 20-classroom, 2-story urban Florida elementary school by Connell, Pierce, Garland and Friedman, Miami, Florida, factually proves that, in many instances, air conditioned schools can actually save money on capital investment and, at the same time, completely offset the increased operating cost of the air conditioning system.

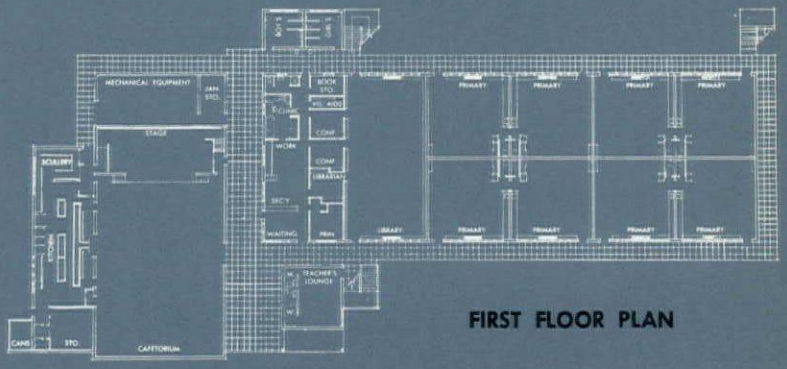
HOW CAPITAL INVESTMENT IS SAVED — This school was designed for a densely-populated area of Florida. To take full advantage of natural cross-ventilation and avoid noise distractions, conventional schools have had to be spread out and sprawling. This required large plots. Since school boards have paid as much as 50 to 60 thousand dollars per acre for school property, total acreage is an extremely important cost factor.

Because of air conditioned design, this building consumes only 1.2 acres instead of the customary urban Florida total of 3.1 acres. Thus, 1.9 fewer acres are needed. The resulting capital savings are in direct proportion to the cost of land.



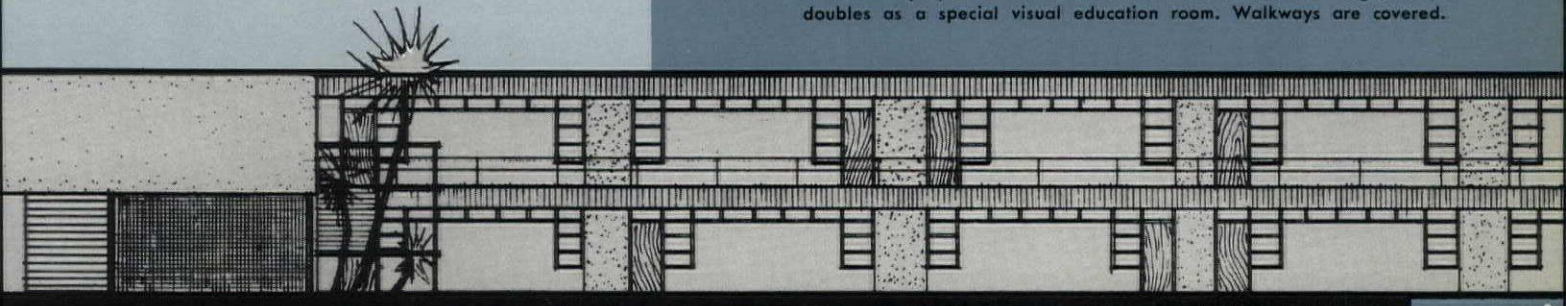
SOLAR CONDITIONS, SOUTH ORIENTATION

Compact, air conditioned design permits simple, functional "steamboat" plan, with space-saving outside access to second floor exterior corridor.



FIRST FLOOR PLAN

Classrooms are completely self-contained units except for feeding activity. Cafetorium contains folding tables that make benches for auditorium purposes. Additional chairs are stored under stage, which doubles as a special visual education room. Walkways are covered.



air conditioned school design

HOW OPERATING COST IS OFFSET — Normally, a school of this size requires four custodians. In this air conditioned design, dust conditions are alleviated to the extent that only three custodians could adequately handle the work. The resulting salary savings would bring the operating cost of the air conditioning system down to $5 to $10 per day.

Many state school laws (including Florida's) provide that incremental teachers' salaries be paid from State to County School Systems on the basis of average daily attendance, rather than enrollment. County taxes must make up the difference when there are mass absences. There is evidence to prove that attendance at an air conditioned school is from three to eight percent greater than at a non-air conditioned school. Thus, increased attendance would further reduce the cost of operating the air conditioning system.

AAF

herman nelson

CAPITAL SAVINGS

WHEREVER LAND COSTS EXCEED $17,700 PER ACRE, THIS AIR CONDITIONED DESIGN SAVES MONEY

Savings made possible by (1) elimination of typical heating system (2) elimination of cross-ventilation breeze sashes (3) reduction in size of main windows (4) elimination of top windows (5) use of plate glass plus only two operating windows (6) use of 9'-6" ceilings, and (7) use of only one door per classroom $41,400

Cost of combined air conditioning and heating system, using Herman Nelson air conditioning unit ventilators . . . $75,000

Cost of air conditioning over and above saving . . . $33,600

Assuming cost of land to be $25,000 per acre, using 1.9 fewer acres would save $47,500

Actual capital savings directly attributable to air conditioned design $13,900

OPERATING SAVINGS

INCREASED OPERATING COST OF THE AIR CONDITIONING SYSTEM IS OFFSET BY THE SAVINGS INHERENT IN AIR CONDITIONED DESIGN

Approximate operating cost per day of air conditioning equipment, allowing for days when only fans would be in operation . . . . . $30 per day

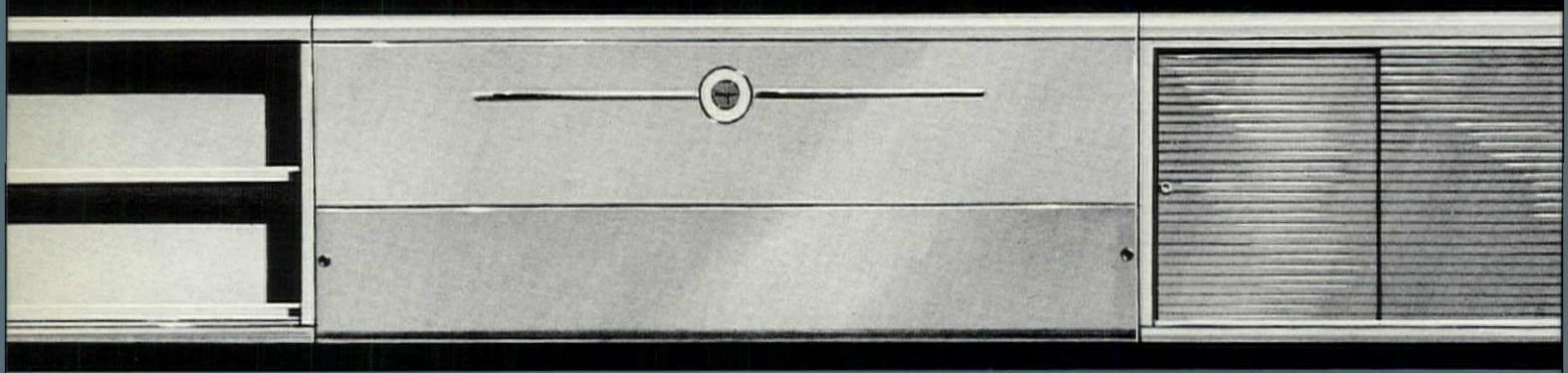
Elimination of one custodian at a salary of approximately $3,000 per year, will reduce this to . . . . $5 to $10 per day

The percentage increase in average daily attendance would more than offset this operational cost.

hernel-cool II

UNIT VENTILATOR

with optional air conditioning



already selected by more than ~~100~~ 150 schools

Will the school you are planning *ever* need air conditioning? The answer is definitely—yes. Architects and educators agree on the importance of the proper learning environment. And only air conditioning can assure that your school will have it when the weather outside is warm.

That's why today—less than a year after its introduction—the HerNel-Cool II unit ventilator with optional air conditioning has been selected for use in more than 150 schools, which are either air conditioned now or have planned for it.

HerNel-Cool II is the first unit ventilator to offer optional air conditioning, as well as heating, ventilating and natural cooling (with outside air). Units can be installed so the school enjoys the usual benefits of Herman Nelson unit ventilation, including the famous DRAFT|STOP system—*the only type of draft control that is compatible with air conditioning*. Then at any time—immediately, or whenever the school budget will allow it—the mere addition of a chiller in the boiler room is all that is needed for complete hot weather air conditioning.

This can be accomplished without disruption of classroom activities . . . without expensive alteration and installation charges. The cost is far less than for separate heating and air conditioning systems—both for installation and operation.

Want information? Write today to Herman Nelson Unit Ventilator Products, **American Air Filter Company, Inc., 215 Central Ave., Louisville 8, Ky.**

AAF

herman nelson

UNIT VENTILATOR PRODUCTS

System of Classroom Cooling, Heating and Ventilating

research to cut true building costs applauded

Dear Editor: I would like to indicate that I am squarely behind the ideas presented in Charles Neergaard's OFFICE PRACTICE article, "A Research Proposal: Improving and Proving Building Values" (JUNE 1958 P/A). His proposal for a controlled study of the performance of insulation in multistory buildings should be supported by everyone interested in the reducing of the true costs of buildings. Decisions in this area now have to rely far too heavily on what we may call informed professional opinion; whereas, a full-scale research project such as he proposes would establish the basis for a rational approach. It is difficult to see how funds for building research could be more profitably utilized than on a study of this type.

HAROLD D. HAUF, Dean
School of Architecture
Rensselaer Polytechnic Institute
Troy, N. Y.

•

Dear Editor: If a research study has not been made along the lines suggested by Charles Neergaard, and if it were undertaken, valuable information would doubtless be secured. However, it appears to me to be a somewhat expensive approach to a problem which is already quite susceptible to analytical solution. As far as the type of heating and/or air-conditioning equipment is concerned there is room for difference of opinion but, in the matter of cost, granted that sufficiently accurate data are available there should be very little latitude.

A. F. MacCONOCHIE
Professor of Mechanical Engineering
University of Virginia
Charlottesville, Va.

•

Dear Editor: Certainly the proposal of Charles Neergaard would dramatize obvious advantages of comparative types of design. In the development of building-construction techniques in recent years, outstanding progress has been made in architectural design and in materials of construction. The supporting areas of mechanical engineering, particularly those concerned with heating and air conditioning, have been neglected to an unfortunate extent. Any effort which can be made to induce the building industry to take advantage of all engineering advances which are available is desirable.

NEWMAN A. HALL, Chairman
Dept. of Mechanical Engineering
Yale University
New Haven, Conn.

•

Dear Editor: Charles Neergaard's suggestion that a group of buildings be studied under varied heating and insulating conditions should be carried out—if it is still necessary to prove in the U.S.A. in 1958 something that was demonstrated beyond any possibility of doubt here in Canada a quarter of a century ago.

So many years have passed since my first well insulated, double-and triple-glazed hospital buildings were built and used that I get fed up with the stupidity of human beings (both in Canada and the U.S.A.) who are apparently still more or less in doubt about the physical and financial benefits of well proved construction methods.

JAMES GOVAN
Govan, Ferguson, Lindsay,
Kaminker, Langley, Keenleyside
Toronto, Canada

•

Dear Editor: Every building represents to some degree a special problem in optimum heating and insulation as a result of construction style, climate, and prevailing general rules of thermal design derived from average experience. Rapid changes in this field have prevented a wider understanding of the many important problems involved. The studies recommended by Neergaard would provide a valuable addition to present design knowledge.

L. P. HERRINGTON
Director of Research
John B. Pierce Foundation
New Haven, Conn.

•

Dear Editor: It seems to me that more careful studies should be made in the future to relate the economics of heating and cooling to climatology. These should include the relation of the cost of insulation, double-glazing,

(Continued on page 76)

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Indexed in Art Index, Architectural Index.

REINHOLD

Tile Description: Pearl Shadowflash, Sea Blue, Cascade, Blue Granite, Azure Textone and Deep Blue with inserts of Glazed Royal Blue, Glazed Red Raspberry and Glazed Crocus Yellow in 1 1/16" Squares, straight joint. Color Plate 371.

The use of ceramic tile on exterior walls is one of the significant architectural trends of this decade. Here, the ageless colors and patterns possible in ceramic tile create an outstanding decorative feature for the school exterior.

Are you familiar with the many new American-Olean Tile products? We will be glad to send you the descriptive literature you request:

Booklet 208—Catalog of Tile Products
Booklet 1001—Crystalline Glazes and Scored Tile
Booklet 901—Large Size Tiles
Booklet 600—Tile for Schools and Hospitals
Color Chart GC-1 of Glazed Tile.

CERAMIC TILE
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AMERICAN-OLEAN TILE

Inside and Out

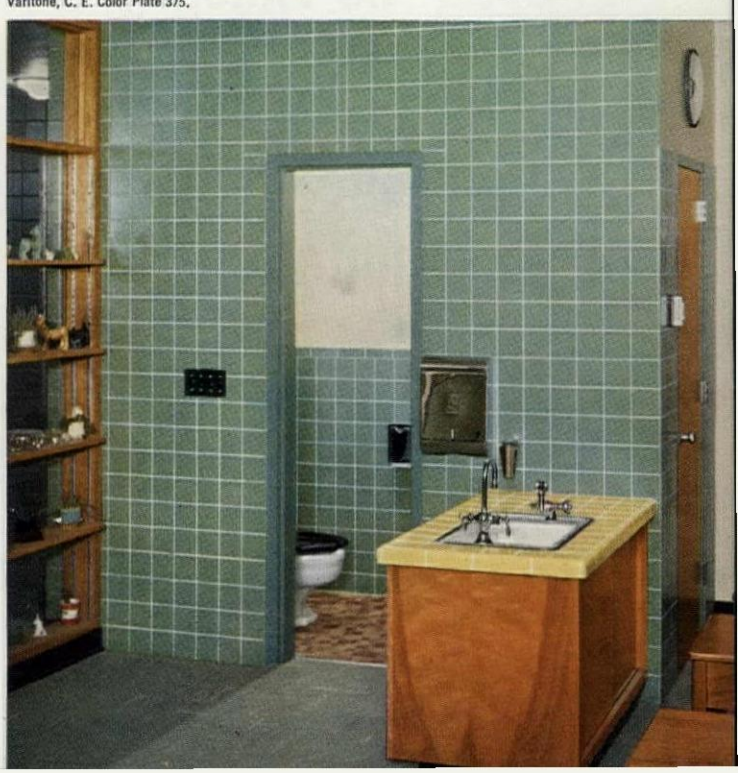
Among the newsworthy signs of our times is the use of ceramic tile for exterior walls. We hesitate to say "new" for tile was similarly employed by the ancients. And they, like the architects of today, also had an eye for beauty and a mind for permanence.

Mr. Albert H. Arnold, of Ketcham-Miller-Arnold, sums it up this way. "Our reasons for specifying American-Olean Tile are simple enough: the beauty and quality of the product, plus the type of service rendered."

Let's listen also to Mr. Stephen T. Stanton, School District Principal: "We are more than pleased with the maintenance costs. Tiled walls and floors are easier to keep clean than any other material we have used."

A VARIETY OF TILE COLORS relieves the monotony of a long corridor, helps little children identify their classrooms. Tile used is: 81 Spruce Green, 52 Daffodil, 57 Forest Green, 65 Iris Blue, 68 Rose, 34 Berry Brown and 81 Spruce Green. Color Plate 374.

TILED WALL IS CONTINUED from corridor into the room. Each classroom has its own washroom—tiled, of course. Tile description: Walls: 57 Forest Green. Counter Top: 52 Daffodil. Floor: Random, $1\frac{1}{16}$" x $2\frac{3}{16}$" series. Full Range Varitone, C. E. Color Plate 375.



(Continued from page 73)

and sunshading of specific buildings to the first cost and operation of their heating and cooling systems. So many of the new developments increase the cost of buildings that we should give careful consideration to any means we have to make them more economical.

WALDRON FAULKNER
Faulkner, Kingsbury & Stenhouse
Washington, D. C.

Dear Editor: Naturally, as a heating engineer I do not have to be sold on the value of insulation, but also, quite frankly, I have never been able over the years to go quite as far as Neergaard's contention that the first cost of insulation, installed to the degree suggested by him, can be amortized quite so easily by savings in fuel costs. Roof insulation is, of course, common practice today, even with cheaply constructed buildings. However, complete wall insulation and the simultaneous use of thermopane glass would result in tremendous first-cost increases, and I believe it would be hard to sell a prospective owner on the savings factors as against such increases. Of course, with the "skin" type of building sheath now coming into use, insulation is applied more scientifically to these walls. The over-all K-factor is kept within reason by careful design. However, these cases are rather specialized.

JOHN K. M. PRYKE
Slocum & Fuller
New York, N. Y.

•

Dear Editor: Charles Neergaard's article seems sound in principle, even though his strong positions may be difficult to justify quantitatively.

JOHN R. DUNNING
Dean, School of Engineering
Columbia University
New York, N. Y.

•

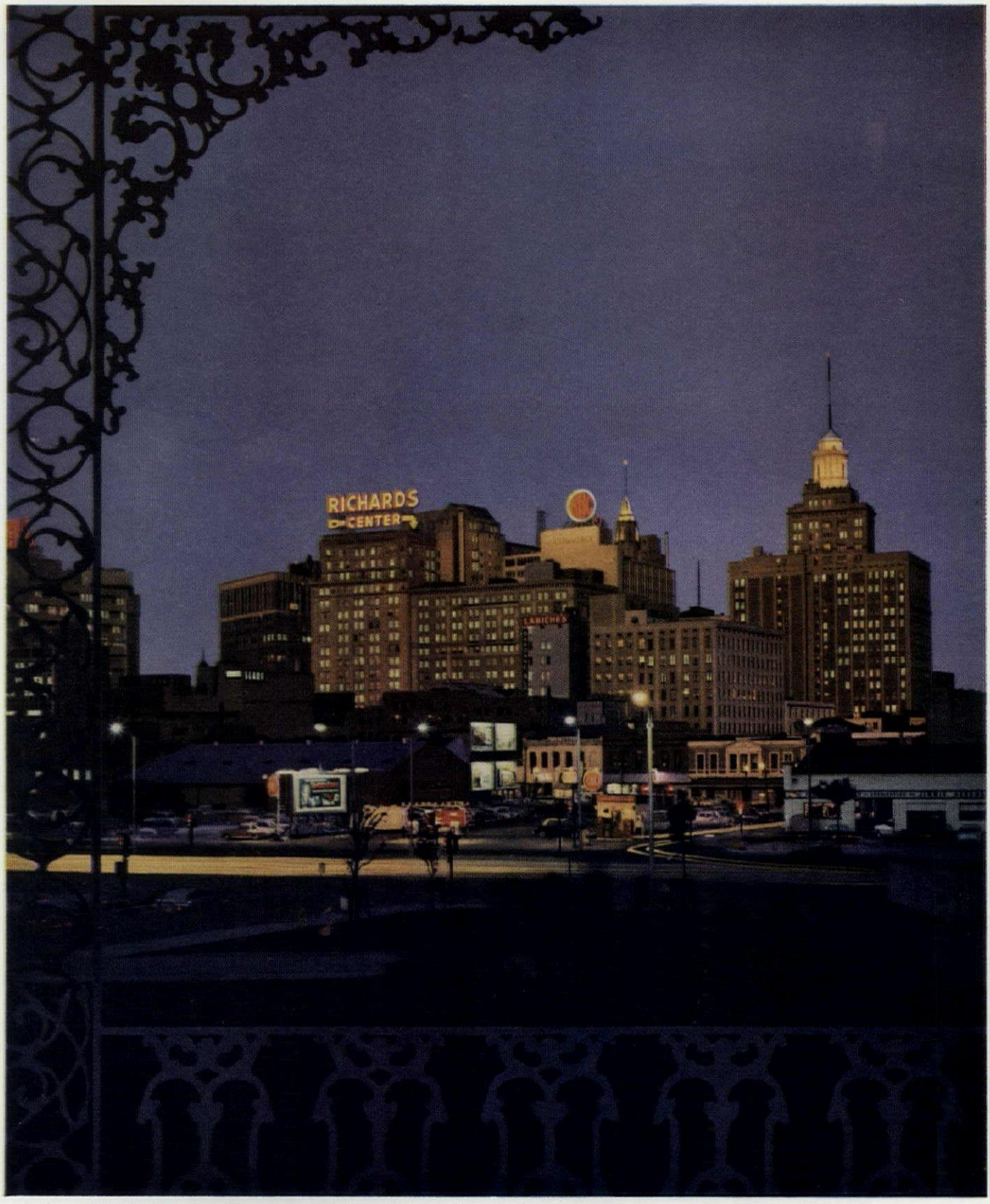
Dear Editor: The proposal of Charles Neergaard, concerning a study in actual buildings of the value of insulation and its relation to the cost of various heating systems, I personally feel has great merit. His suggestion that it be done in identical housing units is, I think, a good one because they are buildings in which the closest comparative tests may be made and I think the results would be just as valid for any building as it would be for housing.

DOUGLAS W. ORR
New Haven, Conn.

international practice

Dear Editor: May we compliment you on the fine presentation of the Corwin house in MAY 1958 P/A? We noticed in reading the accompanying description that it is mentioned that this was one of Mr. Neutra's few homes designed outside of California. It may be of interest to note that Mr. Neutra has designed homes in Rhode Island, Texas, Portland, Philadelphia, Louisiana, New York, Washington, Iowa, Montana, Tennessee, Florida, Connecticut, Cuba, Virginia, and Indiana. And he

(Continued on page 80)



NEW ORLEANS, *Louisiana, a city long famed for its old world charm, is in a quandary. Can the native regional beauty of its architecture withstand the onslaught of the greatest commercial boom in its history? How to retain a city's historical character during urban renewal or expansion is a topic of widespread interest. Naturally, the answer lies with architects, civic leaders and industrialists. OTIS has an intimate knowledge of the elevator requirements of New Orleans. It has installed 67% of the elevators. OTIS is ready to work with planners to make it possible—for new and modernized buildings alike—to have the world's finest elevatoring.*

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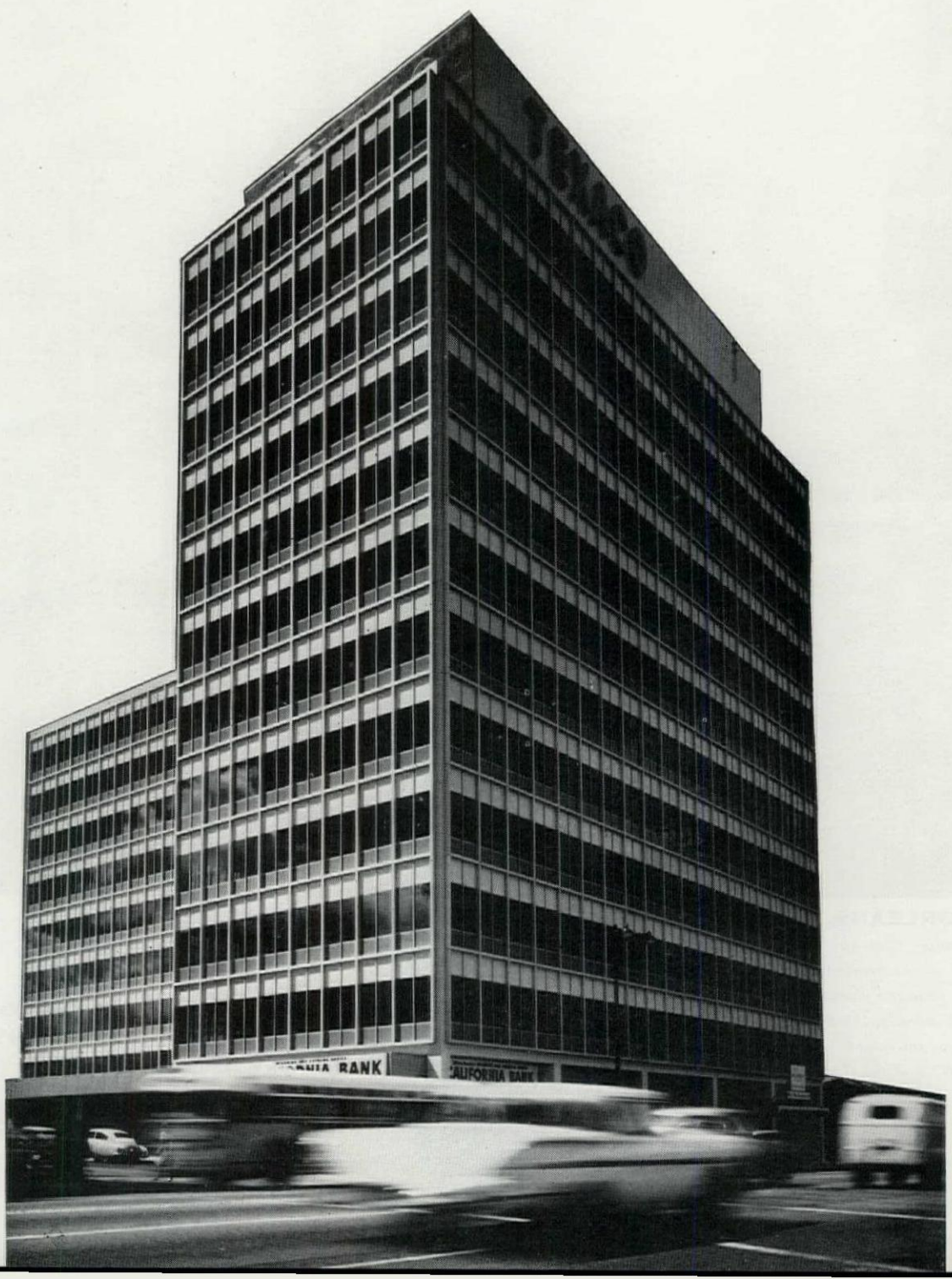
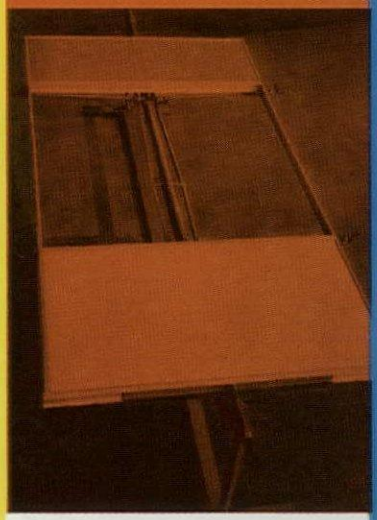
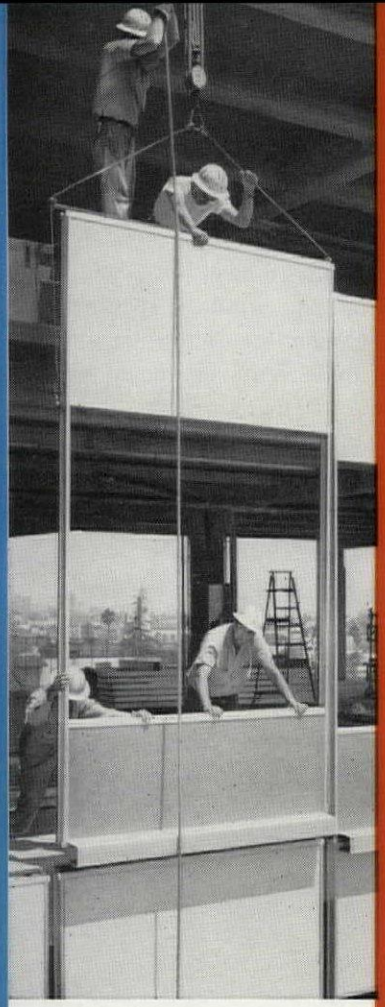
Ador Corporation
GENERAL CONTRACTOR:
Del E. Webb Construction Co.

For The Texas Company's new Pacific Coast headquarters on Wilshire Boulevard in Los Angeles, the architect specified a curtain wall system unique in the area: a custom-designed grid type panel assembly with aluminum extrusions to create equally dominant horizontal and vertical lines.

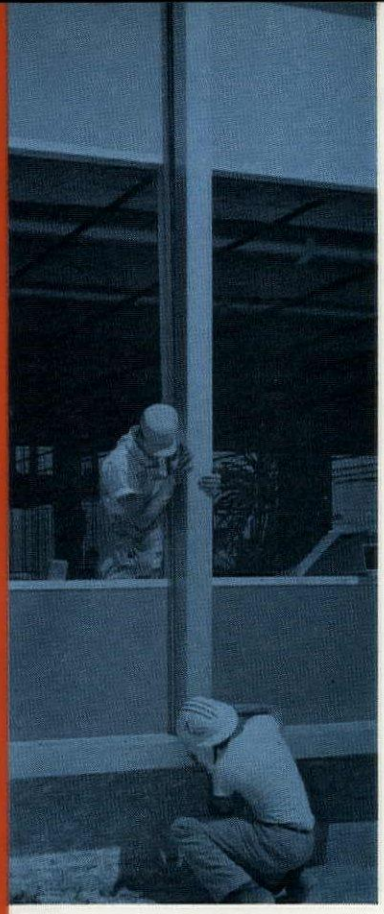




The Ador grid panel units —incorporating Kaiser Aluminum extruded shapes—not only meet every architectural requirement, but also adapt to complete plant assembly (as opposed to field assembly). This "unit" system permits fast work, close quality control.



The lightweight (1.35 psf) grid units are installed from within the building, eliminating the need for scaffolding during erection. The factory-assembled units, stored at each floor level, are positioned individually and anchored to the building frame. Four men can easily handle installation of grid units.



Horizontal exterior members are attached to grids at the site prior to installation. Vertical mullions are attached after the grid system is installed. The Kaiser Aluminum extrusions, including snap-on glazing members, cover all fasteners throughout the assembly. Design of the massive aluminum mullions facilitates drainage and effective use of weatherproofing sealants and gaskets.

For both the architect and the fabricator, aluminum is an invitation to achievement

With more useful properties than any other construction material, it offers the architect almost unlimited opportunity for expression. It is light and strong, resists corrosion, reflects light and heat, offers permanent natural beauty with minimum maintenance.

And because it can be formed by any known method and accepts such a variety of mechanical or chemical finishes, it gives the fabricator unsurpassed opportunity for creative contribution to building construction.

Kaiser Aluminum Architectural Representatives are working closely with architects and fabricators throughout the country to help apply these advantages of aluminum to architecture. Their service is immediately available without obligation to any architect or fabricator who is interested in the virtually unlimited opportunities that aluminum offers.

For immediate service or further information, please contact the Kaiser Aluminum Sales Office listed in your telephone directory.

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KAISER ALUMINUM

THE BRIGHT STAR OF METALS

(Continued from page 76)

is designing at present several homes in Venezuela and possibly Belgium, in addition to his commercial designs which include as far reaching territories as Pakistan. One of the most rewarding features of these projects is the ease of construction over the miles, due to Mr. Neutra's careful and thoughtful preparation, studies of local climates and conditions, and careful co-operation with the contractors' questions before the construction stage. This process has been crystallized through Mr. Neutra's many years of experience and has been a firm foundation for the happiness of his many distant clients.

(Mrs.) G. SERULNIC
Richard J. Neutra
Los Angeles, Calif.

steel-tube framing

Dear Editor: Congratulations on your article, "Welded Steel Tubing" in FEBRUARY 1958 P/A. Of particular interest was the section on "Panels Designed As Curtain Walls Doubling as Bearing Walls." It certainly makes sense particularly in one-story school construction to have vertical tubular mullions double as structural columns.

However, you failed to point out the true potential of this type of framing system. Raymond Orput, architect in Rockford, Illinois, has progressed one step further. In a recently completed Junior High School in Loves Park, Illinois, 2"x4" tubing on 5' centers doubled as column and mullion with 4"x4" angles welded at the head for roof support and at sill height, forming a bearing plate for masonry below and finished interior sill. Angles and tubes were welded in the shop in units of six forming complete 30' classroom bays. These bays were hauled to the job site complete and tilted into place. Through use of a long span structural acoustical ceiling which was placed on the head angle, lateral bracing was eliminated.

Other possibilities for this method of construction could include installation of standard sash units with panel inserts at the steel fabricating plant. Thus, only glazing would be required in the field to complete the wall enclosure once the structural unit is set. Incidentally, it has been determined by alternates taken recently that standard sash units completely filling the window opening are more economical than glazing stops and single vents as shown in the Francis Donlavy Elementary School.

ROBERT L. SHAFFNER, Sales Engineer
Fenestra, Inc.
Chicago, Ill.

first-rate in minority

Dear Editor: I enjoyed your generous review of my only book, *The Gingerbread Age* (DECEMBER 1957 P/A), very much.

I would not like to leave the impression with you—or anyone—that I am hostile toward Modern Architecture. Every month we see many examples of first-rate Contemporary Design in PROGRESSIVE ARCHITEC-

(Continued on page 83)


Modern Door Control by LCN • Closers Concealed in Doors
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LCN CLOSERS, INC., PRINCETON, ILLINOIS
Construction Details on Opposite Page
Skidmore, Owings & Merrill
Architects and Engineers

"CERAMIC TILE...COMPATIBLE WITH MODERN LIVING"

The noted architectural team of Anshen & Allen have dramatized the ever-increasing role of ceramic tile in modern homes. You'll agree that ceramic tile is beautiful! But think about this: ceramic tiled surfaces will never burn, stain, dent, scratch or fade—and they will clean easily with no replacement cost and minimum maintenance for the life of the installation.

Anshen & Allen

THE MODERN STYLE IS

p/a views

(Continued from page 80)

TURE and the other architectural magazines. I am disturbed by the fact that these Contemporary buildings are in such a tiny minority. The overwhelming majority of builders' boxes and the horrible commercial structures in our ever-growing highway slums are not Modern and cannot be called Architecture at all.

JOHN MAASS
Philadelphia, Pa.

architecture and the machine

Dear Editor: The chapel at Ronchamp is a profound statement of rebellion against machine building. And it has made its mark. Already among us are numerous pseudo-Ronchamps, intent rationales for the bearing wall and the need for plastic expression.

The renaissance of the crafted screen is a logical reaction to the maddeningly, monotonously repetitive, so often poorly designed, machined curtain wall.

The integrity of the original thin shells of ferro concrete has been lost in our intensity to be among the first to apply these exciting vaulted, folded, double-warped forms: forms that repudiate machine building with methods incompatible with machine building.

The powerful examples of our frustrations are many and prevalent. But can we, with our machine economy, truly justify a crafted architecture? I think not. Mechanization is here and we have helped to promulgate it, the craftsman is gone and we have helped to stifle him. Our economy dictates that machine products, machine techniques be the essence of our buildings. We cannot now retrogress to the bearing wall and to crafted methods. Nor can we deny the validity of steel and the skeleton structure.

However, trabeation with its wallpaper skins of glass and tinted sheet metal need not be the *modus operandi*. The sculptural plasticity and strength of fiber-reinforced plastic is already evident and this material could be vaulted, folded, and double-warped by the machine. Our perforated screens can and should be of stamped, molded, or extruded metals, concrete, and plastics. Space frames of lightweight metals and tension structures have just begun to prove their immense potential, and we have seen the recent inspiring results of machined prestressed concrete.

In another time we were moved by the pavilion at Barcelona, the houses on the Wisconsin prairie and the villa at Poissy. But in each there was intrinsic crystal clarity, each expressed precisely and poetically a qualification of space in relation to time and purpose.

Somehow it seems possible for us to produce an architecture that needs no rationalization. An architecture that spiritually transcends the prosaic limitations the machine has seemingly begun to impose. An architecture that gives us esthetic *and economic* pleasures. But this will not come about through esoteric applications of the Navaho pueblo and white walls of arabesque stone tracery. Nor in hand-formed ferro concrete.

I believe it is time we stopped to re-examine our recent motivations. And it may well be time to evaluate the motivations of the machine. In this way we may find the way to a properly qualified and truly meaningful architecture.

CRAIG ELLWOOD
Los Angeles, Calif.

Alcoa's bold new stroke for architecture

The spandrels above are nearly 20 feet wide. They form a perfectly flat wall system (something of an accomplishment for sheet of that size). They offer another imaginative use for aluminum in creating striking facades on a whole range of building types . . . schools, hospitals, office buildings, *et cetera!*

This system works because Alcoa® Anoclad Sheet (Type 10) and Architectural Gray (2010) finish were specified together for absolute control. Complete design details are available. Call your nearest Alcoa sales office, or write Aluminum Company of America, 1890-G Alcoa Building, Pittsburgh 19, Pennsylvania.

BUILDING: The John J. Kane Hospital, Allegheny County, Pa.

OWNER: Allegheny County Institution District

ASSOCIATED ARCHITECTS: Button and McLean—Mitchell and Ritchey, Pittsburgh, Pa.

GENERAL CONTRACTOR: Sherry Richards Company, Chicago, Ill.

ALUMINUM SUBCONTRACTOR FOR CURTAIN WALLS & ARCHITECTURAL METAL WORK: Albro Metal Products Corporation, Bronx, N.Y.

ALUMINUM PROJECTED WINDOWS: The William Bayley Company, Springfield, Ohio

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Your Guide to the Best in Aluminum Value

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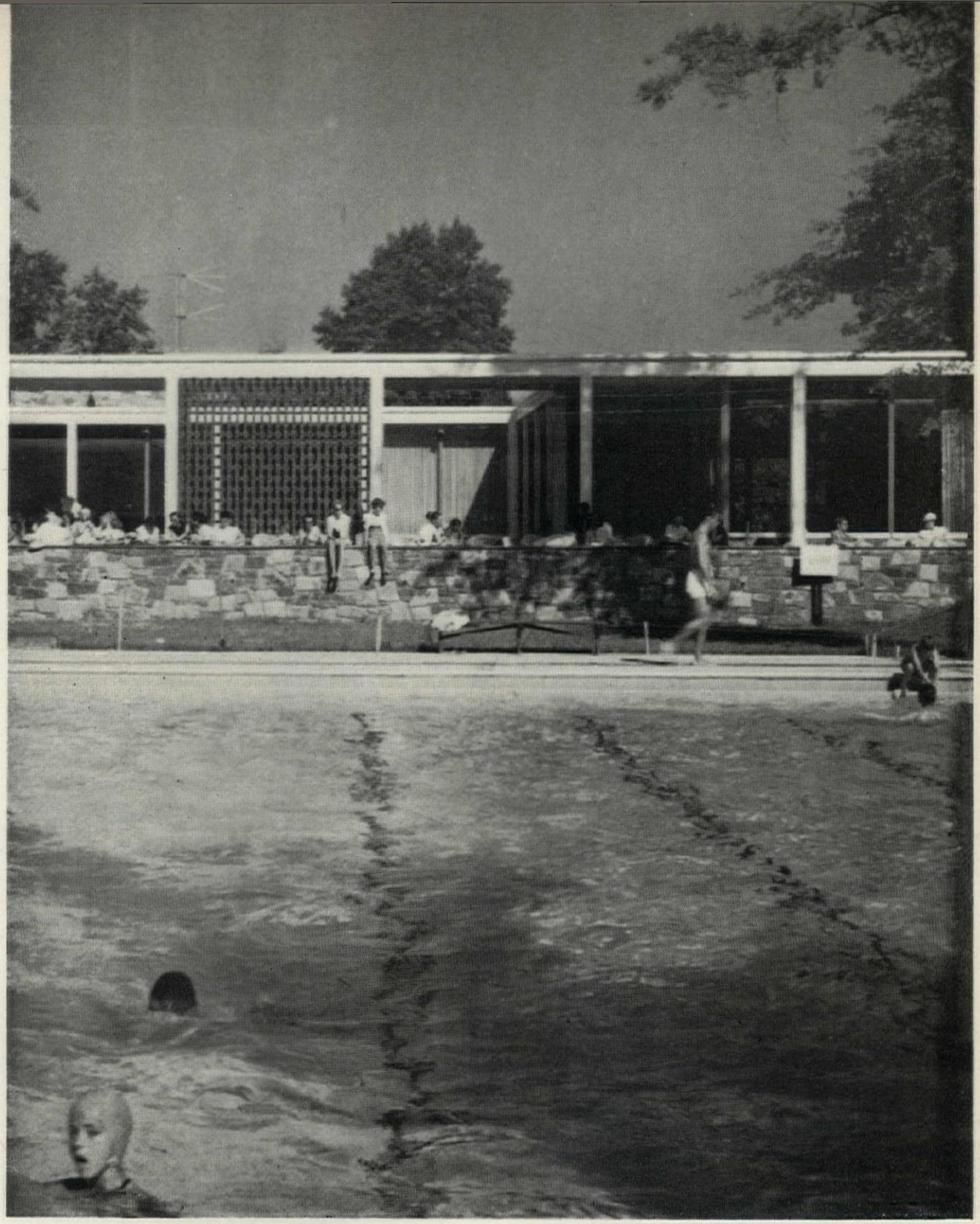
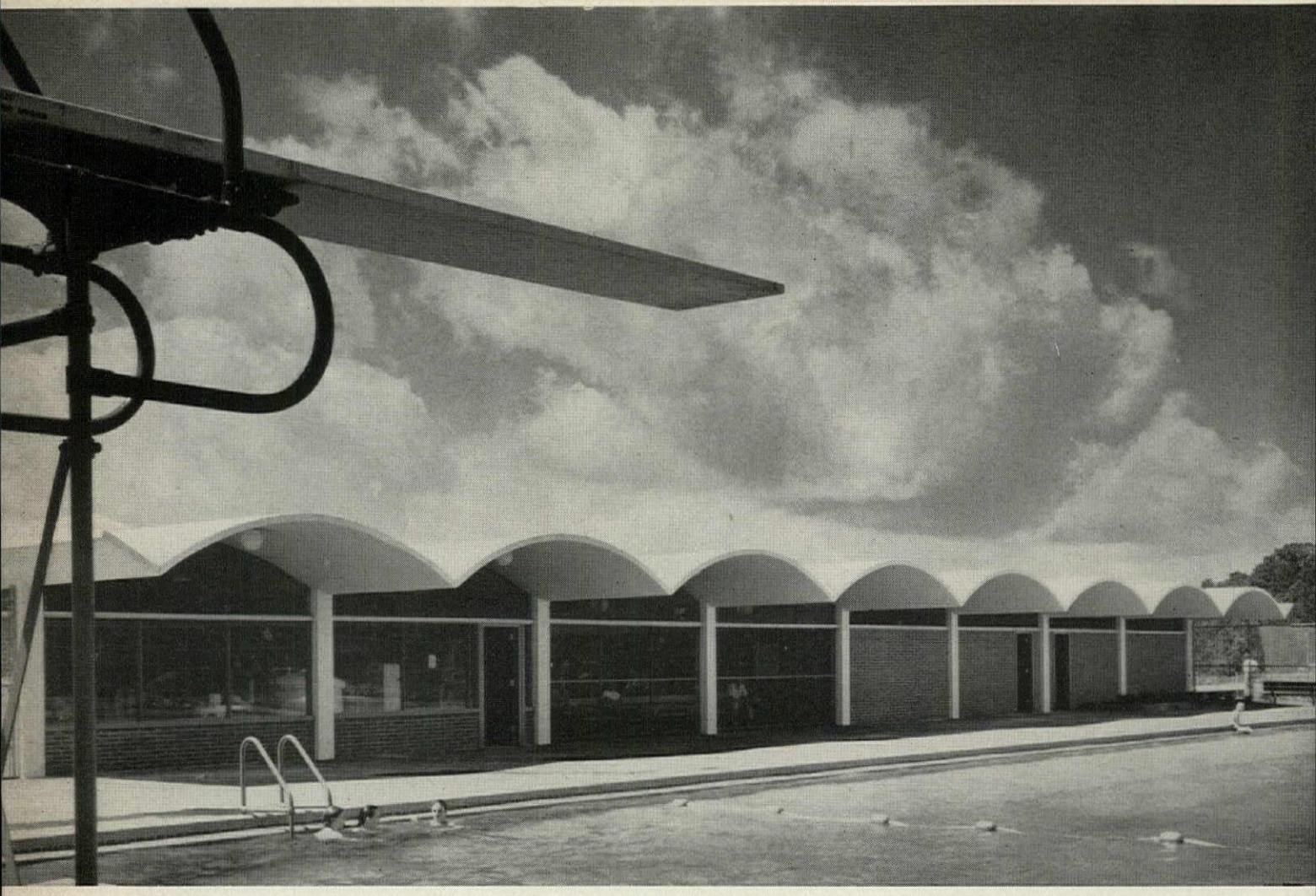


Robert C. Lautman

buildings for recreation

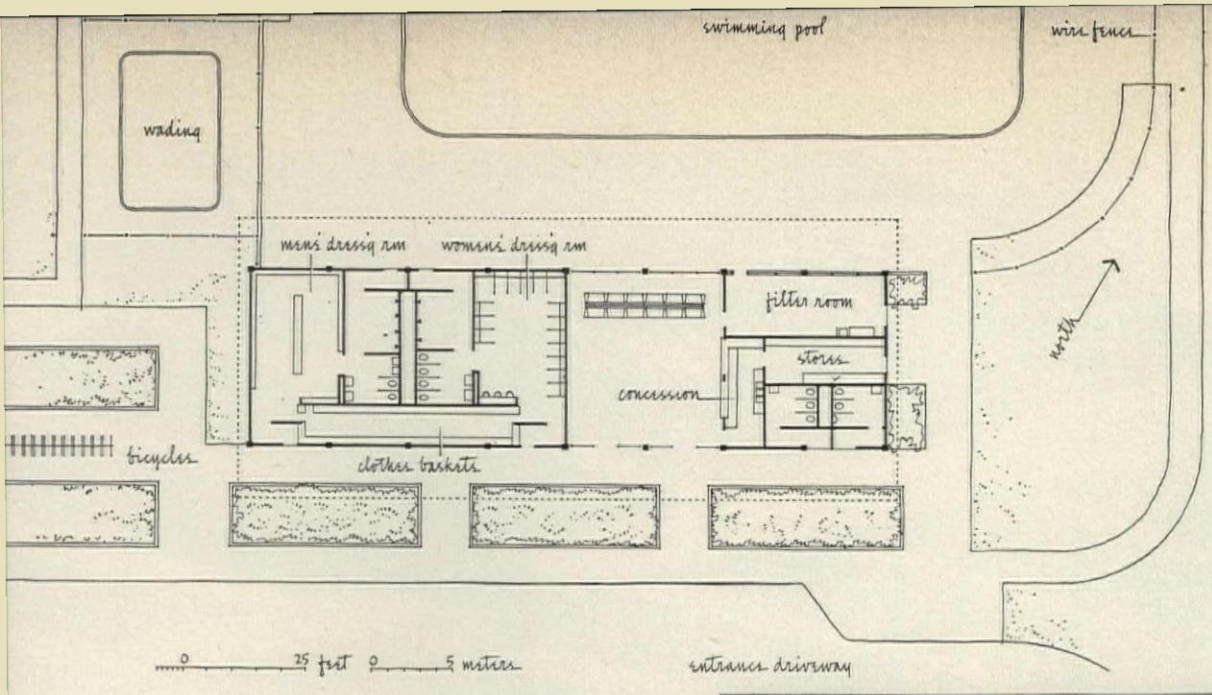
Recreational needs suggest the widest variety of building types—a diversity that is amply demonstrated by the work shown in this special issue of P/A. Structures presented here range from an officers' club at an Air Force Base *(above)* to a baseball stadium to a music hall to the club rooms for a fraternal order. Happily, design of buildings for recreation is relatively unfettered by traditional considerations—another characteristic which this issue helps bring into focus.



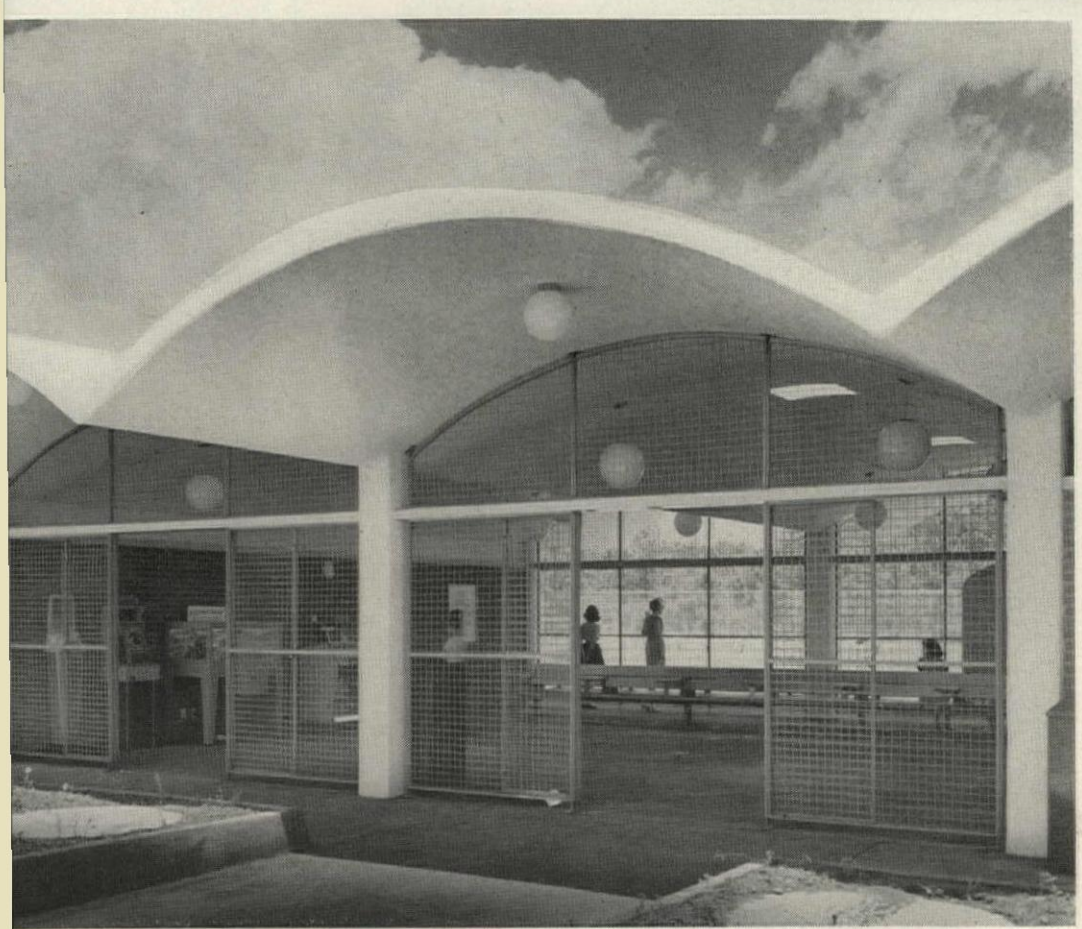
bath house

location | Atlanta, Georgia
architects | Finch & Barnes
associate | Caraker D. Paschal

Dressing rooms, toilets, clothes storage, concessions, refreshment stand, and a filter plant are housed in this building which adjoins a public swimming pool in a city park. The structure had to be well daylighted and ventilated, attractive and gay, yet economical. "It was decided," write the architects, "that a concrete frame and masonry walls best suited the requirements, and from this decision the concrete-shell roof seemed a natural step in the effort to achieve a gay and somewhat playful character." For maximum natural light and air circulation, the building has been kept entirely open above door height, except for a woven-wire grill for security. Similarly, the concession area is open toward pool and entrance side, enclosed only by wire mesh. To provide shade and protection from driving summer showers, the roof shells were cantilevered on two sides. The shells are on 16′-6″ centers, span a distance of 36′, and have overhangs of 10′. The end bays are stiffened with steel tie rods concealed in the steel channel which runs the length of the building at door-head height. Since the building is intended for summer use only, standard roof surfacing has been dispensed with. Integral waterproofing mixed into the concrete, two coats of masonry waterproofing, and calking of joints with plastic compound have proved satisfactory after three years of use. I. E. Morris Associates were Structural Engineers; Newcomb & Boyd, Electrical-Mechanical Engineers; George Rice and A. P. Brindley, Parks Department Engineers who planned site and landscape; ABCO Builders, General Contractor.

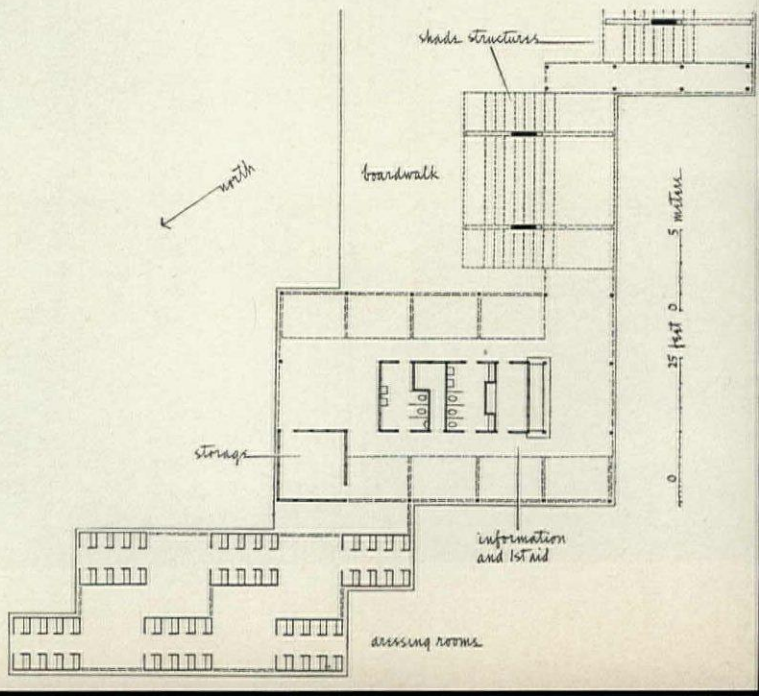


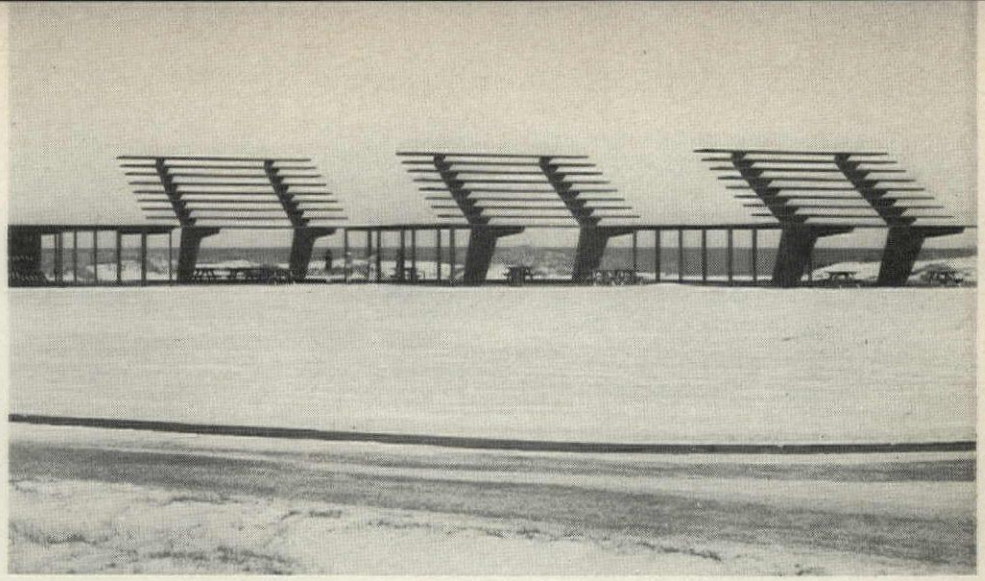
Photos: Robert L. McGinnis

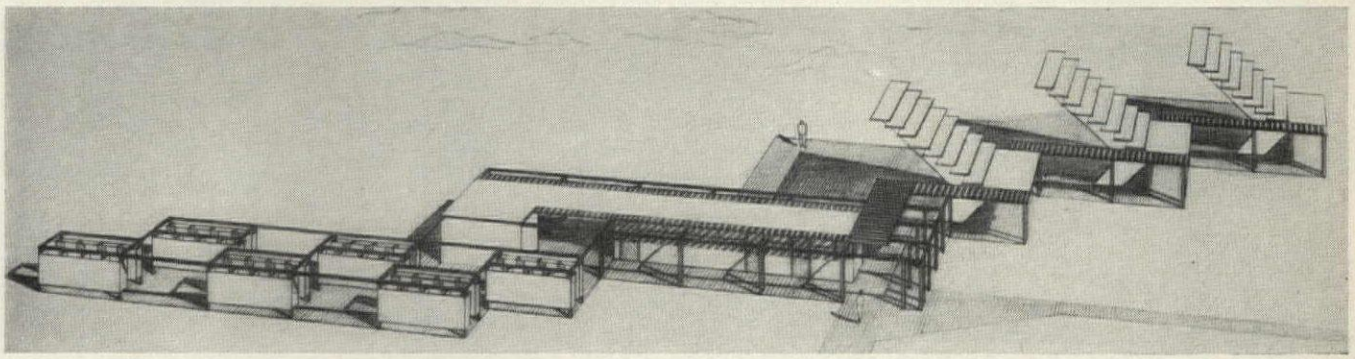


bathing and picnic facilities

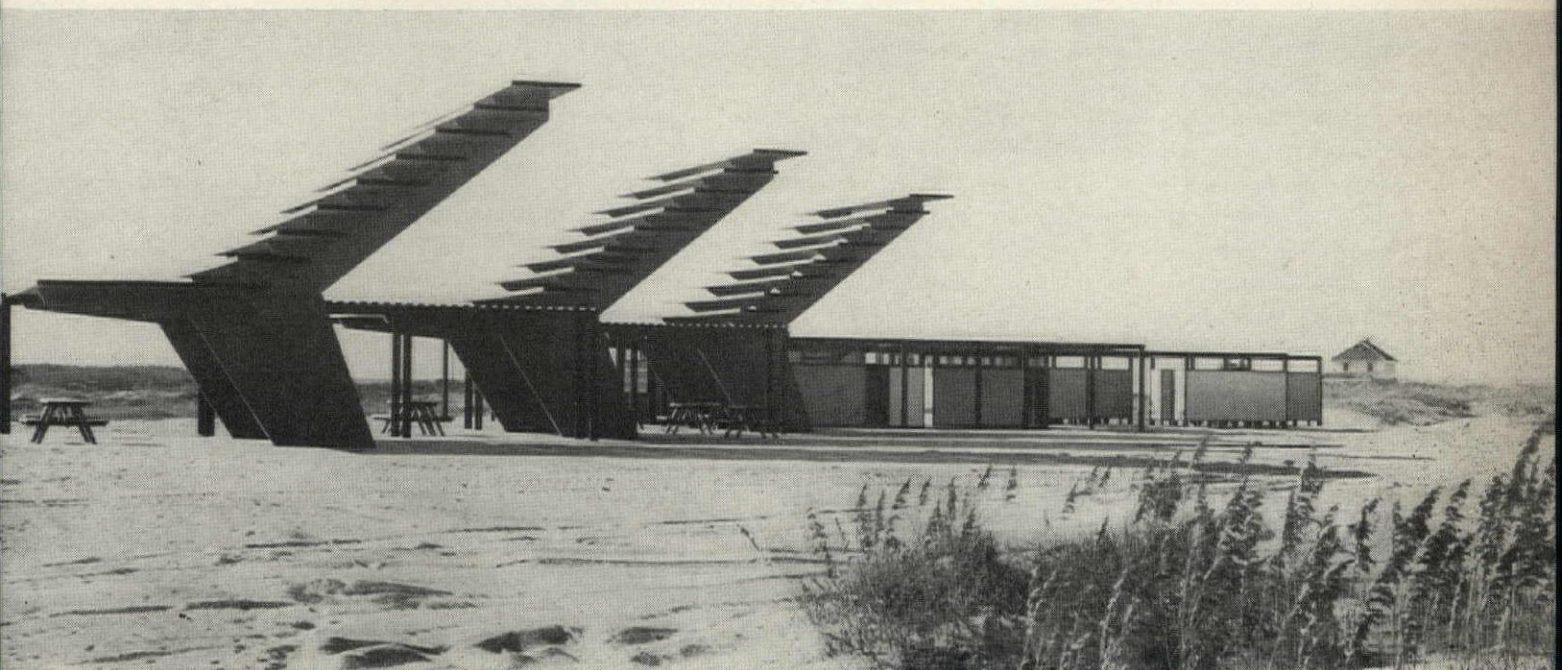
location | Nags Head, North Carolina
supervising architect | John B. Cabot
project architect | Donald F. Benson







The architectural problem in this instance was the provision of shade structures and dressing facilities for the Cape Hatteras National Seashore Recreation Area (P/A Award Citation winner in January 1956). The landscape in this remote though well visited beach area is predominantly soft-rolling dune land. In contrast to this, the designers (Eastern Office, Division of Design and Construction, National Park Service) searched consciously for bold and angular forms. Practical requirements considered were direction and force of winds and the resultant movement of sand. For this reason, sides of buildings facing the wind were made as narrow as possible, and dressing cubicles were left open at the base to allow sand to blow through. Shade structures were evolved by means of numerous scale models. The final design (*above*), a structure with cantilevered fins, allows wind passage but prevents sun passage until the sun's vertical angle is less than 30 degrees. The entire facility is built upon plank boardwalk, supported on piles, girders, and joists. Shade structures have steel piles, cross-braced below the surface of the boardwalk with horizontal timbers. Their upper portions are of laminated wood. Donald S. Nutt was Structural Engineer; Rilco Laminated Products, Inc., Consultants; Daniels Building Supply and Shanaberger Lumber Company, General Contractor.

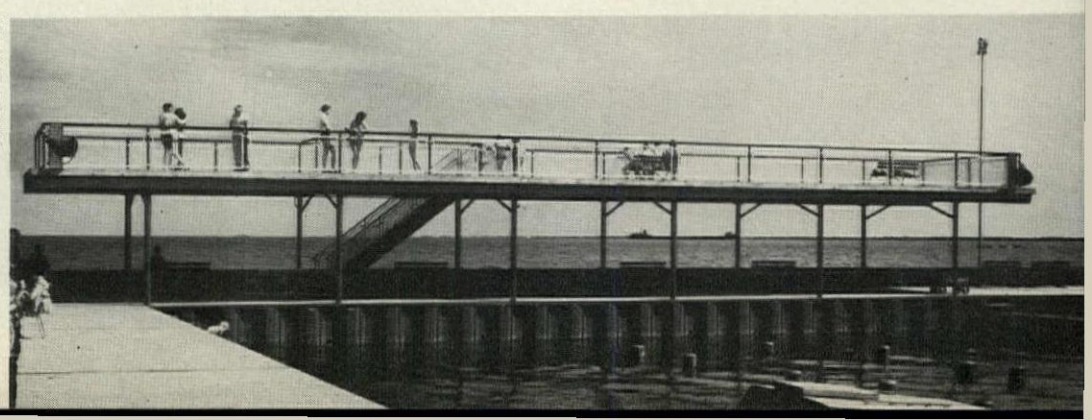


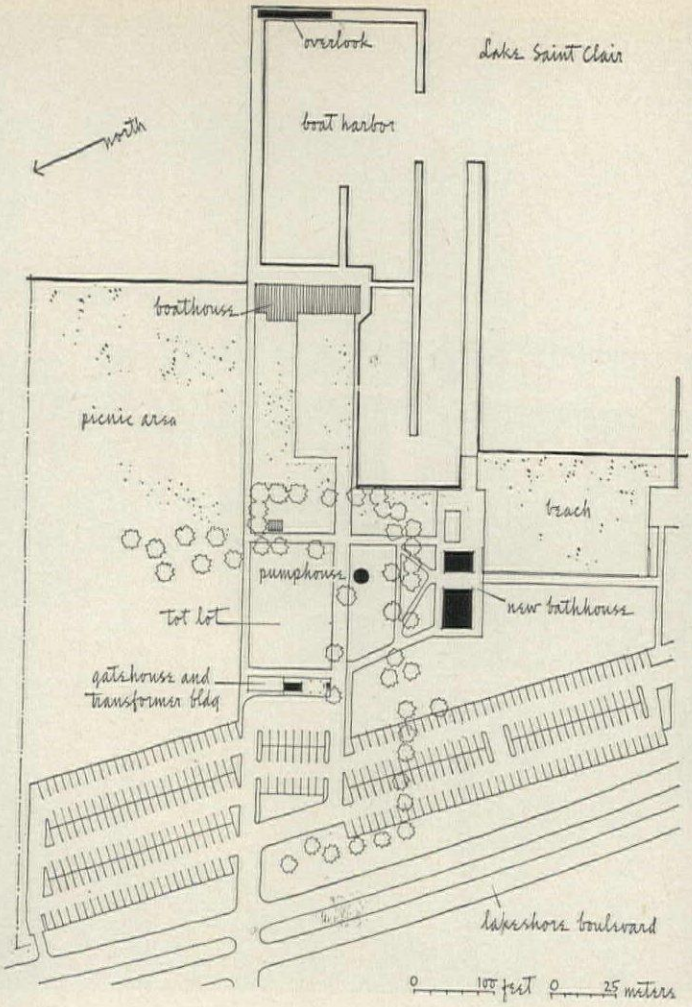
Photos: National Park Service

park development

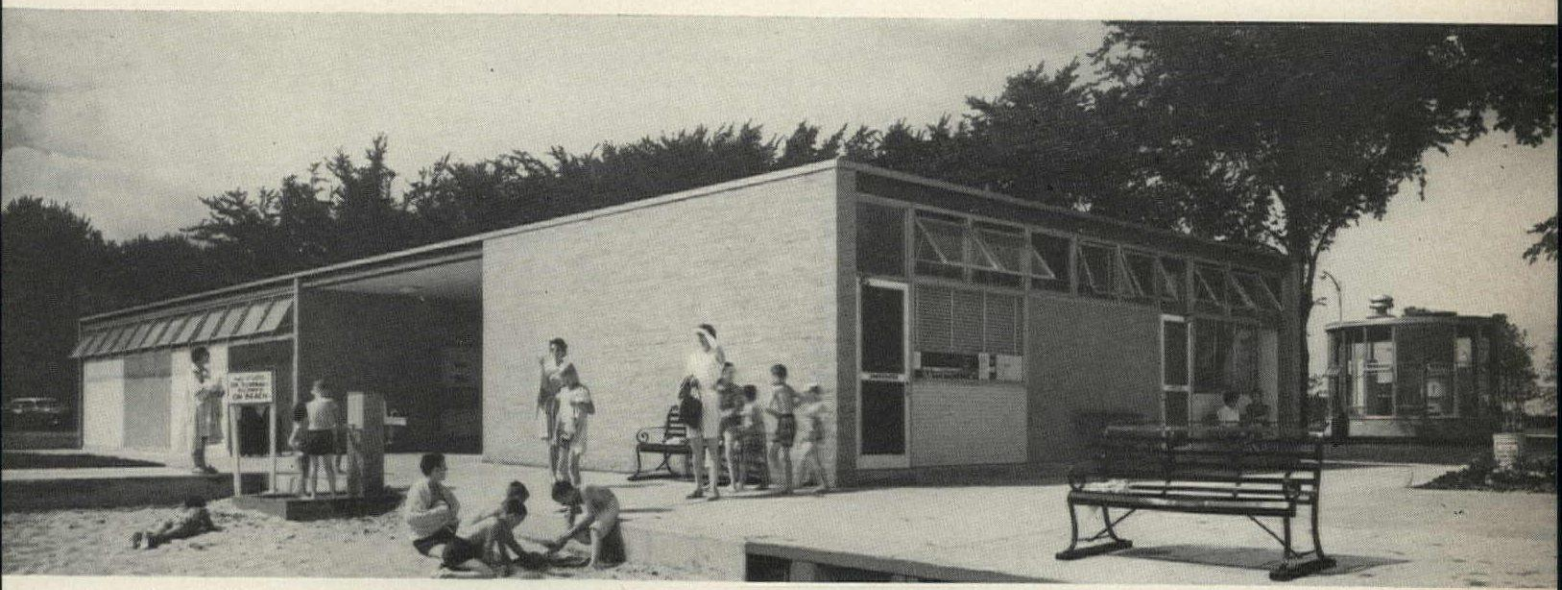
This park was designed for the exclusive use of a suburban community numbering 12,500. Future growth is not expected to exceed 15,000, so that the size of the facilities could be determined on this basis. A small existing park with bathhouse and pier formed the nucleus of the new and enlarged recreation area. By pumping fill from the lake, the park has been extended and a new pier added. The original bathhouse has been retained and transformed into a boat house which is also used during the winter months as a warming place for skaters. The newly erected structures are: 1. a bathhouse (plan *acrosspage bottom*); 2. a gate house (*acrosspage top*) with space for transformer and switch-gear equipment; 3. an overlook (*below*) built on one of the piers to hold spectators during swimming meets and yacht races. In addition it was necessary to provide a pump station in the center of the park, for the intake of domestic water. Instead of concealing the machinery behind solid masonry walls, as it was originally intended, a circular glass building has been designed to avoid visual interruption of the park and to permit a view of the gaily painted equipment. Murray Smith was Chief Engineer for the piers, sea walls, and sheet piling; Hubbell, Roth & Clark were Engineers for pumping station; George Wagschal Associates, Mechanical-Electrical Engineers; Barton Malow Company, General Contractor.

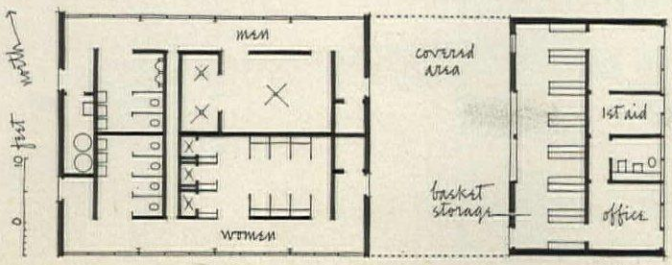
Photos: Lens-Art

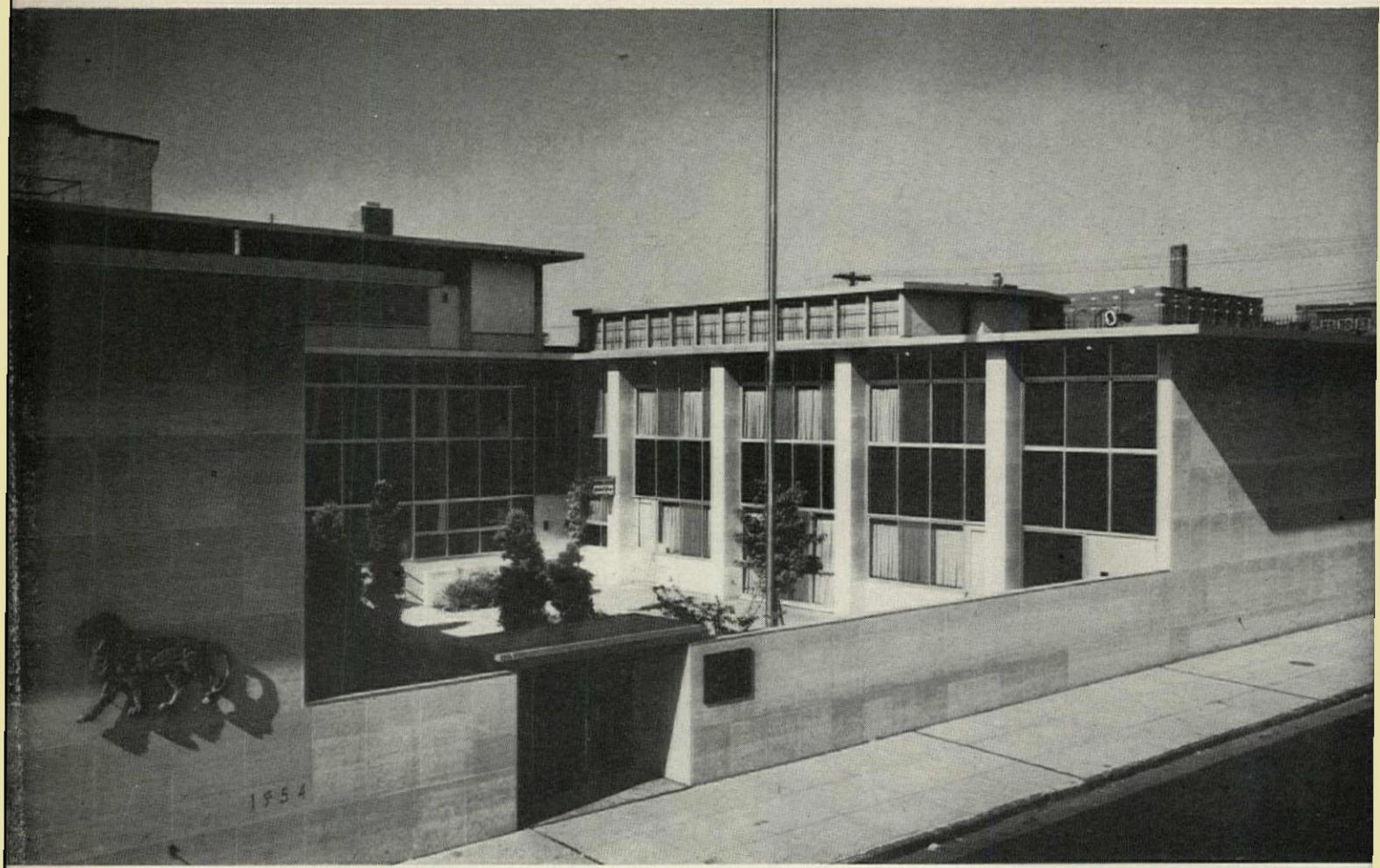




location | Grosse Pointe, Michigan
architects | O'Dell, Hewlett & Luckenbach Associates







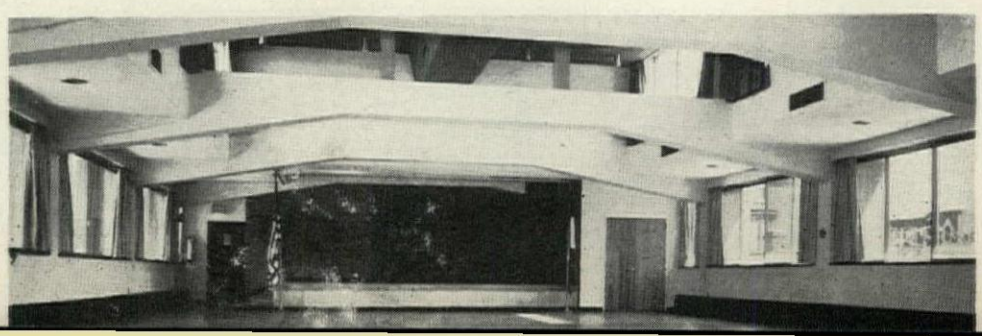
lodge headquarters

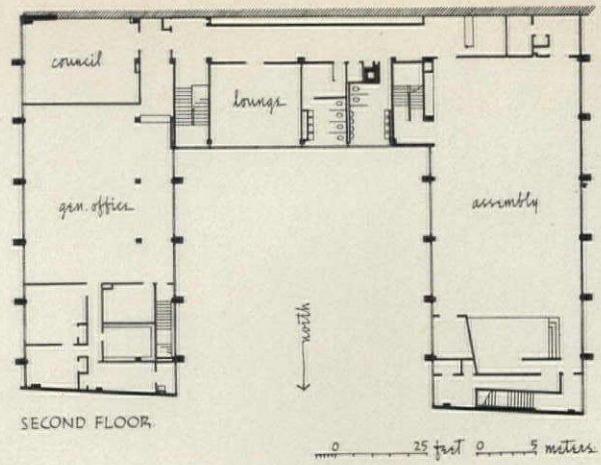
location	Philadelphia, Pennsylvania
architects	Carroll, Grisdale & Van Alen
associate-in-charge	John B. Applegate
associate architect	Frank L. Petrillo

This building for Grand Lodge of Pennsylvania Order of Sons of Italy in America houses the fraternal order's state organization offices, social and recreational facilities, and meeting rooms. Since the corner site faces two heavy-traffic streets, the plan was developed to provide as much privacy as possible for main club spaces. Ground floor on the Broad Street side consists of revenue-producing stores; end walls of wings facing Federal Street are windowless (Sculptor: Tony Greenwood); and an 8-ft-high wall shields the landscaped entrance court. At basment level, beneath the stores, is a series of meeting rooms; a 6-lane bowling alley occurs beneath the clubroom/bar (*acrosspage*); and mechanical equipment for the air-conditioned building is under the link joining the wings. To give added height to the big assembly room on the second floor (*below*), a clerestory is introduced.

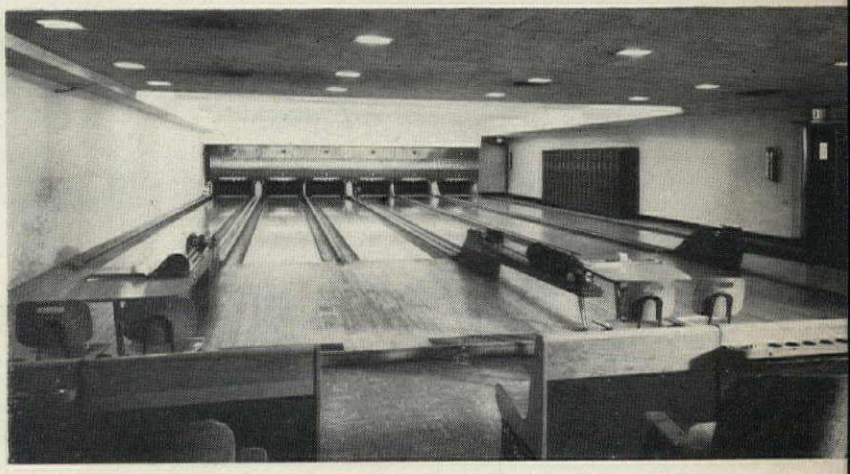
The fireproof structure is of reinforced concrete, with masonry filler walls; exterior surfaces are stone, with structural glass used in spandrel areas. Sash are aluminum, glazed with heat-absorbing glass. The building is heated by an oil-fired, low-pressure steam system, with finned tube radiation and air units for ventilation. The cooling tower, air-conditioning equipment, and ventilating fans are enclosed in a rooftop penthouse.

Severud-Elstad-Krueger were Structural Engineers; A. Ernest D'Ambly, Mechanical-Electrical Engineer; Howard L. Post, Food Service Consultant; Fleming Company, General Contractor.

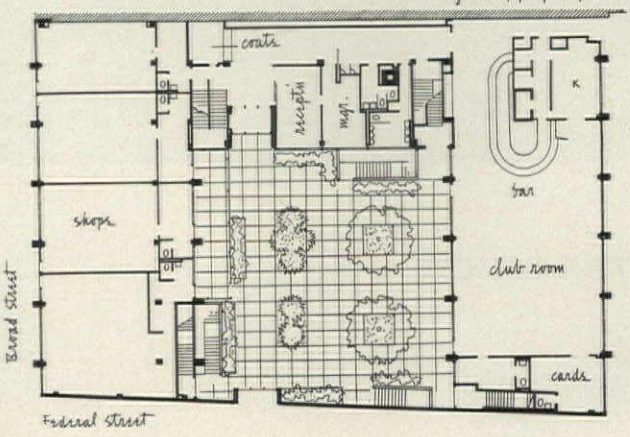


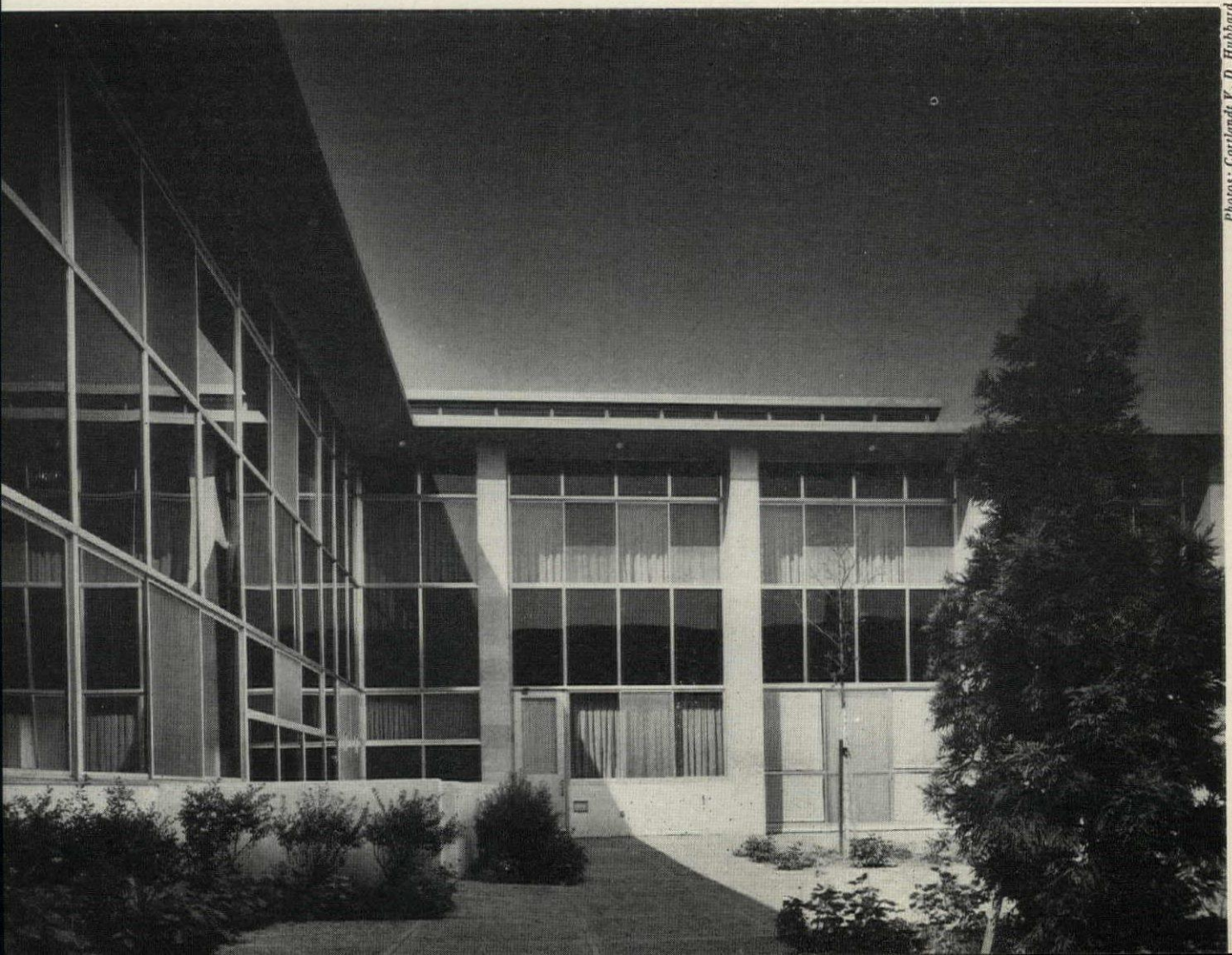


SECOND FLOOR

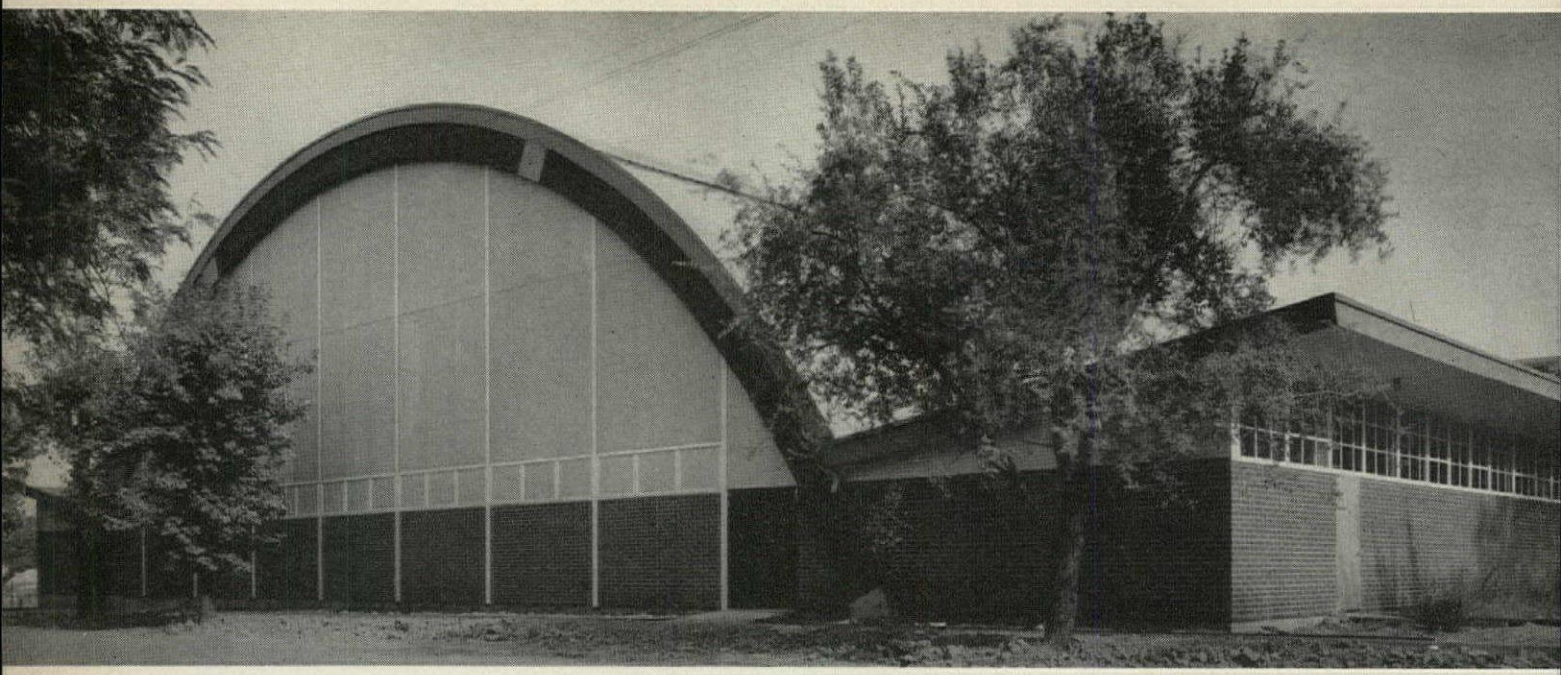


FIRST FLOOR





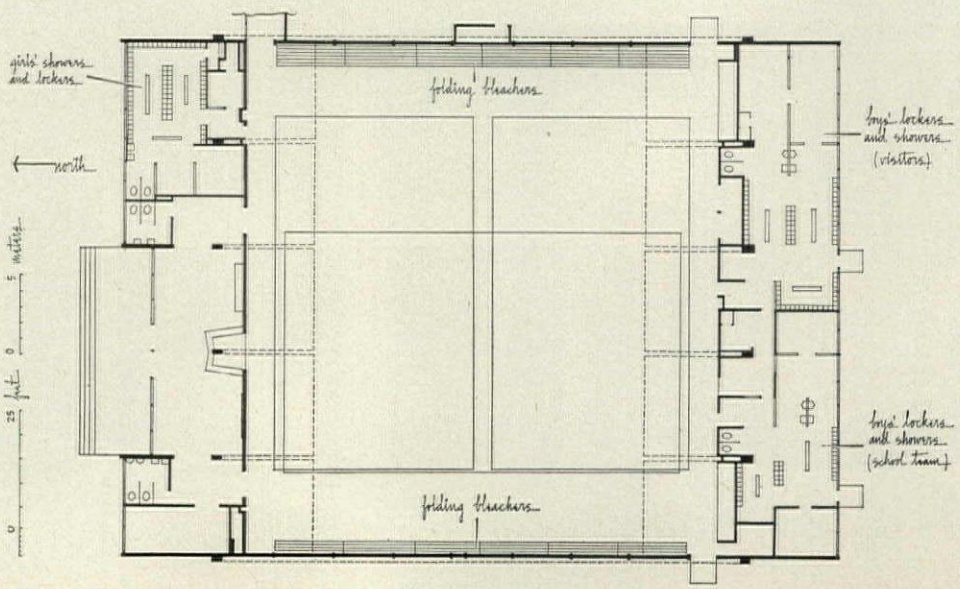
Photos: Cortlandt V. D. Hubbard

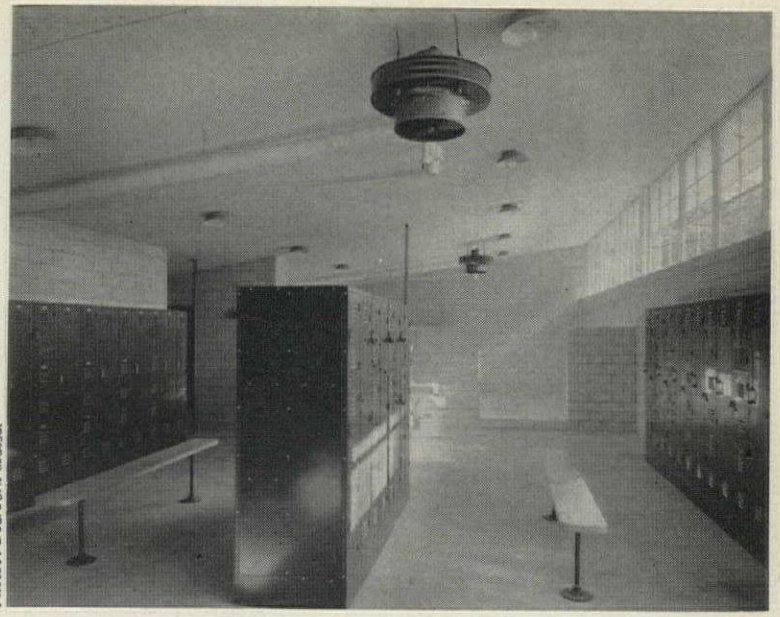


high-school gymnasium

location | Davenport, Washington
architects | McClure & Adkison

This gymnasium was designed to supplement the facilities of an existing high school. It is being used alternately by boys and girls, and also by adults during nonstudy hours. "A tournament and two cross basketball courts," write the architects, "plus folding bleacher seating for 800 persons determined the approximately 100'x100' main floor area." Boys' locker and shower rooms, located in one of the two end wings, serve the gymnasium and also a playing field to the south. Girls' lockers and showers are on the opposite side near the connecting link to the main school building. Of various structural systems investigated, the glue-laminated rib arches were found to be most appropriate and economical. Particularly well resolved in the gymnasium area are the controls of daylighting and acoustics, night lighting and mechanical air diffusion—all of them incorporated into the design of the hung ceiling. Mechanical equipment rests above the solid portion of the hung ceiling in the loft space between the two continuous skylights. The lower portions of the barrel-sided walls have been acoustically treated. Floor construction is of concrete with hardwood surfacing in the gymnasium; walls and partitions up to door height are of brick and glazed tiles; skylights are of corrugated plastic. Lyle Campbell, Joseph M. Doyle, Kendall M. Wood were Consulting Engineers; Spilker Building Company, General Contractor.



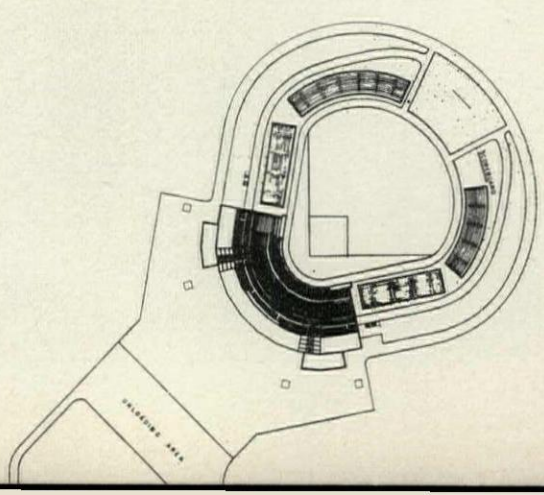


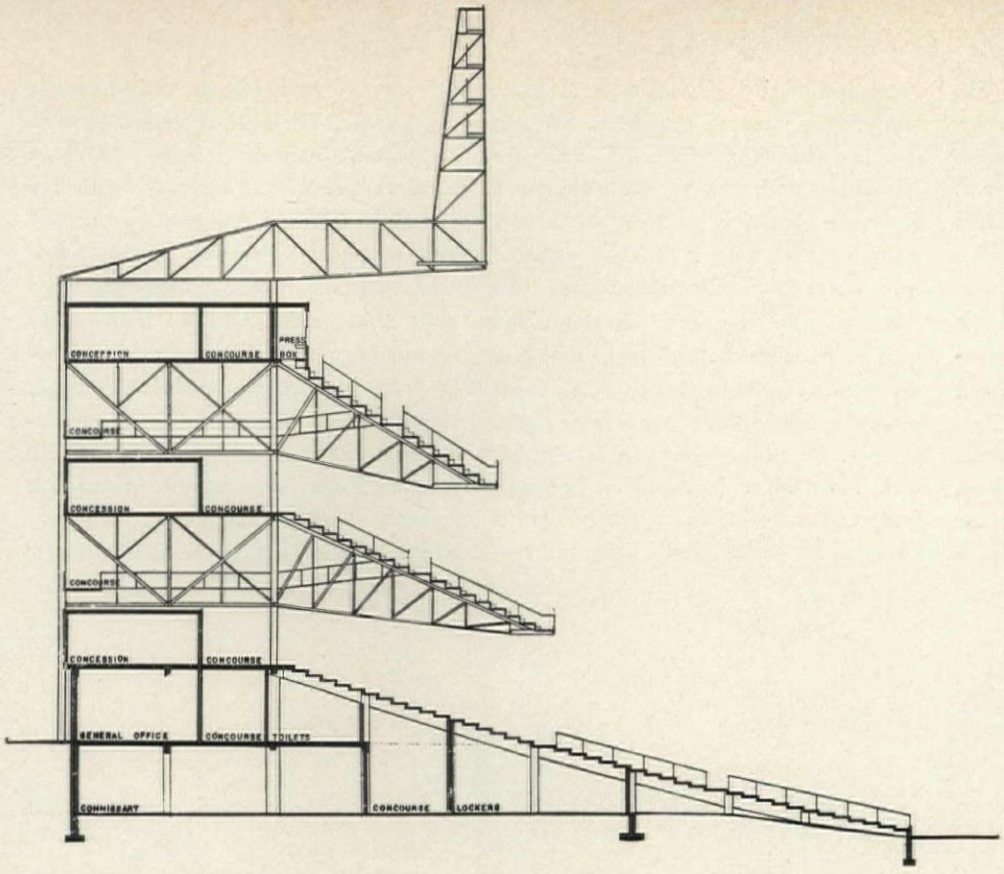
Photos: Dearborn-Massar

sports stadium

location	Bloomington, Minnesota
architects-engineers	Thorshov & Cerny, Inc.
associate-in-charge	Foster W. Dunwiddie

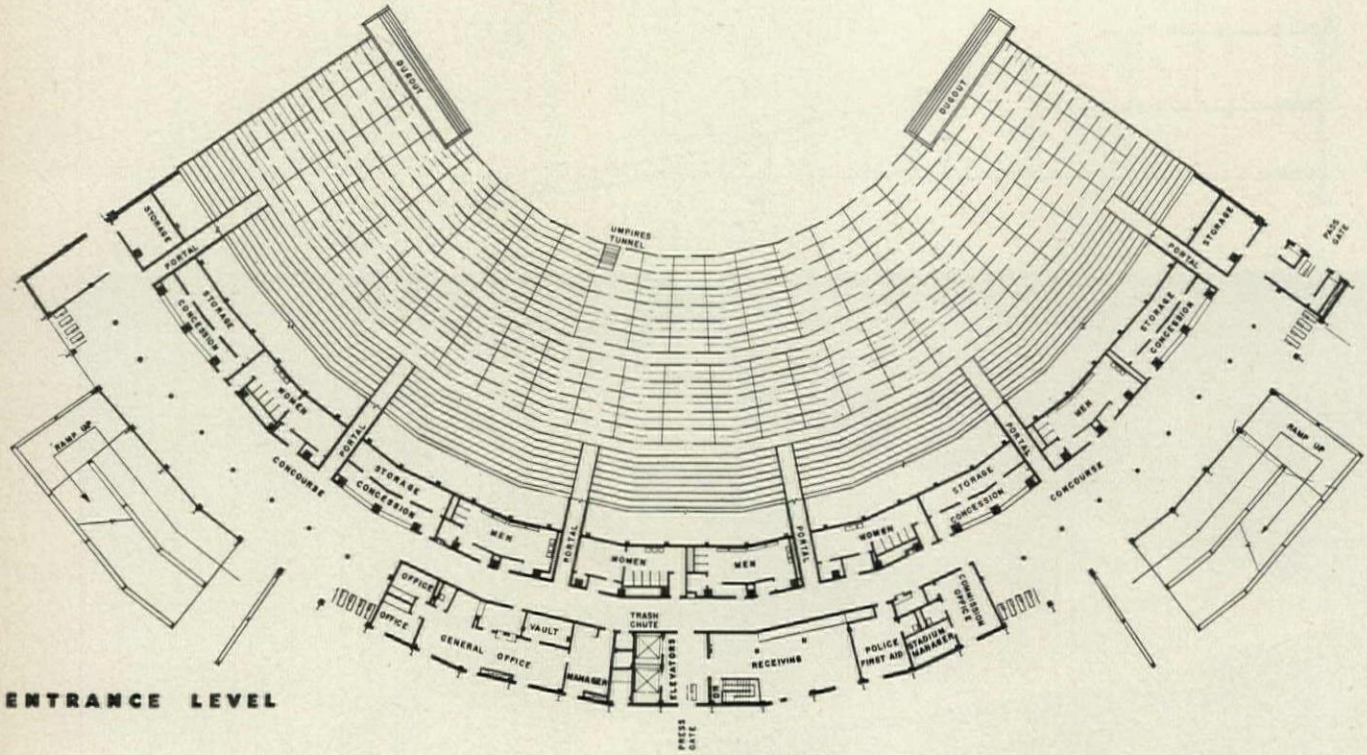
Ultimately this major league stadium is to seat 68,000 spectators. At present, provisions have been made for 15,000 permanent and 6800 bleacher seats; parking spaces for 13,500 cars and 200 buses. Chief aims in the planning of the structure were: provision for easy access from all roads leading into the 161.4-acre area; adaptability of the arena to a variety of functions; unobstructed view of the playing field from all parts of the stand. Since its opening, the stadium has been the setting for such divers attractions as symphony concerts, rodeos, and ice shows, aside from the regular schedule of ball games. Unobstructed view has been achieved through the design of a three-deck structure of which the upper two decks are cantilevered. "The three-deck seating arrangement, instead of the conventional two," explain the architects, "succeeds in providing more easily accessible seats closer to the playing field." Fifty percent of the permanent seats are box seats, the majority within 192 ft of home plate. "The high percentage of box seats," continue the architects, "has more than adequately solved the public demand for desirable accommodation." For ease of access the field is located 16 ft below the ground level. Four major entrances, ample circulation areas, including two broad ramps which interconnect all the levels, facilitate the movement of large crowds. Construction is as follows: foundation walls are of 16″ concrete on rein-



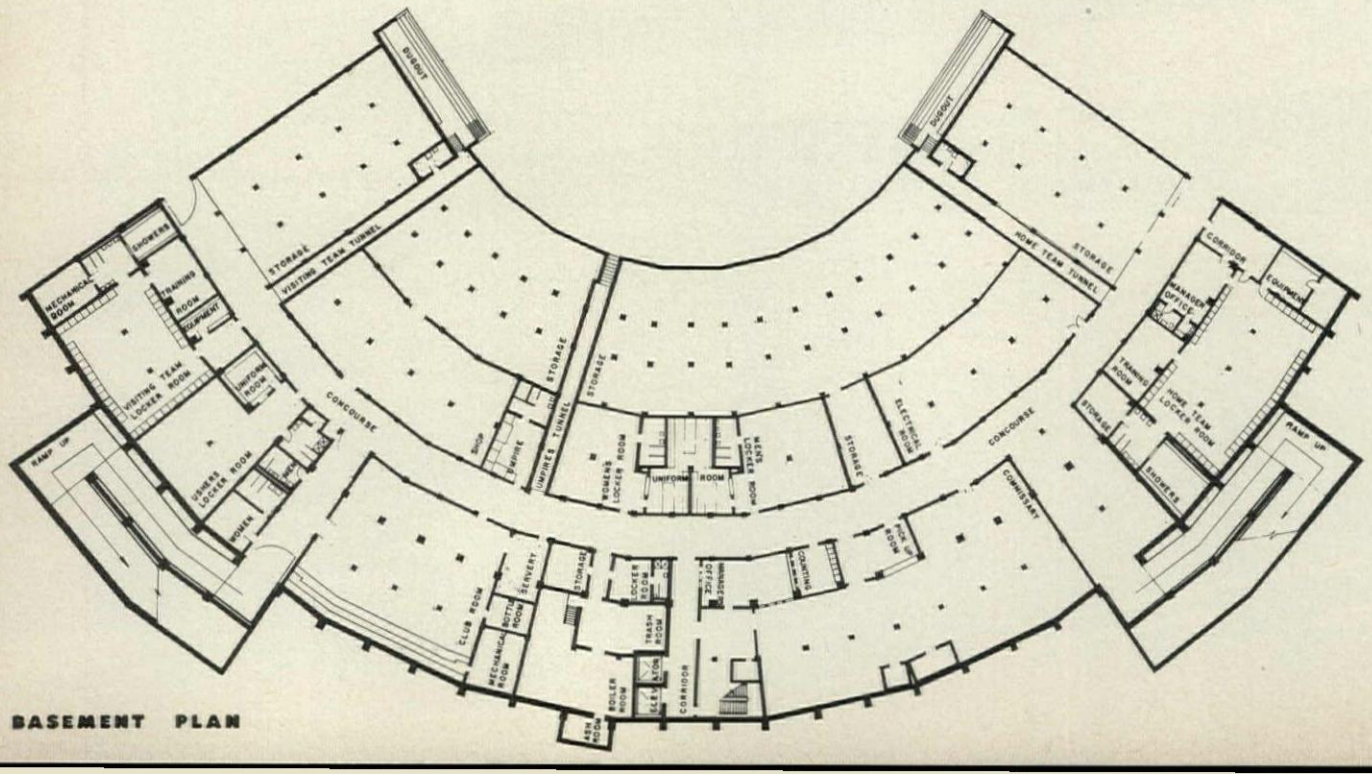


Photos: Warren Reynolds, Infinity Inc.

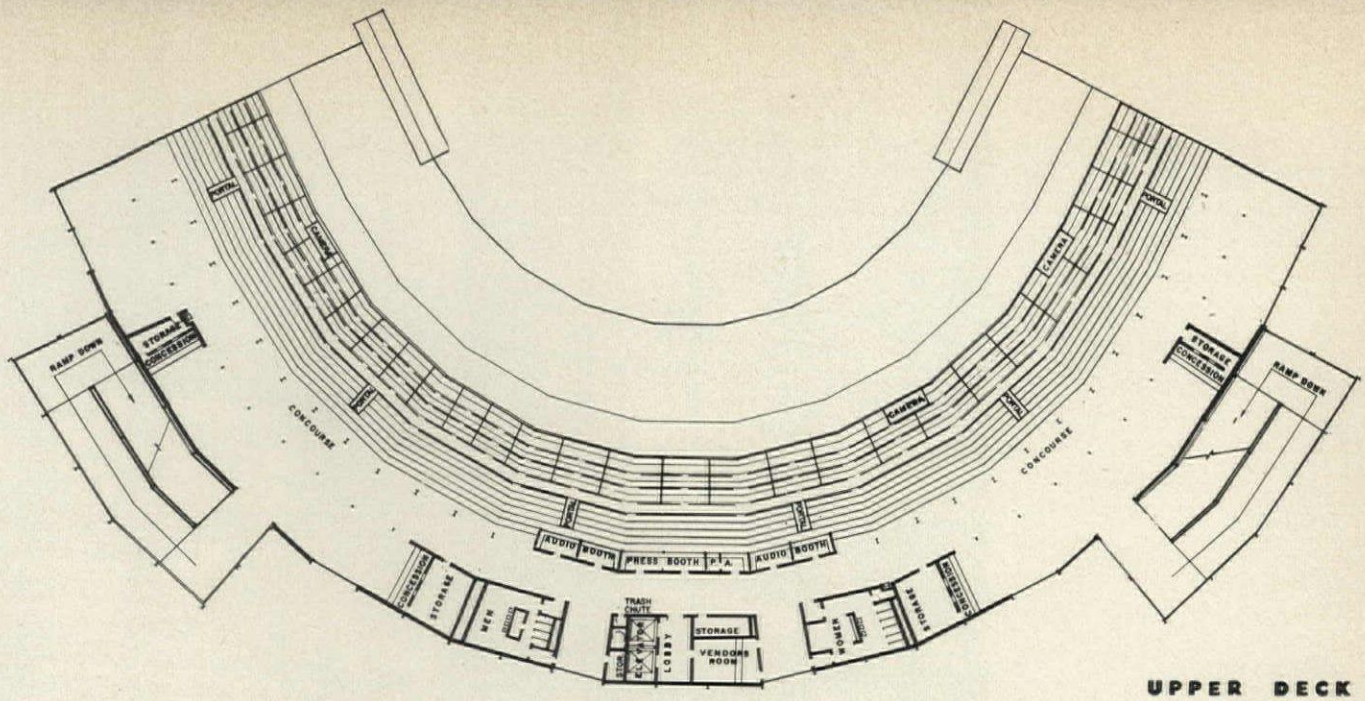
forced-concrete spread footings. The structural frame at the basement, entrance level, and lower deck employs reinforced-concrete beams and columns. Structural steel beams, columns, and trusses were used for the middle and upper decks. Floors are reinforced-concrete slabs ranging from 3″ thickness to 7½″ with the exception of the two upper deck seating areas which are ¼″-steel plate. Floor finishes are concrete treated with floor hardener; asphalt tile in the office areas. Undersides of concrete slabs have been left exposed at basement and entrance levels. Ceiling finishes in stadium club room and offices are acoustic-metal pan; painted roof decking elsewhere. The roof uses steel decking with rigid fiberboard insulation and 4-ply pitch-and-gravel surfacing. Exterior as well as interior walls are of common bricks combined with low-temperature-glazed bricks. All materials were chosen for durability and ease of maintenance and their ability to withstand sub-zero temperatures. Enclosed areas of the building are heated by a two-pipe forced-hot-water system with fin-tube radiation and projection-type unit heaters. Ventilation in enclosed areas is provided by forced air. Lighting in interior areas is incandescent; fluorescent in office areas. The field is lighted by 600-1500 watt luminaires from 138-ft-high tubular steel towers. Lighting—both day and night lighting—has been particularly well manipulated to enliven this handsome structure. Artificial light—primarily spots rather than planes of light—lends transparency and lightness to the structural frame. Sunlight, on the other hand, emphasizes the solid planes of the building and the rich integral color of the masonry. Toltz, King, Duvall, Anderson & Associates were Engineers; Johnson, Drake & Piper, Inc., General Contractor.



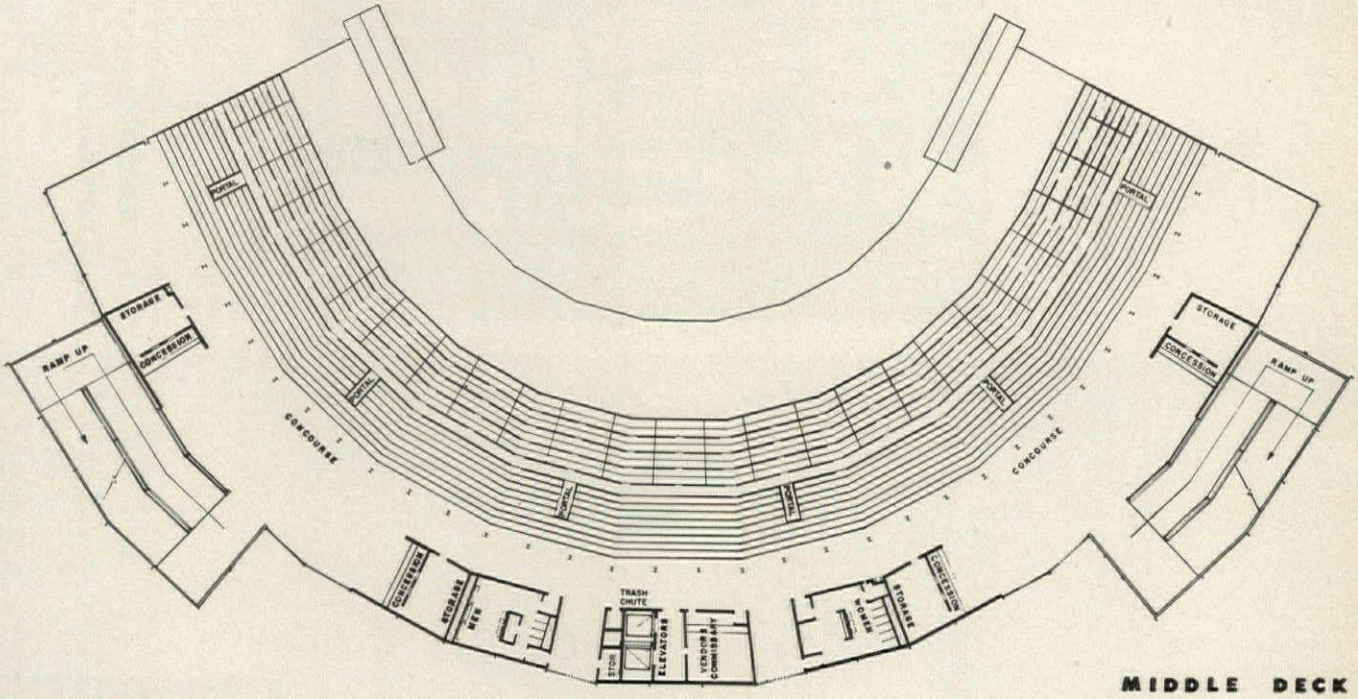
ENTRANCE LEVEL



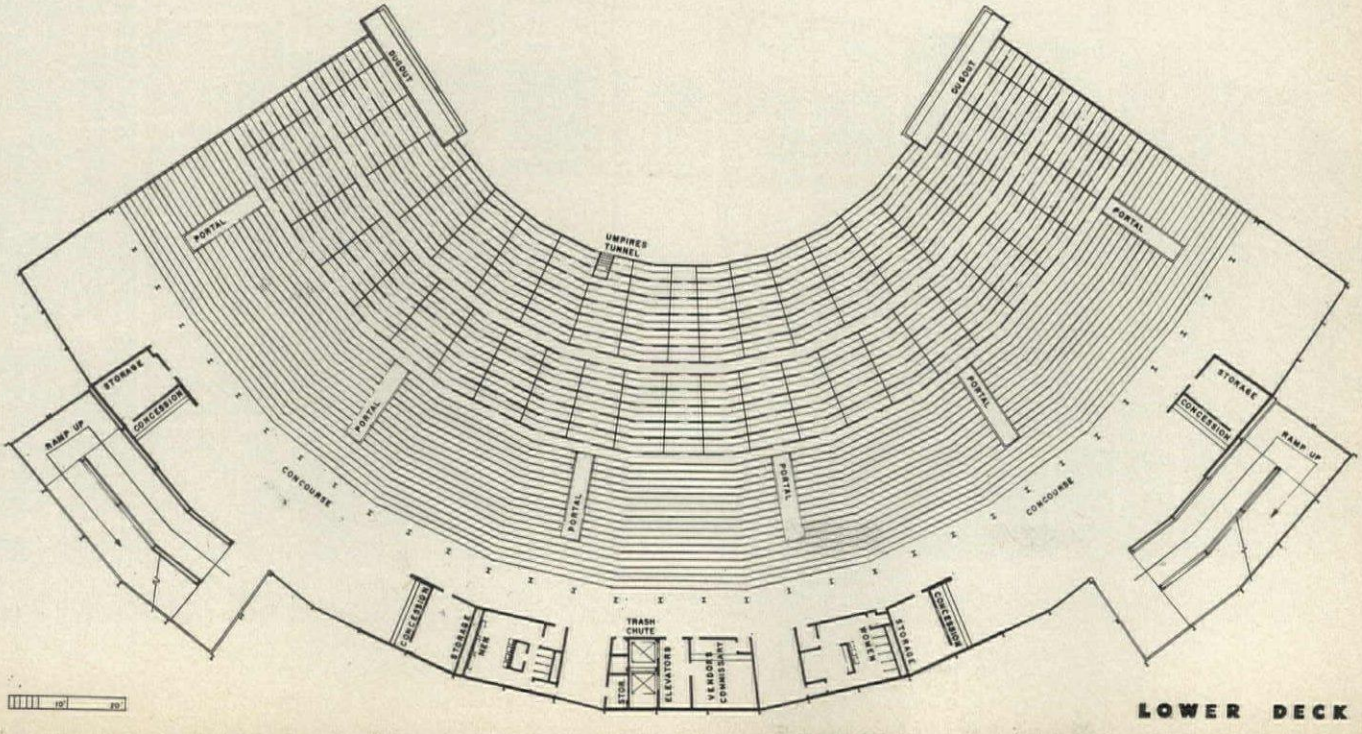
BASEMENT PLAN



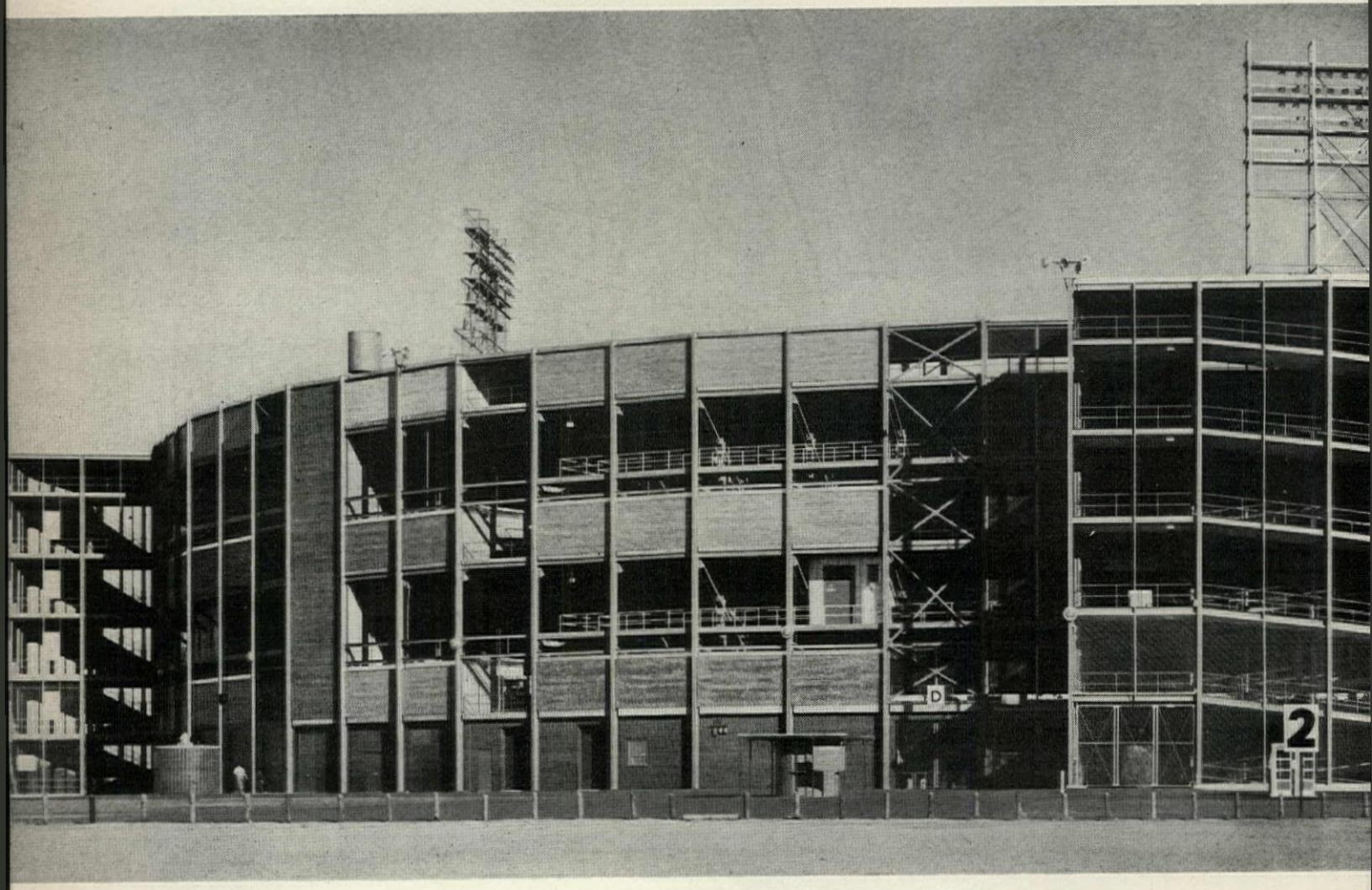
UPPER DECK



MIDDLE DECK



LOWER DECK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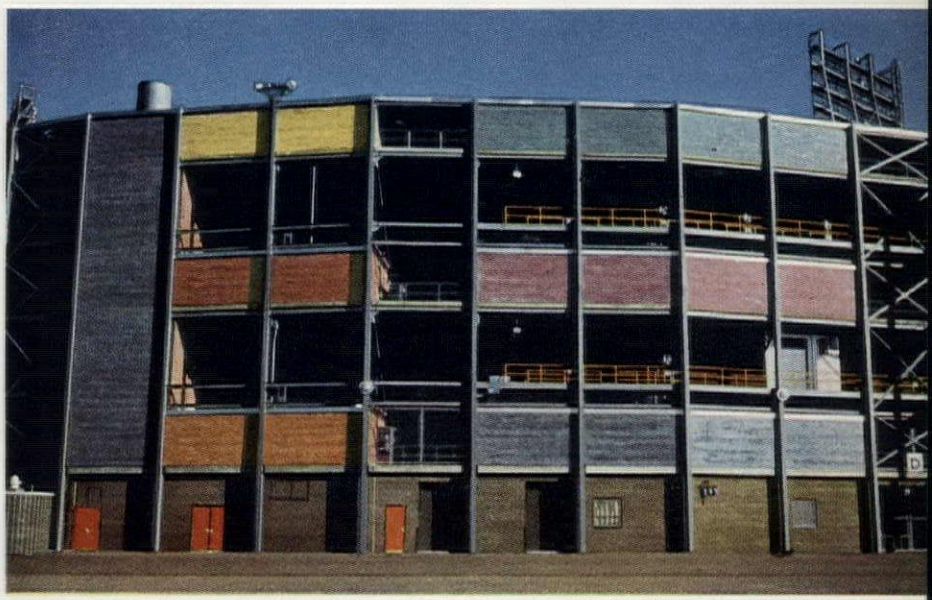
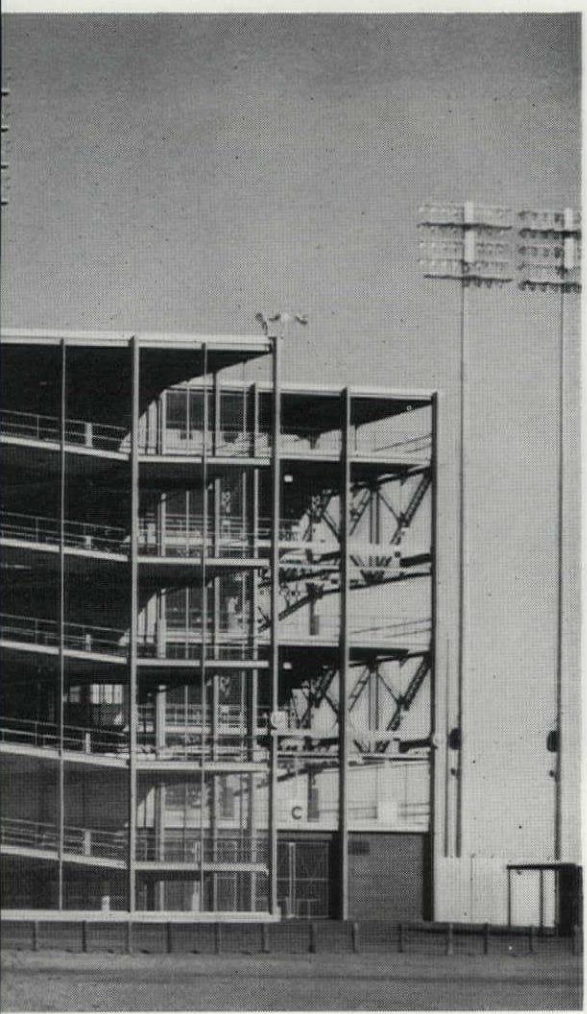
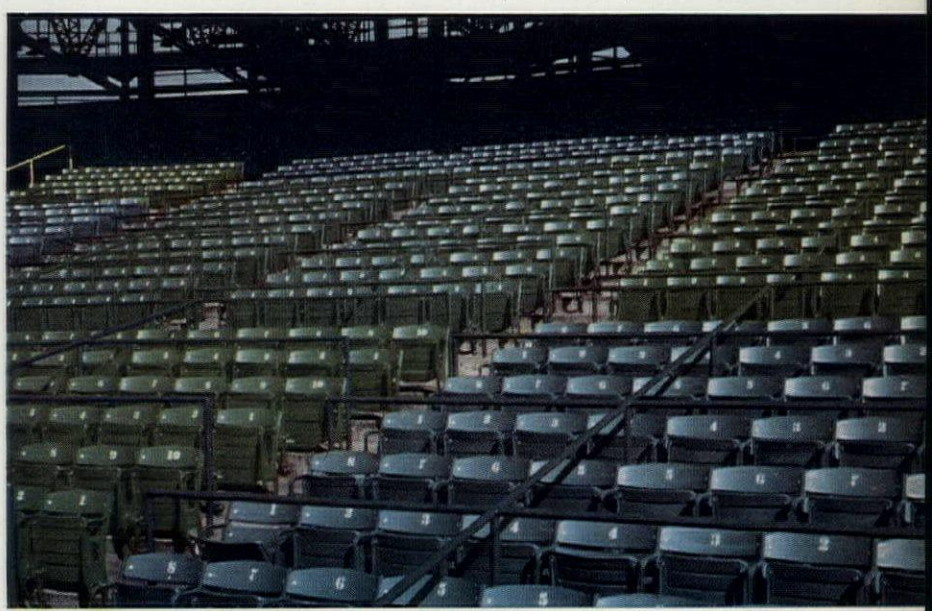
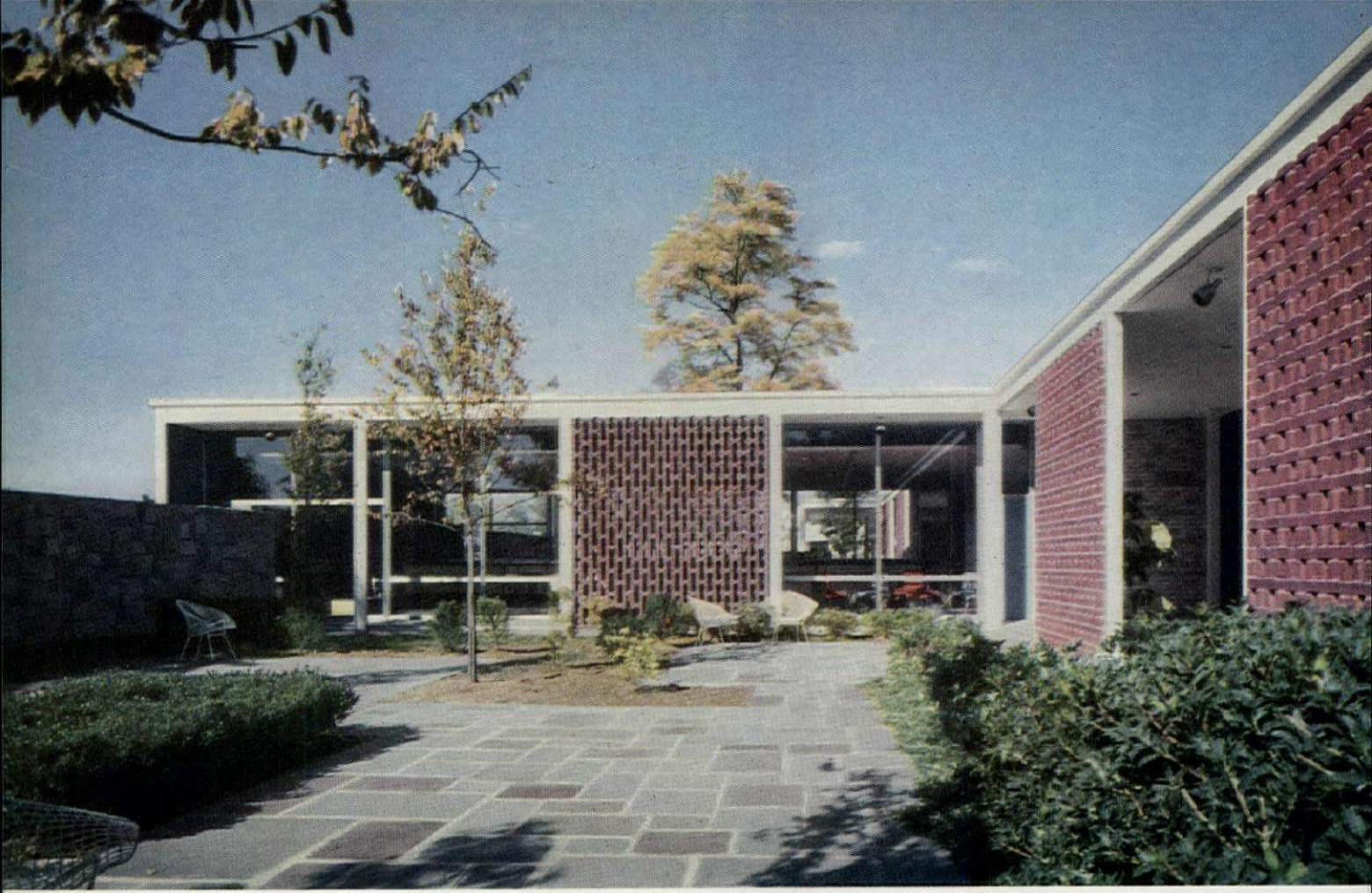


Color has been built into the stadium by means of glazed bricks, in panels of brown, turquoise, red, orange, yellow, light and dark blue on the exterior; gray on the interior. Seats were enameled in blocks of blue, blue-green, and green.





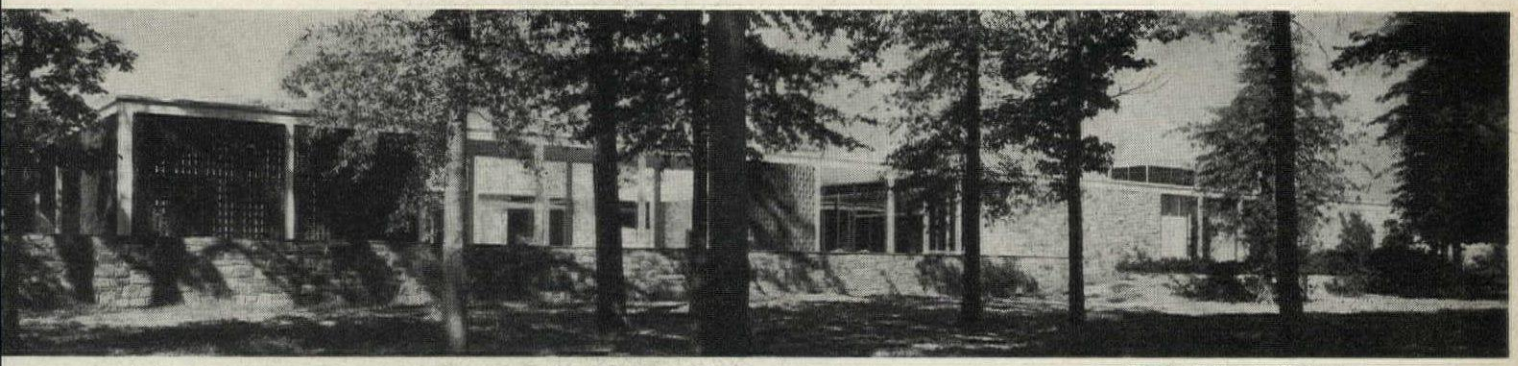


officers' club

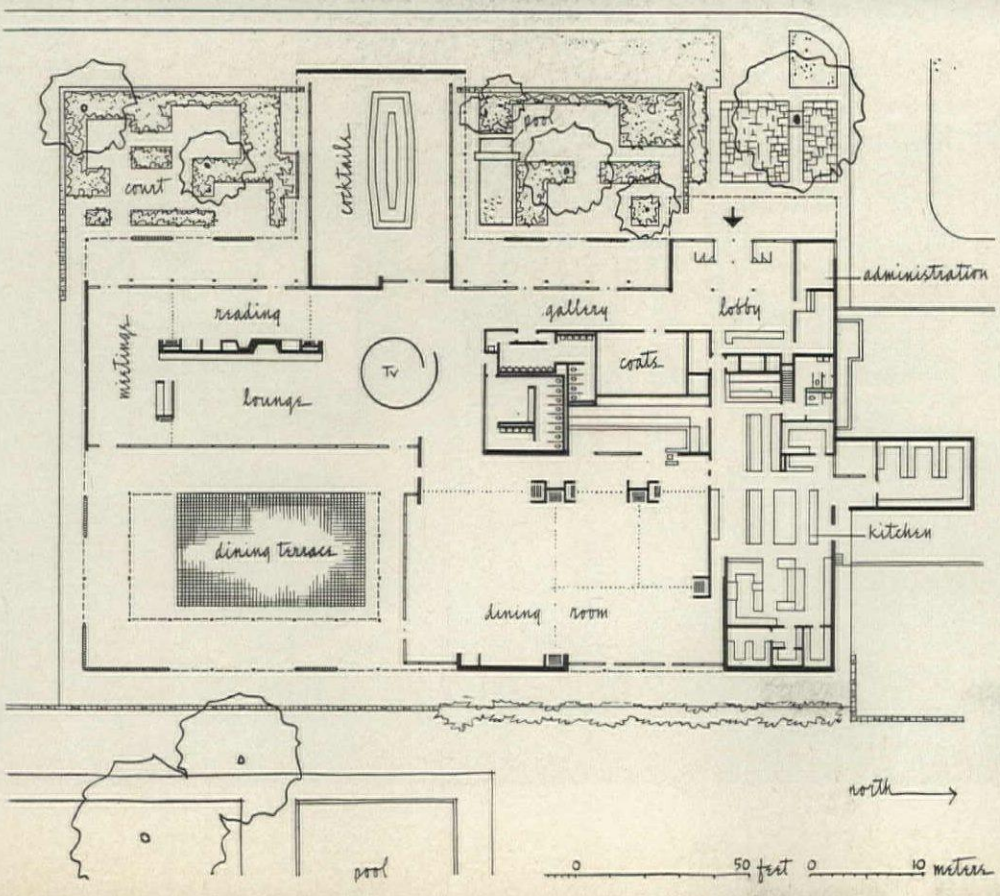
location	Andrews Air Force Base, Washington, D. C.
architects	Charles M. Goodman Associates
associates	Robert Calhoun Smith, Eason Cross, Charles F. Dettor
structural engineer, associate	Milton A. Gurewitz
landscape architects	Dan Kiley and Eric Paepcke
furnishings	Knoll Planning Unit, Knoll Associates

he architectural aspect of most military ases is monotonous, severe, and generally nprepossessing. As Architect Charles oodman puts it: "They are not very retty things. The agglomeration of build- g shapes, groupings, and exterior spaces re as intrepidly chaotic as they are in e urban world around us; only duller nd more temporary looking." All the ore refreshing, therefore, to find this andsome, colorful piece of architecture, club for officers and their families, at ndrews Air Force Base. In addition to e obvious need to provide the desired paces and interrelationships, an important esign factor was to create an oasis that would both delimit the club proper and provide a place of serenity, apart from the confusion of workaday air-base activities. This has been skillfully solved by development of garden-court extensions of all major rooms, with these, in turn, variously defined by solid walls of stone, pierced walls of brick, or covered terraces.

The level site falls off to the rear and is wooded, providing a parklike atmosphere where bathhouse and swimming pool (*see introductory page*) have been built. In the planning, the widest imaginable sort of activities had to be accommodated—from the needs of an individual who might wish to sit quietly and read to those required for a major function in which all families at the base participate. Hence, as Goodman explains, "this pretty much focused design emphasis on convertibility—convertibility that could be accomplished swiftly and smoothly." The answer here was incorporation of motor operated folding walls that allow quick space conversion. This criterion, however, brought a new set of problems, and "put great emphasis on design of the ceiling system in which the lighting arrangement became a particularly sensitive element . . . because proper lighting for each converted, compartmented space unit had to be co-ordinated into an entire lighting



Photos: Robert C. Lautman



assembly which appeared orderly when none of the folding walls was in use." This also affected the air-conditioning and heating elements, public-address system, fire-detection system, and acoustic requirements.

The ceiling assembly is bounded by a grid of aluminum extrusions, designed (1) to control cracking of the acoustical plaster and facilitate its maintenance and replacement in sections; (2) to provide air-diffusing outlets for the conditioning system inconspicuously; (3) to embrace tracks for the folding walls; and (4) give unity to the aggregation of lights, public-address units, detection units, etc. The grid of lights—recessed parabolic reflectors spaced 4 ft on centers—is circuited to provide great variety of lighting arrangements, both spatially and in intensity.

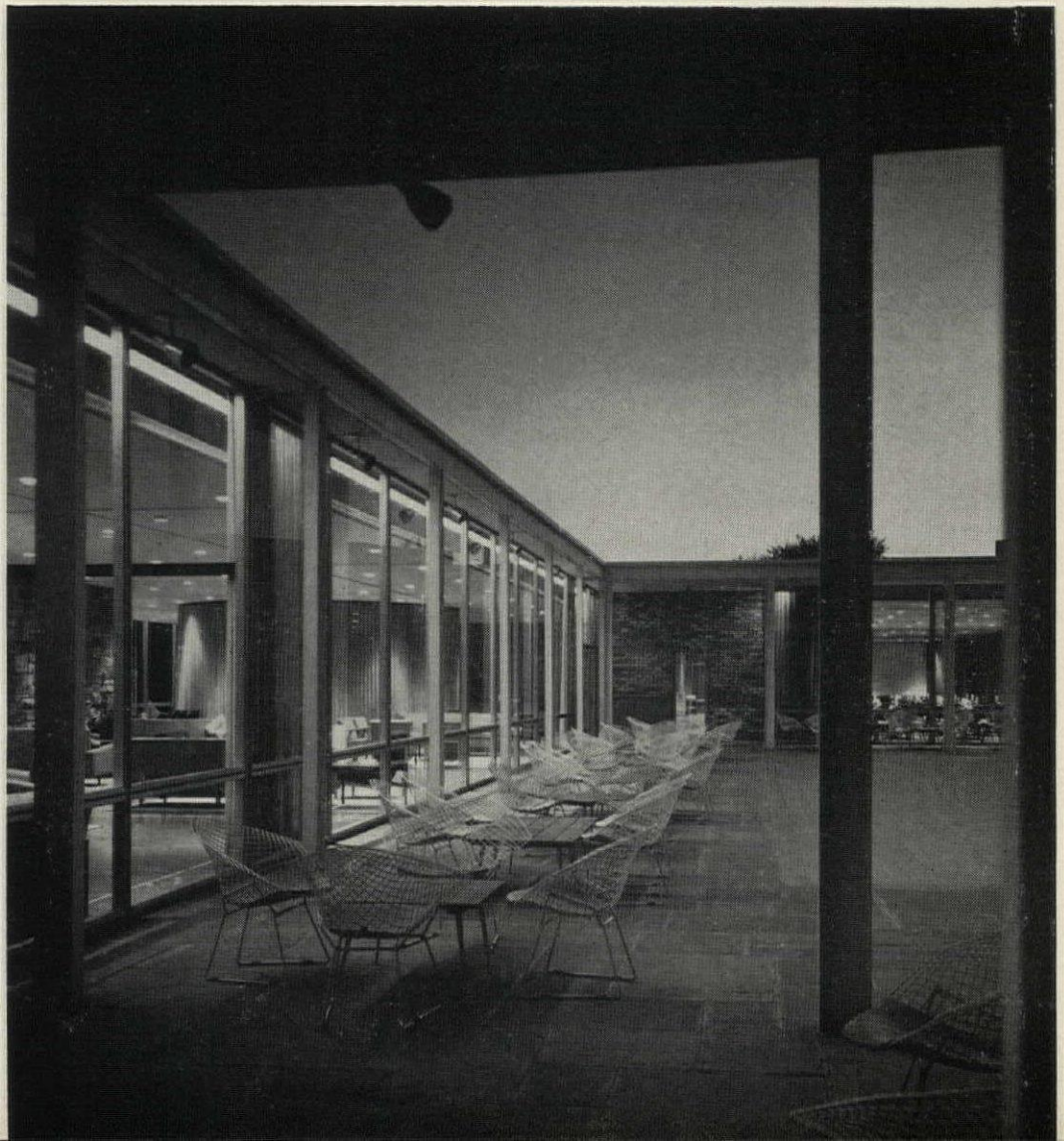
One determinant in selecting the structural system for the club was the requirement that major spaces be interrupted by as few columns as possible. Analysis of space requirements indicated that the maximum width of any space needed clear of columns was 50 ft. Cost analysis promoted the use of long-span bar joists on 4-ft centers supported on perimeter beams carried on exterior columns spaced 12 ft apart. This system is combined with purlins between joists that support insulated formboard and a gypsum roof deck. A contributing factor was the wish to carry ducts for the medium-pressure, air-handling system through the roof construction rather than under it, and a 24-in depth for the joists was determined as the maximum space needed to accommodate distribution of the mechanical services. The structural frame is welded throughout.

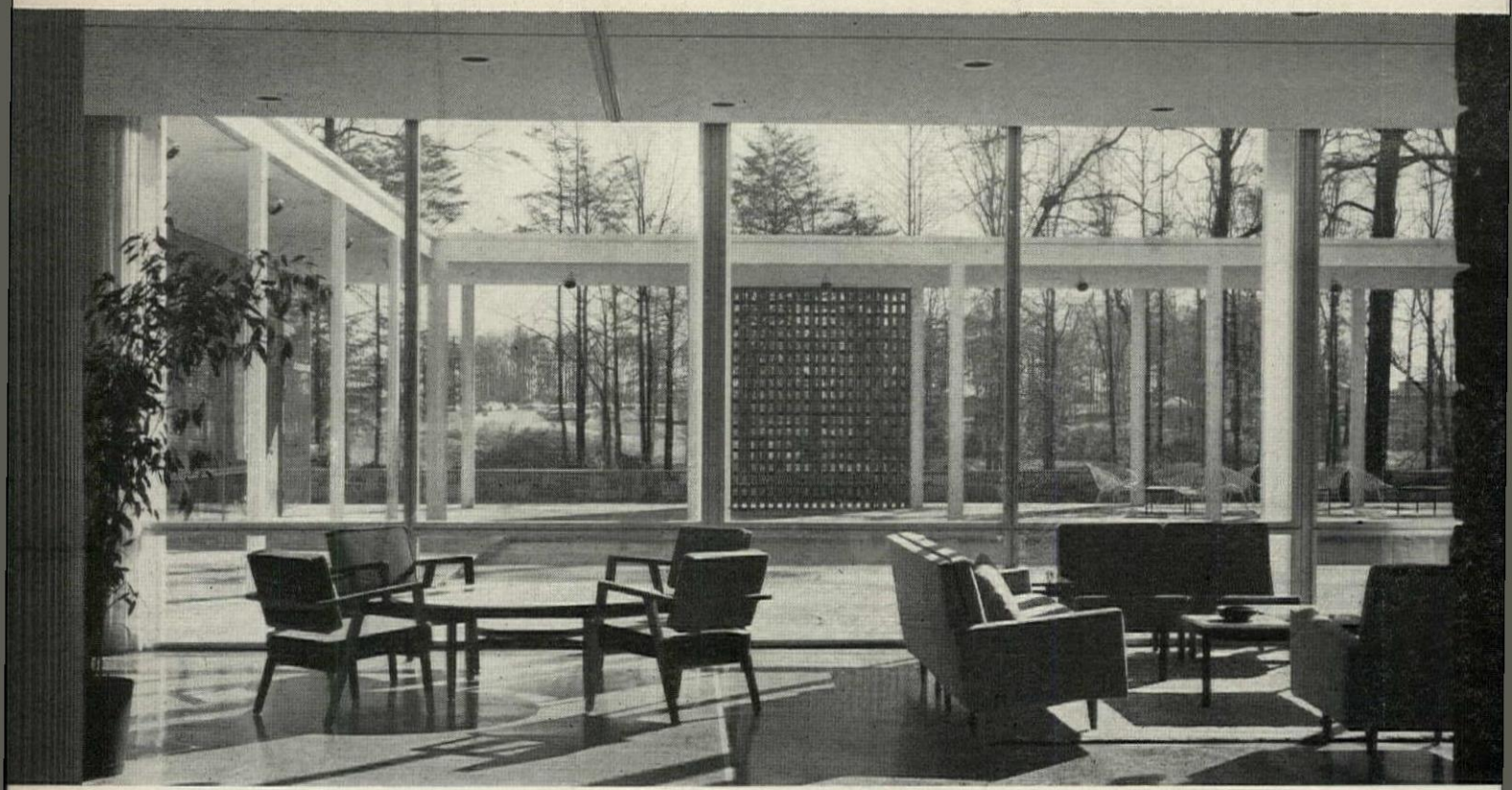
Conditioned air is carried by medium-pressure ducts through joist space to velocity reduction boxes, also located in space between joists. These have acoustical lining and motorized dampers that operate in response to space thermostats.

Adjoining the cocktail lounge is a landscaped garden court (acrosspage).

A covered dining terrace (above) *joins main dining room and meeting room/ lounge wing (background).*

The terrace is open outside the window wall of the lounge (right).





The air then passes through low-velocity ducts and is introduced into public spaces through special strip diffusers, designed to co-ordinate with the aluminum ceiling extrusions. A band of radiant heat was installed in the floor, around the perimeter, to compensate for the cooling effect of floor-to-ceiling glass. Balance of heat is supplied by the air system, with the air-handling unit arranged to provide 100 percent outside air for ventilation when desired.

Summing up his goal in creating this club building, Goodman comments: "We envisioned an aromatic segment of space cut out of the sea of drabness and architectural confusion which constitutes the American military base of our time. . . . Aside from the requirements that the building be fire resistant and that materials used require minimum maintenance, we chose our materials for their effect on the human senses of sight and touch."

Mechanical Engineers were General Engineering Associates (Robert R. Jones, Air Conditioning; Morris Shapiro, Mechanical; Claude Engle, Electrical); Kitchen Equipment Layout, Clyde Hagerty; General Contractor, Eisen-Magers Construction Co.

The club lounge (below *and* acrosspage top) *looks across a paved court and covered dining terrace to wooded slopes beyond.*

A pool and fountain (right *and* acrosspage bottom) *border the cocktail lounge.*

At the far end of the main lounge (above) *is the spiral-planned TV room.*

A reading room (right) *occurs on the opposite face of the fireplace wall.*

The orderly ceiling system is clearly apparent in both these pictures and in the view along the entrance gallery (acrosspage). *See* SELECTED DETAILS *of entrance porch and reception desk.*

Materials and Methods

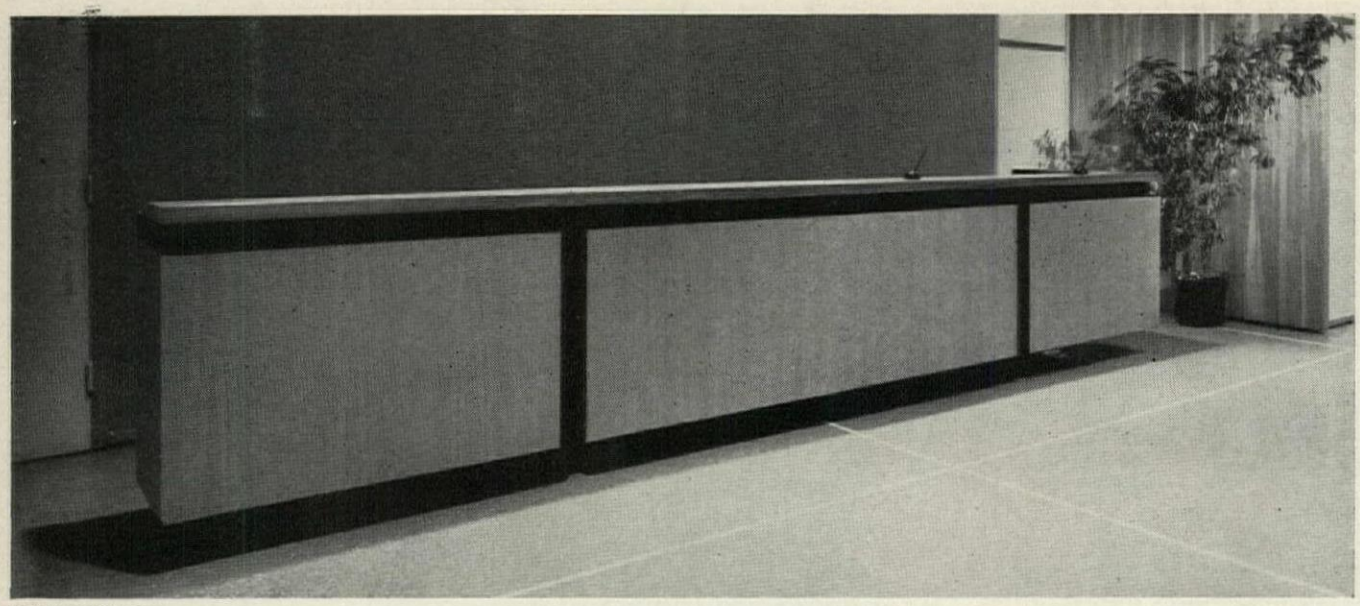
construction

Foundation: concrete: portland cement; cinder block—North American Cement Corporation, National Brick Company. **Structure:** frame: steel—Jones & Laughlin Steel Corporation, United States Steel Corporation, Bethlehem Steel Company; walls: antique green and special shade handmade over-size colonial brick; floors: slab on grade; roof: mineral fiber form board, reinforced gypsum concrete—United States Gypsum Company. **Wall Surfacing:** outside: random rubble stone, brick; inside: wood —Chester B. Stem, Incorporated, Cherry River Boom & Manufacturing Company; plaster—National Gypsum Company; ceramic tile—Cambridge Tile Manufacturing Company; plastic laminate—Formica Corporation; rest rooms, toilets: vitreous mosaic; mosaic tile—Mosaic Tile Company. **Floor Surfacing:** treatment: vinyl tile—American Biltrite Rubber Company; ceramic tile—Mosaic Tile Company; floor brick —Hanley Company, Incorporated; Philadelphia Bluestone, random rectangular. **Ceiling Surfacing:** treatment: perlite acoustical plaster—National Gypsum Company; aluminum extrusions —Aluminum Company of America. **Roof Surfacing:** system or type: built-up coal tar—Koppers Company, Incorporated; dolomite surfacing—Harry T. Campbell Sons Corporation. **Waterproofing & Dampproofing:** asphalt paint —L. Sonneborn Sons, Incorporated. **Insulation:** thermal: glass fiber, rigid and pouring type—Owens-Corning Fiberglas Corporation. **Roof Drains:** drains—Zurn Industries, Incorporated. **Partitions:** interior: cinder block—National Brick Company; toilet: metal—Sanymetal Products Company. **Windows:** glass, polished plate —Libbey-Owens-Ford Glass Company; store fronts: aluminum extrusions—Aluminum Company of America. **Doors:** interior: motor-operated folding doors—Richards-Wilcox Manufacturing Company; flush solid-wood core—Roddis Plywood Corporation; kalamein and stainless steel. **Hardware:** lock sets: lever handles—Detroit Hardware Manufacturing Company; dull chrome door knobs—Schlage Lock Company; door closers: electrical door controls—The Stanley Works; floor checks—The Oscar C. Rixson Company; concealed closers—LCN Closers, Incorporated; exposed closers—Yale & Towne Manufacturing Company; dull chrome hinges—McKinney Manufacturing Company; panic exit —Vonnegut Hardware Company, Von Duprin Division. **Paint & Stain:** outside—Rustoleum Corporation, National Lead Company; inside—Marietta Paint & Color Company, Benjamin Moore & Company.

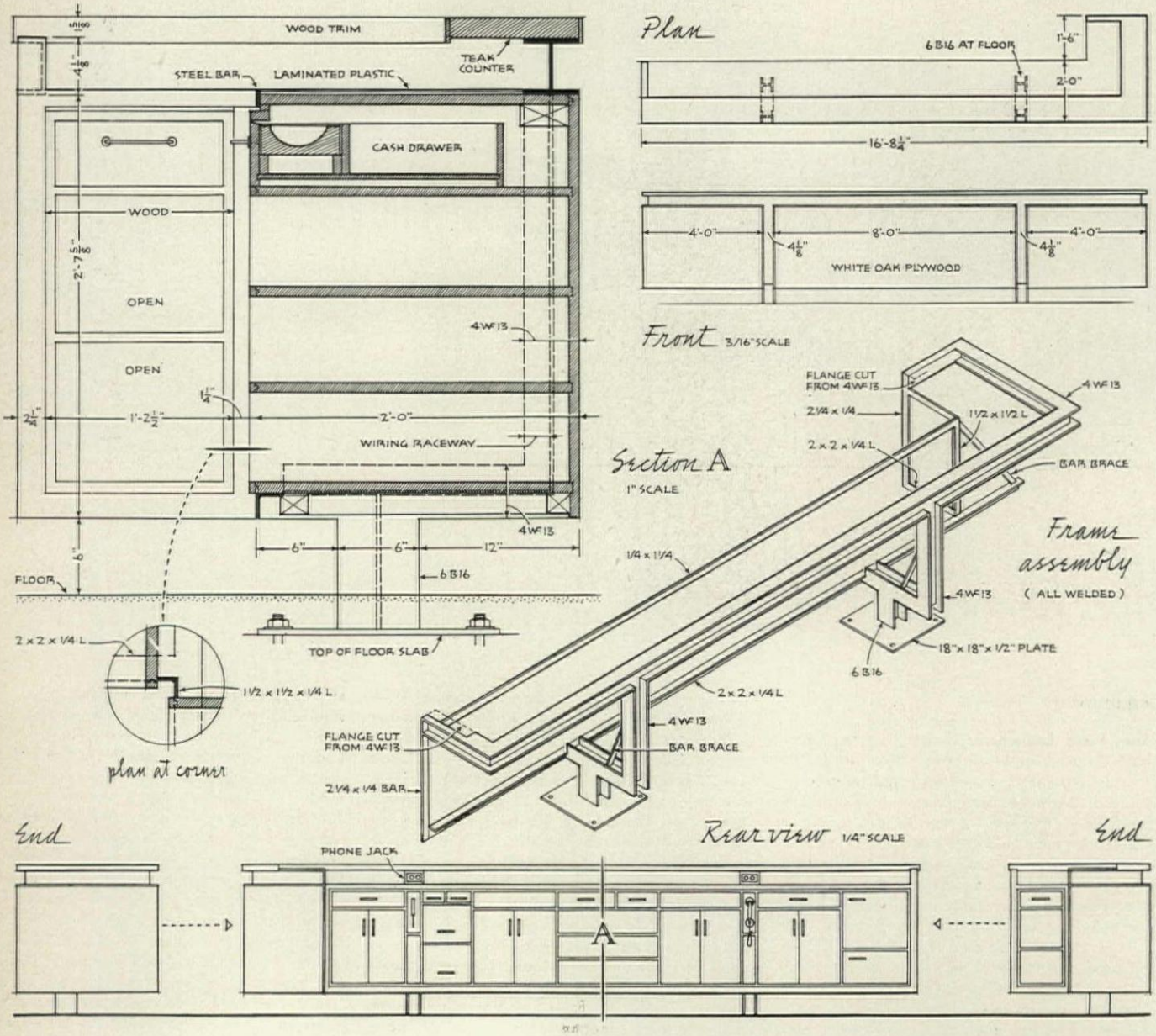
equipment

Specialized Equipment: kitchen: electric range, fryer, broiler, baker, roaster—Associated Products Incorporated; pedestal model deep kettle—Groen Manufacturing Company; dishwashing machine—Universal Dishwashing Machinery Company; public address system—Dukane Corporation; special: coolers—Larkin Coils, Incorporated; fire detection system—American District Telegraph Company; bar—General Equipment Sales Company. **Lighting Fixtures:** interior: continuous recessed incandescent troffer; recessed downlight—Century Lighting, Incorporated; exterior: reflector lamp unit—Century Lighting, Incorporated; kitchen: fluorescent—Sylvania Electric Products, Incorporated. **Electrical Distribution:** service entrance switch, panelboards, multibreaker—Penn Electrical Company; wire and conduit—Anaconda Wire & Cable Company, Walker Brothers Company; wiring devices—Harvey Hubbell, Incorporated, Bryant Electric Company, Hubbard & Company, General Electric Company, National Electric Products Corporation, Pass & Seymour, Incorporated. **Plumbing & Sanitary:** water closets, lavatories—American Radiator & Standard Sanitary Corporation; toilet seat—C. F. Church Manufacturing Company; water heater: heat exchanger—Old Dominion Iron & Steel Corporation; flush valves—Sloan Valve Company; accessories: paper dispensers—Brown Company; soap dispensers—Bobrick Soap Dispenser Company; pipe—Universal Sewer Pipe Corporation, Revere Copper & Brass, Incorporated; water supply system. **Heating:** type: warm air, floor radiant panel; boiler or furnace: steam coil in main air-handling unit; fuel: central station steam; piping or ducts: radiant pipe, black steel—United States Steel Corporation; unit heaters: kitchen and storage—National-U. S. Radiator Corporation, Marlo Coil Company; ventilators—Penn Ventilator Company, Jenn-Air Products Company, Incorporated; controls—Johnson Service Company. **Air Conditioning:** type of unit: horizontal medium pressure air-handling unit with evaporative condenser—Marlo Coil Company; refrigerant: Freon-E. I. duPont de Nemours & Company, Incorporated; reciprocating compressor—Worthington Corporation; grills or diffusers—Tuttle & Bailey, Incorporated, Barber-Colman Company; strip line diffusers—Air Devices, Incorporated; filters—Owens-Corning Fiberglas Corporation; cooling coils—Marlo Coil Company; controls—Johnson Service Company; high velocity boxes—Anemostat Corporation of America.

reception desk



ROBERT C. LAUTMAN



OFFICERS' CLUB, Andrews Air Force Base, Washington, D.C.
Charles M. Goodman Associates, Architects

entrance porch

ROBERT C. LAUTMAN

OFFICERS' CLUB, Andrews Air Force Base, Washington, D.C.
Charles M. Goodman Associates, Architects

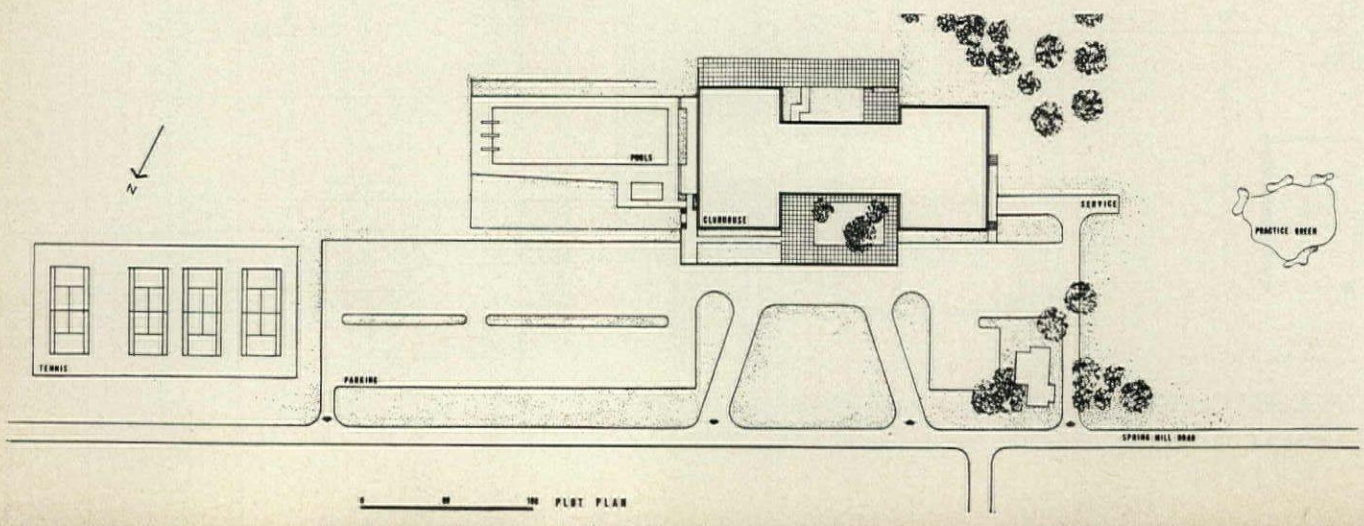
country club

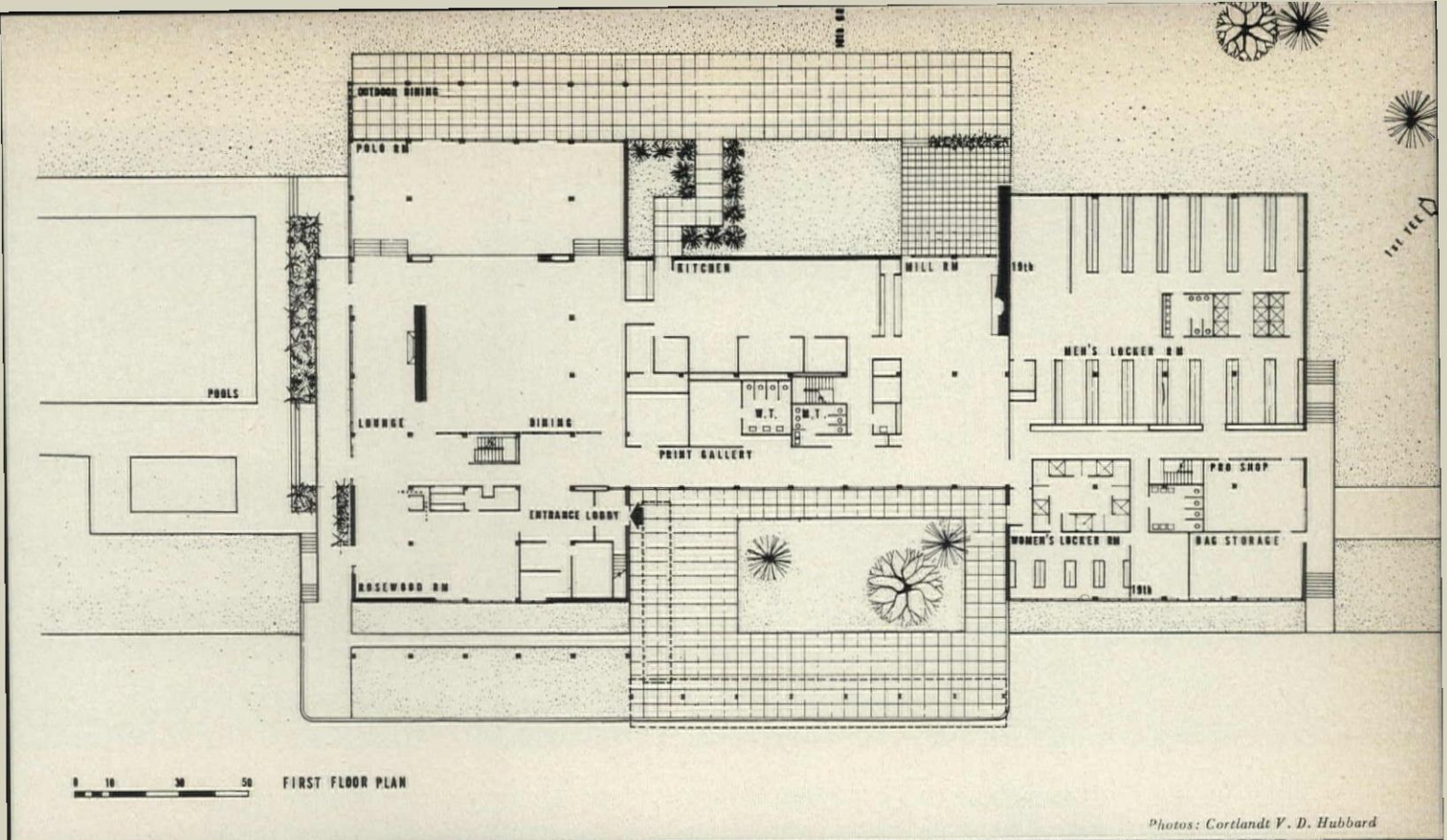
location	Gladwyne, Pennsylvania
architects	Nolen & Swinburne
associates	John H. Welsh, Chard F. Webb, Victor H. Kusch
landscape architect	George Patton
interior decorators	Wm. Pahlmann Associates

Perhaps the chief planning problem in design of Philadelphia Country Club was to organize spaces so that the major categories of activity—social gatherings, swimming, tennis, and golf—could proceed simultaneously, without interfering with each other. The solution consists of central placement of the kitchen on the first floor, with social rooms at the east end of this level and the golf locker rooms and pro shop at the west end. On the ground floor, at the east end of the club, immediately adjoining wading and swimming pools, are locker rooms for swimmers and tennis players and a large room, chiefly for teenagers, equipped with snack bar, television, and shuffleboard courts. Also at this level are kitchen storage, a game room, and service rooms. A partial second floor, above the entrance lobby and Rosewood Room area of the social wing, contains club offices and seven rooms and baths used either for guests or private parties.

The structural system consists of a reinforced-concrete frame for the ground floor and light structural-steel frame, bar joists, and metal deck for the upper enclosure. Walls are native stone or brick; operating sash are aluminum, while some interior spaces are lighted by plastic-dome skylights. The entire clubhouse is year-round air conditioned.

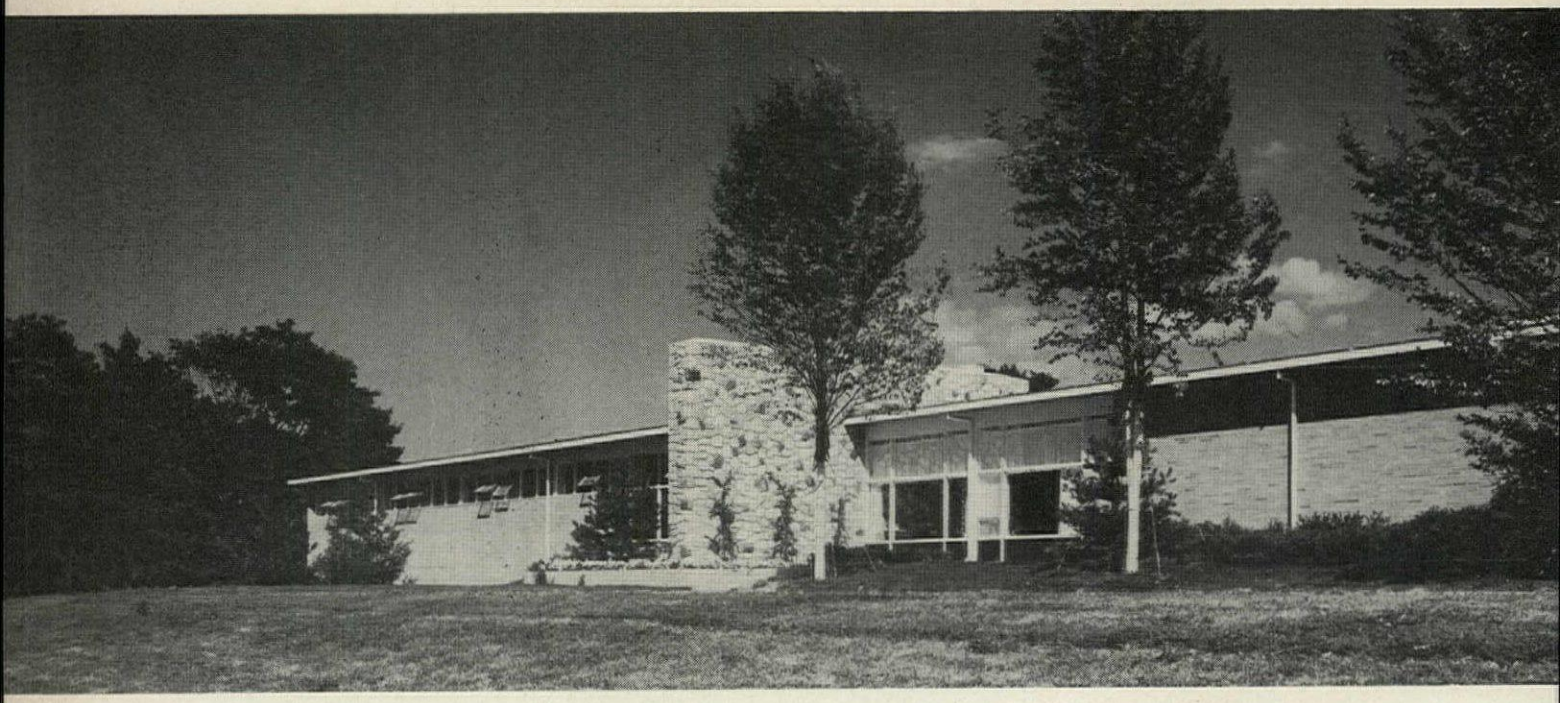
Keast & Hood were Structural Consultants; A. Ernest D'Ambly, Mechanical-Electrical Consultant; and Nason & Cullen, General Contractor.





FIRST FLOOR PLAN

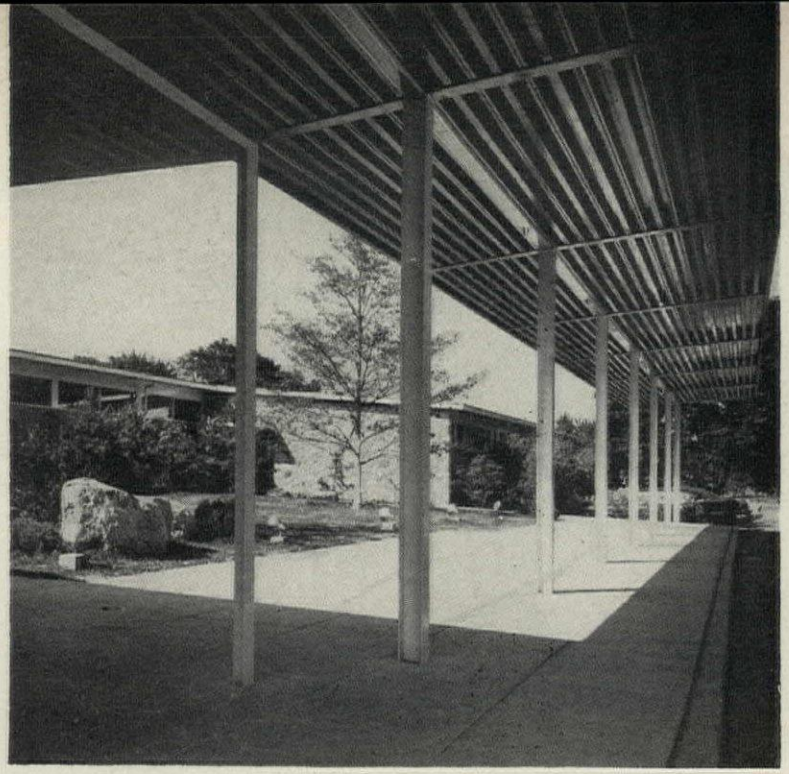
Photos: Cortlandt V. D. Hubbard



On the south side (acrosspage), *a bold masonry pylon, an extension of a fireplace chimney, marks division between men's golf locker room (left) and social rooms.*

The lounge (acrosspage bottom) *overlooks the swimming pool and, at the far end, leads down four steps to a function room that can accommodate 450 or (by use of flexible partitions) several smaller affairs.*

Walks bordering the courtlike entrance to the club (right *and* below) *are protected by canopies made of corrugated-steel decking.*

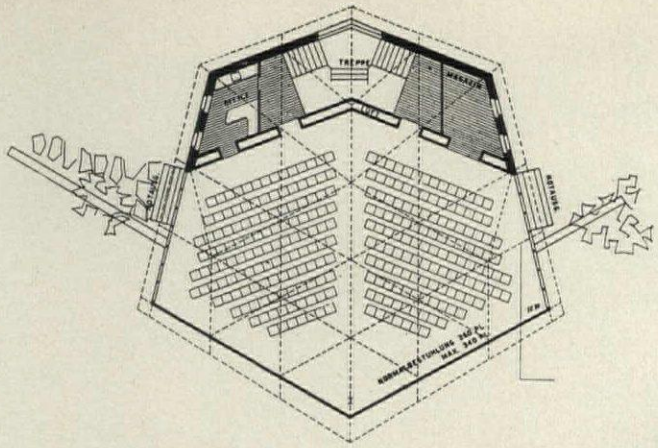


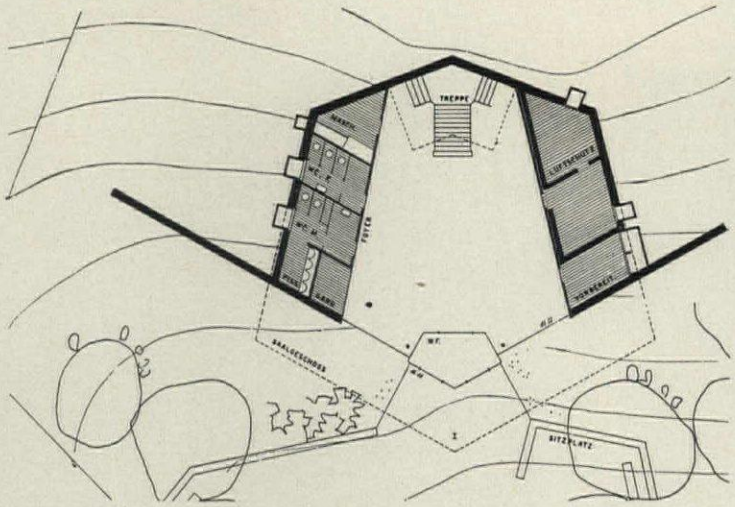
Max Hellstern

community hall

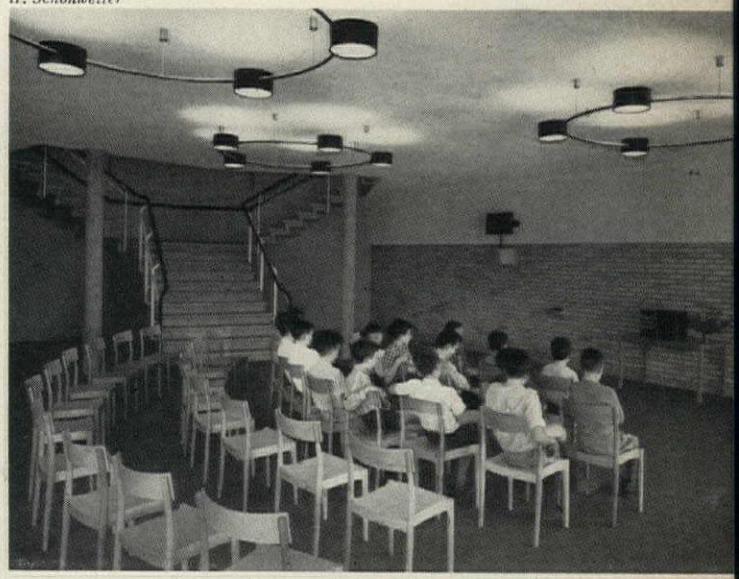
location | Niederurnen, Switzerland
architects | Hans Leuzinger and Hans Howald

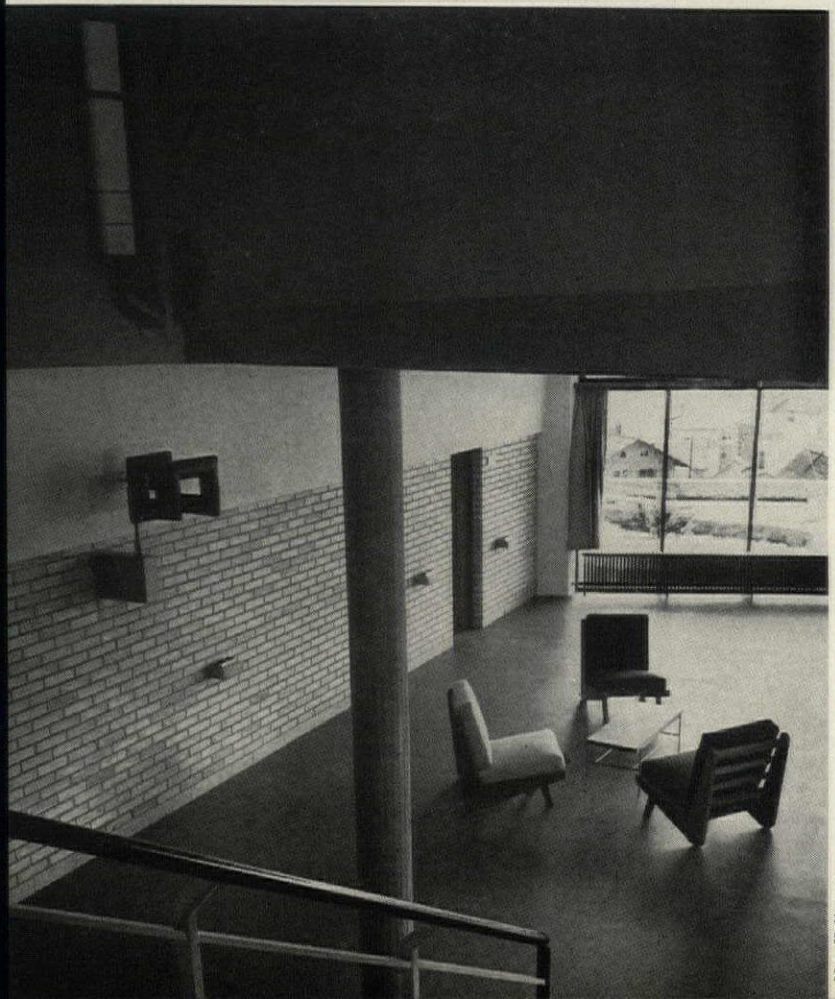
Intended primarily for town meetings and cultural activities, this building has also been placed at the disposal of students from the adjoining school who use the large foyer at ground level *(acrosspage)* for school festivities and music instruction. The property is on the side of a fairly steep incline and is reached by a series of stairs terminating on a terrace. The terrace level is continued to the interior to form a large entrance hall. This foyer provides access to rest rooms, coat storage, mechanical equipment room, and to a stair which leads to the main hall on the floor above. By means of movable chairs and a demountable stage this hexagonal room can be arranged in numerous ways. Acoustically the hall has proved excellent. The nonparallel interior surfaces, the exposed roof construction serve to diffuse sound, while wood walls and ceiling provide the absorptive surfaces. The structure is heated by warm air brought into the building from the adjoining school. Construction at grade level is of reinforced concrete faced with stone. The prow of the upper level is enclosed with insulating panels. Structural members framing and supporting the roof—such as the freestanding, slightly inclined steel column at the front of the building, the space truss of tubular members designed to stiffen roof members, and beam at ridge of saddle-shaped roof—have all been used as prominent design elements. Dr. Gustav Kruck was Engineer.



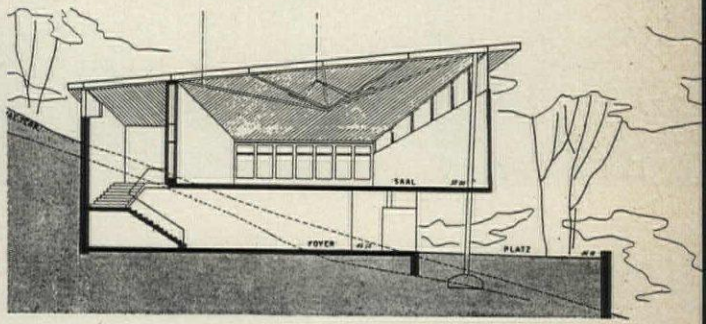


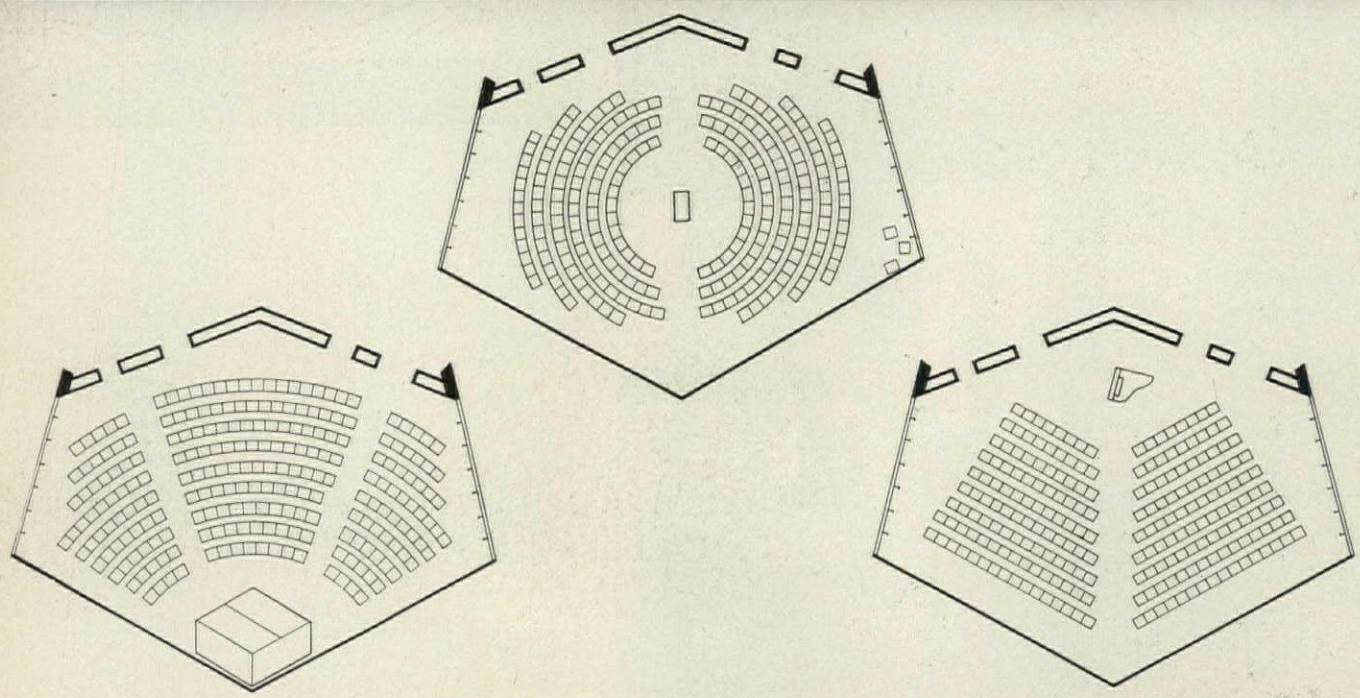
H. Schonwetter





Max Hellstern



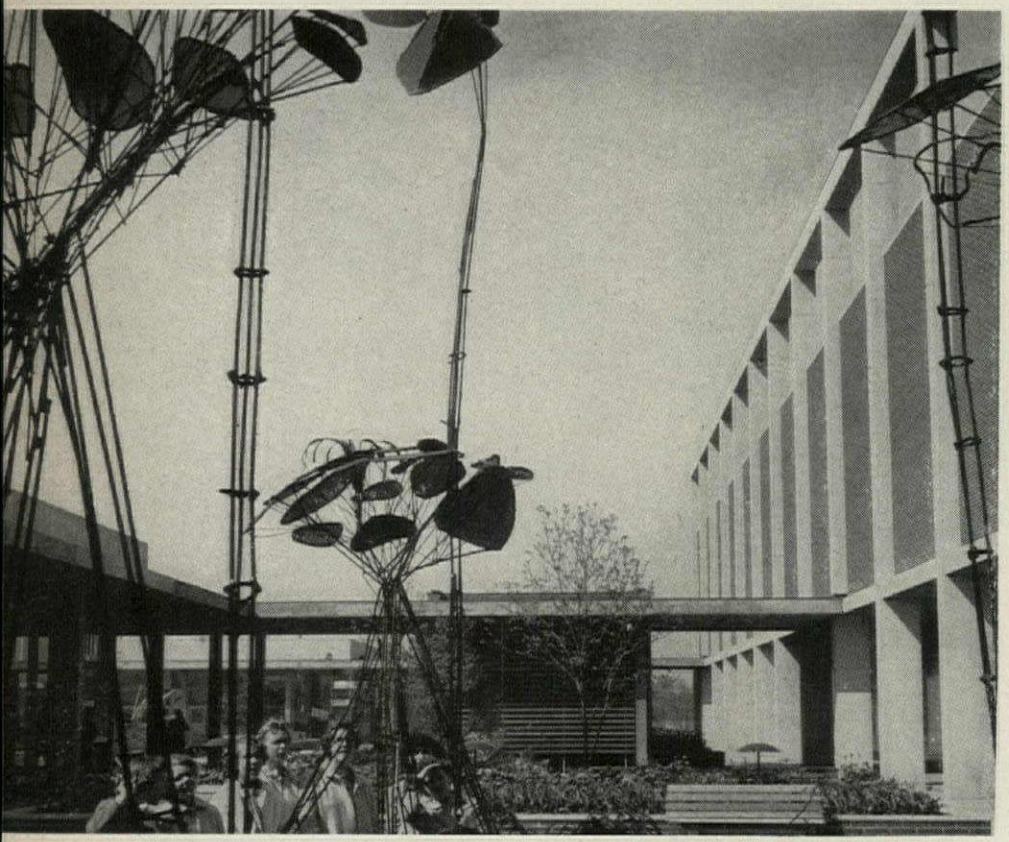


For musical performances (left *and* below) *chairs have been arranged in a semi-circle; platform has been demounted. Other plan arrangements for lectures and theatrical performances are suggested in diagrams* (acrosspage).

Tubular space frame (left *and* below), *which has been left exposed on underside of main hall, serves to stiffen ridge beam as well as supplementary beams of the two roof planes.* Photos: H. Schonwetter

recreation places by Wayne R. Williams

With urbanization changing the patterns of recreation places and automation offering man increased leisure time, our architects, planners, and recreation administrators must discover new resources for providing facilities to meet the increasing demand. In the Progressive Architecture Library book,* Recreation Places *(Reinhold 1958), Architect WAYNE R. WILLIAMS suggests ways in which places—home and neighborhood, the school, private clubs, hospitals and churches, business and industry (on the employe and consumer level)—may contribute to meaningful recreation, to work and play activities which allow for individual development and self-realization. Valuable sections for designers describe* European Playgrounds *and* Planning for Recreation. ***P/A extracts here a few illustrations and comments from the sections, Places Where Recreation Occurs *and* Types of Recreation. *See also* REVIEWS.



1

Ingeborg Heise

2

"Today and tomorrow there are important signs that to adjust to our changing economic world we may well be in for a kind of leisure time that results in a *leisure pace* (leisure hours occurring during the working day)—a ventilated work week rather than . . . *leisure time* (a separate kind of time occurring after working hours—away from our employment). This means that places of recreation may occur near to work and the 'service radius' that recreation planners use would be measured in some instances from the place of employment.

"A shopping center is a natural recreation center. Northland [Northland Center **1**, Detroit, Michigan; Victor Gruen Associates, Architects] is a place people gravitate to. It is becoming a recreation center right now even before this possible change of place of recreation. Thousands spent hours here when the shops were closed for business. Why? Because it is first the urban environment they feel best in and, secondly, it has much to offer even when it is closed for business. Outstanding painting and sculpture—an actual living gallery—interesting stores to window shop, and, most of all, one of he rare places that a pedestrian is welcome in our cities, and, of course, a place to see people—to sit and chat. This is leisure time at its best."

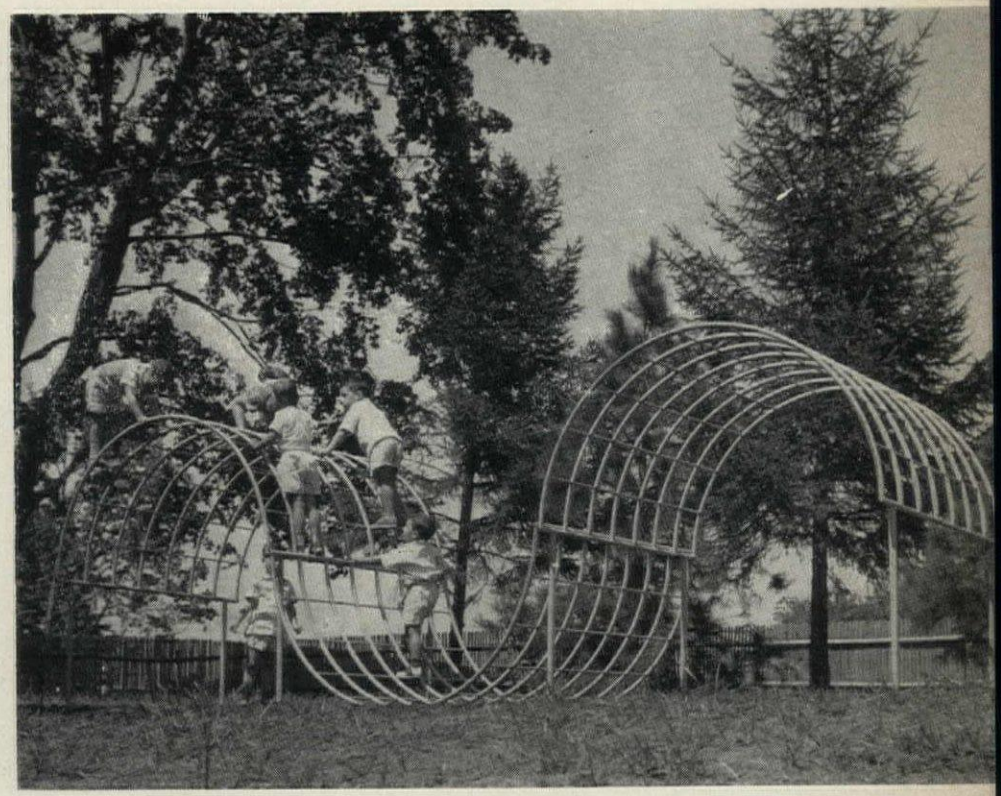
"A six-level water element, sewer pipe train, fallen log play sculpture, adventure area (kids construct what they want to out of material which they 'check out'), old car to play in, play equipment (new designs for old equipment), a place for parents to rest and keep an eye on the children without intruding [adventure playground Wipkingen **2**, Zurich, Switzerland; Alfred Trachsel, Architect]."

"Changes in level in the city can be designed to foster excitement and interest rather than boredom and ennui as so often happens. Here is an example of steps which are a visual joy and form a natural gathering place for the populace in Rome at the [**3**] Piazza di Spagna."

3

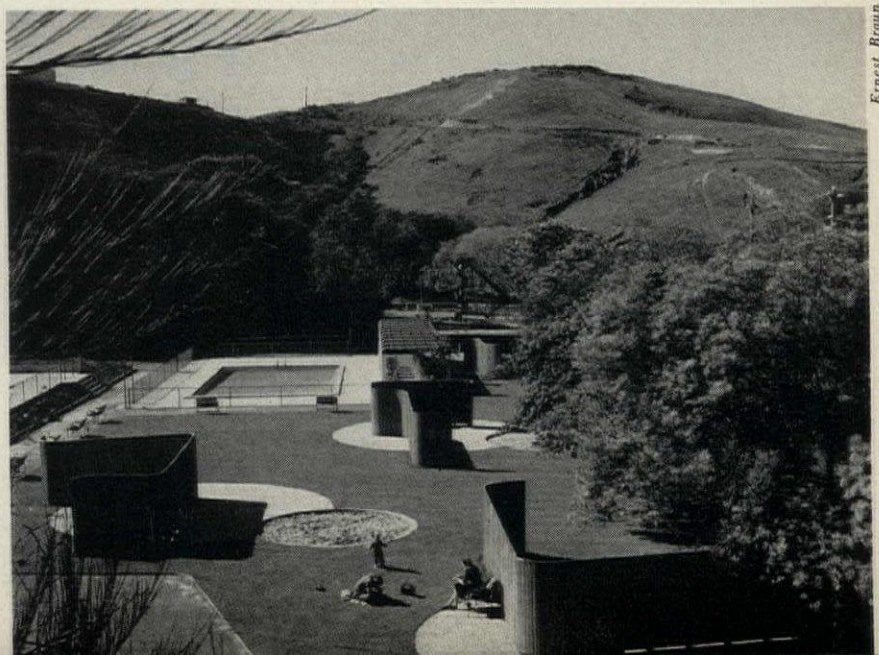
"Part of growing up is learning about new things and experiencing new sensations, graduating to higher and higher levels of achievement. . . . Big-muscle activities are needed to help the youngster grow and to help him come to understand his strengths and limitations. . . . The wonderful thing about these playground structures [**4**] is the implication to children that structures can be what they want them to be—that things can take any shape to fit the need. The only possible disadvantage is that along with this notion, the child also soaks up the thought that things 'be what you want them to be.' Structures are found only on playgrounds. The rest of the world is square. If they evoke a creative response in the child, does he leave it where he found it, at the playlot, or does he take it with him into other activities?"

4



"This employees' recreation park is considered by many to be the outstanding example of a family-oriented private recreation area [Richmond Rod & Gun Club **5**, Richmond, California; Eckbo, Royston & Williams, Landscape Architects]. . . . These screens allow family groupings to form naturally, but movement is free and easy between groups also. . . . Skillful integration of job constructed and commercially manufactured play equipment and site work constructed by the employees who use the club, have resulted in an employee recreation center of exceptional beauty, utility, and modest expense."

5



Ernest Braun

Architectural Research: Light and Air

by Matthew A. Nowak*

To aid the creative architect eliminate some of the guess work in his design, the Texas Engineering Experiment Station has, for the last several years, undertaken a program to provide the architect with knowledge on the performance of architectural shapes in relation to the major environmental factors — breeze and daylight.

Research along these lines has proved the value of strip windows in daylighting and of louvers, glass block, and overhangs in sun control. Also revealed are the merits of multilateral daylighting and the importance of the ceiling as a reflecting surface. In the field of natural ventilation, research has shown that greatest comfort can be attained with breeze-deflecting arrangements on the inlet side of a room and large openings on the outlet side. In special cases, techniques have been introduced to channel breeze down a corridor and then divide it with an obstruction such as an office block, to cool the rooms on each side of a long building. Landscape elements also brought into play, have resulted in information on how to use trees, shrubs, and hedges to direct and concentrate breeze for effective interior patterns.

Many of the daylighting studies have been conducted by using accurately scaled models under an artificial sky. Miniature light cells are used to provide the response that would be found within the representative model. In most instances the response is quite low, necessitating use of a low-level, pre-amplifier coupled to a drive amplifier and recorder.

To cover both the dynamic condition, found under the real sky, and steady-state condition, found under the artificial sky, a two-channel recorder is used. For the dynamic condition, two cells are required. One cell measures the illumination from the quarter sphere of unobstructed sky, excluding ground light. The second cell measures illumination at various points within the building. Both readings are recorded simultaneously on the oscillograph recorder. A utilization factor is obtained by taking the inside illumination value for each point within the room, and dividing it by the outside illumination value.

For steady state conditions under the artificial sky, a single cell is used. The cell is placed in a baffle which cuts off the ground light and allows the cell to receive light from a quarter sphere of sky. This reading is set up on the oscillograph as a full scale deflection by use of a variable shunt. Depending on whether the internal readings are to be read as percentages of the total available light or as utilization factors, the sky light reading from the quarter sphere is then expressed as 100 percent, or as 1.

Removing the cell from the baffle and placing it at various points within the model, illumination levels are recorded as percent-available-light or as utilization factors.

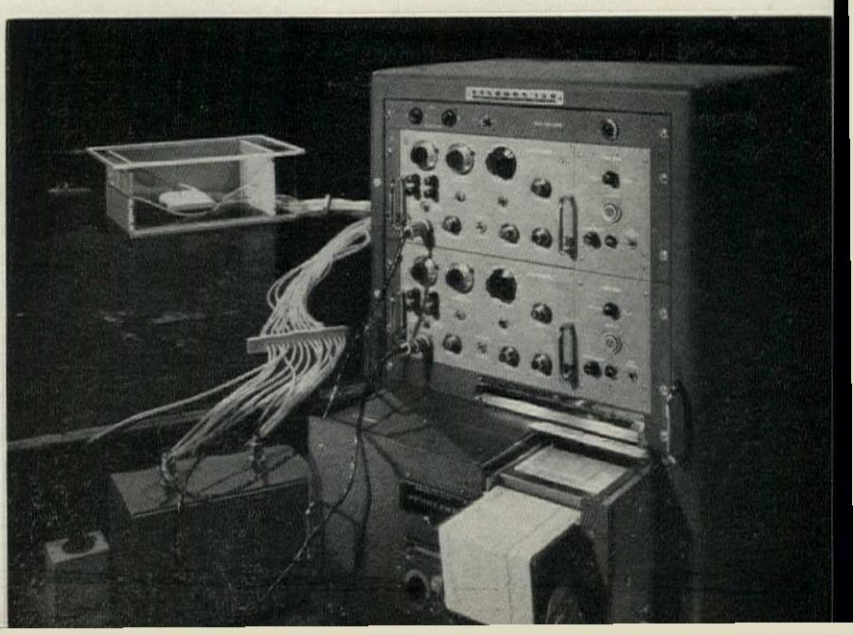
To express the illumination within the room in foot-candles directly, it is only necessary to assign the sky light reading from the quarter sphere of sky a foot-candle value according to conditions; for example, 500 ft-c for a vertical surface under overcast sky conditions.

Collection of data by the above method makes it a simple matter to tell the architect whether his design will provide adequate illumination under adverse conditions. Use of models allows any number of schemes to be tried economically and quickly so that the proper illumination and brightness-balance can be obtained.

Ventilation studies are carried out in a low-speed wind tunnel and are similar to the daylighting studies in that scale models are also used. The models are made of cardboard, fiberboard, plywood, sheet plastic, or balsa wood, which can be easily adapted to many architectural forms. Here again the model is readily changed and several situations tried when one particular situation is found unsatisfactory.

*Texas Engineering Experiment Station, College Station, Texas.

Ocillograph recording of pressure and velocity readings.

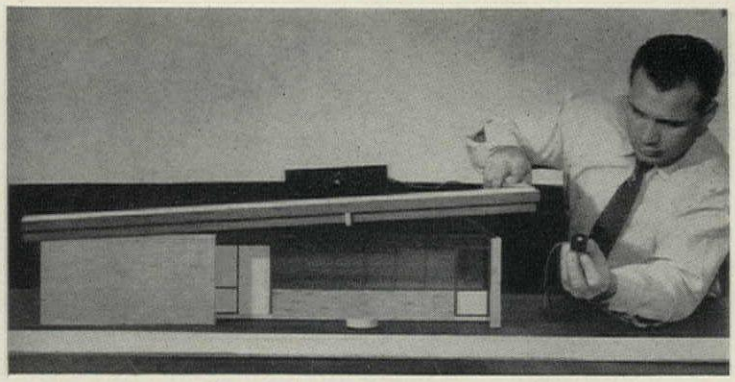


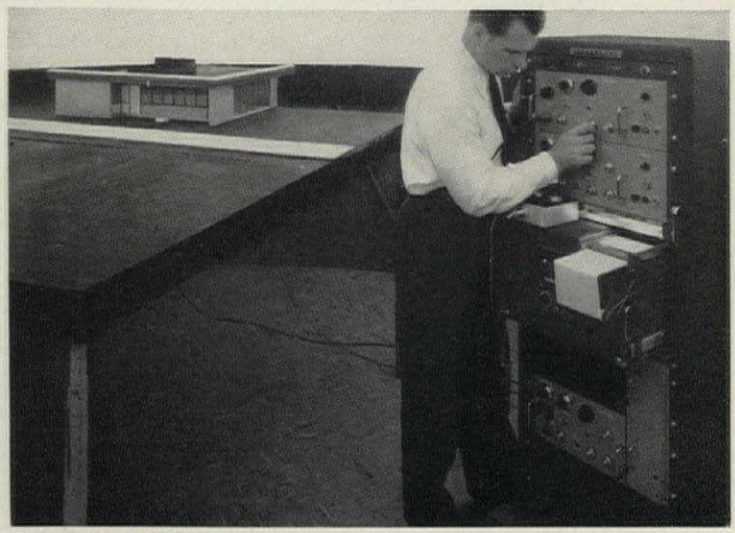
The wind tunnel is simply a chamber containing a table, over which there is a laminar flow of air. Air flow through the tunnel is induced by three 48-in. fans. Each fan is driven by a one-hp d-c motor with an electronic variable speed control.

Observations of the air patterns are made by introducing titanium tetrachloride smoke into the air stream. Air speeds are measured generally by hot-wire anemometers. Pressure distribution data for the model are obtained by placing piezometer holes in the various surfaces. Pressure leads of plastic tubing connect the model to a strain-gage transducer, which in turn is connected to a strain-gage amplifier and recording oscillograph.

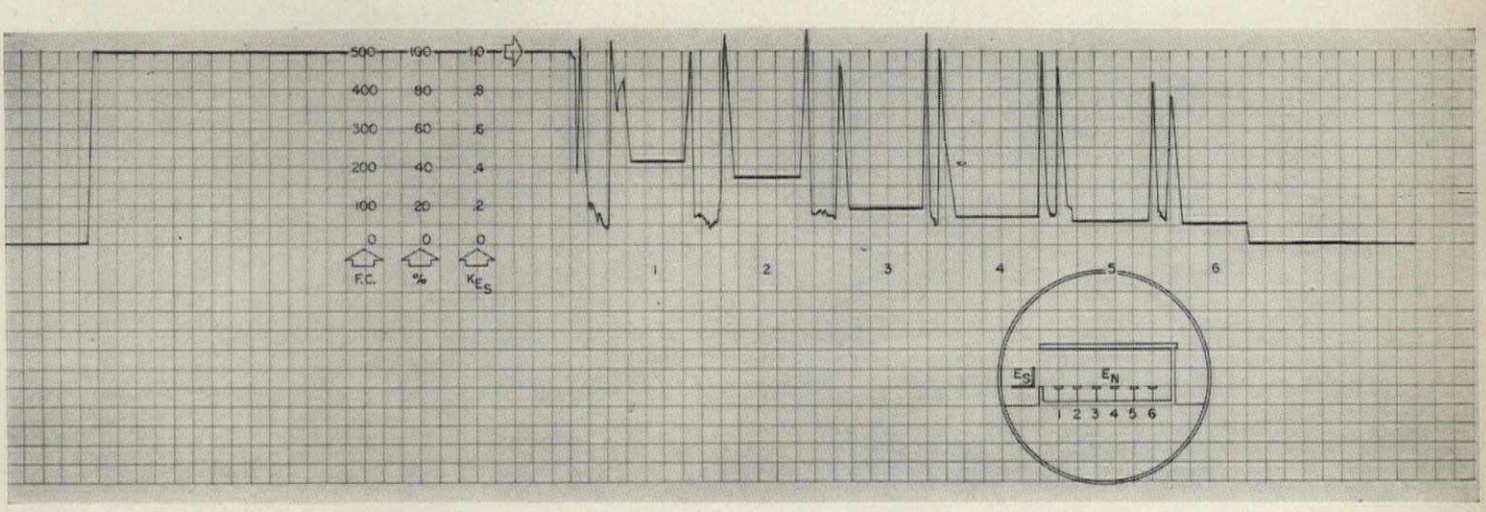
Velocity measurements in the undisturbed flow upstream are made by means of a Pitot tube and recorded simultaneously with the model surface pressure on a two-channel recorder. Investigations have been completed on the high-, low-pressure areas found for various building sizes, and shapes. Also under study is the effect that one building has on another in row-type real estate developments.

The ultimate aim of all these studies is to provide the planner with information so that a design will have good lighting as well as good ventilation, and not fall short of the ideal at the expense of one or the other.





Top: Miniature light cell being used to record illumination values. Center: Recording illumination values in a model under artificial sky. Below: Recorded data for steady state conditions under artificial sky.



Office Air Conditioning: Floor Distribution

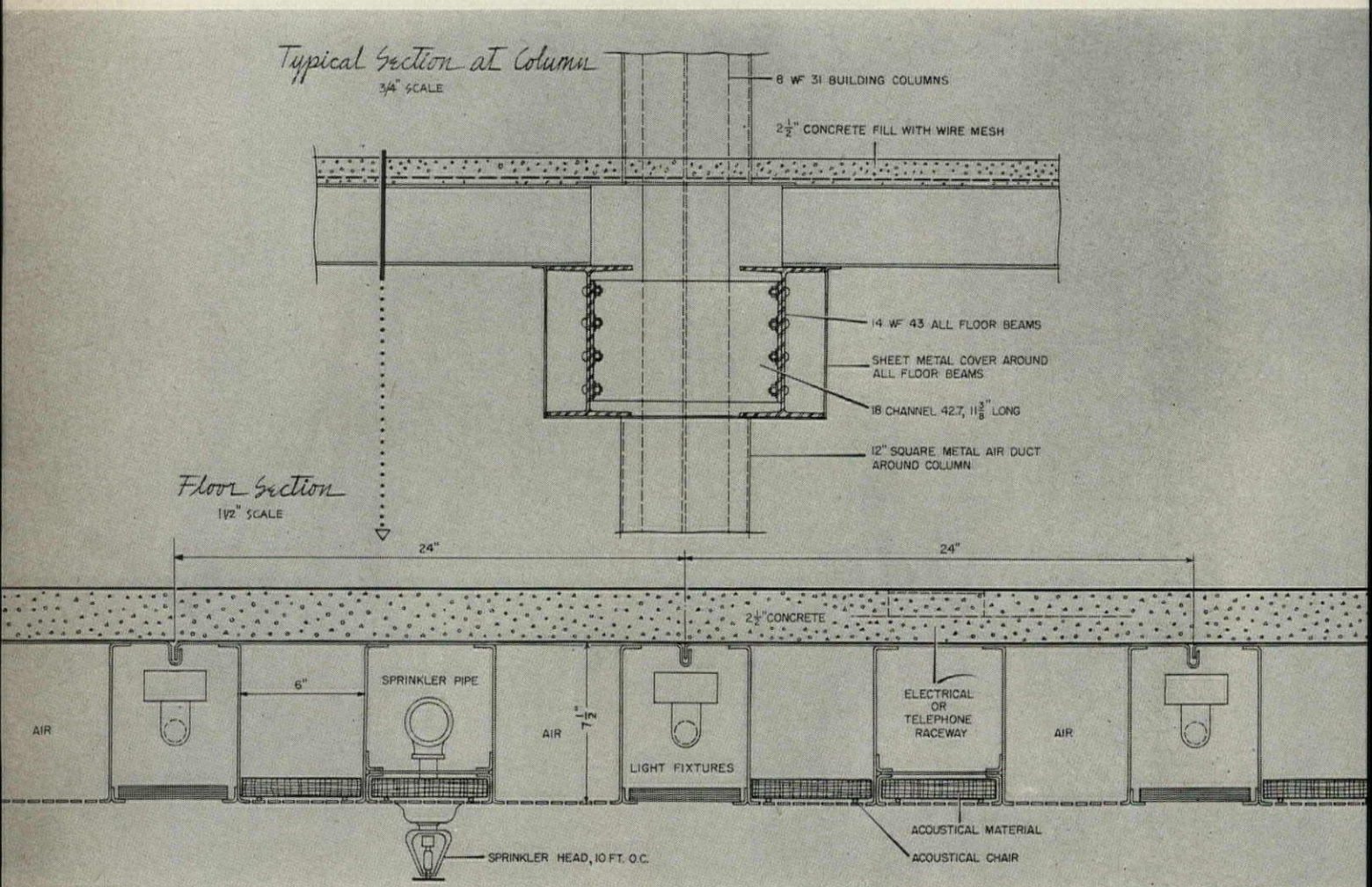
six extra dividends are provided by this floor system that has only a 10" over-all depth

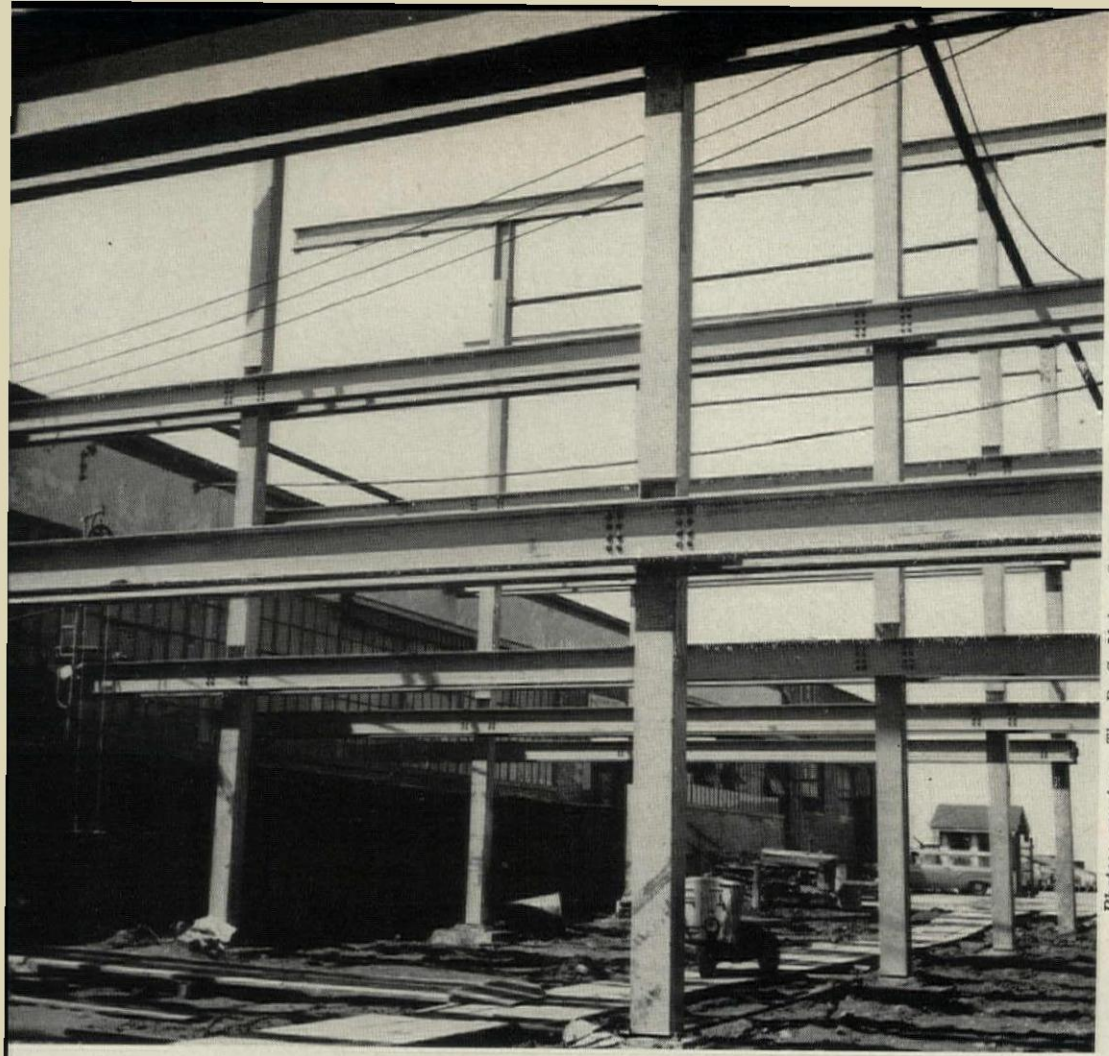
Whenever an architect or engineer can make a structural component serve more than one purpose, he immediately introduces a valuable cost-saving factor into his building. One or two such additional services performed by one component might be considered excellent. In an office building addition recently completed for the Whirlpool Corporation, located at Clyde, Ohio, six extra dividends were gained over and above the fundamental purpose of a basic component. In addition to carrying normal live and dead loads, 7½"-deep cell-beam sections were used to:

1. Distribute air;
2. Contain recessed light fixtures providing diffused illumination;
3. House a sprinkler system;
4. Provide electrical and telephone raceways in the structural subfloor;
5. Furnish acoustical control;
6. Keep required ceiling height by eliminating additional space required for conventional air-conditioning ducts.

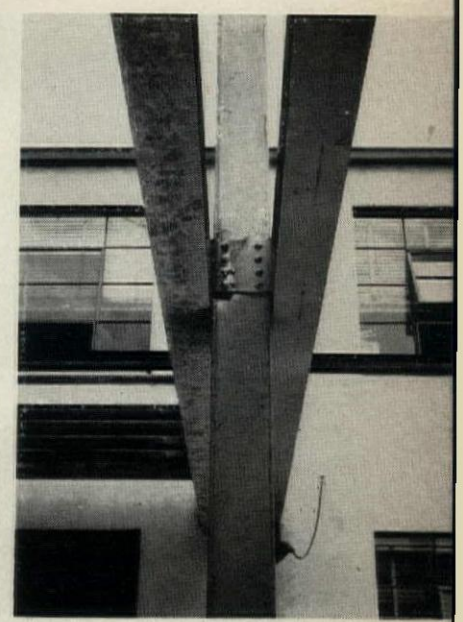
This new building addition has 18,000 sq ft on three floors and, since the only available ground was located between the present plant and existing office building, it is exposed on its north and south sides. In developing the plans, a basic requirement of the owner was that the floors of the new and the old buildings be at the same level. The original structure was built before the general acceptance of air conditioning, recessed lighting, underfloor electrical services, etc., and, therefore, the necessity of accommodating these additional services, without reducing ceiling heights below State requirements, presented a problem which needed a special solution.

In the framing, 8 WF columns were used to form 24'x20' bays *(photos across-page)*. It was decided to run structural-steel beams in the longer 24' direction, and cell-beam sections with 2½" of lightweight concrete topping in the shorter. The most economical beam for the design load of 150 psf would have been a 21 WF section. However, to obtain additional headroom, two 14 WFs providing approximately the same section modulus were selected. Since the third-floor ceiling was





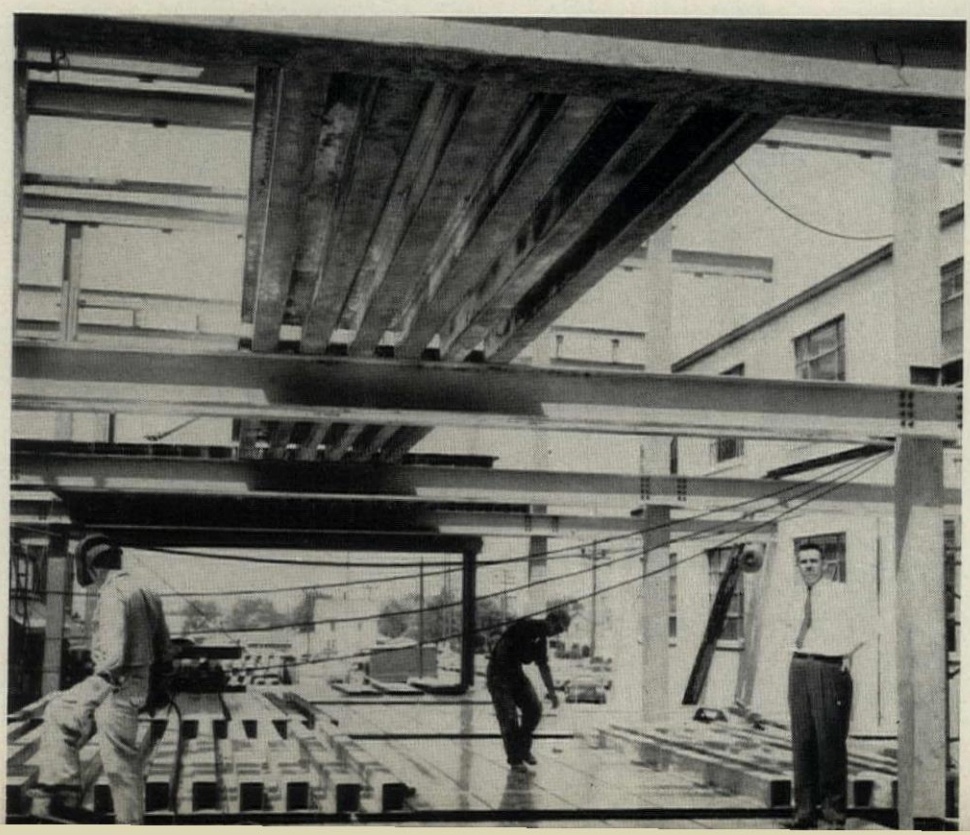
Photos: courtesy, The R. C. Mahon Company



Framework, between two existing buildings, consists of two rows of 8 WF columns forming 24'x20' bays (above).

Double 14 WF sections (right), *used to conserve headroom, span 24' length of bay.*

Cell-beam sections, fabricated on 24" module (see detail acrosspage), *span 20' width* (below).

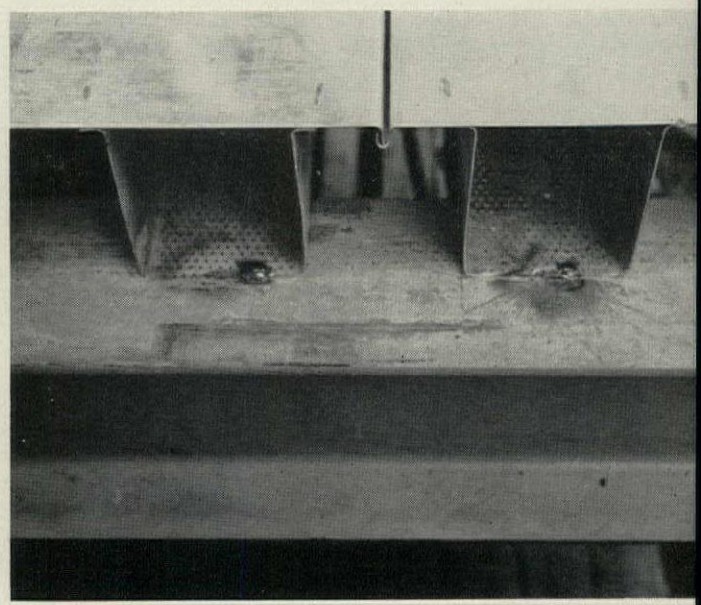


not required to support standard office live-loading (only an air plenum exists above), T-bar hangars were used to support a metal ceiling having the same characteristics as the cell-beam sections of the first and second floors.

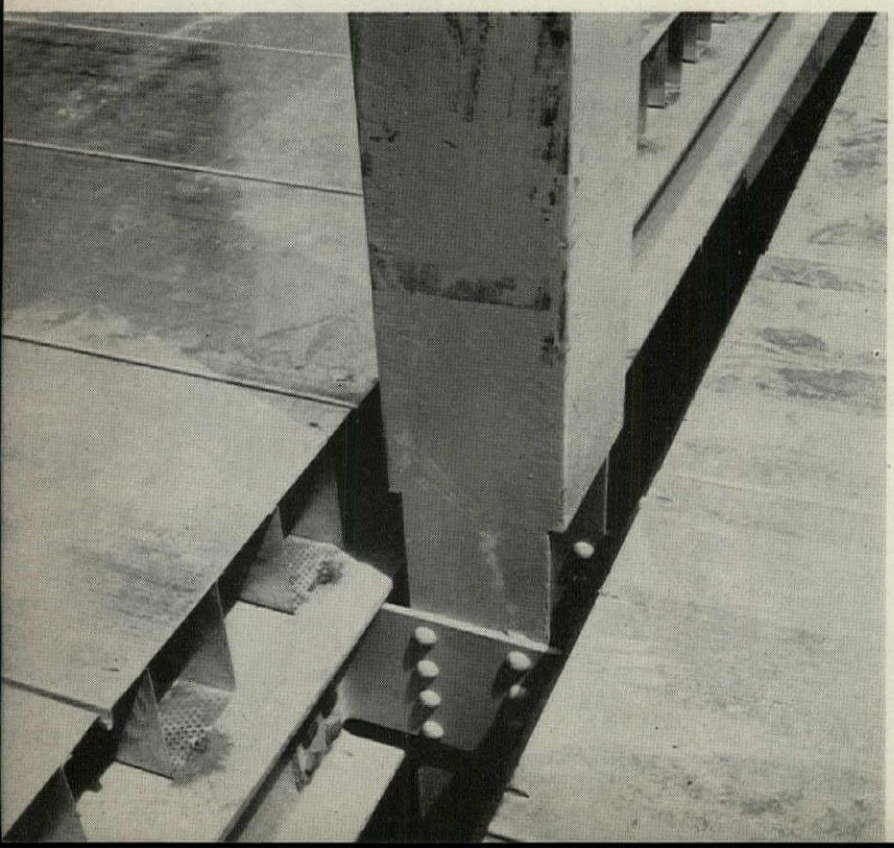
Perhaps the most interesting feature here is the air-conditioning system and its method of distribution. Primary equipment is located in a penthouse above the third-floor ceiling. Conditioned air is supplied from a 16,700 cfm multizone conditioner—three zones for the new building and two for the existing—and is ducted to the structural columns that have been enclosed by 12″ sq sheet-metal ducts. Each vertical duct carries the conditioned air—at approximately 600 cfm—to a set of cell-beam sections serving approximately two bay areas at either the first- or second-floor ceilings *(see drawing)*. The air then enters the office space below through perforated cells spaced 24″ on centers. Air for the third floor is ducted through the plenum directly to the ceiling cell-beam sections and released at points midway between column spacings. Return air is handled by two shafts located at opposite ends of the office space. Since the two ends of the building are exposed, perimeter losses at these locations—both heating and cooling—are taken care of by one-ton fan-coil units supplied with hot or chilled water, with manual changeover. A refrigeration machine, used in conjunction with an evaporative condenser, is also located in the penthouse. Steam source is from an existing power house.

Lighting consists of standard corrugated-plastic, luminous-ceiling panels 6″ wide, 20′ long, and 24″ on centers. Each panel is backed by two 8′ fluorescent tubes producing an illumination level of approximately 65 ft-c.

Plans were developed by Engineer H. E. Childers, of Fremont, in consultation with engineers of The R. C. Mahon Company and Carrier Corporation.



Detail photo (below) *shows column/floor connection with 14 WF sections anchored to column by piece of 18″ channel. Note column enclosure which enables it to act as vertical air-supply duct.*

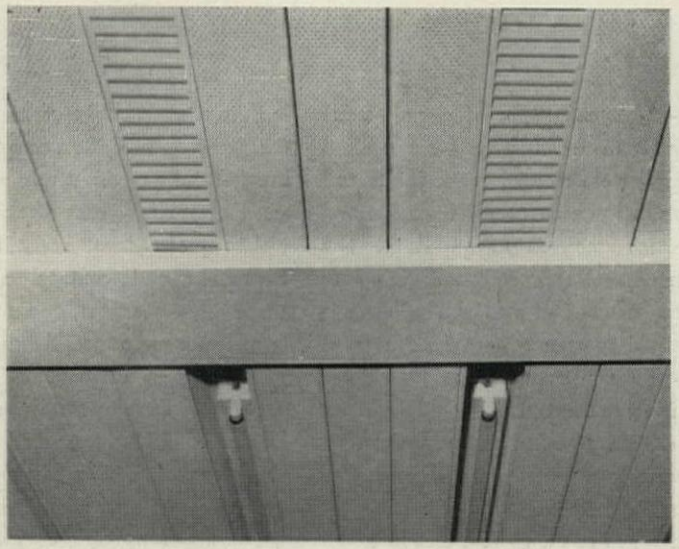


Ends of cell-beam sections were tack-welded to top flanges of 14 WFs (above).

Sprinkler-system piping (above) *was spaced 10′ on centers.*

At third-floor ceiling (right), *cell-beam sections are supported by T-bar hangars since only plenum exists above. Eight ft fluorescent lamps are placed in the cells 24″ on centers; plastic luminous panels, 6″ wide, supported by flanges at bottom of cells, diffuse light.*

Typical office floor (below). *There are no ceiling-high partitions except for wash rooms.*



Sealing Curtain-Wall Joints

by G. J. Schulte*

Present-day construction of curtain-walls has created an urgent need for a method of sealing exterior and interior joints and openings between curtain-wall panels and the metal framework of buildings. The problem of sealing curtain-wall joints to provide a water- and air-tight building is of utmost importance to the success of curtain-wall construction.

Gravity, heat, water, air, and light all create certain stresses and strains which must be resisted by the sealed joint. Because of these factors, it is necessary in many cases to use a special elastic sealer which does not shrink, possesses good resilience and elastic properties, and has excellent adhesion and weather resistance.

curtain-wall sealing problem

To determine just what type of sealer will be most satisfactory for sealing curtain-wall joints, it is first necessary to understand the particular conditions which the sealer must resist.

The force of gravity causes building foundations to settle with a resultant movement of the curtain-wall panel in the frame. This movement may exert shearing, twisting, and peeling stresses on the sealer.

This problem requires use of resilient and elastic sealer that maintains adhesion to glass and metal under high stress conditions. Settling action of the building is probably greatest during the first year or two after construction. However, buildings do continue to settle to some extent for years after completion.

The sealer must resist the effects of expansion and contraction which take place in the frame due to atmospheric temperature changes. Aluminum expands more than $\frac{5}{8}$ in. each 20 ft length per each 200 F temperature change. Glass expands slightly less than $\frac{1}{4}$ in. under the same conditions; hence, the sealer must be resilient and elastic with good adhesion to metal and glass to absorb movement of over $\frac{3}{8}$ in. in shear or tensile loading, depending upon panel design. With stainless steel and glass curtain walls, movement is $\frac{1}{4}$ in. under the same conditions. Conventional sealing compounds made of oil-base materials are not able to absorb the amount of movement in the average curtain-wall building.

The sealer must have good water resistance and a low moisture-vapor transmission rate to prevent infiltration of water vapor through the sealed joint.

Another important problem to consider in curtain-wall sealing is that of wind. Wind pressure tends to bend the glass or curtain-wall panels, thus exerting a squeezing or pulling effect upon the seam and sealer as the glass or panel shifts in the joint. For example, an 8′x11′x$\frac{3}{8}$″ piece of plate glass in a curtain-wall frame exposed to 120 mph wind load has been measured, revealing a deflection of $1\frac{1}{8}$ in. at its center.

The sealer must not oxide, harden, or deteriorate in the presence of oxygen or other gases in the air. A curtain-wall sealer should have good resistance to the deteriorating effects of ozone, oxygen, and industrial atmospheres to eliminate costly operation of frequent resealing of curtain-wall joints.

The sealed seam must be as air-tight as possible because many new curtain-wall buildings are completely air conditioned and rely upon tight walls for maximum efficiency and minimum dirt infiltration. Therefore, a curtain-wall sealer should be nonporous and must completely fill the seam without shrinking or cracking.

A fifth factor to consider is that of sound. Although sound does not affect the sealer, some curtain-wall buildings have rattled and open seams have whistled, creating distressing noises to building occupants. The sealer should completely fill the curtain-wall joint to prevent sound from coming through or being created within the joint seams.

The last factor to consider is the action of sunlight and its effects upon the sealed seam. Ultraviolet rays can have a deteriorating effect on certain sealants, causing them to discolor, lose their resilience, and separate from the surface being sealed. The sealant must resist effects of these ultraviolet rays for many years in order to eliminate costly maintenance-resealing operations.

solutions to sealing problems

A well sealed curtain wall is best achieved

*Product Manager, Adhesives, Coatings & Dealers Div., Minnesota Mining & Manufacturing Co., Detroit, Mich.

by proper joint design and selection of a sealer best suited to this joint design. A curtain-wall structure should be designed to produce a minimum amount of movement in the seam.

There are two main types of joint designs: One is the *integral* type in which the panel edge forms the complete joint. Examples of these are the cap joint, the mating joint (in which male and female edges join), and the butt joint. The second type is the *accessory* joint in which extra pieces of metal are required to complete the joint. Examples of this type are the batten (in which a cover is used on the joint), the spline, and the frame-and-stop type. The last is perhaps the most commonly used curtain-wall joint. Of these joints, the accessory types are best to use with most sealers because they exert a shearing stress rather than a tensile stress, which is less severe for the sealer to withstand. Of the accessory types, the frame-and-stop is one of the simplest to seal effectively.

There are many excellent oil-base glazing and calking compounds on the market today, but it has been found that for metal and glass curtain-wall sealing they are generally unsatisfactory, particularly for large glass or curtain-wall panel sections. They will absorb only a small amount of movement of the panel and will tend to become hard and brittle upon aging.

Sealers for producing an effective and efficient curtain-wall joint seal can be classified as rigid and nonrigid types.

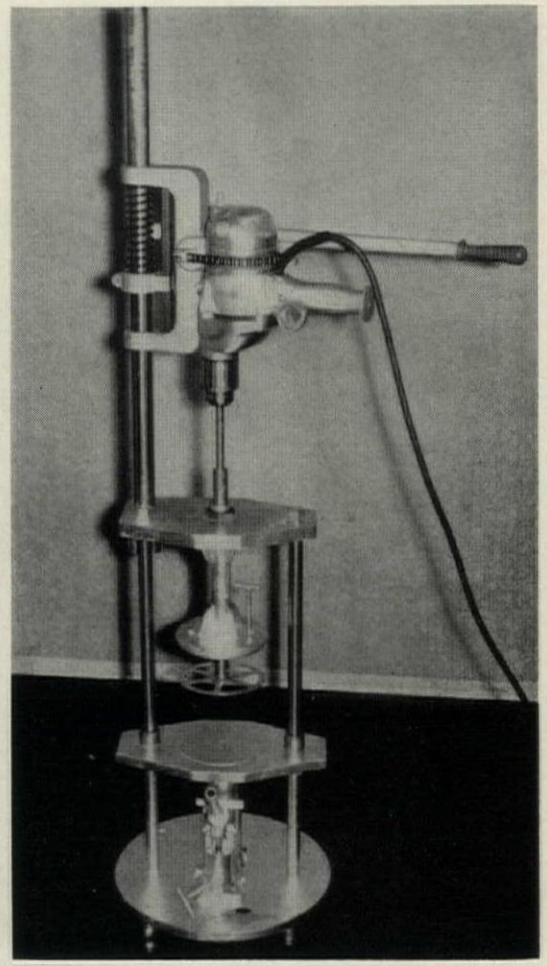
Rigid types are used to seal curtain-wall panels on buildings where expansion and contraction is not a factor. Rigid sealers consist of solid gaskets and tape sealers made to an exact shape to fit the panel and mullion. This type of sealer sometimes produces problems in corners and other places where tolerances are not carefully controlled. These sealers also usually need continuous pressure or compression to effect a seal.

The second type is the nonrigid sealer which is used to seal curtain-wall panels that will experience high degrees of expansion and contraction. Gaskets, resistent-rubber ribbon sealers, soft-ribbon sealers, and liquid sealers compounded from polysulfide polymers fall into the nonrigid classification.

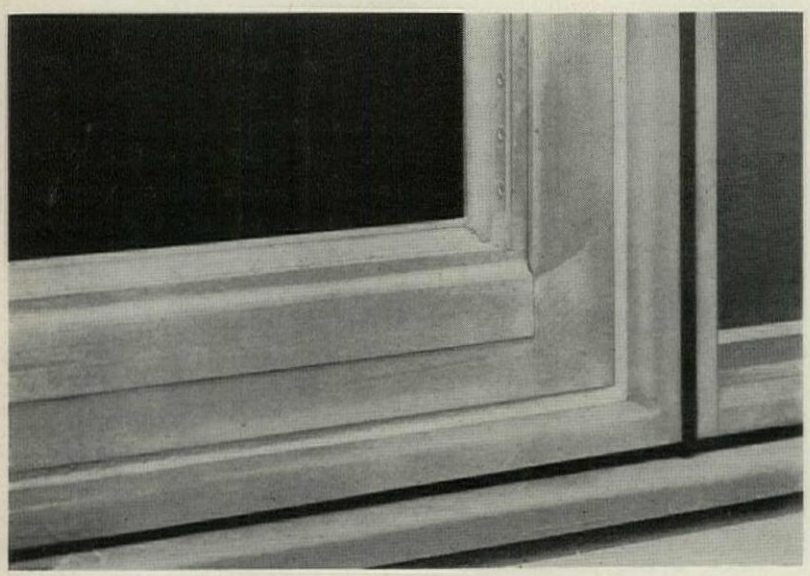
two-part sealers compounded from polysulfide liquid polymers

The polysulfide two-part curing rubber-type sealers are literally a curing liquid rubber gasket which may be formed to the many different shapes of curtain-wall joints. This sealer type is a two-part, chemically curing compound in which a

Workman (below) *applies a bedding bead of polysulfide-polymer sealer to metal framework of building prior to attaching a curtain-wall panel. After panel is placed in position, a glazing bead of the sealer is applied to outside surface of panel to seal any outside openings.*

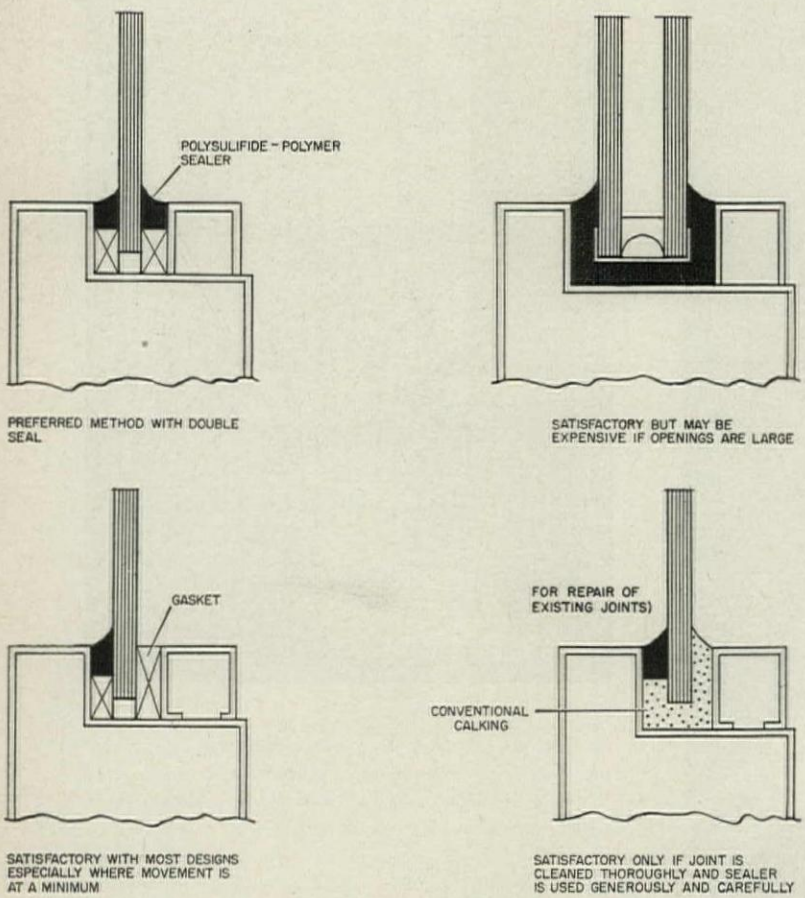


Special mixer (above), *used to mix the accelerator into base sealer compound, is portable and can be used in the field. Mixer eliminates air bubble formation in sealer during mixing operations.*



Aluminum polysulfide sealer blends into appearance of aluminum sash and window frames (above).

Methods of sealing curtain walls with polysulfide-polymer sealer.



small amount of paste-type accelerator is mixed into the heavy syrup-type base compound. The mixed compound then begins to cure or thicken over a period of time (work life) until it is a solid flexible rubber film. It is essential that these polysulfide polymer base sealers be especially compounded with the proper resins to gain adhesion, proper reinforcing agents to give maximum flexibility and durability, and proper plasticizers to give the necessary elasticity needed for sealing curtain-wall joints.

Physical properties of properly compounded polysulfide sealers are ideal for sealing curtain-wall joints. These sealers have excellent flexibility and will stretch three or four times their original dimension when stress is applied. They return to their original dimension when stress is relieved. One measure of flexibility is the relative softness of the sealer. It is important that it be neither too soft nor too firm. A durometer of the cured film should be between 25 and 45. A too-soft film means that the sealer may have high flow and upon being flexed and distorted in the seam, it may not return to its original shape and form. This action can cause an opening to develop and allow water to enter. If the sealer is too firm, it will not stretch with the movement of the wall.

Sealer flexibility is of little value unless the sealer adheres to the surface it is sealing. Polysulfide sealers have excellent adhesion to metal, glass, and other curtain-wall surfaces. Tensile strength of these curtain-wall sealers ranges from 200 to 400 psi and dynamic shear strengths range from 100 to 300 psi. When properly formulated, they have excellent durability and remain flexible and strong for many years under sunlight, rain, snow, and wind conditions.

Over 10 years of outdoor weathering in direct sunlight has been experienced with these sealers, on masonry in Detroit and on glass in Toledo, with no evidence of deterioration.

Experience in sealing the inside of aircraft gasoline wing tanks and aircraft cabins shows that these sealers are flexible and durable. These seals have endured extreme temperature changes, immersion

in high-octane fuels, severe vibration, and exposure to sunlight and ozone for 10 years or more, and have remained flexible at temperatures as low as —100 F without loss of adhesion.

Because these sealers are 100 percent nonvolatile, they will completely fill an opening without shrinking or cracking even after curing. Since they have controlled flow characteristics, they may be applied in a vertical joint as wide as ¾ in.

It is important to specify that the sealers be 100 percent nonvolatile, since it is possible to formulate polysulfide rubber-base sealers with less than 100 percent solids where flow or other properties are desired.

For satisfactory installation, the building and curtain-wall surfaces over which the sealer is applied must be carefully cleaned. The sealer itself, being a two-part curing compound, must be carefully mixed and applied for satisfactory installation.

case histories

Because of their remarkable durability under the most destructive circumstances, and their availability in a variety of colors, polysulfide sealers have already been used on many curtain-wall sealing jobs.

Glazed ceramic building parapet caps, in the San Francisco Bay area, were sealed with this type of sealer. Joints between the blocks ranged from ¼ in. to 1 in. in width. After seven years exposure to sun, rain, salt air, and wide temperature fluctuations, the sealer still maintained excellent flexibility and adhesion.

A polysulfide sealer has been applied as calking and glazing compound to curtain-wall panels of the Connecticut General Life Insurance Building, Hartford, Conn. The sealer was chosen because of its record of durability and because of outstanding performance in extensive wind-and-weather tests. A mock curtain wall with joints sealed with the sealer successfully withstood wind loads up to 130 mph and simulated rainfall equal to 12 in./hr. As a result, this sealer has been used as a perimeter bead for all edges of glass-spandrel panels, as a bedding compound and exterior glazing bead for large glass lights, as exterior and interior glazing seal around glass, and as a calking compound for seams between mullion cover plates and flashings.

A liquid polysulfide polymer has been used to reseal curtain walls of several apartment buildings in San Francisco. Originally these buildings were sealed with conventional calking compound, but within the first year, the seals had developed leaks during severe wind and rain storms. To eliminate these leaks, polysulfide sealers were used to seal between metal window sills and metal cover plates of the curtain wall panels.

application methods

Because these sealers are a two-part, chemically-curing type, the case and accelerator must be mixed and used within the work lifetime of the material (about four hrs) before it chemically cures and becomes too heavy to extrude from calking or flow guns.

Mixing. During mixing, the accelerator should be uniformly distributed throughout the base compound. If not, portions of the sealer will remain tacky and not cure, or some portions may become too firm from an excess of accelerator. It is also important to keep air out of the compound during mixing. Each air bubble in the sealer seam is a potential point of weakness.

There are a number of mixing devices on the market. The paddle-type mixers, which have been used in the past in the aircraft and marine industries for application of this type of sealer, have proved to be only partially satisfactory, as they tend to whip air into the mixture. There are standard-type mixers which do a good job; however, special portable mixers which are designed especially to mix this type of sealer are recommended.

Application. Once the material is mixed, application is not much different than that of conventional gun-grade, oil-base materials. Polysulfide-based curtain-wall sealers may be extruded from a regular hand calking gun or from pressure flow guns.

Once a crew is experienced in the use of this type of sealer, it should not require any more labor time than conventional oil-base sealers. It is important that the sealer manufacturer co-operate with the contractor to train the applicators in mixing these sealers at the beginning of a sealing job.

Masking tape should be applied on the glass or panels and frame being sealed so that the sealer bead will make a neat seam. Packing the sealer in the seam and smoothing out the sealer with a round-shaped stick or tool is helpful. Masking tape is then removed and a neat, gasket-like joint is achieved. These sealers should be applied to only clean, dry surfaces at temperatures above 32 F.

factors to consider when sealing with liquid-polymer sealers

1. Wherever possible, the curtain-wall joint should be designed so that the sealer will be stressed in shear rather than in tension, because the sealer has greater elongation when exposed to this type of stress.

2. The seam should be at least ⅛ in. wide by ¼ in. deep.

3. An inside and outside surface seal is the best design; however, an outside seal is satisfactory if weep holes are provided for condensation.

4. A bedding bead of sealer may be used to facilitate installation from the inside to avoid scaffolding. In using a bedding bead, care should be taken to assure contact between glass or panel and frame.

5. Use of oil-base or asphaltic compounds in conjunction with these sealers is a dangerous practice because polysulfide-polymer sealers will not adhere to oily surfaces.

6. Spacer gaskets should be used to assure proper alignment and separation of glass or panels from the sides of the joints. There are excellent tacky butyl-rubber ribbon sealers which can be used for this purpose and which also provide a secondary seal. Also popular are hollow, cured neoproene gaskets which are cemented to stops or frames. A soft, flowable material should not be used as a spacer because the glass or panel may shift out of position in the rabbet.

Sound Deadening by Insulated Porcelain-Enamel Panels

by Herbert R. Spencer*

After Boeing's giant prototype 707 jet plane streaked across country from Seattle to New York early last year, the plane was not permitted to land because of its extremely high noise level. The roaring jet had to land at Baltimore's Friendship International Airport.

Sound engineers are now working to develop jet sound suppressors; architects are equally concerned with designs and materials that provide good sound insulation inside buildings located in areas affected by abnormal sound conditions.

With every major airline in the world ordering some $1.6 billion worth of jet aircraft for delivery late this year, the jet age creates new problems in the noise-insulation requirement of airport terminal buildings and commercial buildings of all kinds which may be affected by high levels of noise. In this serious challenge, architects and engineers are now searching for solutions that meet the demands for more efficient sound barriers.

A most efficient method of providing high-noise insulation is found in the application of two metal curtain walls—with correct air spacing and proper framing design to reduce sound vibrations. Single-wall masonry is not satisfactory, unless we are willing to provide something like a foot of solid concrete.

In considering the sound deadening properties of insulated porcelain-enamel panels in curtain-wall construction, it is known that sound, itself, does not flow through a wall, whether it comes from outside or inside. Sound waves simply vibrate the wall causing it to reradiate sound on the other side, producing more compressions and rarefactions.

Leaks through holes and cracks can be the downfall of any curtain wall or any other type wall. To have sound barrier effectiveness at its peak, there must be air-tightness and no porosity through the panel material. The weakest element in any sound barrier very quickly establishes the limit of the achievable insulation of that barrier.

In buildings involving the use of windows, the glass area determines the limit. Ordinarily, ¼"-plate glass gives a transmission loss of about 30 decibels. A sealed, double-glazed unit with ¼"-plate glass on both sides, gives 35 to 36 decibels of transmission loss.

What are the sound-deadening factors involved in various types of standard, insulated, porcelain-enamel panels? Decibel ratings for panels in single-wall construction, for most ordinary purposes in buildings not troubled by noise levels higher than heavy city traffic, are shown (*Table I*). Following this table is a discussion of the characteristics of the double-wall, air-spaced type of construction which will meet the very high-noise insulation requirement for the jet age.

For exceptionally high-noise insulation requirements, one can obtain a sound-transmission loss of almost double the single-wall construction by using two distinct and separate panel walls with proper air space between. With airtight double-wall construction, using standard Type U-20 panels (*referred to in Table I*), each 1⅛" thick, there obtains a loss of approximately 55.0 decibels—still within a reasonable total wall weight of 12 psf.

The air space, in order to be effective in separating the double-wall construction, has to be reasonably deep. This depth of separation depends upon the rate of noise. It requires a minimum of two or three in. and, under severe conditions, more than one ft between the two elements of double construction, if the real advantages of the separation of the spring action of air between the walls are to be realized. Therefore, if these conditions are observed, it is possible to achieve a noise suppression of 55.0 decibels by a simple design of two thin curtain walls, independently hung, and separated by a free air space.

It must be realized that this discussion pertains to the panel area and not to the framing which supports the panels. If this framing is not properly installed and spaced, it may readily transmit sound and destroy the value of any type panel construction. As in the depth of the air space between the double walls, the distance between the studs of the supporting frame also is largely dependent upon the rate of noise.

The increasing applications of porcelain-enamel panels in double-wall construction to reduce sound transmission effectively in very high noise-level areas, indicate that this type of construction is practical and is a satisfactory answer to the suppression of noise.

* *President, The Erie Enameling Co., Erie, Pa.*

Table I: Sound Loss[1]

Type	Thickness	Approx. weight psf	Decibels
U-20	1⅛"	6	30.0
U-20	1⅝"	6½	30.3
U-20	2⅛"	7	30.7
U-16	2"[2]	9	32.5
U-16	3"[3]	12	36.0

[1] For standard Erie panels.
[2] 2" with 1" concrete fill.
[3] 3" with 2" concrete fill.

The above table indicates that the decibel rating changes only slightly; the U-factor, however, increases from 0.20 for the 1⅛" thick U-20, to 0.12 for the 2⅛" thick U-20, and 0.16 for the 2" type U-16. This tends to prove that additional insulation is not the answer to a higher decibel rating.

Prefab Plumbing Systems

by Robert H. Chittim*

Many architects and engineers have come to realize that prefabrication offers them considerable savings in time and money during construction. Most notably, bids from contractors and subcontractors who employ some form of prefabrication are consistently lower than those who ignore it.

Experience has shown in numerous instances that the potential saving in prefab plumbing assemblies and subassemblies is much greater than most other building operations. Yet all too often the architect, while aware of this, may not recognize the part he himself can play in utilizing prefabrication to decrease construction cost.

Architects and engineers complete their designs and then put them out for bidding. It is then up to the contractor to utilize his own experience and knowledge to come up with the lowest bid. If prefabrication is part of his plan, and there is no resultant change in the original design, this is all well and good. The contractor has used his initiative to present a favorable bid.

The architect can carry these savings one step further during earlier stages, however, by arranging floor layouts and fixture positions so that more prefabrication is possible. Thus, he makes it possible to increase savings in material, time, and labor that can be passed on to him by the plumbing contractor.

Prefabrication may require some definition where it relates to discussion of plumbing assemblies. Utility "cores," which are coming into wide use with prefab housing, are not referred to here. Such units may, in extreme cases, consist of an entire plumbing and heating system including heating plant, bath with cabinets and fixtures, and kitchen with cabinets and fixtures.

Prefabrication can mean merely delivering to the building site, or assembling on the building site apart from the actual point of installation, a single piece of copper tube cut to the desired length and with fittings already sweated on the ends. Or it may mean preassembling an entire drainage system of copper tube into three major subassemblies to be placed and joined with a minimum of effort.

Naturally, prefabrication is most profitable when used with a great number of repeated units. Therefore, its greatest use to the architect is in large multiunit housing projects, hotels, dormitories, or where similar homes are built in relatively large numbers.

Probably one of the first builders to realize the full benefit of this type of saving was one who put up a large housing development on Long Island. This project, consisting of a large number of similar houses, was one of the first of its size to use all copper tube and fittings for both hot- and cold-water supply and drainage, waste, and vent lines. All joints were soft-soldered with cast-bronze fittings.

One typical plumbing layout was used for all the two-story-and-basement houses. Facilities included 1½ baths, kitchen, and laundry. All fixtures were vented to a common stack. The layout was ideal for use of extensive prefabrication. The bath on the second floor was directly above the lavatory on the first floor, and the kitchen was directly above the laundry. The entire waste and vent system was broken down into three different assemblies. These were prefabricated in off-the-site plumbing shops on specially designed jigs by experienced plumbers and helpers. After the subassemblies were placed, only five joints had to be made in each home to complete the assembly of the copper system.

A hotel installation in more recent years employed the same techniques. In this case, only three subassemblies were needed for the complete roughing-in of an entire bathroom, with the exception of the vent stack. Hotels lend themselves easily to this type of prefabrication, because of the repetitive layout and abutting baths.

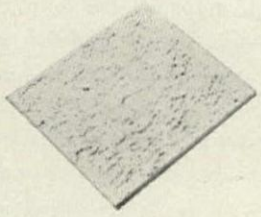
Copper tube with soldered joints provides a most suitable material for this type of work. The tube is relatively light and is easy to handle in long lengths. The joints are tight and firm and remain so even when subject to handling necessary for transport to the site, and working into place.

Prefabrication is also of benefit to the plumber and his helper. A good part of the work is performed either in a special shack on the site, or in the shop. All necessary tools and materials are immediately available. The men work in roomy quarters, sheltered from the weather. Tool investment is reduced by having one team doing one job, instead of many divers jobs.

Little additional time is required during design for an effective and economical system incorporating prefab components. As mentioned above, two prime factors must be kept in mind—the location of rooms containing fixtures, and the orientation of the fixtures in these rooms. If possible, when fixtures are on two or more floors, the rooms containing fixtures should be placed approximately over one another so that the same stack and supply lines can be used. And the fixtures in each room should be arranged to require minimum lengths of tube. In a single-story house, a common wall should be used as often as possible for all plumbing tube.

These are small considerations. Many times the demands of clients make these arrangements difficult. However, sometimes a consideration of the possible savings of time and money resulting from use of prefabrication may carry considerable weight with those who must ultimately pay the bills.

* *Staff Manager, Tube, Chase Brass & Copper Co., Waterbury, Conn.*



Travacoustic brings quiet dignity to contemporary Williamsburg

Nowhere have patient craftsmen paid greater respect to the finest in early American architecture than in the restoration of Colonial Williamsburg. This same respect demanded that outstanding contemporary design and material be used when supplementary "gateway" buildings were needed.

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BUILDING PRODUCTS

NATIONAL GYPSUM COMPANY

Selecting Resilient Floor Coverings by Harold J. Rosen

Since 1945, many new flooring materials have appeared on the market. This is probably the result of the needs of modern society and the willingness of manufacturers to engineer and develop new resilient floor coverings to meet these demands. In addition, the older materials have been improved as a result of continuing research. The object of most floor-covering manufacturers is to develop materials having maximum serviceability at minimum cost. The ultimate goal would be universal flooring material which could combine all the physical requirements necessary for installation over all types of subfloors, under all sorts of conditions.

The rash of new flooring materials and the improvements in the existing materials within the last few years have resulted in the obsolescence of standards and terminology. The Building Research Institute in its *Flexible Floor Coverings, Report No.* 12, recommends that standard nomenclature and specifications be developed to describe fully the various kinds of vinyl floor coverings, pitch-composition felt-back floor coverings, plastic floor coverings, and newer types of linoleum sheet or tile products.

For the purposes of this article, the resilient floor coverings to be discussed are asphalt tile, cork tile, linoleum, rubber tile, vinyl-asbestos tile, and vinyl tile. The term, vinyl-asbestos tile, used herein is meant to describe semi-flexible tile meeting Federal Specification L-T-751, Type 1; and the term, vinyl tile, is meant to describe flexible tile meeting Federal Specification L-T-751, Type 2. There are, in addition to these flooring materials, the felt-back vinyl floor coverings, combination cork-and-vinyl tile, and vinyl tiles containing metallic chips.

In selecting a resilient floor covering, the guiding factors should include maintenance, moisture, and service conditions. The Building Research Institute's report on selection of resilient floor coverings is based not on laboratory tests but on actual use experience. Other factors in the choice of resilient floor coverings should include decorative effects, underfoot comfort, and noise or impact.

Moisture conditions may be resolved into the following categories: moisture related to concrete subfloors, moisture related to wood subfloors and surface moisture. Flooring materials to be used on concrete surfaces below grade should be limited to those which will resist alkali attack. For years, only asphalt tile was suitable for this location. Now vinyl-asbestos tile is also recommended and in some instances where manufacturers have developed special adhesives, rubber tile and vinyl tile may be used. For on-grade concrete installations, many manufacturers may recommend, in addition to materials permitted below grade, cork tile, if installed in accordance with certain recommendations.

Wood subfloors constructed over sleepers on floors below grade or on-grade level are susceptible to moisture penetration from the ground. Such subfloors should be made secure against moisture by waterproofing since any damage to the wood subfloor by moisture will result in warpage with resultant harm to the resilient floor covering. Any resilient floor coverings may be installed over wood subfloors if they have been adequately protected against moisture.

Floors which are subjected to surface moisture, such as floors around lavatories, around laundry equipment, etc., should be installed, with waterproof adhesives. If so installed, most resilient floor coverings will give satisfactory service. Sheet materials may prove more satisfactory than tiles because of the minimum number of joints and seams thus reducing the amount of surface water which may seep under the flooring.

In selecting resilient floor coverings for service conditions, one must take into account traffic, frequency of cleaning, exposure to strong sunlight, and exposure to acid and alkalis. Light traffic, as in residential use, will permit the use of all of the resilient floor coverings. In most cases for residential use, floor covering will be replaced for decorative reasons long before they wear out. In commercial installations, heavy traffic may require heavier gage materials. However, the ⅛-inch thicknesses of vinyl-asbestos and vinyl may last the life of the building based on abrasion tests performed in the laboratory on these materials.

Frequency of cleaning has an effect on the life of the flooring material. Some flooring materials because of their dense, tough composition require less frequent cleaning and consequently last longer. Vinyl-asbestos and vinyl tile are excellent in these respects.

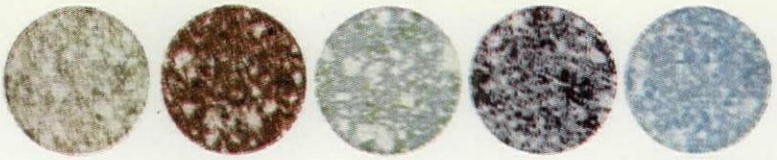
Floors which are subjected to strong sunlight, as may be the case in structures utilizing glass curtain walls, will be affected in their performance and appearance. Strong sunlight may cause fading, shrinking, brittleness, and chalking. Resilient floors in sheet form are recommended for such installations. Neutral colors, such as grays and tans, give the best light resistance whereas yellows, reds, and pinks are poorest in retaining their colorings when subjected to prolonged exposure to the sun.

Floors which are to be subjected to greases, alkalis, and acids should be selected on the basis of their resistance to these conditions. Vinyl-asbestos tile and vinyl tile are excellent choices when selecting flooring materials to be installed where they will be subjected to prolonged contamination by grease, alkali, or acid.

Generally the architect or builder is not too concerned with maintenance when selecting resilient flooring materials. However, studies have been made by some building-maintenance officials which indicate that first costs are not necessarily the determining factor when selecting resilient floor coverings. Frequency of cleaning and waxing may well indicate a more expensive floor covering material as a first choice, to reduce later maintenance costs. Vinyl-asbestos tile and vinyl tile are superior to most other flooring materials in that they are easiest to clean and maintain. In addition, both are resistant to harsh cleansers which are often used despite manufacturers recommendations. The subject of waxing to maintain vinyl and vinyl-asbestos floors is still open to debate. There are claims for and against waxing and one would be wise to follow the recommendations of the manufacturer of the flooring selected.

The Armstrong Cork Company has found virtually no loss in heating efficiency nor any harmful effects to either adhesives or resilient floor coverings when used over radiant-heated concrete subfloors provided that the floors are kept at a level below 85 F. (See *Armstrong Floors, Walls and Counter Tops Technical Data 1958*).

While a universal resilient floor covering has not yet been discovered, vinyl-asbestos tile comes very close to answering that description, except for underfoot comfort and quietness.



Philadelphia Country Club: Club President, Norman T. Hayes; Club Mgr., Fred Gleim, Jr.; Architect, Nolan & Swinburne; General Contractor, Nason & Cullen; Decorator, Wm. Pahlmann Associates; Desco Vitro-Glaze Contractor, Selby, Battersby & Co., Philadelphia, Pa.

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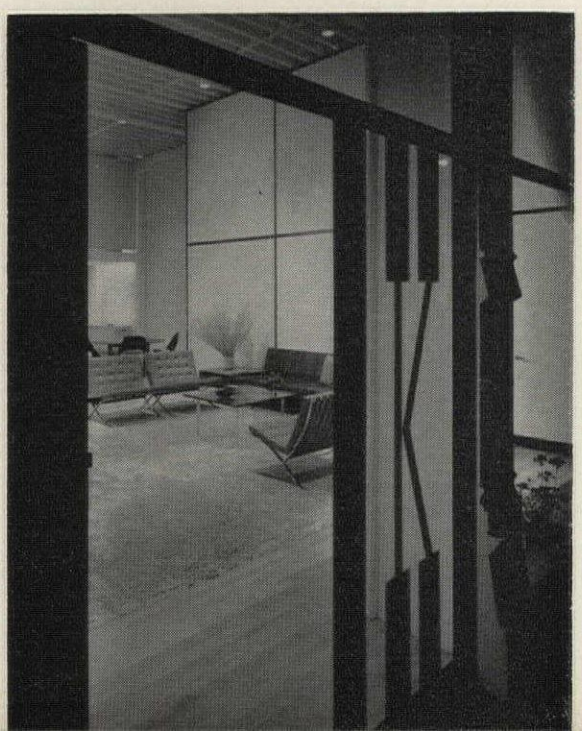
Louise Sloane

two showrooms

Brilliant examples of design that is "all of a piece" are the showrooms of Knoll Associates, Inc., where the character of the firm's furniture and textiles is expressively presented through the architectural elements, colors, and total design of the interiors.

Knoll's San Francisco showrooms occupy the first two floors of an 1857 building, a survivor of the earthquake of 1906. In recreating the space to serve as showrooms, Florence Knoll had the building stripped to the "bones" of the structure. The supporting columns and beams of heavy-mill construction were exposed, becoming part of the decorative scheme; and the brick walls were left in their natural state and painted white. Through the device of a balcony, horizontal planes were introduced to compensate for the disproportionate space of the long, narrow building. Hemlock floors, a free-floating stair of walnut planks, and a walk of walnut planks embedded in marble chips bring the warm values of natural woods into the scheme. Clear, strong colors—blues, reds, yellows—are carefully placed for emphasis in wall divider panels, painted wall areas, and carpet islands. Textiles, in natural tones and diversified textures, provide further contrast to the predominating white used throughout. Even the planting is precisely arranged, completing the geometric composition of the total interior.

To increase display space in Knoll's New York showrooms, 448 sq ft of former office space was converted to form a three-walled display area. The window wall is hung with sheer white fabric, backlighted with natural daylight and with fluorescent strips. The second wall is paneled in natural teak, one panel forming a door into the sales manager's office. The third wall, with door leading into executive corridor, is vertical maple siding, painted white. The white-painted-plaster hung ceiling is bordered by black perforated Masonite, covering air-conditioning ducts, and contains recessed spots for accent lighting. Completing the monochromatic color plan is beige carpeting. The only color accents are the brilliant fabrics on the Saarinen chair seats and the throw cushions.



At the entrance to the Knoll San Francisco showroom, the familiar "K" symbol is architecturally integrated with the total design by its incorporation in a see-through divider panel.

two showrooms

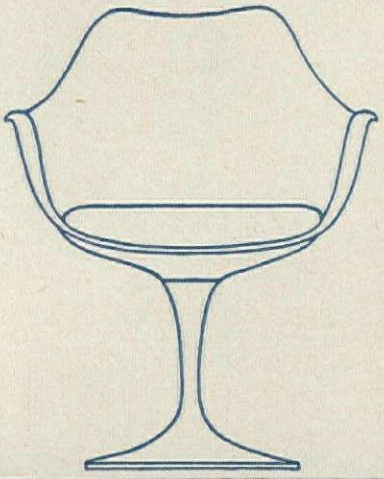
client	Knoll Associates, Inc.
location	San Francisco, California
designer	Florence S. Knoll, Director Knoll Planning Unit
project designer	Lewis Butler

Photos: Morley Baer

two showrooms

San Francisco *(continued)*

two showrooms



client	Knoll Associates, Inc.
location	New York, New York
designer	Florence S. Knoll, Director Knoll Planning Unit
project designer	Heino Orro

Photos: Scott Hyde

data

San Francisco showroom

windows

Venetian Blinds: Theodore de Friese & Son, San Francisco, Calif.

Bamboo Blinds: Bamboo and Rattan Works, 901 Jefferson St., Hoboken, N. J.

furniture, fabrics

All: Knoll Associates, Inc.; Knoll Textiles, Inc., 575 Madison Ave., New York 22, N. Y.

lighting

Installed: General Lighting Co., Inc., 248 McKibben St., Brooklyn 6, N. Y.; Gotham Lighting Corp., 37-01 31 St., Long Island City, N. Y.

Portable: Nessen Studio, Inc., 5 University Pl., New York 3, N. Y.; Harry Gitlin, 917 Third Ave., New York 22, N. Y.; Knoll Associates, Inc.

walls, flooring

Plaster Walls: "Red Top"/United States Gypsum Co., 300 W. Adams St., Chicago 6, Ill.

Paint: The Martin-Senour Co., 2520 S. Quarry, Chicago, Ill.; Benjamin Moore & Co., 511 Canal St., New York 13, N. Y.

Carpet: "Craven"/V'Soske/Lord & Adams, 4 E. 53 St., New York 22, N. Y.; "Champion"/cotton tufted/Vogue Carpet Corp., 17 E. 53 St., New York 22, N. Y.; sisal rugs/Continental Importing Co., 295 Fifth Ave., New York, N. Y.

accessories

Plants: Golden Gate Nurseries, 516 42 Ave., San Francisco, Calif.; Pacific Nurseries, San Francisco, Calif.

Ashtrays: Custom Enamels, 1080 N. Woodward Ave., Birmingham, Mich.; House of Italian Handicrafts, Inc., 225 Fifth Ave., New York, N. Y.

Special Plant Box: A. Halbig Furniture Mfg. Co., 54-45 44 St., Maspeth, Long Island, N. Y.

New York showroom

furniture, fabrics

All: Knoll Associates, Inc.

lighting

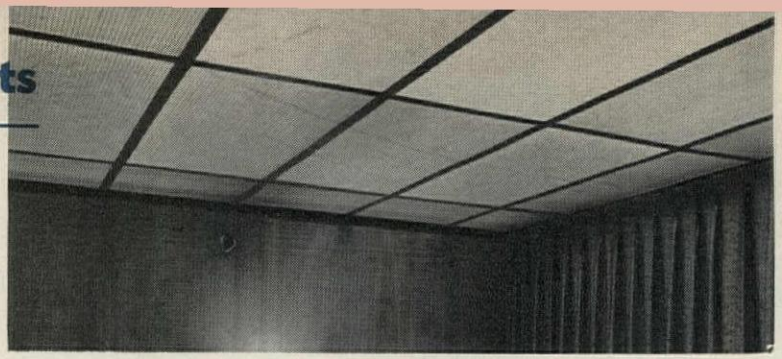
Recessed Ceiling Spots: Gotham Lighting Corp.

walls, flooring, ceiling

Walls: white-painted maple hardwood; teak paneling.

Carpet: V'Soske/Lord & Adams.

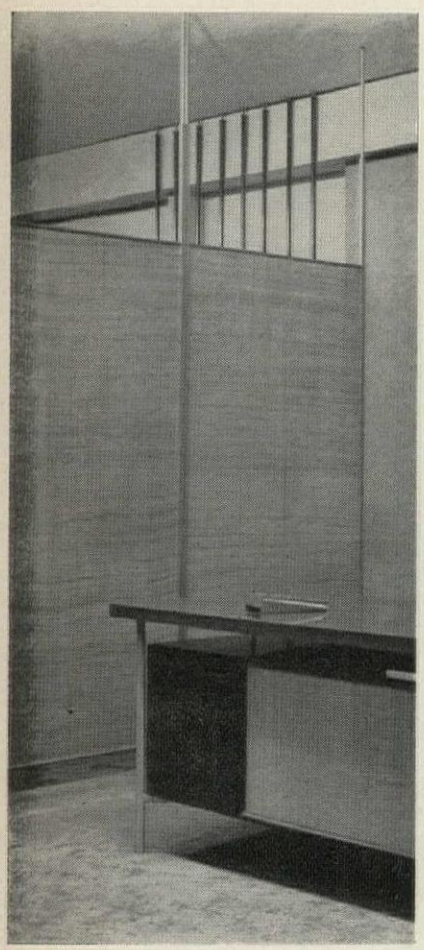
Hung Ceiling: plaster.

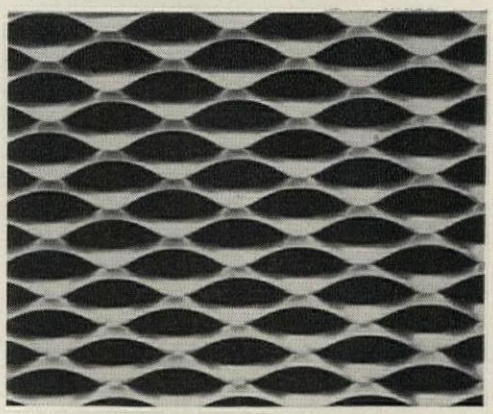


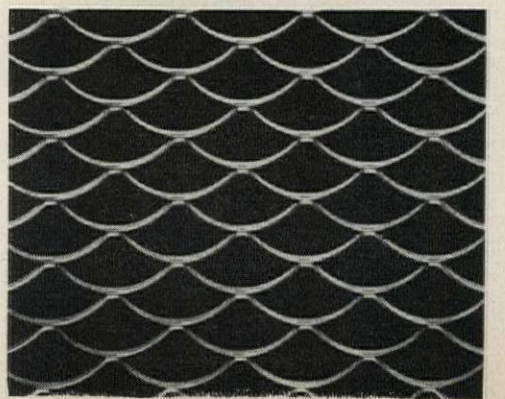
Room Divider: (left and below) panels of polyester-plastic reinforced with Fiberglas in variety of laminated signs / square aluminum frames of spring-type tubing permit flexibility of installation/ 3'x6' over-all / weatherproof for outdoor use/ **Styline Products Co., 3361 La Cienega Pl., Los Angeles 16, Calif.**

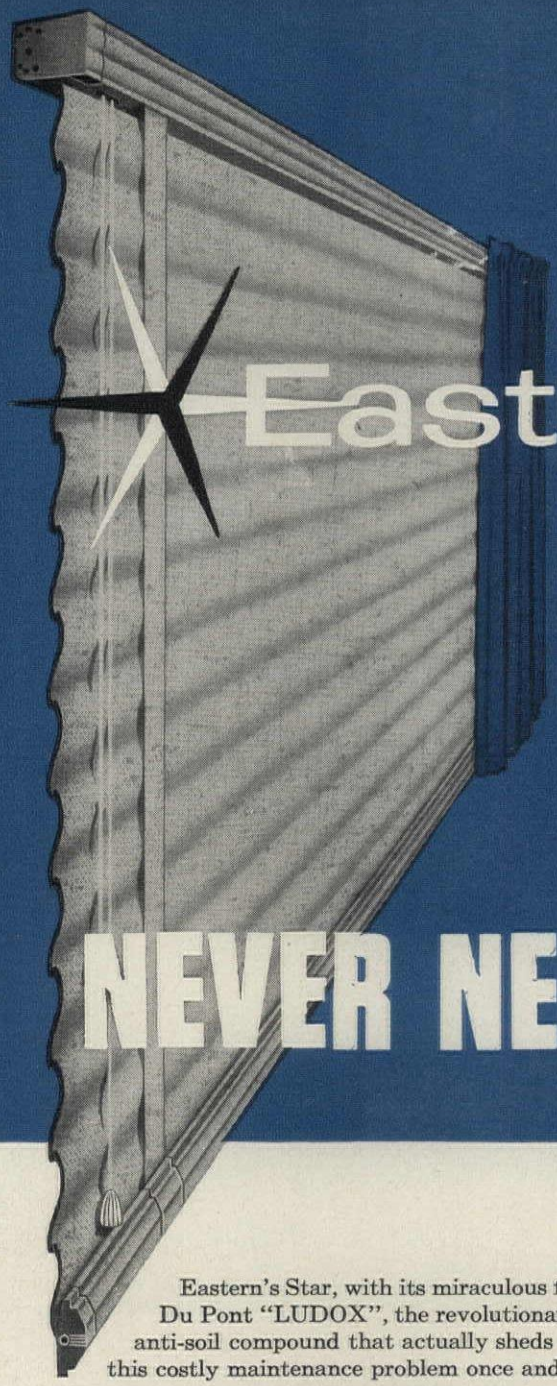
Colored-Aluminum Louver: (above) ½"x½"x½" shielding, fabricated from .025 aluminum, assembled and "Koldbonded" as one unit by an automated process providing 45° shielding/lengths up to 48", widths up to 24"/now available in a wide variety of colors, matched to specifications/**Columbia Electric & Manufacturing Co., 2310 N. Fancher Way, Spokane, Wash.**

Decorative Expanded Metals: (below) "Armorweave," "Festoon," "Cathedral"/cold-drawn from solid sheets of aluminum or carbon steel/may be curved, formed, welded, cut, without raveling/may be finished by anodizing, porcelain enameling, or painting, if color is desired/available in standard sheet sizes or sheared to specifications/**United States Gypsum Co., Chicago, Ill.**









Eastern's Star

THE FIRST AND ONLY VENETIAN BLINDS THAT

NEVER NEED WASHING!

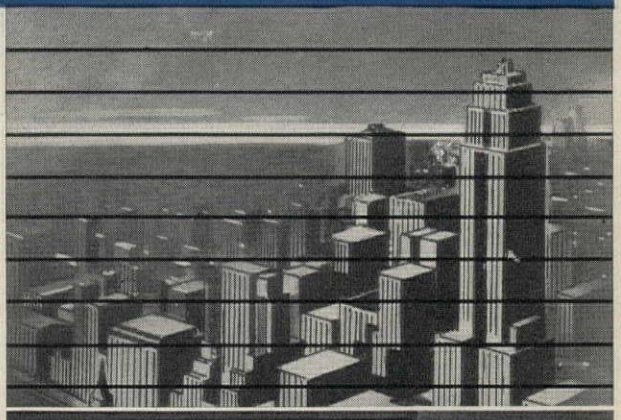
Eastern's Star, with its miraculous finish of Du Pont "LUDOX", the revolutionary new anti-soil compound that actually sheds dust, ends this costly maintenance problem once and for all!

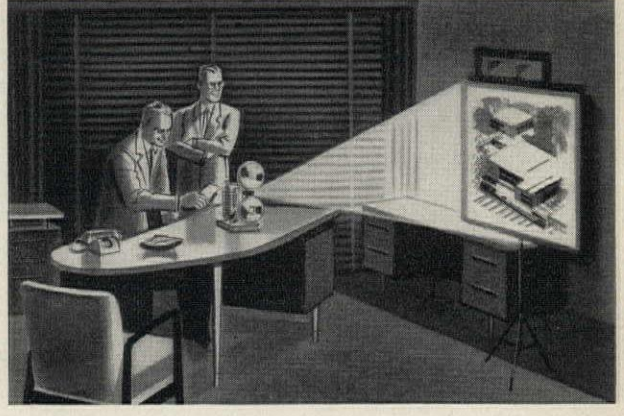
NO OTHER BLINDS OPEN SO WIDE!

A completely new outlook in venetian blinds! Eastern's Star's wider S-shaped slats are much farther apart . . . increase visibility by 38%! Need fewer tapes . . . eliminate the "slatty" look of ordinary venetians.

NO OTHER BLINDS CLOSE SO TIGHT!

Closed, Eastern's Star slats interlock for total darkness . . . turn any office into a projection room . . . create a one-piece effect, too! Leading architects are specifying this new look in venetian blinds for schools, hospitals, audio-visual rooms, offices, etc. Custom-made by many franchised manufacturers. Write for full details!





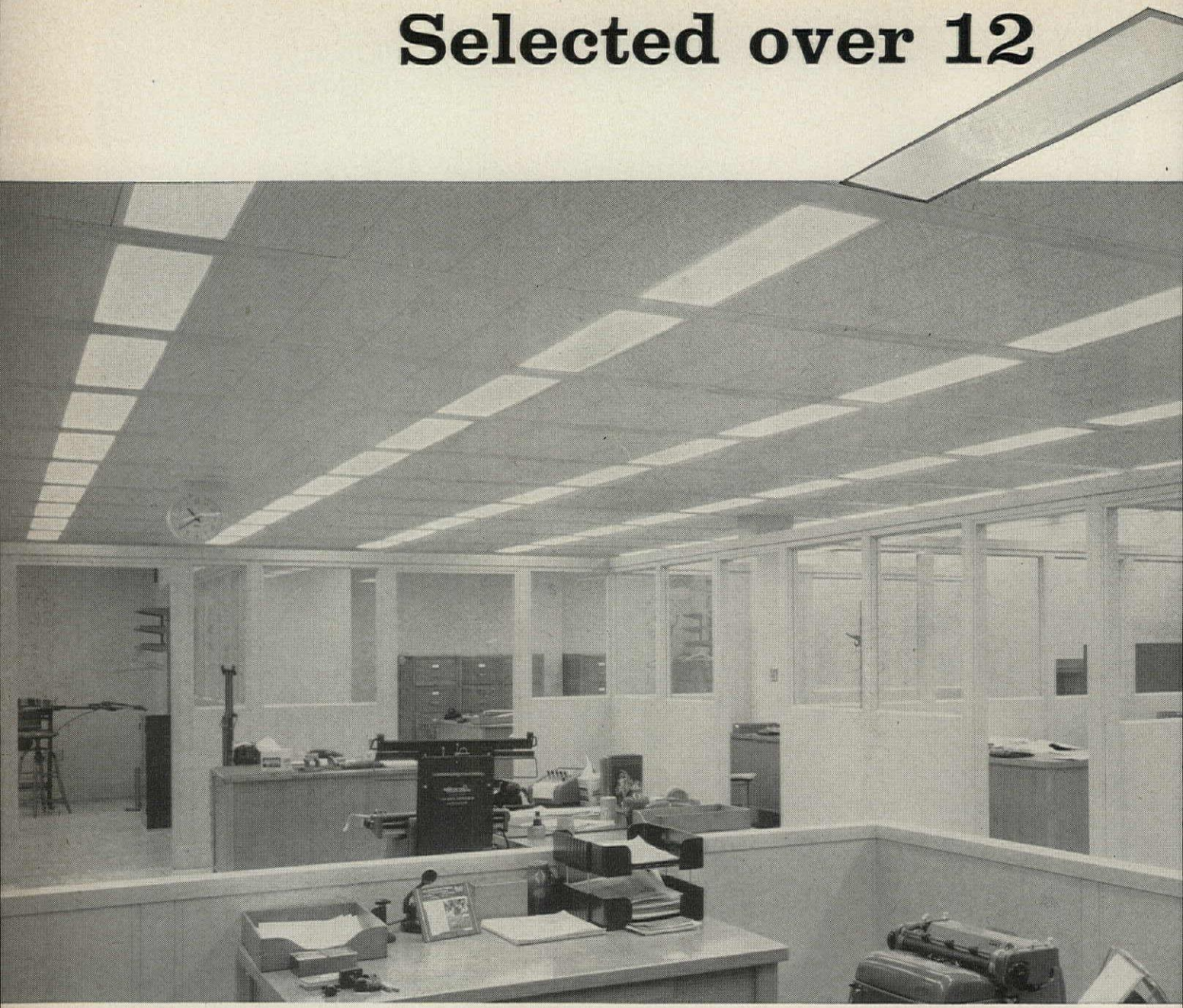
Eastern Products Corporation

Formerly Eastern Venetian Blind Co.

EASTERN PRODUCTS CORP.
1601 Wicomico Street
Baltimore 30, Md.

By the makers of famous
EASTERN DRAPERY HARDWARE

Selected over 12



These lighting fixtures can be moved as easily as the office partitions.
Day-Brite Recessed Troffers are interchangeable with acoustical ceiling tiles, permit complete flexibility.

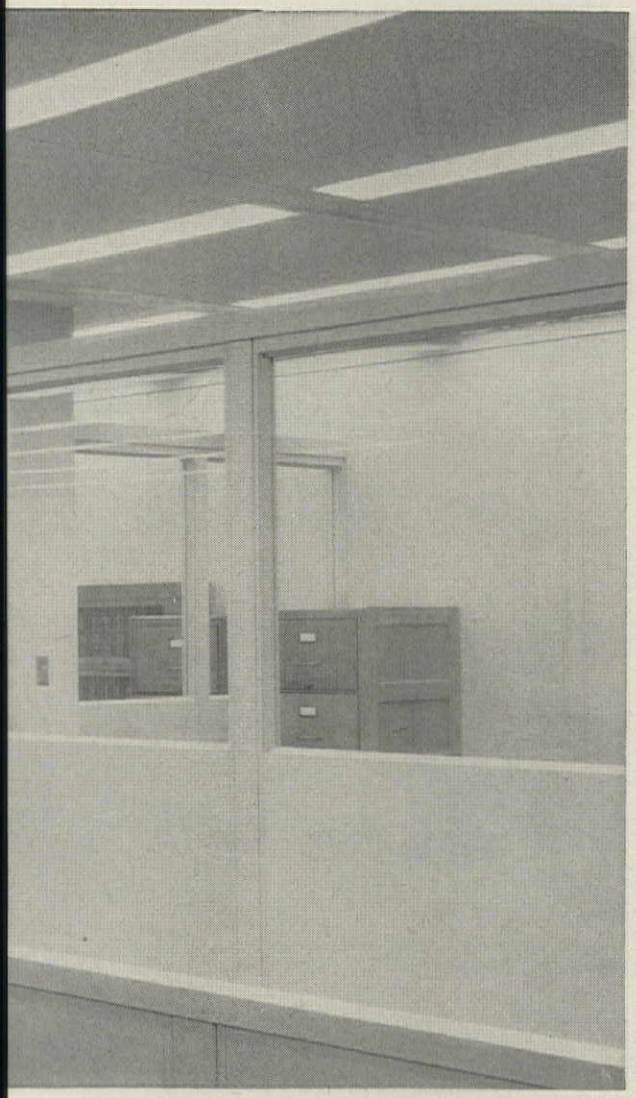
PROOF! No "or equal" can match Day-Brite!

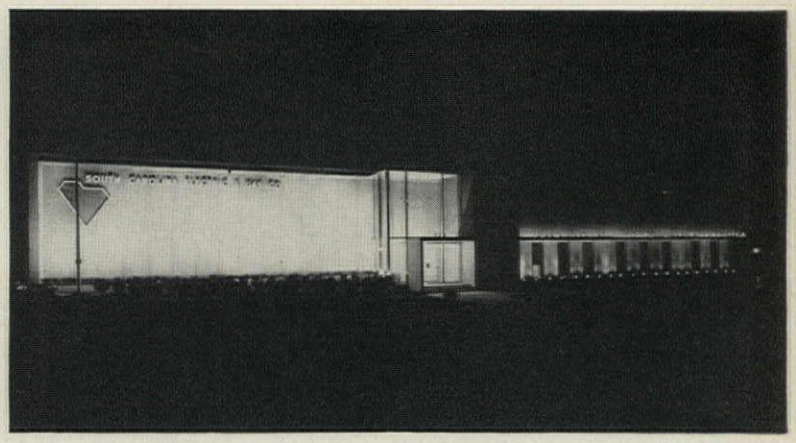
Twelve different competitive fixtures were installed on a test basis in the new home of the South Carolina Electric and Gas Co. The architect and client each compared the fixtures *independently*, and both chose Day-Brite Troffers for the entire job.

Make your own comparison. Call your Day-Brite representative, listed in the Yellow Pages, for a demonstration. Compare Day-Brite fixtures side-by-side with any other fixtures at any price. Check features and value. Prove to your own satisfaction that Day-Brite fixtures have no "or equals."

Additional light where it is needed!
Extra row of Day-Brite Troffers above business machines (next to wall) provide 85 footcandles at work level.

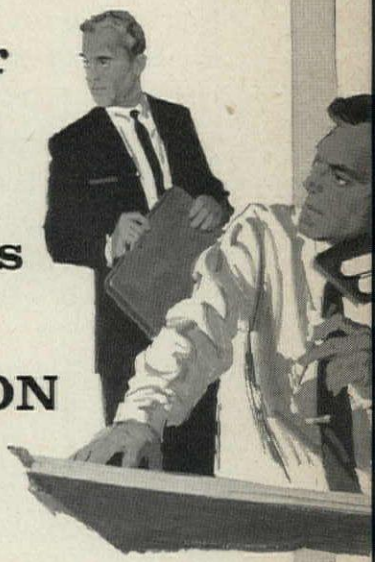
competitive fixtures!





South Carolina Electric and Gas Co., Columbia, South Carolina.
HEYWARD S. SINGLEY, F.A.I.A., *Architect-Engineer;*
DUNN ELECTRIC CO., *Electrical Contractor.*

How Modular Lighting by Day-Brite helps Architects LOWER CONSTRUCTION COSTS



In keeping with contemporary architectural trends, Day-Brite recessed fixtures are shallower and lighter, yet stronger. They take less space, can be mounted end-to-end or side-by-side, offer greater freedom of design.

Interchangeable with acoustical ceiling panels, they enable you to take full advantage of all the economies made possible by modular construction.

For more information on how Day-Brite equipment can help you coordinate lighting with ceilings in appearance, function and assembly, write for your copy of free booklet: "*Modular Lighting for Modular Measure.*"

Z-250

DECIDEDLY BETTER
DAY-BRITE
LIGHTING FIXTURES

Day-Brite Lighting, Inc.
6254 N. Broadway, St. Louis 15, Missouri
Day-Brite Lighting, Inc., of California
530 Martin Ave., Santa Clara, California

SEE OUR CATALOG IN SWEET'S ARCHITECTURAL FILE OR WRITE FOR COPY

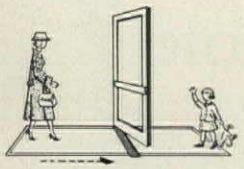
NATION'S LARGEST MANUFACTURER OF COMMERCIAL AND INDUSTRIAL LIGHTING EQUIPMENT

there's *EXTRA* safety

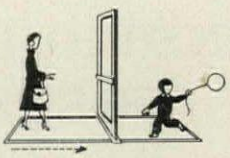
when the RIXSON *automatic* opens and closes the door

The **RIXSON *automatic*** has been carefully engineered to offer many new advantages of safety and function. It opens the door by hydraulic power and closes the door by hydraulic power—no springs required. A dry-sump system avoids damage from fluid leakage on floor.

The **RIXSON *automatic*** is completely concealed in the floor—no arms or other hardware are visible. In addition to mat actuated styles, the ***automatic*** can be actuated by floor, desk or wall switch.



If a person steps on safety mat after door is in opening swing, door will not strike him, but will STOP.



If person is on safety mat, another person stepping on actuating mat will not cause door to swing open.

If a person walks off safety mat and then, while door is closing, steps back on mat, door will stop and not swing suddenly open.

A break-a-way that allows doors operating IN to be forced OUT in emergency (if there are no door stops) is standard equipment.

A safety trip prevents motor from running continuously and avoids danger of overheating.

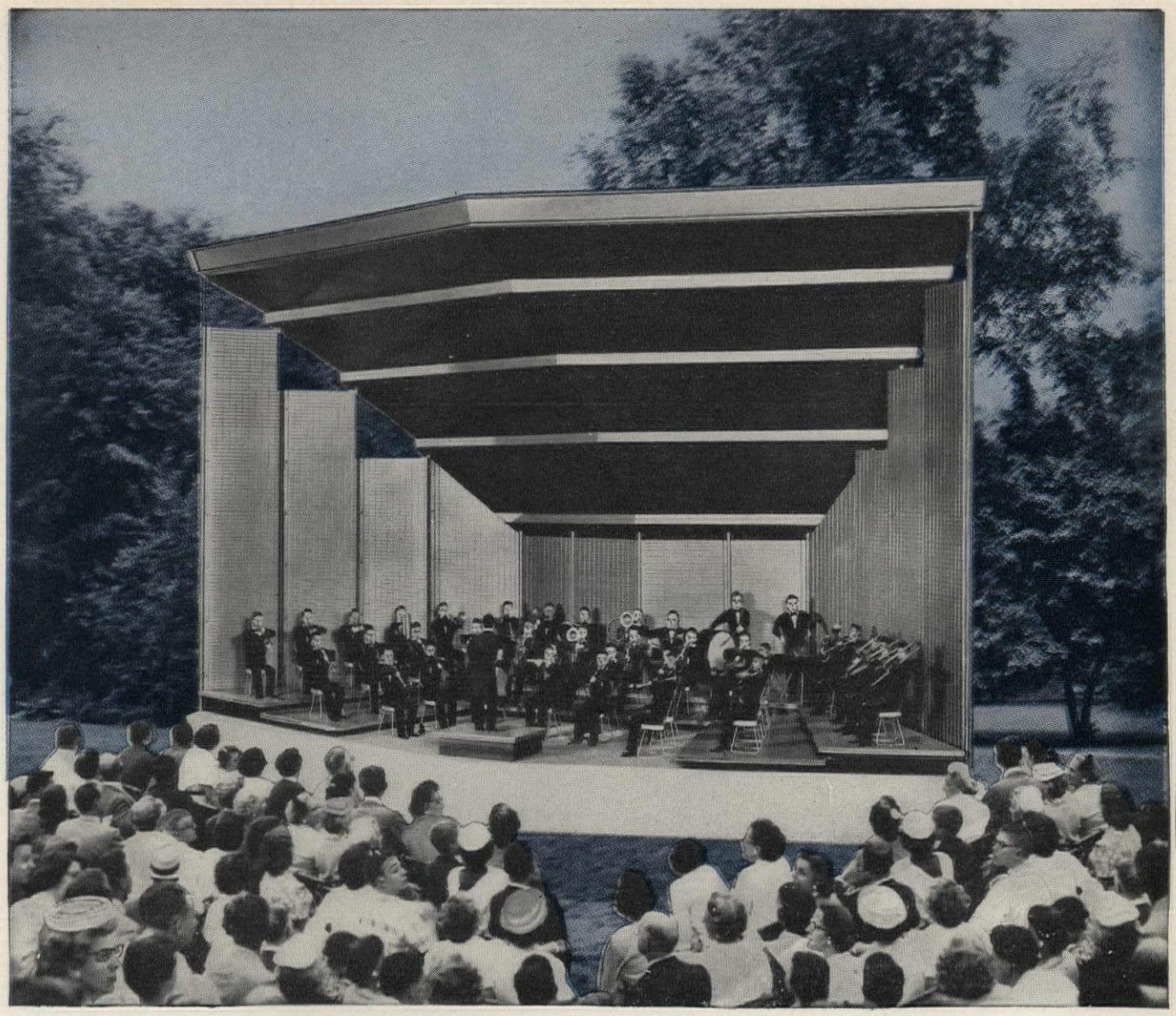
Rixson engineers will gladly work with you on your original plans or special applications. Complete template and installation instructions furnished.

Write for complete description and details

THE OSCAR C. RIXSON COMPANY

9100 west belmont avenue • franklin park, illinois

CANADIAN PLANT: 43 racine road • rexdale, ontario



Overly HI-FI BAND SHELL

...the greatest advance in outdoor stage acoustics, beauty, color, comfort, convenience and durability combined

Overly's Hi-Fi Band Shell is a joint development with Alcoa, nationally known acousticians, bandmasters, architects and designers. It is the most complete answer to the outdoor stage acoustical needs of today and tomorrow. It is a composite of the *improvements* sought by schools, communities and others desiring better recreational and cultural facilities. Offered in four basic sizes, this Overly unit is adaptable for a wide variety of civic and cultural functions in addition to live band concerts.

Features. Durable; all aluminum. Choice of non-fading colors. Provides well dispersed live sound so that, no matter where the listener sits, he will hear well.

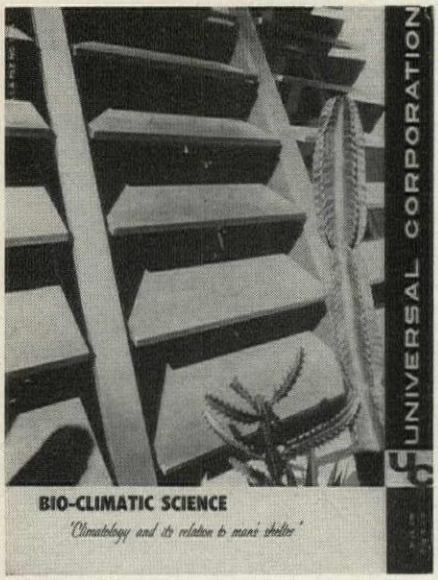
Write us today for your FREE copy of our new, 12-page, illustrated booklet. *Contents:* history of band shells, and problems with conventional types; superior design and engineering features of the Overly unit, details, specifications, applications, site selection and seating plans. Ask for booklet by name: "Overly Hi-Fi Band Shell." No obligation.

Send today for 12-page booklet... in full color!

Overly Manufacturing Company

Greensburg, Pennsylvania • Los Angeles 39, California

ENGINEERED IN ALCOA ALUMINUM



With glass the dominant material in many of today's architectural designs, it has been found that solar energy is a prime consideration in the effort to both utilize natural light and to prevent too much or too little solar heat from affecting the interior environment. This new brochure (left), Bio-Climatic Science, *discusses the considerations which must be studied in planning a system which will provide natural illumination and will alleviate the amount of solar energy entering the structure. Shading devices of either vertical or horizontal louvers are suggested—controlled by electric mechanisms—allowing predetermined positions for definite times of day and year (based on Shade Dial developed by the Olgyay brothers,* JUNE 1955 P/A). *These retractable solar barriers are manufactured in aluminum, bronze, or stainless steel. Drawings of components and specifications are included.*

352. Bio-Climatic Science, *AIA 17-A, 16-p. Universal Corp.* E.C.D.

Editor's note: Items starred are particularly ★ *noteworthy, due to immediate and widespread interest in their contents, to the conciseness and clarity with which information is presented, to announcement of a new, important product, or to some other factor which makes them especially valuable.*

air and temperature control

174. Registers, Grilles, Diffusers, for Heating and Cooling, AIA 30J, 72-p. catalog includes complete line of units for heating and cooling applications. Perimeter-heating and air-conditioning section comprises sizing charts and technical data for components; residental and commercial heating and air-conditioning lines, gravity and accessory lines described with technical information, engineering data charts, dimensions, deflection charts, photos. Hart & Cooley Manufacturing Co.

175. Forty Facts You Should Know About Kewanee Boilers, 12-p. illustrated booklet discusses advantages of steel fire-tube boilers for industrial applications. Principal advantages are found in two-pass design, special construction, allowing large capacity in low units. American-Standard, Kewanee Boiler Div.

176. Vornado Complete Home Air Conditioning, 8-p. folder stresses advantages of home air conditioning—allowing sleep, relaxation, better health, etc. System gives adequate air movement, properly controlled humidity, nonfluctuating temperature level. Components include cooling unit (twin-refrigerant), duct system, room outlets, central filtering system, condenser. Cutaway photo with complete description explains working system. Low cost is a prime interest factor. Various types of installations suggested. Specifications. The O. A. Sutton Corp., Inc.

177. Chromalox Electric Heating, AIA 31-K-3, 12-p. booklet is a guide to electric heating of residential, commercial, industrial buildings. Advantages of this type of heating include: easy installation, safety, cleanliness, space saving, little maintenance. Heating can be radiant, convection, forced hot air, combination of radiant-convection. Baseboard system gives perimeter heating—drawings and data illustrate all systems available. Thermostats and portable heaters shown. Edwin L. Wiegand Co.

178. Coal-Pak Automatic Boilers, AIA 34-B-1, 30-C-1, 10-p. catalog concerning new line of bituminous coal-fired package boilers. Different units for low or high-pressure/hot-water or steam systems feature automatic coal feed and ash removal. Units are said to be fast heating, have maximum heat absorption, five-pass design. Cutaway photo shows operation. Performance curves, comparative fuel cost analysis given. Complete control system described. The International Boiler Works Co.

construction

226. VMP Mobilwalls, AIA 35-H-6, 60-p. catalog describes line of movable metal partitions for office, school, laboratory. Five distinct types—flush, semi-flush, eye level, low-rail, partial partitions—offered, as well as numerous accessories, including doors, top filler, hardware, wickets, and grills, etc. Features claimed: surface flatness, range of color finishes, assembly lock, functional appearance, adjustable base, universal floor fastening, insulation, wiring facilities, adjustable frames, reduced installation, maintenance costs. Cutaway drawings, construction details, elevations given. Typical plans offered. Specifications, photos of installations. Virginia Metal Products, Inc.

227. Glasbord, AIA 26-A-9, 8-p. brochure includes product design, installation data on acrylic modified polyester resin combined with glass fiber panels. **Translucent** panels reduce brightness and glare, have high strength, are waterproof, and are available in either crinkle or smooth finishes, various sizes and colors. Particularly adaptable to industrial and commercial installation and residences. Typical roof, sidewall, interior applications shown. Kemlite Corp.

228. The George Nelson Sketchbook, 10-p. booklet features black-and-white sketches by George Nelson, utilizing expanded metals in a variety of designs. Expanded metals, available in aluminum or steel, have advantage of being lightweight, yet strong. Freedom of design allows numerous uses such as sliding screens to cover sun deck, patio screens, sliding shutters, walls, ceilings—all illustrated. United States Gypsum Co.

229. Crystalite, 4-p. booklet discusses heat-reflecting roofing aggregate—hard nonporous marble limestone—white in color. Roof material offers high reflectivity which reduces inside temperature 8-10 degrees. Air conditioning installation and maintenance cost is reduced. Material is low cost, meets bonded specifications. Booklet includes test data, photos of installations, specifications. Black White Limestone Co.

★ **230. Ceco Aluminum and Steel Curtain Walls,** AIA 17-A, 24-p. booklet, includes curtain walls for one-story, multistory construction. Complete installation details. Mullion details given as well as safe limits for wind loading, anchorage details, head connections. Aluminum and steel available. Ceco Steel Products Corp.

231. Specifications for Zonolite Insulating Concrete, AIA 4-E-13, 37-B-2, file folder containing sheets on systems for lightweight roof insulation and roof deck systems Material is mixture of stabilized vermiculite concrete aggregate, portland cement, water—providing monolithic, fire-

proof substance over structural concrete or galvanized vented steel roof decks; insulating or acoustical roof deck with subpurlins, mesh, formboard or other materials. Data sheets include technical information, tables for load-span and safe-load data. Drawings show application. Zonolite Co.

232. Pozzolith, 20-p. book concerns material used to improve lightweight concrete. Brochure shows applications, detail photos for various structures, including arched roof school, high office building, bridge. Additive claims increased strength, reduced bleeding, durability, reduced permeability, increased bond-to-steel over normal concrete. The Master Builders Co.

233. Moynahan Curtain Walls, 8-p. guide to line of curtain walls, featuring AW series (aluminum) with isometric detail view and drawings—system designed for expansion and contraction. Series AW-F also detailed; specifications presented. Moynahan Bronze Co.

234. Steelcote Thiocaulk for Curtain-Wall Construction, AIA 7D, 26-2, describes curtain-wall sealant which claims 2-½ times radical dimensional changes in ratio of aluminum to glass. Sealant is water and weatherproof; ultimate tensile strength is 150 psi. Porcelain wall construction discussed—technical data clearly presented. Steelcote Manufacturing Co.

235. Kaiser Aluminum Industrial Building Products, AIA 12-C, 16-p. booklet concerns roofing and siding for industrial construction. Advantages of aluminum construction include: light weight, strength, durability, versatility, economy, low maintenance. Detail drawings show ribbed siding —4″ and 8″ pitch, 5.33″ pitch; also v-beam roofing and siding, industrial corrugated roofing and siding, with weight and coverage tables. Application for sandwich walls given. Installation details, flashing and accessories, typical uses, specifications included. Kaiser Aluminum & Chemical Sales, Inc.

236. M-Floors, AIA 17-A, 16-p. booklet contains information on Cel-Beam Sections for light weight, electrified, cellular-steel sub-floors. Sections consist of flat plate with two roll-formed hat section beam members. Sections are 24″ wide, can have members furnished in several depths. All members are 6″ wide. Space for electrical wiring and telephone cables is provided. High strength/weight ratio featured; galvanized finish and roll-formed structural-gage steel used. Full description, engineering data, section property tables, load tables, specifications given. Framing detail drawings, electrification, installation and welding procedures given. The R. C. Mahon Co.

237. Kawneer Unit Wall, AIA 17-A, file folder contains data for prefab curtain-wall units. Modular units are offered in standard or optional types, sizes, arrangements. Features are split mullion design to allow expansion and/or contraction, puttyless glazing, concealed fastening, flush interior frame surfaces, operable sash, economy. Construction details, specifications, installation instructions (shown by drawings), charts, drawings of individual components are included in folder. Kawneer Co.

doors and windows

346. Pam Plastic Skylights, 12-p. catalog is guide to skylights for industrial, institutional, commercial residential installations. Construction features are: lightweight, one-piece construction, high-efficiency daylighting (clear or translucent plastic), resistance to breakage, extruded aluminum frames, standard sizes. Dubl-Dome series presented—construction drawings showing preformed Plexiglas dome and flat center stress member which acts as permanent stabilizer. Specifications for all series—1-⅝″ curb, 4″ curb, insulated curb, ceiling dome, etc. The Pam Co.

347. Ventlok Line, 12-p. catalog of access doors and door hardware, damper hardware. Ventlok latch, for use on small sheet metal access doors and panels, is made of rustproof alloy of zinc and aluminum. Components shown by drawings. Other latches in line for all applications illustrated. Hinges and gasketing discussed. Ventfabrics, Inc.

348. TelKee Key Control Systems and Equipment, 4-p. booklet illustrates advantages of having key system which provides duplicates, key records, lock insurance, protection, systematic organization of keys. Components in set include: reserve pattern key, duplicate, receipt holder, temporary marker, brass receipt holder, key change number for cross indexing. Complete line of key file equipment—for holding 25 to 2240 keys—shown. Specification data. P. O. Moore, Inc.

349. No-Warp Solid Core Flush Doors, 4-p. brochure describes doors for all types of installations. Five-ply and three-ply doors shown by cutaway photo. Standard specifications given; sectional drawings and line of special doors included. Hyde-Murphy Co.

350. Kennatrack Gliding Door Hardware, AIA 27-A, 32 p. booklet concerns hardware for interior gliding doors, folding doors, packaged units. Nylon wheels allow easy gliding action with little noise. Features include expansion sleeve mounting, self-aligning wheels, adjustable precision ball-bearing hanger, step-up design for cabinets. Various series available for specific installations. Drawings, photos, specifications included; numerous accessories are available. Kennatrack Corp., subsidiary of Ekco Products Co.

351. Pella Wood Folding Doors, 8-p. booklet of folding door line. Available in pine, birch, oak and Philippine mahogany woods, doors are noted for durability. Features include concealed track, head stop with spring-action catch, free-riding hangers, wood handle and spring latch, spring hinges, laminated panels. Dimensions for detailing, size chart, recessed application drawings given. Construction details and specifications. Rolscreen Co.

electrical equipment, lighting

462. National Electric Headerduct, AIA 31-C-62, 32-p. booklet describes wiring systems for electrified cellular steel floors. Units are easily accessible—duct is welded rectangular 14-gage steel tubing with rounded corners. Headerduct is installed on top of cellular steel panels; service fittings placed where specified. Specifications, installation procedures detailed; components included with data. National Electric Products Corp.

463. Build Comfort Into Your Home, AIA 30-C-44, 4-p. folder is guide to hollow-floor heating, cooling and ventilating system. Hollow-floor construction allows distribution of heated and cooled ventilated air to perimeter registers. Radiation and

(Continued on page 152)

PROGRESSIVE ARCHITECTURE, 430 Park Avenue, New York 22, N. Y. I should like a copy of each piece of Manufacturers' Literature circled. Coupon must be used by 9/1/58

174	229	237	462	661	832
175	230	346	463	662	833
176	231	347	464	826	834
177	232	348	465	827	835
178	233	349	466	828	981
226	234	350	467	829	982
227	235	351	468	830	72
228	236	352	554	831	

please print

Name _____

Position _____

Firm _____

Mailing Address _____

City _____ *State* _____

We request students to send their inquiries directly to the manufacturers.

p/a manufacturers' literature

(Continued from page 151)

convection combination gives draftless environment—arched construction acts as silencer of mechanical noises; no overhead ductwork required. System eliminates moisture, operates from oil, gas, coal, electrically fired furnaces. Floor plan shown, register details given. Airfloor Company of California, Inc.

464. **Specification Grade Wiring** ★ **Devices,** AIA 31-C-7, index chart acts as reference for specifying wiring devices. Included are descriptions and catalog data for frequently used units, such as tap action switches, ac, dc, combination switches, grounding and polarized receptacles. Cutaway photos give dimensions, data for each type. The Arrow-Hart & Hegeman Electric Co.

465. **Precast Grid Toplite Panels,** ★ AIA 12-J, 16-p. publication discusses new line of roof panels consisting of glass units spaced 10 ft on centers, supported by reinforced structural grid formed of new high-strength cementitious material. Units are durable, strong, have high insulating value. Panels offer use of daylight in homes, offices, shopping centers, etc., as primary or supplementary light source. Diagrams, construction drawings, illumination data; installation steps given. Owens-Illinois Glass Co.

466. **Indirect Luminous Ceilings,** 12-p. brochure concerns three basic arrangements—in-line, 2-lamp parallel, quad lamp systems. Units offer visual comfort—data given for each arrangement, including photometic, dimensional, distribution information. Complete assemblies available. Silvray Lighting, Inc.

467. **Incandescent and Mercury Fixtures for Industrial Lighting,** 4-p. folder includes aluminum, uplight, porcelain-enameled units for 400 and 1000-w mercury lamps and incandescent medium or high-bay units. Performance data, coefficients of utilization charts given. Abolite Lighting Div., The Jones Metal Products Co.

468. **What to Look For in School Lighting,** 8-p. brochure lists essentials of good lighting in classrooms. Recommended lighting levels are given for various types of classrooms. Discussion of what makes comfortable lighting includes such points as properly shielded light source, uniformity of diffusion, balanced fixture and room brightness contrasts. Economics of lighting included, as well as photos of installations in schools. Garcy Lighting Div., Garden City Plating & Mfg. Co.

finishers and protectors

554. **Reflecto-Barrier,** 8-p. booklet depicts new material for application over steel, wood, concrete roof decks. Material is flexible plastic film; it is self-extinguishing, reflective, moisture-proof, impervious to liquids, easily applied. Application directions given. Technical data, installation methods shown. Reflecto-Barrier Sales Co., Inc.

insulation (thermal and acoustical)

661. **Cafco Spray,** AIA 39-B-1, 37-C-2, 4-p. brochure concerns material—blend of mineral and asbestos fibers, mineral binders—which give effective acoustical and thermal insulation. Spray is permanent, inorganic, lightweight, incombustible, rust- and rot-proof, sound absorbent. Characteristics: light reflection, U-factor, sound absorption figures given. Material should be sprayed over special adhesive. Also acts as plaster base if desired. Columbia Acoustics and Fireproofing Co.

662. **Uni-Crest Expanded Polystyrene,** file folder about good insulating material for low-temperature insulation. Qualities include low thermal conductivity, resistance to water, lightweight, resistance to fungus. Available in sheet, slab, block sizes. Physical properties tabulated. Application specifications for perimeter,

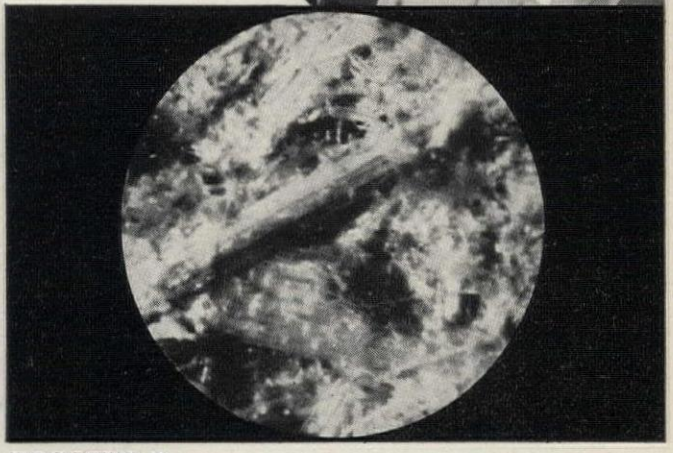
(Continued on page 158)

Barrett®

THE MICROSCOPE PROVES THE DIFFERENCE

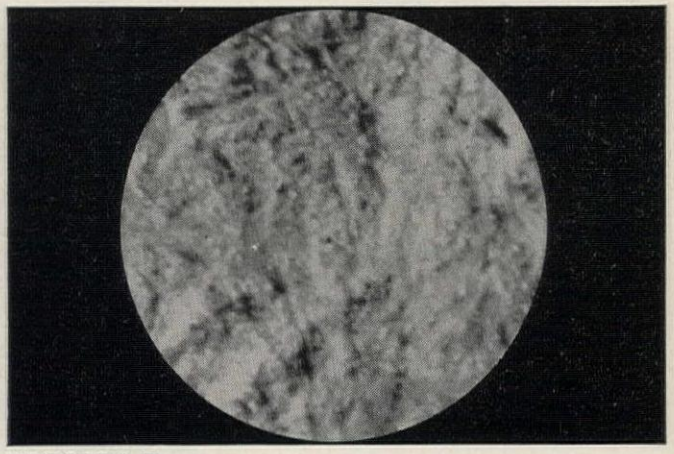
New CHEM-FI manufacturing process preserves the fiber strength of natural wood . . . makes Barrett board stronger, more uniform.

BARRETT INSULATING BOARD (magnified 20 times)
This microphotograph shows the long, interlocking wood fibers that reinforce Barrett Insulating Board . . . give it superior strength, uniformity and uniform thermal resistance. Barrett's CHEM-FI process separates the wood fibers by chemical means, retaining the strength of the natural wood from which it's made.



PROCESS B (magnified 20 times)
Notice that insulating board made by Process "B" has little uniformity in its fiber lengths. Some fibers are long, others are powder-like, providing no reinforcement. For a given board density (and thus a given K factor), Barrett's CHEM-FI manufacturing process produces insulating board of maximum strength.

PROCESS C (magnified 20 times)



PROCESS D (magnified 20 times)

Insulating board made by these processes shows same preponderance of short fibers. Barrett Insulating Board using the CHEM-FI process, is made with longer, more uniform fibers, which have a reinforcing effect and substantially improve strength.

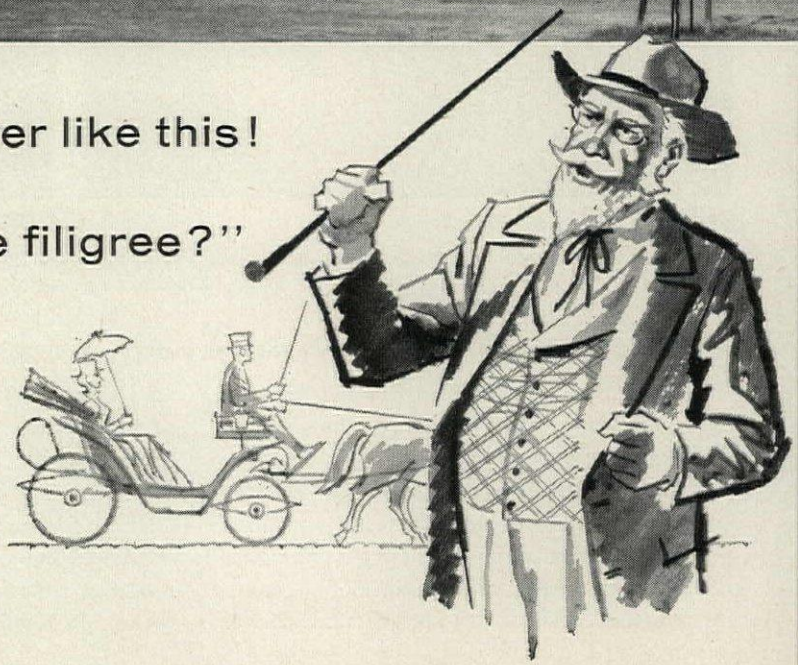
Architects—these microphotographs carry an important message for you!

Compare Barrett Insulating Board with that made by three other processes. There you'll find conclusive proof of the greater strength and more uniform insulating power of Barrett Insulating Sheathing and Barrett Roof Insulation. To insulating sheathing, Barrett's CHEM-FI Process brings superior strength for increased resistance to stress, and greater wall rigidity. To Barrett Roof Insulation, it brings uniformly high insulating value and light weight. Specify Barrett Insulating Sheathing and Roof Insulation made by the CHEM-FI Process—the biggest improvement in insulating board since its introduction. BARRETT DIVISION, Allied Chemical Corporation, 40 Rector Street, New York 6, N. Y.

Allied Chemical

"New Orleans was never like this!

What happened to the filigree?"



Architects: Goldstein, Parham & Labouisse, and Favrot, Reed, Mathes & Bergman, New Orleans, La.

It's still in the French Quarter, Colonel, but up here at City Hall we need a practical form of architecture—practical, but still beautiful. The new City Hall is the first of a proposed five-building civic center—an excellent example of functional modern architecture. It is especially functional in the extensive use of glass for the vision and spandrel areas.

SOLEX®—*Pittsburgh's* heat-absorbing glass—in the windows keeps the interior cooler and more comfortable. And SPANDRELITE®—*Pittsburgh's* glass in color—brings a new-found beauty to the exterior, provides a "glass skin" that is exceptionally strong, durable, and weather and corrosion-resistant.

Another *Pittsburgh* product used in this impressive building is the PITTCOMATIC® automatic door opener. With this hinge, doors open at a feather touch. What's more, the PITTCOMATIC is the easiest device to install and maintain . . . the safest to operate.

In *your* architectural plans, consider Pittsburgh Plate Glass Company products. You'll find them basic in drawing up any building scheme. Our Architectural Representative nearest you will be pleased to assist you in solving any problem confronting you. Call on him. There is no obligation on your part.

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PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

p/a literature

(Continued from page 152)

foundation, concrete-slab uses, with sectional drawings included. Uni-Crest Div., United Cork Companies.

sanitation, plumbing, water supply

IIA Incinerator Standards, 10-p. publication is compilation of standards as set up by Incinerator Institute of America. Brochure includes section on definitions, waste analysis, classification of incinerators, specifications, for each class of incinerators. Tables present necessary data—materials and temperatures, etc. Available from: Incinerator Institute of America, 420 Lexington Ave., New York 17, N. Y. $.25

specialized equipment

826. Modular Fire Alarm Systems, ★ AIA 31-i-31, 26-p. brochure describes fire-alarm systems based on standardized components which are easily assembled and can be approved by Underwriters' Laboratories in shorter time than conventional systems. Control panels are dead front—all components are enclosed. Vibrating horns and bells can be used with each system. Local fire-alarm systems, coded and noncoded, are described; specifications given. Drawings, tables, for each system, plus photos. S. H. Couch Co., Inc.

827. Stacor Lifetime Quality Equipment, 26-p. catalog of equipment for drafting room, artist's drawing board, schools. Files for drawings, blueprints, included; sectional cabinets shown; tables for drafting, tracing included. Available in steel, wood. Dimensions, capacities. Stacor Equipment Co.

828. Deluxe Steel Shelving, 64-p. manual includes shelving items for all types of applications. Sections devoted to storage shelving, shop equipment, vertifile, library shelving, storage cabinets. Dimensions, photos, descriptions, specifications, drawings illustrate suggested units. Various materials and finishes are utilized. Deluxe Metal Furniture Co.

829. Color Line Partitions, AIA 35-H-6, 28-p. catalog of line of movable partitions. Framing details, construction features, assembly details included. Numerous paneling materials can be used; wiring may be integrated with design. Design and layout suggested. Flexibility of system in offices is prime advantage. Unistrut Products Co.

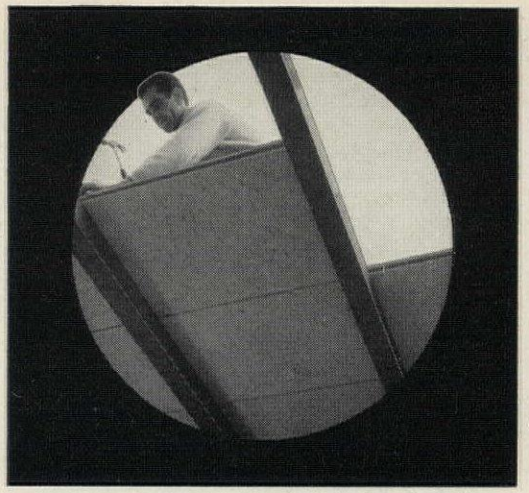
830. Parking Techniques, AIA 14A, 32-p., catalog of designs for better parking lot planning. Diagrams show space allocations, utilizing three common parking angles—45, 60, 90 degrees. Parking barriers also described. Lots for passenger cars, trucks, buses included. Harris Barrier, Inc.

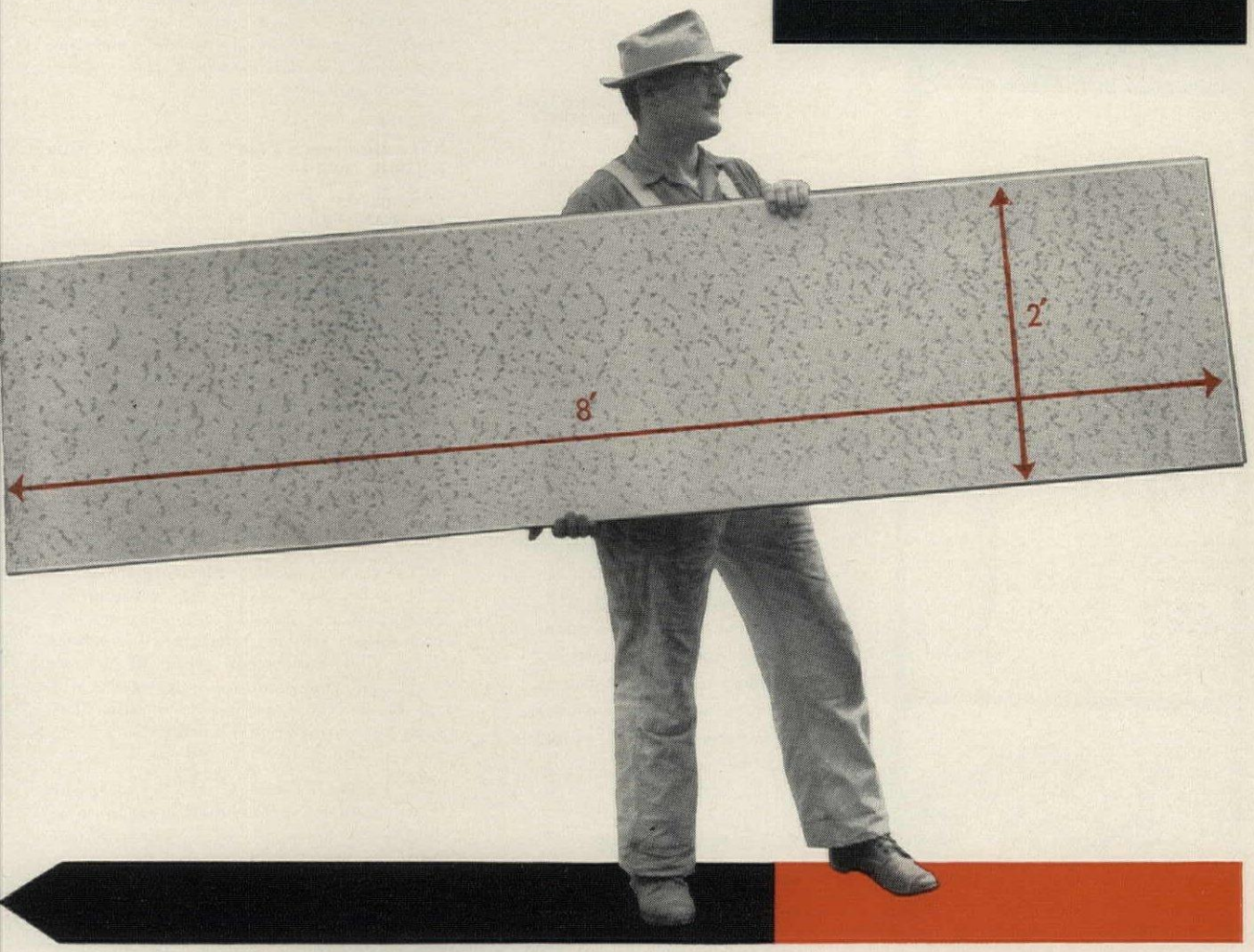
(Continued on page 160)

new

4-in-1 Roof Deck

. . . provides sound conditioning . . . attractive finish . . . insulation . . . structural support.





New Simpson Forestone* Acoustical Insulating Roof Deck

cuts cost—simplifies design of post and beam construction

Offers you a practical, economical solution to many contemporary design problems. Beautifully textured flame-resistant surface absorbs up to 70% of the noise that hits it, insulation value equals 6″ of wood deck, structural strength is exceptional. On-site labor savings are numerous and impressive: this one product takes the place of drywall, paint, joist, insulation and sheathing—permits spans of 32″ and 48″. Sizes: 2′ x 8′ x 2″ and 2′ x 8′ x 3″. T & G edges are dimensioned from the surface to match other Simpson acoustical insulating roof deck products. For details consult your Simpson Certified Acoustical Contractor (see opposite page) or write Simpson, 1004 White Building, Seattle, Wash.

RELY ON Simpson®

*REG. U. S. PAT. OFF.—U. S. PAT. NO. 2,791,289

p/a manufacturers' literature

(Continued from page 158)

831. Better Wood Laboratory Furniture Specifications, AIA 35E, 44-p. guide to series of laboratory facilities for schools, industrial plants, hospitals, research organizations. Base unit construction description, details given, as well as specialized unit components. Drawings, photos, available finishes discussed. Kewaunee Manufacturing Co.

Catalog of Built-In Wood Cabinets, AIA 19. 40-p. guide to design and manufacture of wood cabinets. Comparative merits of various types of wood discussed. Cabinets for use in kitchen, bathroom, living, bedroom, other rooms suggested. Complete set of specifications and standard form for specifications are included. Write direct: Southern California Association of Cabinet Manufacturers, 9126 S. Western Ave., Los Angeles 47, Calif. $2.00

832. Special-Hazard Fire Protection, 42-p. publication discusses fire-fighting and protection methods. Four principal means are described—water spray, foam, carbon dioxide, dry chemical. Photos illustrate text, as well as cutaway drawings. Equipment is presented, devices shown. Selector chart featured. Grinnell Co.

833. Reliance Casework, 60-p. catalog features square and cove casework for hospitals. Drawings, dimensional information illustrate details for drawers, base units, wall-mounted units, full-height units, instrument storage cases. Details shown for components. Construction specifications given. Materials are stainless steel and enameled furniture steel. Reliance Engineering and Mfg. Corp.

834. How to Plan a Trend-Setting Kitchen, 16-p.

835. Revco Bilt-In Refrigerators and Freezers, 4-p.

Two booklets concerning modern kitchen design feature built-in appliances. First manual shows numerous arrangements for kitchens, illustrated by photos of new and remodeled, existing, kitchens. Use of various materials shown. Second brochure specifically concerns refrigerators and freezers—models shown. Versatility of arrangement stressed and full page of specifications included. Revco, Inc.

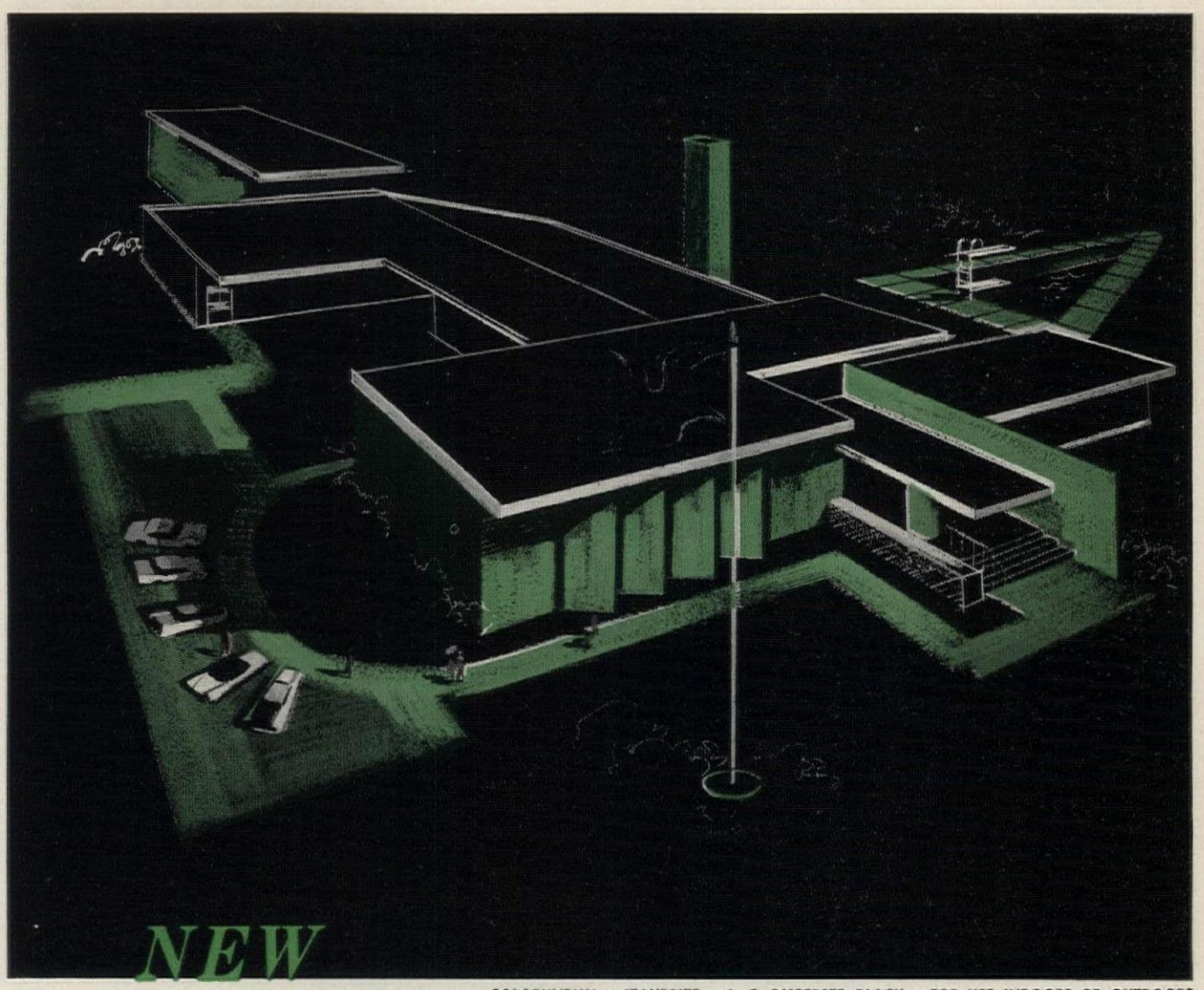
surfacing materials

981. B. F. Goodrich Flooring Products, AIA 23-G, 16-p. booklet has complete information on line of flooring products including rubber, cushioned rubber, vinyl tiles and other types of flooring materials. Specifications suggested; photos of available colors, cove base drawings. B. F. Goodrich Flooring Co.

982. Ceramic Veneer, AIA 9, 8-p. booklet on modern architectural terra cotta includes discussion of color, finish, texture, form, economy, pattern, decorative value of this ceramic veneer. Color photos show installations. Prefab curtain wall using adhesive and anchor types shown with detail drawings. Standard specifications, including erection, suggested. Architectural Terra Cotta Institute.

interior furnishings

★ **72. The Aeon Chair,** AIA 28-A-5, 4-p. folder describes chair for indoor and outdoor use, designed by Guy Rothenstein. Chair has glass-fiber plastic shell with complete foam cushioning, sprayed-on vinyl covering. Twelve colors are available. Three leg types—regular, swivel, stacking—allow use for various circumstances. Legs may be finished in black or white epoxy paint, chrome or brass plate, black or white plastisol covering. Aeon Industries Inc.



COLORUNDUM • STAYBRITE • A. E. DISPERSED BLACK • FOR USE INDOORS OR OUTDOORS

NEW design concept... WITH COLORFUL CONCRETE

This is the Age of Color in Architecture. And particularly in concrete, color is being used with greater freedom and effect than ever before. Today, many architects specify colorful patios, terraces and walls to harmonize with new building materials like stainless steel; others use subtle pastels to create new atmospheres indoors and out; and still others are using this brilliant medium for strictly functional purposes, such as to guide traffic or set off working areas.

Color selection in construction is easy.

Specify Horn Colorundum for decorative floors, modern in appearance, with increased value.

Specify Horn Staybrite integral color to enhance the beauty of all concrete and mortar surfaces.

Both are available in a wide range of decorative colors.

Specify Horn A. E. Dispersed Black to darken concrete. It is *guaranteed* not to reduce the air content in air entrained concrete mixes.

Want more information? For condensed data see Sweets—For complete details write Dept. H62-783.

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VAP-R-TYT METAL CLADDING

All metal seams locked and soldered

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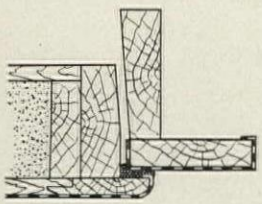
Prevents penetration of moisture under high vapor pressure

INFITTING DESIGN

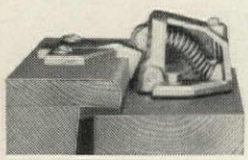


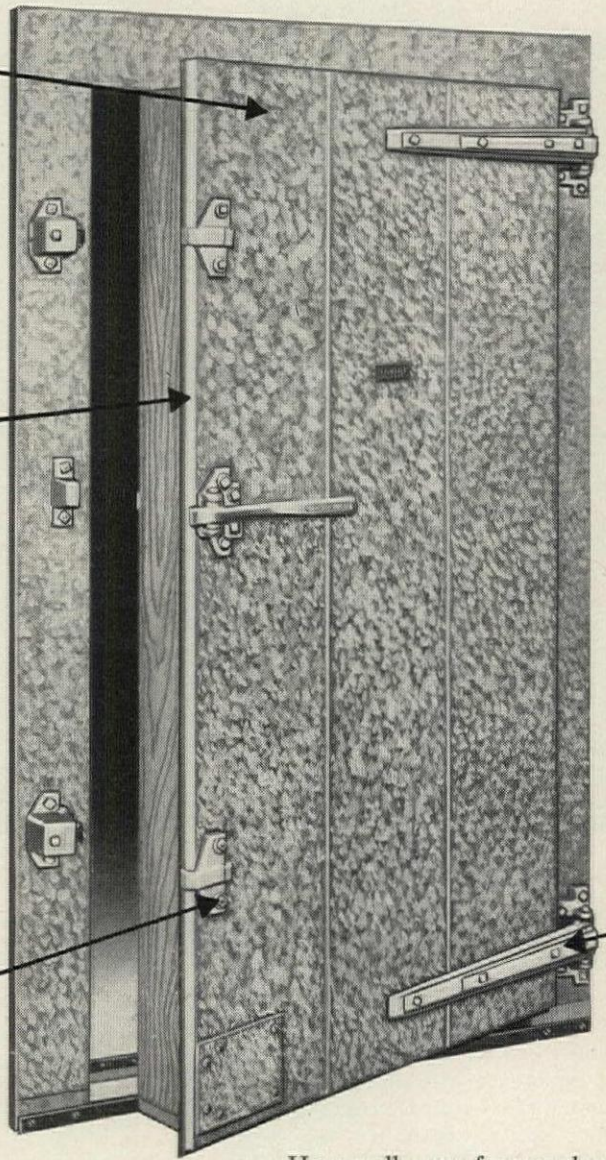
Requires less space than overlap type

Fits *into* wall

Requires shorter radius of swing

E-Z OPEN TWO-POINT FASTENER





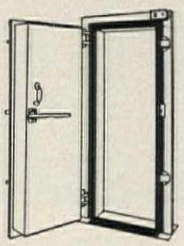
JAMISON FROSTOP® (optional)

Keeps doors from freezing shut

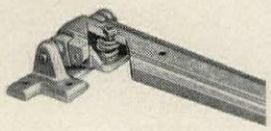
Safe temperature range eliminates dangers of overheating or condensation

Permits selection of any temperature between 60°F and 120°F

Carries Underwriters' Laboratories Inc. label



ADJUSTOFLEX HINGE



How well your freezer door performs depends on its basic design and construction. Jamison Lo-Temp Vap-r-tyt doors—proven through years of service in all types of installations — are today's economical answer to modern freezer operation. Write today for catalog Section 4 to Jamison Cold Storage Door Co., Hagerstown, Md.

JAMISON

COLD STORAGE DOORS

Run on it!

and Feel the Cushioned Flex of KREOLITE Gym Floors

While many factors contribute to Kreolite's durable beauty, its *resiliency* is one of its most outstanding qualities. Kreolite Flexible Strip End Grain Wood Block Floors actually *feel* resilient, and they resist wear that would quickly age other type flooring.

This resilient feature helps to cushion feet, lessens fatigue and being splinter-proof, Kreolite gym floors are safer.

Whether you are replacing an old floor in a gym, for a multi-purpose room or school shop, or planning flooring for a new building, get all the facts on Kreolite's *many* money saving advantages . . . Write Today.

KREOLITE FLEXIBLE STRIP **END GRAIN FLOORING**

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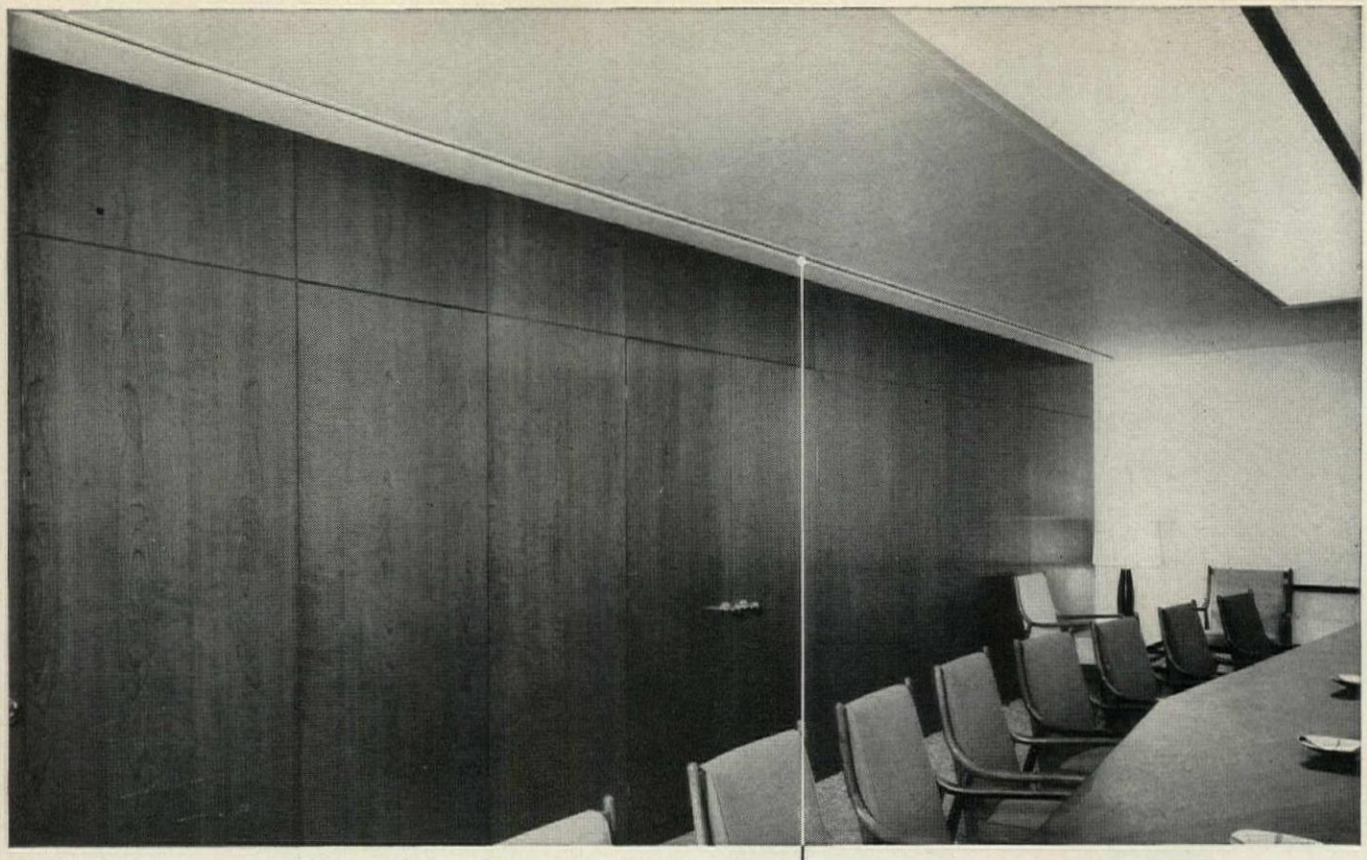

Designer:
Maria Bergson Associates

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Distinctive SLOT TYPE Diffusers

Look around . . . you'll see STRIPLINE by AGITAIR everywhere. And no wonder. STRIPLINE combines the best features of both slots and efficient air diffusers to provide equalized air flow throughout its entire length.

Slender, inconspicuous, practical and versatile . . . STRIPLINE slot diffusers can be located in walls, ceilings, coves, moulds, window reveals, stools . . . yes anywhere to suit interior design.

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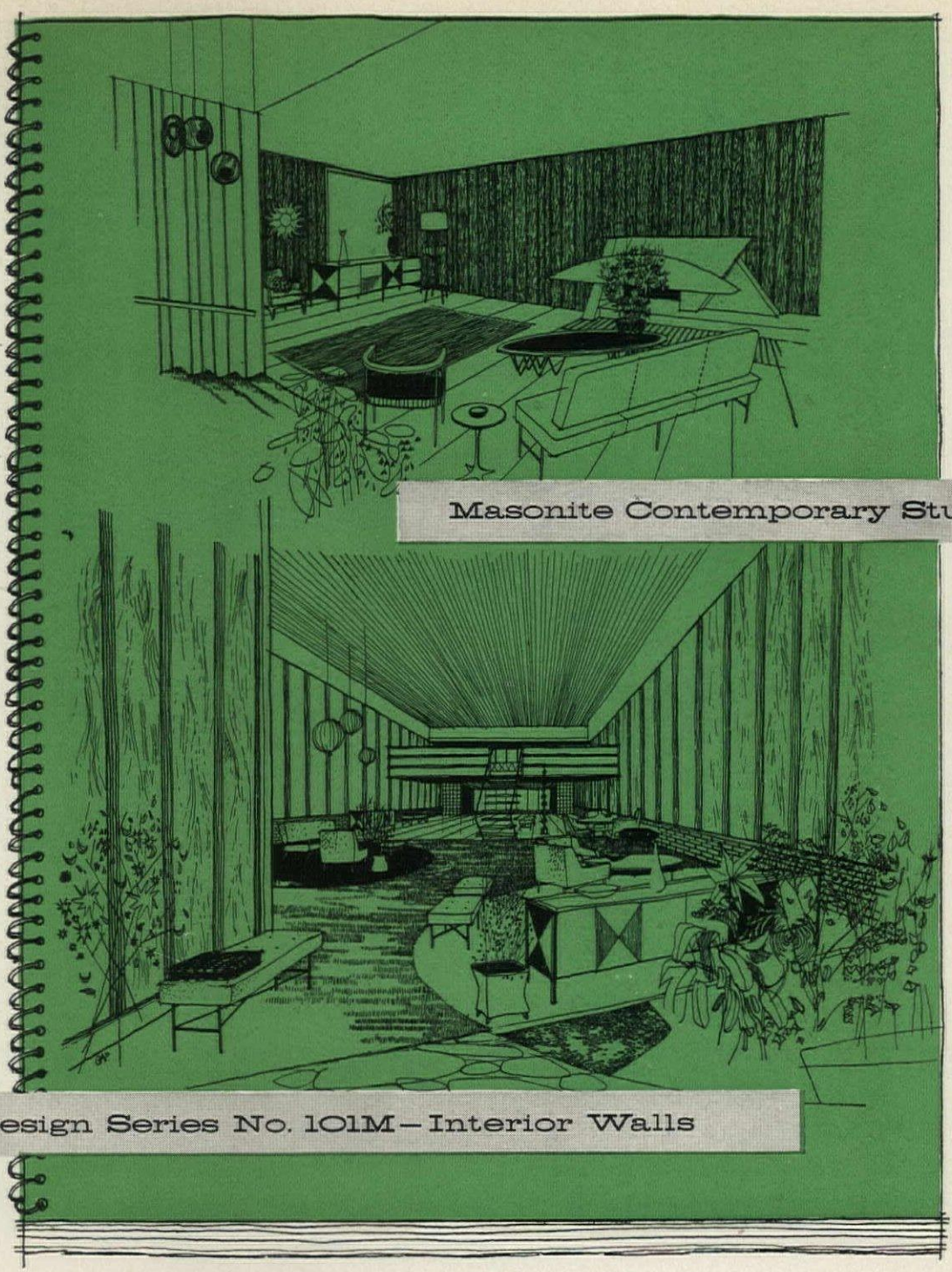
Write for Complete Stripline Catalog

Type H Stripline shown in above installation



Masonite Contemporary Studies

Design Series No. 101M—Interior Walls

The creative imagination will find in Masonite interior panels a combination of decorative appeal and long-time usefulness.

For example, in the residence above, Masonite® Seadrift® presents a texture of well-weathered driftwood. Interest is heightened by the planked effect of random-spaced vertical grooves. Paint it to blend with the over-all color scheme.

The showroom design in the lower sketch presents Misty Walnut, a Masonite hardboard panel with a wood-grain finish. Its effect is one of well-mannered luxury.

For current product information, consult Sweet's Architectural File, see a Masonite representative, or send the coupon.

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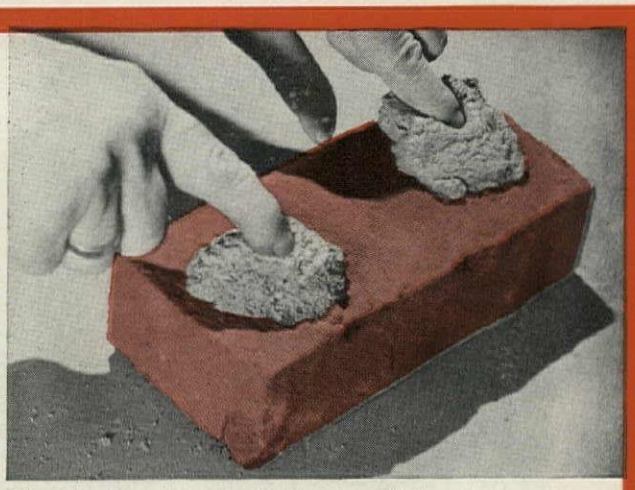
BRIXMENT MORTAR

Has Better Water-Retention

Place a dab of Brixment mortar and a dab of ordinary cement-and-lime mortar on a brick. Wait a minute, then feel each mortar.



The one that stays plastic longer will be the one having the highest water-retention. Feel the difference with Brixment mortar!

—AND HIGH WATER-RETENTION IS ESSENTIAL TO WELL-BONDED, WATERTIGHT MASONRY

Water-retaining capacity is the ability of a mortar to retain its moisture, and hence its plasticity, when spread out on porous brick.

High water-retaining capacity is of *great importance* in mortar. If the mortar does not have high water-retaining capacity, it is too quickly sucked dry by the brick; the mortar stiffens too soon, the brick cannot be properly bedded, and a good bond cannot be obtained.

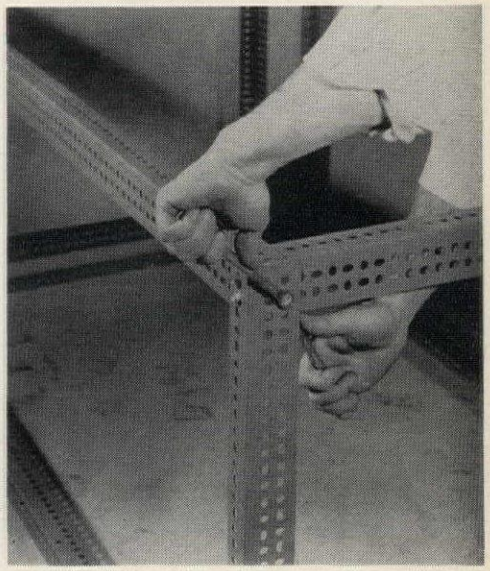
Brixment mortar has high water-retaining capacity. It strongly resists the sucking action of the brick. Brixment mortar therefore requires less tempering, stays smooth and plastic longer when spread out on the wall. *This permits a more thorough bedding of the brick, and a more complete contact between the brick and the mortar.* The result is a better bond, and hence a stronger and more water-tight wall.

LOUISVILLE CEMENT COMPANY, LOUISVILLE 2, KENTUCKY

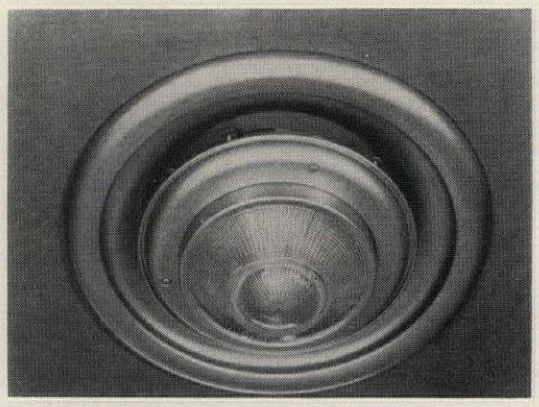
Cement Manufacturers Since 1830

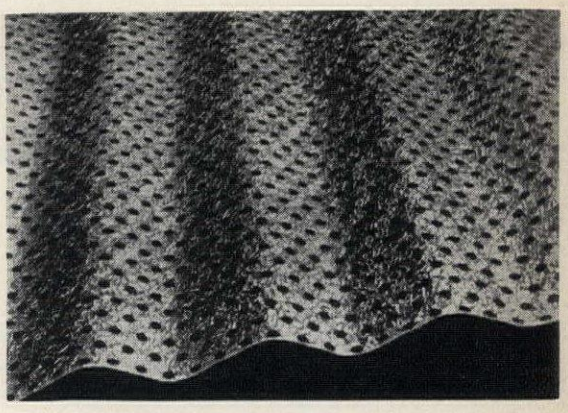
Aero-Gangplank (above), *a covered three-section ramp attached to side of terminal building at second floor level 12½′ above ground, can be placed in position within 90 seconds. Two supports absorb the gangplank weight as well as that of passengers. Pivoting mechanism allows device to swing in 120° arc. Can be extended to 107′. Designed by Lockheed Air Terminal, Inc. United Air Lines, 5959 S. Cicero Ave., Chicago 38, Ill.*

To construct a Bild-A-Flex framework (below), *a worker need only cut appropriate lengths and bolt them together through prepunched slots. One bundle, including 100 lineal feet of angle with bolts and nuts necessary for assembly, can be stored in less space than one 10′ piece of 2x4 lumber. Additional beam capacity can be achieved by combining lengths of framing into* I, T, U, *or other rectangular shapes. Republic Steel Corp., Berger Div., Department SB, 1038 Belden Ave., N.E., Canton 5, Ohio.*



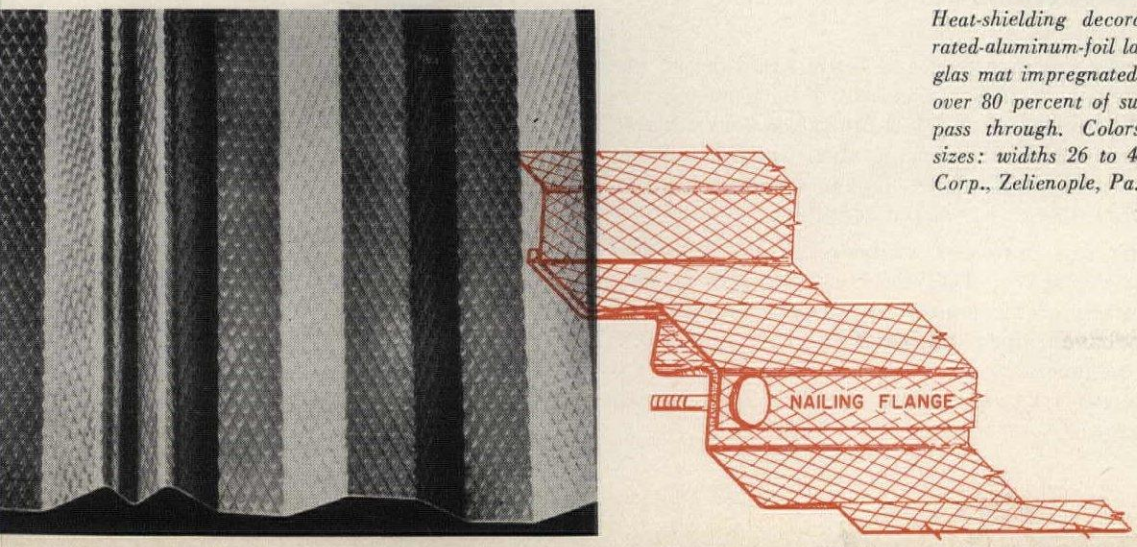
One ceiling opening serves for both air supply and illumination with this diffuser/Holophane lighting fixture combination. Units, 6″- to 16″-neck diameters, accommodate 100 w to 500 w bulbs. Capacities range from about 200 cfm to 1500 cfm. Connor Engineering Corp., Danbury, Conn.





Diamond-Rib roofing and siding (below), *embossed with a glare-diffusing diamond pattern, has "flat-top" rib configurations. Each sheet is approximately 50.3″ wide providing a full 48″ coverage after lapping. Lengths range from 6 through 16′. Kaiser Aluminum and Chemical Sales Co., 919 N. Michigan Ave., Chicago 11, Ill.*

Heat-shielding decorative plastic panel (above)—*perforated-aluminum-foil laminated between two layers of Fiberglas mat impregnated with special polyester resin—reflects over 80 percent of sun's heat yet permits diffused light to pass through. Colors: coral, blue, green, yellow; sheet sizes: widths 26 to 40″, lengths 8′, 10′, and 12′. Resolite Corp., Zelienople, Pa.*



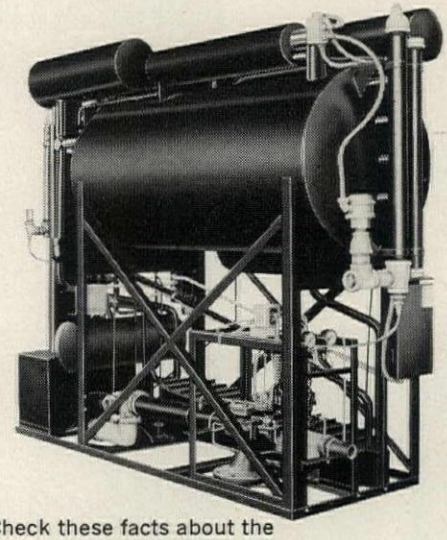
ARCHITECT: JOHN F. STANN; CONSULTING ENGINEER: J. B. WYBLE; BUILDER: SAM EIG

Arkla-Servel Gas Air Conditioning keeps customers cool and operating costs down at the Motel Washingtonian

"While we were planning the Motel Washingtonian, we made a complete study of all potential equipment," states Sam Eig, builder and corporation president of this modern motel near Washington, D. C. "We knew we wanted gas for cooking and heating, and after our investigation, we found gas best for *all* operations."

For air conditioning, the specifications called for Arkla-Servel gas absorptive coolers. "With our Arkla-Servel units, we have no maintenance problems," add Mr. McKeever and Mr. Eig. "And we were able to tie into our heating system without worrying about special housing, vibration, or noise. Our one central system cools in summer, heats in winter to provide us with a quiet, year-round economical operation."

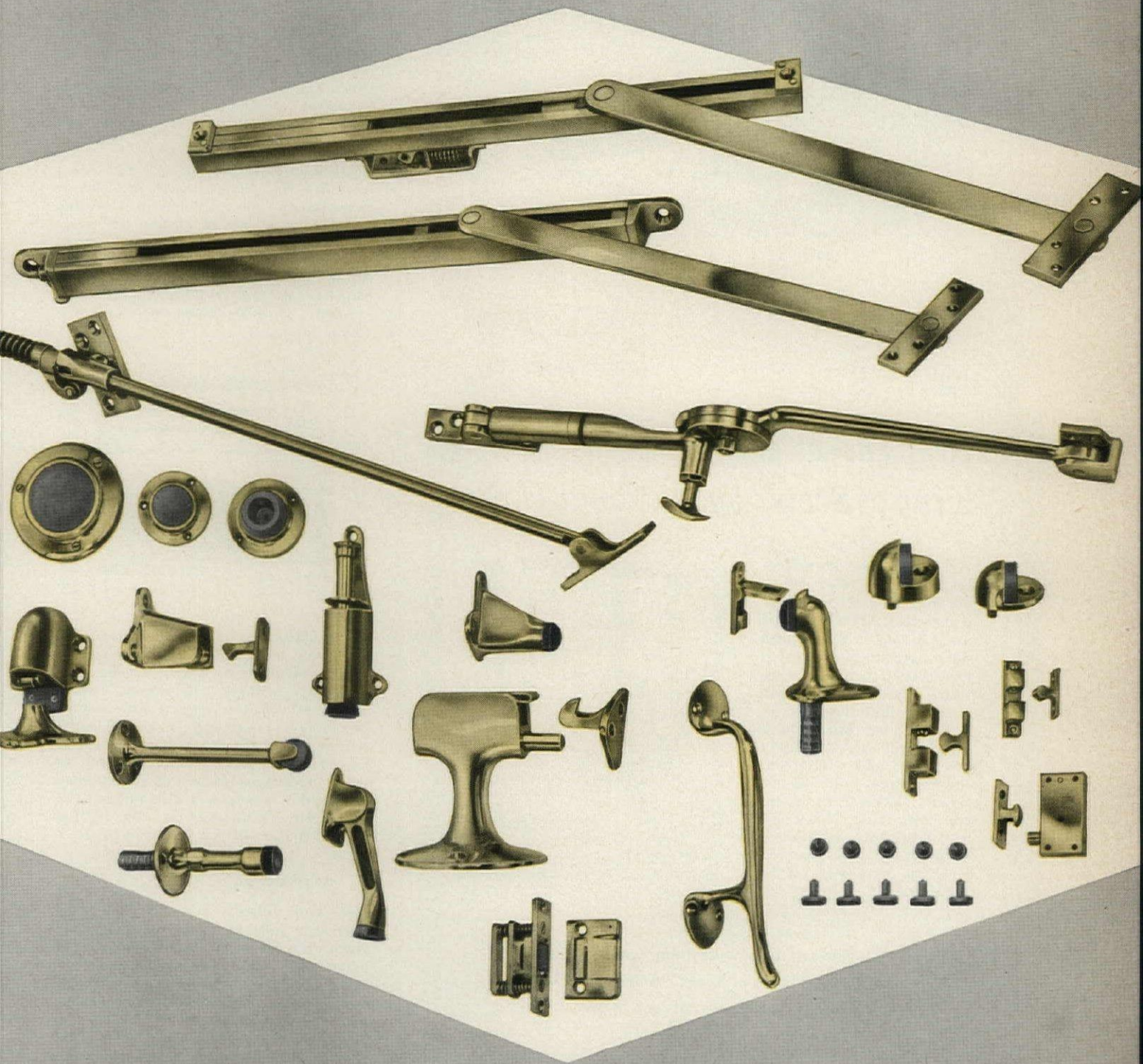
Gas absorptive cooling can put your commercial and industrial clients' heating plant on a year-round paying basis, too. For specific information, take advantage of the consulting services provided by your gas company. They have trained specialists who have been working with architects and engineers for years. Check the facts about gas and you'll see—modern gas air conditioning out-performs all other fuels. *American Gas Association.*



Check these facts about the 25-ton **Arkla-Servel** Cooler

- A compact unit, easy to install and light enough for rooftop installation.
- Costs are low for installation, operation and maintenance. No specially trained operating or maintenance personnel are required.
- Can be installed singly or in banks to fit any size installation.

the satisfaction of specifying PROVEN quality...



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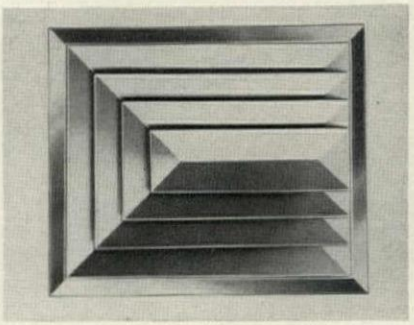
p/a products

(Continued from page 167)

air and temperature control

Flue Package Chimney: package chimney for residences has 16″x25″ roof housing with cap, and 7″ stainless-steel flue. Stainless-steel tension-spring spacers give proper spacing, continuous rigidity between flue and aluminized-steel interliner. Quick draft and even temperature from top to bottom are claimed. McQuay Chimneys, Inc., 1600 Broadway, Minneapolis 13, Minn.

TMD Square and Rectangular Diffusers: new line has built-in vane and louver arrangements for efficient air diffusion without use of baffles. Outlets are available in numerous designs of air patterns *(below)*—usually best for wall or ceiling application. One- and two-piece units, also combination supply-and-return diffusers available. Titus Manufacturing Corp., Waterloo, Iowa.



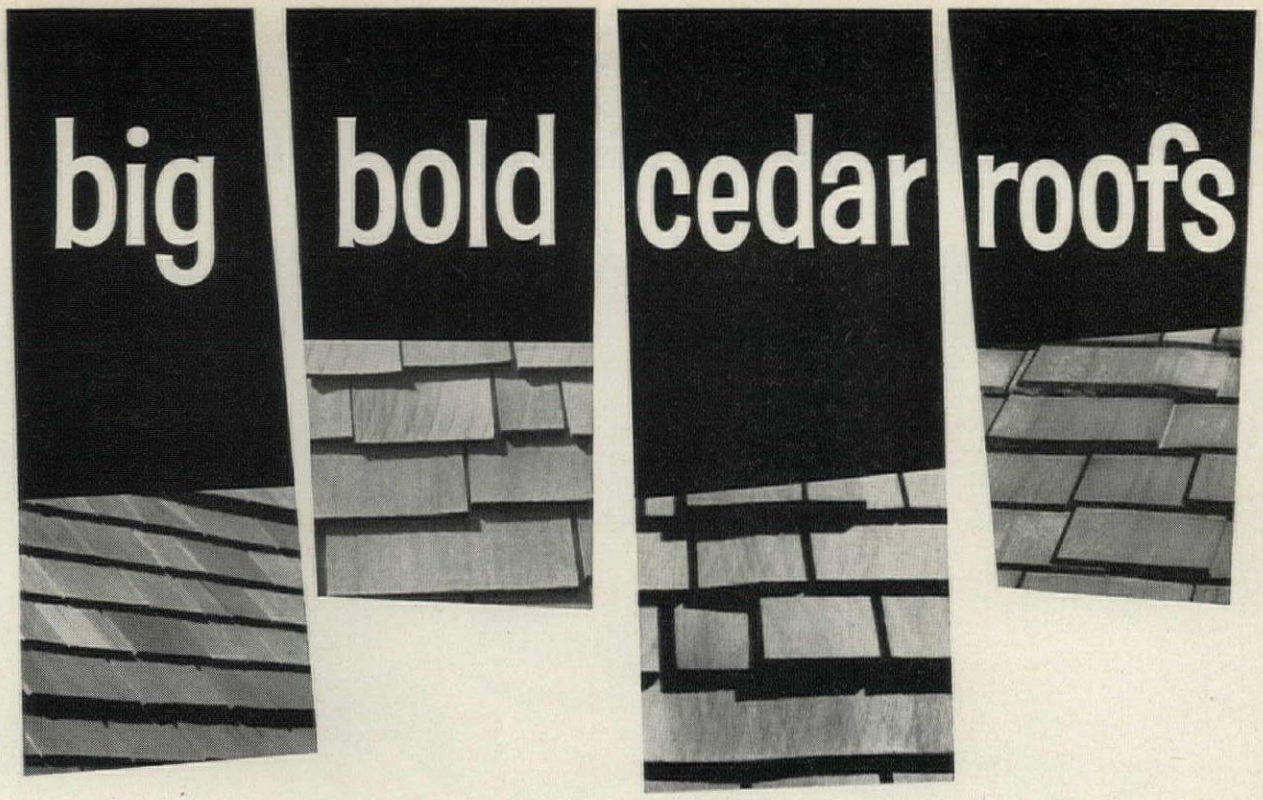
Ceiling-Mounted Air Conditioners: 5- and 8-ton units are compact models for installation in stores, factories, offices, etc. Cabinets measure 57″x44″x32″—water-cooled conditioners require little maintenance. Compressor can be changed without ductwork disconnections. Both units use oversize compressors to give full capacity operation, low power consumption. Counterflow condensers also utilized. Typhoon Air Conditioning Co., Div. of Hupp Corp., 505 Carroll St., Brooklyn 15, N. Y.

construction

Longspan Joists: new vertical-member long span joist is unique in that it provides diagonal-free ceiling freeway. Installation and maintenance of utilities is eased; additions and emergency repairs can be made without disturbing ceiling. Joist meets tests for materials, strength, safety—members are electric arc welded. Especially adaptable for large column-free areas, joists are available for spans from 40′ to 80′ with depths from 22″ to 44″. Shlagro Steel Products Corp., 84 Washington St., Somerville, Mass.

Gang Nail Truss: newly developed connector plate for wood joints allows cheaper and stronger means of constructing roof framing systems, especially for

(Continued on page 178)



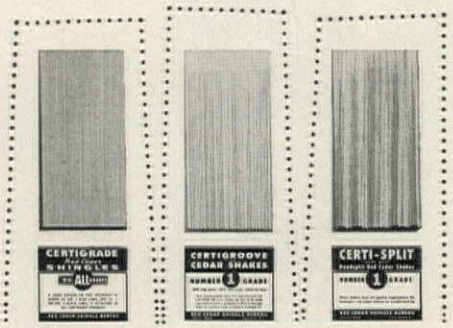
The qualities of cedar shingle roofing transcend passing fancy. Custom home designs—*of any period*—are characterized by expansive roof areas, distinctive roof textures, important roof pitches. The versatility and integrity of natural materials—notably cedar shingles for exteriors—afford the designer limitless scope, infinite expression.

Shingles of Western Red Cedar have that vital *third dimension* . . . the thick butt-lines that catch the sun and create shadow accents of dramatic depth. Only cedar shingles offer the natural graining and rich texture of the genuine. Because only cedar *is* the genuine.

When you think of roof design . . . think *big* . . . think *bold* . . . *and you will think of cedar!*

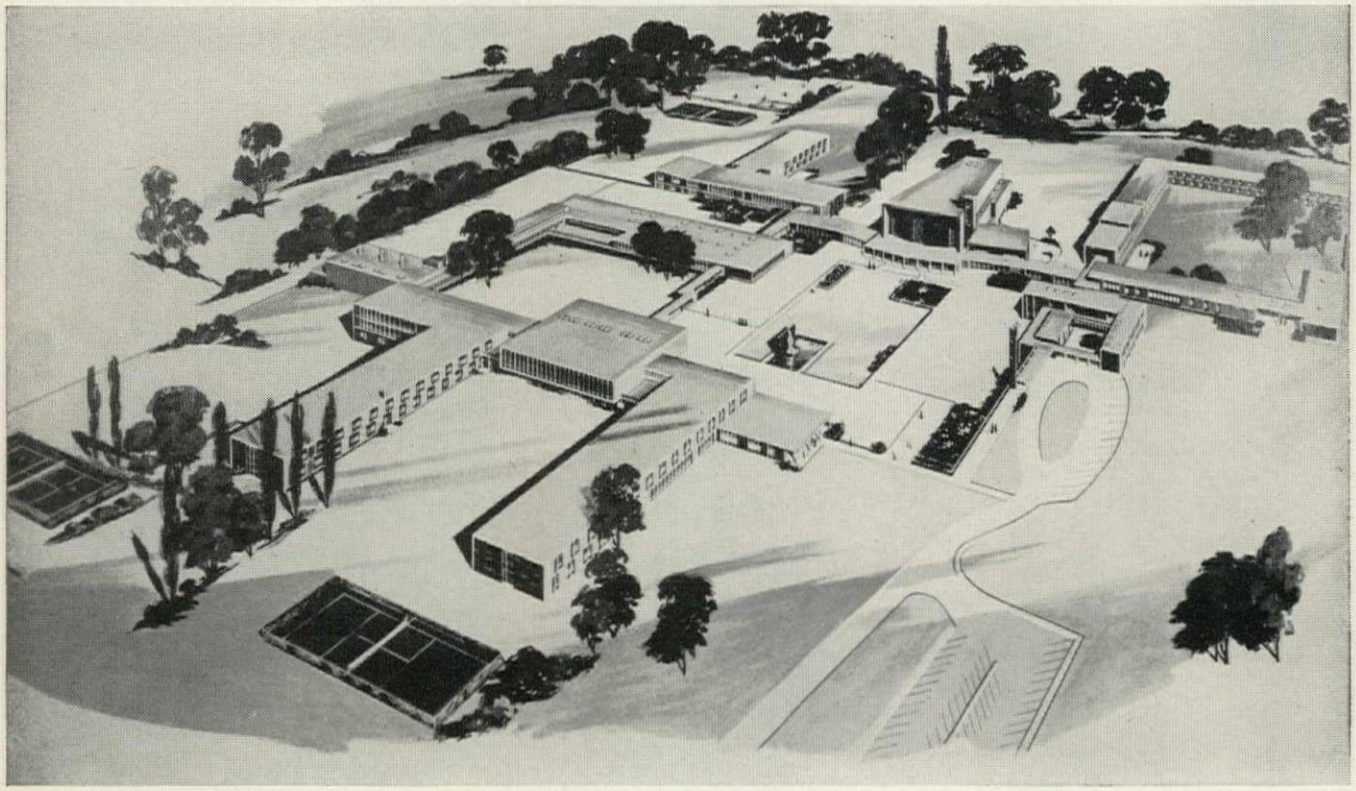
RED CEDAR SHINGLE BUREAU

5510 White Building, Seattle 1, Washington
550 Burrard Street, Vancouver 1, B.C.

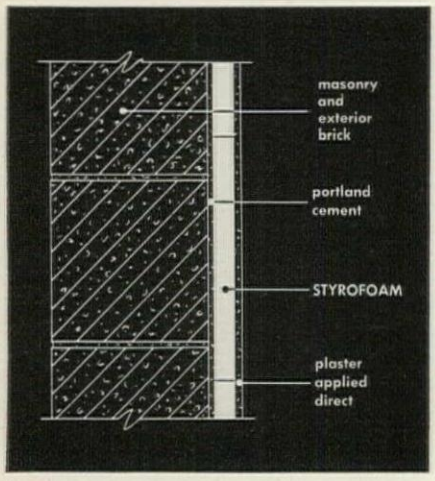


Milwaukee architects show how new building method using Styrofoam® saves time and money

John Brust, A.I.A. of Brust & Brust, Milwaukee, discusses the speed, economy and quality of masonry-insulation-plaster construction



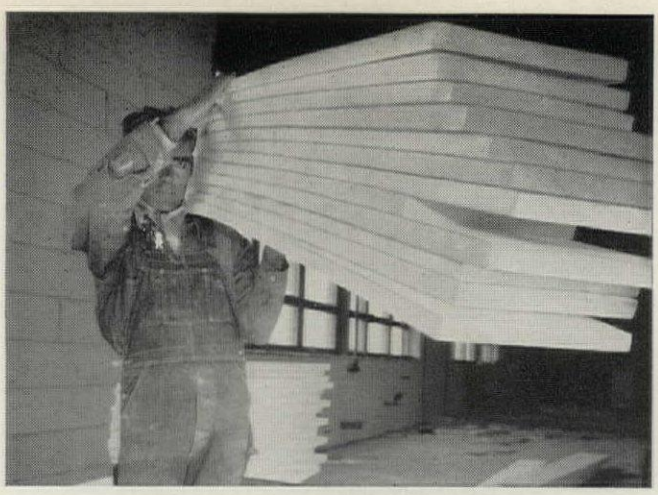
Notre Dame Of The Lake, Mequon, Wisconsin. Building contractors: Gebhard-Berghammer, Inc., Ed. Steigerwald & Sons, and H. Schmitt & Son, Inc., all of Milwaukee.



"We rate Styrofoam* as the most economical and feasible recommendation from the standpoint of our client, the most workable for the contractor, and of the highest insulating quality," says Mr. Brust. "It has a positive moisture resistance, a flexible expansion rate, and it adheres well to mortar and plaster.

"In this project at Notre Dame Of The Lake College For Sisters, all exterior walls are insulated with 1" and 1½" of Styrofoam, plastered on the inside. The wall cross section consists of 4" of exterior brick, 8" of lightweight concrete block backup, ¼" mortar, Styrofoam and plaster (see sketch). In all, 100,000 sq. ft. of Styrofoam are used. It is our experience that 1" of Styrofoam on outside walls keeps them warm to the touch, even in zero weather."

*STYROFOAM is a registered trademark of The Dow Chemical Company



"SEVERAL 8-FOOT BOARDS of lightweight Styrofoam can be easily carried to the job site by one man. In just one stroke, Styrofoam is cut to 48-inch lengths using the sharp edge of a mortar trowel. Not only does Styrofoam cut easily, but the cut surface is as smooth as if done by machine. This facilitates working around pipe, conduit, duct work, etc."

"AN AUTOMATIC MORTARING JIG evenly coats each 4-foot section of Styrofoam with ¼" of mortar. The boards are pushed manually through the box and passed on to the installation man who puts them into position. Styrofoam adheres directly to the masonry, eliminating furring. This operation is so fast and simple that we achieve time reduction and cost savings by its use."

"PLASTERING DIRECTLY over Styrofoam eliminates complete operation of lath installation, permits substantial savings in cost. Styrofoam has the flexibility to give with expansion and contraction, provides a firm base for plaster."

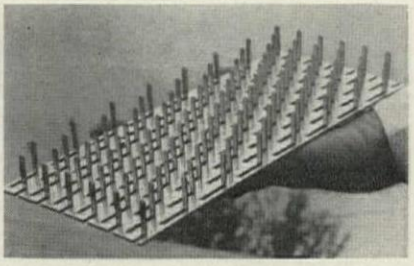
For more information about Styrofoam, write to THE DOW CHEMICAL COMPANY, Plastics Sales Department 1924F, Midland, Michigan.

YOU CAN DEPEND ON DOW

p/a products

(Continued from page 170)

the production builder. Gang Nail plates are formed from bending nails 13/16" long out of galvanized 14-gage steel (*below*); various sizes of plates available.



Trusses remain rigid; foundations under interior partitions are not necessary. No hand nailing is needed; hydraulic or mechanical press can set plates. Gang Nails Inc., 8410 Bird Road, Miami, Fla.

electrical equipment, lighting

Interchangeable Grounding Outlet: compact 3-wire interchangeable grounding outlet features screw terminals. Parallel slots and U-shaped grounding terminal aid identification. Unit will take 125-v, 3-wire grounding caps and also standard polarized or nonpolarized parallel blade caps. Totally enclosed in plastic body. Pass & S ymour, Inc., Solvay Station, Syracuse 9, N. Y.

finishers and protectors

FC-20: new finish is resistant to solutions of sulphuric acid, hydrochloric acid, other common commercially used acids. When dry, coating is flexible and does not chip—is slip-resistant. Especially suited for concrete floors, material is also good finish for wood surfaces. Lester Laboratories, Inc., P. O. Box 4897, Atlanta 2, Ga.

specialized equipment

Duratrace: low cost, highly durable tracing film has good surface for pencil drawing—is useful for architects and engineers. Can be used like any tracing cloth or paper—accepts up to 6H pencil. Material is quite transparent and is recommended also for type-on masters for offset reproduction. Available in 20 yd by 36" rolls or standard cut-sheet sizes. Ozalid Div., General Aniline & Film Corp., 15 Corliss Lane, Johnson City, N. Y.

Anatometer: plastic slide rule contains 750 body dimensions of U. S. population, to aid designing of products, workspace, interiors. Direct comparisons are made of average, high, and low dimensions of all elements of population. Numerous instructions on how to design products to body dimensions. Anatometric Associates, P.O. Box 204, Rochester 10, N. Y.

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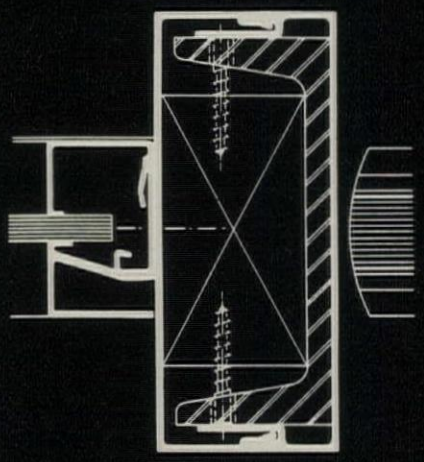

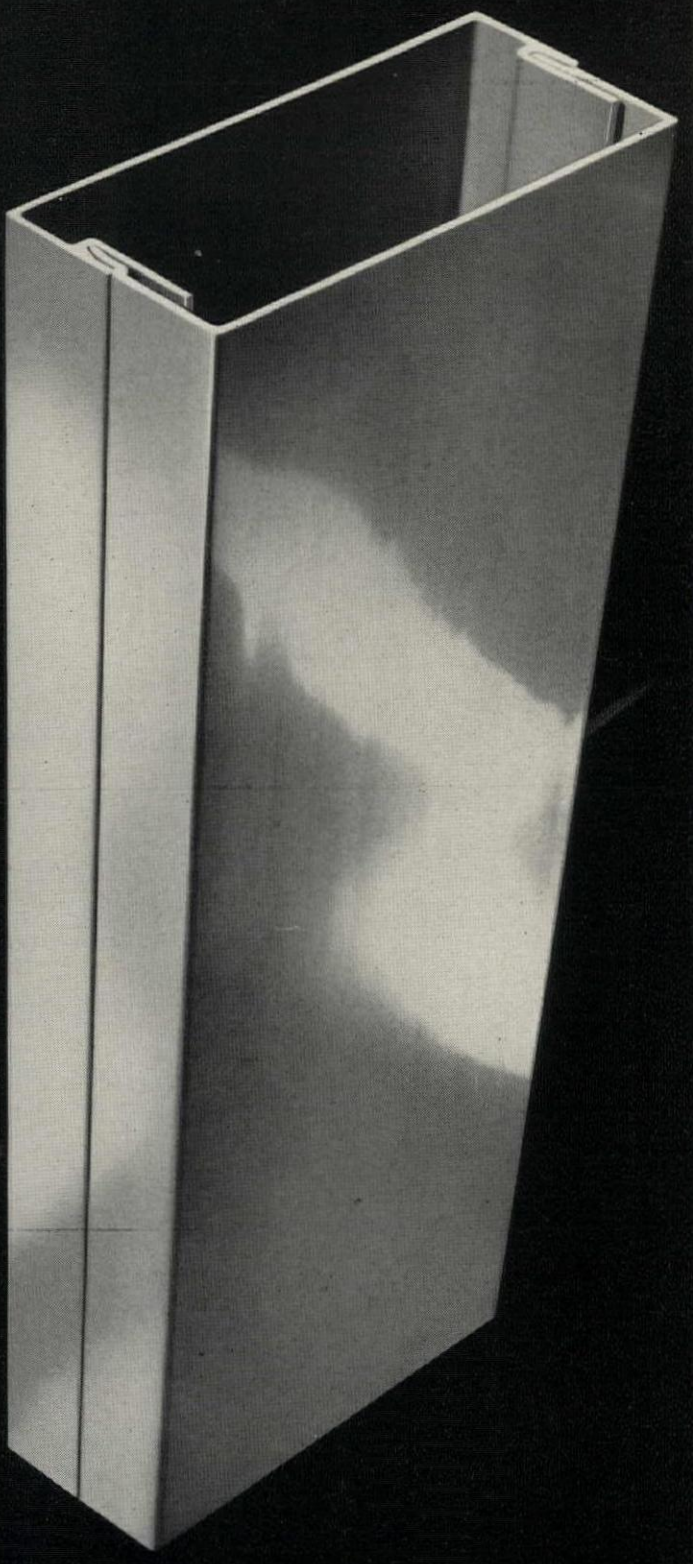

75th ANNIVERSARY 1883–1958 PPG

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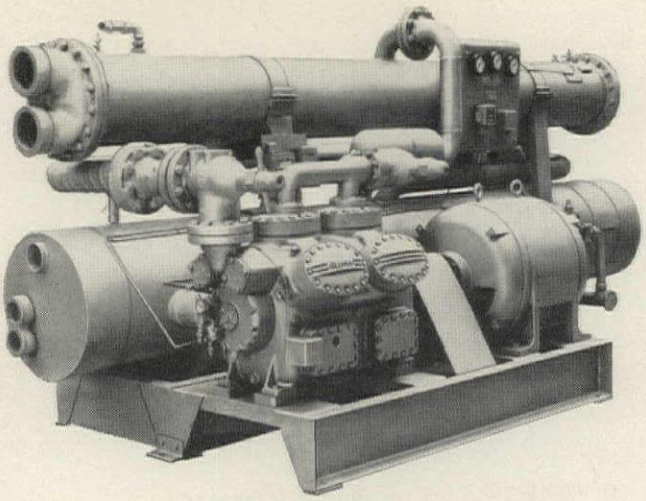
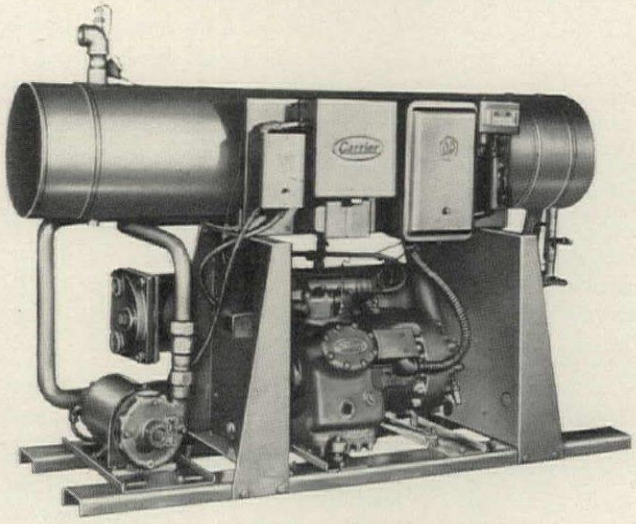
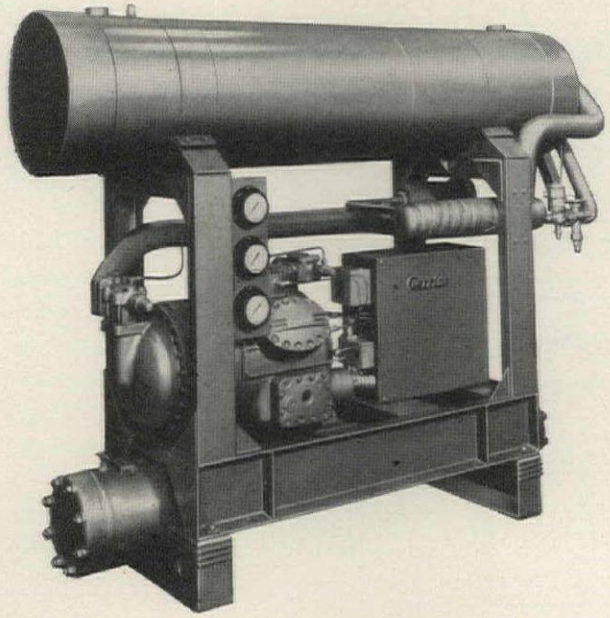


If the job is large, Carrier Model 30C Water Cooling Machines like this will satisfy the cooling requirements of most office and apartment buildings, hotels, hospitals or schools. The entire assembly, including controls, interconnecting refrigerant piping, valves and fittings, has been closely integrated so that the machine will operate with greatest economy. An automatic capacity control saves power by varying compressor capacity in response to cooling load requirements. Capacity range: 85 to 139 tons of refrigeration.



If the job is small, Carrier Model 30E Water Cooling Machines are recommended both as a source of chilled water for air conditioning systems or a source of refrigeration for small process cooling jobs. The units are so compact, light and vibration-free that they can be installed almost anywhere without expensive bases and foundations. For example, the 20-ton model is only 29 inches wide and has an operating weight of only 2300 pounds. Model 30E units are available also for use with evaporative condensers. In 6 sizes with capacities ranging from 5 to 20 tons.



If the job is medium sized, Carrier Model 30K Hermetic Water Cooling Machines offer a dependable, economical solution. No field alignment of the compressor and its driving electrical motor is necessary—both are hermetically sealed in a sturdy, cast-iron casing. A complete control center is included on all units with wiring provided between the motor and its starting equipment and between all installed controls. Capacities range from 25 to 60 tons of refrigeration. If water supplies are critical, other models are available for use with evaporative refrigerant condensers.

books received

The Architectural Index for 1957. Compiled and edited by Ervin J. Bell. The Architectural Index, 517 Bridgeway, Sausalito, Calif., 1958. 53 pp. $5; 2 years, $9; 3 years, $13 (paperbound)

Historic Houses of George-Town & Washington City. Harold Donaldson Eberlein and Cortlandt Van Dyke Hubbard. The Dietz Press, Inc., 109 E. Cary St., Richmond, Va., 1958. 480 pp., illus. $15

The Living Museum, Experiences of an Art Historian and Museum Director—Alexander Dorner. Samuel Cauman. New York University Press, Washington Square, New York, N. Y., 1958. 216 pp., illus. $10

The Theory of Proportion in Architecture. P. H. Scholfield. New York: Cambridge University Press, 32 E. 57 St., New York, N. Y., 1958. 156 pp., illus. $5.50

The Golden Number. M. Borissavlievitch. Philosophical Library, 15 E. 40 St., New York, N. Y., 1958. 92 pp. $4.75

Painting the Figure in Watercolor. Herb Olsen. Reinhold Publishing Corp., 430 Park Ave., New York, N. Y., 1958. 168 pp., illus. $10

Art of the Young Child—3 to 5 Years. Jane Cooper Bland. The Museum of Modern Art, 11 W. 53 St., New York, N. Y., 1957. 47 pp., illus. $2.95 (paperbound)

Editing the Small Magazine. Rowena Ferguson. Columbia University Press, 2960 Broadway, New York, N. Y., 1958. 271 pp. $4.50

legalizing beauty

Planning and Community Appearance. *Report of the Joint Committee on Design Control of New York Chapter, AIA, and New York Regional Chapter, American Institute of Planners, with co-operation of Regional Plan Association. Edited by Henry Fagin and Robert C. Weinberg. Regional Plan Association, Inc., 205 E. 42 St., New York, N. Y., 1958. 160 pp., illus. $2.50 to members of sponsoring groups and for orders of 10 or more cc.; $3.50 to non-members.*

Public control of appearance of our towns and cities—or a resort to the courts, in the name of "public welfare," to do battle against the sprawling ugliness, the fierce competition for attention, and the general blatancy of the urban scene in our commercialized age—is the burden of the recently completed Report of the Joint Committee on Design Control which is on the agendas of architects' and planners' conventions and conferences this year. The report is substantially a call to action by citizens, civic officials and organizations for the mastery of those presently undirected forces that shape our environment, through a new device called "community design plan." The important role—and responsibility—of The Architect are indicated in the discussion of related phases of this challenge.

But just what the *creative* architect practicing today may contribute,

(Continued on page 186)

Partitions throughout were comprised of Permalock steel studs, track and bridging.

Nailable studs facilitated the attachment of wallboard.

Permalock stud system provides

FAST ERECTION, FIRE PROTECTION

for new Denver office building

Construction of the Petroleum Club Building in Denver, Colorado, was planned to be both fire-safe and economical. That's why Penmetal's Permalock system was specified throughout for non-bearing partitions.

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More and more architects and builders use Penmetal's Permalock nailable stud system to develop fire-safe partitions that are low in cost. Get further facts on Permalock today. Write for a copy of folder 619-L.

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PM-179

PETROLEUM CLUB BUILDING

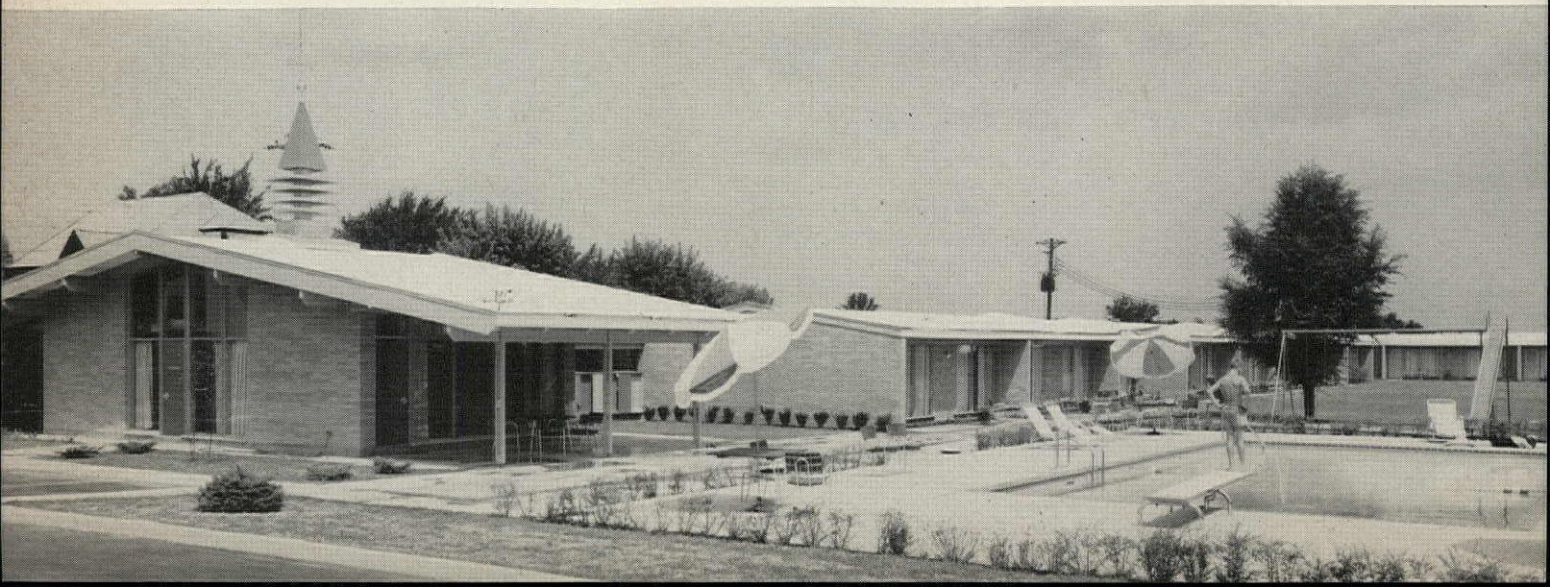
Owner: Oil Building Corp.

Architect: Charles D. Strong

General contractor: N. G. Petry

Partition installation: Landes, Zachary & Peterson Co.

Howard Johnson Motor Lodge, St. Louis, Mo. (Office interior above).
Architects: Carl Koch & Associates, A. I. A., Cambridge, Mass. Builder: C. Rallo Co., Inc., St. Louis, Mo.



Howard Johnson Motor Lodges designed with Insulite Roof Deck

In St. Louis, and at Huntington, L. I., New York, travelers now find luxurious new Howard Johnson Motor Lodges. Rooms are light, airy, and spacious. A most striking interior feature is red-beamed white ceilings . . . achieved with Insulite Roof Deck.

To make best use of these Motor Lodge sites, Architects Carl Koch & Associates, A.I.A., have created a single-loading one-story design at St. Louis; a two-story plan at Huntington. After careful comparative study of decking materials, the architects selected Insulite Roof Deck for both Motor Lodges. Why? Because it cost least . . . looks best . . . *works* best.

As to cost, think of this: each 2′ x 8′ Insulite Roof Deck panel provides decking stout enough to carry any normal rooftop traffic . . . *plus* a built-in vapor barrier . . . *plus* finest insulation . . . *plus* a finished, painted ceiling . . . all in one. Carefully detailed V-grooved joints help make ceilings truly handsome; and tough white paint gives excellent light reflection.

Want further facts on Insulite Roof Deck? Write us—Insulite, Minneapolis 2, Minnesota.

Room Plan "A" is largest of four standard room plans developed by the architects for Howard Johnson Motor Lodges. Designs feature many built-ins: headboards, desks, luggage racks, etc. Open-beam Insulite Roof Deck ceilings add height, light and character.

Application of Roof Deck proceeds with astonishing speed, cutting roof and ceiling costs to rock bottom. Motor Lodges described here have 3″ thick panels, with built-up roofing and marble chips. 2″ thickness also available. Tongue-and-groove joints make vapor-tight seal.

build better, save labor, with

INSULITE®

Roof Deck

Insulite, *made of hardy Northern wood.* Insulite Division, Minnesota and Ontario Paper Company, Minneapolis 2, Minnesota

reviews

(Continued from page 182)

within the nostalgic and admonitory restrictions of this Report, is not clearly defined. There is no clear, inspiring word picture of the 20th Century city that should be. The Introduction and prefatory Chapter I suggest instead a regret for an Early America like the embalmed New England towns and Williamsburg *redivivus*—not a mention of the noisome, congested and unlighted, haphazard Colonial settlements which have been (quite understandably) forgotten by Proper restorationists. All the Yankee ingenuities and improvisations have been frowned down, because they just didn't fit together. The lesson seems to be: pick a style (or period, or story-height, or fixed land-use) and make everybody conform. But what of modern traffic problems, etc.?

Later chapters disclose the advances staked out, to date, by enthusiasts who have achieved legal backing for "esthetic regulations" ranging from acreage minimums in exclusive suburban communities to local laws obstructing any design not approved by "the Board of Architectural Review."

Inevitably, the question arises in the mind of the reader (or reviewer) as to the intent of the Joint Committee. Is it to raise a polite professional hand in protest against the whole commercialized development of realty? Is it to restrict design to the limits of 18th Century and Early 19th Century scales? Is it just to protest building *sans* architectural service? (or planner service?)

For the professional in the field of planning, the bulk of this Report offers a wealth of documentation of cases won & lost; of zoning suggestions; of relative ordinances and restrictions abroad. There are proposals (or admonitions) which might give any professional food for thought. A strong brief, in short, for pretty-property values.

C. M.

(Continued on page 190)

Craig Ellwood, Architect

Marvin Rand, Photographer

The contemporary home—

simple in its design, elegant in its use of innately interesting materials—so often features California redwood inside and out. The choice? CRA Certified Kiln Dried redwood, of course.

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Vision-Vent installations such as this now can be specified with exclusive new Truscon Supercoat Finish to eliminate field painting. Pictured is Activities Building, Georgia Training School for Girls, Adamsville, Ga. John J. Harte, architect. Abco Builders, contractor.

New...Truscon Vision-Vent Window Walls with Sensational Supercoat Finish

Install without painting!

Stave off maintenance painting!

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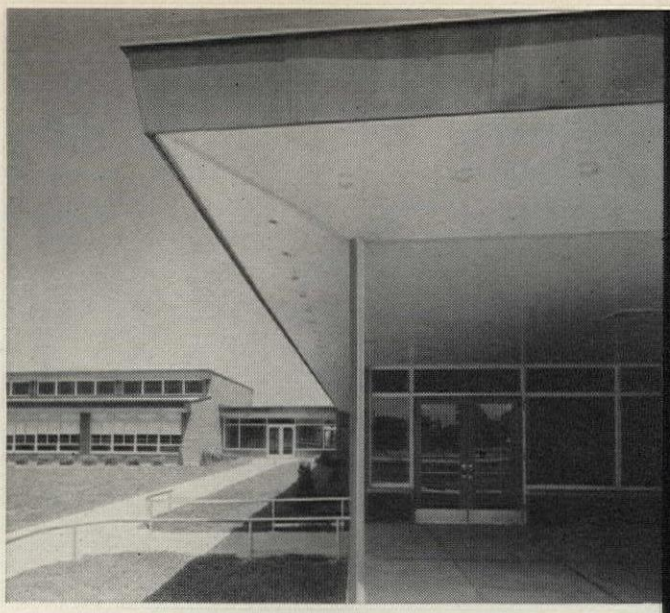
Now, you can get the solid strength of steel for curtain walls and windows and save field painting costs, too. New Truscon Supercoat Process is factory-applied to eliminate all field painting . . . both at installation and during the years.

This outstanding Truscon development has been thoroughly laboratory tested—for weather, atmosphere, time, and abuse. It has successfully met each challenge.

Vision-Vent brings you all the mass-production and installation economies of standard steel windows. It's an insulated wall section, complete with window. It goes up fast.

With Truscon Supercoat and Vision-Vent Window Walls, there is no need to sacrifice strength and solidity in walls and windows simply to avoid painting. Supercoat Process can be furnished now on specification for all Vision-Vent types . . . as well as in factory shipment on all Truscon Steel Windows for commercial, institutional, and industrial construction. Choice of seven colors.

See Sweet's (17b/Tr) or send coupon for Supercoat booklet. Supercoat sample on request.



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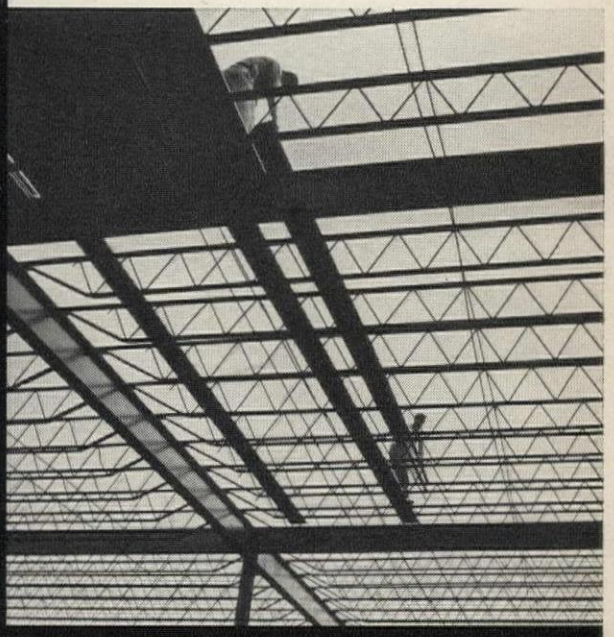

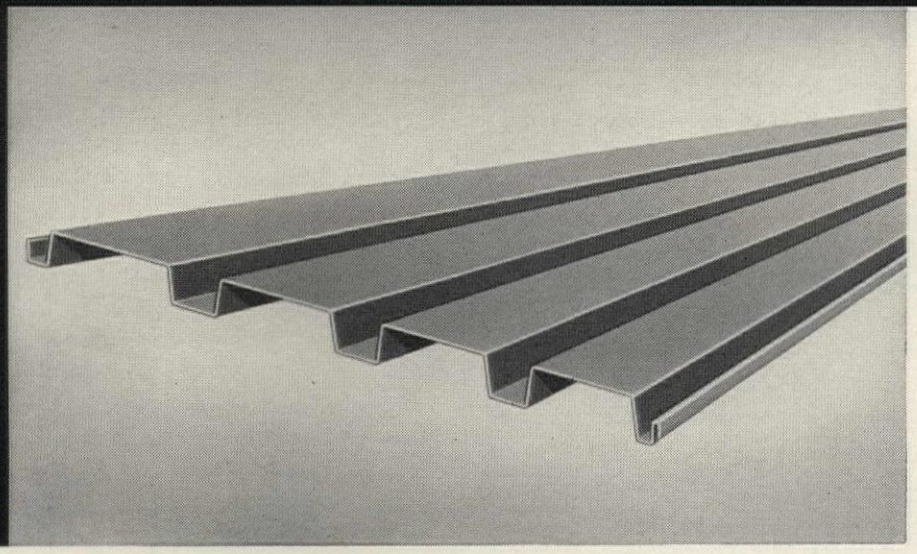

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City_____ Zone_____

State_____

reviews

(Continued from page 186)

threat of leisure

Recreation Places. *Wayne R. Williams. Reinhold Publishing Corp., 430 Park Ave., New York, N. Y., 1957. 302 pp., illus. $18*

A large, complex subject can be made simple. By many standards, the subject of recreation is large and complex; this book, by Architect Wayne R. Williams, simplifies many of its complexities.

In its practical aspects, recreation has the bigness of big business. The amounts invested in public recreational facilities by public authorities, and in semi-public facilities by industrial, commercial, and private interests, are enormous. In addition, individuals numbering millions have invested vast sums in equipment and apparatus for private recreation.

During the past 30 years, the work week for millions has been considerably shortened, and reliable forecasts indicate increased leisure in the future. Resulting increased leisure time offers rich promises as well as serious problems: one of the principal problems is to fill such time with profit to man's body and spirit. It need hardly be said that one man's recreation is another man's annoyance. The importance of understanding what recreation is and does, cannot be overstated. The present and future opportunities for large-scale recreation emphasize the increasing obligation to cope with the very real "threat" of leisure. Recreation cannot be left to find its own level; left to itself it will lapse into a state certainly dull, and possibly dangerous, to the individual and to the community. For such reasons, the subject of recreation deserves and demands thorough discussion and exploration. This book will function effectively as a starting point.

To make up the large part of the work, the author has gathered a wide collection of current comment. From a dozen or more sources, authors and organizations actively

engaged in educational and recreational fields manifest an acute awareness of recreational problems and, better yet, of the possibilities of really re-creative recreation. The author projects himself very little into the discussion of the technical aspects of recreation. This part is left to the professionals. For this action, he merits commendation. Accordingly, some of the best current thinking on many phases of the subject is offered: the physical, psychological, social, sociological, cultural, civic, and economical aspects; the norms and the threat of leisure; the technology of recreation.

One of the contributors outlines a definition of recreation. Another contributor suggests what is to be done about recreation and how it is to be done. Examples are given of what has been done in the past and in the present, in this country and abroad. Foreign progress is specially impressive. A short history of recreation demonstrates that the idea is not new; records of recreation are found from the earliest beginnings of history. The more that the forms change with the passing centuries, the more the idea is still the same. The study shows that most of the work in the recreational field has been done under public auspices, but also that many interesting and stimulating things have been accomplished by progressive employers for their employes, and by unions for their members. The general ideal appears to be total recreational facilities for all ages and for all groups and classes. For the information of readers, the layout and dimensions of the playing spaces for nearly all athletic and recreational games are given.

Recreation Places will be of interest to many in many fields. While the text is not written for the exclusive interest of the architect, it will be to the architect evocative of thought and provocative to action. To most architects, the field will be

(Continued on page 194)

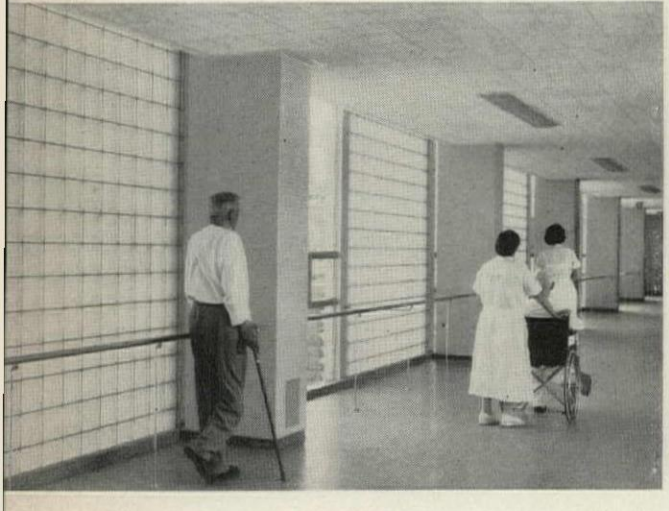
CURTAIN WALL IN A CORE BUILDING

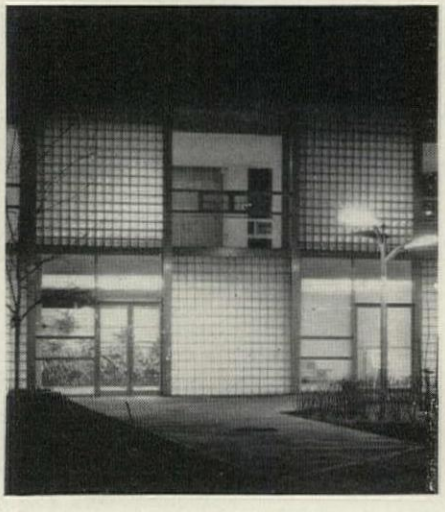
The structure that links together the three basic units of Pittsburgh's John J. Kane Hospital is called the Core Building. This facility is an orderly system of corridors that serves as a main traffic artery for staff and patients. In a way, the Core Building functions as a "Public Square" within this Hospital City of hope and rehabilitation for the aged.

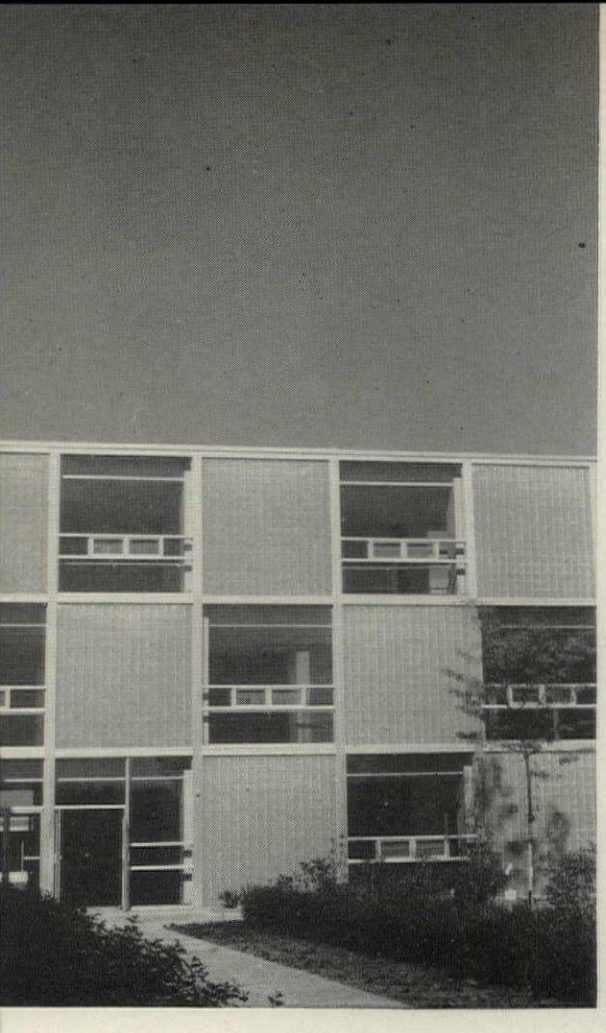
With the exceptions of two passageway connections, both sides of the Core Building are uninterrupted curtain walls of alternating panels of functional Glass Blocks and plate glass.

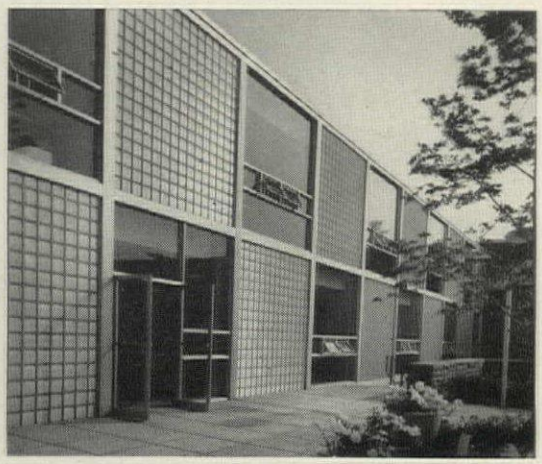
Psychological security dictated part of the thinking behind this design. The Glass Block panels, set at regular intervals, help create the feeling of solid, protective balusters in a huge railing. This aspect of the design works toward overcoming the "falling off" sensation that many people, and particularly the aged, experience when walking near the outside edge of a multi-storied building. The need for this security-impression is heightened here because handrailings, close to the curtain wall, support feeble, halting patients as they move from one area to the other, or pull themselves in wheel chairs.

Therapeutic value provided additional support for the curtain wall design. Because monotony is so much a part of the lives of so many of the patients, the Kane Hospital planners







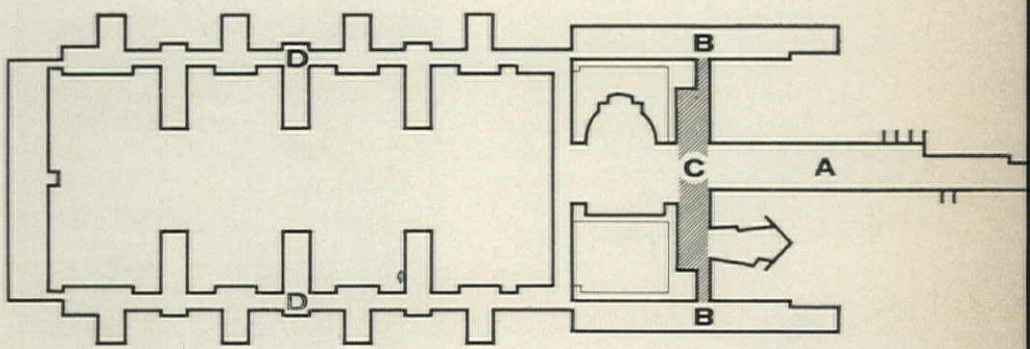


etermined that the interplay of voids nd solids, and the varied effects of in-oming light in the corridor areas, vould considerably increase the interest evel of the environment.

Exterior interest and harmony were inal considerations. Texture, substance, nd a non-institutional appearance were ll requirements that the Glass Block anels helped to satisfy.

The Glass Blocks used in the Kane Hospital were manufactured by Pitts-urgh Corning Corporation. These Glass Blocks, identified as Prism B, re designed to reduce glare and heat, nd transmit diffused and softened day-ight. Their insulation value is equal o an eight-inch thick masonry wall. This feature lowers heat loss. And the naintenance-free characteristics of the PC Glass Block panels blend effectively vith the other materials used in the urtain wall.

For product details on conventional PC Glass Blocks, and our new Color Glass Blocks, write for our General Cata-og. Pittsburgh Corning Corporation, Dept. AC-78, One Gateway Center, Pittsburgh 22, Pennsylvania. In Canada: 7 Bloor Street West, Toronto, Ontario. Also manufacturers of FOAMGLAS® nsulation.

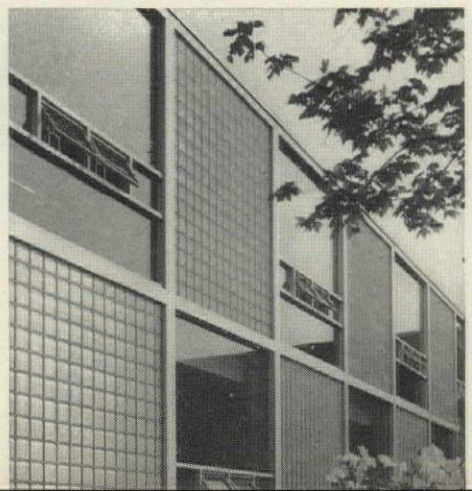


A. Main Hospital B. Semi-ambulant C. Core Building D. Ambulant

John J. Kane Hospital, Pittsburgh, Pa., is owned by Allegheny County Institution District.

Architects: Button & McLean—Mitchell & Ritchey, Pittsburgh, Pa.

General Contractor: Sherry-Richards Company, Chicago, Ill.



CORNING

reviews

(Continued from page 191)

new. The profession cannot be rightly regarded as having led the current movement, but it is not too late for architects to assume an important, if not a leading role. The field offers to the architect vast opportunities of service to the community and proportionate personal prestige. The basic information provided in these pages, and particularly the generous and informative pictures will help to equip them for such a role; but, above all else, the included bibliography, extremely rich in source and background information, will be helpful. The book is published as another link in the growing chain of books in the Progressive Architecture Library series; this series appears to be enclosing the area of architectural interests.

LAWRENCE E. MAWN
Alhambra, Calif.

functional modification

Willem M. Dudok. *Published by G. van Saane for the Lectura Architectonia, Herengracht 406, Amsterdam, The Netherlands, 1957. 168 pp., illus. $8*

No architect could wish for a finer monograph than this one. The English translation of the text is faultless; the photographs without exception, of brilliant sharpness; and the selection of Dudok's own lectures and comments by his contemporaries, intelligently chosen. Even the layman would come away from studying this volume with a fairly complete impression of Willem M. Dudok's architectural convictions. These convictions are far more interesting than a merely personal form expression could be. They illuminate in the understandable and direct language of tangible evidence the curious development of contemporary architecture. The Dutch town of Hilversum, which owes its architectural appearance to the architect Dudok, demonstrates the middle-class formula of Functionalism, or the victory of common sense over erratic genius.

(Continued on page 198)

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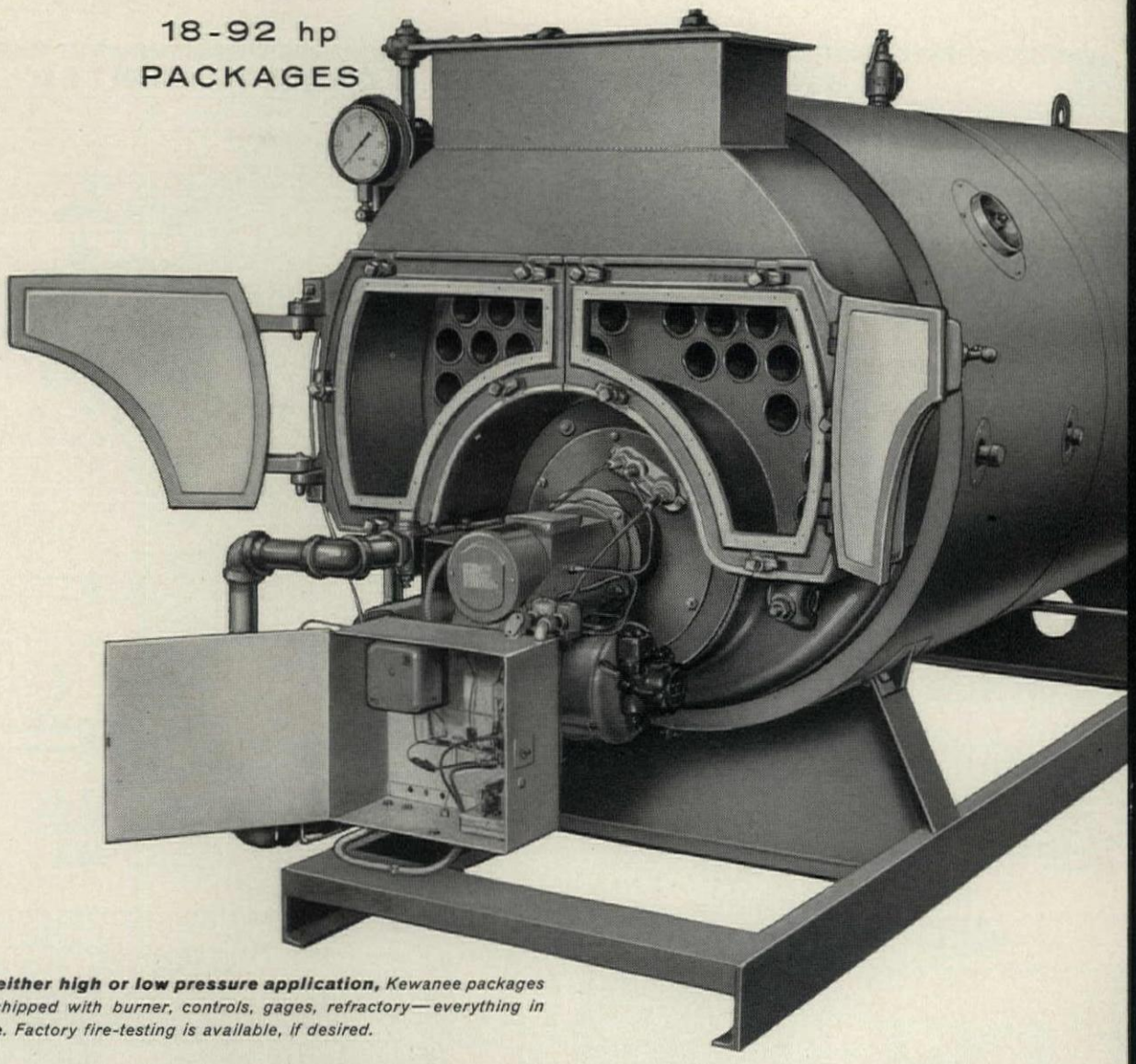

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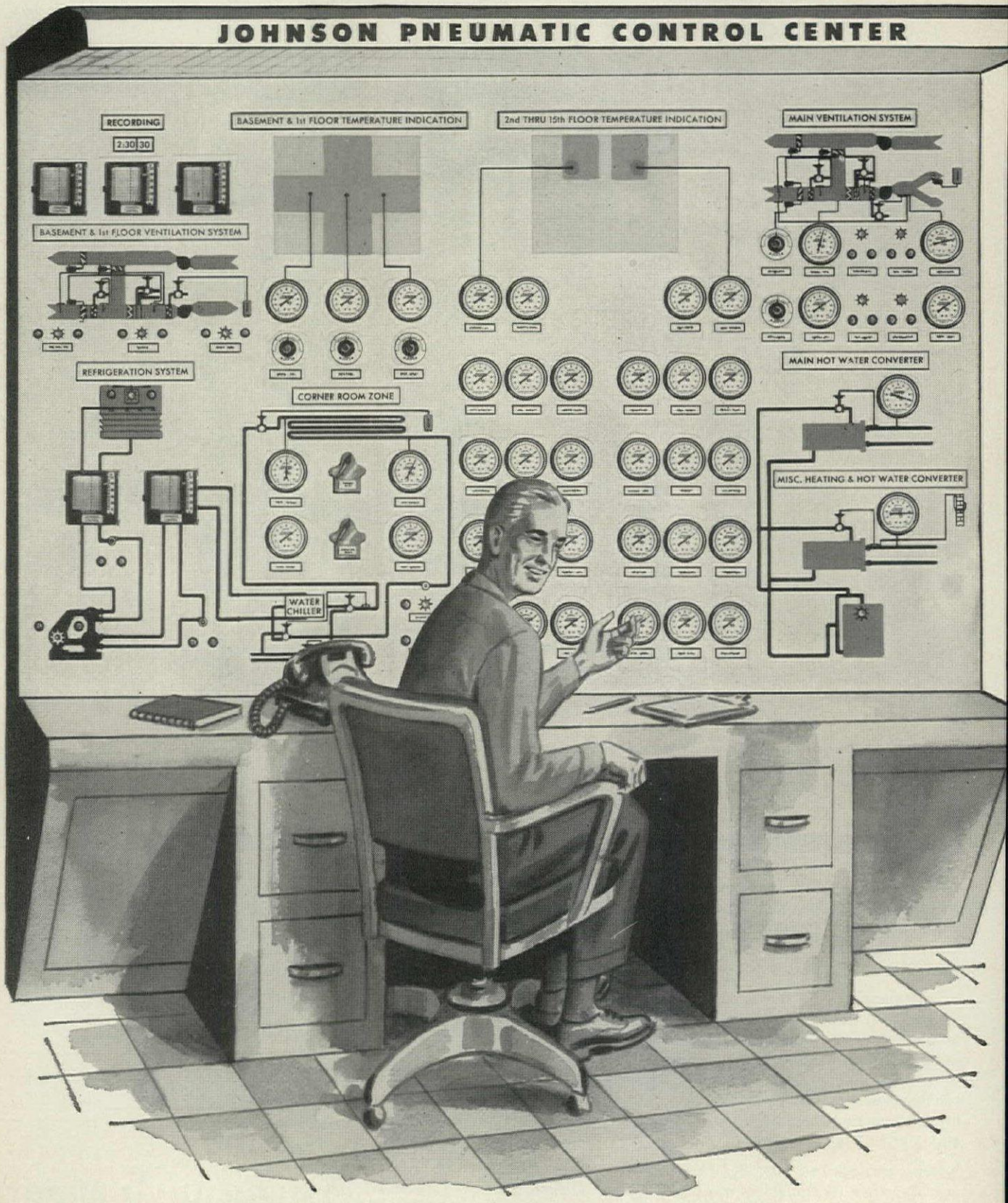

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PNEUMATIC SYSTEMS

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reviews

(Continued from page 194)

In his earliest work, from 1920, the fortification builder Dudok is evidently overwhelmed by De Stiyl and Mondrian. There is little difference between "Huize Sevensteijn" and the extreme Constructivism of Rietveld and Oud. But as soon as speculative housing—in Hilversum called "Residential Quarters"—and public schools engage the architect, he proves that he builds for use, not for the demonstration of abstract theories. Without self-consciousness he skips from medieval thatch to unadorned flat roof lines, from native brick to steel-banded glass curtain walls, and from extreme articulation of spatial function to an equally extreme picturesqueness. Yet in all their diversity these designs have a common denominator. Willem Dudok is the high priest of Synthetic Composition in its best and its worst implications. He manipulates volumes as mass and not as interior space. In a country as flat and treeless as Holland, he utilizes in a masterful way what little sun and shadow can be caught in the third dimension of a building. But he does it so relentlessly that the impression is often factitious, contrived. It is not without reason that there is not a single floor plan of a residential building in a monograph otherwise so complete. In all his Dutch sobriety, Dudok is the juggler whose sole interest is to balance unequal but equivalent forms in space. Sometimes he succeeds admirably, as in the unfortunately destroyed "Bijenkorf" department store in Rotterdam, from 1929, or the "Vondel" school in Hilversum, from 1928. But more often the search for harmonious contrast is so evident as to be embarrassing: in the Hilversum Town Hall, from 1928, Dudok's most famous building, and in the Netherlands Student Building in Paris, from 1927.

American architects and particularly architectural students can learn a lot from this volume. Standing at

(Continued on page 200)

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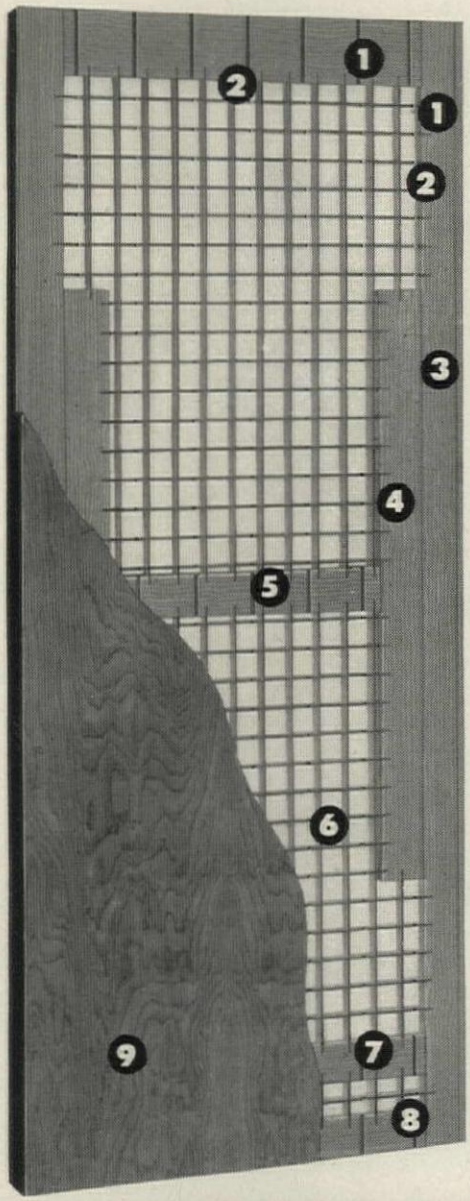

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reviews

(Continued from page 198)

the perilous beginning of a new age of architectural form consciousness they see here demonstrated the promise and the possible abuse of architecture as form rather than space. Dudok grasped the implications of the self-expressive esthetic function of architecture liberated from the need for ornament; but he lacked the genius to go beyond the basic vocabulary. The sum total of his work bears great resemblance to that of Auguste Perret, and it fulfilled for Holland a similar mission. It gave a clean, solid, contemporaneousness to the 20th Century townscape, which would have remained hopelessly disfigured by either vulgar eclecticism on the one hand or undesigned commercialism on the other. The valuable essence of this fine book is the praise of functional modification—not great, not overpowering, not prophetic, but infinitely preferable to any group design we have anywhere in the United States.

SIBYL MOHOLY-NAGY
School of Architecture
Pratt Institute

educational creators

High Schools Today and Tomorrow. *Charles W. Bursch and John Lyon Reid. Reinhold Publishing Corp., 430 Park Ave., New York, N. Y., 1957. 127 pp., illus. $7.95*

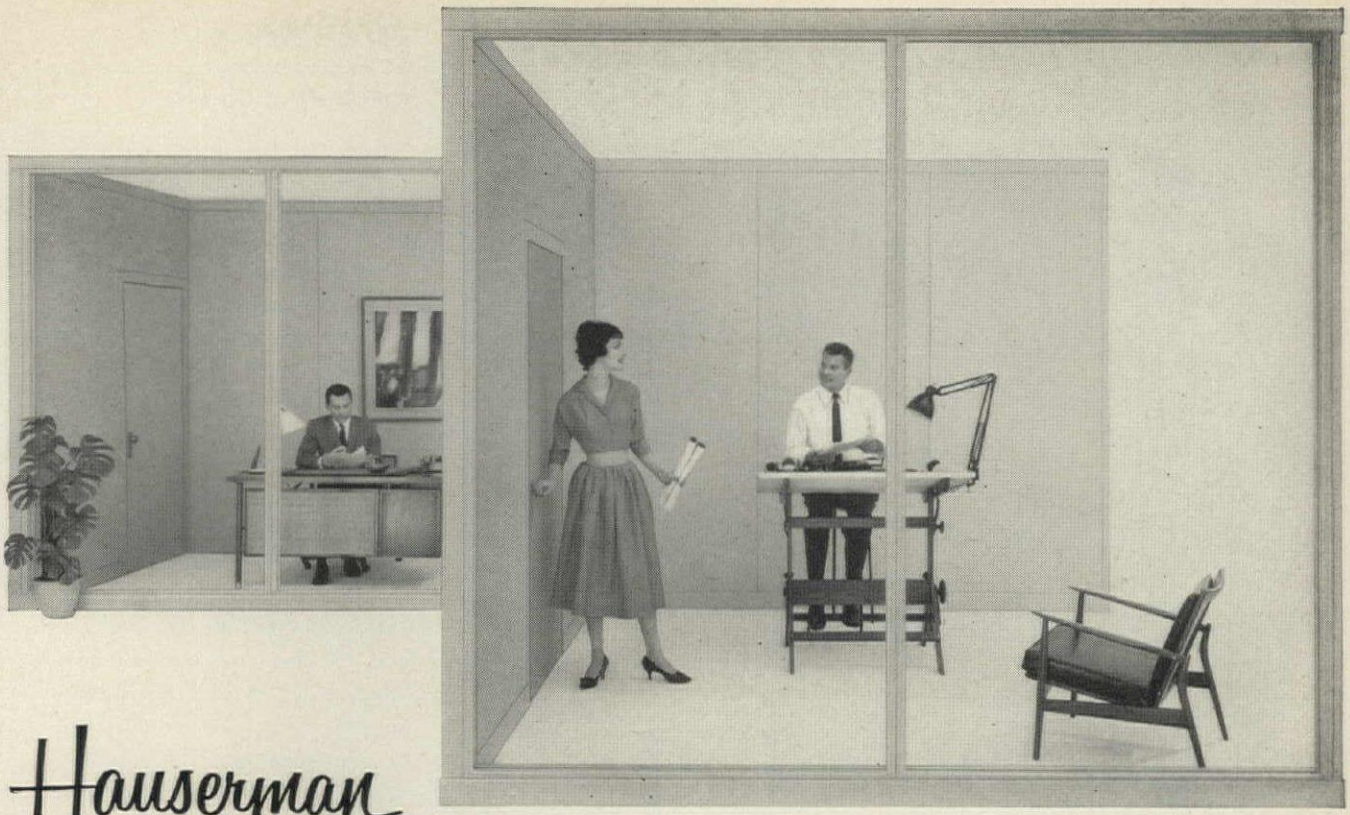
Today, education in these United States is dependent on the thoughts and actions (if any) of four groups of people:

1. Those who believe that progress has been "had" and there is no need for further change. The unhappy truth that no one will admit belonging to this group does not prevent it from existing.

2. Those who say they see a need for change but being unable to determine what changes are needed resort to "lip service" only.

3. Those who would have you believe them clever by consistently

(Continued on page 202)



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reviews

(Continued from page 200)

negating the admission of new ideas. State laws, college requirements, public acceptance, and the like are always given by them as reasons why new ideas cannot work.

4. Those rare few who act as educational creators, searching for facts, analyzing these and finding new and workable solutions.

Bursch and Reid have made it almost compulsory for all in these four groups to read their *High Schools Today and Tomorrow*, for the first might have its eyes opened (at least to some degree); the second will have more opportunities for "lipping"; the third will find itself, despite being "Joe Negatives," made to consider positive actions; the fourth will receive encouragement and, also, the inspiration it seeks and needs.

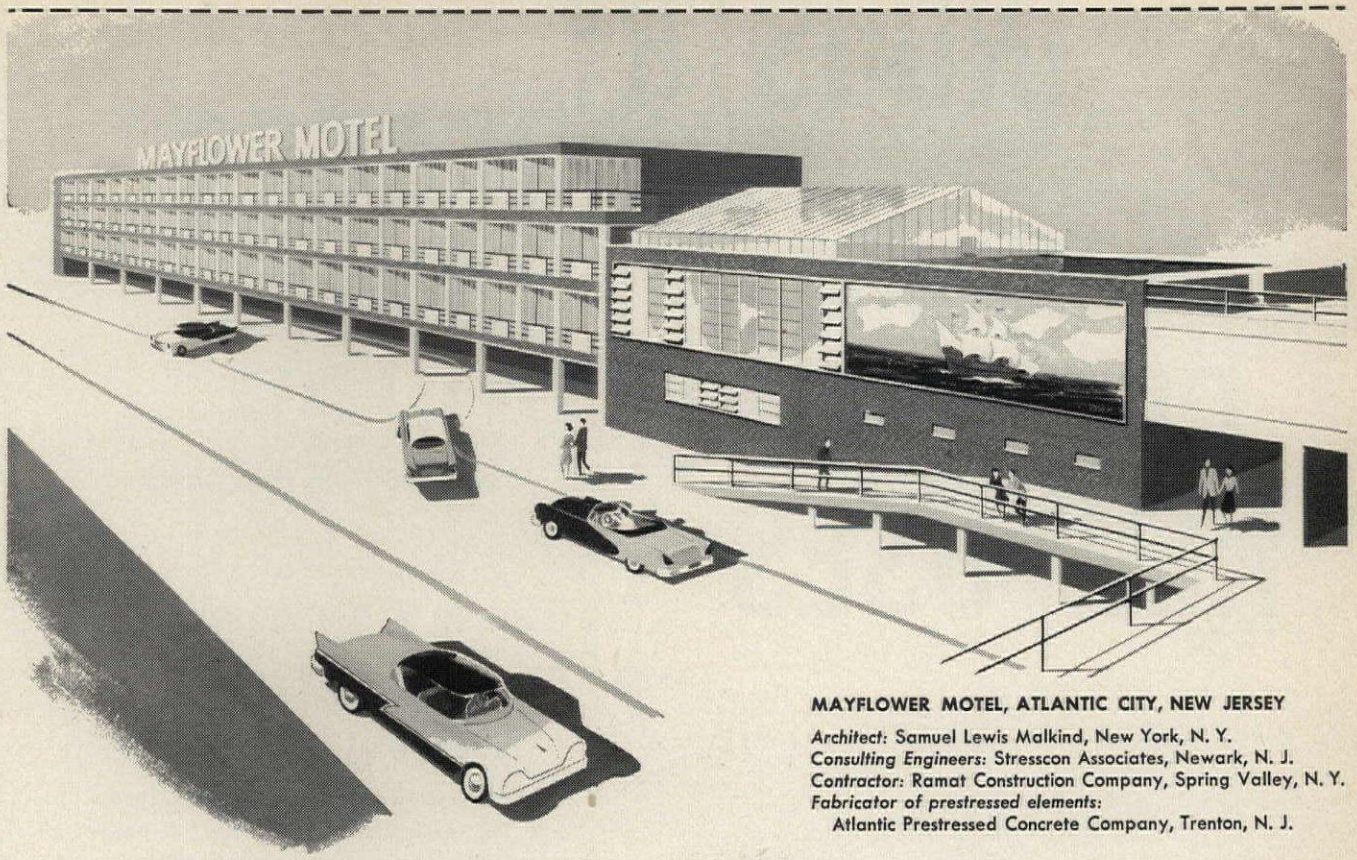
The needs of youth in educational programs are stressed by the authors. They very wisely start by reviewing some of the major studies made in this direction. This review serves to bring the reader to an appreciation of the simply stated thesis of the authors: "It is the purpose of this book to explore the implications of school planning design for a high school educational program that meets these challenges."

Books covering similar material often suffer, in this reviewer's mind, from authors not being explicit in their educational programs. Not so with Bursch and Reid. They cover in needed and pertinent detail what leading educators say *are* the needs of youth, not only for today but for tomorrow, also. They then write, "This is the kind of program we think will meet these needs." They then cover the housing requirements of their program with emphasis on the great need for program ideas such as their's to be put into practice. "How else can we determine the best ways to work toward the education of our youth?"

People with a sincere interest in education—whether they are school

(Continued on page 206)

ANOTHER PRESTRESSED CONCRETE STRUCTURE



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Architect: Samuel Lewis Malkind, New York, N. Y.
Consulting Engineers: Stresscon Associates, Newark, N. J.
Contractor: Ramat Construction Company, Spring Valley, N. Y.
Fabricator of prestressed elements:
Atlantic Prestressed Concrete Company, Trenton, N. J.

Architect Samuel L. Malkind tells how to design, build and finish a 3-tiered motel in five months

In December of 1957, Mr. Malkind was confronted by what can only be considered "a large order." At that time, the owners of the Mayflower Hotel in Atlantic City acquired land adjacent to the hotel, on which they planned to erect a three-tiered, 60-unit motel and swimming pool and be *open for business by June 1, 1958.*

The immediate problem, of course, was speed and the architect's immediate answer to the problem was prestressed concrete for floor beams and girders.

Mr. Malkind tells us: "Even before the architect's mechanical plans were finished, the contractor's shop drawings had been approved and casting of the structural members started. Erection was commenced March 10, 1958, and to all outward appearances, it looks as if the owners will have their doors open for business June 1; this achievement could be accomplished only by the revolutionary prestressed concrete system of building construction.

"In addition to the natural economy of prestressed concrete (25% cheaper than comparative materials in this building by actual estimate), the happy union of concrete girders, floor beams and columns provides a perfect foil for architectural decoration; in this case the plans call for the concrete spandrels to be partly exposed and partly covered with glass mosaic. The columns at the first story are to be painted, and brick-faced above."

We quote here only some of the advantages achieved in this structure by the selection of prestressed concrete. And, outstanding among those are the speed and economy that this method brings to *any* structure. Daily, architects, engineers and contractors are discovering that prestressed concrete is not an alternate building method, but rather *the* method... for these and many other reasons.

For a long time (since prestressed concrete was introduced in this country) Roebling has championed prestressed concrete in every area. We are in an excellent position to furnish you with data and examples of the inherent values of this method.

For further and fuller details on prestressed concrete and tensioning elements, write Construction Materials Division, John A. Roebling's Sons Corporation, Trenton 2, New Jersey.

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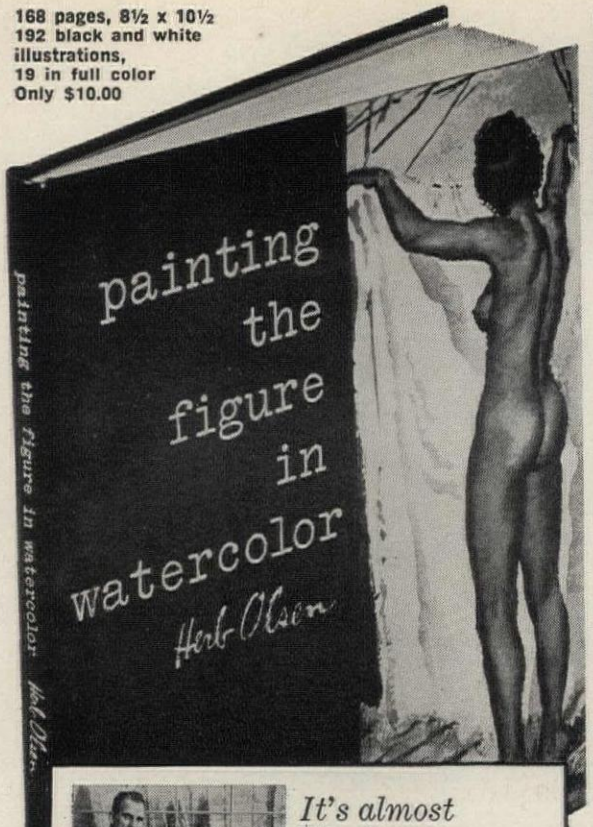


It's almost like having Herb Olsen, himself, right at your elbow

ABOUT HERB OLSEN. During the last three years Herb Olsen has been traveling around the United States talking to people who like to paint. He teaches painting in Westport and has exhibited in New York and Chicago. He was elected an associate member in the National Academy of Design in 1951, and is a member of the Royal Society of Arts, Artists and Writers Club, American Watercolor Society, the Salmagundi Club, and many other watercolor clubs. His paintings have won First Prizes across the country.

A Complete Course in One Volume—This, Herb Olsen's newest book, includes information on materials, basic figure forms, and all the step-by-step techniques from drawing the basic shape to rendering the finished drawing. Throughout, Herb Olsen shows you *how to control* the all-important variations of flesh-tone and color that give true-to-life appearance to your figures, and are the real key to watercolor figure painting.

For the Beginner or the Veteran—Here are simplified procedures of particular value to those who have not tried figure studies in watercolor before. And, in addition to showing you how to paint the figure from the live model, he shows you another, far more economical way—how to use photographs instead of the model.

Step-by-Step Procedures—Herb Olsen gives you step-by-step *basic* procedures, shows you special techniques that solve the 3-dimensional problems of painting the figure and reveals the amazing range of colors that can be used to get the effects you want. He presents a variety of indoor and outdoor scenic problems with descriptions, and gives hundreds of personal, professional hints on every aspect of figure painting.

With the help of this unique instruction book (the only one in its field), you will soon be able to paint watercolor figures in any situation with confidence and flair. You will enjoy browsing through the book because of the many lively and compelling reproductions of Olsen's work featured in gorgeous full color on large pages and on complete two-page spreads. The book is printed on heavy stock of exceptional quality which has all the appeal of the best watercolor paper.

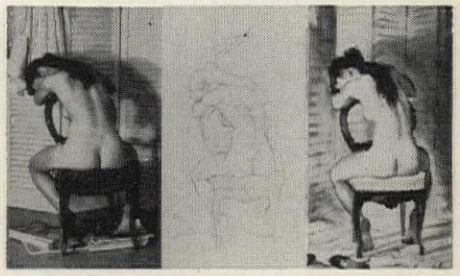
SELECTING THE MODEL

Let the model move around the studio for a while—twisting, turning, trying out poses that come naturally to her. Photograph her in some of these poses and you will have source material for many future studies and paintings. If weather and environment permit let the model work outdoors—as the model in these photographs did. The natural background and outdoor lighting will suggest effects which would never occur to you indoors.

WHY NOT A BACK VIEW?

The back view of the figure is often ignored in painting the nude, yet the contour of the back has an easy flowing graceful and rhythmic line that is most beautiful.

Here are three progressive illustrations showing how Mr. Olsen handles a rather unusual pose. The text accompanying them gives complete information about palette and procedure.



SKIN TONES AND LIGHTING

What color do you use to paint flesh tones? This depends on the color of the model and the kind of light. Here is one of the more than 50 step-by-step demonstrations of what palette and painting procedure to use:

Some paintings demand a large palette, but for "Sepia and Surf" just three colors were used: burnt sienna, sepia, and permanent blue. Here is how it was done:

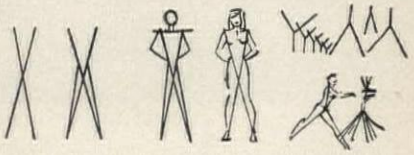
Step 1. When the drawing was completed, a wash of burnt sienna was applied over the whole figure.
Step 2. After the figure had dried, sepia was added for the darker areas and blended with the sienna. This was allowed to dry.
Step 3. A light wash of permanent blue was applied to most of the figure, but not to the shoulders and head.
Step 4. An eraser was used to pick out light areas on the shoulder blade, buttocks, legs, heels and arms.

EXPERIMENT WITH COLOR

Here is how you can find new combinations for producing flesh tones. Included in each copy of PAINTING THE FIGURE IN WATERCOLOR is this cut-out. When moved over a sheet of daubed color it will suggest many interesting and pleasing effects which you can adopt in your painting.

DRAWING THE FIGURE

If you have little or no experience in drawing the figure you will find many suggestions in this book which will help you get started the easy way. Simple familiar forms—triangles, pear shapes, forms like the letter "Y" or the letter "X"—can serve as a framework for the figure drawing and can suggest the pose of the model in reasonably accurate proportion.



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reviews

(Continued from page 202)

board members, administrators, teachers, architects, or laymen—should read this book.

The fact that the book contains some dogmatic solutions to several problems does not cause it to lose its effectiveness. Its chief contribution is that these two men—an educator and an architect working together—analyze the needs of youth, propose a program and a method of housing it which is not tied down by the usual stereotyped thinking.

If this book could be distributed to high school libraries its reception among those students interested in seeing how their elders are working for them should have lasting effect. For who could deny the reasonableness of the assumption that these students on reaching maturity will, by reason of having read the book, be more receptive to ideas that will make better educational facilities available for their children?

J. STANLEY SHARP
Ketchum & Sharp, Architects
New York, N. Y.

notices

office closed

GEO. FRED ASHLEY, Partner in the firm of ASHLEY, KEYSER & RUNGE, Architects, closes his Consulting Office, 465 California St., San Francisco 4, Calif.

name change

C. SIDNEY MILAM & ASSOCIATES, Architects, 368 Casa Linda Plaza, Dallas, Tex.: partnership of MILAM & ROPER, Architects, is dissolved.

WILLIAM B. WIENER, MORGAN & O'NEAL, Architects, 622 Commercial National Bank Building, Shreveport, La., formerly WILLIAM B. WIENER & ASSOCIATES, Architects.

firm dissolved

THE OFFICE OF LEVY & SCHEINGARTEN, Architects, is dissolved: GEORGE H.

(Continued on page 208)

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J: **No. C-824:** Incandescent surface attached corridor light...

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notices

(Continued from page 206)

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(Continued on page 214)

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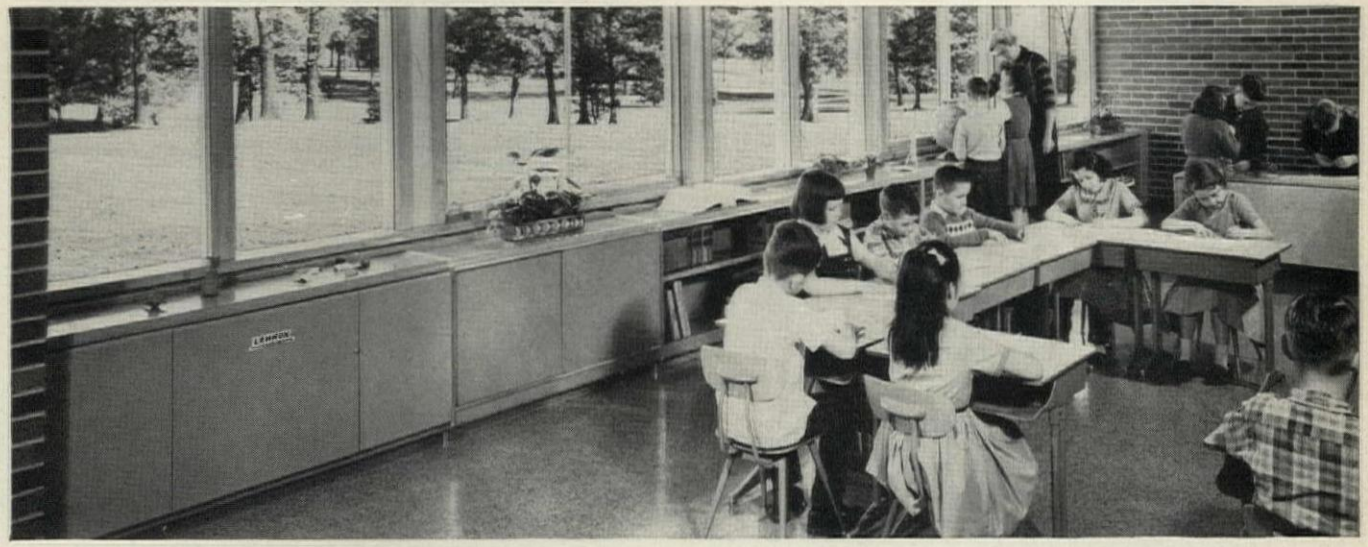

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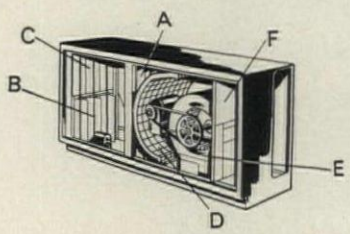

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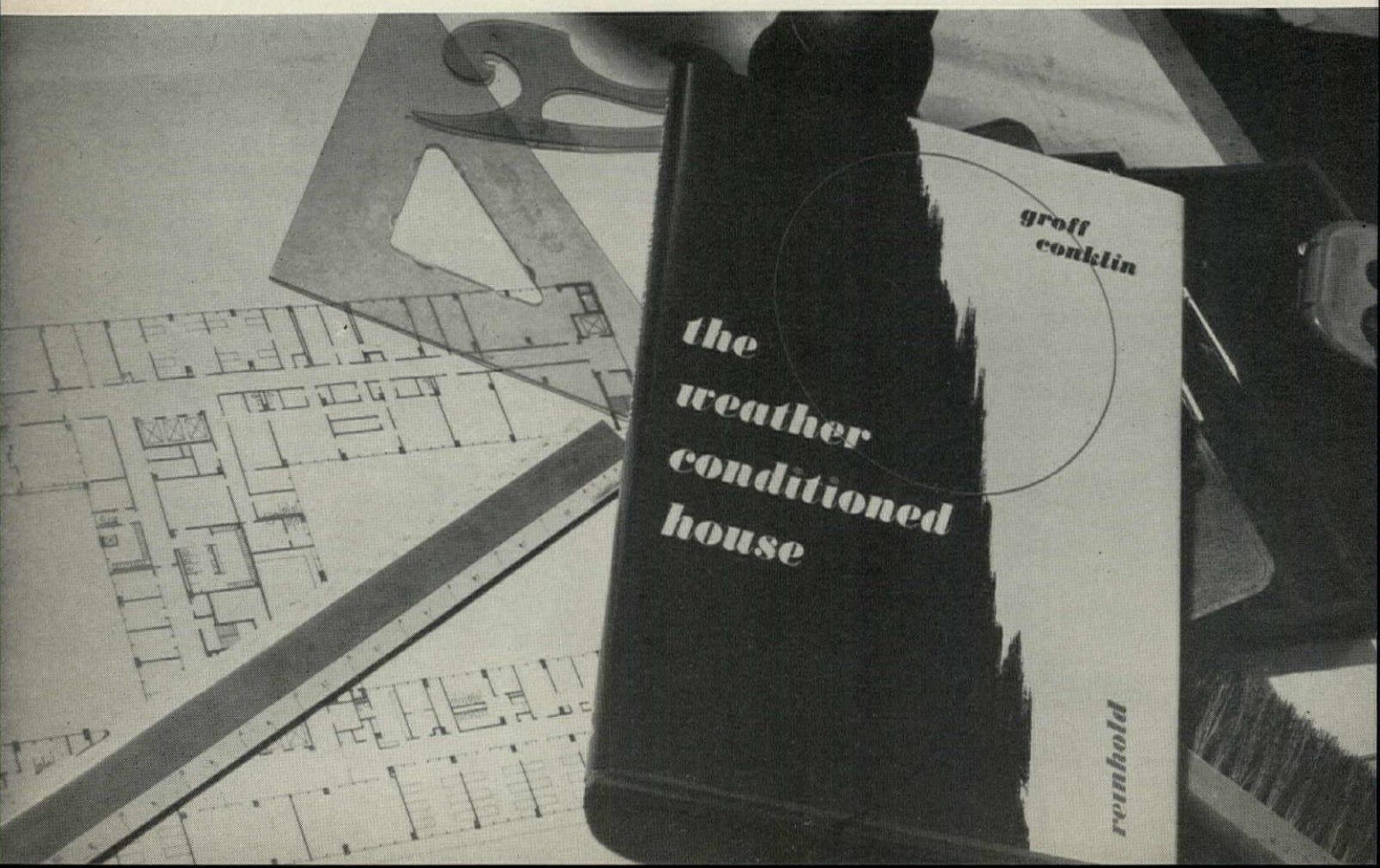

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(Continued from page 210)

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P.S.

which is worse?

A few months ago *I wrote a small essay on the question: Is contemporary design at this point really as bad as our self-criticism would seem to indicate? Responses seem to be divided among* ayes, nays, *and* maybes. *I still believe that intra-professional critics are inclined to pick on bad examples and ignore advances. (One respected architectural speaker at a recent symposium showed a slide of a very unfortunate FLW design and chuckled as he told the audience: "This is one of my favorite slides." Why is it? Why isn't a picture of one of Wright's many stirring successes his favorite? I think this sums up my whole argument.)*

On the other side of the discussion, the point is often made that P/A (with other magazines) shows only architecture it can applaud, and ignores the mistakes that are so obviously made. OK. Here is that other side of the coin. The unhappy story of superficial "modernism" v. human understanding seems to me pictured well in the two photographs here shown, brought to me by my friend Marianne Goeritz, the photographer, who took them in Valparaiso, Chile.

Says Marianne: "The old patched and propped adobe houses, sad as they are, are built on the steep slopes so that each has a view and sun and air. The new concrete buildings substitute noise and gloom."

These pictures are not likely to become "favorites" of mine. They make me very sad.

Thomas H. Creighton