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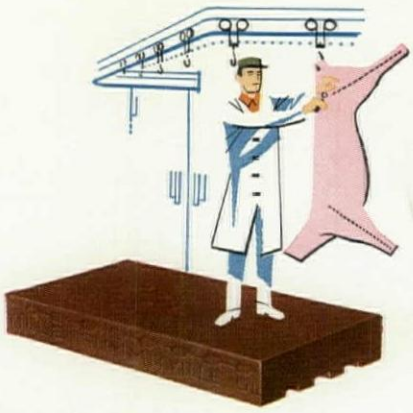

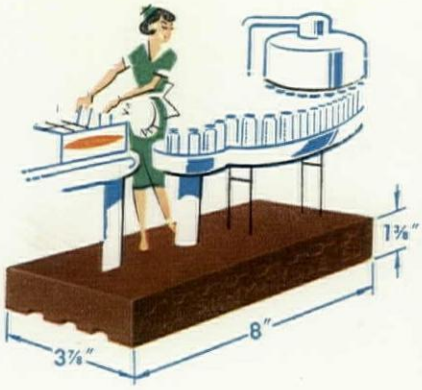

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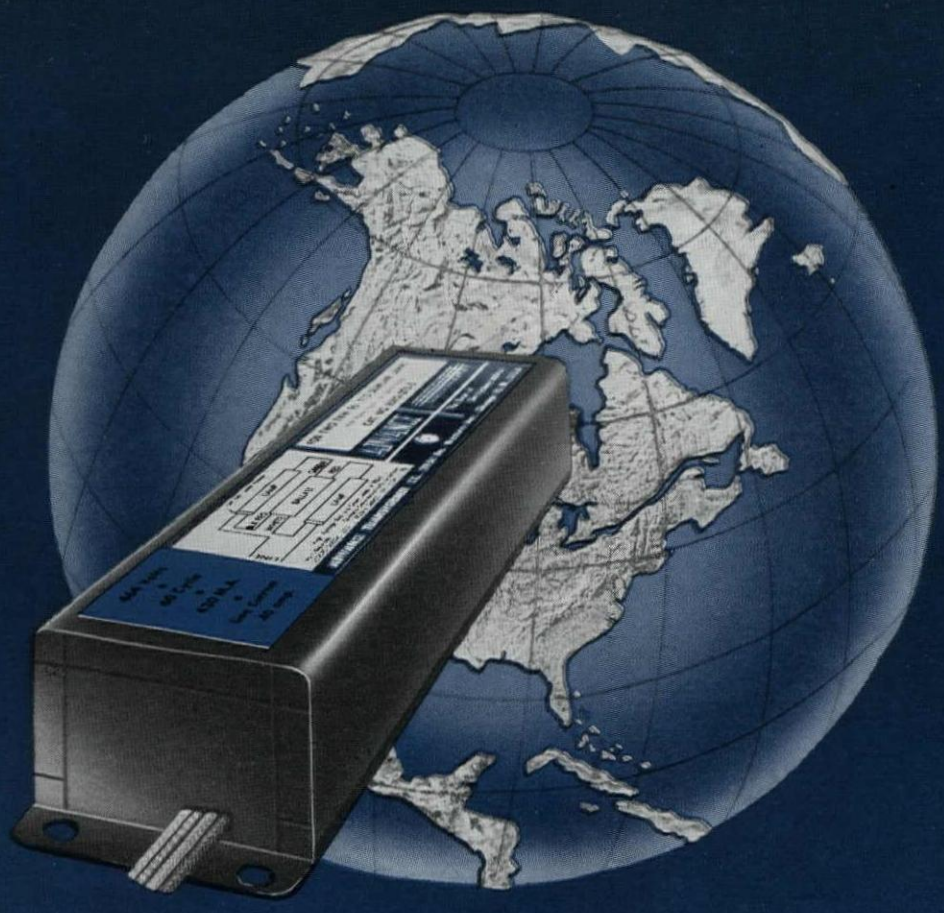

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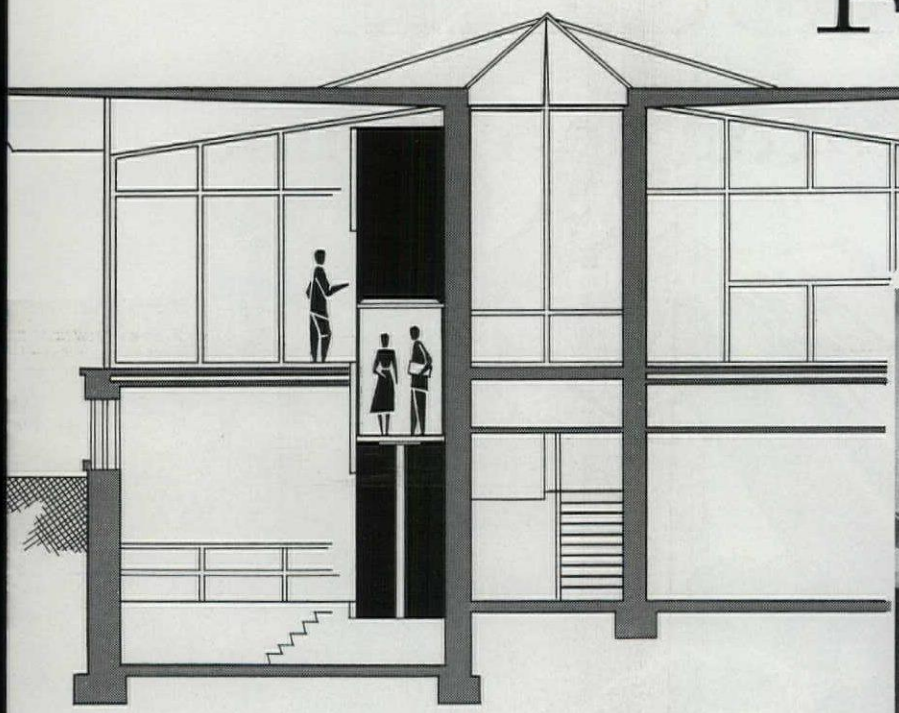

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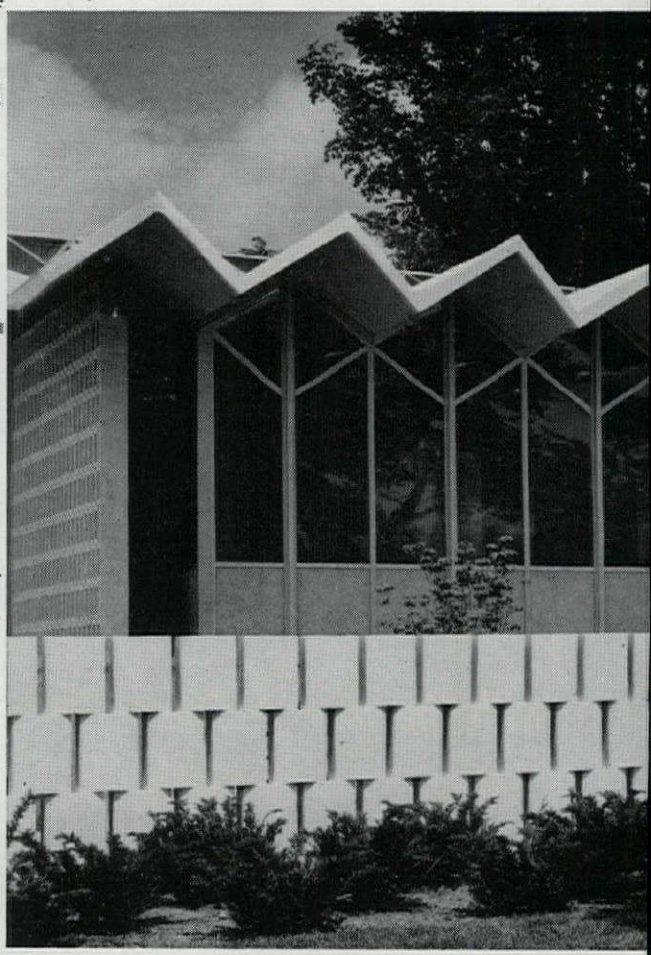

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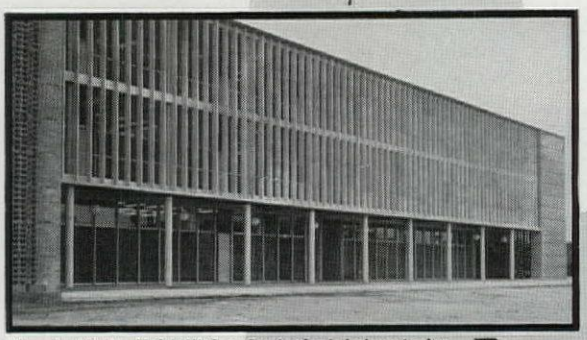
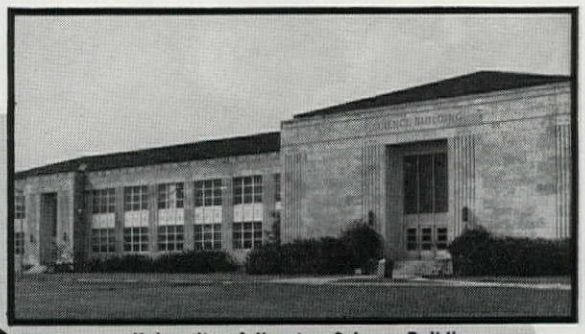


Rice Institute Keith-Weiss Geological Laboratories
Architect: George Pierce-Abel B. Pierce, Houston, Texas
Mechanical Engineer: H. E. Bovay, Jr., Consulting Eng., Houston, Texas
General Contractor: Marshall Construction Co., Houston, Texas
Mechanical Contractor: C. Wallace Plumbing Co., Houston, Texas



University of Houston Science Building
Architect: Lamar Q. Cato, Houston, Texas
Mechanical Engineer: Reg. F. Taylor, Houston, Texas

Texas Southern University Science Building
Architect and Engineer: Hedrick and Stanley, Houston, Texas
General Contractor: Knutson Construction Co., Houston, Texas
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JUNE 1959

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Volume XL, No. 6

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Powers of an Arbitration Panel

It's The Law Column by Bernard Tomson

P/A Practice of Architecture *article describing a court case in which an arbitration panel was upheld in compelling performance of a contract.*

Does an arbitration panel have the inherent power to compel the performance of a contract, or are its powers limited to awarding damages? This question is of importance to the architect, as agreements to arbitrate disputes are increasingly found in contracts between owner and architect and between owner and contractor. A recent decision of a New York Appellate court by majority opinion upheld the validity of an arbitration award which directed the specific performance of an employment contract (*Staklinski* vs. *Pyramid Electric Co.*, 6 A.D. (2d) 565).

The *Staklinski* case invovled a contract between a corporation and its largest stockholder. Under this agreement, the corporation had hired the stockholder as its Production Manager for a term of years. The agreement provided that if the stockholder was "unable to substantially attend" to his duties for a period of three months, the Board of Directors of the corporation could, in its discretion, terminate the employment contract. The agreement also provided that "any controversy or claim arising out of or relating to this agreement" should be settled by arbitration.

Nine years before the agreement was to expire, the Board of Directors of the corporation adopted a resolution declaring the Production Manager unable to perform his duties because of disability. The Production Manager petitioned for arbitration, contending that he was not disabled and that the act of the Board of Directors was arbitrary. He requested the arbitration panel to declare the Board's action null and void, and direct the Board to perform the employment agreement by reinstating him.

A majority of the arbitrators with one dissenting, ruled that the petitioner was not disabled and that the action of the Board of Direcors constituted an abuse of discretion. The arbitrators further ruled that the contract was still effective and directed the reinstatement of the petitioner.

On appeal to the courts, the Board of Directors of the corporation contended that reinstatement could not be compelled by the arbitration panel as the petitioner was a key executive in the corporation and, under statutory rule, corporate management is intrusted to the Board of Directors. They further contended that the award directing the reinstatement of the petitioner constituted an interference with the internal affairs of the corporation. The New York Court in rejecting these contentions stated the following:

"The contention that upholding an award, which in effect means reinstatement of the petitioner, offends equity and the statutory rule intrusting corporate management to the directors is a most important one.

This cannot be termed such interference with the corporate management by its board of directors as to constitute a violation of statutes applicable. . . . Nor does the provision for arbitration or any award made thereunder deprive the corporate board of its powers to discharge its duties with respect to the corporate affairs, albeit like any contract it thereatfer narrows the choice open to the corporation."

The corporate Board of Directors argued that if the dispute between it and the petitioner had been submitted to a court of equity, such court would have no power to order the performance of the contract of employment and the reinstatement of the petitioner to his position. The Court in answering this argument asserted that the arbitration panel had greater power in this respect than a court of equity, saying:

"Lastly, there is no rule of law limiting to money judgments the relief which an arbitrator may award, 'even in cases where no equitable decree would be proper if the controversy between the parties were being determined by a court rather than by arbitrators'. . . . It is urged that the nature of the award by the arbitrators and any judgment which confirms it presents problems of impossibility of enforcement. The fact that courts of equity have traditionally refused to grant equivalent specific performance in actions based on contracts is cited as proof of the difficulty. The fact of the matter is that much of equity jurisdiction and relief is patterned on the assumption of the test of the adequacy of the relief at law. This has undoubtedly influenced the areas where equitable relief is denied on other substantive grounds, such as is involved here. Hence, when there is an adequate remedy at law equity will the more quickly refrain from granting the extraordinary relief that has been historically associated with equity. But in the case of arbitration no distinction is made between these forms of relief the dichotomy of which is historically associated with the development of our courts. The granting of specific relief in arbitration does not depend upon the inadequacy of the remedy at law or anywhere else. As already pointed out, as embodied in the arbitration statute and as recognized in our highest court, arbitration may provide relief in circumstances and on conditions which even a court has no power to grant."

The dissenting judges were of the opinion that because the contract involved was one for personal services, specific performance could not be required by the arbitration tribunal. The dissent stated:

"Specifically, the problem here is whether a court must, on an application to confirm an arbitration award, enter a decree of specific performance of a contract for personal services where the court could not do so were an action brought on the contract. In our opinion, the statutory machinery for the enforcement of arbitration awards contemplates the exercise of a judicial function and not a ministerial one. No judgment should issue from the court which contravenes deeply ingrained principles and rules of equity jurisprudence regarding the specific performance of contracts for personal service. It has long been settled that a court of equity will not decree specific enforcement of contracts for personal services. . . . That power, which courts have eschewed for two centuries, cannot be lightly given to arbitrators. The same conditions which have circumscribed the discretion of the chancery to award specific performance in such instances must be applied to arbitration awards. The established rule as to denial of specific performance of personal services contracts rested upon the difficulty of enforcing such decrees, the fact that the relationship in such contracts was a close personal one involving confidence and loyalty, and the refusal to decree any sort of involuntary servitude. . . . 'It would be intolerable if a man could be compelled by a court of equity to serve another against his will, or if a man could be compelled to retain in his employ one he does not want: courts of equity exercise no such power and grant no such relief.'"

A rule that the parties to a contract for personal services may be compelled to specifically perform is of significance to the construction industry. A contract between owner and architect, consulting engineer and architect, owner and contractor, contractor and subcontractor, etc. all involve elements of personal service. In this area then, arbitration procedure became a more potent weapon in the enforcement of contracts than court action.

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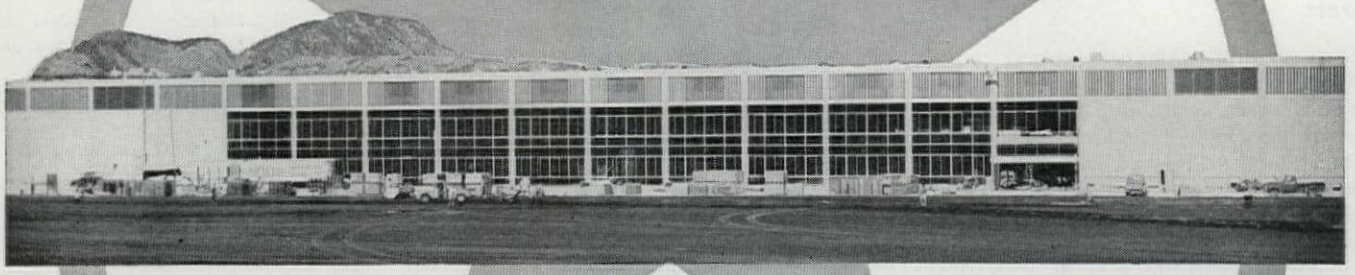

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Concise/Consistent Specifications Aims Vitiated

Specifications Clinic by Harold J. Rosen

P/A Practice of Architecture ***article discusses two recent publications that appear to be inconsistent with the goal of good specifications.***

Two publications have been recently issued—one produced by a manufacturer and one sponsored by a trade association—that are questionable aids toward the goal of good specifications, which is to clarify specifications by developing concise standards and consistent methods of specifying.

The publication by the manufacturer tends to vitiate the aim of those in the specifications writing field who desire to see concise standards developed. The publication, issued by Kaiser Aluminum Co., is one which creates an additional coding system for architectural aluminum finishes. At present the coding system most widely used by specifications writers to describe machine, chemical, or anodized finishes is the Alcoa system developed by Aluminum Company of America. The code number, when used, eliminates the need for a very descriptive specification process. For example, if an anodic finish is desired, the long descriptive type of specification will include the duration of the treatment, the minimum film thickness, the minimum coating weight per sq in., the acidity of the electrolytic bath, the temperature of the bath and so on ad infinitum. All of the above information can be incorporated in the specifications by means of the simple code number, as: "Exposed aluminum surfaces shall have Alcoa's anodized finish No. 204."

However, with the introduction of the Kaiser coding system, the comparable numbers for a 30-minute anodized finish will be Alcoa No. 204 or Kaiser No. A1. Immediately one can see the various uncertainties which can develop. The Kaiser No. A1 symbol refers to a 30-minute anodic treatment. Alcoa's A1 symbol describes a polishing process. Alcoa has a C1 symbol representing a fine satin finish. The Kaiser C1 symbol describes a caustic etch.

Since the Alcoa coding numbers have been in use exclusively for a long time, there is a good possibility that specifications exist with simply a code number, without the qualification that it is an Alcoa number. I can picture a specifications writer using a previous specification and specifying that "exposed aluminum surfaces shall receive an A-1 finish." With both the Alcoa and Kaiser coding numbers now in effect, will the specifications writer be entitled to an Alcoa A-1 polished finish or a Kaiser A-1 anodic finish?

Should Reynolds Metals Co. inaugurate a system of its own tomorrow, we will certainly have a Tower of Babel concerning architectural aluminum finishes. It appears that the Aluminum Association should get busy immediately to devise a coding system for aluminum finishes which will accomplish for the finishes the same thing that the current alloy designation system performed for the previously incomprehensible methods of alloy designation. Perhaps Kaiser's coding system, although complicating the picture at the moment, will prove a blessing in disguise if it provokes a change in the coding designations. Alcoa's numbers and letters are arbitrary; Kaiser's system is referenced to the type of operation, M for machine finish, C for chemical finishes and A for anodic finishes.

The publication sponsored by Tile Council of America Inc., entitled *American Standard Specifications for Glazed Ceramic Wall Tile, Ceramic Mosaic Tile, Quarry Tile and Pavers Installed in Portland Cement Mortars*, supersedes the *Tile Handbook* originally issued in 1951. The new publication, in replacing the old, does not perform a service to specfications writers. Superseded, retired and eventually out of print, the *Tile Handbook* contained a wealth of information in addition to industry standard specifications. It contained information on glazed and unglazed tile, covering the various types, descriptions, shapes, sizes, thicknesses, and typical uses. It contained information on standard shapes and trimmers for glazed interior tile, unglazed ceramic mosaic tile, paver tile, and quarry tile. It contained a glossary of terms defining items used in the tile industry so that there was a ready reference in the event a dispute arose as to terminology. It contained the U. S. Dept. of Commerce Simplified Practice Recommendation SPR-61 concerning tile. It contained numerous details illustrating the application of tile on various constructions. It contained helpful side comments on the various specification paragraphs that alerted specifications writers to the reason why certain things were specified or what provisions were to be made for unusual conditions. The new publication contains none of these invaluable elements. The committee which promulgated the new publication would have been well advised to reissue the old Handbook in a revised edition to bring it up to date, retaining the old information and incorporating any changes in specifications which they felt to be pertinent.

Change for the sake of change alone was not warranted in this instance. Setting tile in portland cement is an ancient art and the specifications contained in the new publication do not differ materially from the older publication. The buttering method of setting wall tile is eliminated in the new publication, but other than that, the new publication is replete with restatement of almost identical specifications for materials, application, and workmanship. The new publication treats glazed ceramic-wall tile, ceramic mosaic-wall tile, and quarry tile and pavers in three separate specifications. By combining them into a single specification, as is done in architectural specifications, the new publication could be reduced by almost two-thirds, certainly by half.

Enjay Butyl window-sealing tape was employed throughout the newly-erected Atomic Reactor Laboratories in Plainsboro, N. J. Architect: Skidmore, Owings & Merrill. General Contractor: Turner Construction Company.

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Land Use—Fourth Factor of Architecture

*by Irving D. Shapiro**

A P/A Practice of Architecture ***article in which the author argues his belief that land use is such a basic aspect of the design of buildings that it is comparable to the three classic factors of "commodity, firmness, and delight" in importance.***

During the reign of Augustus, some 2000 years ago, Marcus Vitruvius Pollio set down his momentous treatise on architecture. It has since proved to be a work of great value to the students of architecture who followed him, for it has enabled them to acquire an insight into the Western beginnings of the discipline of architecture, as well as the nature of building construction then extant.

While formulating general principles of architecture, Vitruvius suggested that good architecture involved the combination of "durability, convenience, and beauty."[1] Further:

"Durability will be assured when foundations are carried down to the solid ground and materials wisely and liberally selected; convenience, when the arrangement of the apartments is faultless and presents no hindrance to use, and when each class of building is assigned to its suitable and appropriate exposure; and beauty, when the appearance of the work is pleasing and in good taste, and when its members are in due proportion according to correct principles of symmetry."[2]

The touchstone thus created by Vitruvius has scarcely been disturbed since his time, for the architectural writers and critics that followed him have tended to move along similar conceptual channels. Sir Henry Wotton, in 1624, virtually echoed Vitruvius:

"Well building hath three Conditions—Commoditie, Firmnesse, and Delight."[3]

And, some 200 years later, Eugène Viollet-Le-Duc followed closely in the architectural footsteps of both Vitruvius and Wotton by offering,

"There are in architecture—if I may thus express myself—two indispensable modes in which truth must be adhered to. We must be true in respect of the programme, and true in respect of the constructive processes. To be true in respect of the programme is to fulfill exactly, scrupulously, the conditions imposed by the requirements of the case. To be true in respect of the constructive process is to employ the materials according to their qualities and properties. What are regarded as questions purely belonging to art, symmetry, and external form, are only secondary conditions as compared with those dominant principles."[4]

Here, though Viollet-Le-Duc did not hold to the presumably equal importance of the three characteristics selected by Vitruvius and Wotton, his concept of the characteristics which did define good architecture was not unlike that subscribed to by them.

Today, architects still generally accept the fitness of durability, convenience, and beauty to serve as characteristics indicative of "well building." Properly classified, they fall within the more general framework of what have come to be known as the three factors of architecture—structure, function, and esthetics.

Now, one can hardly quarrel with a yardstick of measurement that includes consideration of these three factors. It is certainly true that all buildings should be structurally sound, that they should function in such a way as to facilitate the efficient performance of whatever activities they are intended to house, and that they should be esthetically satisfying. Perhaps there is greater agreement as to just what constitutes a structurally sound and functional building than there is concerning its esthetic merits, but these considerations are not central to this paper. What *is* central to this paper, however, is the usefulness of a concept of architecture which suggests that the satisfaction of merely these three factors is sufficient to evidence the existence of good architecture.

The factors of structure, function, and esthetics have meaning solely when improvements made to the land—buildings, primarily—are considered. But the improvements in themselves constitute only one component part of the unit of space the architect is concerned with in any given design situation, the others being the land to which the improvements are made and the air space above the land. And, since no one of these elements is of any functional use in an urban environment without the utilization of the other two, its "goodness or badness" cannot be judged if it is viewed as though it existed in isolation. For the land, the air space above the land, and the improvements made to the land—corresponding to any given unit of space—must be viewed as an amalgam or compound and not a mixture.

"The land furnishes support, a fixed location, and a street address. The air space provides 'free room' overhead, and the improvements give situation, design, resistance to weather effects, access, electricity, and so on. The improvements release the potentialities of the land and air space overhead. The land and air space make the improvements both possible and useful. All three unite to form a spatial unit equipped to render services."[5]

(Continued on page 13)

*Architect, Urban Land Economist

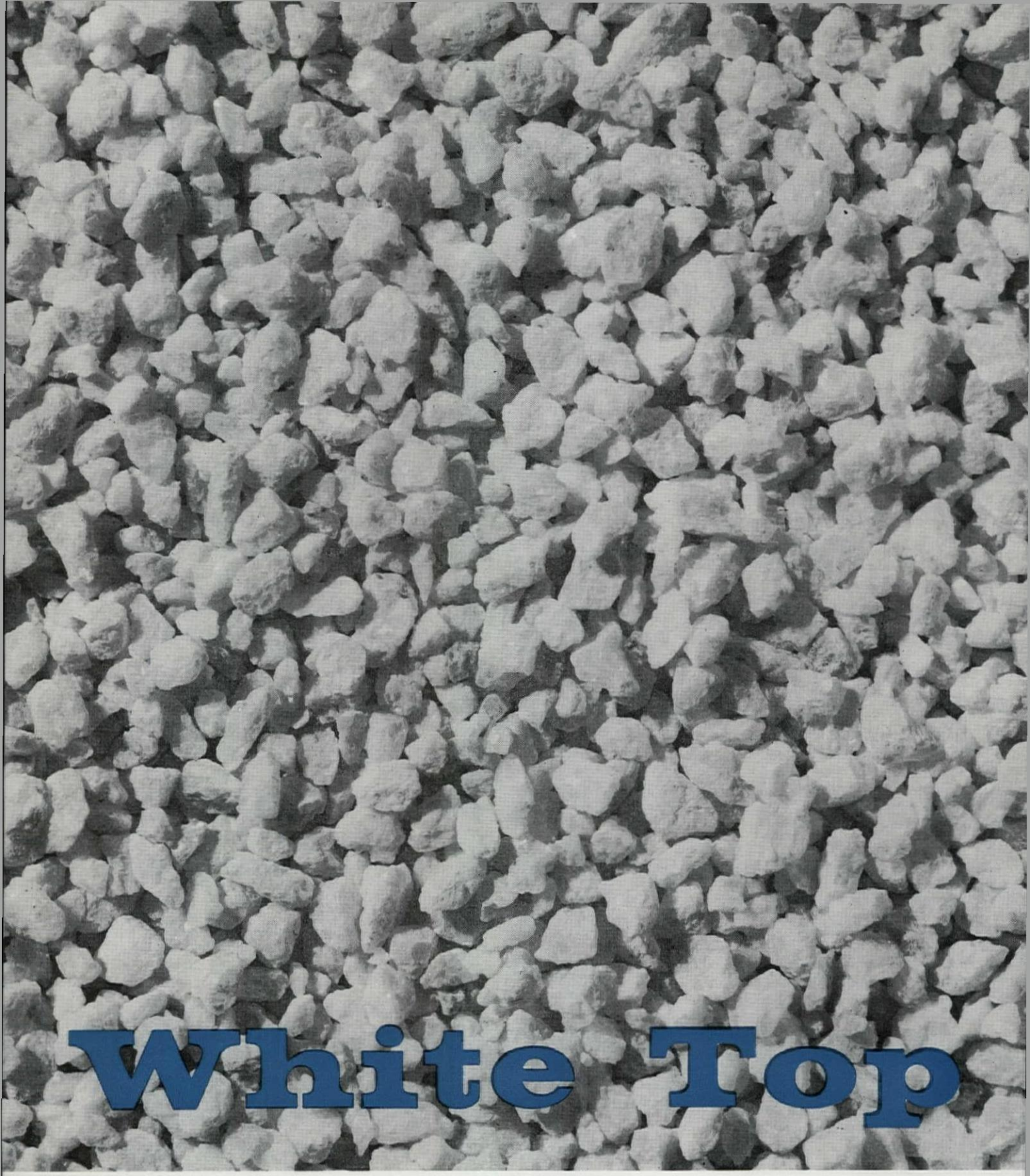
[1] *Vitruvius,* The Ten Books on Architecture, *translated by Morris H. Morgan. Harvard University Press, Cambridge, Mass., 1914 (p. 17).*

[2] *Ibid.*

[3] *Henry Wotton,* The Elements of Architecture, *reprinted by Longmans, Greene & Company, London, England, 1903 (p. 1).*

[4] *Eugène Viollet-Le-Duc,* Discourses on Architecture, *translated by Benjamin Buchnall. Ticknor & Company, Boston, Mass. (Vol. 1, p. 448).*

[5] *Ernest M. Fisher and Robert M. Fisher,* Urban Real Estate. *Henry Holt & Co., New York, N. Y., 1954 (p. 18). For example, spatial units which are intended to facilitate the performance of dwelling activities might provide services such as privacy for "bathing, sleeping, and dressing; space for the storage, display, and use of certain types of goods; facilities for television and radio reception, sewing, laundry, and the final processing of goods for consumption; a place to rear children, keep pets, pursue hobbies, and entertain friends." Or, spatial units which are being assembled to facilitate the performance of commercial and administrative activities might offer services such as "shelter and comfort for employees and clients, space for the storage, display, or sale of merchandise, and accessibility to transportation facilities or other firms." Spatial units within which processing and/or fabricating activities are to be performed might provide a host of other kinds of services—tremendous power for the utilization of capital equipment; artificial light, glareless, brighter, and more evenly distributed than natural light; a temperature, humidity, and dust controlled environment to meet the most exacting and rigid specifications; space virtually free of reverberation or echo; and vast quantities of contiguous, unobstructed floor area. And, indeed, activities such as those which will be performed within proposed church and sanatarium spatial units may be facilitated by services of still a different kind—a religious atmosphere of peace and quiet. (See Ibid., pp. 17-20).*



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Land Use—Fourth Factor of Architecture (continued)

Therefore, since it is the *spatial unit* which produces the services that are consumed when the improvements are occupied—not the improvements by themselves—satisfaction of merely the requirements of structure, function, and esthetics is inadequate to indicate the existence of good architecture. The satisfaction of an additional factor is necessary, a factor which reflects the contribution made by the land and air space above the land, to the production of services. This factor might well be called land use—the fourth factor of architecture—and its requirement will be satisfied only when the use permitted to be made of the land by the improvements is functionally appropriate to the site, and the volume of space over the land that is enclosed by the improvements closely reflects the volume of enclosed space that can be made use of at that site. Or, in the language of urban land economics, its requirement will be satisfied only when the spatial unit produces the kind and quantity of services demanded at its site.[6]

That a satisfaction of the requirement of this additional factor is essential to the existence of good architecture becomes evident when one considers that only the factor of land use—of all the factors of architecture—reflects the ability of any spatial unit to occupy a useful place in the social, economic, and cultural milieux of the community. For example, one may develop an apartment house that is structurally sound, functions extremely well for dwelling purposes, and which evokes a gratifying esthetic response on the part of all who view it—that is, an apartment house which *completely* satisfies the traditional factors of structure, function, and esthetics. But, if the site at which that apartment house is located is one where services facilitating dwelling activities are not in demand —because dwelling activities at that site bear an improper spatial relationship to all the other activities which, in combination, make up the community—then that apartment house possesses no functional link which will serve to tie it to its human environment.

A similar situation will exist with the construction of an office building which encloses 1,000,000 sq ft of net rentable office space at a site where only 250,000 sq ft are in demand. Here—even if the building were sturdy, possessed a sparkling plan, and presented a handsome appearance—these architectural characteristics by themselves could not operate to prevent the erosion of capital which must result from the existence of such excess capacity.

In the first case described above, an improper use was made of the land; in the second case, an improper amount of space over the land was enclosed. Situations such as these result in social as well as economic losses to the community —a *dis*utility of resources, so to speak— for spatial units characterized by such a functional isolation or such an inappropriateness of capacity to produce services are the architectural failures of today and most probably the urban blight of tomorow. And this is so *despite the fact that the requirements of the traditional three factors of architecture were satisfied.*

Yet, there are those who hold that both situations described above, though deplorable, did not involve architectural failures, for the structures concerned possessed all the characteristics which evidence good architecture. Of those persons, one can only ask: Can an operation be successful if the patient dies because of a faulty diagnosis? Can the architecture of any building be considered good if it is accompanied by an economic and social disutility? I leave it to the profession to decide.

---

[6] *The assumption is made here that in a "free" economy such as ours, the kind and quantity of services demanded at a site are generally, as a result of unfettered market action, the kind of services and quantity of services that are appropriate to the site despite the fact that certain factors such as zoning ordinances and long-term leaseholds may operate to distort freedom of choice in specific cases.*

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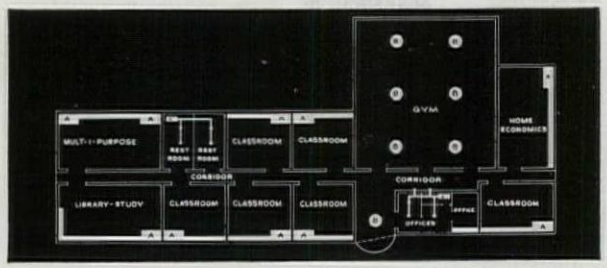

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Rink's Ventilating Equipment Frankly Displayed

Mechanical Engineering Critique by William J. McGuinness

P/A Practice of Architecture *column on mechanical and electrical design and equipment devoted this month to the mechanical services of the David S. Ingalls Hockey Rink at Yale.*

In modern design, the location and requirements of heating-, ventilating-, lighting-, and—in this case—ice-making equipment are such as to suggest a certain dominance of position. They make a claim for architectural acceptance and development. The recent tendency to assemble the functions of air-handling (heating, cooling, and ventilating) and lighting in a flush-surface hung-ceiling, meets a rude challenge in buildings with cable-suspended roofs whose appearance should be visible from inside and outside, untrammeled by the clutter of complicated or distorted mechanical systems. When the central floor area is claimed by an ice surface, the perimetal areas are occupied by seating, and the low walls provide only plain curved surfaces—very close to the spectators, the equipment must indeed be clearly expressed since it cannot be hidden.

Eero Saarinen & Associates have made a direct and efficient statement of the mechanical functions of the new Yale University Rink. Jaros, Baum & Bolles, Consulting Engineers, developed the systems under the direction of Project Manager Harold Lewis.

Air-handling units over the four corners of the rink blow warmed air comfortably over the heads of the audience. The units respond to local thermostats. The suction sides of their fans recirculate the indoor air and also add fresh air through short ducts from ventilating "buttons" on the roof. Quite self-contained and ductless, except for short stubs, these heaters maintain 55 F in the rink. They operate on steam from the central-college plant. Recirculation of 100 percent indoor air is usual, except during games when fresh air is added. This addition can be varied from 0 to 100 percent of the circulation rate. It has been the experience in some indoor rinks that during humid weather and after resurfacing, fogging appears close above the ice and obscures the visibility of the puck. The four air-supply units aid in overcoming this condition. In addition, two propellor-type exhaust fans near the ridge can be started manually at such times to raise and disperse the fog. They may be regulated to act as gravity-relief vents (with no fan running, but with the damper open) or—by selection of appropriate speeds—may exhaust at one of four rates of flow. The location of the units appears most logical when it is considered that warm air should not be blown down against the ice, nor discharged close to spectators. Small unit heaters serve the entries and the basement locker spaces.

While some rink-surfaces are of a temporary nature, employing plastic pipe in a sand bed, this one is permanent with all-welded, 1¼" metal coils—embedded in a trowelled-concrete slab. A polyethylene sheet separates it from another concrete slab below. Poured in one operation, the upper slab is a single unit with provision for 1½" expansion at all edges. It doubles as a surface to receive ice, or a floor for any other use. The rink seats 2800 for hockey and can accommodate twice that number for other purposes.

Mechanical equipment including two brine-chillers and the brine-circulating pumps is housed in the subgrade story below the seats. This is also the location of an indoor cooling tower which serves the ice machinery. Air for this tower is handled in and out through unobtrusive, flush-type outdoor grills in areas near the perimeter of the building. Peter Carver & Associates were responsible for certain details of the skating-rink construction. The rink season extends from November through March. No space-cooling, other than ventilation, was thought to be necessary.

Extremely uniform lighting is essential to prevent glare on the ice. This is achieved by the use of industrial-type fluorescent fixtures, in groups of four, suspended in horizontal planes.

Photo: Ezra Stoller

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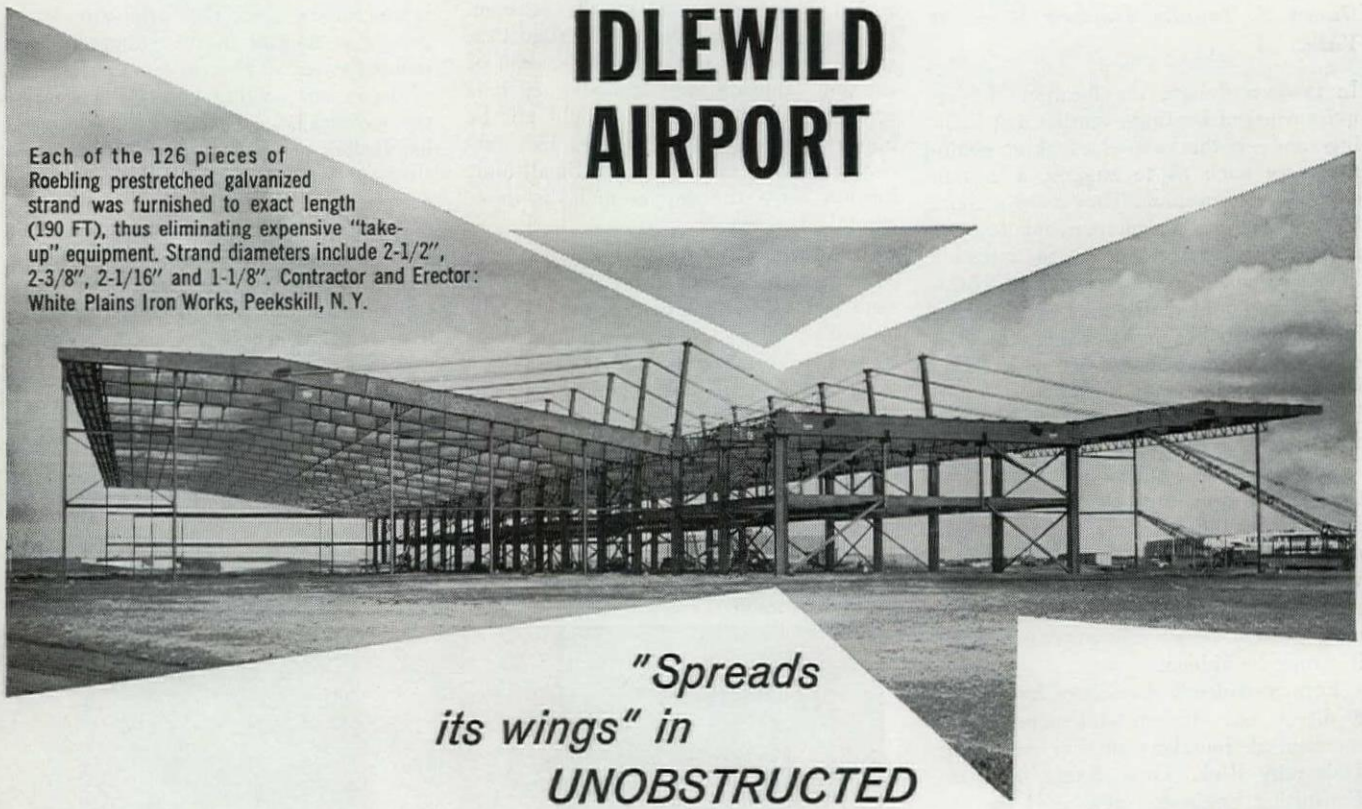

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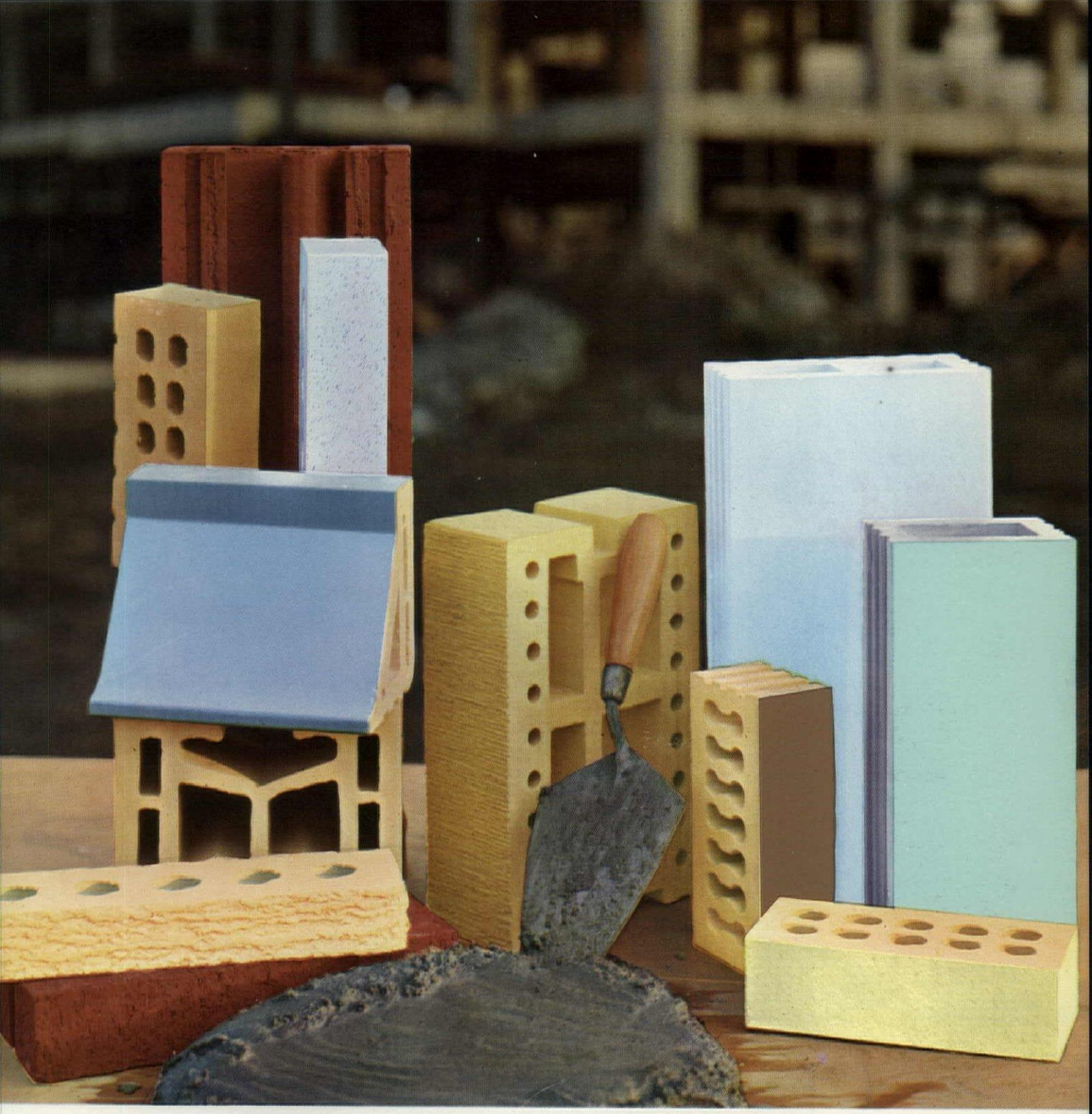

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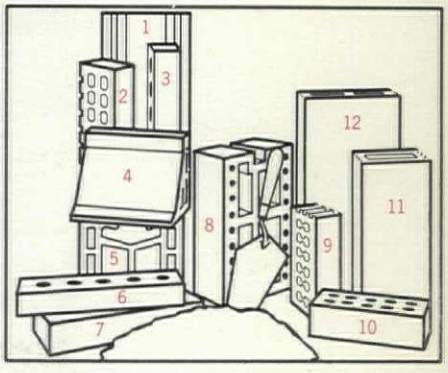

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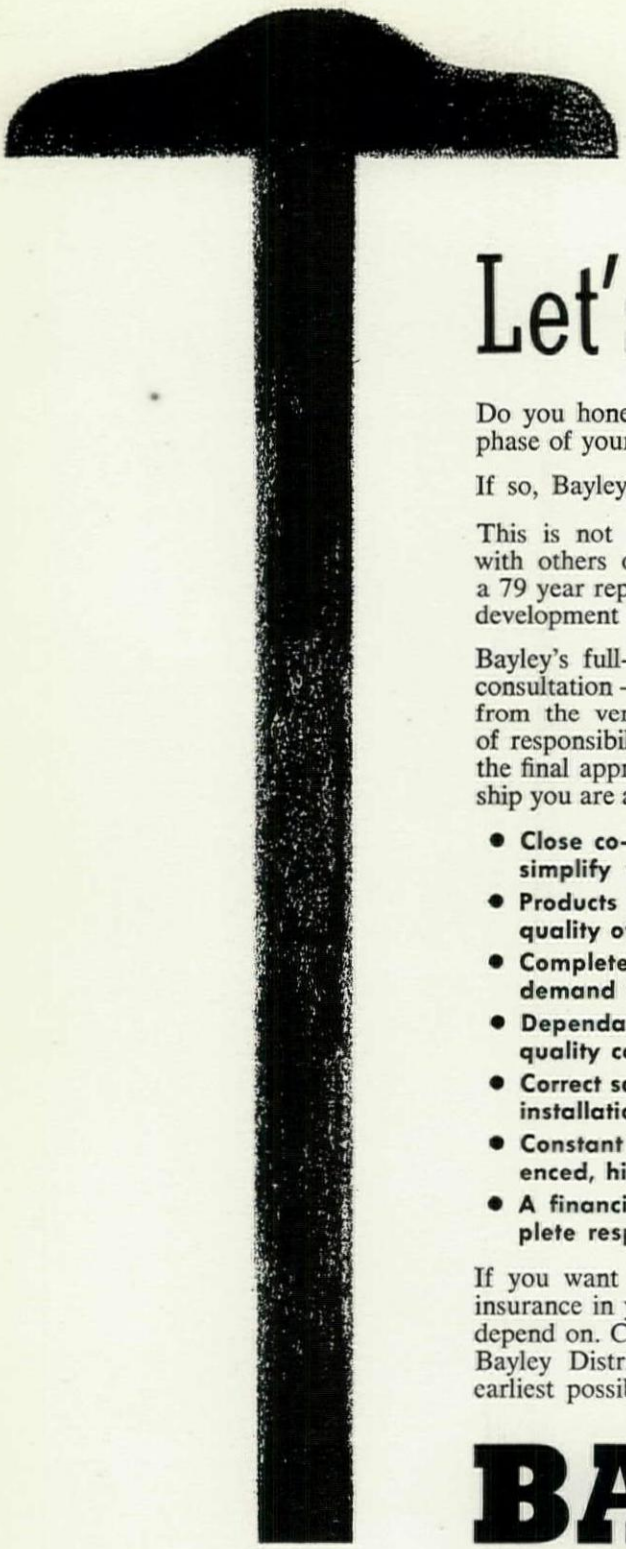

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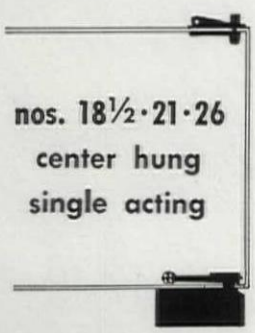

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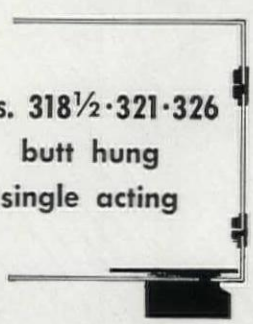

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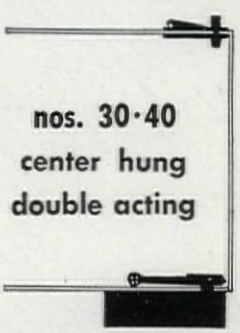

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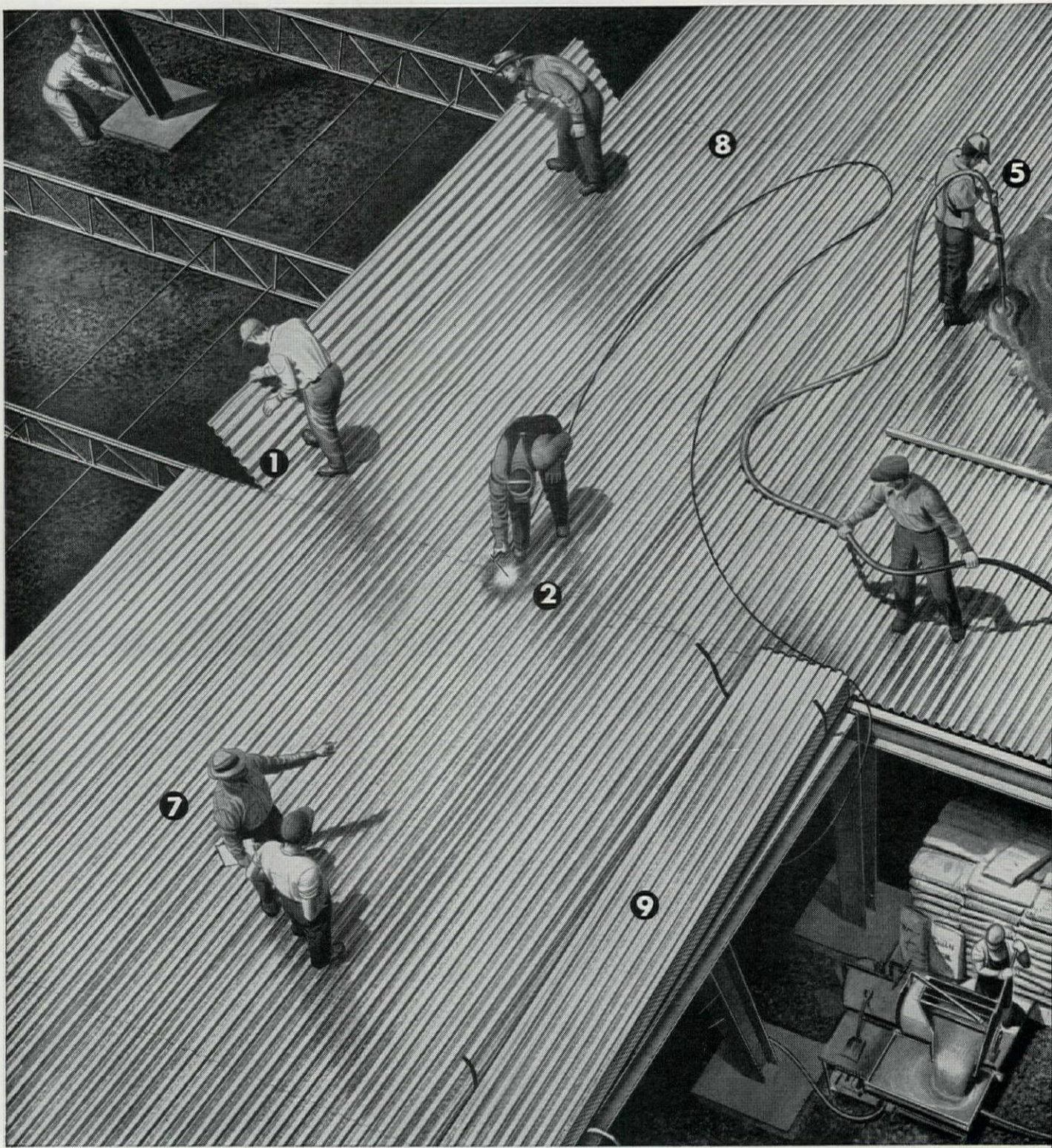

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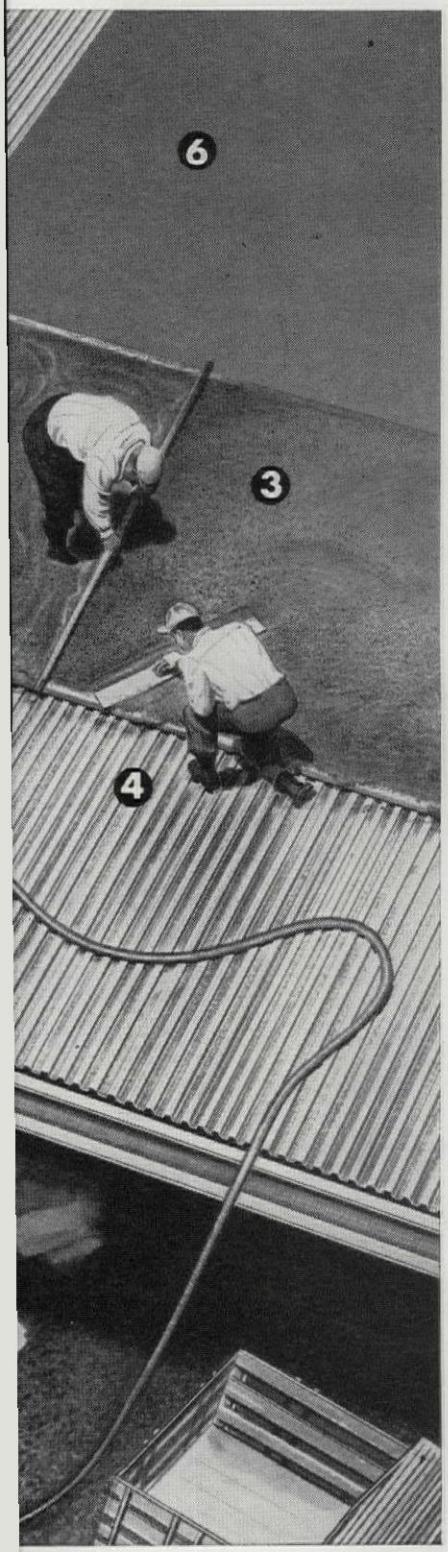

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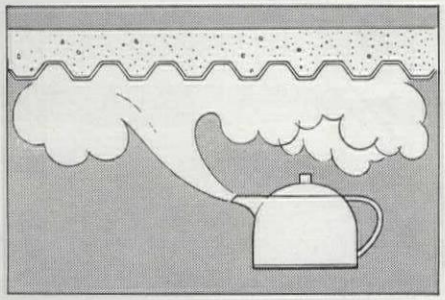

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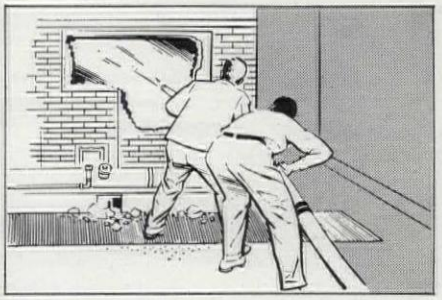

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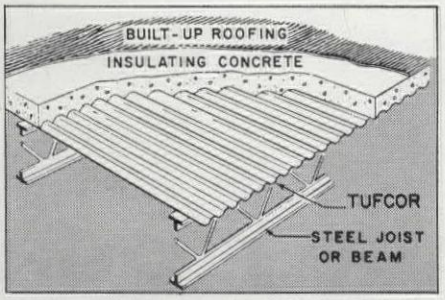

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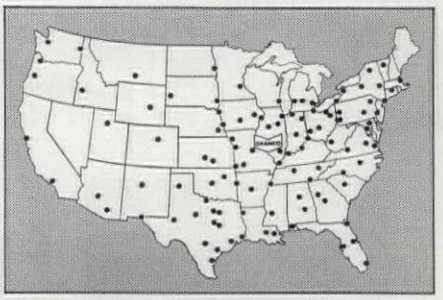

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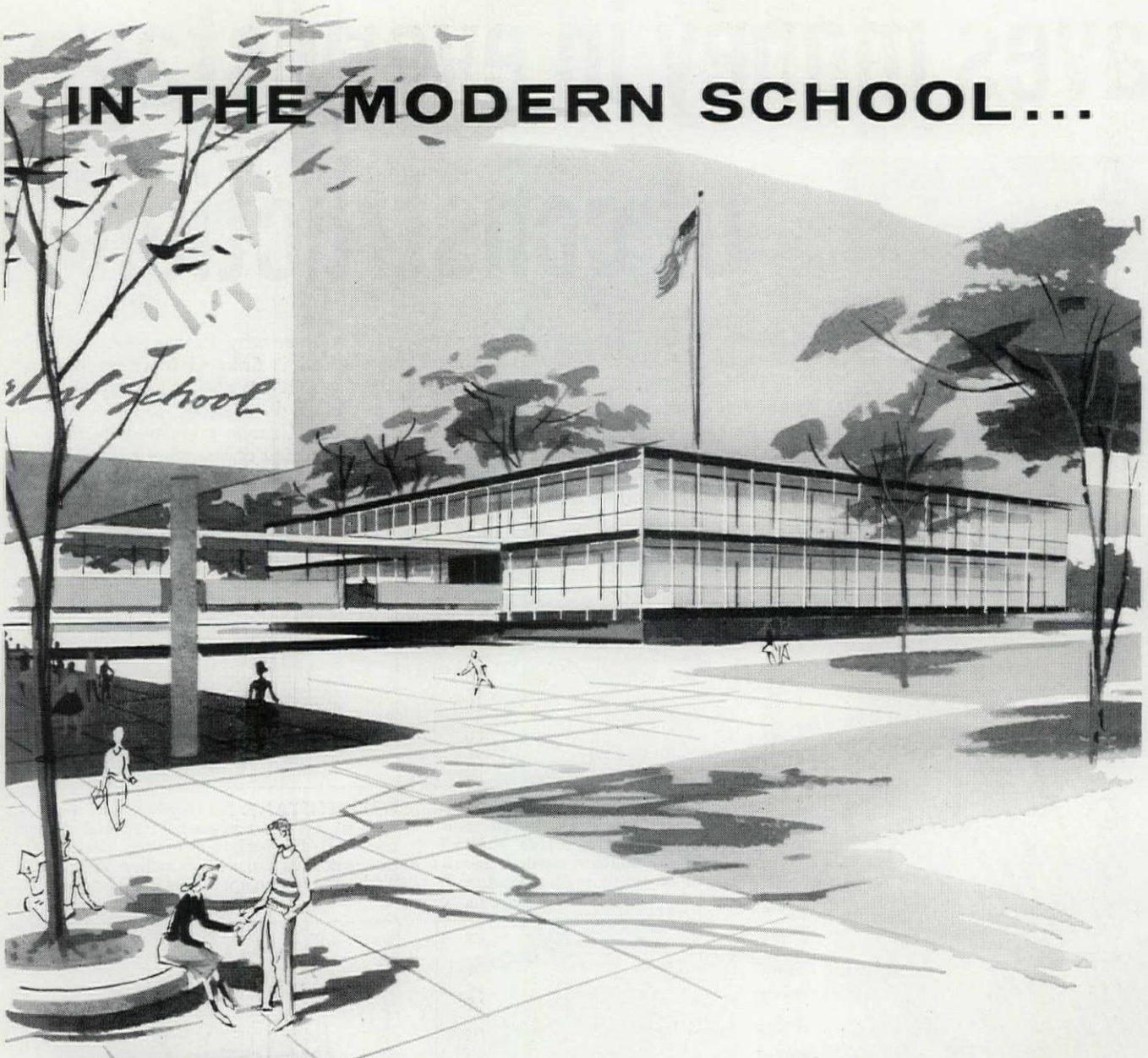

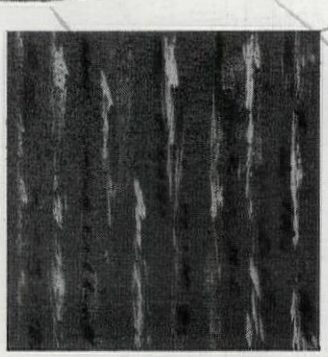

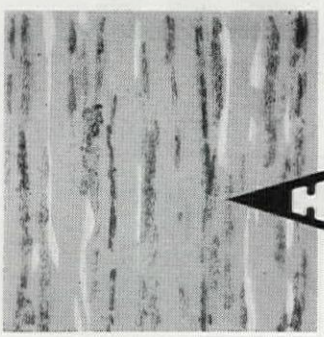

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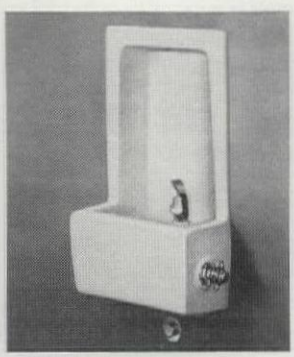
New Kroger Building to feature over 400 Briggs Beautyware fixtures

Water closets, lavatories, drinking fountains, urinals, sinks—415 fixtures in all will equip the new 25 story Kroger Building in Cincinnati. And all will be Briggs Beautyware, for good reason. The architects selected Briggs Beautyware with an eye to the lustrous durability of Briggs vitreous china, its immaculately sculptured styling, its carefully worked out functional features.

These same advantages can apply to *your* commercial and institutional work. Specify from the complete, easy-to-work-with line designed for Briggs by Harley Earl, Inc. It is handcrafted in high density vitreous china for years of maintenance-free operation. It is rigidly controlled in quality to assure you that it will meet every requirement. Specify Briggs Beautyware —the brand that makes the difference!

Briggs Lawton Urinal provides wash-out operation, integral extended shields, vitreous china strainer and flushing rim.



Briggs Mercury Drinking Fountain is semi-recessed, features angle-stream, anti-squirt, chrome-plated bubbler head.

Briggs Sultan Water Closet gives the advantage of wall-hung installation plus syphon jet and elongated bowl.

BRIGGS

B E A U T Y W A R E

NEW—*the State of Florida Office Building, Orlando, Fla.*

Architects: *Broleman and Rapp, of Orlando.*

Glazier: *Acme Glass Company, Inc., Orlando. Lustragray glare reducing glass adds to the most modern, distinctive appearance of this new structure.*

for modern office buildings

Another **AMERICAN** Lustragray Installation...

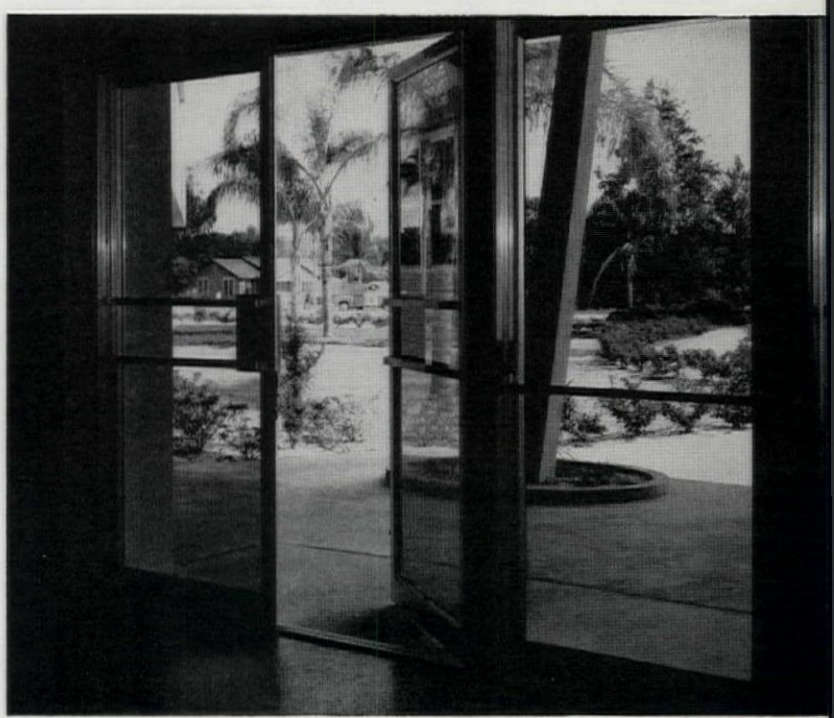
the glass that reduces glare and heat without sacrificing vision

The distinctive Lustragray "look" is one that you'll see in the windows and doors of more and more of the new and finer office buildings being erected today.

Lustragray is springing into favor for more reasons than just its high luster, neutral shade, and attractive appearance. Greater working comfort and increased efficiency are the Lustragray benefits that office building occupants can both see and feel.

Eliminating harsh contrasts in brightness levels minimizes eyestrain. Lustragray's glare control does this. Reducing solar heat minimizes fatigue. Lustragray's heat control is responsible. Even with all these advantages, Lustragray is economical.

Consult your phone directory now for your nearest AMERICAN distributor or glazier. Our catalog is in Sweet's. Or write our Architectural Promotion Dept.



WSW 7615

Above — *Lustragray glass gives a solid, skin wall effect to the exterior — affording privacy.* **Right** — *From the interior, the gray glass provides "clear-glass," non-glare vision.*

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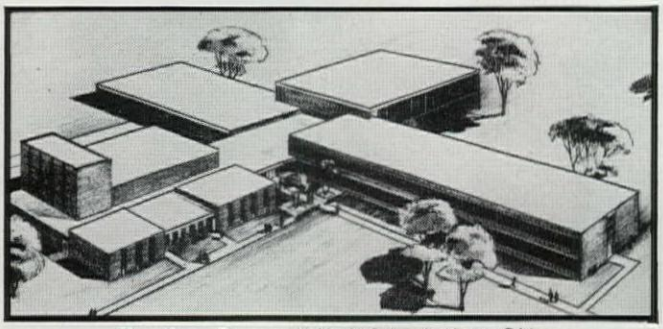

Theodore Roosevelt High School, Kent, Ohio

Beachwood High School Beachwood, Ohio

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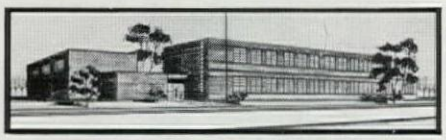

Melridge Elementary School Painesville, Ohio

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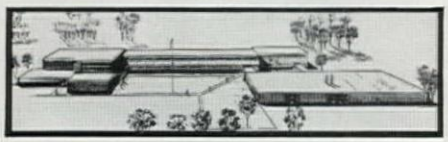

Junior High School Parma, Ohio

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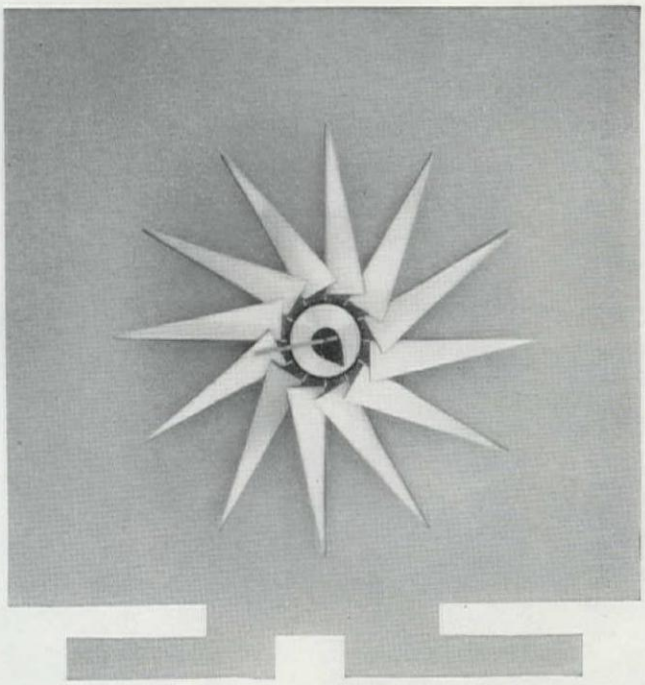

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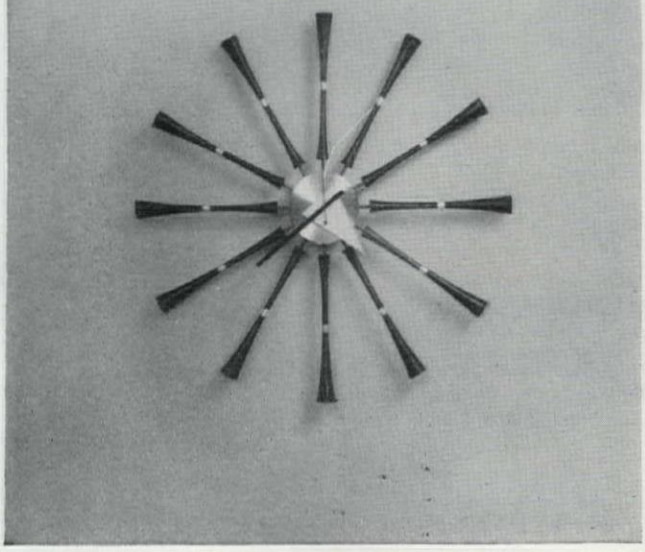

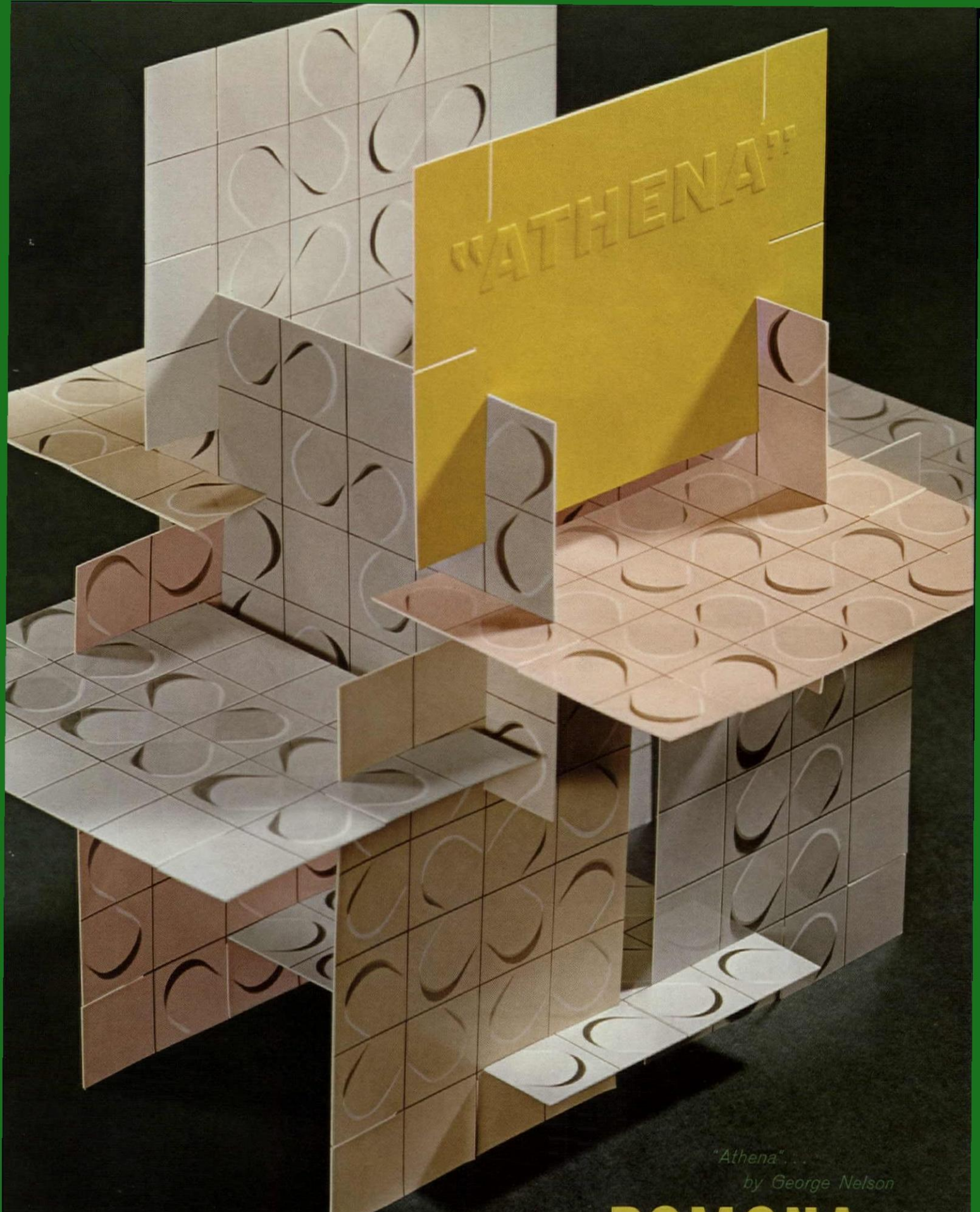

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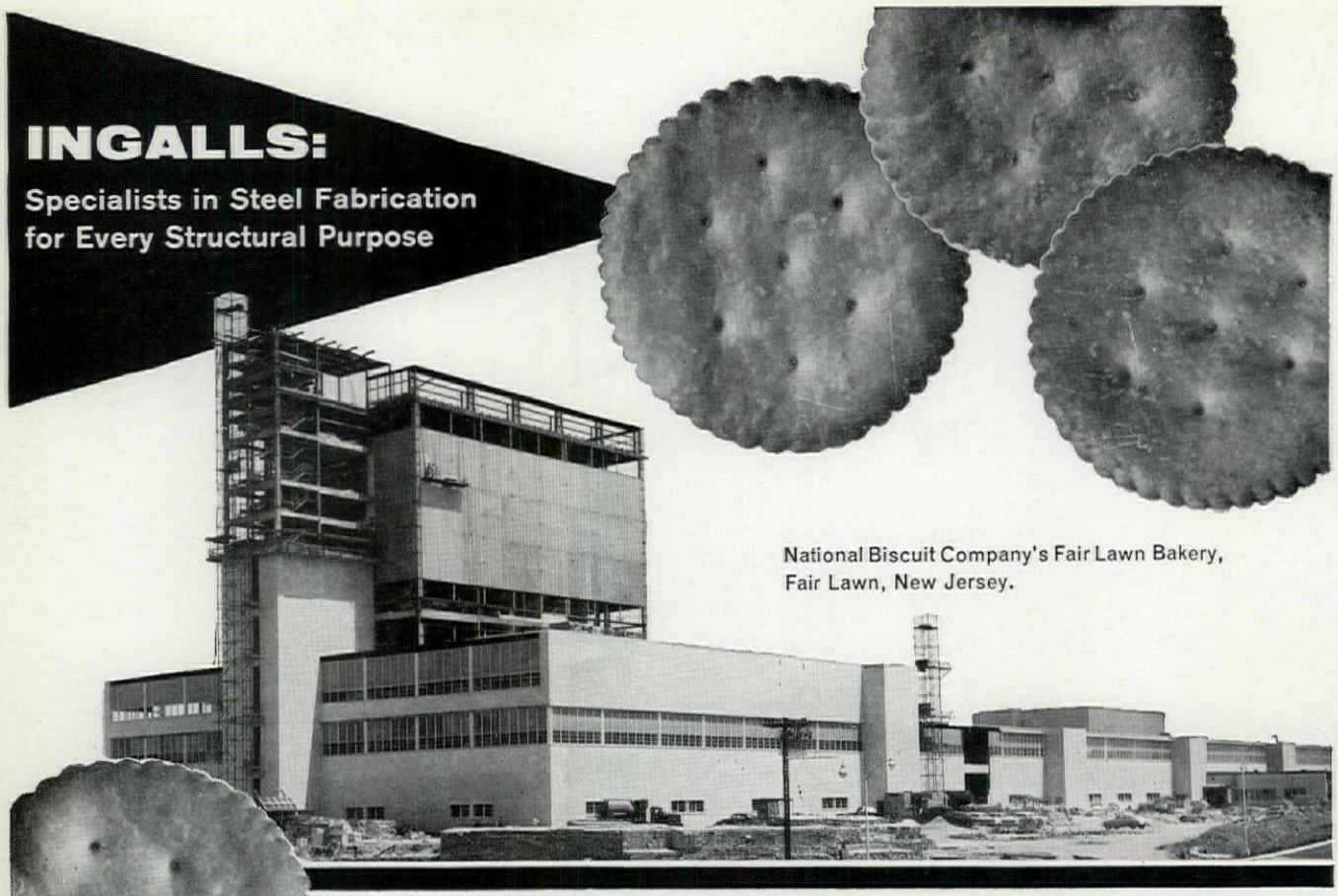

National Biscuit Company's Fair Lawn Bakery, Fair Lawn, New Jersey.

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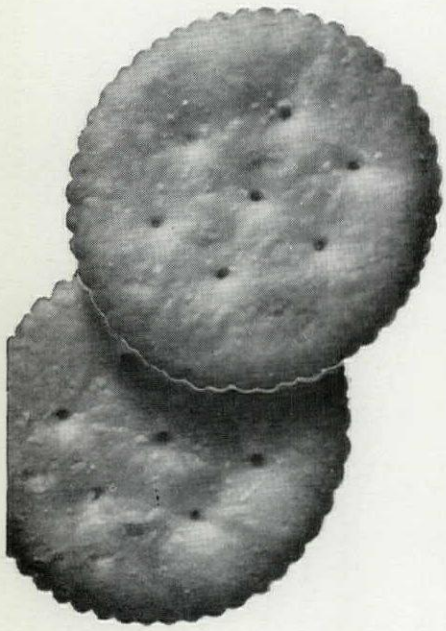
Mix the strength and economy of Ingalls fabricated steel and the National Biscuit Company's massive expansion and modernization program for an expanding Eastern market.

The result: the king-size production capabilities of National Biscuit Company's new Fair Lawn Bakery at Fair Lawn, New Jersey.

Each of the nine 284-foot-long band ovens in this ultra-modern bakery can produce 5,600,000 crackers in one eight-hour shift. Together, these ovens will turn out $60,000,000 worth of NABISCO cookies and crackers annually.

The Ingalls Iron Works Company fabricated 6,000 tons of structural steel for the 1275-foot-long main building, 575 tons of plate work for the flour and sugar storage bins, 110 tons of stainless-clad steel for liquid ingredient storage tanks, and 650 tons of structural steel for the research and laboratory building.

If *your* plans call for fabricated structural steel, call on Ingalls—specialists in steel fabrication and erection for over 48 years.



AISC — American Institute of Steel Construction, Inc. — Founded 1921

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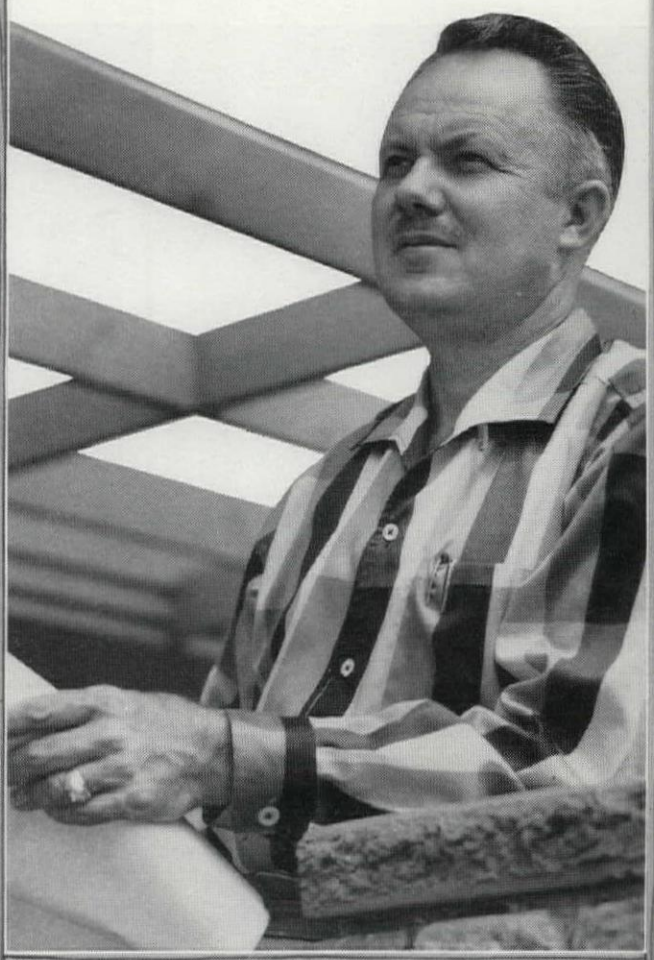
"New homes aren't really up-to-date without concealed telephone wiring"

—SAYS BURTON W. DUENKE, CUSTOM BUILDER OF ST. LOUIS, MISSOURI

"Nowadays," says Mr. Duenke, "it's *ideas* that sell homes. The modern house-hunter is looking for more than a roof over his head and X number of bedrooms and closets. He wants smart, functional design —and proof that the house is planned to meet his future needs. Concealed telephone wiring is the kind of idea he likes."

The Burton W. Duenke Building Company has completed over 1000 homes since 1947. Its current project is Harwood Hills, a gracious community of homes in the $26,000 to $40,000 price range, located in suburban St. Louis, to the west. Every one of these modern dwellings features *six* or *seven* concealed telephone outlets.

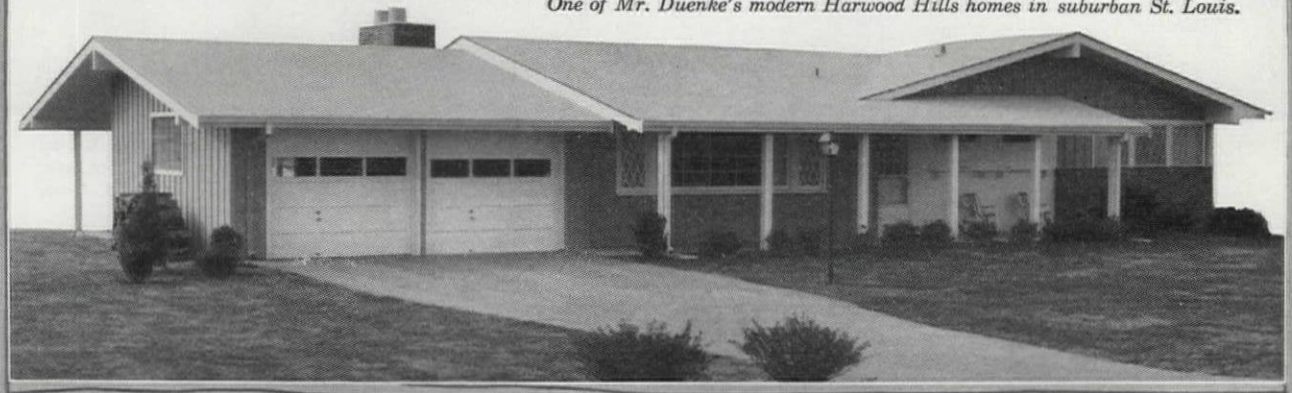
"We don't look on concealed telephone wiring as a luxury item," says Mr. Duenke. "It's a necessity in doing a workmanlike job of building today's home. It provides for the homeowner's future telephone needs, and keeps his home more attractive. What's more, it's a kind of sales feature that costs us very little to offer."



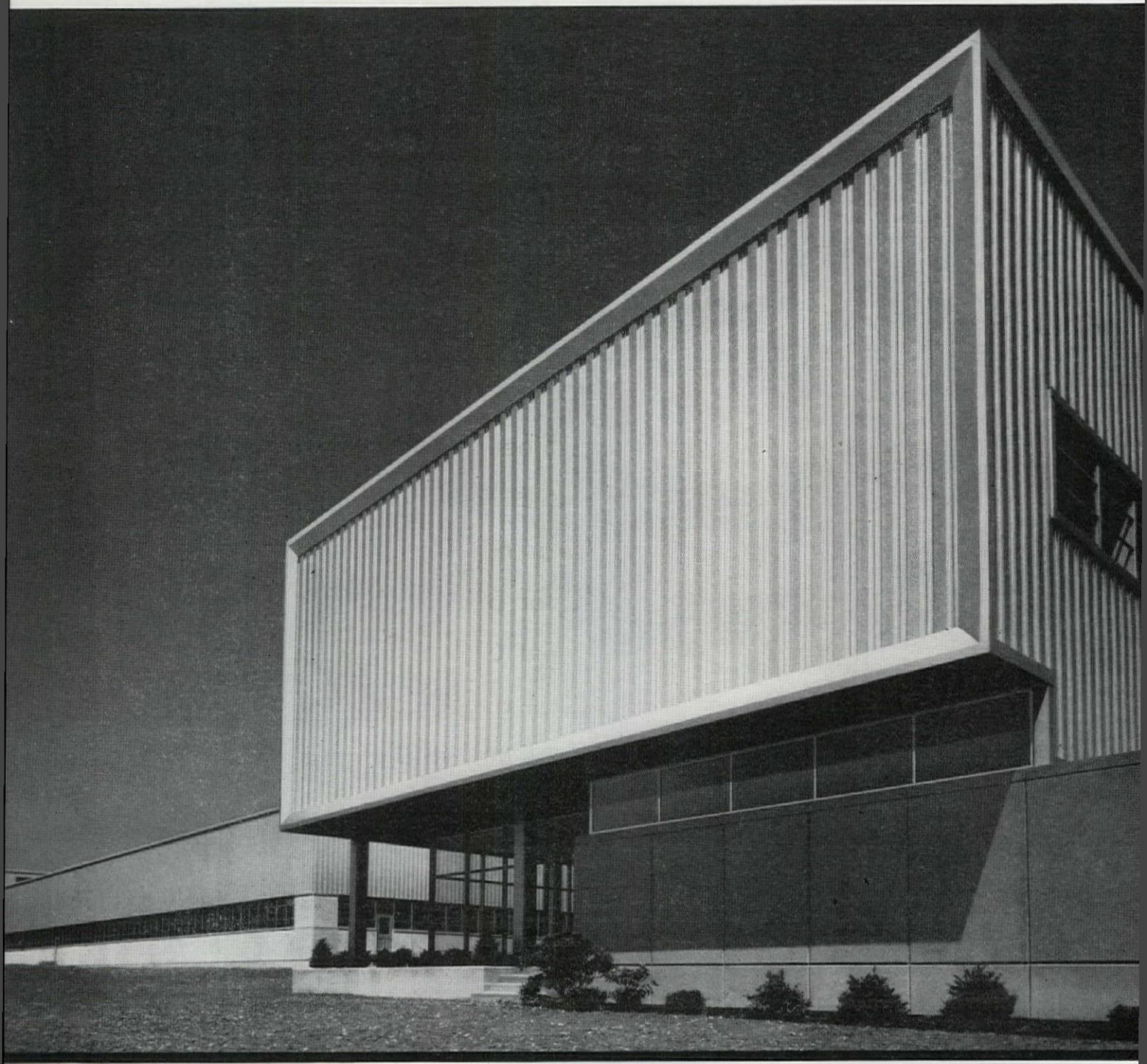
Your local Telephone Business Office will gladly help you with telephone planning for your homes. For details on home telephone installations, see Sweet's Light Construction File, 8i/Be. For commercial installations, Sweet's Architectural File, 32a/Be.

BELL TELEPHONE SYSTEM

One of Mr. Duenke's modern Harwood Hills homes in suburban St. Louis.



Mahon METAL CURTAIN WALLS



Bright New Plant and Office Building for Pittsburgh Screw and Bolt Corporation, Mt. Pleasant, Pa. Mahon Aluminum Curtain Walls were employed throughout. The Mahon Company also furnished Five Rolling Steel Doors for this Modern Industrial Plant. Engineers and Builders: The Austin Company, Cleveland, Ohio.

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in Bright Metal or Color Offer Designers Greater Latitude in Exterior Treatment!

Mahon Walls can be Erected up to 60 Ft. in Height without a Horizontal Joint . . . Vertical Joints are Invisible

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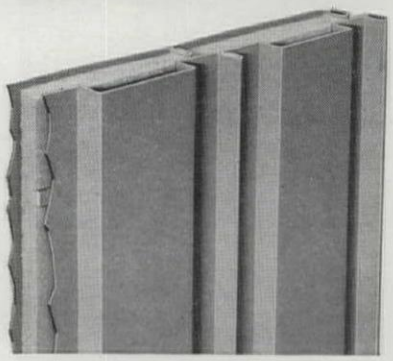
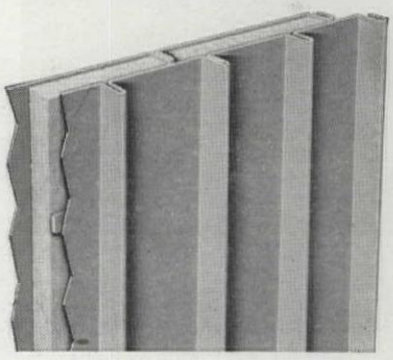
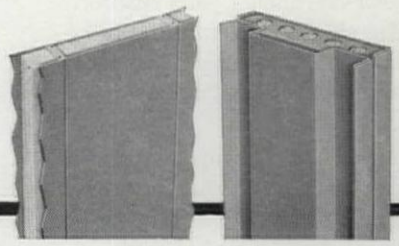


MAHON FLUTED WALL
FIELD CONSTRUCTED



MAHON RIBBED WALL
FIELD CONSTRUCTED



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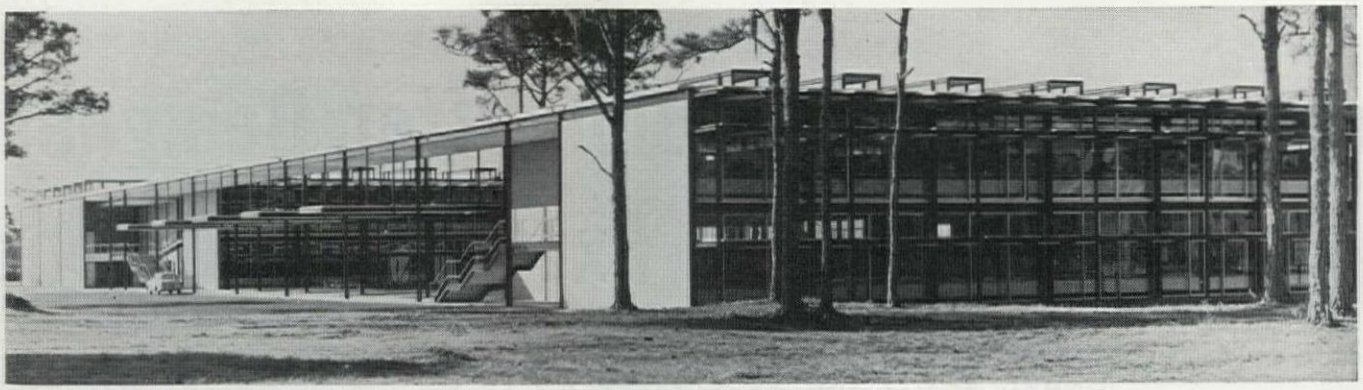

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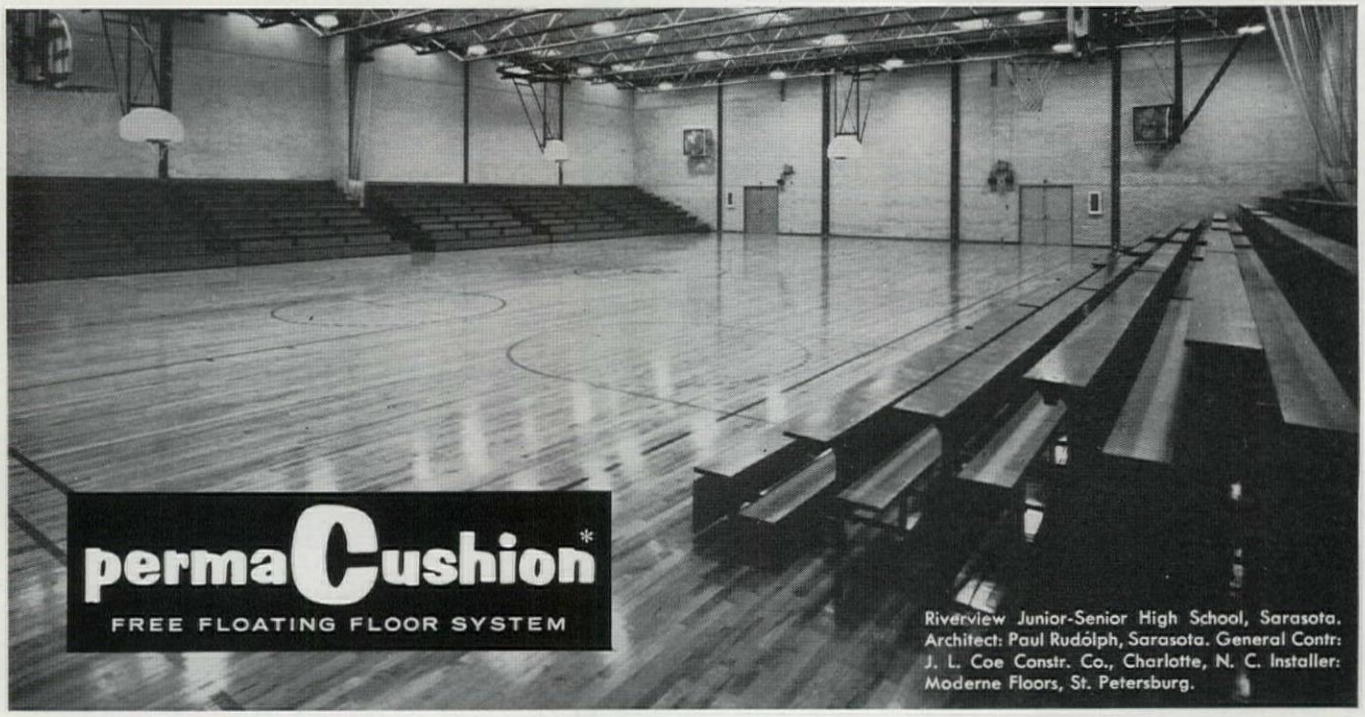
SARASOTA SHOWPIECE



Riverview Junior-Senior High School, Sarasota. Architect: Paul Rudolph, Sarasota. General Contr: J. L. Coe Constr. Co., Charlotte, N. C. Installer: Moderne Floors, St. Petersburg.

With four brand new schools opened this term, Sarasota is sure it can top any community in the U.S. in school architecture, a national magazine said recently.

One of the finest of the four is Riverview Junior-Senior High School, a 24-classroom, $1,204,945, two-story building by Yale's Architecture Department Chairman Paul Rudolph. The school is built around a central courtyard, has exposed steel and white brick, copious canopies for sunshade — and a gymnasium floor that pleases both players and coaches as well as the architect.

Its patented design features extra thick maple flooring, Powernailed to Dri-Vac treated, short-length fir sleepers floating on resilient pads. The floor system is not attached to slab, walls or other structural members to permit expansion and contraction without buckling or cupping. Air-channeled pads cushion the entire floor, preventing shin splints and improving play — and PermaCushion's selected strips of Northern rock maple assure beauty and smoothness that last for generations.

Get the facts on PermaCushion for your next gym job. For information and name of your nearest authorized installer, write Robbins Flooring Company, Reed City, Michigan, Attn Dept: PA-659.

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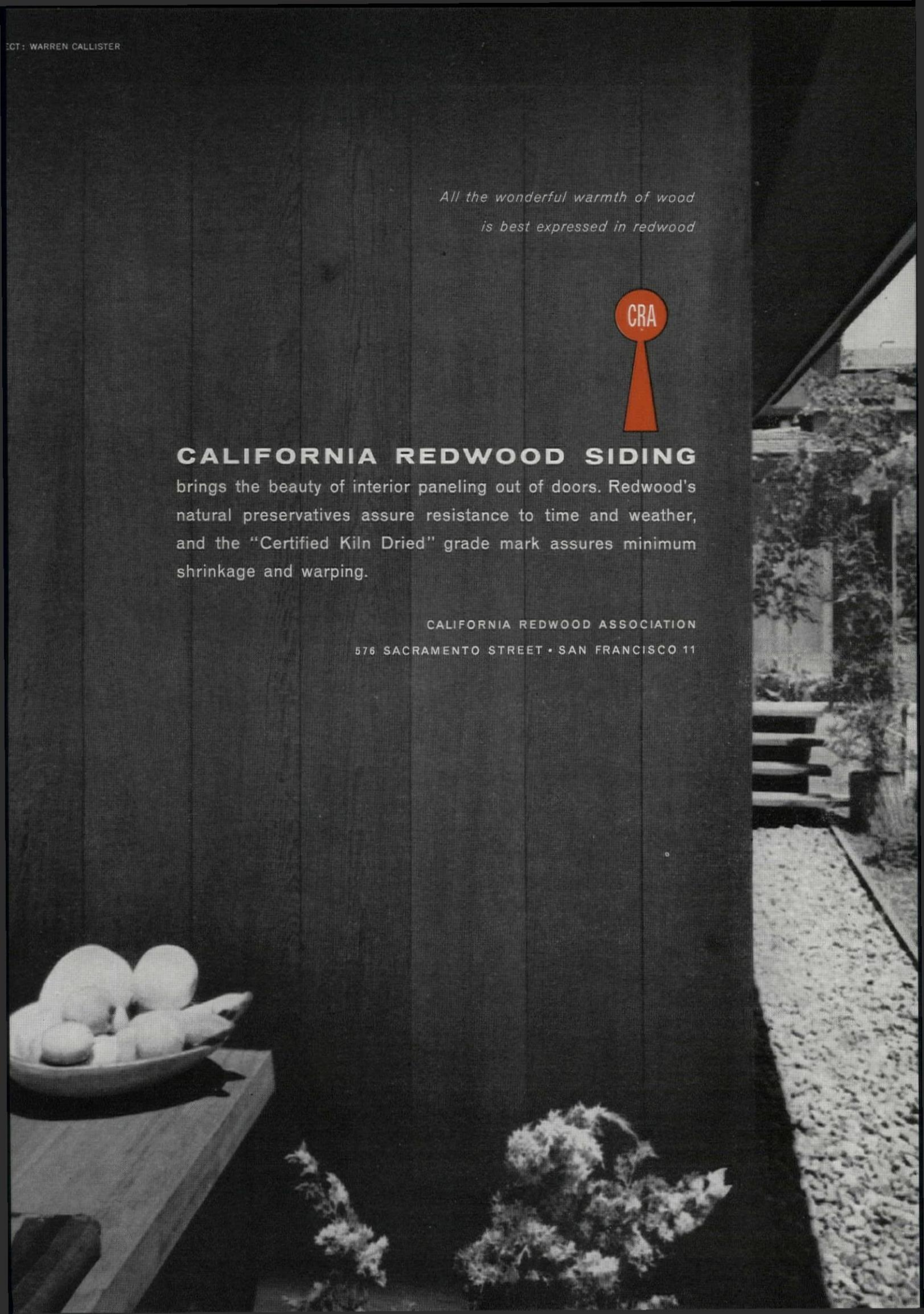

Refectory of St. Clair's Novitiate, Rochester, Minnesota • Architects: Maguolo & Quick, AIA, St. Louis, Missouri

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.

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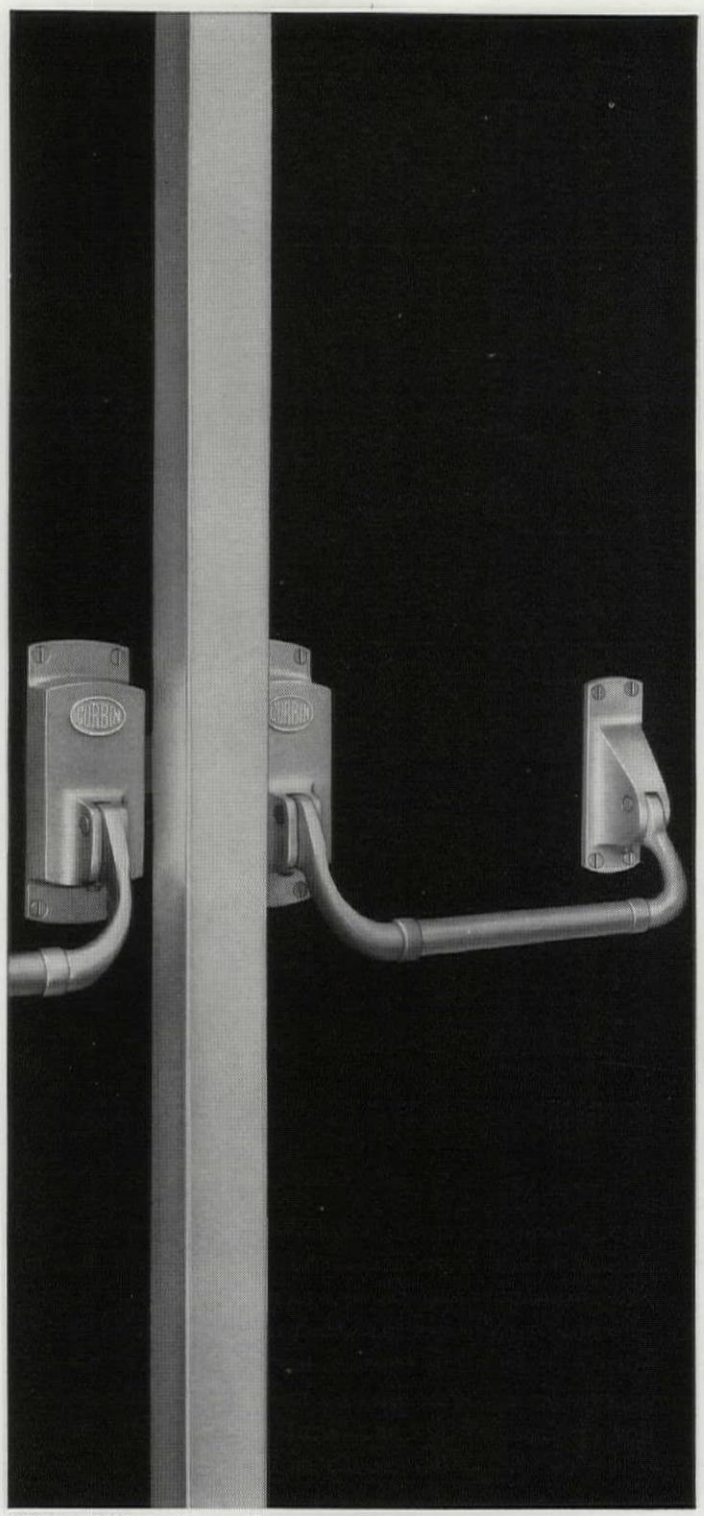

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Architect: Warren H. Ashley
Contractor: Stewart M. Muller, Inc.

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4. Shops and music rooms separated from study and recitation halls;
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This school is one of six buildings chosen by the American Institute of Architects for the highest honors in its ninth annual competition. In all its buildings Hope's Window Wall Units are constructed of Hope's Pressed Steel Sub-frames with Hope's Heavy Intermediate Ventilators. Stationary glazing and porcelain enameled insulated panels are inserted as required by the design.

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NEW TEST DATA* PROVES UNUSUAL LATERAL STRENGTH OF REINFORCED BRICK MASONRY

Every Architect and Engineer should have a copy of this new DESIGN MANUAL and TECH NOTES

Explains Results of Lateral Force Tests with Atomic Blast at Yucca Flats; also many uses of Reinforced Brick Masonry. A complete structural engineering Design Manual for quick energy loading. Explains what resistance to high lateral forces you can obtain with Reinforced Brick construction. For your copy of Manual and Tech Notes, send $1.00 today.

*Structural Clay Products Research Foundation Research Report No. 7 – "Resistance of Structural Clay Masonry To Dynamic Forces"

Have you considered recently the many advantages of Reinforced Brick Masonry – extra strength, extra rigidity, flexibility of use, attractive exterior finish, competitive costs?

In planning schools, hospitals or other buildings you also can provide a safe refuge from such disasters as tornados, hurricanes, quakes or blasts with an R.B.M. core that has proved lateral force resistance. For complete information on R.B.M., call in your local brick manufacturer or the field engineer from your nearest S.C.P.I. regional office, or send $1.00 for 64-page Research Report and Structural Design Manual, together with 11 informative "Tech Notes." Address your request to Dept. PA-96.

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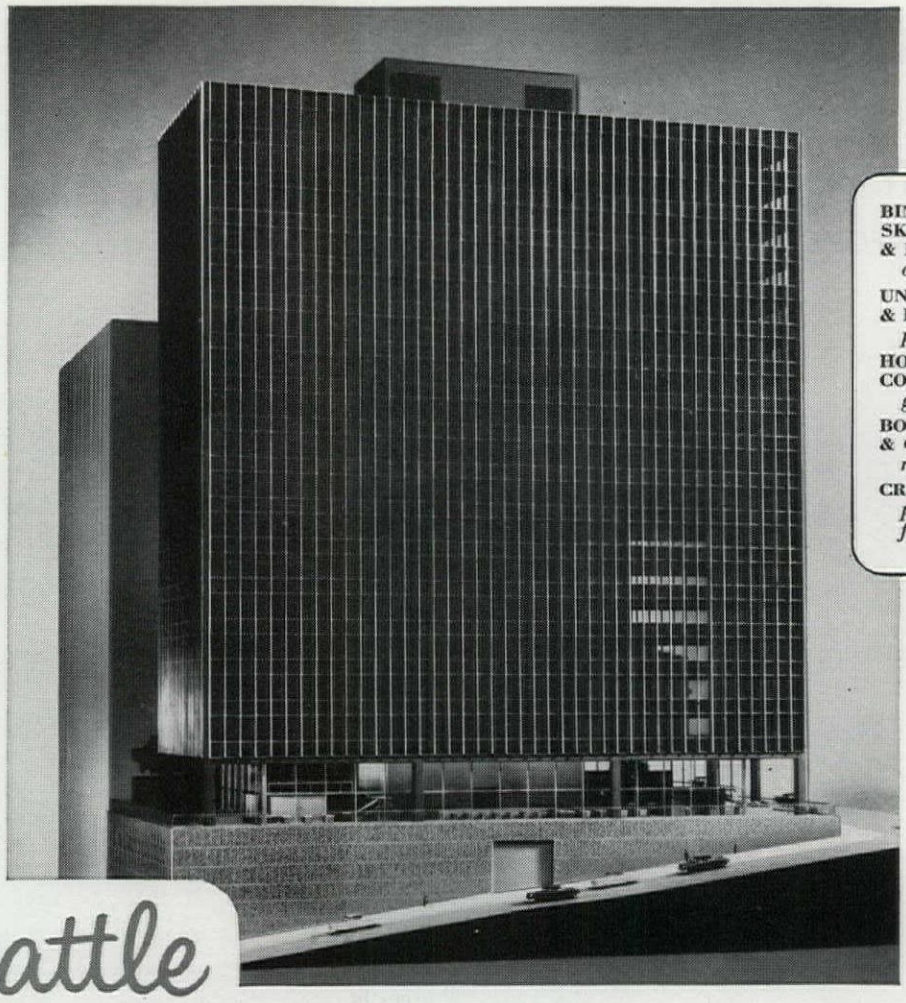

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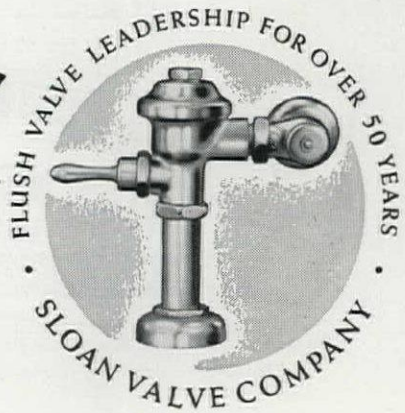
Write for completely descriptive catalog



unity of new federal buildings, cited by architect

Dear Editor: It has become so fashionable to criticize the architecture of the nation's capital that this pastime has become somewhat tedious. But, if the criticism is valid, it should be seriously considered.

The P/A NEWS REPORT on Washington in your April issue includes a column by Frederick Gutheim—"Washington's Public and Private Architecture Deplored." In it he singles out for criticism the proposed complex of Federal office buildings to be erected near the Mall in the neighborhood of the Health, Education, and Welfare Building.

Gutheim passes lightly over the really serious issues, such as congestion and parking problems, and deals with matters of design. He objects to the proposed buildings because of their "uniformity of style. . . their massing, materials, fenestration, and general appearance." He seems particularly to object to a uniformity of roofline.

Let us examine these charges in detail. Is uniformity in itself a cardinal sin? Where does uniformity end and unity begin? In any composition, architectural, musical or literary, is not unity a basic principle?

In designing a group of buildings, such as the one under discussion, it would seem highly dsirable to establish some sort of unity or uniformity between them. Like the unities of place, time, and action in the drama, the unities of mass, color, and material seem to be well established objectives, rather than symptoms of "spiritual poverty, a lack of purpose, the absence of any real spiritual meaning," as Gutheim would have us believe.

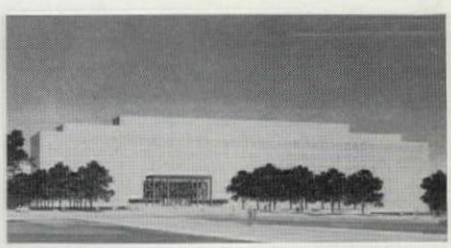
Ever since this group of buildings was first considered, the General Services Administration has made every effort to erect a group of buildings that would rise above the criticisms that have been so prevalent in the past. Rather than being deplored, this effort should be encouraged and applauded. Those of us who are responsible for these buildings might well suggest in the words of Samuel Goldwyn, "Don't bite the hand that lays the golden egg!"

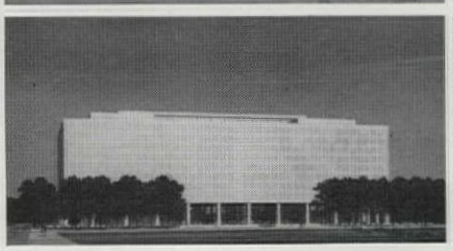
WALDRON FAULKNER
Washington, D. C.

•

I fear I am the victim of a changing climate. After my column was written, deploring the new Federal office buildings south of the Mall (but prior to its publication), American Federation of Arts arrived in Washington with an exhibition on architecture. Properly needled by the local press, the distinguished architects who were represented gave forth with suitable criticisms of our monumental buildings. It is these comments that have irritated Waldron Faulkner! I wish to disassociate myself from them: they are complaining about the past; I am deploring the future.

(Continued on page 51)





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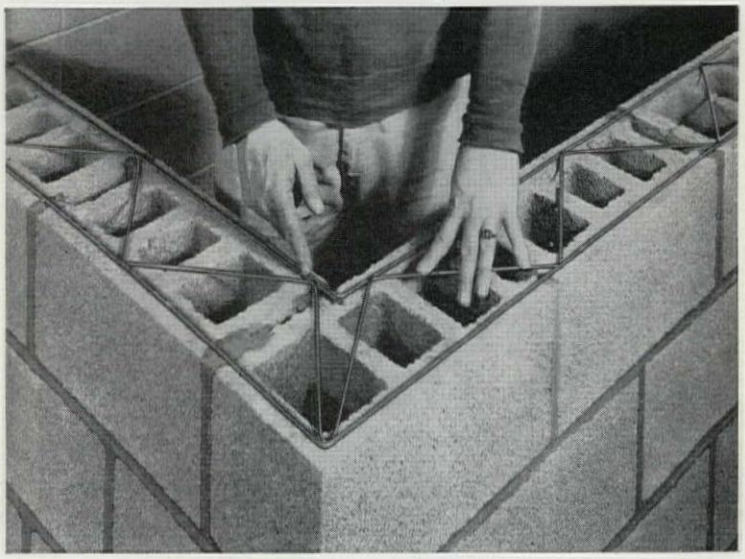

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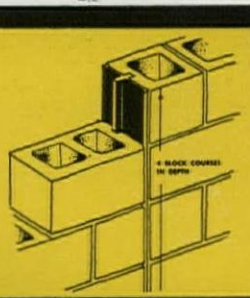

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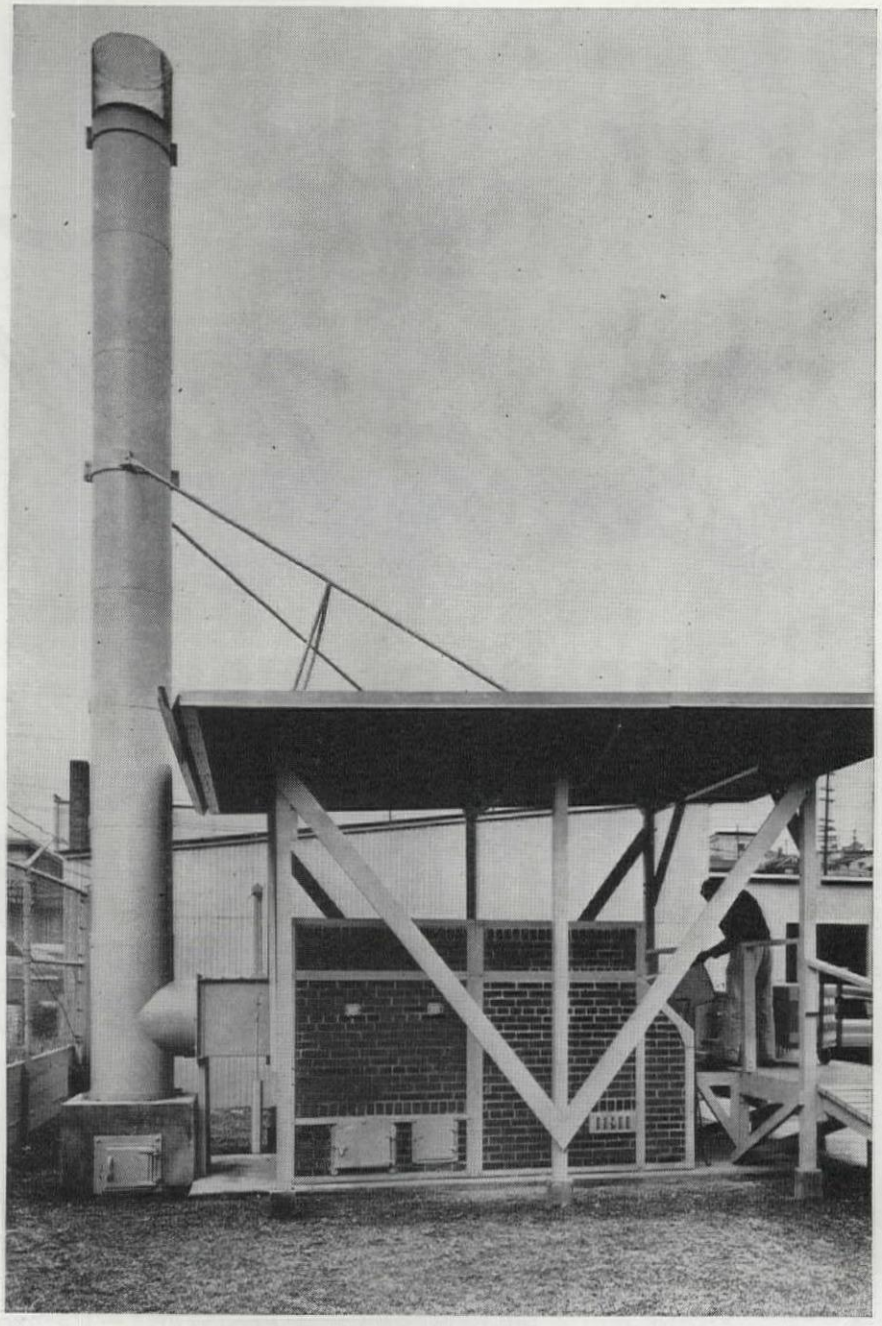

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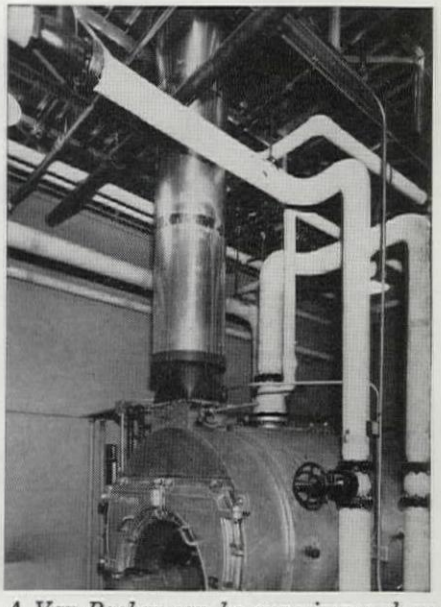

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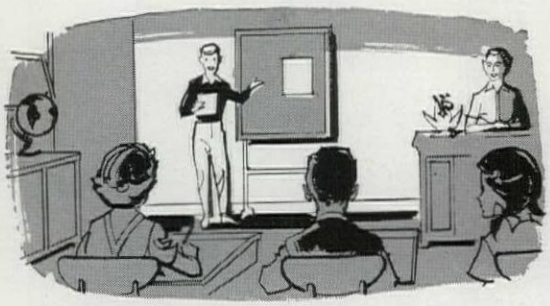

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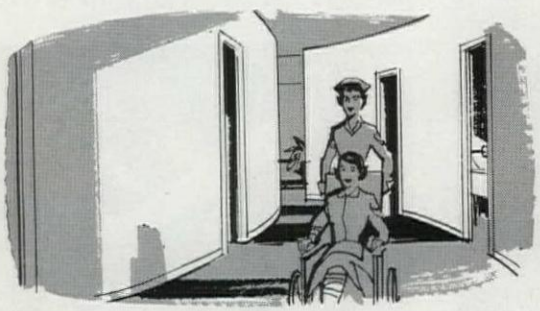

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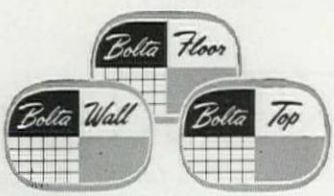

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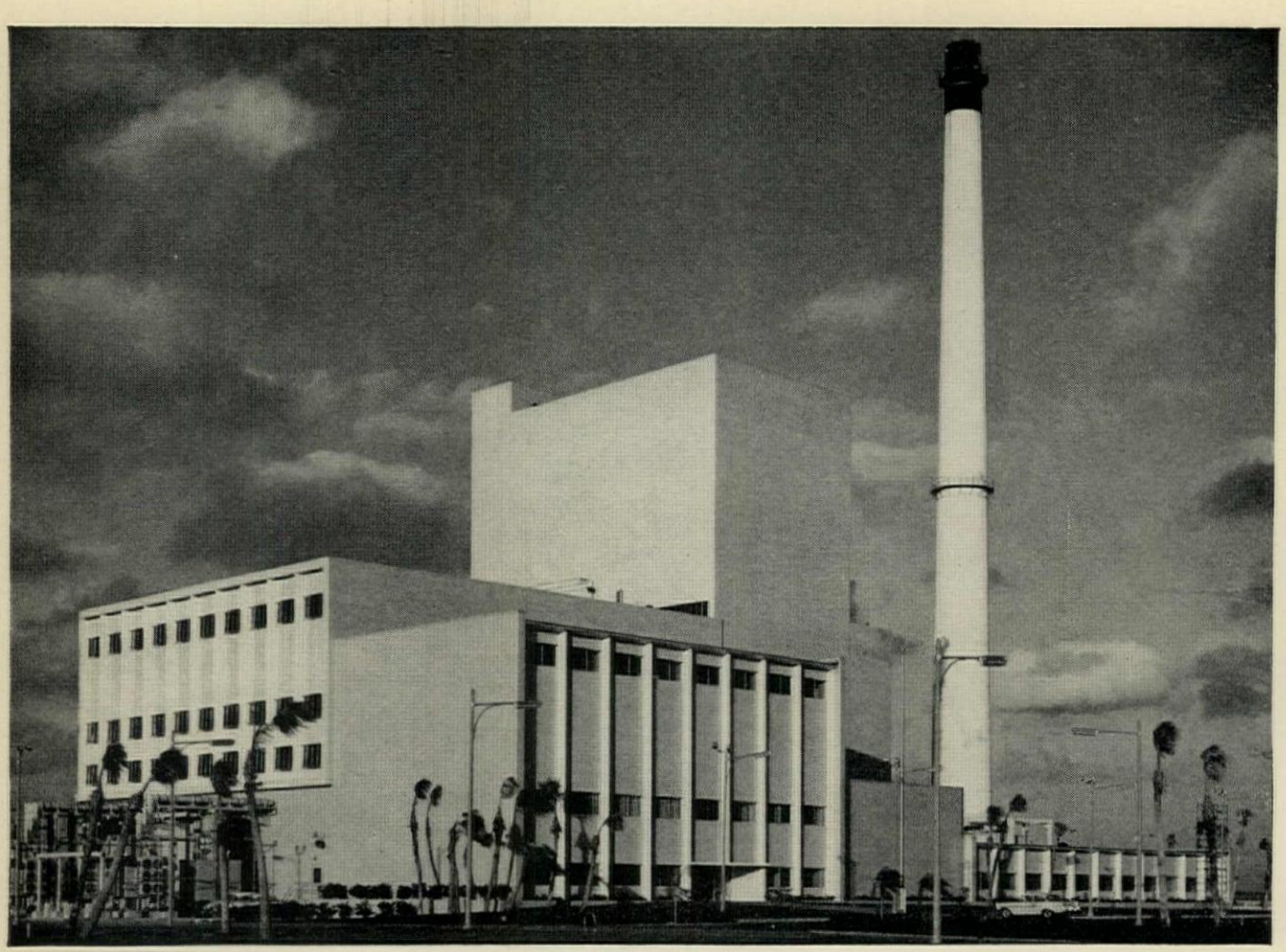

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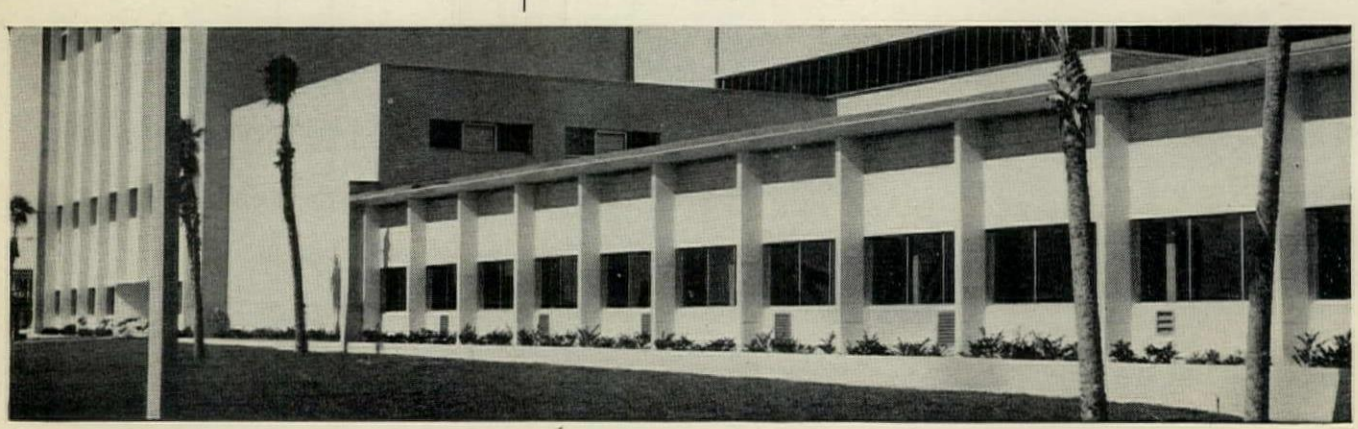

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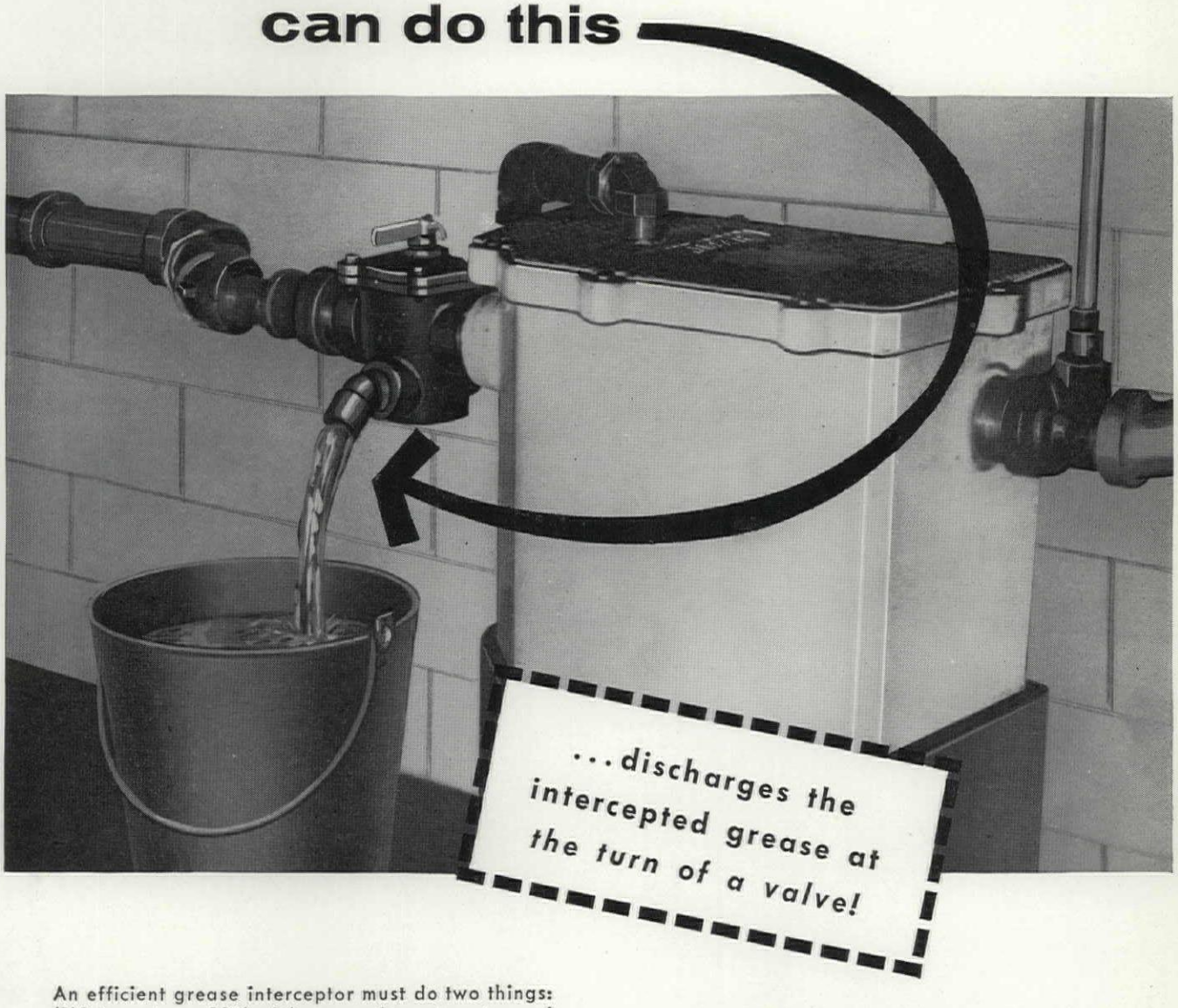

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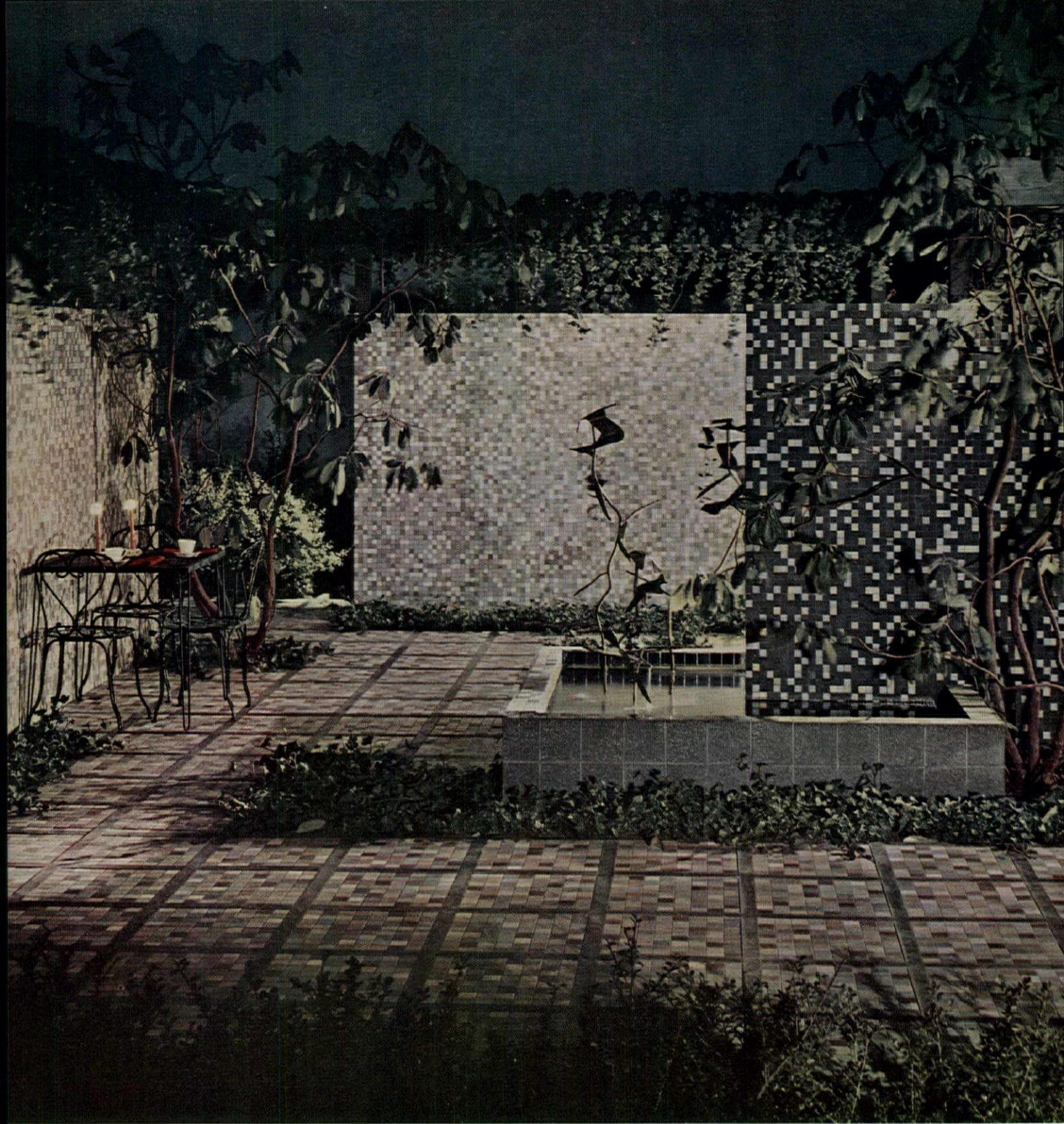

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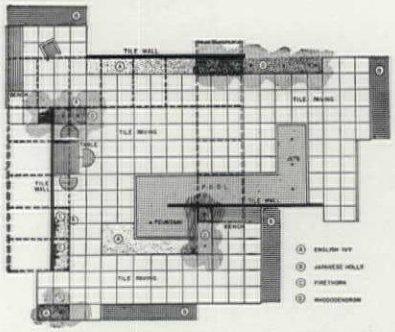

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p/a views

(Continued from page 43)

As to whether my criticisms of the four new Federal office buildings are sound, I will stand in the judgment of your readers. It should not be necessary to offer them any further evidence than the accompanying photographs (*page 43*).

Perhaps I have wearied my readers too much with planning considerations in the past to have given them proper weight in the present matter. Certainly it is true, as Faulkner observes, that there are emphatic concerns that have not been sufficiently resolved here. However, it is design factors that should be paramount here. This complex of buildings, housing some 25,000 employes, designed by several architectural firms, invites some more thoroughgoing architectural concept than GSA has provided. Granted "every effort" has been made, we must still judge by the final results. To have engaged competent architects, to have compensated them properly, to have made "every effort to erect a group of buildings that would rise above the criticisms that have been so prevalent in the past," is not enough. We must ask whether the effort has been successful. Look at the photographs.

Faulkner does not argue that the effort has succeeded. He merely contends that the effort is a worthy one and should be applauded. Very well, I applaud! But that does not make the buildings any better.

F. G.

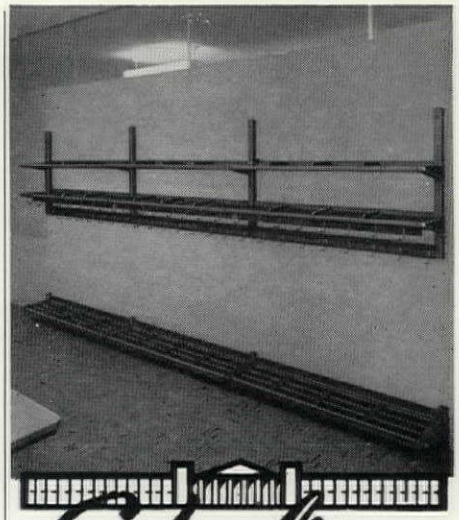
planning controls

Dear Editor: I greatly appreciated your P.S. in APRIL 1959 P/A.

As planners working extensively in the field of urban-renewal studies, we have been shocked by the extensive, capricious, and misleading criticisms directed at the urban-renewal activities taking place throughout the nation. In particular, we have felt that most of the writers had little appreciation of the extensively difficult processes involved in preparing a plan acceptable to the public at large, to the various reviewing bodies, and to the Federal Government as well.

Furthermore, much of the criticism of the project-planning is directed at the

(Continued on page 54)



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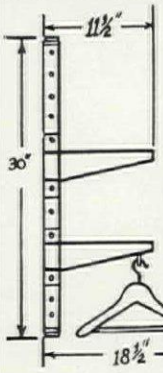

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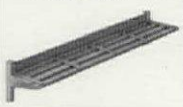

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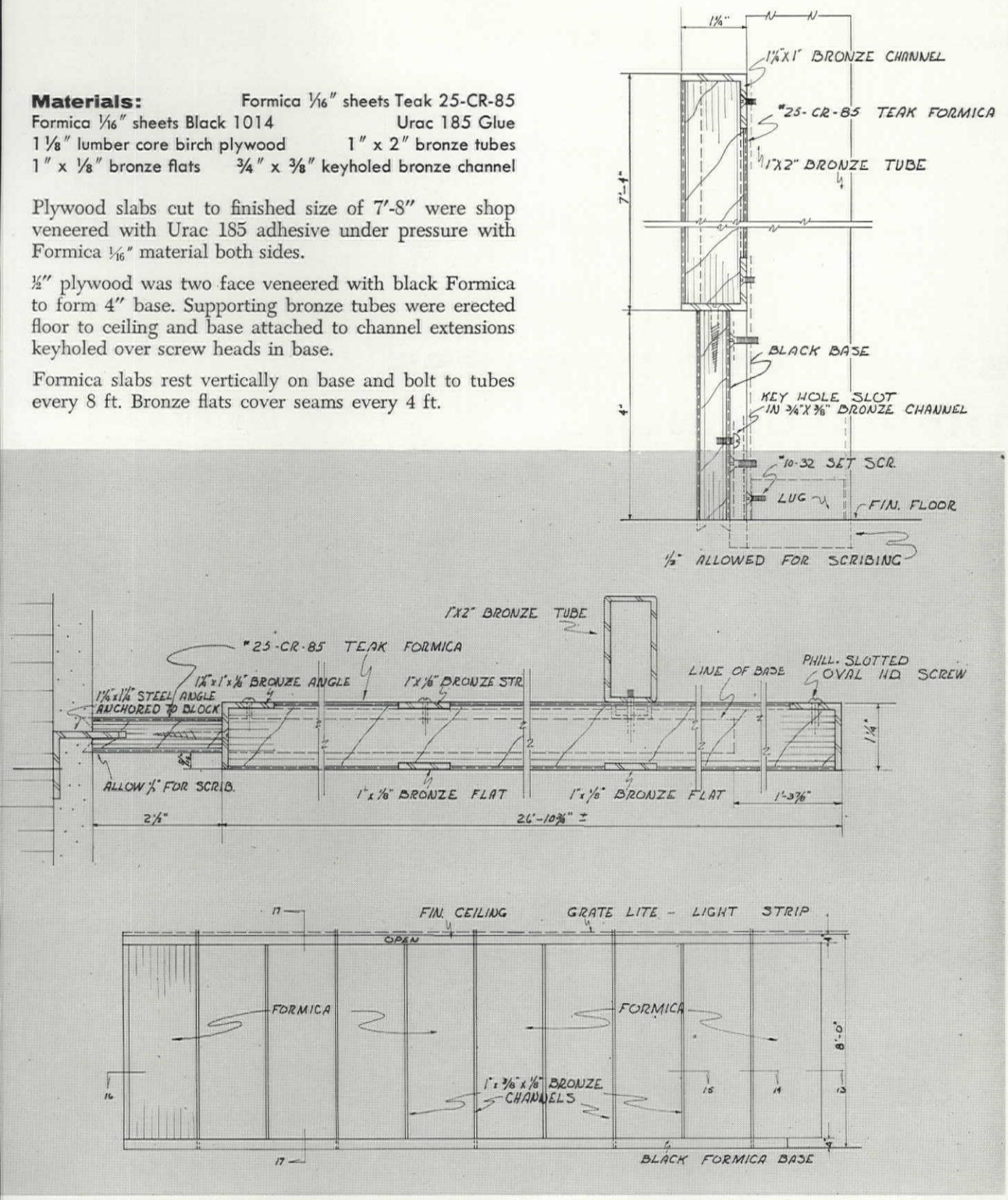

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(Continued from page 51)

wrong target, since the redeveloper and his architect are usually not under the complete control of the local redevelopment agency insofar as building designs are concerned.

We, in this office, are very proud of the work we have done; and we feel that the urban-renewal program is achieving many significant and major accomplishments in the reconstruction of our older urban areas.

ISADORE CANDEUB
Candeub & Fleissig
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the house client

Dear Editor: A note of thanks to the Editors of P/A for the nice presentation of our "Case Study House #18" in MARCH 1959 P/A.

But regarding the pros and cons of residential practice—I truly don't understand why I am the only con!

Is it that we've been too-long jammed to our dado lines with house clients? Are we getting only those the others are turning away? Or has the wonderfully sweet taste of recent nonresidential work too quickly spoiled us?

Frankly, I believe none of these really applies. The simple fact is that the planning and building of a home somehow changes a normal personality into a JEKYLL-HYDE monster—warped with paranoia, egomania, melancholia, monomania, and persecution delusions.

I would like to add, however, some of my best friends are house clients!

CRAIG ELLWOOD
Los Angeles, Calif.

call to arms

Dear Editor: The destiny of any creative art that is existing in a status-quo must be awakened by the youthful spirit in it. Here lies the hope for architecture as we know it. We are in need of an alive imagination to brighten the future of architecture.

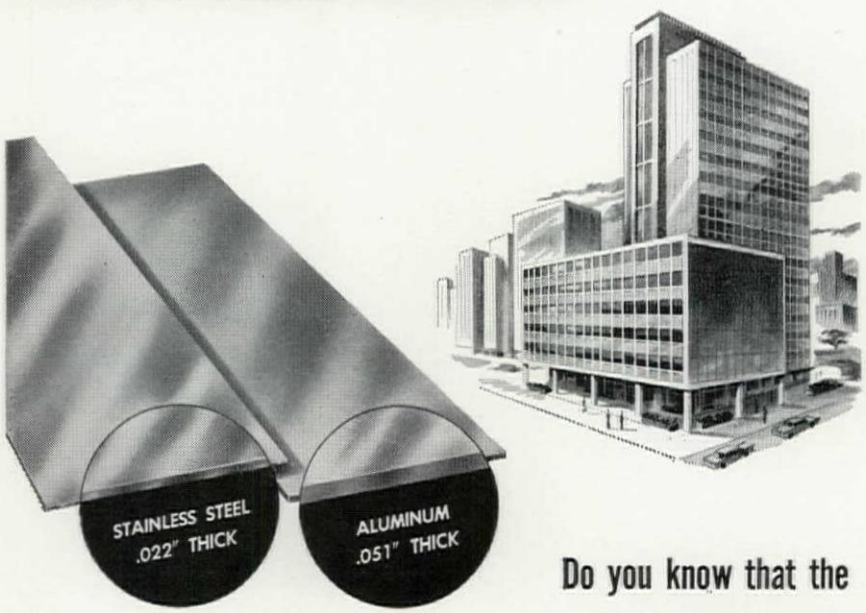
Things of this nature can come about much sooner if the so-called representative organizations in architecture would bring in new blood, and allow them to voice the beliefs of young men. Then could we strengthen our architectural foundations instead of weakening them, as is now the case.

We, involved in the greatest means of recording man's progress, seem at present only to be recording giant dollar signs instead of buildings with great spirit. Let us point out to people the heritage which has been the architects', and the great responsibility they have within society. They have the power to raise man's standards to a higher level—and this is not only true of the mechanical but, above all, of the spiritual levels. The latter is accomplished by structures of great beauty which would naturally cause people to begin to understand the beauty around them in different forms.

Here the architect must set a clear perspective as to his position in being a great deal more than a businessman who makes his money by drawing. That situation appears far more prevalent among the larger firms who appear to have lost

(Continued on page 58)

STAINLESS COSTS LESS THAN ALUMINUM—



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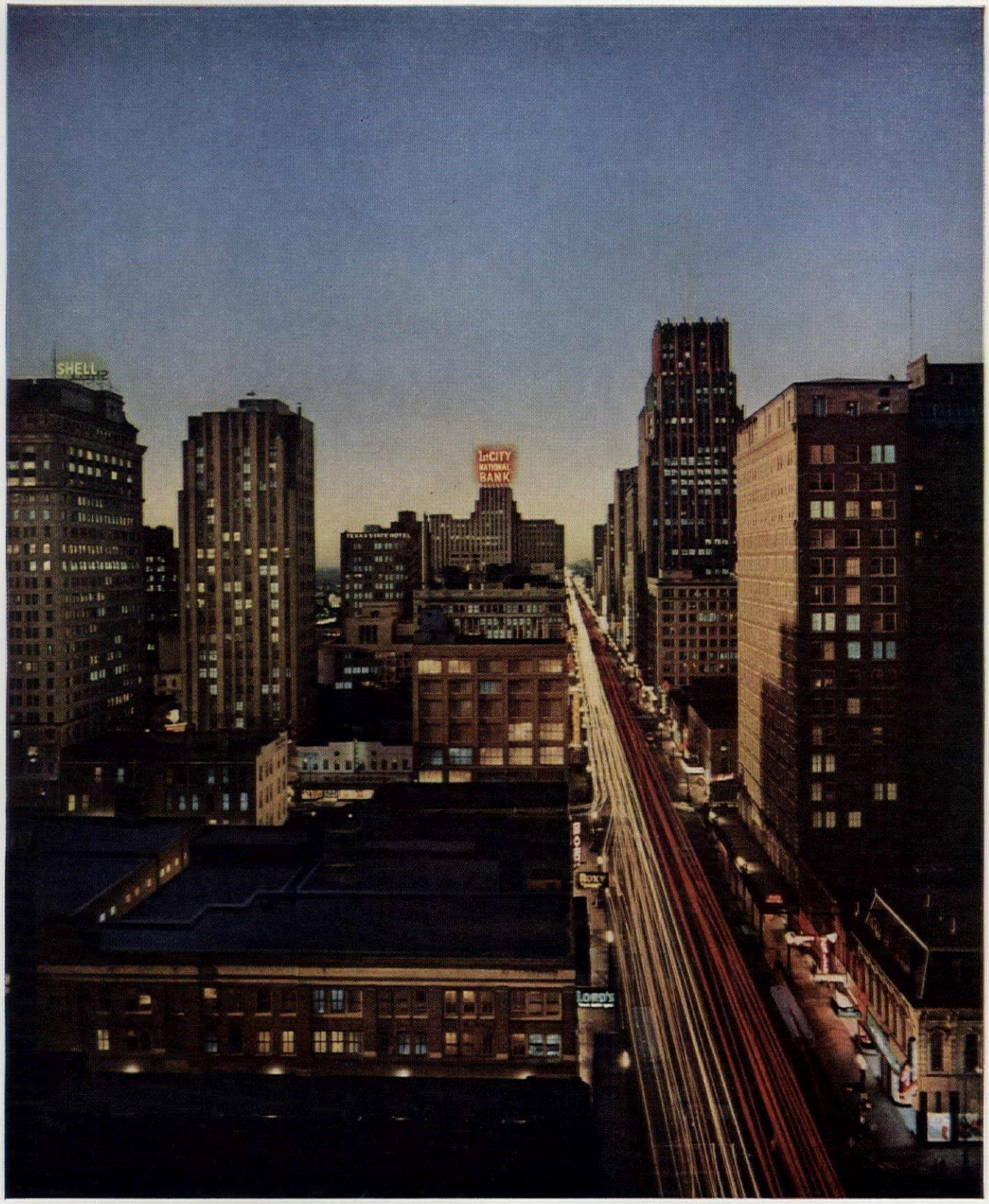

HOUSTON, *located 50 miles inland from the Gulf of Mexico on the Houston Ship Canal, is, rather astonishingly, the third largest port in the U. S. Over 4,000 deep-sea ships move cargoes valued annually at $4-billion. Houston is also America's industrial frontier. As the hub of one of our fastest growing metropolitan areas, its development is solidly based on bountiful resources of crude oil, natural gas, salt, sulphur and water. From these resources come 11% of the nation's refined crude oil; 85% of our petro-chemicals; and 22% of our aluminum. Symbolizing this remarkable growth is the brawny skyline of Houston rising like a colossus from the Texas coastal plain. Otis has a long standing "pardner's" interest in Houston's growth. Over 66% of its elevators are the world's finest. They're by OTIS.*

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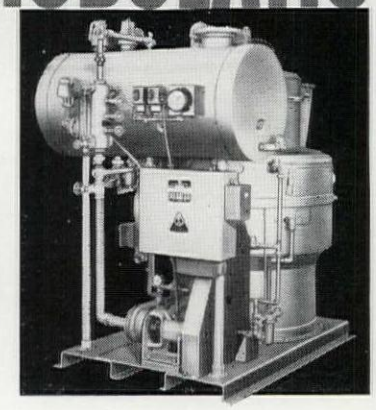

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In time, you'll use nuclear energy for providing steam and hot water, but *today's* most compact heat-and-power "package" is Vapor's popular Drum Modulatic. It's clean, quiet—comes with oil, gas, or combination burner—is delivered completely assembled and wired ready to move in through plant-type doorways and fire-up. Push-button start; automatic operation; hot water instantly...full steam from low-fire "cotton soft" starts in 5 minutes.

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For over 50 years we have made transportation heating systems—in fact, almost every Diesel passenger train uses a Vapor Water Tube Boiler. Now the same efficient, compact principle is yours for any industrial heating, power or processing application. And, Vapor has a nationwide reputation for standing behind every one of its products! You may not know us now, but chances are we'll soon be *very* good friends!

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Striking architectural effect achieved with RS ceramic tile Curtain Wall Panels

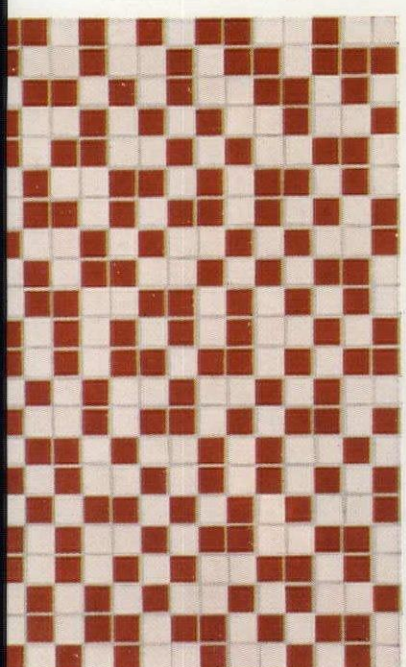
Plate No. 1069

FIRESTONE SALES-SERVICE STORE
Akron, Ohio

Architects:
WILLIAM F. KINKOPH — D. W. GOODWIN
The Firestone Tire & Rubber Co., Akron, Ohio

General Contractor:
J. G. RUHLIN CONSTRUCTION CO.
Akron, Ohio

Close-up shows 1″ x 1″ Romany • Spartan tile in a random 50/50 mixture of Spartex White and Decorator Cherry Red.



Offering unlimited color and design possibilities, RS Panels were the architect's logical choice in designing the exterior of this handsome sales-service center.

These panels are of ceramic tile and reinforced lightweight concrete, cast monolithic and grouted with permanently resilient latex. Each vertical panel is made up of two 5′ x 5′ sections 2¼″ thick, with tongue and groove joint between sections and square edges on outer perimeter. Concrete backs provide finished interior walls.

RS Panels are available in thicknesses from 1⅜″ to 4″, with or without insulation, and in a complete range of sizes and edge conditions to meet your specific requirements. For complete information on RS Panels, including "U" values, weights and short form specifications, write for Bulletin RSP-201. Ceramic Tile Panels, Inc., Dept. P-32, Canton 2, Ohio.

RS Panels®

CERAMIC TILE PANELS INC.

MEMBER: THE PRODUCERS COUNCIL, INC

p/a views

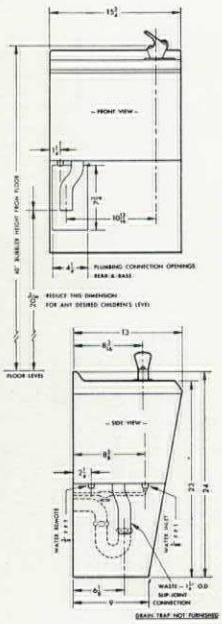
(Continued from page 54)

their identity as men of true integrity within the profession.

When a noble profession such as architecture is looked at first as only a means to money, then I feel the time has come to examine our values. Now we should all return to the integrity and ethics which still exist in the few men of quality.

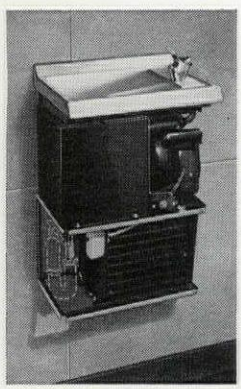
The architect's first responsibility is to the service which he performs. In performing this there is naturally a fee involved. However, if instead of cutting these fees to get the job, the fees were fixed for all architects, then the value of the design would be the determining factor. Not as it is now, namely the lowest fee. If such conditions were corrected, the public would have a far clearer understanding of the profession, and also a deeper respect for it.

BURTON D. GLASS
Designer
Chicago, Ill.



Haws Model HWT-13

CLEAN from every angle...



HAWS brilliant new wall mounted electric water coolers are a *clean break* with tradition! Compact design hugs the wall – leaving floor area clear! Crisp, *clean styling* is crowned by gleaming stainless steel – with plumbing and electrical unit completely enclosed. HAWS "clears the deck" for uncluttered maintenance ease and shining *clean floors.* This innovation in water cooler concept and design scores a *clean sweep* for HAWS – leader in the field since 1909! Find out about HAWS' complete line of drinking facilities. See HAWS Catalog in Sweet's Architectural File or write for your copy today.

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WRITE FOR DATA ON HAWS CAFETERIA AND RESTAURANT WATER COOLERS

the tillable soil

Dear Editor: I clipped your November and December P.S. because you set me to thinking.

Now, "how *could* we get people to see architecture?" Perhaps there is a void which, if filled, would help partially to do this. When we peruse the editorial page of our daily newspapers, we see "The World Today," "Pointers for Parents," "The Medical Column" (entitled this day "Advice from Experts Should Carry Weight"), etc. Then when we look for advice from experts concerning Architecture and the City we find only the trivial syndicated columns on "more storage space," "remodeling your kitchen," etc.

When we do speak of the influence of architecture on the community and the latent opportunities for improving our towns and cities, we speak mostly from the professional magazines, and occasionally from *Harper's, The New Yorker, Fortune,* and *Life.* Perhaps the gentry wish to learn, and perhaps if we go to the daily editorial page, the meeting place of the gentry, we will find tillable soil.

KENNETH W. BROOKS
Spokane, Wash.

notices

new offices

PAUL BRASWELL, Architect, 416 Providence Rd., Charlotte, N. C.

ROBERT M. BLUNK, Architect, 1299 Bayshore, Burlingame, Calif.

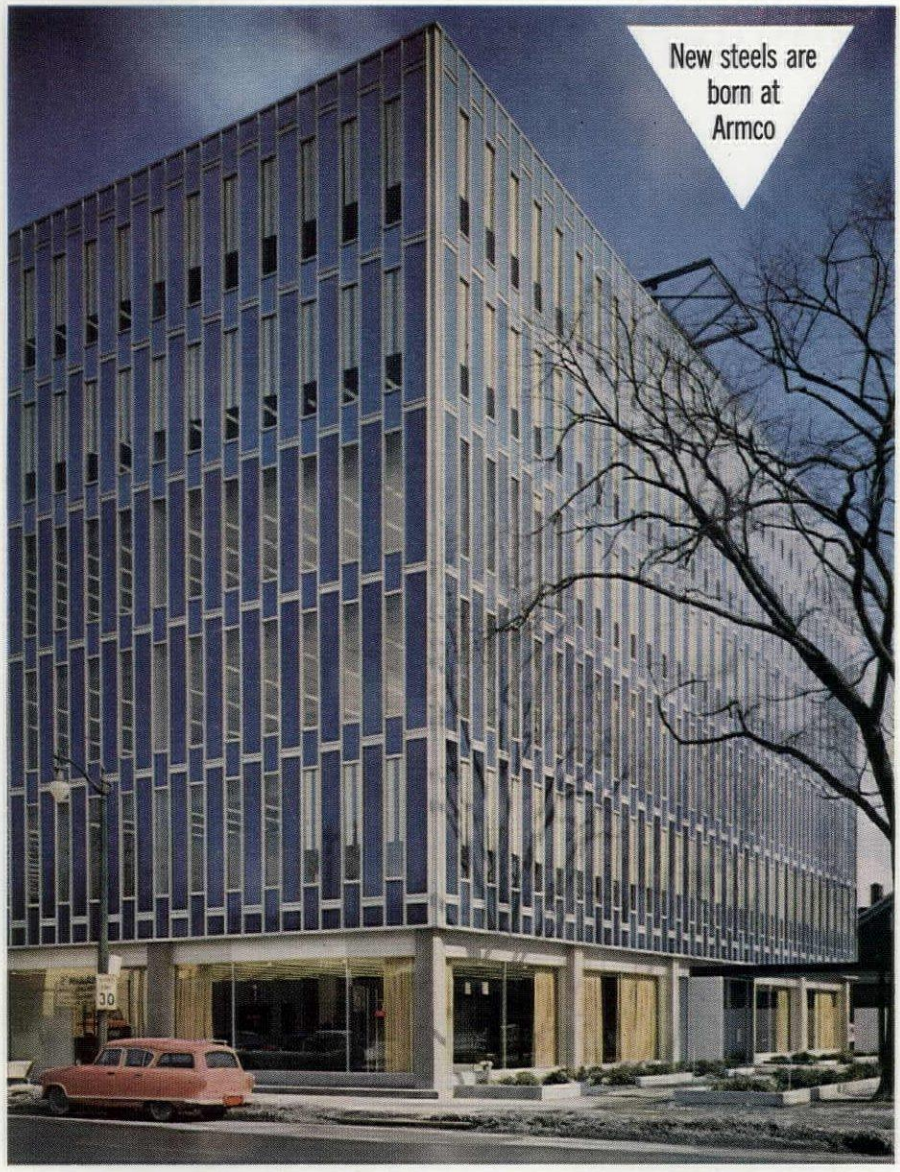
F. VANBUREN KING, Architect, 222 Warwick Rd., Newport News, Va.

DOUGLAS HONNOLD, JOHN REX, ARCHITECTS & ASSOCIATES, 9026 Melrose Ave., Los Angeles, Calif.

FRED S. DUBIN ASSOCIATES, Consulting Engineers, 1357 Ponce de Leon Ave., San Juan, P. R., under direction of VICTOR M. GARCIA, Associate.

CURTIS & DAVIS, Architects-Engineers, 331 Madison Ave., New York, N. Y. WALTER J. ROONEY, JR. will be Resident Architect.

(Continued on page 62)



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COLOR and FORM

with Porcelain Enamel Curtain Walls

The new Detroit sales office of International Business Machines Corporation vividly demonstrates how color and form can be made effective elements of architectural expression with porcelain enamel on Armco Enameling Iron.

Full use of porcelain enamel's unlimited color achieves a perfect balance of graded blues that is an integral and effective part of the design concept. By specifying porcelain enamel the architects not only were assured of uniformly consistent color-matching, but also lifetime durability that will preserve the beauty of their design.

Porcelain enamel panels in a broad range of sizes and shapes enabled form to be economically integrated into the facade design with story-high narrow panels, accentuated by short spandrel units.

Explore the design advantages offered by curtain walls of porcelain enamel on Armco Enameling Iron: a rainbow of weather-proof colors; a full range of formed, embossed and textured shapes and surfaces. Write Armco Steel Corporation, 1819 Curtis Street, Middletown, Ohio, for information and data on Armco Steels/for Architecture.

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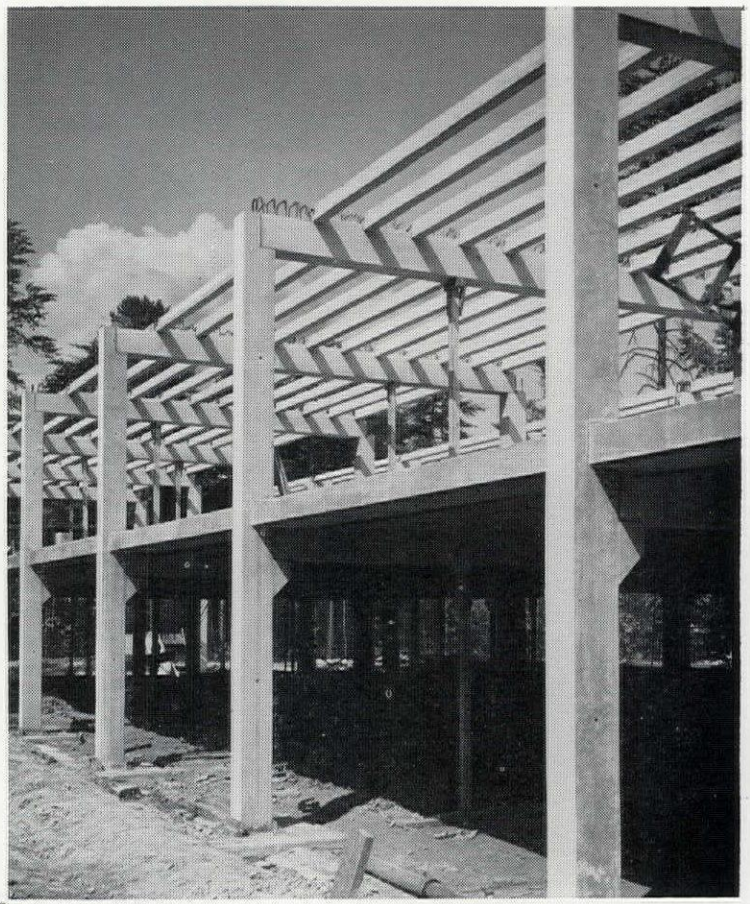


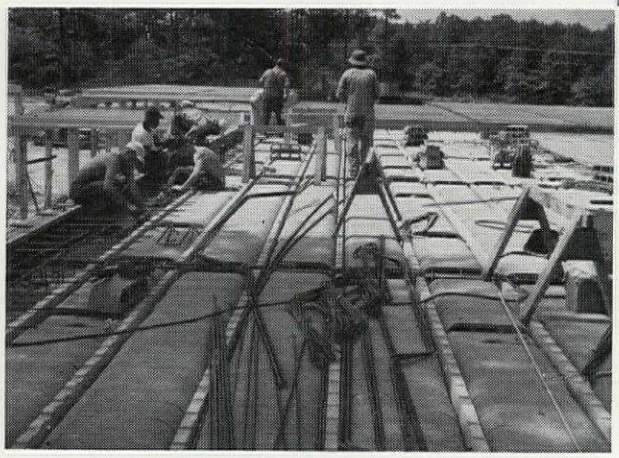
Walter Hines Page Senior High School, Greensboro, N. C.

Architect: McMinn, Norfleet & Wicker, Greensboro, N. C.

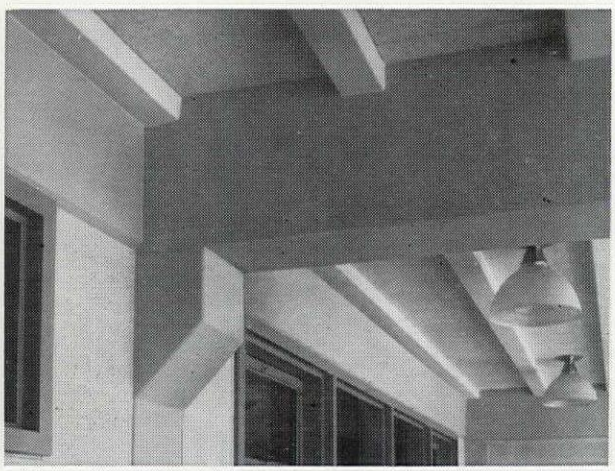
General Contractor: Brooks Lumber Co., Greensboro, N. C.

Contractor for Precast Units: Arnold Stone Co., Greensboro, N. C.

The 95,000 square feet of roof and floor area in this school is supported by 4,200 feet of columns and 4,500 feet of beams . . . all precast concrete.



Concrete filler block laid between precast joists ready to receive concrete to complete floor.



Interior closeup shows neatness of exposed precast concrete structural system.

• Low maintenance . . . fire safety . . . long life . . . neat appearance. These are advantages of precast structural concrete construction. And equally important, units are quickly cast to specification, ready for delivery when needed. Erection is quick and easy.

In precasting the various units for this school, Lehigh Early Strength Cement was used to achieve maximum production efficiency and economy.

"Structural members were cast one day and stripped from their forms the following day and moved to storage," writes Mr. M. A. Arnold of the Arnold Stone Company. "By using Lehigh Early Strength Cement, the precasting operation was completed in half the time required had we used regular portland cement."

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

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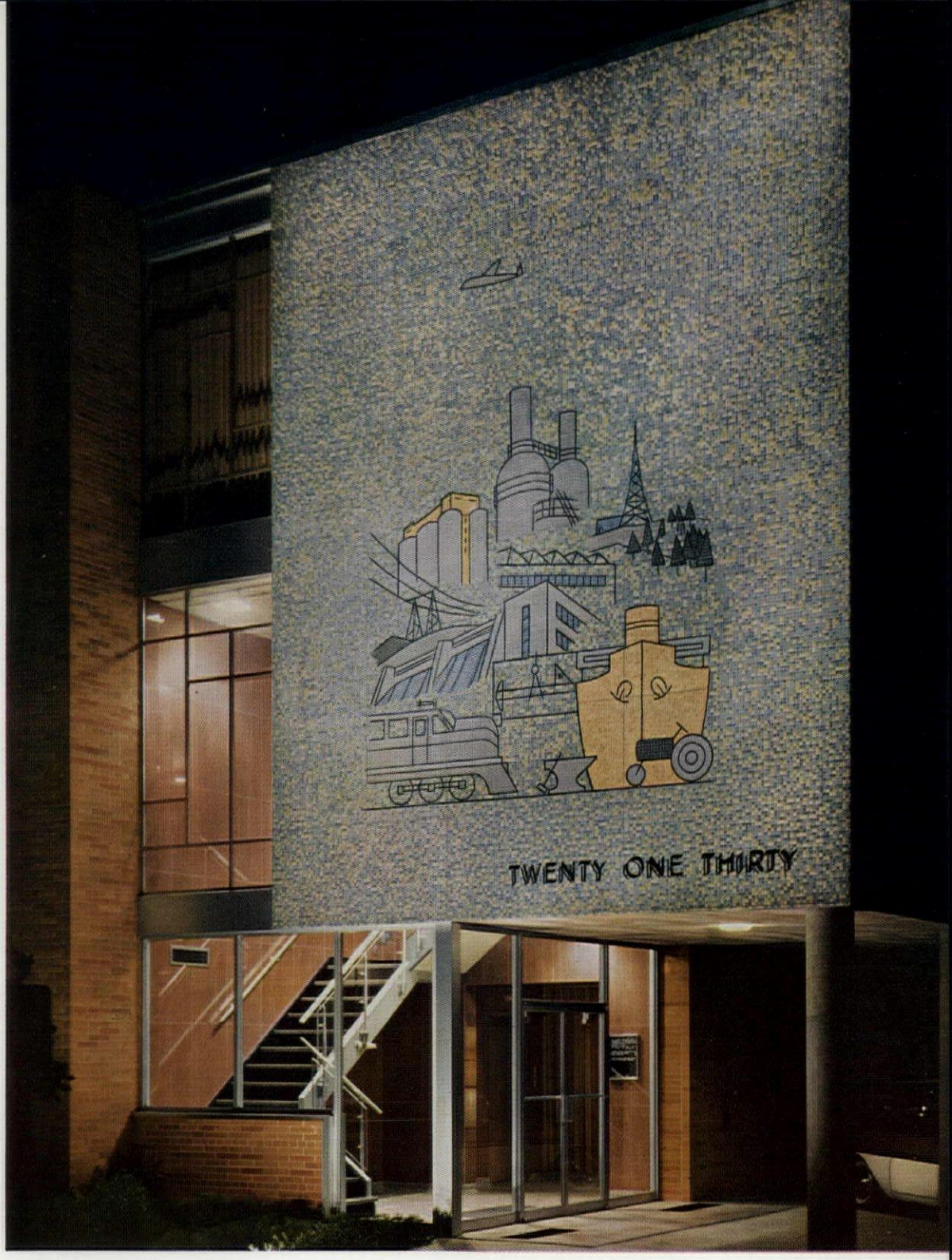

Twenty-One-Thirty Building, Birmingham, Alabama. Architect: Wilmot C. Douglas. Tile Contractor: Daniels Tile Company, Inc. Tile Description: Field—1 1/16" Squares, Random Medley; Slate and Azure Textone, Golden Range Varitone. Cut Ceramic Mosaic Mural: Assorted Porcelain and Natural Clay Colors. Color Plate 395.

Contemporary Exteriors Take Beautifully to Tile

Building exteriors everywhere today are taking on exciting new color and texture interest as more and more architects find in ceramic tile new inspiration for distinctive effects. Witness this decorative treatment for an office building using a cut ceramic mosaic tile mural against a beautifully textured tile field. The fact that tile's beauty is permanent—and so extraordinarily easy to maintain—makes it also a superbly practical choice in contemporary design.

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EXECUTIVE OFFICES: LANSDALE, PA. • FACTORIES: LANSDALE, PA., OLEAN, N.Y. • MEMBER: TILE COUNCIL OF AMERICA, PRODUCERS' COUNCIL

notices

(Continued from page 58)

new offices

ARCHITECTURAL ASSOCIATES, new branch office at 3501 Atlantic Ave., Virginia Beach, Va., under direction of WILLIAM BURTON ALDERMAN, new Associate.

BRASWELL, COOK ASSOCIATES, INC., Industrial-Interior-Graphic Design, 203 E. 49 St., New York, N. Y.

STANLEY B. BRUNDAGE, Architect, Blair Bldg., Colley and Brandon Aves., Norfolk, Va.

A. JACKSON DAVIS, Architect, Medical Arts Bldg., P.O. Box 406, Petersburg, Va.

WILFRED HENSCHEL, Engineer, 475 Fifth Ave., New York, N. Y.

ALBERT W. HILGERS, Architect, 909 Portland Trust Bldg., Portland, Ore.

ROBERT A. MILLER, Architect, 8303 Melrose Ave., Los Angeles, Calif.

ROGER ORKIN, Architect, 5346 N. Lincoln Ave., Chicago, Ill.

ROUSE, DUBIN & VENTURA, Architects-Engineers, 55 W. 42 St., New York, N. Y.

EDWARD X. TUTTLE, JR., Architect, 30801 Northgate Dr., Birmingham, Mich.

WESTERN DESIGN ASSOCIATES, Interior Design—Layout—Specifications-Installation, 861 Stevenson St., San Francisco, Calif., under direction of PAUL PALMER.

JAMES SUDLER ASSOCIATES, Architects, Suite 1100, 818 17 St., Denver, Colo.

new partners, associates

JAMES T. MITCHELL, Associate in firm of HENRY SPROTT LONG, Birmingham, Ala.

WILLIAM J. CONKLIN, Associate Partner in firm of MAYER, WHITTLESEY & GLASS, New York, N. Y.

JACK BEVASH, Architect, Partner in firm of WILLIAM L. PEREIRA & ASSOCIATES, Los Angeles, Calif.

EDWARD A. SOBOLEWSKI, Associate in charge of New York office of FRED S. DUBIN ASSOCIATES, Consulting Engineers, Hartford, New York, Boston, and St. Louis.

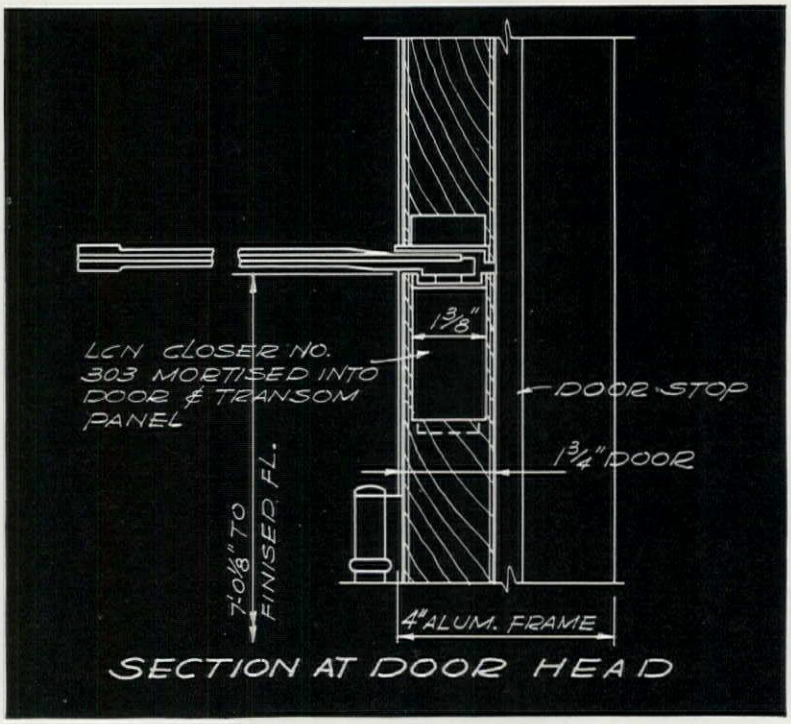
CLINTON L. MCCOMBS, new Partner in firm of KUYKENDALL & MC COMBS, Architects, El Paso, Tex.

H. BOURKE WEIGEL, and KENNETH M. MITCHELL, partners; LAWRENCE W. KONVALINKA, PHILIP MOYER, ROY E. NELSON, F. MARSHALL SMITH, P. WHITNEY WEBB, NORMAN KRUCHOW, JACK W. LIGNELL, RICHARD E. MADDOCKS, and JAMES A. GOOLSBY, as Associates, in firm of URBAHN, BRAYTON & BURROWS, Architects.

appointments

CHARLES R. GREENIDGE, Project Architect, A. M. KINNEY ASSOCIATES, Architects-Engineers, Cincinnati, Ohio.

DONALD L. PERRY, Lt. Colonel, USAF (Ret.), Director of Aero-Space Development, and H. ALDWORTH CHRISTIAN, Vice-President of Retail Store Interiors and Planning, CHARLES LUCKMAN ASSOCIATES, Planners-Architects-Engineers, Los Angeles and New York.



CONSTRUCTION DETAILS

for LCN Closer Concealed-in-Door Shown on Opposite Page

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2. Mechanism concealed within door; flat arm not prominent, and provides high closing power
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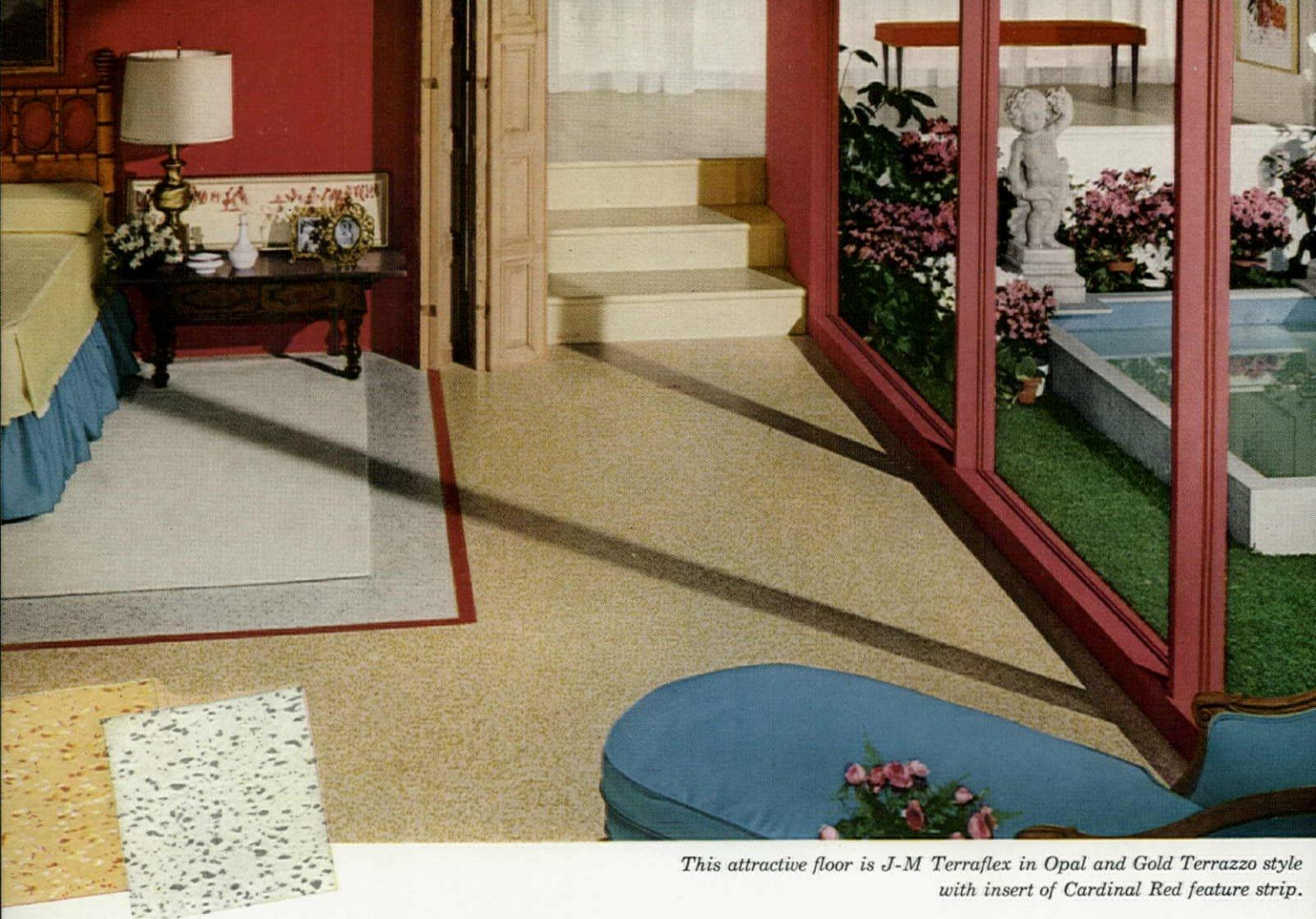
Construction Details on Opposite Page



This attractive floor is J-M Terraflex in Opal and Gold Terrazzo style with insert of Cardinal Red feature strip.

For beautiful, carefree, long-wearing floors

...specify Johns-Manville Floor Tile

OFFERING a broad selection of decorator colors and styles, Johns-Manville floor tile provides architects the means to more effectively express their design ideas in the treatment of interior flooring areas.

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J-M Terraflex® Vinyl Asbestos Tile in Marbleized, Cork, Terrazzo and Metallic styles, in over 40 permanent colors, provides for the creation of striking designs and intricate patterns. Actual on-the-job figures show J-M Terraflex Tile reduces floor maintenance cost as much as 50% when compared with next-best resilient type flooring. Resistance to greases, oils and alkaline moisture makes Terraflex the ideal all-purpose flooring for schools, hospitals, restaurants as well as for residential and commercial areas. Furnished in thicknesses of $\frac{1}{8}$″ and $\frac{1}{16}$″. Size 9″ x 9″.

J-M Asphalt-Asbestos Tile answers the need for colorful, durable flooring at low cost. It can be used over any type of subflooring above grade, on grade and below grade. Available in Marbleized, Cork and Terrazzo styles in a wide range of beautiful colors. Furnished in thicknesses of $\frac{1}{8}$″ and $\frac{3}{16}$″. Size 9″ x 9″.

For complete information and color chart, write to: Johns-Manville, Box 158, New York 16, N. Y.

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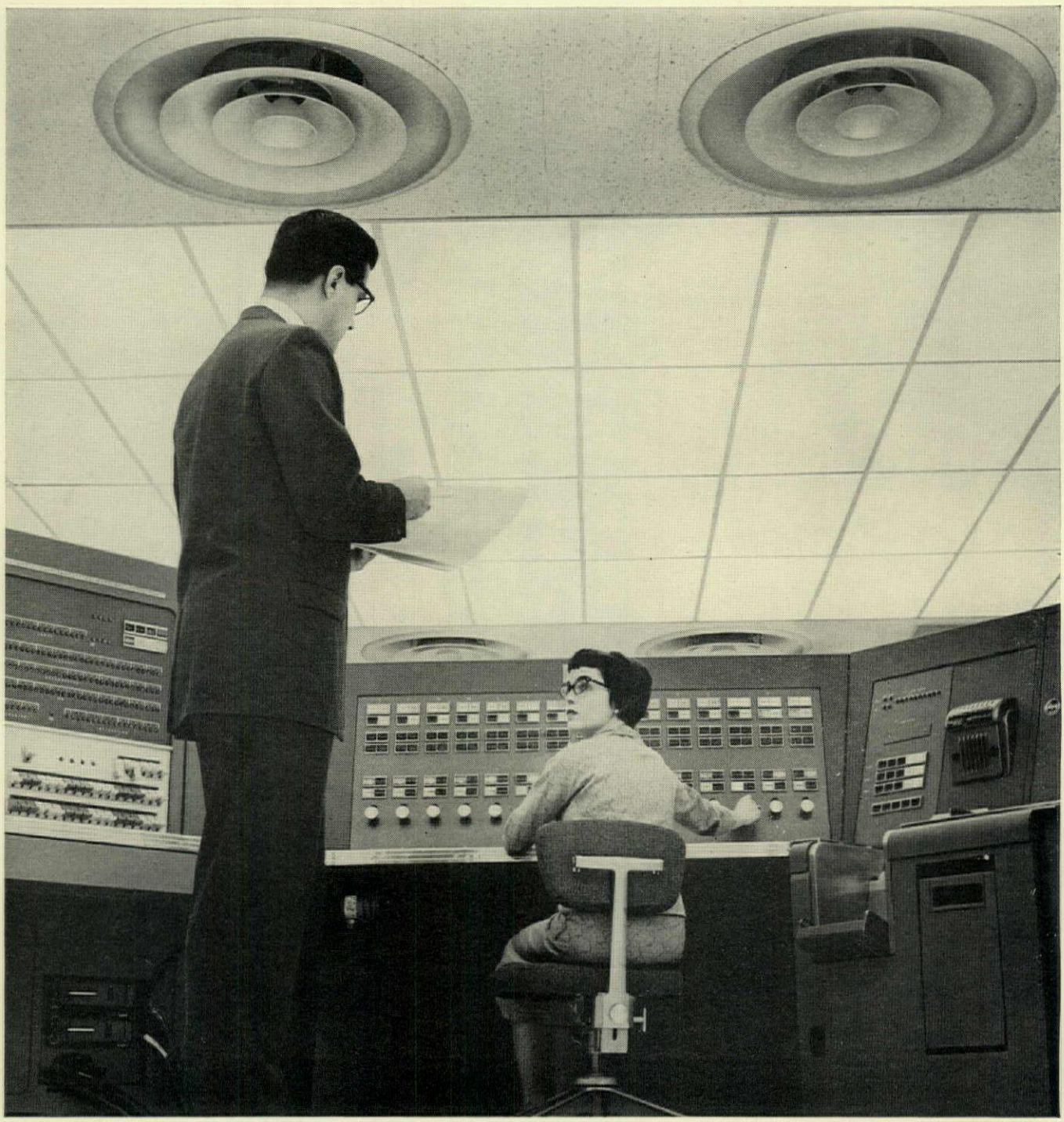
news report

- First Unit of Award-Winning Arts Center (above) Completed
- Undulating Umbrellas Designed for Moscow Trade Fair
- Versatile Aluminum-Screen System Is Introduced

NEWS BULLETINS WASHINGTON NEW PRODUCTS MANUFACTURERS' DATA

Perfect air diffusion for electronic computers with ANEMOSTAT AIR DIFFUSERS



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FIRST UNIT OF AWARD-WINNING ARTS CENTER COMPLETED

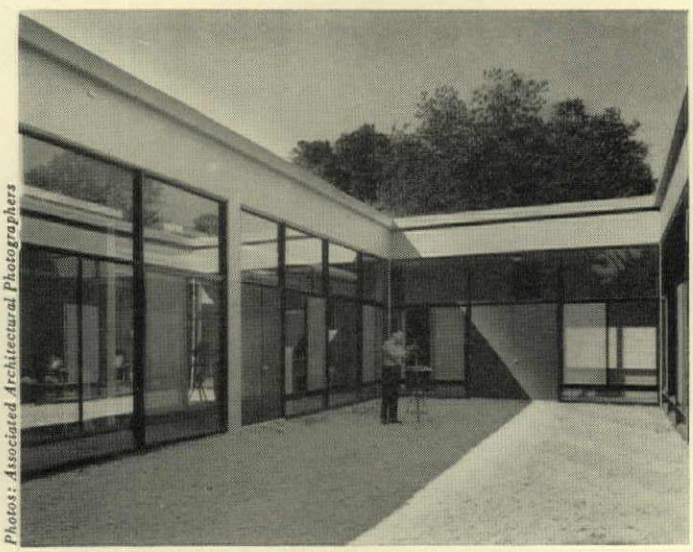
Memphis Art Academy is Pavilion in Park

MEMPHIS, TENN.—The Memphis Art Academy, first unit in the city's million-dollar Fine Arts Center program, has now been opened to the public and has proved exceptionally popular. This is taken as a favorable augury for the remainder of the Center by the architects and the building committee. Local and national publicity for the project has been most gratifying, according to the architects, William C. Mann & Roy P. Harrover. An added boost came when it received a P/A Award Citation in the 1958 Design Awards Program.

Mann & Harrover won the Fine Arts Center commission in 1956 as a result of a local competition. The Art Academy represents a little less than half of the total expenditure for the Center as a whole.

For the cultural activities of the citizens of Memphis, the architects have created a pavilion which sits on a podium in Overton Park, a large city park. The podium is functional, since it contains crafts rooms and shops, and, at the rear of the building, a sculpture court (below left). On the first floor, or plaza level, are administrative offices, library, and the main exhibit space (below right). The top floor houses studios. The Academy is covered by a folded-plate roof which seems to float over the precast-concrete screens which shield the glass walls of the building from sunlight.

The second element of the Center will contain a Little Theater and a Concert Hall. The same undulating roof and concrete-screen pattern will serve to unify the two areas. Leigh Williams was associated in the design of the Center. Structural Engineer is John C. Brough; Mechanical Engineers, Allen & Hoshall.



Photos: Associated Architectural Photographers

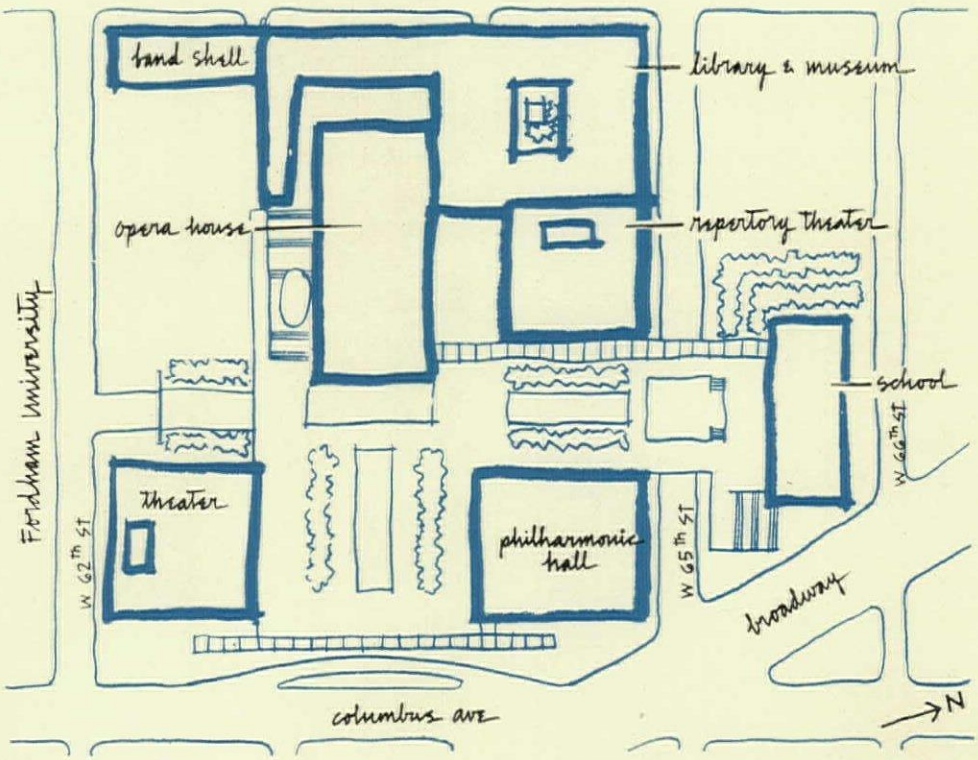
EISENHOWER BREAKS GROUND FOR NEW YORK'S LINCOLN CENTER

Philharmonic Hall Will be First Building Erected

NEW YORK, N. Y.—An audience of 12,000 heard the President of the United States and civic leaders speak at the groundbreaking ceremonies for Lincoln Center for the Performing Arts. Leonard Bernstein and the New York Philharmonic, Leonard Warren and Risë Stevens of the Metropolitan Opera, and the Juilliard School choir were future tenants of the Center participating in the festivities. President Eisenhower proclaimed that the project will act as a "stimulating approach to one of the nation's pressing problems: urban blight."

The 2400-seat Philharmonic Hall will have exposed structural-concrete piers—nine each across front and back, and eleven down each side—culminating in pointed arches formed by angled struts. Remainder of the exterior façade will be of mullioned glass. The orchestra floor will seat 1400 listeners, and three shallow balconies at rear and sides of the auditorium will hold the additional 1000. A unique feature will be a movable apron in front of the stage, which will descend to the basement for the vertical transportation of heavy instruments, rise to stage height to accommodate large groups of performers, or remain at floor level to seat an additional 100 ticketholders.

Max Abramovitz of Harrison & Abramovitz is Chief Designer. Acoustical consultants are Bolt, Beranek & Newman.

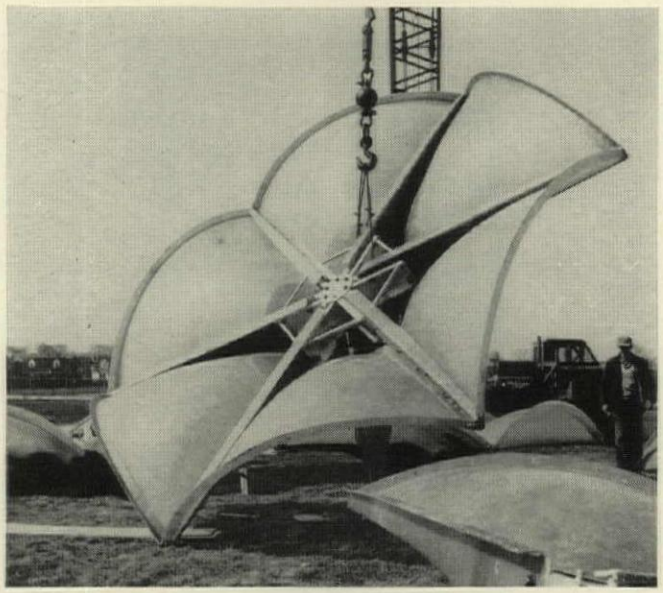


UNDULATING UMBRELLAS DESIGNED FOR MOSCOW TRADE FAIR

MOSCOW, U.S.S.R.—Soon it will look as though a swarm of gigantic butterflies had settled in the courts of the American National Exposition at Sokolniki Park here. This will be no lepidopteral manifestation, however, but a new view into architecture represented by George Nelson's all-reinforced-plastic umbrellas. Three pavilions sheltered by these structures will enclose exhibits of architecture, fashions, and the celebrated "Family of Man" photograph collection.

Nelson's structures consist of a 16-ft column supporting a hexagonal, inverted parasol-like unit four ft deep and 16 ft in diameter. The entire structure is of blonde, translucent, reinforced glass fiber. In assembly, the column is anchored in concrete footings and the roof is raised to the top by a crane (below) and bolted to the column with twelve steel bolts. To create a large pavilion, a number of these units are steel-bolted to each other. A plastic sealant is applied to the seams to prevent leakage. Columns are hollow to allow drainage of rain water from the 600-lb umbrellas. Five test units were recently erected at Mitchell Air Force Base, New York (bottom), where they successfully withstood special wind velocity tests.

George Nelson says of the structures, "as far as we know, this is the first time that a reinforced plastic has been used without the assist of other materials to make a piece of architecture." Consulting Engineer for the project is Albert G. H. Dietz of MIT.

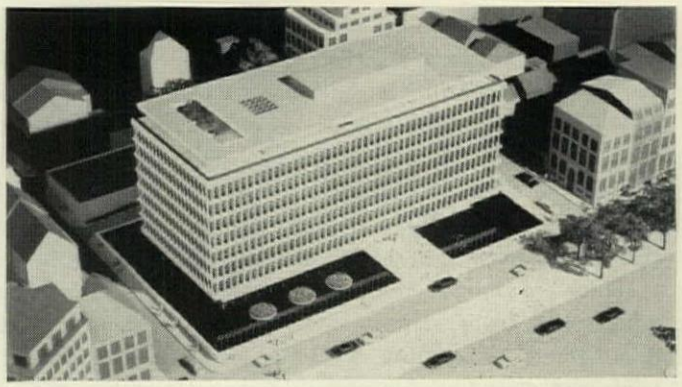


OLD BRUSSELS SQUARE TO GET NEW SOM BANK

BRUSSELS, BELGIUM—A stunning design departure for New York Architects Skidmore, Owings & Merrill will be the feature of the Banque Lambert here. Instead of the firm's well-known expert use of metal and glass, the bank will have a reinforced-concrete frame and façade of precast, reinforced-concrete structural units.

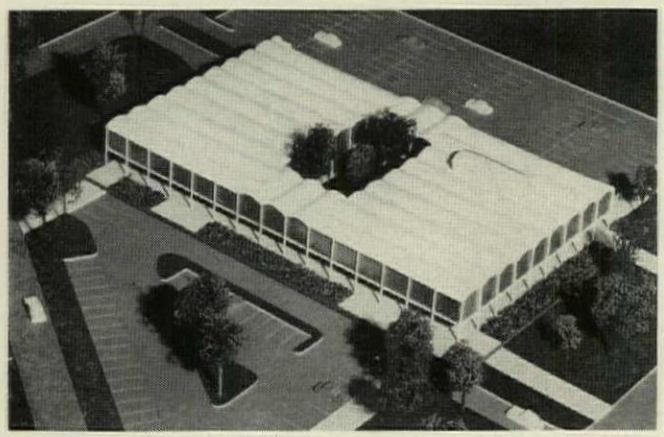
Designed for a private banking organization, the building will provide a glass-enclosed ground floor containing lobbies and banking rooms, seven floors enclosing clerical areas and private offices, and a penthouse which will serve as residence for the Lambert family. Below ground level will be two basements containing bank vaults, employe facilities, building services, and parking for 120 cars. A reflecting pool will surround the building on all sides, and large sculptures are planned for the ground floor at both front and rear.

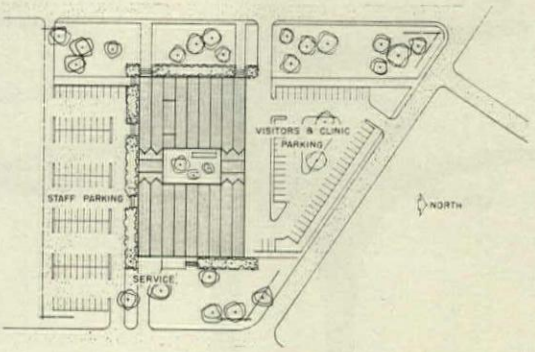
The architects state that because of the relatively high cost of a structural-steel building in Belgium, the reinforced-concrete frame was decided upon. They also state that since a metal-and-glass façade was felt inappropriate for the expression of a concrete structure, the concrete units which form the building's exterior envelope were developed with Engineer Paul Weidlinger. These units will be placed at modular intervals of 1.50 meters around the periphery of each typical floor. The small columns thus formed transmit the perimeter floor loads directly down the façade of the building. The dead load is transmitted midway between each floor through a polished stainless steel ball-and-socket hinge joint cast into the unit. Interior columns are located along the line of core walls. Consulting Mechanical Engineers are Syska & Hennessy, Inc.



Photos: Ezra Stoller

TEXAS PSYCHIATRIC INSTITUTE DESIGN WINS PRAISE OF CLIENT





HOUSTON, TEXAS—Architects George F. Pierce, Jr., and Abel B. Pierce, Jr., report that when their design for the proposed Institute for Psychiatric Research and Education in Houston's Medical Center was presented, "the Board for Texas State Hospitals and Special Schools unanimously approved the design and took the trouble to individually congratulate us after the meeting adjourned."

The Institute will be a two-story building with interior court yard providing light and a view for the surrounding offices. The second floor will boast a continuous solar screen to give esthetic interest and reduce the summer heat load on wall surfaces. A lightweight concrete vault roof will contribute an interesting appearance and also furnish space for mechanical equipment.

ARCHITECTURAL BULLETINS

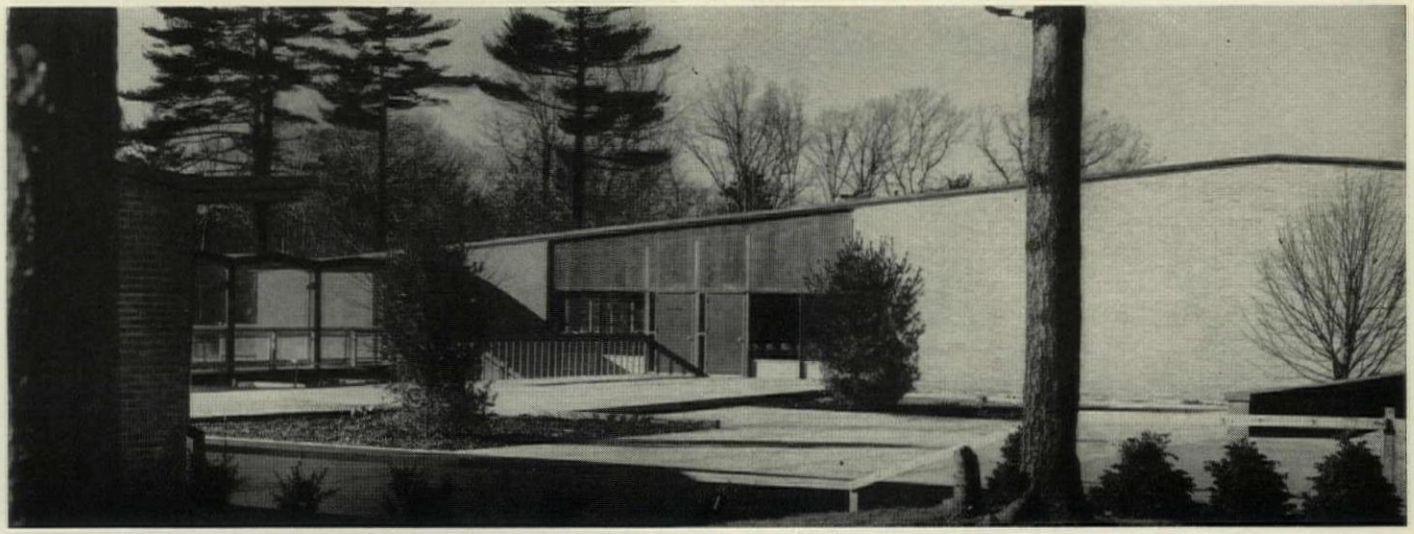
● New York's Seagram Building—designed by Ludwig Mies van der Rohe and Philip Johnson (Kahn & Jacobs, Associate Architects)—won 1959 Copper and Brass Achievement Award for its use of bronze curtain walls. Prize, consisting of bronze trophy and $1000, was given Seagram's Vice-President Edward F. McGinnis by James M. Kennedy, President of Copper & Brass Research Association.

● Thirty-day architectural tour of Europe will leave New York Oct. 17. Group will see contemporary buildings in France, Italy, Switzerland, Germany, and Netherlands; will meet with various professional groups. Tour will be led by Thomas H. Creighton, P/A Editor. Contact: McGinnis Travel Service, Inc., 160 Central Park South, New York, N. Y.

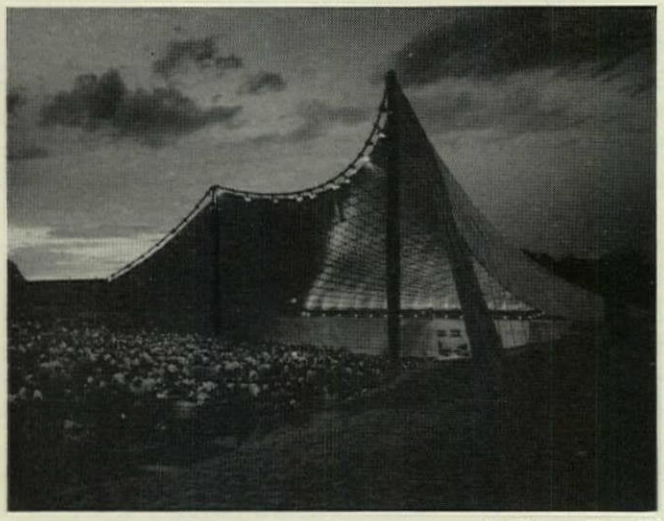
● Convention of National Council of Architectural Registration Boards occurs June 20-21 in New Orleans, just prior to AIA Convention. . . . 12th Annual Conference on Aging will take place at University of Michigan, Ann Arbor, June 22-24; theme is "Designs for Retirement." . . . American Society of Landscape Architects meets June 28-July 1, at Chicago's Palmer House. . . . "Recreation in an Expanding Leisure" is theme of 41st National Recreation Congress, Chicago, Sept. 28-Oct. 2. . . . 12th Regional Meeting of American Concrete Inst. will be held in Mexico City Nov. 3-5; will feature concrete problems and techniques in Mexico and southwest U.S. . . . Air-Conditioning and Refrigeration Industry 11th Exposition will be in Atlantic City, November 2-5.

● Two New England art festival architectural winners are shown below. Top is Schlumberger plant and offices in Ridgefield, Conn., by Philip Johnson, which won top architectural prize in New Haven, Conn., Festival of Arts. Jury was composed of Serge Chermayeff, Henry-Russell Hitchcock, and P/A Managing Editor Charles Magruder. Bottom is shown the Pollard Junior High School, Needham, Mass., by The Architects Collaborative, which got the architecture award of the 1959 Boston Arts Festival from a jury made up of Douglas Orr, New Haven; Morris Ketchum, New York; and James Fitch, Columbia University. View shows courtyard of the school.

Photo: Ezra Stoller



● Winner of 1959 R. S. Reynolds Memorial Award for best use of aluminum in architecture is the Sidney Meyer Music Bowl in Melbourne, Australia, by Melbourne architects Yuncken, Freeman Brothers, Griffiths & Simpson—Barry B. Patten in charge of design. Band shell covers an acre, shelters 2100 persons, was picked for its development of aluminum skin for two-story cable roof. Jury included John Noble Richards,

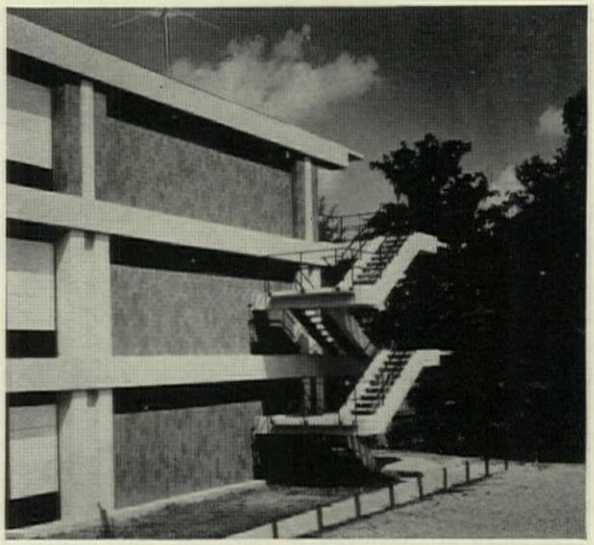


AIA President; Carlos Contreras, Mexico; William Caudill, Texas; Eero Saarinen, Michigan; and Robert E. Alexander, California, Chairman.

● Southland Center, Dallas, Texas, includes 42-story Southland Life Tower and 29-floor Sheraton-Dallas Hotel. Provision has been made for a future 32-story office tower. Center has five underground levels for 2500-car parking, a heliport, and extensive shopping and dining facilities. Glass mosaic curtain walls are blue, gray, and green; base is precast lightweight concrete in harlequin design. Architects: Welton

Becket & Associates; Consulting Architect: Mark Lemmon; Structural Engineers: Murray Erick Associates; Consulting Structural Engineers: Edwards & Hjorth; Consulting Mechanical Engineers: Zumwalt & Vinther.

● Student Union Building at Southwestern College, Lafayette, La., looks out over a cypress-studded bayou. Building



features open stairs and quarry tile and concrete walls. Tiles are set vertically, with cinnamon and russet colors in random placing to give contrast to white concrete. Designed by Burk, LeBreton & Lamantia, Architects & Engineers, New Orleans.

● Design by The Austin Company for El Mundo Enterprises provides $15-millions communications center seven miles from downtown San Juan, Puerto Rico. Center will include newspaper publishing and radio and TV broadcasting facili-

ties, plus complete dubbing and film processing laboratories. Quarter-million feet of rental space for business and professional tenants will also be included.

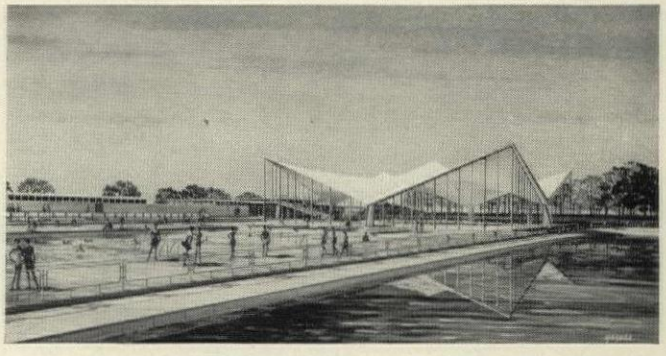
● Architect Horace W. Peaslee, 74, died in Washington, D. C.; he designed Dumbarton Oaks, Friendship House, and the Peruvian Embassy there. . . . Architect Sylvan Bien, 66, died at his New York home. Practice, known for numerous mid-town office buildings, will be carried on by son, Robert L. Bien.

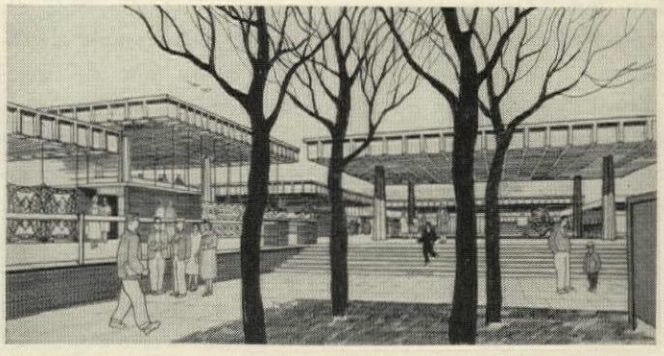
● Chicago's new 40-story luxury hotel, Executive House, features wide use of balconies on two sides. Extensive public rooms on lower floors are expected to serve tenants and convention exhibition clients. Exterior is a thin, stainless-steel curtain wall serving as spandrel panel and guard rail for balconies. Architects were Milton M. Schwartz & Associates, Inc., Chicago.

● Giant complex of buildings by Charles Luckman Associates for Avco in Wilmington, Mass., consists of six buildings: Administrative, two Laboratories, Experimental Manufacturing Building, Arc Wind Tunnel Building, and Ballistic Range Building. Six-building facility is known officialy as Avco Research & Development Division. Plan introduces large light wells or courtyards into interiors of buildings, providing same air of spaciousness as outside offices get from looking over 100-acre site. Curtain-wall exteriors feature aluminum mullions and tan porcelain-on-steel sandwich panels manufactured by client. Associate Engineers: Metcalf & Eddy; Landscape Architects: Sasaki & Walker; General Contractor: Aberthaw Construction Co.

● Paul C. Crawford of Wooster Products, Inc., Wooster, O., was re-elected as president of National Association of Architectural Metal Manufacturers. . . . President, vice-president, and treasurer of Michigan Engineering Society are Joseph E. Wilbur, Lansing; Russell E. Harrison, Detroit; and Dudley Newton, Detroit. . . . R. G. Kenly of New Jersey Zinc Company, New York, elected president of American Zinc Institute. . . . James S. Ackerman will become Professor of Fine Arts at Harvard next summer. His current work includes study of Michelangelo as architect. . . . Dr. George A. Downsbrough, Buffalo, N. Y., elected president of Scientific Apparatus Makers Association. . . . E. P. Benson of A. J. Bayer Company, Los Angeles, elected president of Tablet & Letters Division of National Association of Architectural Metal Manufacturers.

● Summer and winter swimming will be available on New York's Long Island next year. Valley Stream park commission has announced plans for three pools in city park: children's wading pool, large outdoor pool, and enclosed pool. Large doors will open indoor pool to weather in summer. Indoor pool will feature a 120-ft span, hyperbolic paraboloid roof. Architects: Frederic P. Wiedersum Associates, Valley Stream.





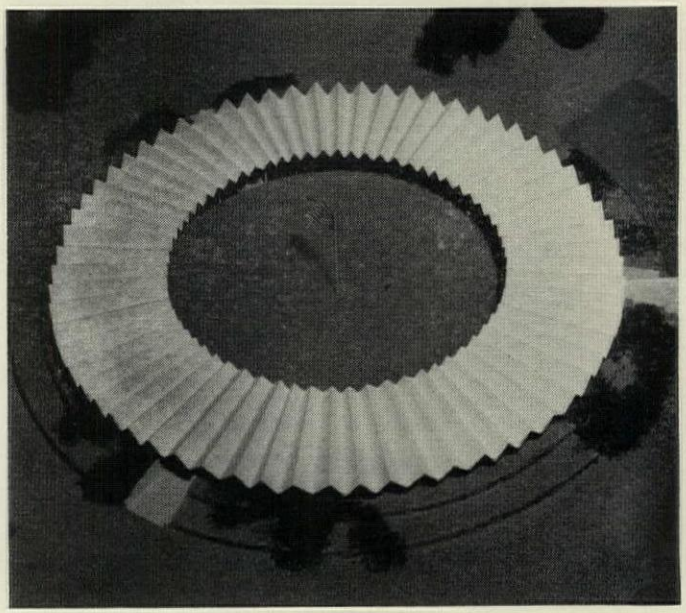
● Design for a prototype international science center for a U. S. Permanent World Data Exposition publicizing findings of International Geophysical Year won $5000 Lloyd Warren Fellowship, Paris Prize in Architecture, for Robert F. Dannenbrink, Jr., of Washington University, St. Louis. Winning design provides 11 exhibit areas for "world days," meteorology, geomagnetism, aurora and airglow, ionosphere, solar activity, cosmic radiation, longitudes, glaciology, climatic variation, oceanography, and rockets. Drawing shows main court.

● Harold L. Humes has been elected president of Building Research Institute for 1959-60. He is vice-president and director of Baldwin-Hill Company, Trenton, N. J. Robert W.

Cutler was elected vice-president. He is general partner of Skidmore, Owings & Merrill, New York. . . . Alexander Scott Carter, designer and artist of Toronto, won 1958 Allied Arts Medal of Royal Architectural Institute of Canada. . . . Architects Eggers & Higgins and Sculptor Gwen Lux won certificates of merit from New York's Municipal Art Society for their contributions to a more beautiful city. Eggers & Higgins were praised for setting Canada House back from Fifth Avenue so passers-by could see St. Thomas Protestant Episcopal Church, and Miss Lux received award for "Vapor Trails," her huge stainless steel sculpture on façade of Aviation Trades High School (April 1959 P/A, p. 151 and cover).

● Mark Rothko and Willem de Kooning will be given major, one-man shows at New York's Museum of Modern Art in 1960 and 1961, according to René d'Harnoncourt, museum director. It will be first one-man show at museum for both artists. Rothko show is scheduled for Oct. 4-Nov. 20, 1960; de Kooning's for spring of 1961.

● Nuclear Energy Committee of Northern California Chapter AIA has proposed this combined elementary school-radioactive fallout shelter. School contains nine wedge-shaped classrooms under roof of concrete and sod, within protective moat of water. Architect Albert Sigal, Jr., says "If built in the suburbs of target cities it could offer full protection against radioactive clouds that rise from a bomb burst." Aim of architect was to provide not only fallout protection but also form which would incorporate safeguards unobtrusively while offering interesting apperance for everyday use.



CSI CONVENES SOLO

CHICAGO, ILL.—The fast-growing organization of specification men—Construction Specifications Institute—held its third Annual Convention, and its first one completely independent of AIA, here last month. More than 300 delegates attended three days of serious seminars and technical meetings, made a number of awards which will now be given annually, heard two important luncheon addresses, and relaxed at a final banquet at which P/A's Editor, Thomas H. Creighton, spoke.

Philip Will, Chicago architect of the firm of Perkins & Will, speaking at the first day's luncheon meeting, told the Convention that the design professions must broaden their roles in society to emphasize the importance of an improved environment in relation to less vital expenditures. "The building industry must relate to society," he said, "as bricks relate to a house." Another luncheon speaker, Ira J. Bach, Commissioner of the Chicago City Planning Commission, described and showed slides of Chicago's Central Area Development Plan, the recently announced co-ordinated development of business, cultural, recreational and transportation programs, which the speaker called the most important Chicago planning proposal since the early Burnham plan.

An important producers' exhibit was a feature of the Convention. About ninety booths, of a very high quality of presentation, attracted an estimated 2000 people, delegates and members from the Convention itself and architects and engineers from the Chicago area.

Present officers were re-elected: J. Stewart Stein, Chicago architect, as President; Willard H. Barrows, New York, Vice-President; and Harry C. Plummer, Washington, D. C., Secretary-Treasurer. Another sign of growth and independence was announcement of the selection of George F. Lamb as Executive Secretary. Lamb will move this month from his present California home to Washington to head the staff.

CSI, founded in 1948, was slow-growing until several years ago, but since has had a phenomenal advance in membership. It was reported at the Convention that there are now more than 3500 members in Chapters in all parts of the country. Some thirty active committees are working on various aspects of specification research, development and writing, many of which reported their progress during technical sessions of the Convention.

Awards were made for "model" specifications: to Frank Stanton, for Public Structures; to Bernard Rosenblum, for Commercial Structures; to Bernard J. Parker, for Site Improvement; to John Finnegan and Donald S. Woodward, for Churches; to John J. White, for Industrial Buildings.

Fellowships were awarded, for the first time, to five members: posthumously to Ben John Small and Norman Hunter, past Presidents; to Leon Chatelain, past AIA President; Carl J. Ebert, Editor of The Specifier, CSI journal; and Alfred W. Sikes. Four Honorary Membership medals also were given: to Goldwin Goldsmith, Clarence A. Greather, William Stanley Parker, and Thomas H. Creighton.

ACTION HEARS ADLAI

NEWARK, N. J.—The first national conference of the American Council to Improve Our Neighborhoods (ACTION) was held here May 4-6.

The high point of the conference was a banquet address by Adlai E. Stevenson on "The American City—A Call for Statesmanship." Noting that the call for statesmanship is, first of all, that cities be permitted to survive the possibility of annihilation by nuclear means, he then called for action by private enterprise and government in restoring our cities.

"We are not concerned just with the new low income and minority ghettos in some cities, nor just real estate values in the downtown central business districts, nor the bedeviled commuter, nor the costly, growing traffic congestion, nor the general offensiveness of the urban sprawl. The deficiencies in our schools and communal services, like parks, playgrounds, hospitals, and the ugly outcroppings of juvenile violence are all pleading for attention and are all part of the broader task on which we are embarked—the revitalization and reinvigoration of the city as a way of life.

"It is not even a renaissance we seek; rather it is the construction of an entirely new mode of living—poles apart from the Victorian city of old. What we are concerned with is the exciting, exhilarating adventure of constructing economic, financial, social, and political tools to build—not a city—but a metropolis . . .

"As we put ourselves to the rebuilding of our cities, to the problems of their growth, we will look for leadership, a high quality of skill, in the managing of this task. But we will not buy the shibboleth that autocratic action is essential to achieve the desired result. We will not leave the subject to an anointed few.

"The municipality of tomorrow must be renewed in the image of the people's hopes and ambitions for a better life. The values to be recreated must have a sound political and economic pedestal, but they must flow from human needs."

GERMAN GROUP OBSERVES U. S. ARCHITECTURE

Seventy-three West German architects, builders, and aluminum industry officials toured the eastern U.S. recently, examining outstanding buildings featuring aluminum, participating in group meetings concerning architectural design and construction, and observing production in various aluminum plants. The trip was sponsored by Aluminium-Zentrale, E. V., a German aluminum-trade association whose managing director, W. F. Wildschutz, noted that "curtain walls and windows of aluminum will soon make their way more strongly in Germany."

The group began its tour in New York where, at a reception sponsored by New York Chapter, AIA, and Alcoa, interest ran most strongly to the city's building codes. Other cities visited on the trip were Pittsburgh; Detroit; Chicago; Lafayette, Ind.; Washington, D. C.; and Richmond, Va.

A Federal German Government representative stated that, "an enormous challenge has been presented to . . . architects and builders [by war destruction], and great strides have been taken in town planning and functional architecture."

Below is a recent view of the Düsseldorf skyline showing (right) the curtain-walled Mannesmann Building by Paul Schneider-Esleben and Dr.-Ing. Herberth Knothe, who were on the American tour.

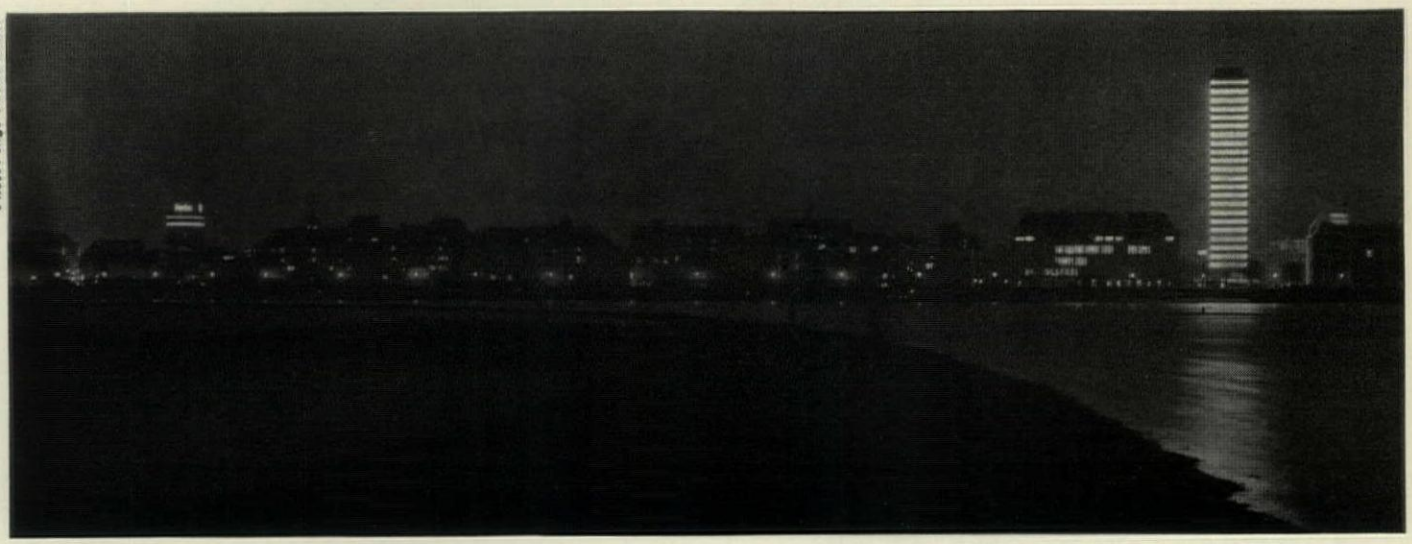


Photo: Inge Goertz-Bauer

PROBLEMS OF PLANNING FEDERAL BUILDINGS ANALYZED

by Frederick Gutheim

An increasing number of rumors originating from persons who have seen the design indicate that Henry Shepley (of Shepley, Bulfinch, Richardson & Abbott, Boston) has arrived at a very satisfactory solution to one of the capital's most difficult problems—the new executive office building, facing Lafayette Square, in close proximity to the White House. The building stands between two smaller "untouchables"—Latrobe's Decatur House, now in the custody of the National Trust; and the Blair-Lee house, another building of the Federal period with important historical associations, now used as a guest house for distinguished foreign state visitors. Behind the Lafayette Square façade the block has other problems. There is, for example, the old Court of Claims building which according to present plans would come down, although its destruction is publicly deplored in the current exhibition, "Buildings Worth Saving," on view at The Octagon gallery. There is also the problem of the politically powerful National Grange, evicted from its Lafayette Square location and now building in the same block one of those 110 ft high, limestone front, brick-sided structures.

Other cities may have similar problems, but they are seldom well resolved. They illustrate the work of the Commission of Fine Arts, whose poorly-understood role was recently reviewed in the Washington Star in an extensive article, well summarized in the headline, "Good Taste Requires Vigilance." The architect members of the Commission now comprise Douglas W. Orr of New Haven, William G. Perry of Boston, and a new appointee, Ralph Walker of New York. Other members are a painter, sculptor, landscape architect, and the chairman, former director of the National Gallery of Art, David E. Finley.

..While there is little hope the proposed East Mall will secure approval in this session of Congress, there is still a good outlook for Rep. Robert E. Jones' bill to concentrate Federal buildings in the city proper rather than to scatter them around in the suburbs as has been the fashion in recent years. While fundamentally the bill aims at concentrating Congressional power over Federal buildings in the House Public Buildings Subcommittee, headed by Rep. Jones, it will also have a powerful centralizing effect. Much that is complained of has already happened, of course. Now exempted from committee control are such building projects as the Atomic Energy Commission, the Central Intelligence Agency, and the National Aeronautics and Space Administration. These are already going ahead. Consequently, the benefits of the measure will be of a long-range nature.

The big Federal building projects on which design is now in process and which will soon be up for appropriations are the Civil Service Commission building (located in Foggy Bottom, near the new State Department building); a $23,000,000 building for the Geological Survey that seems pretty definitely scheduled for the Maryland suburbs; and the $44,000,000 new building of the Court of Claims that is planned for the mall in the southwest Washington redevelopment area. Also on the mall are Federal Office Building No. 5, really two structures standing at the north end of the mall, which it has been presumed will be designed by I. M. Pei, who conceived the entire mall scheme; and what is called in the bureaucratic vernacular "FOB 8"—another large office building.

● The Washington Board of Trade (which serves as our chamber of commerce) since 1939 has sponsored an annual award in architecture as an incentive to higher design of private buildings in the capital city. The use of outside juries has been an important factor in maintaining the high standard of the awards. This year's selections were on the conservative side, with three awards each out of the total of 15 going to the firms of Corning & Moore, and Chatelain, Gauger & Nolan. The most dashing of the winning entries was that of McLeod & Ferrara for the Augustana Evangelical Lutheran Church. Another local building of considerable merit which recently received recognition was Joseph Miller's small Town and Country Day School in Wheaton, Md., a building that should set the pace for public-school building activity, honored by the American Association of School Administrators.

● The Chantilly Airport, of which I wrote last month, is still meeting reluctance from the major air lines. Not only have they yet to come forward in support of the radical new airport design concept offered by Eero Saarinen and FAA, using mobile lounges; they also have yet to present any real assurance they will use the airport at all.

● It looks as if we will have a housing bill after all. June is the traditional month for decision in this sector of public policy, but the support of Speaker Rayburn makes it just a matter of time until the intransigent chairman of the House Rules Committee comes to terms. His agreement to break a tie vote in committee certainly leaves him in a stronger position than any other solution would.

Housing this year should reach an all-time high if the expectations of officials given the House Appropriations Committee are fulfilled. Last year saw 1,209,000 dwellings started, a figure to be exceeded by this year's anticipated total of 1,285,000. Housing Administrator Norman P. Mason also offered the forecast that such lagging segments of the housing effort as homes for the aged, rental housing, and urban-renewal projects would be stepped up this year.

Introducing...

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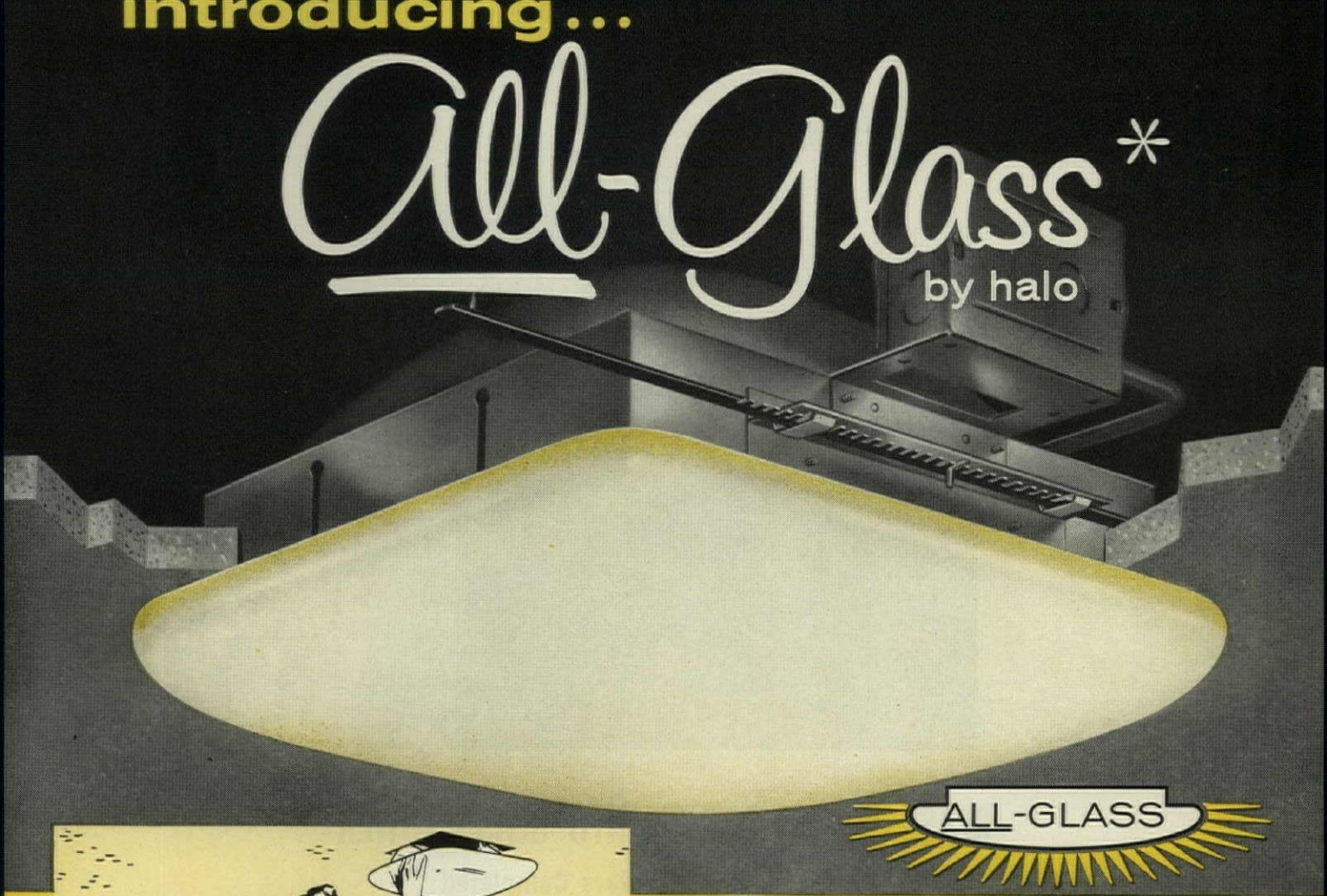

ALL-GLASS

*"ALL-GLASS" trims fit standard Halo housings

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FEATURING:

1. **150% greater luminous surface**
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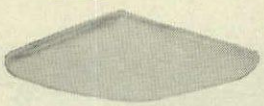
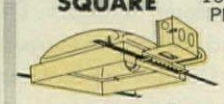
SH1—HOUSING

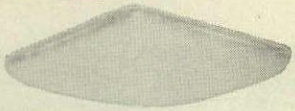


15—ALL GLASS TRIM 10"x10"

150-WATT SQUARE HOUSING SIZE 10¼"x10¼" PREWIRED

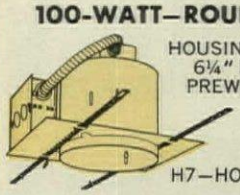


SH2—HOUSING

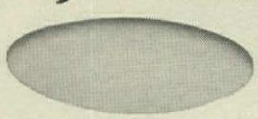


25—ALL GLASS TRIM 12"x12"

100-WATT—ROUND HOUSING SIZE 6¼" DIA. PREWIRED

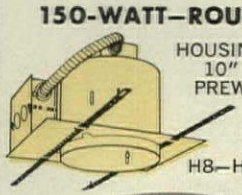


H7—HOUSING



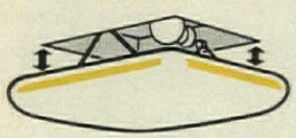
75—ALL GLASS TRIM 7¾" DIAMETER

150-WATT—ROUND HOUSING SIZE 10" DIA. PREWIRED

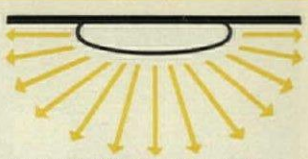


H8—HOUSING

85—ALL GLASS TRIM 12" DIAMETER



To relamp, pull down "ALL-GLASS" trim on torsion spring.



"ALL-GLASS" units provided extra wide-angle distribution—ceiling illumination—and 40% more light output.

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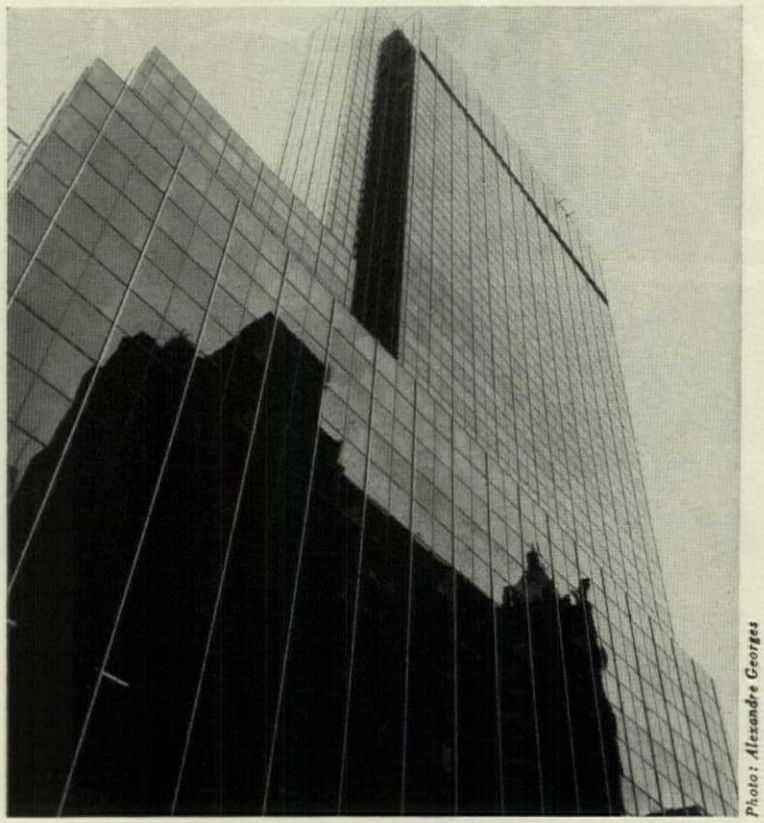


Photo: Alexandre Georges

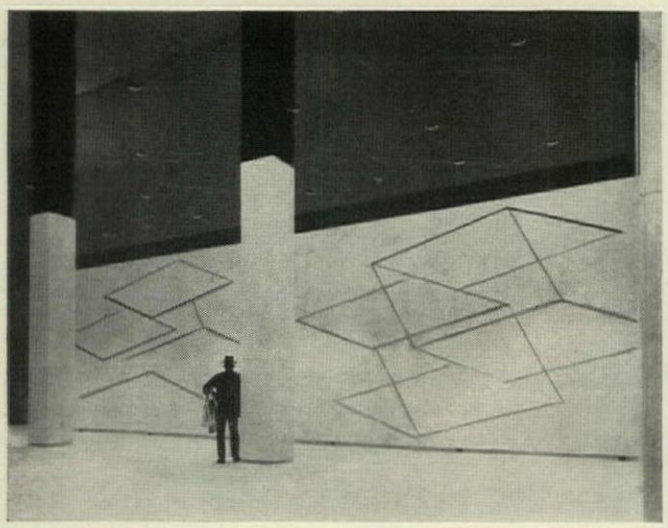
GLASS WORKS MOVES INTO GLASS TOWER

Corning's Headquarters Completed

NEW YORK, N. Y.—The national offices of Corning Glass Works, built as "an enduring monument to the use of glass as an architectural and decorative material," opened here recently. See-through and spandrel areas of Solex glass alternate every six feet up the entire length of the 28-story building to create a shimmering, green-tinted tower. The north-west corner of the building has been recessed to provide a 3000 sq ft park and fountain area on Fifth Avenue. From this plaza, the tower rises its full 28 stories in an unbroken line; at the rear of the building, set-backs occur. The somewhat stark lobby (below left) is highlighted by a geometric, abstract mural by Joseph Albers done in gold leaf on white marble.

Products of the glass company have been used profusely throughout the structure, from a wide variety of lighting panels and acoustical ceilings, to newly-developed glass draperies which reduce glare and maintain thermal comfort, and eliminate the need for venetian blinds. Draperies are shown in executive office (below right).

Harrison & Abramovitz & Abbe were architects, with Structural Engineers Edwards & Hjorth, Mechanical Engineers Jaros, Baum & Bolles, Electrical Engineers Ebner Associates, and Builder George A. Fuller Company. Office interiors by Designs for Business, Inc.



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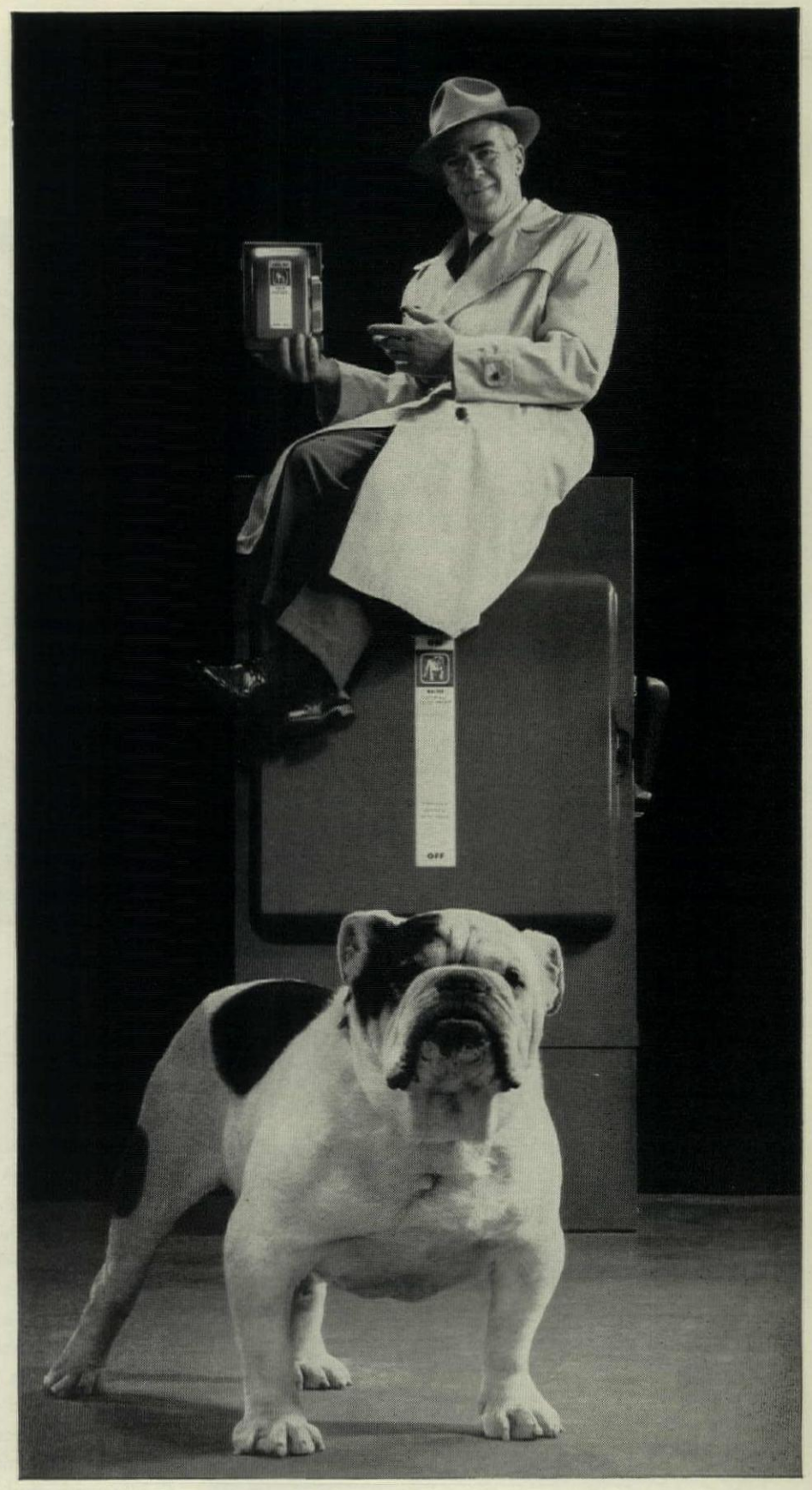
BullDog's "Big Three" safety switches, the "Master", "Junior" and "Raintight", assure positive switching . . . virtually eliminate costly maintenance. Give your customer this extra safety, extra performance now with BullDog Vacu-Break Safety Switches.



For safety's sake buy Vacu-Break

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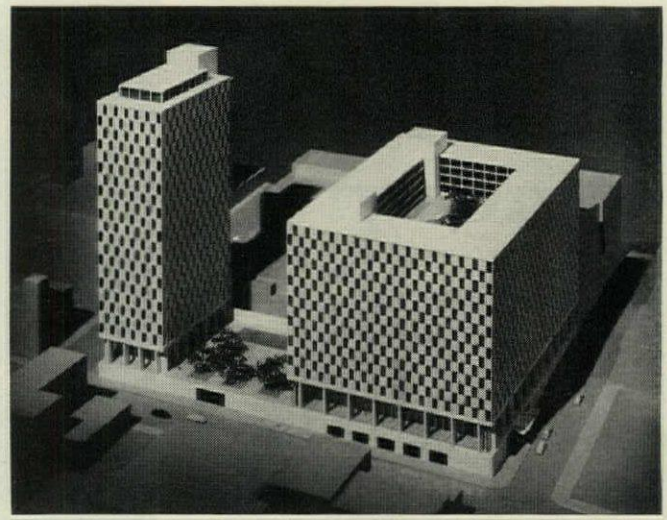
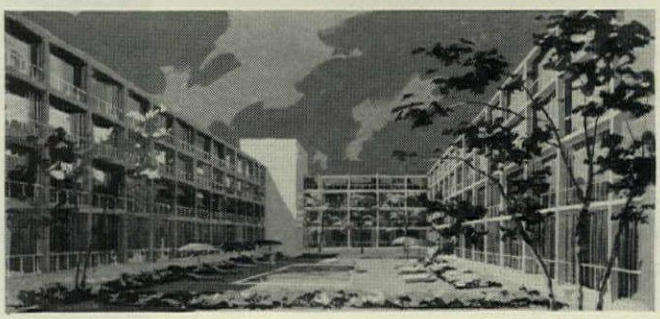
PARK-NEAR-YOUR-ROOM TO BE FEATURE OF SAN FRANCISCO HOTEL

SAN FRANCISCO, CALIF.—Seven of the 15 guest-room floors of the proposed San Francisco Hilton Hotel will have parking areas on the same level as the rooms. Guests arriving by car will use a special automobile lobby entrance, and drive up ramps in the core of the structure, to their floors. Space for about 400 cars will be available on floors four through ten. A three-level basement garage—utilizing attendant parking—will hold an additional 300 cars.

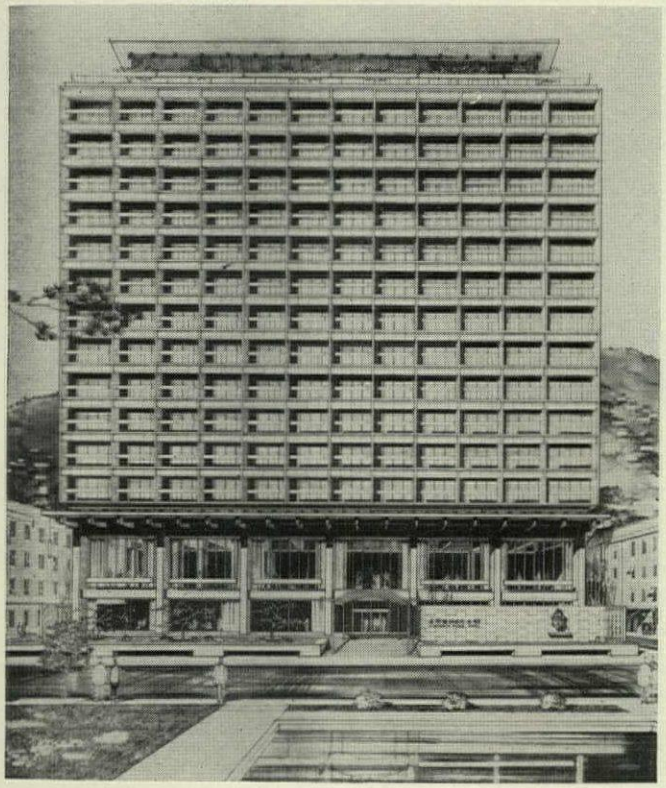
The top four floors of the hotel will surround a landscaped courtyard sporting an outdoor swimming pool. These rooms will be furnished in "resort style" and will have floor-to-ceiling, sliding glass doors on the courtyard. There will be two "Imperial Suites" at this level. All rooms in the hotel will have outside, floor-to-ceiling windows—acrophobes take note. The ballroom will afford 20,000 sq ft of space divisible into nine smaller rooms. There will also be nine separate meeting rooms on the floor above the ballroom. Other public spaces in addition to the main lobby will include a main dining room, a cocktail lounge, a coffee house, and two specialty restaurants. A plaza with planting, pool, and sculpture will be between the hotel and a proposed 22-story office building.

William B. Tabler, New York, is architect of the hotel and office building. David T. Williams, Inc., will decorate the hotel interiors.



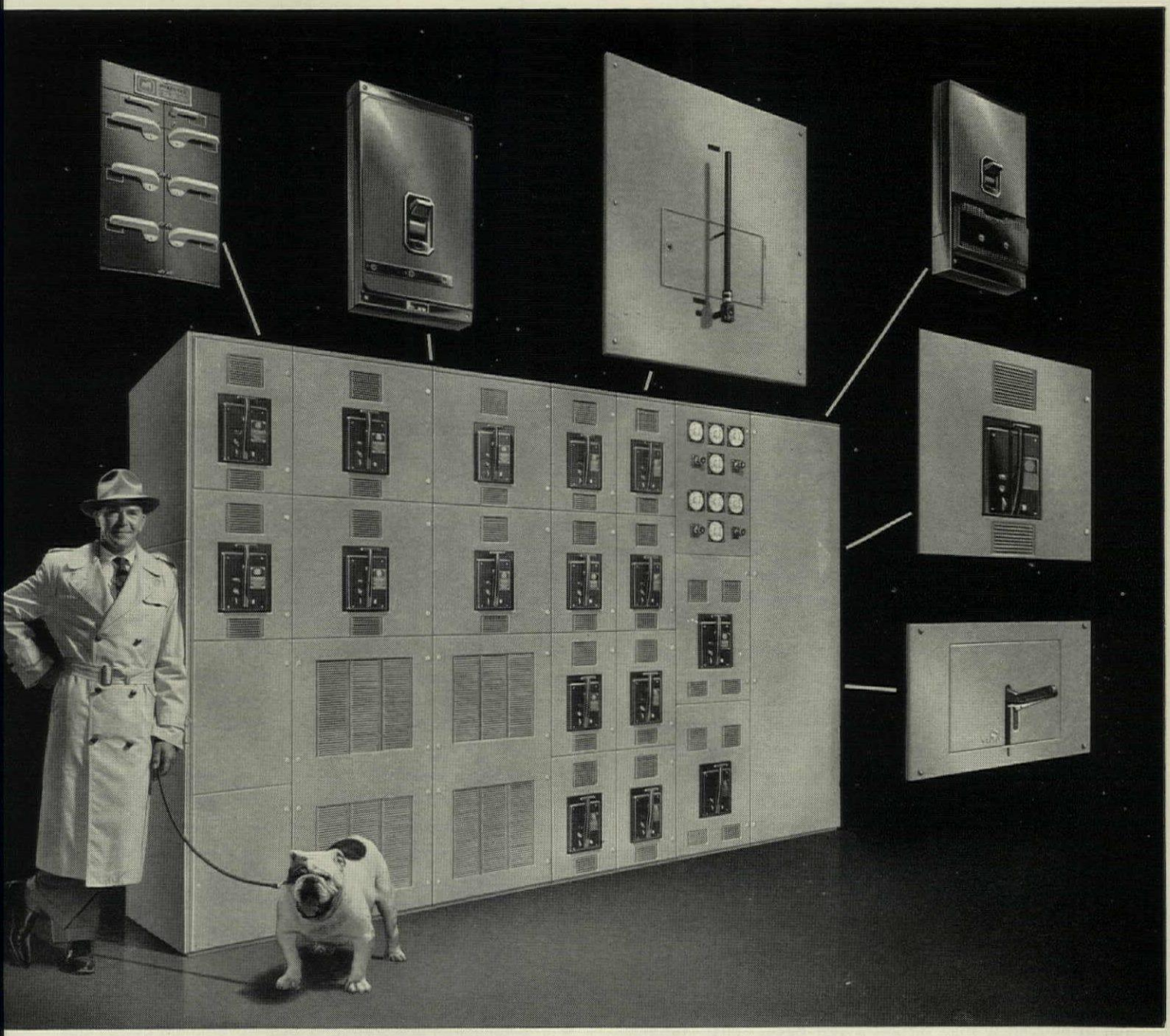


HONG KONG HOSTELRY DESIGNED BY TRANS-PACIFIC ASSOCIATION



HONG KONG—Architects from two members of the British Commonwealth of Nations—Canada and Hong Kong—have collaborated on the design of a hotel here. The Victoria Park Hotel, which is expected to reach completion in April 1960, was designed by Toronto architects and engineers, John B. Parkin Associates, with associated architects and engineers, Wong & Ng, of Hong Kong. Prof. Gordon Brown of Canada was consulting architect.

The Victoria Park Hotel will rise 15 floors to a mechanical penthouse and roof terrace floor, topped with an elevator penthouse floor. Twelve of the floors will be guest-room floors, containing 240 guest rooms. These rooms will be interconnected to provide flexible arrangement of two-room and three-room suites. In addition to the lobby, the ground floor will have a large cocktail lounge and two adjacent private dining rooms. These rooms, which will accommodate 40 persons apiece, will be opened to create additional space for the lounge, or closed to serve as smaller meeting rooms. A dining room and kitchen on the first floor will serve 250 persons. The dining room will be converted for night-club use in the evening. Construction on the lower three floors will be reinforced-concrete portal-frame construction, and reinforced-concrete cellular construction on the tower floors.



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BullDog's new DF-60 lets you put everything from large air circuit breakers to small Vacu-Break® units in one space-saving enclosure. It will handle any of the following light-duty or heavy-duty switch units . . . in any combination:

- New I-T-E K-line back-connected air circuit breakers, 225 to 4000 amperes
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- Fused Pressure Switches, back-connected, up to 4000 amperes
- BullDog DF-30 fused switches back-connected, 30 to 1200 amperes
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In addition there is room for current-transformer equipment and metering systems. But duct systems up to 4000 amperes can be connected directly to the board.

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INFLATION ATTITUDES EXPLORED; CONSTRUCTION TRENDS ANALYZED

by William Hurd Hillyer

When your narrator was a small boy he was taken for a walk by an elderly man who had been an army officer. As we came close to a woods a snake started across our path. The major took a firm stand, raised his cane and delivered what appeared to be a mighty blow. Undaunted the reptile wriggled away. With a knowing smile, the major said: "I could have slain it but perhaps after all it is harmless." A current school of thought concerning inflation recalls the major's pronouncement.

Some authorities do not consider price controls the antidote to inflation; they view them not as the cause but as the reflection. These experts place the blame on persistent Federal budget deficits, "financed in such a manner as to swell the money supply." Says Banking Magazine, "What is the point of spending X-billion yearly on industrial research if an inadequate depreciation allowance plus inflationary cost-increases make it difficut or impossible for industry to use the results." On the other hand Morgan Guaranty Trust of New York looks for "plant and equipment outlays" in this year's second quarter because the recovery movement has not yet developed "any demonstrable distortions or excesses." Concerning the third quarter certain analysts fear that the general business pattern may be somewhat "sluggish" due to a possible decline in residential construction expenditure, as buoyancy in investment will be needed to cover an expected leveling off, accompanied by a possible lessening of Federal expenditure.

A Boston authority sees a brightening in the business picture with "industrial production and demands for goods increasing far more rapidly than had been predicted. This will bring new life to the industrial realty market." The production of housing is still "setting a fast pace." First National City Bank of New York declares that the business upturn and recovery, which has been under way for a year and a half, "is now an accomplished fact."

● Construction contracts for March set a new high for the month, with gain of 23% over 1958's analogous month to a value of $3,339,934, with home building strong and carrying total well above last year's. Dwelling unit contracts rose 44% to $1.5 billions; single family homes led with a 49% rise. Hospitals and housing contracts were up 41% to $3.6 billions. Non-residential contracts fell 6% to $9.1 millions. Manufacturing buildings dropped 2%, which Mr. Magee of F. W. Dodge Corporation feels lends "some stability," as they were 10% ahead of 1958's first quarter. The fate of the $11,600 to $17,800 home appears better for April to the builders. Under FHA "agreements to insure," amounting to some $3.5 billions—building projects proceeded even though the agency was unauthorized to cover them all, it having only between $1.2 and $1.4 billions on hand. During April FHA held firm via repayments and cancellations.

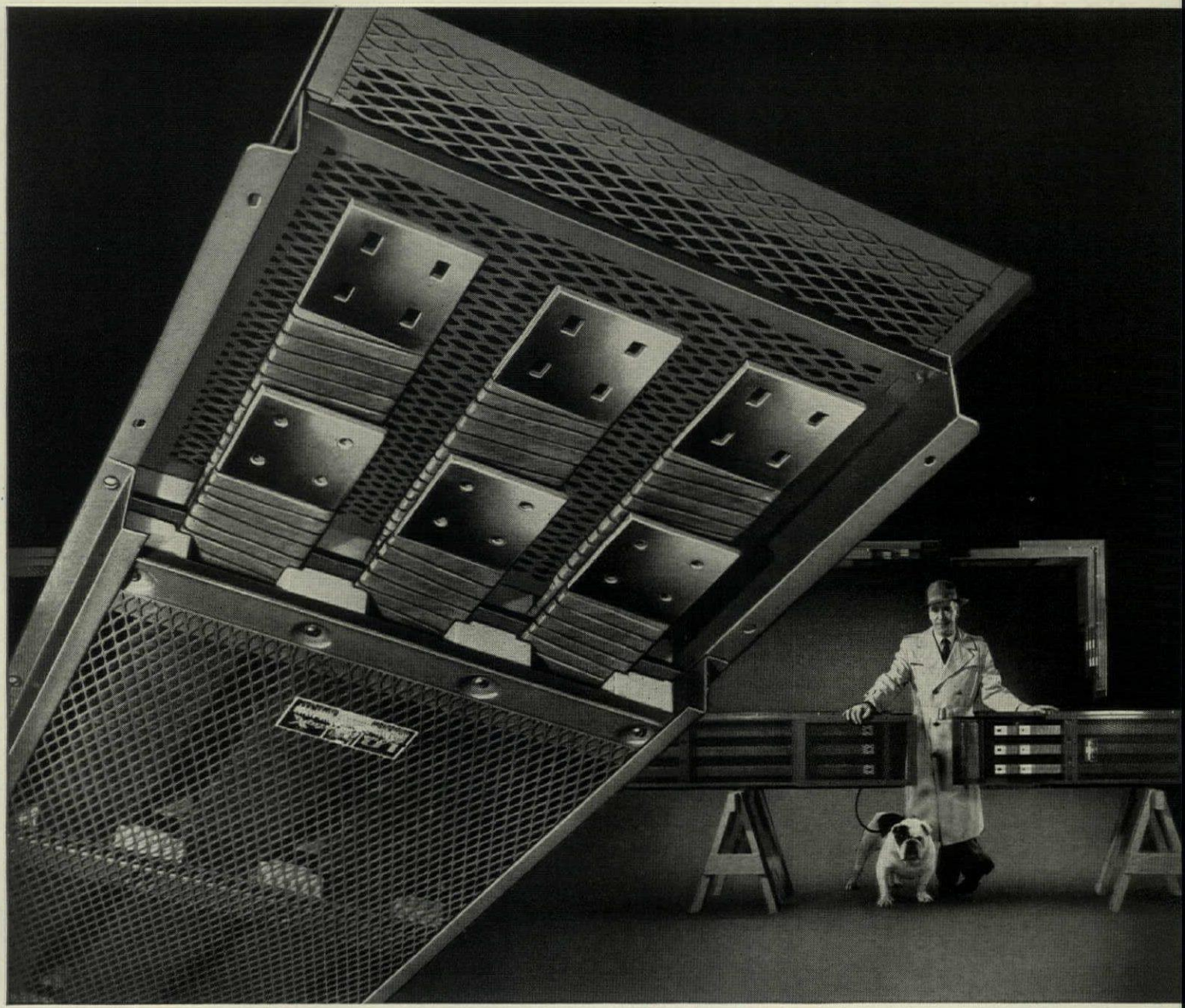
● A New England analyst notes a burst of activity in the long dormant rental-housing field—this despite the interest in home purchasing. Many people still prefer for various reasons to rent houses or apartments and the supply is diminishing. Rents are high enough to attract investment and make such properties acceptable mortgage prospects. However, the National Association of Real Estate Boards calls attention to the fact that a strong demand by borrowers on buildings in select locations has made it difficult to attract investment to property less well situated. To quote the association: "Institutional investors, while reported actively to be seeking higher yields, have traditionally concentrated in maximum quality properties," thereby achieving a higher return.

● The spectacular rise of 111.3% in steel ingot production has eased off, although users are still stocking up. Aluminum buyers have also been stockpiling in case of a strike. Key grade fir lumber is at $78 per thousand board feet, (near 1956's high), is attracting heavy buying. One Oregon wholesaler says, "A lot of construction work needs lumber, but the buyers will go only so far and it looks as if we were nearing the barrier. Too much of this price increase has been forced by speculative buying and not by firm business."

● A research institute points out that under the new tax law, now in effect, small corporations can be taxed as if not incorporated and avoid the 52% corporate tax; partners and sole proprietors can get the corporate tax-deductions without paying the corporate tax. In addition, sole proprietors and partnerships also enjoy the following tax deductions: life insurance, pension plan, medical expenses, salary when sick. This great tax saving should bring many into the architect's ken as home and store builders.

● The volume of new state and local-government borrowings has exceeded the capital market interested in tax-exemption issues. In the words of a bond authority: "There is a sort of cycle in tax exempt bond offerings, at least so far as some large issuers are concerned. The Public Housing Administration's subsidized issues are a case in point, as a further offering" in excess of $100 millions is approaching. The Bond Buyer's index shows the two-bond level at 3.50% with a gain of seven bases points. (Last September's 3.59% was the highest in modern times.)

● A qualified observer in Massachusetts asks if there is a trend back to the city. He answers this by stating that real estate records show more activity in urban properties than has been noted for some time. The call for rentals, running from high-priced apartments to flats in two or three-family houses, is growing apace. This has already brought about a fair amount of new construction along with a growing volume of modernization for older houses. However, there is no sign that the move to the suburbs is lessening. It would seem to show that there are some people who, after trying life out-of-town, discover that they prefer to return to city dwelling. Perhaps it would be well for architects to look around and see if this condition is present in their locality.



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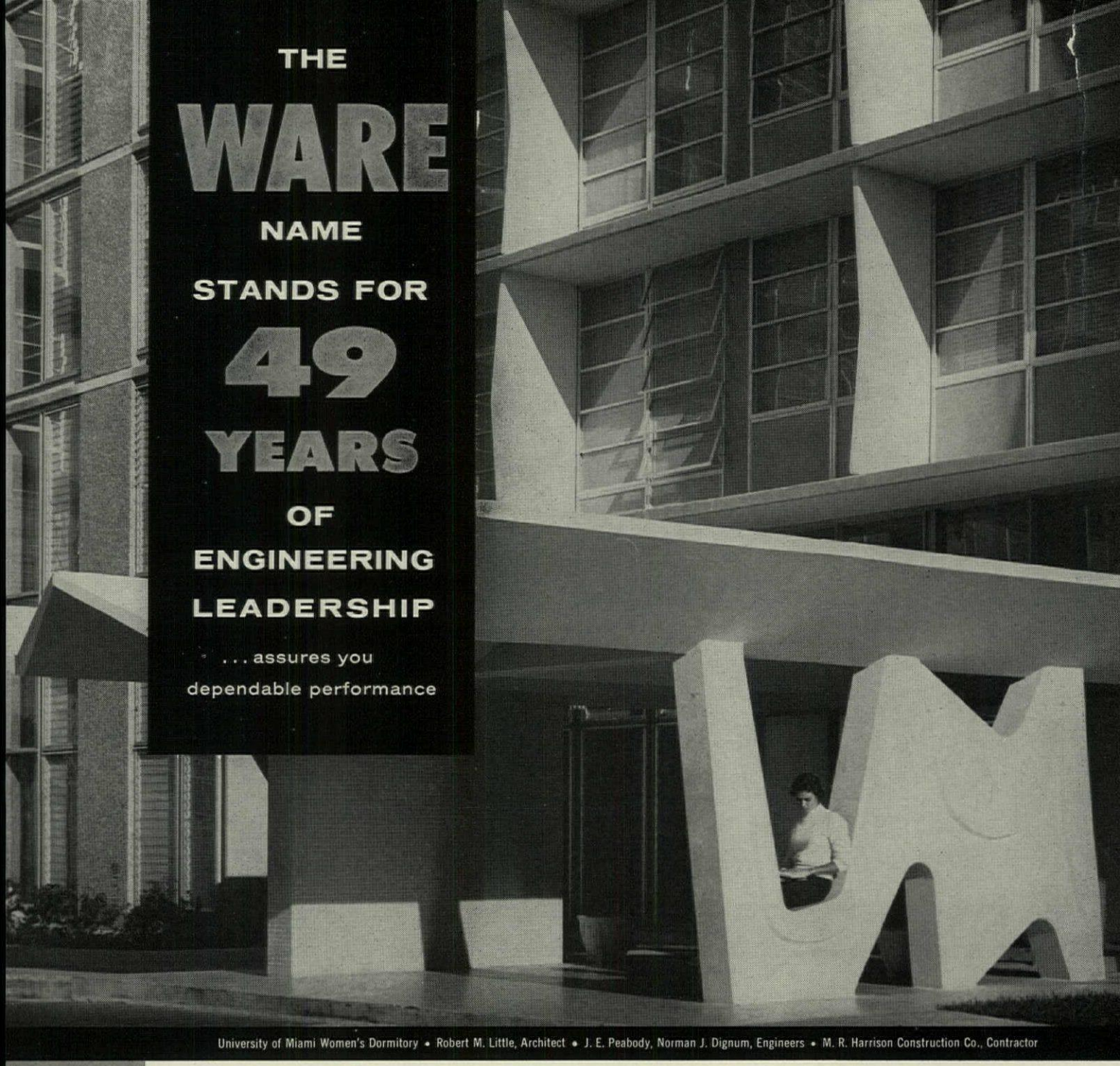
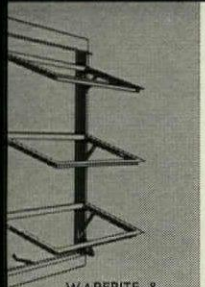
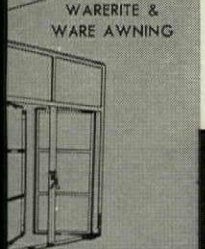


University of Miami Women's Dormitory • Robert M. Little, Architect • J. E. Peabody, Norman J. Dignum, Engineers • M. R. Harrison Construction Co., Contractor



WARERITE & WARE AWNING



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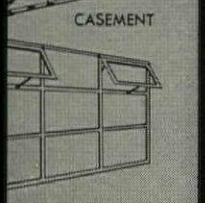

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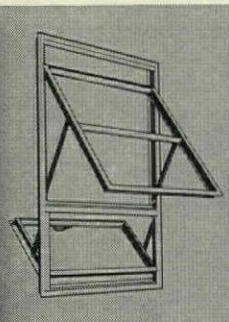

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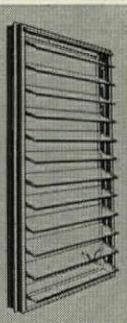
INTEGRAL CURTAIN



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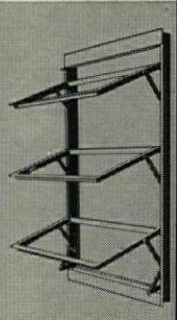

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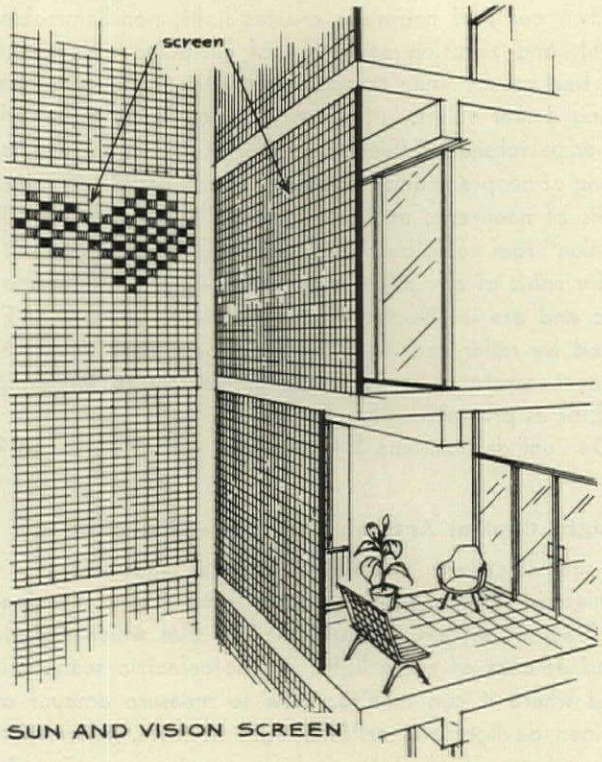
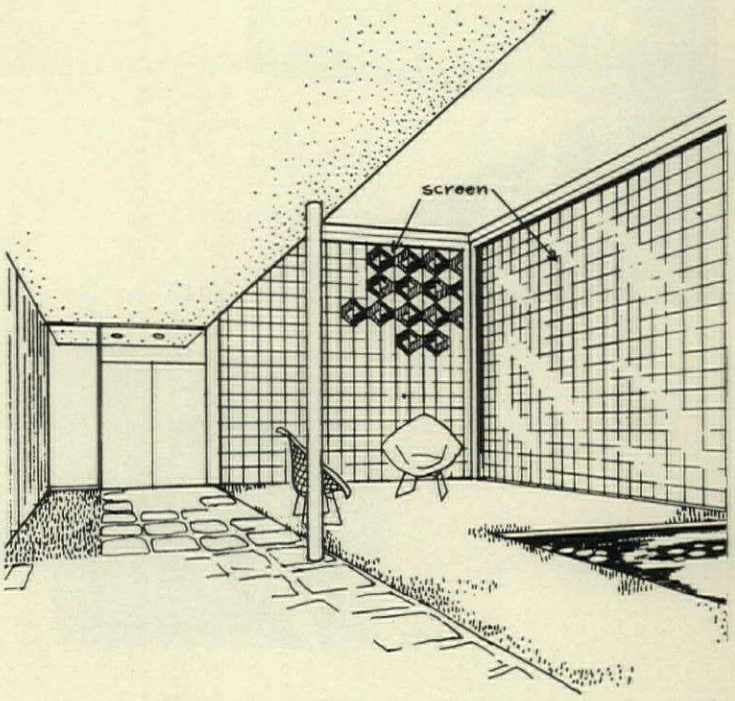


SUN AND VISION SCREEN



SOLAR SHADING

VERSATILE ALUMINUM-SCREEN SYSTEM IS INTRODUCED

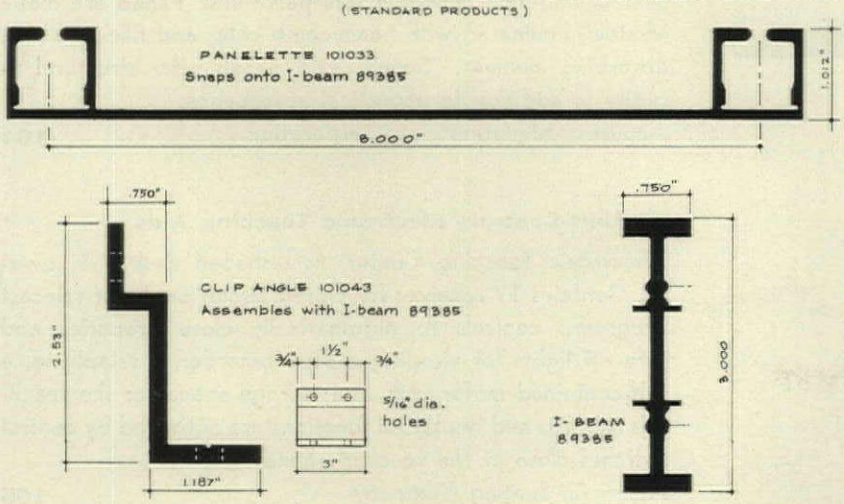
Three-Part Assembly Easily Mounted

An all-aluminum sun-shading and decorative wall system has been introduced, appropriate for both exterior and interior use. "Sol-Dec" can be used to create a screen for all or part of an exterior wall, to "face-lift" outdated buildings, to conceal water towers and elevator penthouses, to provide privacy for terraces, gardens, and swimming pools, and as interior panels in public spaces such as lobbies and reception rooms.

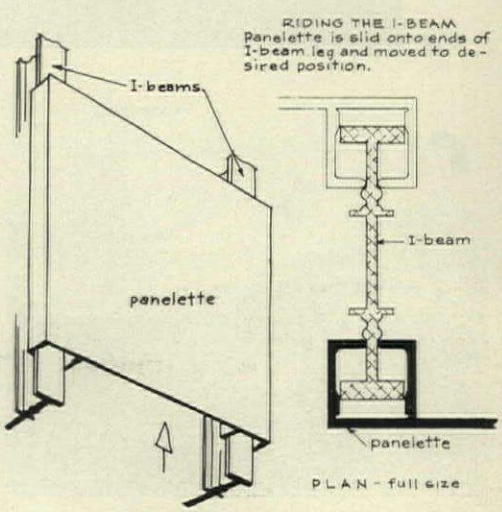
Three simple extrusions form the system—a clip angle, a miniature I-beam, and a "panelette" or miniature aluminum panel. Panelettes are snapped or slid onto the I-beams, which are fastened to the façade of a building on an eight-inch module. The clip angles serve to connect the panelette-I-beam assemblies. Panelettes are locked in place with a pair of pliers. The "Sol-Dec" assembly can be anchored to the structure with aluminum angles, channels, or brackets. Alternate I-beam arrangements, giving various design appearances, are vertical, horizontal, and diagonal. A reduced span is required with the two latter arrangements. A number of variations of screen patterns have been created by designer Gene Myers, using front panelettes, back panelettes, and open spaces between panelettes. The panelettes will be finished in Alcoa's new line of "Alumalure" colors. Price of the system is $2-$4 sq ft, depending on type of panelette ordered.

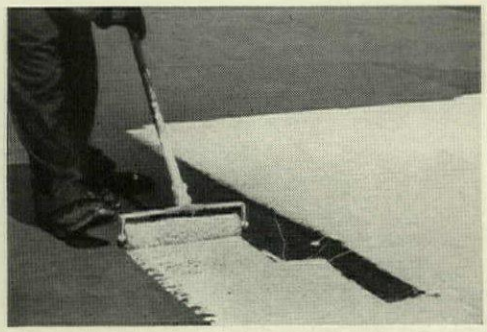
Aluminum Company of America **100**

EXTRUDED COMPONENTS REQUIRED FOR SCREEN SYSTEM
(STANDARD PRODUCTS)



APPLYING PANELETTE TO I-BEAM





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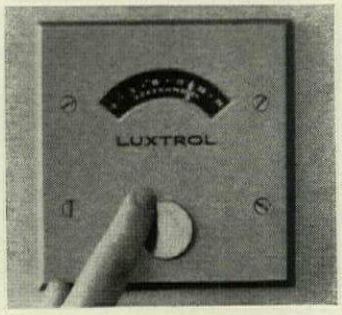

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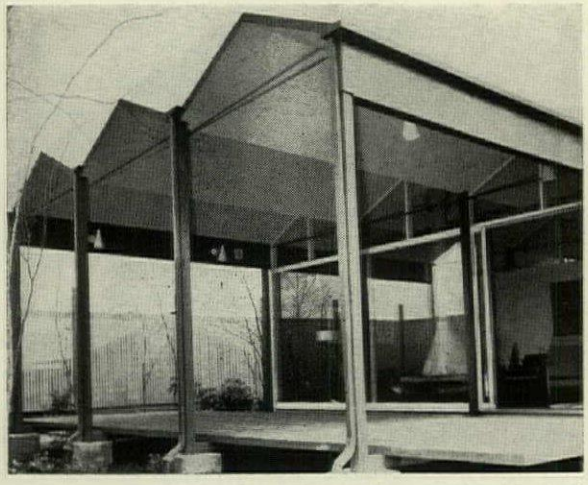

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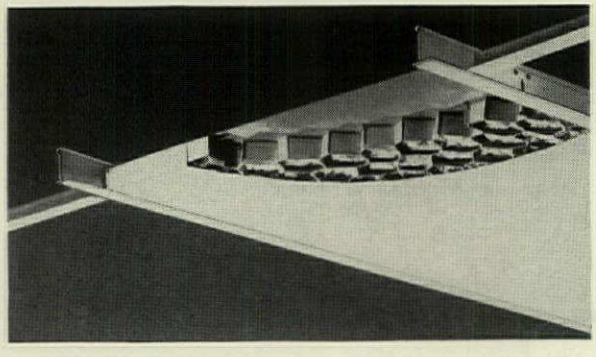


104

105

Synthetic-Rubber Roof Coating Offers Color

Application of "Hypalon" synthetic-rubber roof coating atop two coats of neoprene creates light, non-flammable, resilient, and abrasion-resistant roof surfacing. Neoprene offers best results when compounded with certain materials creating darker colors. "Hypalon" is color stable even with white or pastel shades, hence can offer wide range of colors. Coating of neoprene and "Hypalon" should be 20 mils thick: 15 mils of neoprene, and five mils of "Hypalon." An all-"Hypalon" roof could be thinner. The double coating is suitable for roofs of any pitch, since materials are not thermoplastic and are unaffected by temperatures up to 200 F. Applied by roller coating directly to base roof structure, such as concrete or wood sheeting, directly to insulating board, or as protective film over metal.

E. I. Du Pont de Nemours & Company **101**

Light Control Acts on Thermostat Principle

Light-control system "measures" daylight and balances it with electric light to assure constant level of room illumination. Brain of system is "Lumistat," a dial which presets desired amount of room light. A photoelectric scanner is placed where it can monitor area to measure amount of combined daylight and artificial light in room. Information is relayed to signal station which compares reading to "Lumistat" setting. If readings differ, signals are sent to Luxtrol Automatic Light Controller which adjusts lights to proper level.

Superior Electric Company **102**

Plywood Box Beams Are Easily Erected

Exposed plywood box beams give smart look to low-cost houses, can also be used in schools, churches, small commercial buildings. Beams have been used in spans up to 90 ft, and successful designs have been fabricated in lengths of 120 ft. Units have stronger stress value than standard beams. Beams shown are "CreZon" overlaid plywood. "CreZon," a phenolic resin material, is heat-sealed to plywood to create permanently inseparable surface.

Crown Zellerbach Corporation **103**

Sound Transmission Cut by Lay-In Panels

"Sound-Seal" acoustical lay-in panels were designed to act as barriers against transmission of sound from room to room over ceiling-high, movable wall partitions. Panels are made of steel, laminated with honeycomb cells, and filled with an absorbing element. "Sound-Seal" panels offer structural rigidity in addition to acoustical absorbence.

Acoustics Manufacturing Corporation **104**

Unit Controls Electronic Teaching Aids

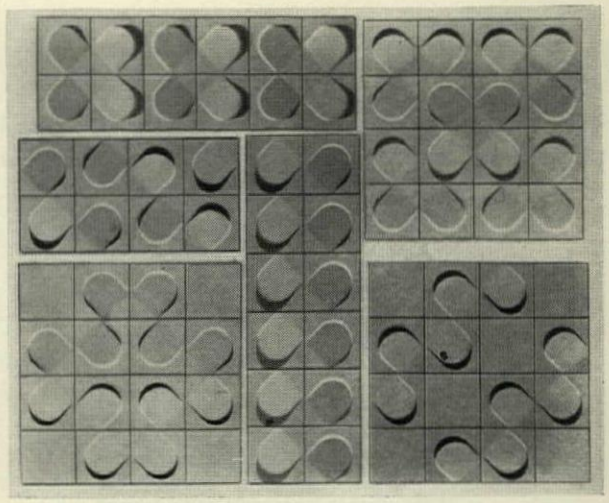
"Electronic Teaching Center" is L-shaped desk 4'x8' overall. Contains TV receiver for closed circuit or direct telecast programs, controls to automatically close draperies and turn off lights for viewing, a tape recorder, a telephone, a self-contained motor unit, and storage space for the teacher's supplies and books. All functions are activated by control switches close at the teacher's hand.

American Seating Company **105**

Versatile Tile Designed by George Nelson

Three-dimensional ceramic tiles allowing the creation of many different bas-relief wall patterns have been introduced. Shown are a number of variations with "Athena" (concave) and "Athena" (convex). Also designed by Nelson is "Laurel Leaf." All three tiles available in wide selection of colors and glazes, on standard 4¼"x4¼" modules, with trim to match.

Pomona Tile Company **106**



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Sound Absorber Is Lightweight, Portable

"Acoustosorber" is a hollow pyramid of vinyl plastic backed with a glass-fiber blanket. Shipped flat to job site, the unit is shaped along pre-embossed lines into a pyramid. Designed primarily for noisy areas where no acoustical material has been provided, unit can easily be moved from one spot to another as need demands. One unit said to be equivalent to 16 sq ft of ordinary ½" acoustical tile.

United States Gypsum Company **107**

Aluminum Window Features Easy Cleaning

Double-hung aluminum window has two sashes which not only slide up and down but also pivot on their horizontal axes to permit cleaning both sides from inside room. Tilting sash also offers variety of indirect ventilation combinations. Balanced sash is removable without tools. Sash slides easily on rigid vinyl tracks.

United States Window Corporation **108**

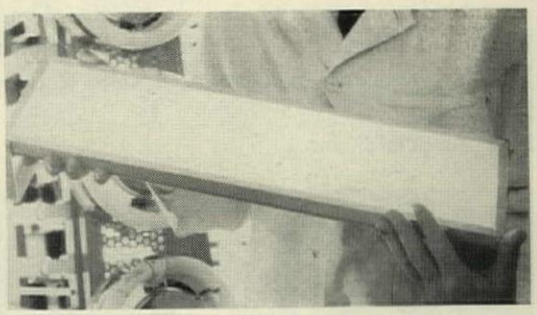
108

Fluorescent Lamps Improved by Developments

Under examination by the manufacturer, scientists, architects, and designers are large, thin, rectangular glass plates not more than an inch thick, which produce fluorescent light. Lamps consist of maze of passages sealed in thin glass block. Arc or electric discharge travels this labyrinth through block to produce large-area source of light. Panels emit light from both sides, can also be backed by reflector on one side. Company recently introduced a fluorescent lamp requiring neither starter nor external ballast, which can be mounted in a single conventional screw base. A bi-metallic starting switch as an integral part of this lamp does away with the necessity of an auxiliary starter, and an incandescent filament within the lamp itself obviates need of external ballast.

Westinghouse Electric Corporation **109**

109



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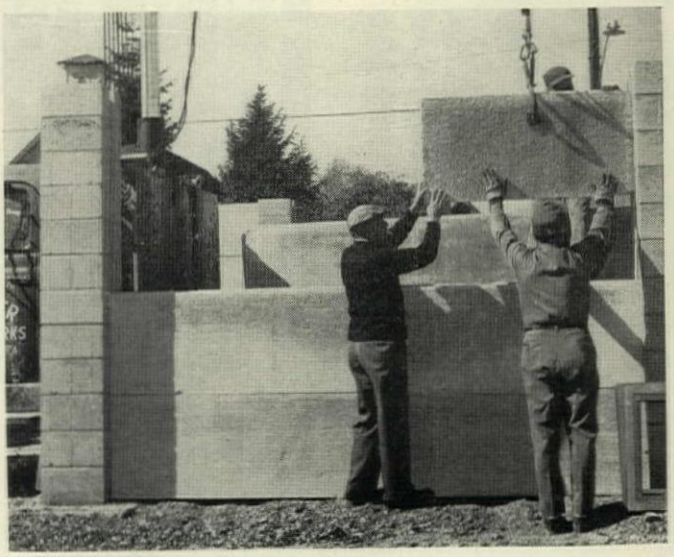


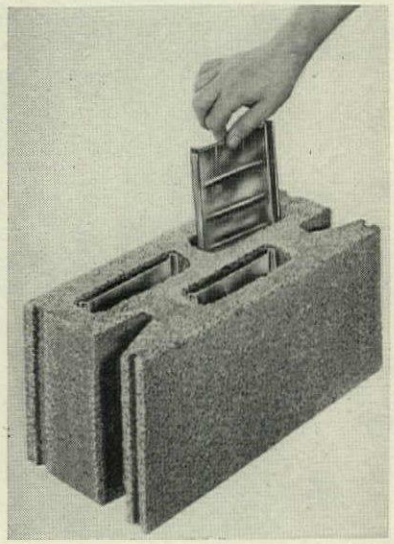
Concrete Panels Offer Design Possibilities

Tongue-and-groove precast-concrete panels measuring 2'x11¼' are fitted into columns of slotted, concrete blocks to create solid, interestingly textured wall. System is said to have fewer joints than standard concrete-block walls, superior strength to such walls, and insulating properties equivalent to those of a 10"-block wall. Specially designed, slotted, concrete block into which slab fits can be used in corner columns, center columns, or in interior partitioning columns. Block weighs 70 lb and measures 15⅝" sq by 7⅝" deep. Slots in side, to receive slabs, are 4" sq. Steel forms designed and fabricated by Blaw-Knox Company, Pittsburgh, are used in casting slabs.

Shaffer Block Works **110**

Concrete Blocks Reduce Costs

"Thermoflector" insulated concrete blocks reportedly cause savings of up to 45% of block wall building and insulating costs. Blocks have staggered air cells and sealed-in aluminum



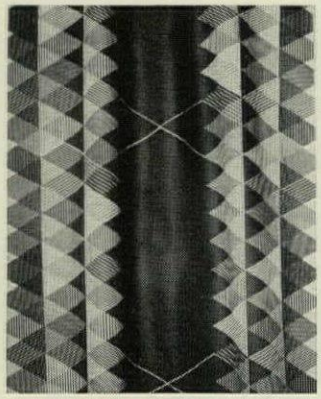
foil insulation. Insulators are sealed in as wall is built; a cap is placed over air cells between each row of blocks. Tests at Armour Research Foundation also reveal blocks possess high soundproofing capabilities.

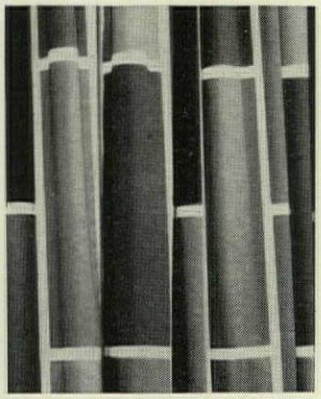
Thermoflector Associates, Inc. **111**

Award-Winning Fabric Introduced

"Criss-Cross" fabric (below left) designed by Ross Littell recently won special award from American Institute of Decorators. It is among new collection of 92 designs and colors assembled and co-ordinated under direction of Suzanne Huguenin. Littell's fabric, one of four he contributed to collection, is available in charcoal on white or tan on white, on Belgian linen.

Knoll Associates, Inc. **112**





Drapery Fabric Features Bold Design

"Giant Rectangles" (above right) is one of four fabric designs done by Alexander Girard. Comes in six color combinations including crimson-orange-pink, blue-green-gray, and brown-black-khaki. Pattern repeat is 72" long and 48" wide. Price: $12 a yard. Collection also includes "Manhattan," smaller-scaled design of tiny squares; "Shower," in a raindroplike pattern; and "Grid," a large-scale, line design.

The Herman Miller Furniture Company **113**

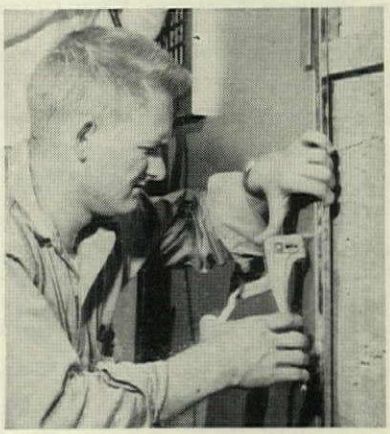
Curved Plastic Skylight Has Formed Ends

Prefab plastic vaulted skylight with formed ends to match curvature of draped Plexiglas center section, features simplified design for easy installation. Incorporates compensating joints for expansion differences between plastic and aluminum retaining frame; waterproof construction without mastic or gasketing; vinyl cushioning of the parts; top connecting frames prepunched to screws that engage threads of connecting frames inside skylight. Available in many widths and lengths.

Rohm & Haas Company **114**

Rivets Offer Versatility of Application

"Pop" rivets are blind fasteners—can be set from one side of structure when there is no access to back. Also used for areas having limited back clearance, and "non-blind" applications. Rivets are inserted by operator and can be set with either manual or powered tools. Retracting jaws of tool pull mandrel into the rivet until mandrel breaks under tension. Since force necessary to break mandrel and set rivets is as



high as 1600 lb, procedure furnishes tight, vibration-proof clinch. Made in five different combinations of mandrel and head types: break stem mandrel, where mandrel head is held in rivet after setting; break head mandrel, where mandrel head falls clear when rivet is set; domed head, giving low head profile and extra clearance; countersunk head, where flush appearance is desired; and new "Imex" Pop rivet, a sealed-end rivet.

Pop Rivet Division
United Shoe Machinery Corporation **115**

Anodized-Aluminum Grating Has Many Uses

Anotek colored-aluminum grating has many uses in exterior and interior installations—as sun deflectors or shades; for decorative purposes in spandrels, column facings, parapets, room-dividers, to mention a few—applicable to various building types. Can be fabricated in anodized clear and sun-fast colors: clear colors are blue, copper pink, green, black, brass, red; sun-fast colors are gold, blue, brass, black.

Klemp Metal Grating Corporation **116**

Sanitized Vinyl Wall Covering Produced

Sanitized Bolta-Wall, manufacturer claims, is protected against bacteria, fungi, mildew, other micro-organisms; is germ, odor, mold-resistant, nontoxic, nonirritating. Available in a wide range of colors and patterns.

The General Tire & Rubber Company **117**

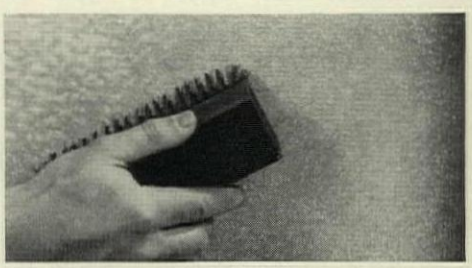
THICK...TOUGH...LIFETIME FINISH FOR WALLS

New GLID-TILE

UPGRADES CONCRETE BLOCK AND OTHER SURFACES TO CERAMIC TILE QUALITY AND BEAUTY...

at a fraction of the cost!

GLID-TILE resists impact! This concrete block broke *before* the GLID-TILE coating cracked.



GLID-TILE resists abrasion! Continuous wire brushing did not scratch or mar GLID-TILE'S tough, durable surface.

New GLID-TILE gives wall surfaces a beautiful, durable tile-like finish at a fraction of the cost of glazed, ceramic or structural tile. This special polyester resin spray finish is almost twenty times as thick as an average coat of paint. It outlasts conventional paint coatings by years!

GLID-TILE may be used over masonry block, concrete, wood, metal, plaster or wallboard. It becomes an integral part of the surface; cures to a continuous, non-porous finish that withstands hard usage, mechanical abuse, impact and abrasion. It resists acids, solvents, alkaline detergents and hot water. Because there are no mortar joints, GLID-TILE is the easiest of all wall coatings to maintain and keep clean . . . a tremendous saving in food processing plants and other operations where sanitation is a must.

GLID-TILE is available in a wide range of colors to meet the most modern color styling requirements—in offices, auditoriums, cafeterias, classrooms, laboratories, washrooms, factory production areas.

Write now for complete details and the name of the firm that applies GLID-TILE coatings in your area.

ATTACH THIS COUPON TO YOUR COMPANY LETTERHEAD AND MAIL TO:

Dept. PA-659, The Glidden Company
900 Union Commerce Building
Cleveland 14, Ohio

Please send me the following information on GLID-TILE:

☐ Free specification folder.

☐ Name of local firm that applies GLID-TILE.

Name_____

Firm_____

Address_____

City_____ State_____

QUALITY Glidden PRODUCTS

PROFESSIONAL FINISHES

The Glidden Company
MAINTENANCE FINISHES DIVISION
900 Union Commerce Building • Cleveland 14, Ohio
In Canada: The Glidden Company, Ltd., Toronto, Ontario

Revised Code of Standard Practice for Buildings and Bridges updates reference first issued in 1924, and establishes limits of good practice applicable to single and multistory steel-framed buildings. Revisions include discussion of tolerances permitted in erection; responsibilities of the steel fabricator, erector, and owner, with respect to method of erection; setting of loose lintels; and adequate storage space during erection. Code is result of studies made by engineers and other AISC staff members for reference by all concerned with use of structural steel in construction.
American Institute of Steel Construction, Inc. (9-p.) **200**

AIR AND TEMPERATURE CONTROL

Diffusers Provide Uniform Air Pattern

Catalog illustrates features of K-series square and rectangular air diffusers. Equipped with Uni-Pattern (uniform air pattern) vanes, diffusers have attractive appearance, are sturdy, will not lose shape—have 20-gage steel frames, 18-gage steel louvres, with inner section louvres mounted on a frame of bar steel. Graphs, drawings, complete engineering, performance, installation data provided.
Carnes Corporation (Catalog 159, AIA 30-J, 56-p.) **201**

Commercial Refrigerators and Freezers

Brochure illustrates and describes complete "P-H" line of quality-constructed, clean-lined commercial refrigerators and freezers—includes wide variety of types and models to meet every need for refrigerated storage of all kinds of perishable food products as handled by restaurants, food stores, bakeries, institutions. Construction details, specifications provided.
Puffer-Hubbard Refrigerator Company (44-p.) **202**

CONSTRUCTION

Guide to Selecting Flooring Products

Manual describes characteristics of flooring products for intelligent selection or specification. Included are approximate cost, wearing qualities, resistance to indentation, and to certain substances to which flooring materials are commonly exposed; also relative underfoot comfort and light reflectivity. Advice concerning correct adhesives, specifications for underfloors, and installation procedure, provided.
The B. F. Goodrich Company (AIA 23-G, 24-p.) **203**

Report on Building Materials and Structures

Selected bibliography on building construction and maintenance reviews building materials, equipment, good construction practices for new construction, modernization, and maintenance of buildings. Contents include instruction for obtaining listed materials, subject listing, State agricultural colleges and experiment stations, issuing agencies, and index. For Report 140 (50-p., 30¢ each) write: U. S. Dept. of Commerce, Washington 6, D. C.

★ New Dimension in Architectural Glass

Bulletin discusses benefits of laminated architectural glass (consisting in its simplest forms of a layer of polyvinyl butyral plastic sandwiched between two sheets of glass, with the three elements bonded permanently under heat and pressure)—explains physical properties, manufacture of the glass; how decorative effects are achieved; how plastic interlayer is tailored to obtain light control, glare reduction, ultraviolet exclusion, and solar-energy control. Installation techniques are shown.
Monsanto Chemical Company
Plastics Division (AIA 26-A-5, 8-p.) **204**

★ Ideas for Uses of Stainless Steel

Presentation contains ideas for uses of stainless steel. Full-color photographs show curtain-wall design and applications on specific buildings. Detail drawings on unusual problems are explained, with many well known architects represented. Section showing compatibility of stainless steel with other materials is included.
Allegheny Ludlum Steel Corporation (50-p.) **205**

Copper Shielding Protects Against Termites

Book illustrates copper termite shield designs and their application to various construction details. Made of 16 oz cold-rolled sheet copper for stiffness, in standard designs dimensioned to conform to standard and stock copper-sheet widths, shields are said to be easy to shape and solder, strong, rustproof, resistant to corrosion, mortar and lime burns. Available in either one or combination of two forms: the Barrier, or Deflector. Metal also has excellent salvage value. Drawings detail applications.
Copper & Brass Research Association (8-p.) **206**

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.

Nine Ways to Better Concrete

Bulletin contains concise analysis of the nine vital factors governing production of high quality concrete. Charts, graphs, and photos based on field and laboratory tests show how use of Pozzolith gives concrete increased flexural, bond and compressible strength, effectively entrained air; increased workability and durability; reduced shrinkage and permeability; initial retardation and resistance to scaling.

The Master Builders Company (AIA 3-B-2, 2-p.) **207**

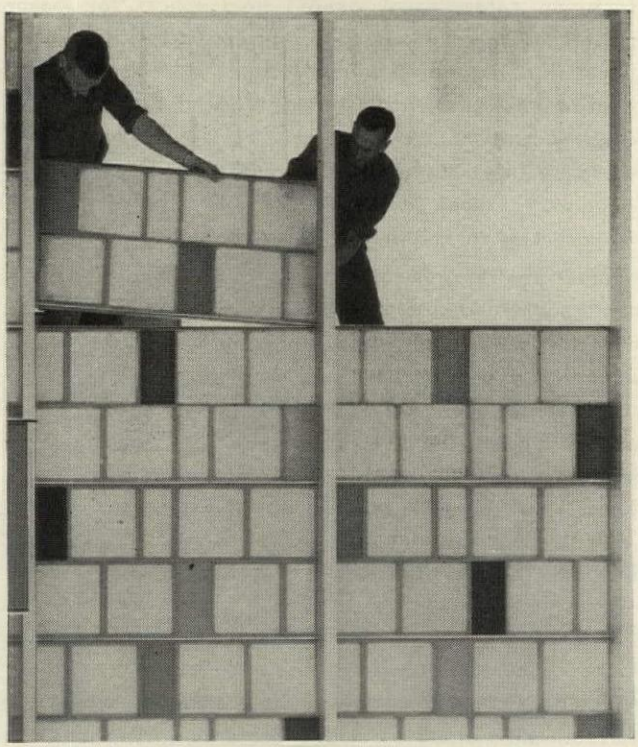
Concrete Masonry Allows Creative Freedom

Brochure illustrates functional and decorative qualities of pierced-wall patterned concrete block. Variety of standard sizes and shapes, textures and physical composition allows broad design flexibility in both interior and exterior applications. As a design tool, block permits integration of varying patterns to achieve decorative highlights without sacrifice of traditional functional qualities. May be used as screens, walls, or partitioning.

Besser Company (AIA 10-C, 8-p.) **208**

★ Colorful Curtain-Wall System Offers Design Ideas

File sheets describe new Thinlite curtain-wall system, designed and engineered as a total wall. Addition of rectangular, prismatic glass shapes and ceramic fired-on colors in horizontal, vertical, square shapes bring fresh



look, advantage of daylight control; provide colorful mosaic patterns. Modular 4'x2' and 5'x2' panels are 2" thick, form both inside and outside finished wall, have extruded aluminum, interlocking perimeters, are secured to struts by simple bolt-assembly system. Basic tints are Ricepaper white, sunlight yellow, cool green. Permanent, ceramic, fired-on exterior colors include Chinese red, golden yellow, indigo, bronze, turquoise green, peacock blue, charcoal grey, ebony. Colors may be intermixed.

Kimble Glass Company
Subsidiary of Owens-Illinois (AIA 17-A, 29-p.) **209**

Structural Insulating Roof Deck

Booklet describes roof deck in open-beam design, providing an even smooth surface for built-up roofs. Lightweight, sturdy, vaporproofed, fire- and fungi-resistant—prefinished

interior side has white, textured surface, makes contrast with natural, stained, or painted beams. Beam size tables show permissible minimum nominal dimensions of acceptable beams. Construction details, pictures of existing installations, included.

Insulite Division
Minnesota and Ontario Paper Company (20-p.) **210**

Veneer and Insulated Porcelain-Enamel Panels

Three separate brochures present information on line of sandwich panels. The first two deal respectively with specifications and product details on porcelain enamel on steel veneer panels, insulated porcelain enamel on steel panels; the third shows 28 colors and patterns available in both veneer and insulated panels.

Alliance Wall Division
Alliance Ware, Inc. (AIA 17-A, 4-p.) **211**

Polymer-Based Adhesives for Concrete Construction

Technical bulletin details results of laboratory and field tests using Thiokol liquid polymer/epoxy resin concrete adhesives. Tests included tensile, flexural and shear strength, in addition to effects of freeze-thaw cycling and water immersion. Methods of application are described for a number of typical uses in building construction and maintenance.

Thiokol Chemical Corporation (8-p.) **212**

Uses of Stone from Antiquity to Present

Brochure reviews uses of stone from primitive time through the Egyptian, Grecian, Roman, Byzantine, Medieval, Renaissance periods, the present time, closing with a large 22"x32" panorama of the City of the Future—depicts every type of quarried stone in natural colors—suggests uses of stone and stone patterns for all types of construction.

Building Stone Institute (16-p.) **213**

Decorative Tile and Brick Applications

Catalog shows entire line of structural-clay products: ceramic-glaze Vitritile in 22 standard colors—ceramic-

(Continued on page 94)

glaze Velour-textured facing brick in 11 colors—Natco face brick in three sizes, range of colors and textures. Among additional new and redesigned products presented is a splayed-base unit designed to prevent surface contact and damage from movable equipment. Perspective and line drawings, full-color photographs of products, and products in use, included.
Natco Corporation (Catalog S-59, AIA 10-A-B, 24-p. **214**

Fir Plywood for Today's Construction

General information booklet "Fir Plywood for Today's Construction" contains data on physical properties of fir plywood; chart of characteristics and proper use of each grade of interior and exterior-type panel; table of basic requirements for plywood construction; gluing and nailing recommendations. Design and use data for various concrete forms is included.
Douglas Fir Plywood Association (AIA 19-F, 12-p.) **215**

All-In-One Window and Panel Wall System

Brochure explains one- or two-story all-in-one window-and-panel wall system that permits co-ordination with almost any building module in range of building types (school, clinic, medical, one- or two-story commercial)—durable, weathertight, expandable (corner panel can be removed to allow additions). Aluminum-faced and backed panels have clean vertical lines, available in three standard exterior finishes—other finishes, and 22 baked-on standard panel facing colors. Furnished with 3 stock window sizes. Detail drawings, suggested specifications, included.
Reynolds Metals Company (AIA 17-A, 8-p.) **216**

★ **Aluminum in School Construction**

Booklet shows many advanced uses of aluminum in classrooms and school construction. Discussed are new design concepts, application of aluminum walls and partitions, sheet metal work, doors and windows, ceilings and lighting, piping, storage units, teaching aids, and educational equipment. An extensive list of present and potential aluminum products is included. Eighty-eight photograhps and drawings.
Kaiser Aluminum & Chemical Sales (60-p.) **217**

Effects of Calcium Chloride on Portland Cement

Booklet presents results of laboratory and field tests conducted with calcium chloride in portland cement, concrete, and mortars. Sections contain tables, graphs, and charts drawn from various reports; bibliography along with abstracts giving details; and brief answers to 24 questions most commonly asked about use of calcium chloride with portland cement. Tests were reported by recognized authorities, including National Bureau of Standards, Highway Research Board, American Road Building Association, Portland Cement Association, Ohio State Univ., and highway departments of various states, counties, and municipalities.
Allied Chemical, Solvay Process Division (38-p.) **218**

Wrought-Iron Building Drainage Systems

Booklet in nine sections reviews advantages of 4-D wrought-iron piping in soil, waste, vent, and downspout applications —furnishes results of building piping surveys, photographic examples of vent corrosion—sections include descriptions of corrosive conditions encountered in drainage services; comparative service records; typical installation and performance tables; piping economy; cost comparisons between low maintenance and low-initial cost materials. Specifying and reference data included.
A. M. Byers Company (AIA 29-B-2, 64-p.) **219**

Building Products and Services

Technical manual is divided into six separate catalog sections detailing engineering data and specifications for each of the following commercial building elements: metal curtain walls, metalclad fire walls, rolling steel doors, electrified M-floors, long span M-decks, steel roof decks, acoustical and troffer forms, acoustical ceilings, structural steel, steel plate components. Diagrammatic drawings and photographs accompany text; section with construction details for drafting room use is included.
The R. C. Mahon Company (100-p.) **220**

Design Versatility of Laminated Wood

Manual demonstrates design versatility of glued-laminated wood members—provides detailed drawings defining a wealth of possible uses in every type of structural form—also photographs of existing buildings including auditoriums and churches employing tepee, crossvault, oval, V type forms, and unusual shapes to fit special ground contour conditions—and a free-spanning rigid-frame construction featuring contraflexual located field splices for maximum clearances, optimum economy. Complete specifications, application data, information on types, fabrication, protection, relative strengths and bending properties, color selection chart, included.
Unit Structures, Inc. (AIA 19B-3, 28-p.) **221**

Adaptable, Handsplit Roof Shakes

Manual illustrates history of red cedar handsplit shakes—contemporary design applications—discusses properties of durability, insulating value, lightness of weight, strength, appearance. Photographs and sketches show proper application techniques, uses for shakes in modern residential, church, school, commercial building. Also shown are manufacturing and grading processes.
Red Cedar Shingle Bureau (AIA 19-D-1, 32-p.) **222**

DOORS AND WINDOWS

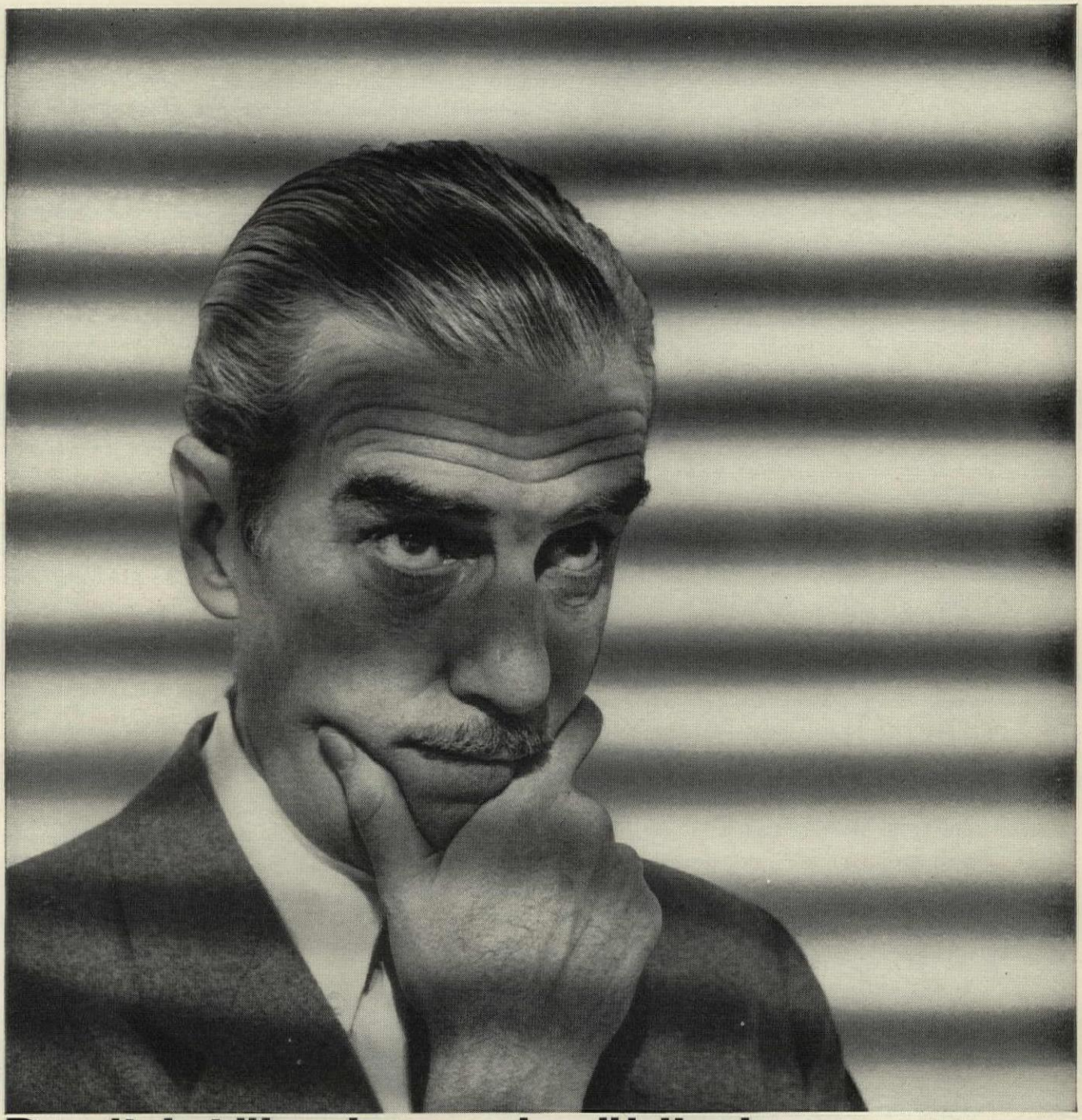
Windows Fill Every Requirement

Catalogs contain complete product information on lines of residential, commercial, institutional aluminum windows and curtain-wall systems—includes feature descriptions, sizes, specifications, cross-section details, mullions, accessories. Catalogs (three of them) also provide installation data, and photographs of existing installations.
Ware Laboratories, Inc (AIA 16-E; 24-,32-,7-p. respectively) **223**

Wood-Constructed Windows Offer Warmth, Utility

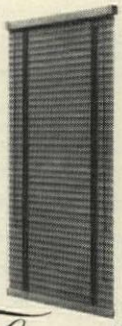
Brochure advances argument in favor of utilizing wood in windowalls, especially in school building—stresses warmth and beauty, insulating properties, other desirable features

(Continued on page 96)



Don't let "hodgepodge" blinds cast a shadow on any job of yours!

Because all venetian blinds are assembled locally, there's always the risk of getting blinds that are assembled from a *hodgepodge* of components. This can cause operating malfunctions, light leaks, and service maintenance problems. That's why it's important to specify "Flexalum Twi-Nighter venetian blinds." This is the blind that assures tighter closure (a must for direct sun exposures), longer life and less care. The Flexalum Twi-Nighter is the only blind where *every component, including raw materials, is made by one manufacturer.* And it is assembled locally *only* by licensed Flexalum Manufacturers under strict Hunter Douglas quality control. Protect yourself *and* your clients.



SPECIAL FLEXALUM TWI-NIGHTERS USED THROUGHOUT THE SEAGRAM BUILDING. To achieve a uniform appearance from the exterior, two custom devices were engineered: 1) a 3-position stop on the lift mechanism; and 2) a control to limit the tilt-angle.

Flexalum TWI-NIGHTER® VENETIAN BLINDS

Hunter Douglas Aluminum Division of Bridgeport Brass Company, 405 Lexington Ave., N.Y. 17.

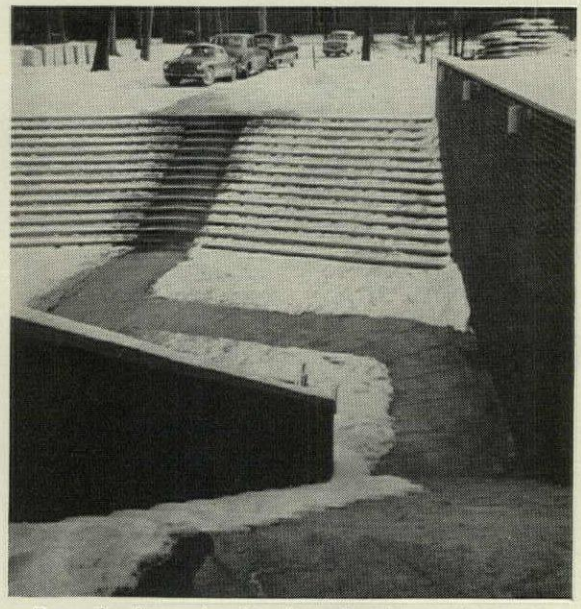
of wood. Windows described come in wide range of types and sizes, provide notable design freedom. Complete construction details, existing installations shown, with specifications.
Andersen Corporation (Catalog 591, AIA 16L, 43-p.) **224**

Weathertight, Maintenance-Free Skylighting
Folder describes Solardome Plexiglas skylights for nonglare daylighting, claiming to have three times insulating value of glass, and to eliminate toplighting hazards such as breakage, leakage, expensive roof construction and maintenance. Designed to a 16" or 24" module, applications are practically limitless. Of lightweight construction, they incorporate special condensation runoff gutter to assure drainage to the outside. Available in standard crowned, paterned, plain types. Can be ordered custom-designed. Detail drawings, sizes, specifications, included.
Klise Manufacturing Company (AIA 26-D-91, 2-p.) **225**

ELECTRICAL EQUIPMENT, LIGHTING

Corrosion-Resistant Electrical Condulets
Booklet treats with "Condulets" for corrosive locations—electrical equipment for use under many different conditions causing corrosion. Corrosion-resistant properties of a variety of metals and finishes used in Condulets are described, with simple charts showing applications of each. Also contained are first formal listings of Plast-A-Coat Condulets for hazardous and nonhazardous locations.
Crouse-Hinds Company (Bulletin 2699, 16-p.) **226**

Snow Melting, Pipe Heating Cables
Publication presents application and installation information on heating cables for de-icing sidewalks, driveways, roofs, other areas, and heating of liquid and semiliquid supply



pipes. Described are lead-jacketed asbestos heating cable, designed to dissipate heat at rate of seven w per ft when used in proper lengths at correct voltages; lead-sheathed Flamenol jacketed cable, of rugged construction, designed specifically for snow melting, rated at 10 w per ft; silicone-rubber cable, rated 10 w per ft in practically any installation.
General Electric Company (9-p.) **227**

Quiet, Efficient Operation of Fluorescent Lamps
Bulletin deals with extensive line of "quiet-rated" fluorescent lamp ballasts—precision built, power regulating instruments supplying exact amounts of electrical energy for efficient operation of all fluorescent lamps. Complete discussion of component parts, purposes, testing, noise levels, etc., is presented, also sound-rating chart for every type of installation, including residential, commercial, and institutional.
Advance Transformer Company (14-p.) **228**

Audio-Visual Hospital Communication System
Technical file presents comprehensive information concerning hospital communications systems. Provided are complete design and engineering specifications on an integrated audio-visual nurse call television/radio/system. System utilizes special "pillow speaker" for sound, and control of nurse call, TV, and radio. Pillow speaker remains at patient's pillow, does not disturb other patients; allows patient complete control over station changes, volume. File also contains information regarding antenna systems for all building types, paging and music systems, and closed-circuit TV and radio systems.
Dahlberg, Inc. (75-p.) **229**

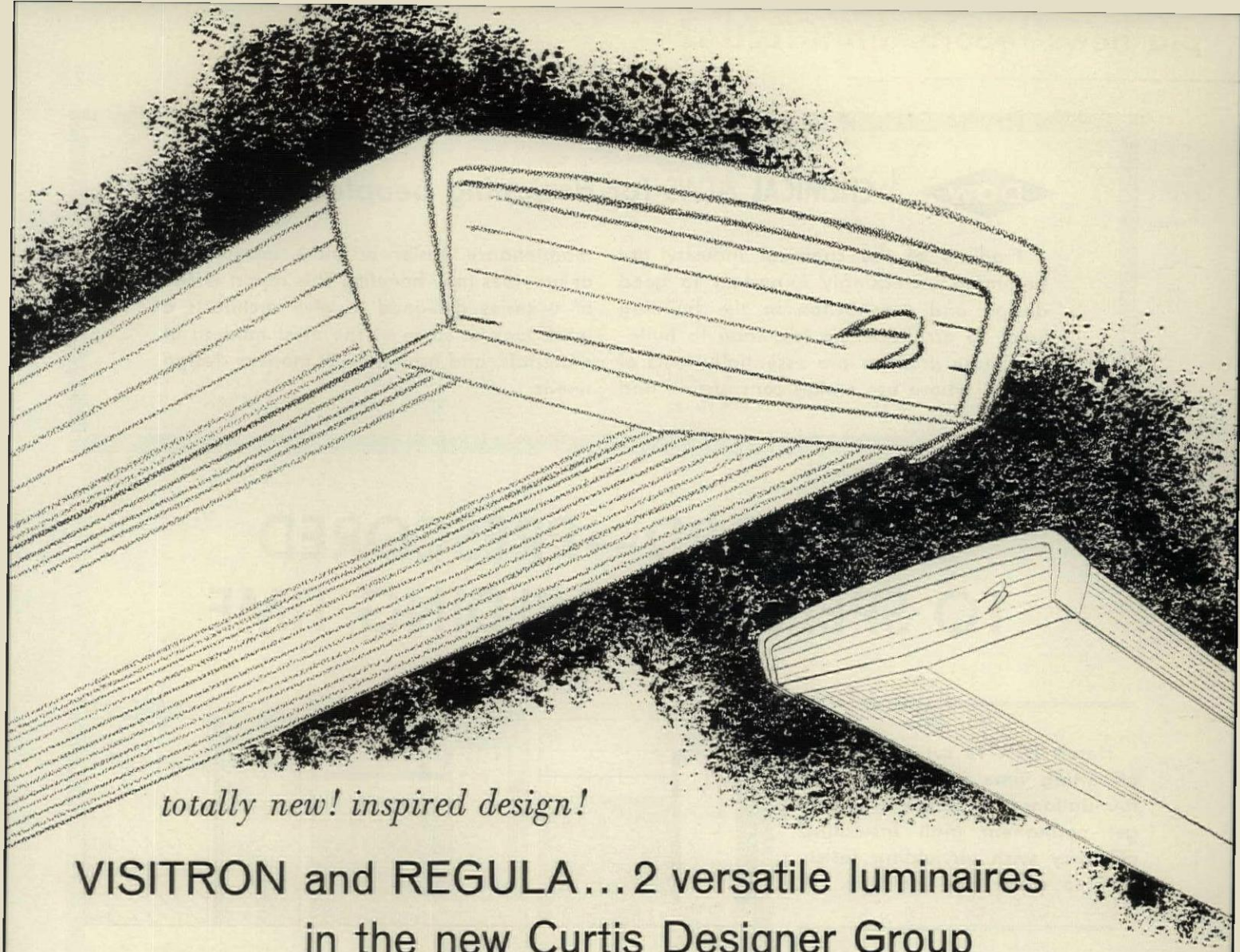
FINISHERS AND PROTECTORS

Protective Services for Buildings
Reference manual presents first published specification data on new 25-year bond for flat and low-incline pitch and felt roofs. Among specifications given are those for built-up roofs, roof insulation, roof-drainage systems, waterproofing, dampproofing. Section containing general information explains company's services to building owners.
Barrett Division
Allied Chemical Corporation (AIA 12-B, 68-p.) **230**

★ **Specifications Guide to Finishing Products**
Hardback manual provides complete specifications guide for proper use of finishing products, indexed for almost instantaneous reference. Additional assistance is offered through company consultation service which includes counseling on any aspect of color planning, painting, varnishing, enameling, unusual or problem surfaces requiring special treatment.
Pratt & Lambert, Inc. (9th edition, AIA 25-C, 260-p.) **231**

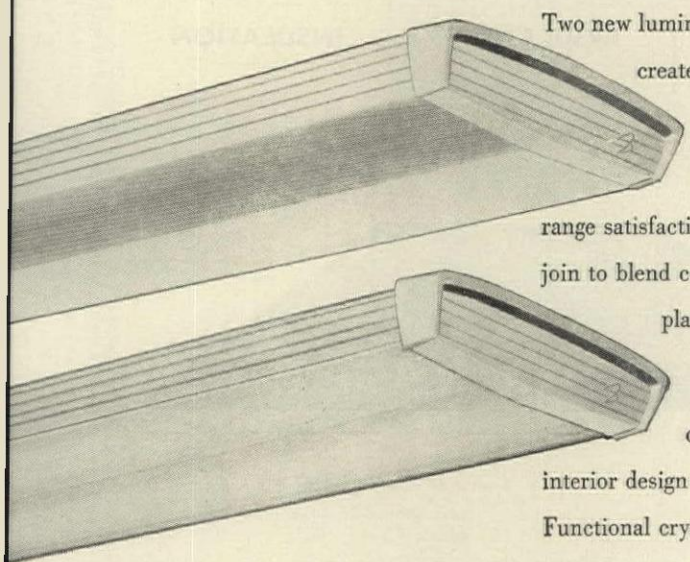
Application of Coatings and Sealers
Catalog describes and illustrates typical applications and general characteristics of adhesives, coatings and sealers for use in weatherstripping, vibration dampening, insulation, etc. Items covered are reclaimed and synthetic rubber base adhesives; oil-resistant elastomeric adhesives with or without synthetic resin bases; high strength structural adhesives which include epoxy resin adhesives, and adhesives made from combinations of synthetic elastomers and resins. Protective industrial coatings based on reclaimed rubber, natural resins, oils or synthetic resins; sealers in liquid forms, semi-liquids and solids, are also covered.
Minnesota Mining and Manufacturing Company (12-p.) **232**

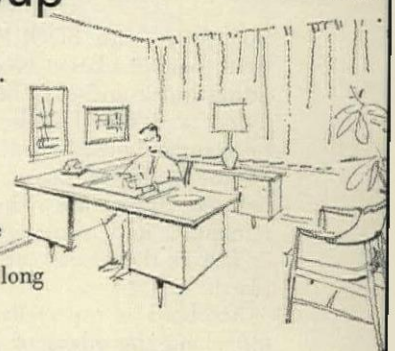
(Continued on page 100)



totally new! inspired design!

VISITRON and REGULA... 2 versatile luminaires in the new Curtis Designer Group





Comes now a truly forward concept in lighting fixture styling. Two new luminaires by Curtis, first in a *Designer Group*, created in the contemporary mood.

THE VISITRON . . . brimming in trim, slim-line beauty with the future "designed in" to offer long range satisfaction. Here imagination and entrancing realism join to blend contemporary design with the traditional in illumination. White plastic diffusers provide a luminescence extremely pleasing to the eye.

THE REGULA . . . ushering in an advanced trend that will be here for years to come. Smooth flowing contours dwell in harmony with today's contemporary interior design . . . blend with the specially chosen furnishings of any decor. Functional crystal plastic prismatic refractors create a sparkling lighting effect.

Curtis-AllBrite Lighting, Inc.,
Curtis Lighting Division, 6135 W. 65th St., Chicago 38, Ill.
AllBrite Lighting Division, 352 Shaw Rd., So. San Francisco, Cal.

Visioneers in Planned Lighting.

CURTIS

DESIGNER GROUP

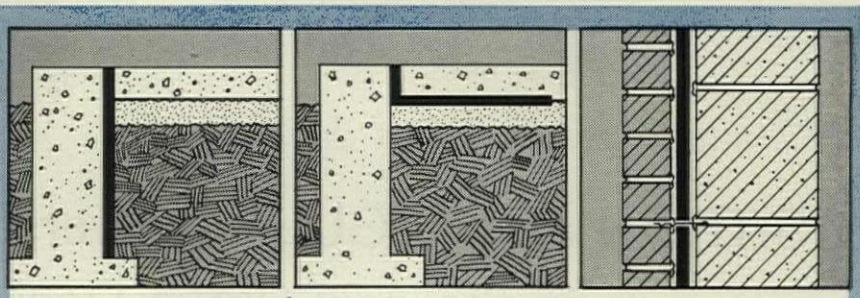
For more information, turn to Reader Service card, circle No. 308

DOW | **CHEMICAL NEWS *for designing people***

Products of the chemical industry are becoming increasingly important to good design and construction in the building field. To architects, no less than to builders, these products are essentially tools of design whose use makes construction and maintenance easier or more economical, or provides new benefits. This report is one of a series designed to give architects a quick look at some of the most modern of materials, and how they fit modern design needs.

SCORBORD®—PRESCORED TO SPEED UP BUILDING TIME

Here's how to cut up to 80% off fitting time when insulating foundations and slabs . . . and get permanent high insulating efficiency with unyielding resistance to water and moisture.



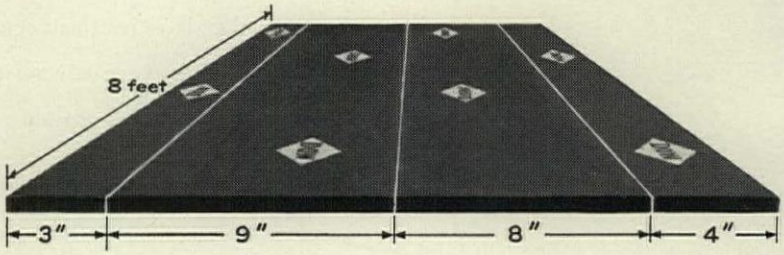
VERTICAL PERIMETER INSULATION | **HORIZONTAL PERIMETER INSULATION** | **CAVITY WALL INSULATION**

You do it with SCORBORD†—Dow's rigid foam insulation board that makes fitting quick and easy because the big 2 foot x 8 foot boards are prescored to commonly-used widths. Just snap off the width of board wanted. Sawing and cutting are reduced to a bare minimum and construction proceeds as fast as the pieces can be fitted into place.

Scorbord is especially designed for use along the edges of concrete slabs and foundations, as well as in cavity walls. It is a polystyrene foam containing millions of tiny non-interconnecting air cells. The cell walls provide permanent high resistance to the passage of water and moisture vapor, and have no food value to attract insects or vermin. This new construction material has unusually high compressive strength (over 2000 lbs. per sq. ft.), and weighs only 3¼ pounds per 8-foot board—less than any other commonly used rigid insulating material.

ARCHITECTS — For more information about Scorbord or for copies of a Sweet's catalog insert, write to THE DOW CHEMICAL COMPANY, Midland, Michigan, Department 1603EB6.

†PATENT APPLIED FOR



Thickness ..... 1 inch
Width ..... 24 inches
Length ..... 8 feet
Density ..... 2.5 lbs./cu. ft. average
Compressive Strength .... 2,000 lbs./sq. ft. minimum

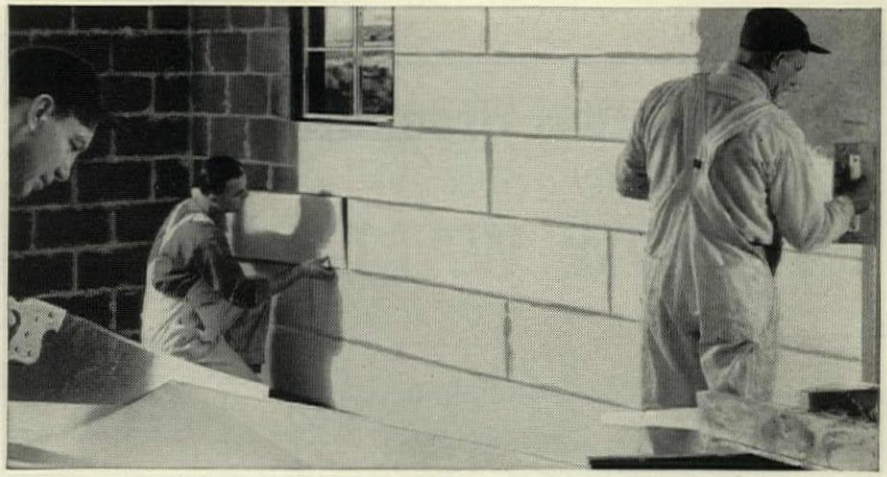
Thermal Conductivity ("K" factor) Less than 0.28 at a mean temp. of 40°F.

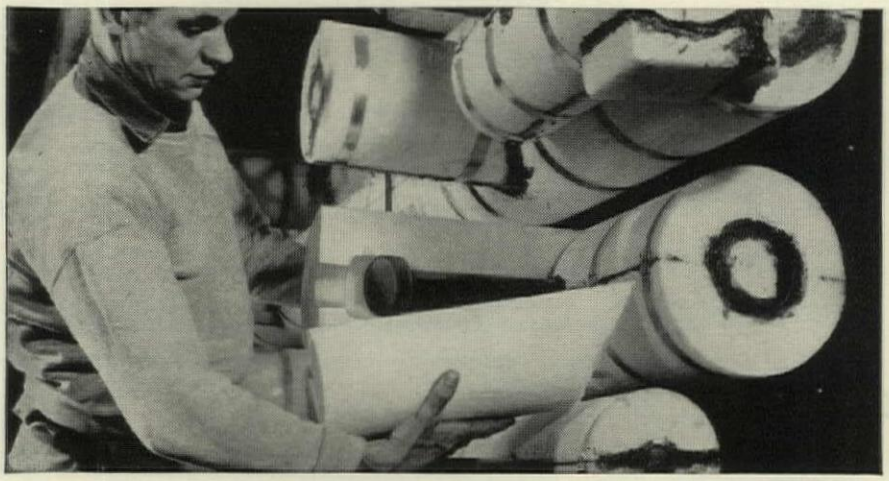
Water Resistance Properties
Capillarity—none
Water absorption—less than 0.1 lbs./sq. ft.
(Water pickup on surface of samples tested under a 10' head of water for 48 hours.)

SCORE MARKS *are positioned to provide boards of 3, 4, 8, 9, 12, 17, 20, 21, or 24 inches in width.*

Insulated masonry . . . lower heating costs with Styrofoam®

Construction costs go down, insulating efficiency goes up, when you specify Styrofoam for insulation-plaster base construction for masonry structures. Lightweight, easily cut Styrofoam is simply bonded to the masonry wall with a layer of portland cement. Plaster is then applied directly over the Styrofoam. Result? . . . a sound, fully-insulated wall with permanent high insulating efficiency that reduces heating and air-conditioning costs.





Better for pipe covering, too!

Pipe covering made of Styrofoam reduces heat transfer and eliminates condensation and dripping because of high permanent insulating efficiency. It's easily installed, stays trim and attractive without maintenance, and resists rot and mildew. On low temperature piping, Styrofoam won't crack or split under extreme cold, or where temperatures change rapidly. There's a complete line of pipe and vessel covering available for every use, made from versatile, high efficiency Styrofoam.

ROOFMATE *better built-up roofs*—Specially designed for built-up roofs, this new roof insulation board has high compressive strength, permanent insulating efficiency, long life. It can be easily installed, easily mop-coated with asphalt or other standard coating materials.

SARALOY 400 *flexible flashing*—This new flexible flashing material is easy to cut and fit, easy to contour to any shape under low heat. It expands and contracts with the surface to which it's bonded, seals permanently and completely. It won't corrode, check, crack or peel. Can be painted with regular exterior paints.

LATEX PAINT *ideal mate for plaster*—Latex paint is used over even fresh plaster because it resists alkali, mildew and mold. Latex paint's first coat serves as both primer and sealer—no separate prime coat needed. Dow supplies latex to the nation's leading paint manufacturers.

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ROOFMATE* • SARALOY* 400 • LATEX
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THE DOW CHEMICAL COMPANY, Midland, Michigan

DOW

For more information, turn to Reader Service card, circle No. 310

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Just Published

PARKING

By Geoffrey Baker and Bruno Funaro

Here are photos and plans of parking lots, ramp garages, parking decks, underground garages and elevator garages. Examples are drawn from large cities and small towns. There are suggested zoning requirements for parking and freight dock space. To simplify the layout of parking space there is a special ten page section of easy-to-use diagrams and tables. These show parking patterns and stall sizes for most advantageous use of a given site under various parking conditions. *200 pages, 8½x 10½, 225 illustrations.* *$9.50*

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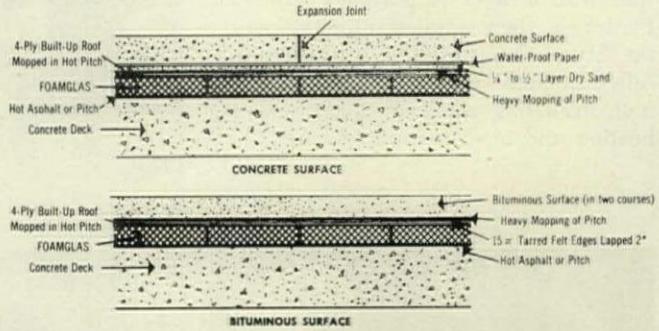
p/a manufacturers' data

INSULATION

Constant Insulation Value

Catalog illustrates uses of Foamglas insulation, a cellular glass insulation for roofs, parking decks (shown), core walls,



perimeters and ceilings. Provided are drawings and specifications for typical applications, plus technical data, including charts for computing required (U) value.
Pittsburgh Corning Corporation (AIA 37B, 20-p.) **233**

SANITATION, PLUMBING, WATER SUPPLY

Packaged Automatic Hot Water Boiler

Publication describes Powermaster hot-water heating boiler especially designed for forced circulation hot-water systems in institutional, commercial and industrial space heating. Internal boiler water circulation arrangement permits boiler to withstand three times its rated capacity in terms of thermal shock—both rate of change of internal temperature and high temperature differentials across the boiler have been considered in the design. Curves, tables, charts, and photographs.
Orr & Sembower, Inc. (Bulletin 1251, 8-p.) **234**

SPECIALIZED EQUIPMENT

Fire Detection and Protection

Brochure explains installation and operation of fire-detection and protection systems: fully automatic Kidde smoke-detection system having wide range of designs for single, multiroom, warehouse, generator, duct, other hazard spots. Automatic Kidde Atmo fire-detecting system utilizing "rate-of-temperature" principle, can be tailored to fit entire range of buildings; detector tubing can be installed without interfering with operations or marring interior decoration. Built-in carbon dioxide system, harmless to materials in process, foods, fabrics, which sounds alarm, extinguishes flames within seconds; may be automatic, manual, or both. Cutaway drawings show conduit installation methods for all systems. Also described is easy-to-install packaged systems in varying sizes, for automatic or manual operation.
Walter Kidde & Company, Inc. (12-p.) **235**

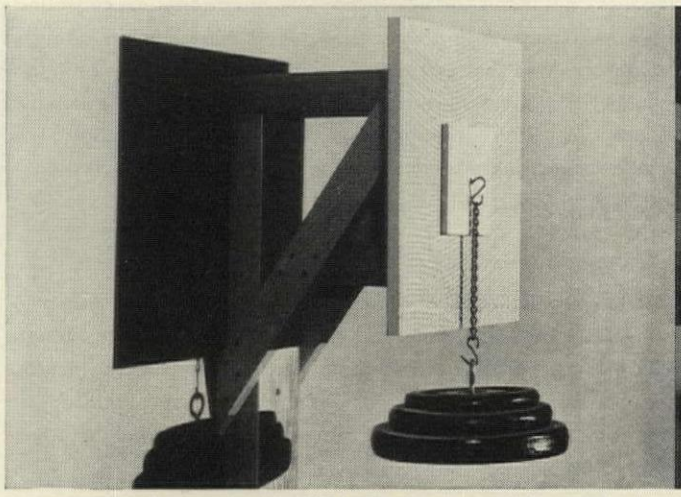
Kitchen Travelog Floor Plans

Booklet presents 20 floor plans to suggest effective utilization of space in arrangement of kitchen furniture and equipment, in a variety of design layouts—decor types used in-

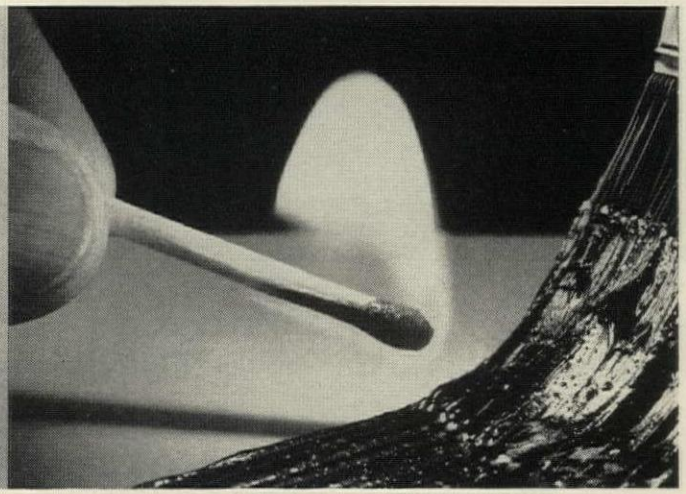
(Continued on page 102)

Look to 3M as your single source!

3M BUILDING ADHESIVES PROVIDE BETTER CONSTRUCTION AT LOWER COST



EXCEPTIONAL STRENGTH. CTA-50 is one of the highest strength water-dispersed ceramic tile adhesives on the market! Dry bonds hold over 1½ tons per tile. It handles easily, trowels like shaving cream. Nontoxic CTA-50 dries quickly to let you grout on the same day.



NONFLAMMABILITY. Solvent-free Adhesive EC-321 won't burn during application, even near an open flame. You can apply insulation anywhere without fear of fire. EC-321 supplies a durable bond that resists high heat, moisture and vibration. Bonds through thin oil films.

QUICK SETTING. 3M Cove Base Adhesive holds base firmly in place immediately after application without shoring. Bond can be completed up to 15 minutes after applying the adhesive. One gallon covers about 300 lineal feet of 4-inch material. Ideal for rubber, vinyl, asphalt.

QUICK GRIP. ROLTITE® brand contact cement bonds decorative laminates to walls at a touch. No nails or clips needed. No nail holes to fill. Simply coat both surfaces, let dry and hand roll laminate into position. Highly water resistant, it prevents warping or peeling.

SEE WHAT 3M ADHESIVES CAN DO FOR YOU! 3M offers a complete line of adhesive products to the construction industry. Contact your 3M Field Engineer. Or, for more information and free literature on any 3M job-proved building adhesives and sealers, write on your company letterhead to A.C.& S. Division, 3M, Dept. YD 69, 900 Bush Ave., St. Paul 6, Minn.

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MINNESOTA MINING AND MANUFACTURING COMPANY

. . . WHERE RESEARCH IS THE KEY TO TOMORROW

3M COMPANY

THE ALL-NEW

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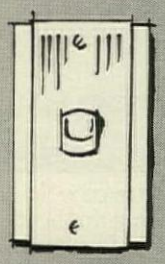
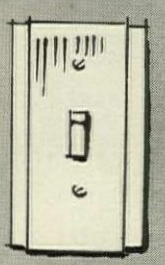
ROCKER-GLO

SWITCH





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No matter how you choose to operate the new *ROCKER-GLO*, the merest brush of a finger produces instant action . . . *and ROCKER-GLO glows in the dark!*

AVAILABLE in Despard interchangeable type. Despard type mounted on strap and narrow rocker for tumbler switch plates. A specification grade switch, 15 and 20 amps. 120/277 volts A.C.

Send for brochure on Rocker-Glo

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MAKE THE COMPLETE JOB COMPLETELY P&S

For more information, turn to Reader Service card, circle No. 312

p/a manufacturers' data

clude city apartment, ranch, Victorian, oriental modern, Dutch colonial, bungalow, among others.
Mutschler Brothers Company (40-p.) **236**

Public Address and Music Sound Systems

Folder aids in primary planning for automatic maintenance-free sound-system installation—for paging, signalling, public address, balanced dissemination of functional background music. Of uniform high recording and reproducing quality, system creates live impression without depending on high volume. Power requirement chart, partial list of available equipment, with specifications, included. Company will provide specific recommendations for all building types.
Muzak Corporation (2-p.) **237**

Cross-Index Key System for Efficiency

Manual explains operation of Telkee Key control system—systematic organization of all keys for quick location, numerical refiling; cross-indexed and controlled. Series include cabinet and tray types of various sizes, for fixed location, or movable equipment. Specifications and dimensions included.
P. O. Moore, Inc. (AIA 35-N-23, 4-p.) **238**

Railing System Permits Design Freedom

Booklet presents Carlstadt railings. Designed around an adjustable pitch handrail bracket of rugged construction, railings have completely simple appearance—are available with variety of styled components for freedom of design (materials are aluminum, bronze, stainless steel, and plastic). Also included is a section on Colorail plastic handrail molding (in four colors), with installation instructions—and sections listing stock sizes of nonferrous bars, shapes, tubing and pipe used to fabricate railings; details of handrail fittings used both in ornamental and in pipe railings. Drawings and complete specifications provided.
Julius Blum & Company (Bulletin 911, AIA 14-D-4, 24-p.) **239**

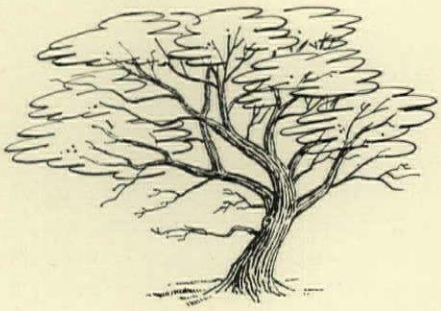
SURFACING MATERIALS

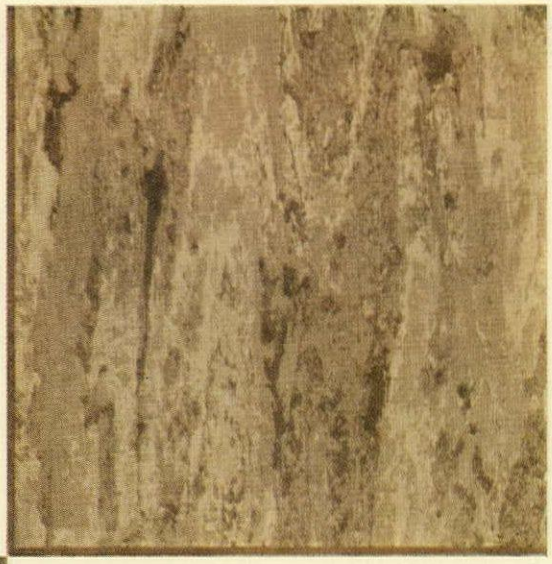
Church Ornamentation in Ceramic Veneer

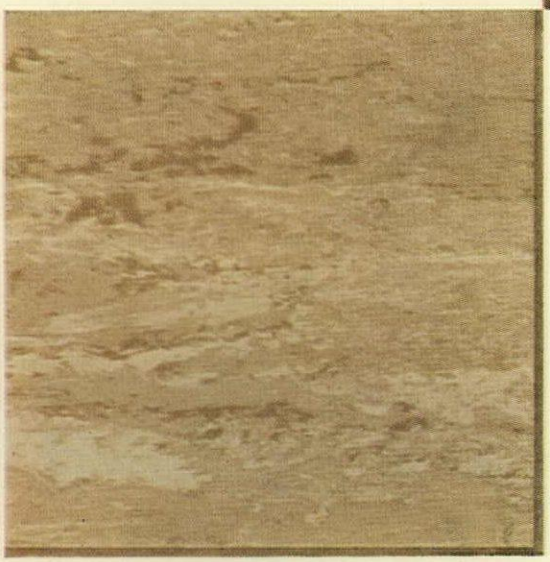
Bulletin illustrates many applications of ceramic veneer for church ornamentation, including colonnades, rose windows, niches, crosses, statuary, intricate trim around doors and windows. Each veneer unit is custom-made to precise specifications assuring faithful reproduction of architect's designs. Besides versatility of form, color, and texture, veneer provides advantages of quality, permanence, minimum maintenance. Original condition is retained by simple soap-and-water washings.
Federal Seaboard Terra Cotta Corporation (4-p.) **240**

Stucco Specifications and Standards

Folder discusses properties, preparation and application of colored stucco wall and ceiling finishes, for entire range of construction. Color integrated into basic mix eliminates need for paint, assures lasting finish, no waste of material, low maintenance—with no oxidization, or fading as time passes.
Stucco Manufacturers Association, Inc. (AIA 21-D, 8-p.) **241**





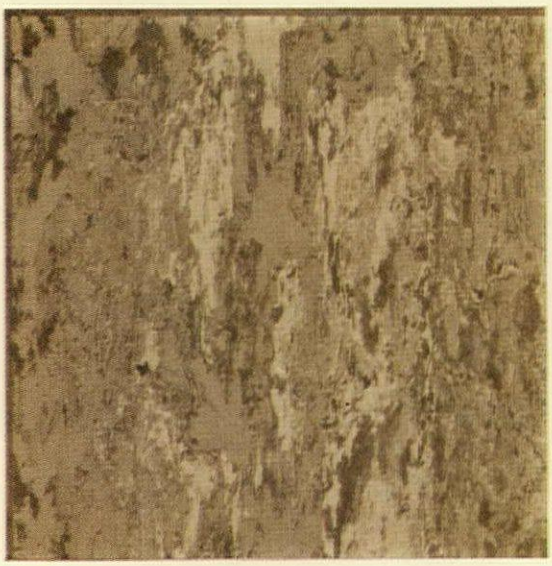


WOODGRAIN® ASPHALT TILE

another exclusive style in

KENTILE® FLOORS

For use where you want the warm look of natural wood, but are prohibited by budget limitations or installation or maintenance problems. For color selection, call your Kentile Representative for samples, or consult Sweet's File.



SPECIFICATIONS—
Size: 9″ x 9″;
Thickness: 1/8″; Colors: Maple and Cherry, each packed in random shades.

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MODERNFOLD DOORS TRANSFORM OPEN SPACE INTO PRIVATE SPACE

one room into two...quickly, quietly, dramatically!

VERSATILE MODERNFOLD DOORS...make *one room* do the work of *two*. Wherever privacy is needed, wherever *more usable* space is needed...consider Modernfold doors. In business and medical offices, in commercial shops and restaurants, in funeral homes, churches and schools, Modernfold doors answer many space needs.

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SIZE AND COLOR RANGE...Specify Modernfold for the greatest selection. In standard sizes, a wide choice of warm, neutral colors to blend, match or contrast with any color theme. In custom sizes, an almost unlimited size range and choice of pure, vivid color or decorator pattern, either modern or traditional.

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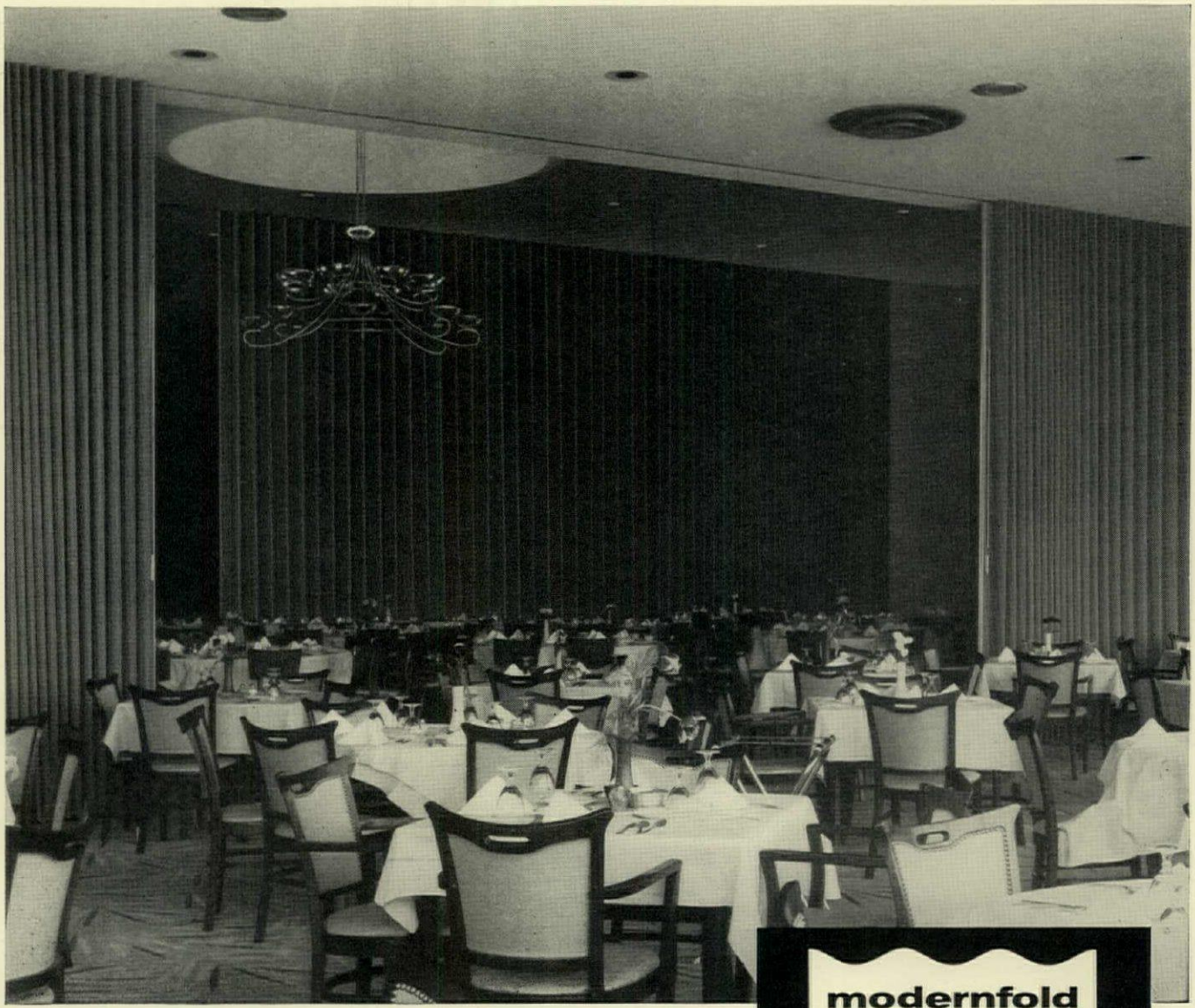

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For more information, turn to Reader Service card, circle No. 314

Looking Forward to July
PROGRESSIVE ARCHITECTURE

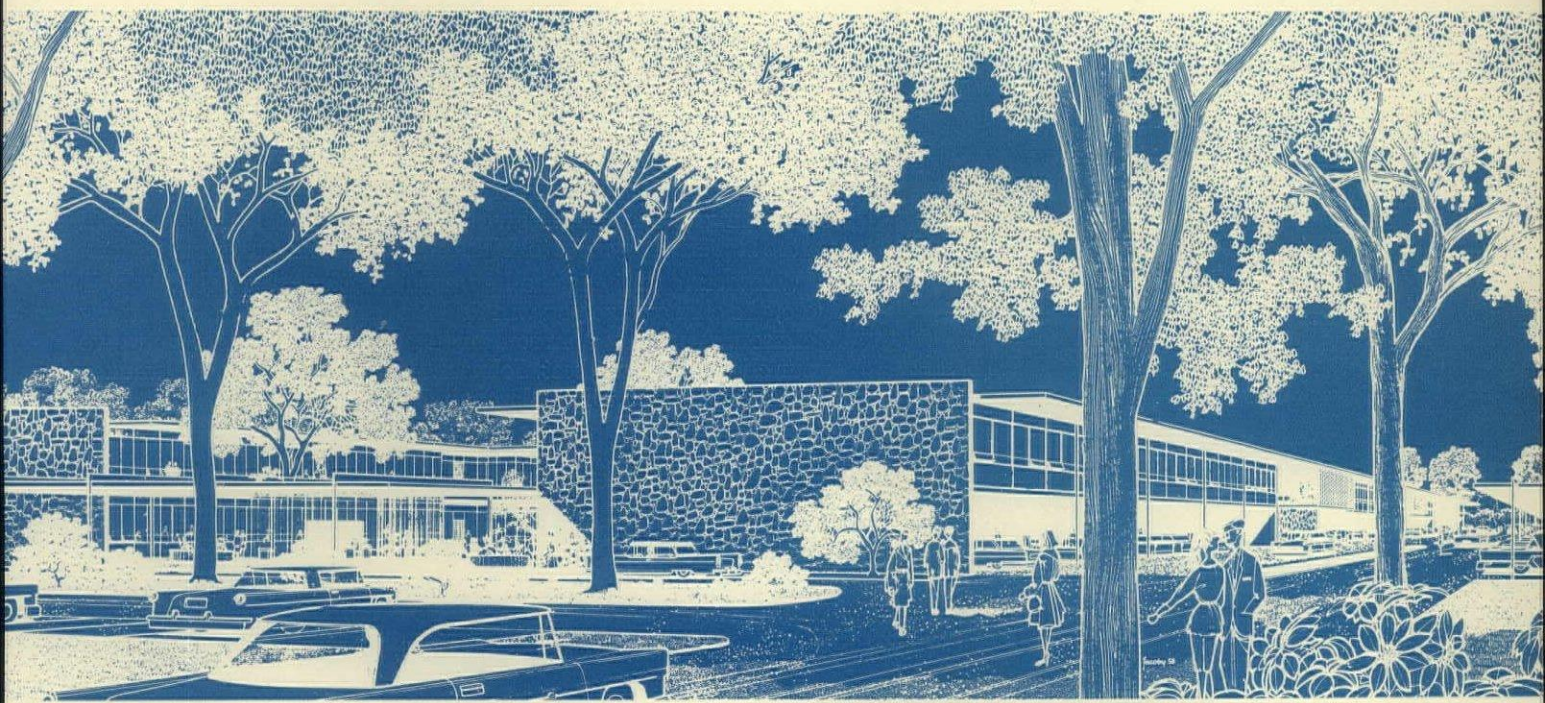
Ralph Steiner

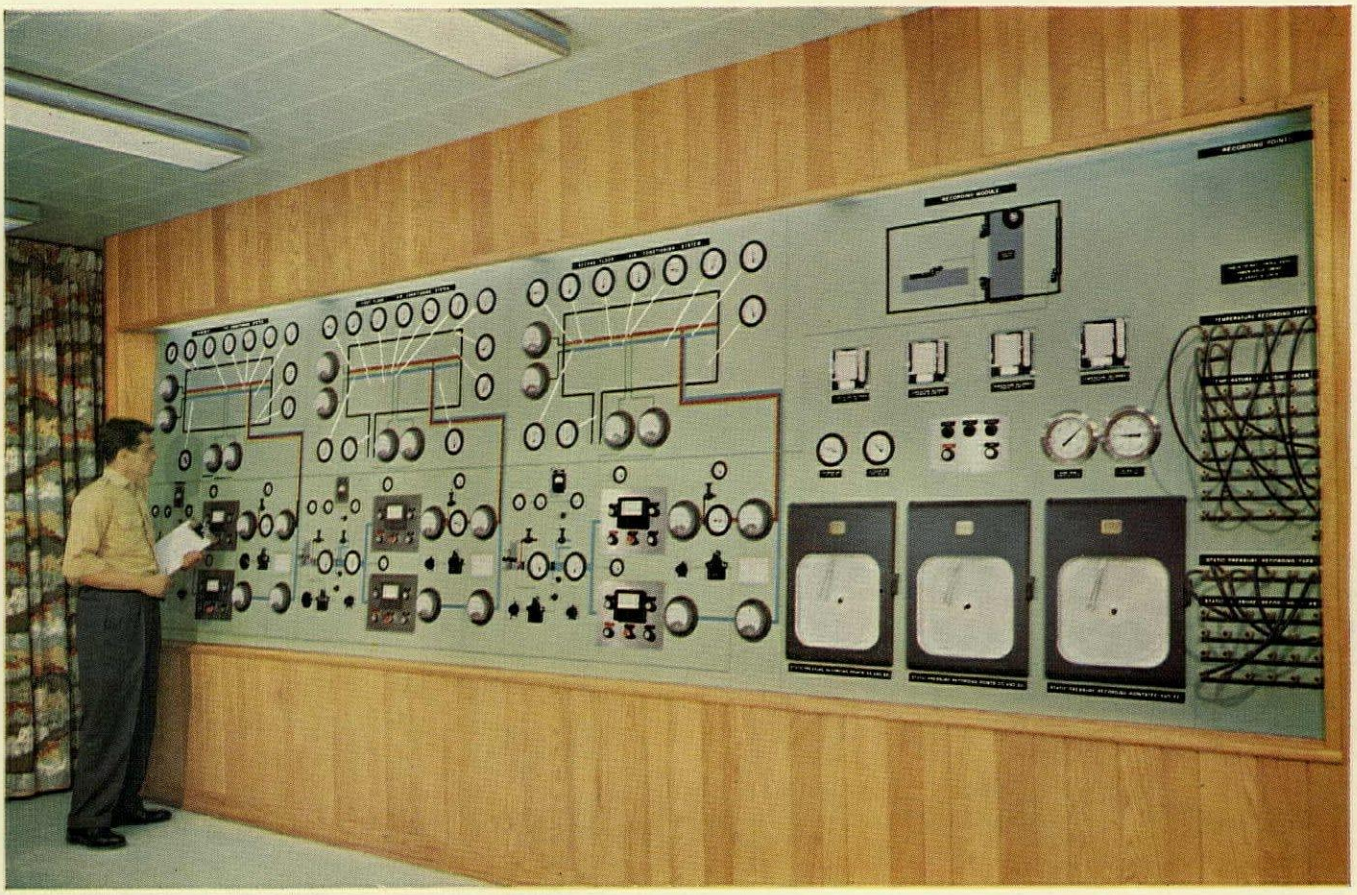
THE EMERGING URBAN PATTERN

"Instead of developing a comprehensive [urban redevelopment] program, are we in danger of creating a patchwork, a conglomeration of temporary and short-sighted solutions to pieces of a problem which cannot be handled piecemeal? . . . What do we want our downtown centers to become? What, in the long run, are the proper uses of the land in the 'gray belt'? What kind of transportation system will best meet our needs? How do we want to use the remaining open spaces around our cities—for parks, for wild life reservations, for industries, or for the next wave of developments?"

These vital questions asked by Adlai E. Stevenson at the recent national conference of ACTION pinpoint problems in the development of our cities which should concern all practitioners. In July, the vast subject of our "emerging urban pattern" will be thoroughly examined in an issue of P/A completely devoted to all aspects of the growth and redevelopment of our cities.

Assisting P/A's Editors in developing this theme will be Architect and City Planner Victor Gruen (*right*), a man noted for his daring and original proposals for such cities as Fort Worth, Boston, Rochester, and Fresno. July P/A will be not only an issue which presents illustrative and documentary evidence of where we are and where we are going in urban planning, but also one which develops a positive *theme* for what is needed in influencing the future shape of our urban areas. No architect or engineer who feels a sense of responsibility about these important matters will want to miss this issue.





Pneumatic Control Center Serves Dual Purpose in New H. H. Robertson Co. Building

H. H. Robertson Co., Ambridge, Pa. Oscar F. Wiggins, architect, New York; Wm. A. Rose Associates, mechanical engineers, New York; Martin W. Wise, general contractor, Sewickley, Pa.; McCarl's Plumbing & Heating Co., Beaver Falls, Pa.

Top feature of H. H. Robertson Co.'s new office building is Robertson's own new dual duct air conditioning system, for which it developed the Aerator Mixing Unit and Q-Air Floors that carry hot and cold air to the units.

Shown above is the Johnson Pneumatic Control Center from which the system is supervised and controlled. Operational features of this specially designed panel include *continuous* indication and remote adjustment of fan speeds, temperatures and pressures; graphic representations of the system and its controls; optional recording of key temperatures and pressures; and start-stop switches for all equipment.

Although a comprehensive control panel such as this is not required for the normal operation of a Robertson Q-Air Floor System, it was installed in this case to obtain essential performance data for the guidance of Robertson research engineers. And, as nothing else could, it gives a clear, dramatic demonstration of the Robertson system to engineers, architects and other visitors.

Wherever quality is the key consideration, as it obviously is here, the chances are you will find a pneumatic control system by Johnson. A nearby Johnson engineer is ready to help you give your clients the very best. Johnson Service Company, Milwaukee 1, Wisconsin. 105 Direct Branch Offices.

JOHNSON CONTROL

PNEUMATIC SYSTEMS

DESIGN • MANUFACTURE • INSTALLATION • SINCE 1885

TEMPERATURE CONTROL SYSTEMS FOR SCHOOLS, OFFICES, FACTORIES, STORES, HOSPITALS, HOTELS, PUBLIC BUILDINGS

For more information, turn to Reader Service card, circle No. 315

LOF GLASS

Concave to fit Monument Circle, the Fidelity Building stands 12 stories sheathed in glass.

Today, in Indianapolis the Architect is king

The sound of wreckers razing the old . . . the sight of builders raising the new . . . this is the exciting carnival of construction in Indianapolis today.

Almost $100 million in new buildings built or on the boards. Millions more wait only for the day when the Metropolitan Planning Department can complete its dramatic new concept of the Central Business District.

What's behind this sudden boom in building? Calvin S. Hamilton, Director of the Planning Department, explains it this way:

"Old family business management has moved over and professional management has moved in. Indianapolis has stopped ignoring new industry. Industry has stopped ignoring Indianapolis.

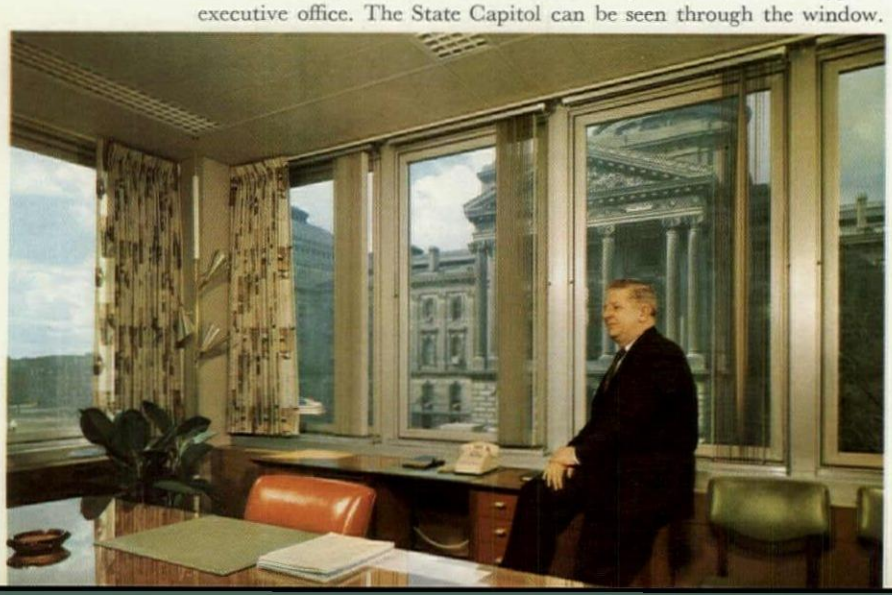
"Today, in Indianapolis the architect is king."

Viewed from the steps of the State Capitol, one sees the first multi-story curtain wall structure in Indianapolis—the ISTA Building, completed a year ago.

As you drive up Meridian to Monument Circle, you see the latest and most exciting achievement of the new ruler's reign. Concave to fit the circle, the glass-sheathed Fidelity Building rises 12 stories. It's still under construction but already strikingly beautiful. Designed by Skidmore, Owings and Merrill, developed by Klein & Kuhn, one of Indianapolis' most important realtors, this new office building utilizes the latest and greatest building materials and facilities created for comfort and efficiency.

The inside will be flooded with natural light, made soft and glareless by L·O·F *Parallel-O-Grey*® glass in the window walls. The outside is clean and sparkling with spandrels of smooth-grey L·O·F *Vitrolux*®. And it will stay that way as long as the building stands—the whole exterior will be washed every other week from a motorized scaffold. There is complete flexibility throughout Fidelity. Movable partitions, perimeter air conditioning, underfloor wiring. Another facility that is bound to cause comment: operatorless elevators that talk to passengers via electronic tape.

Alvin Elbrecht, Assistant Executive Secretary of ISTA, sits in a typical executive office. The State Capitol can be seen through the window.



"It is features like these," says Klein & Kuhn's Frank H. O'Connell, "that have sent our prospective tenancy rate far above our most optimistic expectations."

From the Fidelity Building we headed a few blocks to the west. Here, practically on the steps of the State Capitol, is the *first* curtain wall building in Indianapolis, completed for occupancy in the spring of 1958. It is owned by, and is the headquarters of, the Indiana State Teachers' Association. Its location,

This is the handsome new building of The College Life Insurance Company of America. Those five-foot-square windows are *Thermopane* with an outer pane of Heat Absorbing Plate Glass.

almost in the lap of the Legislature, is no accident. We talked about the nine-story ISTA Building with Alvin Elbrecht, ISTA administrative assistant, and with a representative of the architects and engineers, McGuire & Shook, Compton, Richey and Associates, who designed the building (and are also tenants).

Why did ISTA build it? The same old story—the space they'd been in became too small for their mounting membership, and any new space they *could* get wasn't new enough. They wanted the most modern, most flexible, most efficient, most comfortable space they could find. The only place they could find it—through an architect's talents.

Their new building is everything they had hoped it would be. Movable partitions, underfloor wiring, perimeter air conditioning. Windows are pivoted and glazed with L·O·F Heat Absorbing Plate Glass in west and south elevations. According to Mr. Elbrecht, this reduces sun glare and softens light intensity—not only on sunny days, but on un-sunny days when sky glare is a problem. Mr. Elbrecht insisted on this plate glass after visiting another teachers' association building which, he said, was uncomfortable. He's pleased with the results—says that L·O·F Heat Absorbing Plate cut the cost of air conditioning during the previous summer.

Office girls (shown here with Don Byers, Director of Office Services for College Life Insurance) work in complete comfort behind windows of *Thermopane* insulating glass.

Do tenants like it? No question about it. Fourteen tenants have already occupied 75% of the space. Such people as International Harvester, Olin Mathieson, National Labor Relations Board.

Our next visit—The College Life Insurance Company of America. In the new two-story building, we talked to Don Byers, Director of Office Services. Having outgrown its old quarters (in operation only twelve years, this company has climbed into the top 20% in total amount of life insurance in force), the firm shares the new space with four other tenants. Big five-foot-square windows glazed with *Thermopane*®, fill the interior with natural light (the *Thermopane* in the west wall has an outer pane of Heat Absorbing Plate to prevent heat build-up in summer).

Clean, comfortable and strikingly handsome, the College Life Insurance building has a strong prestige value for its tenants. According to Mr. Byers, it is easy to get tenants and easy for tenants to get good employes. They like the comfort and have real pride and respect for "their" building.

From the College Life Insurance building we drove over to Eli Lilly's little "city" of 44 company buildings. In the center stands a shining new building, quite unusual in function. It houses not only humans, but a huge electronic computing machine that is a great deal less hardy than its human counterparts. This machine is so big, so intricate, so hypersensitive to temperature change and humidity variation, that it is sealed inside a glass "cocoon"

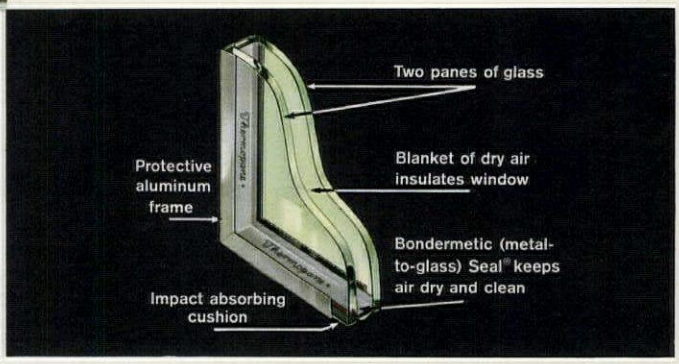
Windows of *Thermopane* in offices of Eli Lilly and Company.

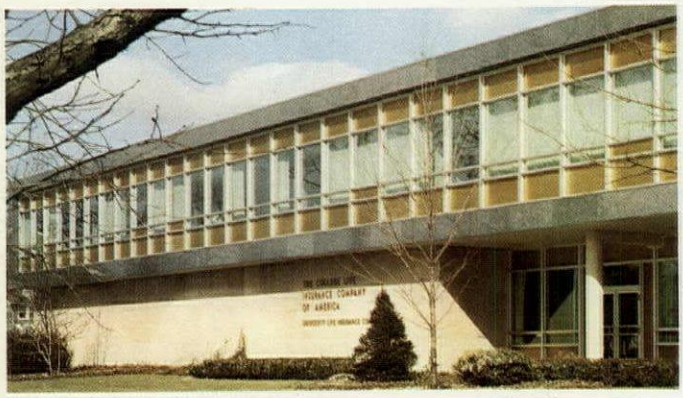
of *Thermopane* (shown at the left). Lot Green, Eli Lilly engineering executive who supervised the design of this building with architects D. A. Bohlen & Son, said this three-story structure "will eventually soar to twelve".

That's the story. The story of an awakened and eager city. It's a story of people who have deep pride and respect for their new buildings as well as new pride and respect for their town.

And the man they thank is the architect.

Long live the king!

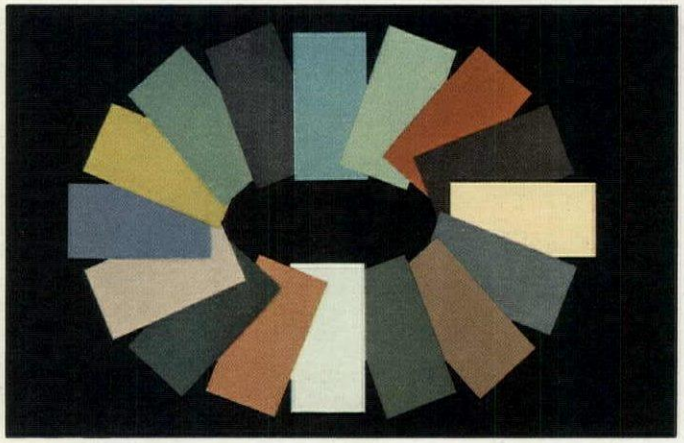




HEAT ABSORBING PLATE—For reducing the initial cost of air-conditioning equipment and its operating cost, L·O·F makes two kinds of ¼"-thick polished plate glass: Heat Absorbing and *Parallel-O-Grey*. L·O·F Heat Absorbing Plate Glass has a pleasing blue-green color. *Parallel-O-Grey* has a neutral grey tone that does not change the color of objects seen through it. Both offer some relief from sun glare; *Parallel-O-Grey* to a greater degree. Comparison of solar heat transmission is as follows:

¼" Regular Plate Glass	79.9%
¼" Heat Absorbing Plate	46.3%
¼" Parallel-O-Grey	46.6%

THERMOPANE—For maximum comfort and for heating and air-conditioning economy use *Thermopane* insulating glass in windows. Heat loss is cut almost in half compared to single glazing. Drafts near windows are reduced for the greater comfort of employes. Outside noises are muffled. *Thermopane* is available in two new improved types: *Thermopane* with metal-to-glass *Bondermetic Seal*® and enclosed in an edge-protecting aluminum frame; and *GlasSeal*® *Thermopane*, an all-glass insulating unit that is ideal for both wood and metal sash.



TUF-FLEX® DOORS—These frameless, clear-glass doors invite visitors into a building. And they can withstand, with virtually no maintenance, all of the traffic they help create. Made of ½"-thick or ¾"-thick tempered plate glass, they are 3 to 5 times tougher than regular plate glass of the same thickness. 16 types in finished sizes up to 48" in width, and 108" in height. *Tuf-flex* Doors are furnished complete with cast bronze or alumilited aluminum fittings which are designed to take standard pivot hinges and builders' hardware.

VITROLUX®—Used instead of masonry as an exterior facing material, also for interior partitions. Rich color, fused to the back of this clear, heat-strengthened plate glass, adds youthful beauty and cheerful character to your building. Natural resistance of weathering, crazing and checking. Standard maximum size of *Vitrolux* panels is 48" x 84". Special orders up to 60" x 84". Thickness: ¼" plus 1/64" minus 1/32". Sixteen standard colors plus black and white. Also in non-standard colors subject to manufacturing limitations.

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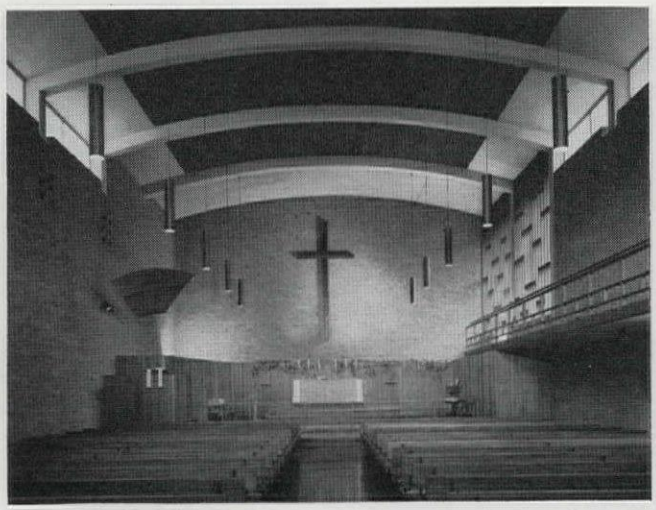
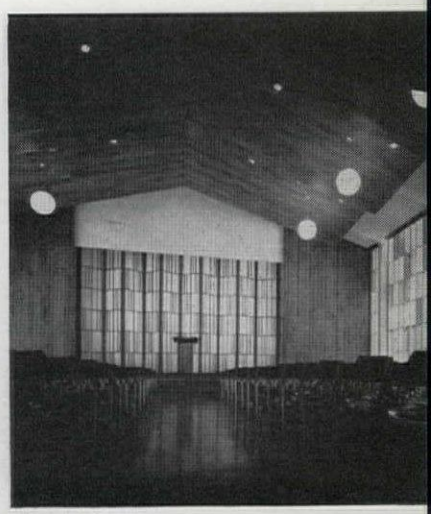
four houses of worship

The houses of worship presented in this issue comprise an unusual group. For, while various architects and firms were involved in their design, there is one architect—Pietro Belluschi—who had a hand in the design of all four. These are: 1 The First Lutheran Church of Boston, Massachusetts—Pietro Belluschi, Architect; 2 Unitarian Church of Montgomery County, Bethesda, Maryland—Keyes, Lethbridge & Condon, Architects, with Pietro Belluschi Associated Architect; 3 Central Lutheran Church, Eugene, Oregon—Belluschi and Skidmore, Owings & Merrill, Architects; and 4 Temple Israel of Swampscott and Marblehead, Incorporated, Swampscott, Massachusetts—Belluschi and Carl Koch & Associates, Associated Architects with Leon Lipshutz, Associate.

In an effort to analyze the design wish behind each of the four buildings, the late George A. Sanderson asked Dean Belluschi to put into words something about the design goal that was dominant in each case. Their combined comments appear with presentations of the buildings on subsequent pages.





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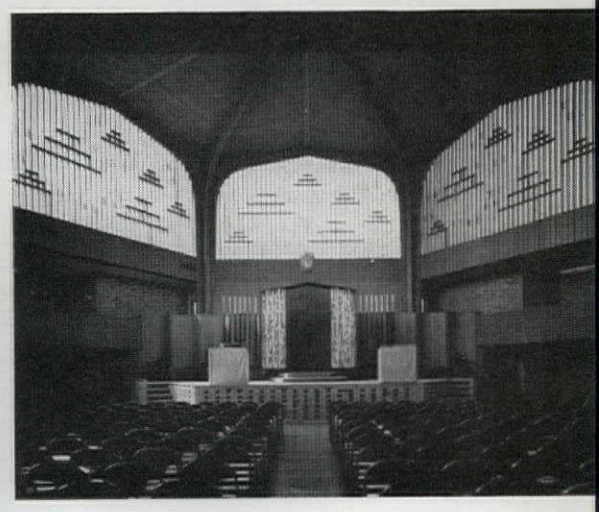
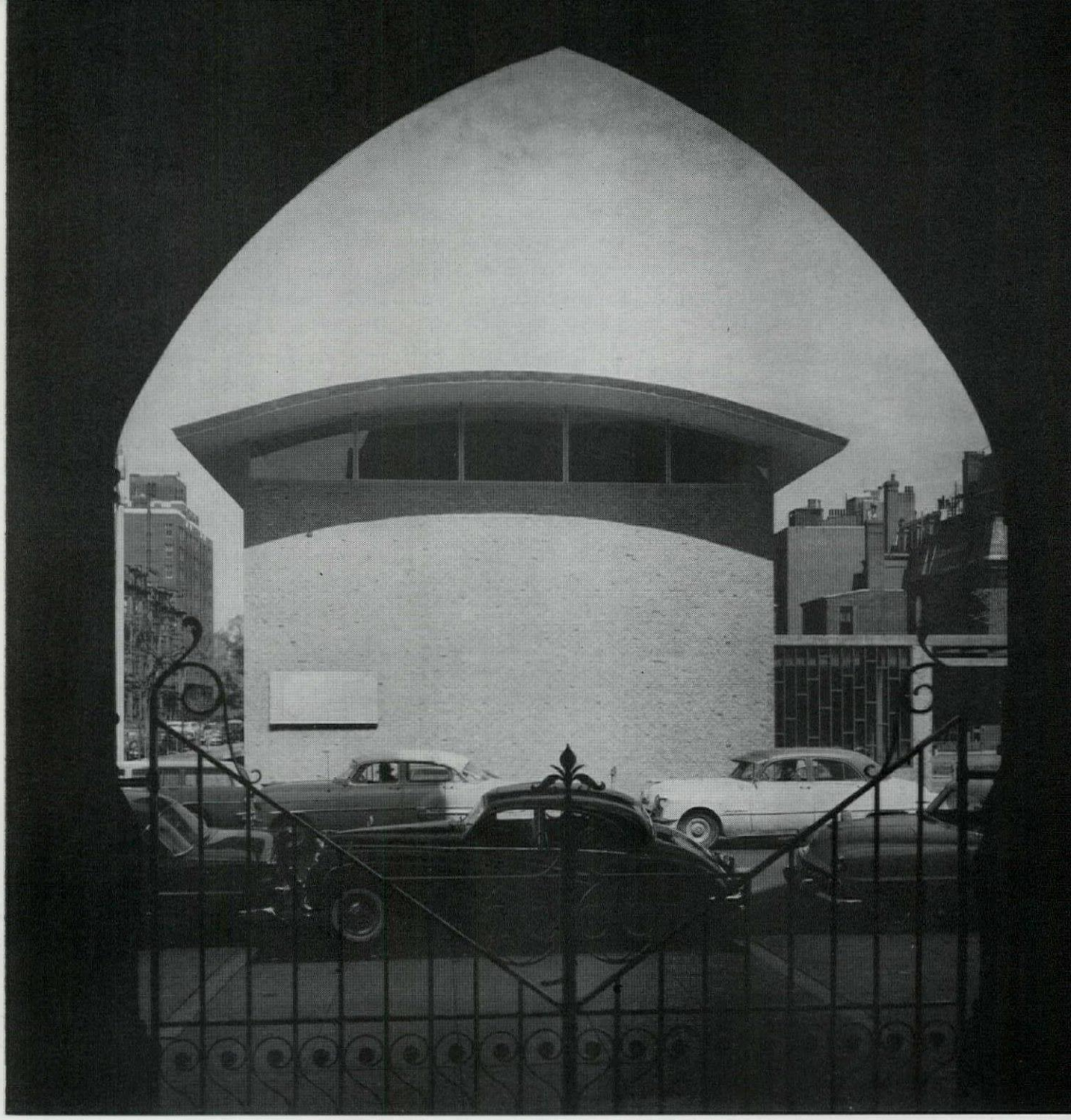
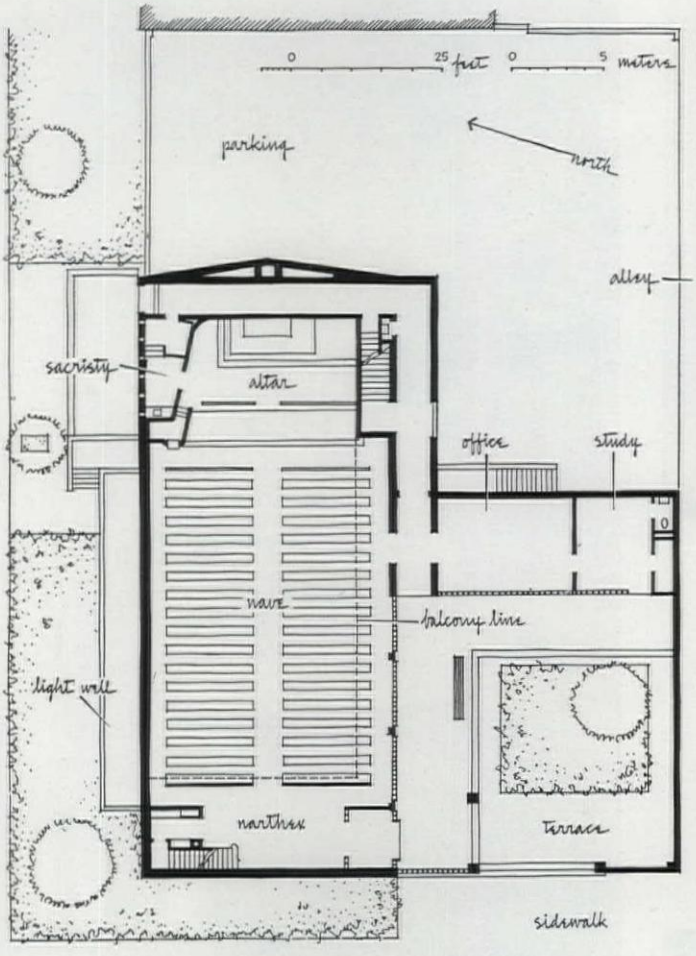
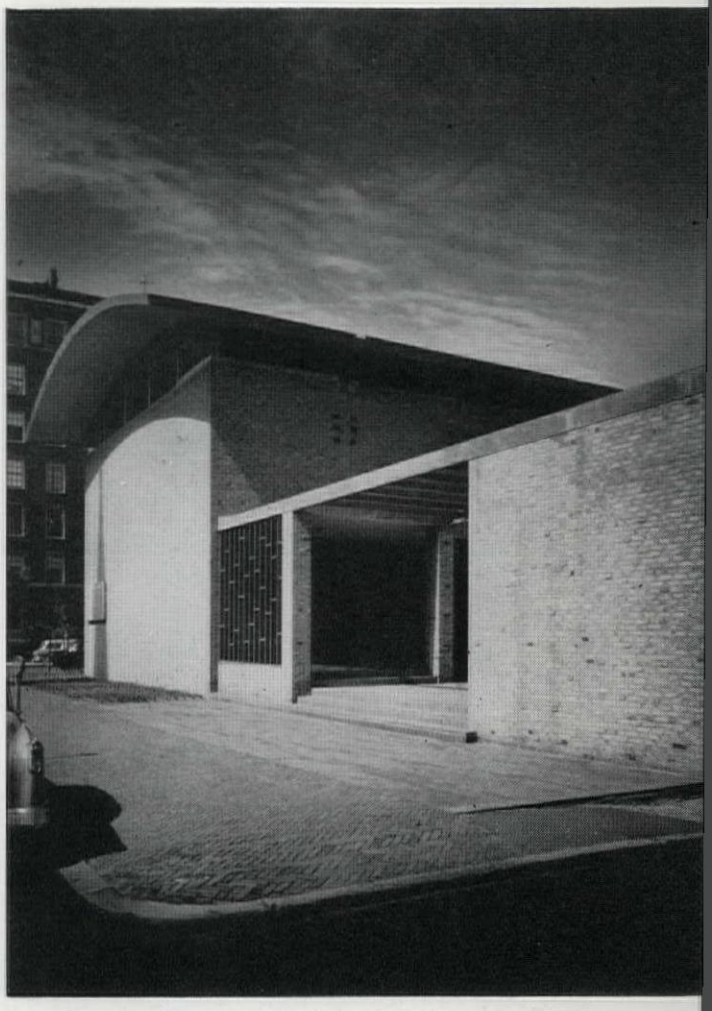


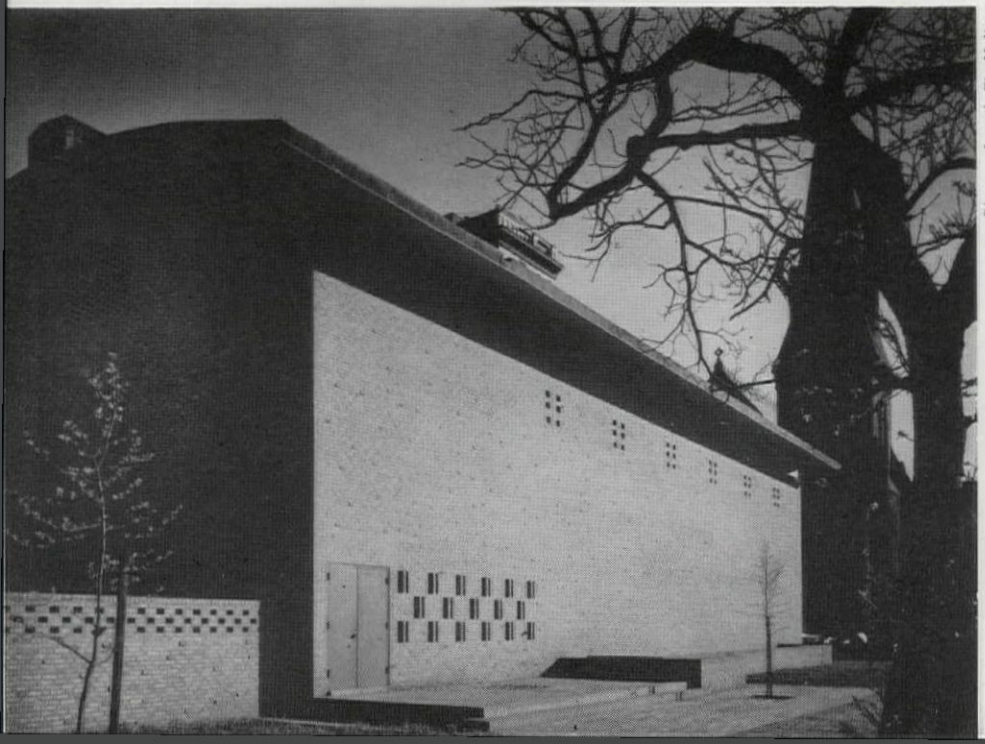


Lutheran Church, Boston, Massachusetts

The design problem here was to provide an appropriate house of worship on a busy intersection in Boston's residential Back Bay area. To avoid the abrupt transition from street to worship room that an entrance directly from the sidewalk produces, the plan is developed with a court at one side, and the transition from outdoors to indoors is gradual and subtle. In Belluschi's opinion, "the most satisfactory and saving element of this church is the color and texture of the brickwork. I must admit that the understatement I intended to make in the design was somewhat overdone." The rather stern exterior form comes to life richly in the well lighted, serene interior, with its relieving elements of wood screens, church furniture, and texture. "The segmental roof," Belluschi comments, "was an attempt to get away from an entirely flat roof without going into a pitched one. I also wanted to shade the high slit windows. This kind of natural lighting I have found to be very successful in halls of this kind." But he is self-critical of the design result achieved, feeling that the roof design "doesn't read too well." The building is framed with steel columns and arched beams; brick walls are of cavity construction. Nichols, Norton & Zaldastini, Structural Engineers; Stressinger, Adams, McGuire & Reidy, Mechanical Engineers; Lilly Construction Co., General Contractor.

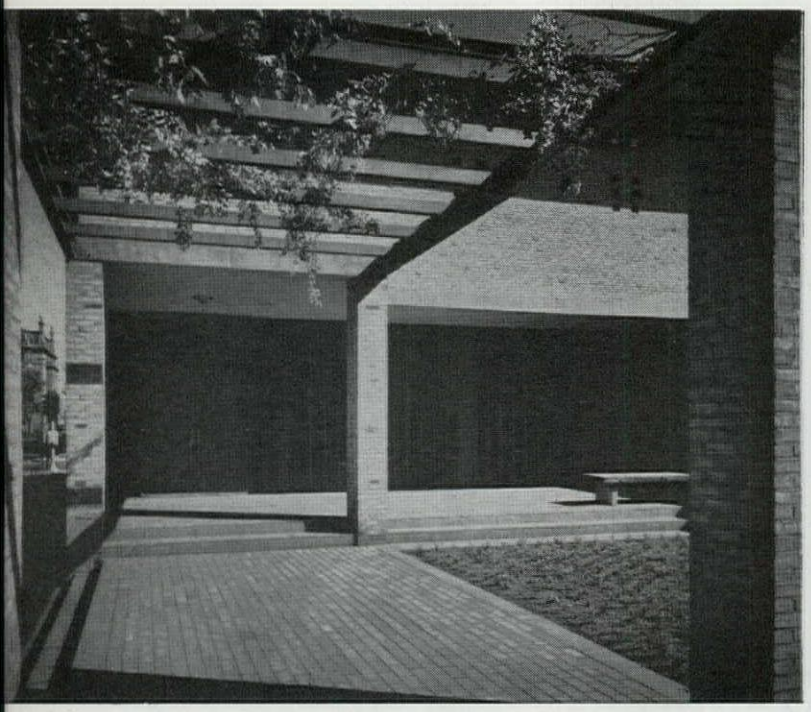




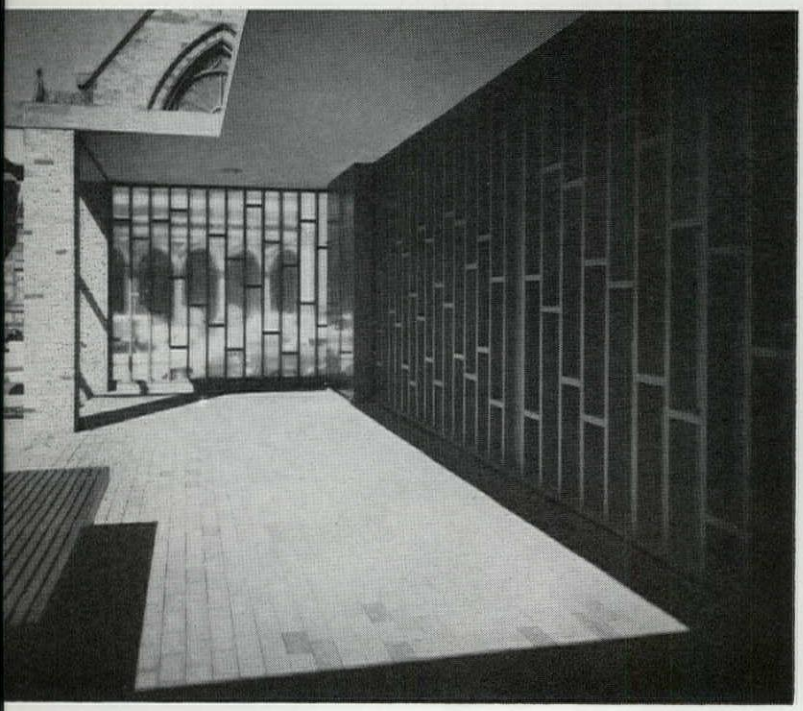


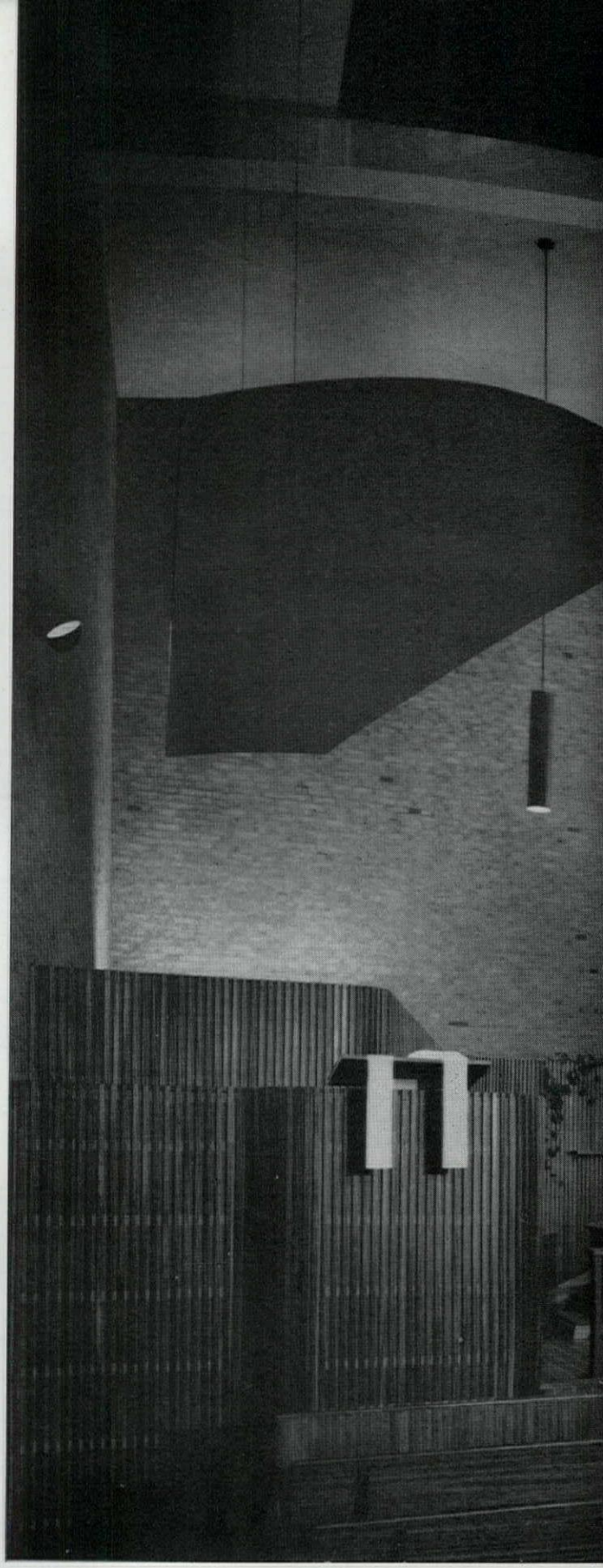
Photos: Joseph W. McAllister

Lutheran Church



From the sidewalk, parishioners enter a peaceful courtyard, with vine-hung, overhead trellis. The court walkway leads to a sheltered church porch (below) *that is shielded from the street with textured glass.*

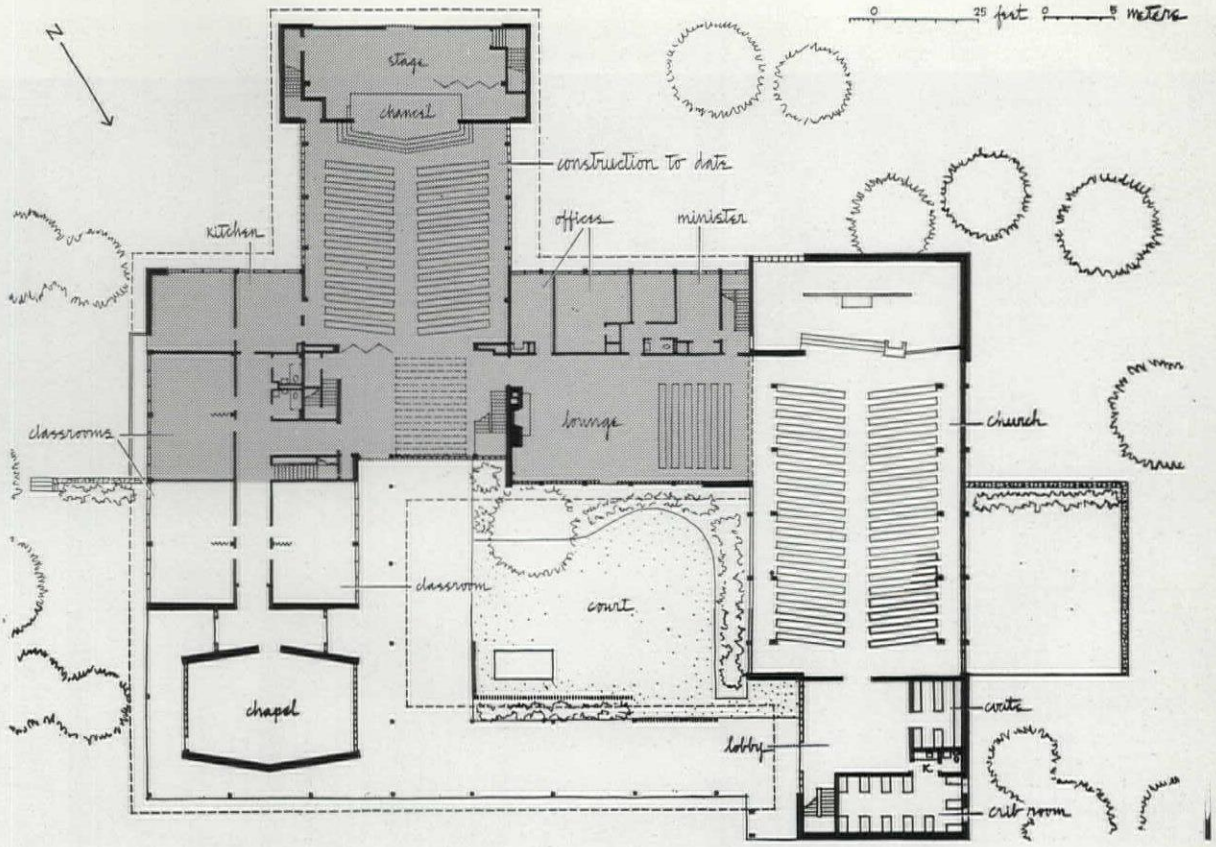


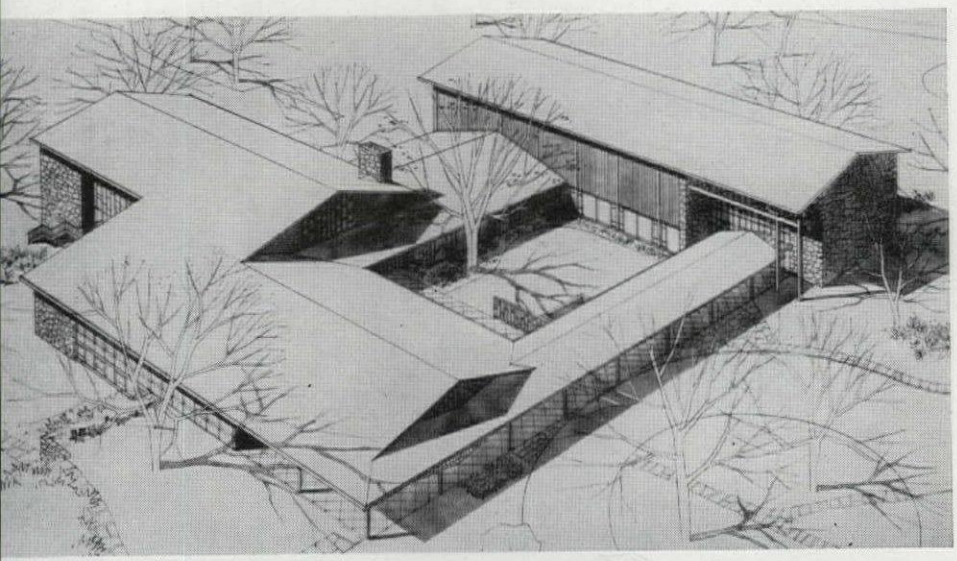


The center of worship is bordered by a slatted wood screen that, with its backing of sound-absorptive material, contributes to the excellent acoustics of the room.

Unitarian Church, Bethesda, Maryland

A familiar, but always difficult, problem that confronted the associated architects in the design of this church was the need to develop a scheme that would produce a good result, esthetically and functionally, in each of three stages of construction. Shown here is the Stage One phase; next areas to be built will be four more classrooms and a children's chapel; the final stage will be the main church. At present, the 250-seat Assembly Hall is also used for religious services. A ground floor contains ten classrooms, two kindergartens, and service rooms. Belluschi reports a "most happy" association with Architects Keyes, Lethbridge & Condon, and goes on to say: "It is apparent that when the chapel wing, the church proper, and the landscaped entry court are built, the whole complex will be greatly improved. . . ." Due to code requirements, structure is reinforced concrete with steel purlins and gypsum decking; to blend the building with its setting, wood is used for exterior siding and window muntins; shingles are cedar. The assembly hall is steel framed. Stone-wall areas are a local red-brown sandstone.

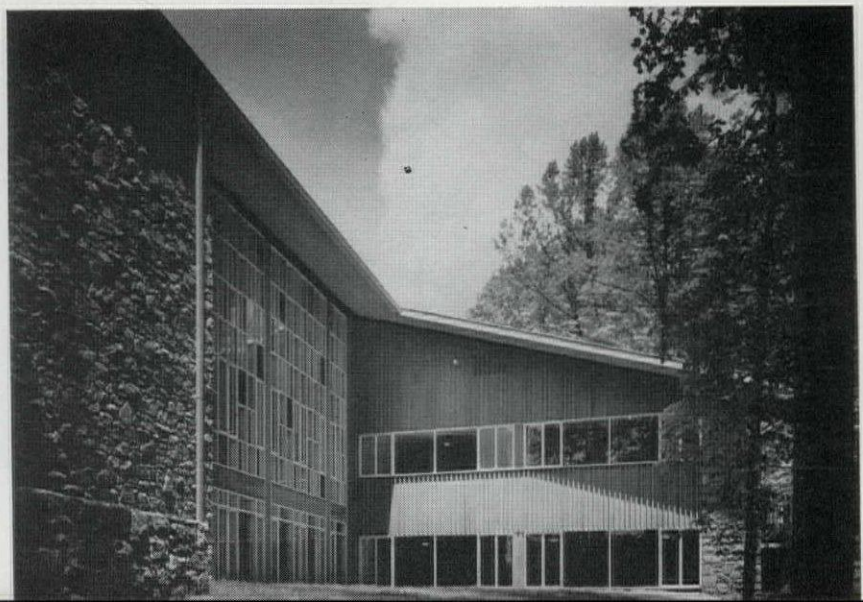




Photos: *Joseph W. Molitor*

The eventual scheme is shown in the plans and sketch above. "The court will provide a landscaped transition space as well as a needed tie to the ground," Belluschi points out.

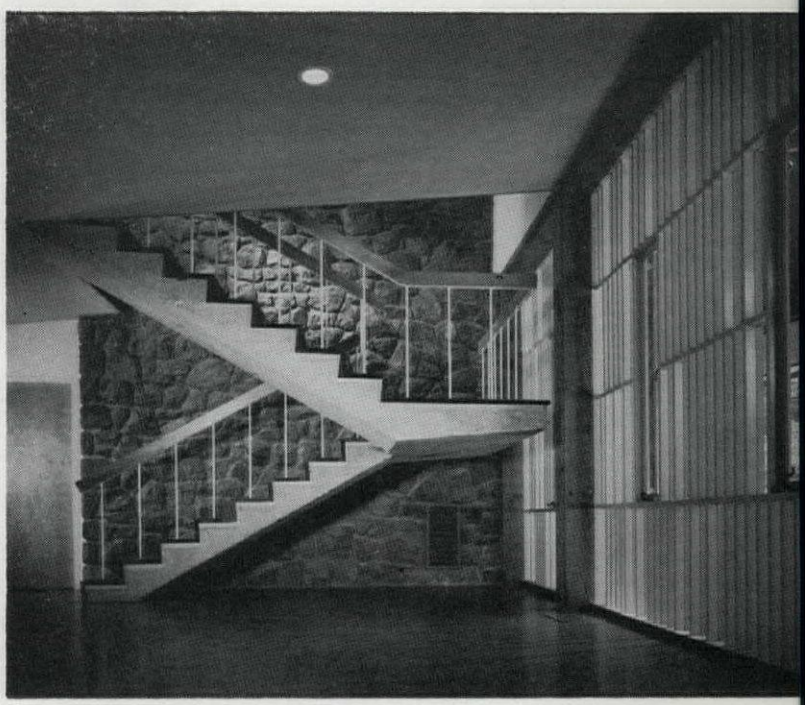
Because of the site slope, the lower-floor classrooms have windows wholly above grade (right).



Unitarian Church

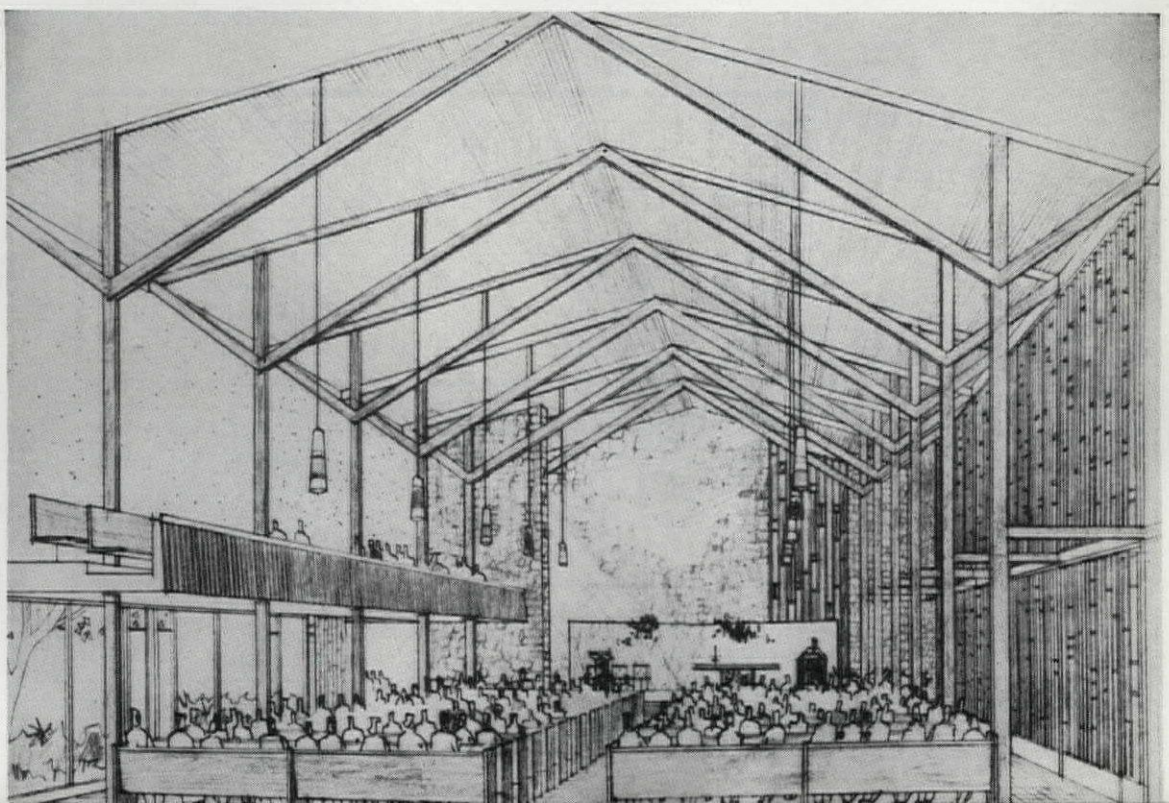
Assembly Hall windows are glazed in three shades of gray; gold; and clear glass. Services are conducted from forward portion of stage; folding of Shoji screen in back opens up full stage for dramatic productions. Suspended from ceiling structure are reflective acoustical baffles made of butternut.

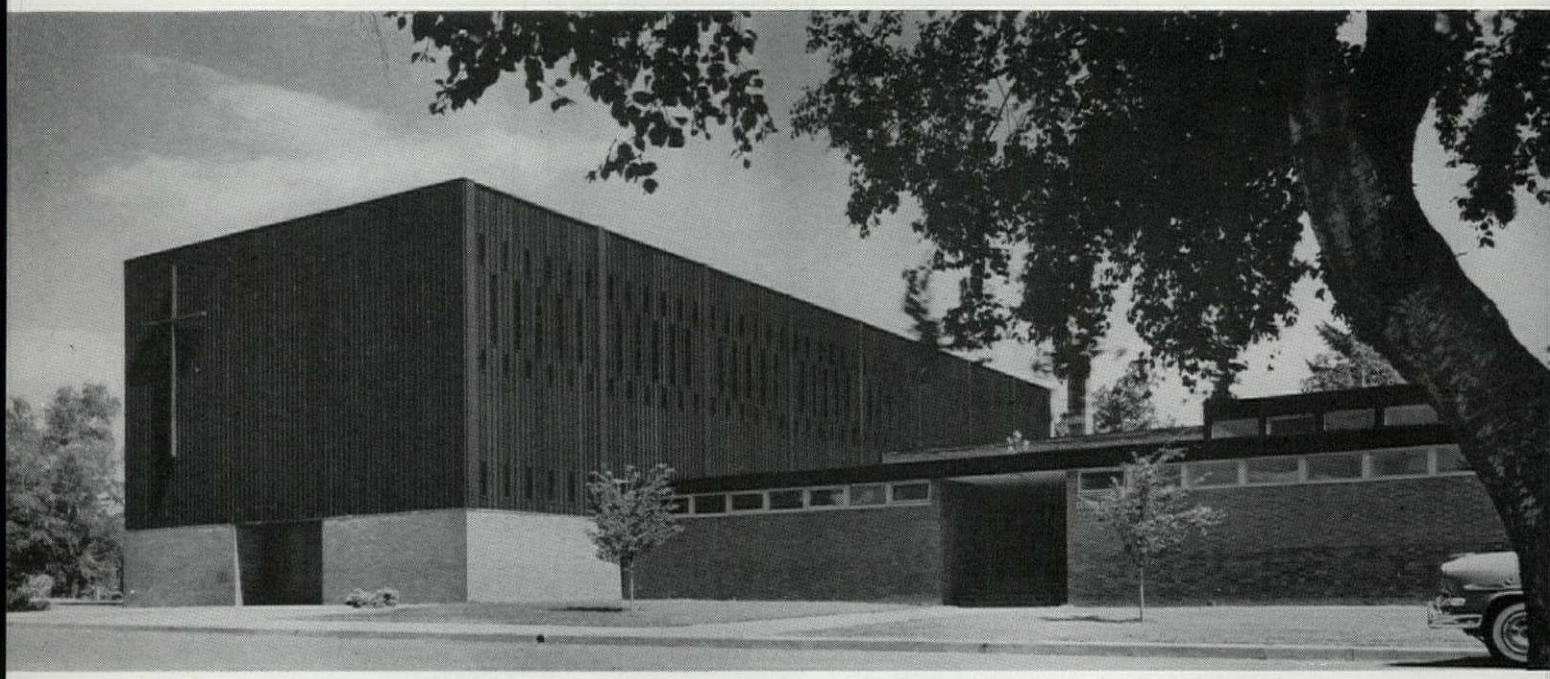
Folding partitions in the classroom area (above) *allow flexibility of use.*



The lobby stair (right) *leads up to a seating balcony.*

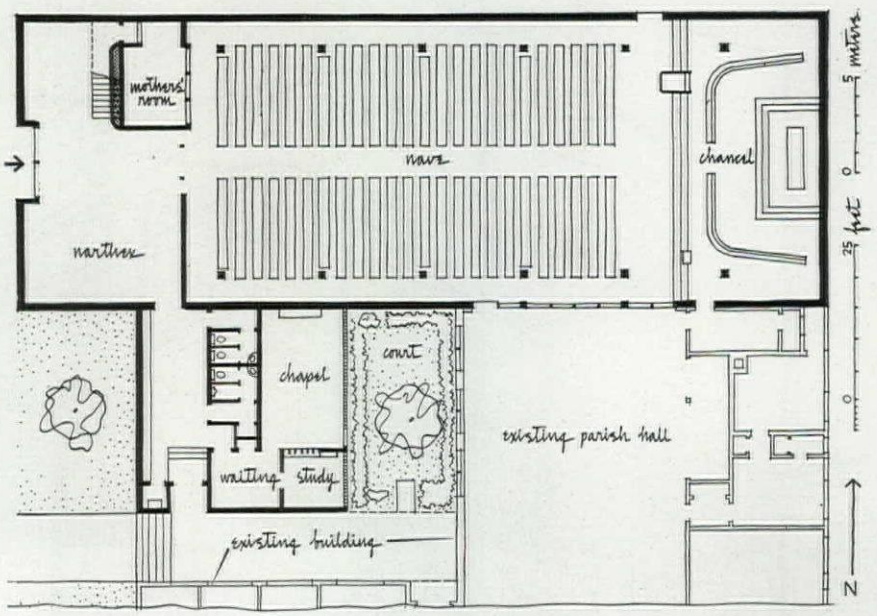
Sketch (below) *visualizes the future church.*

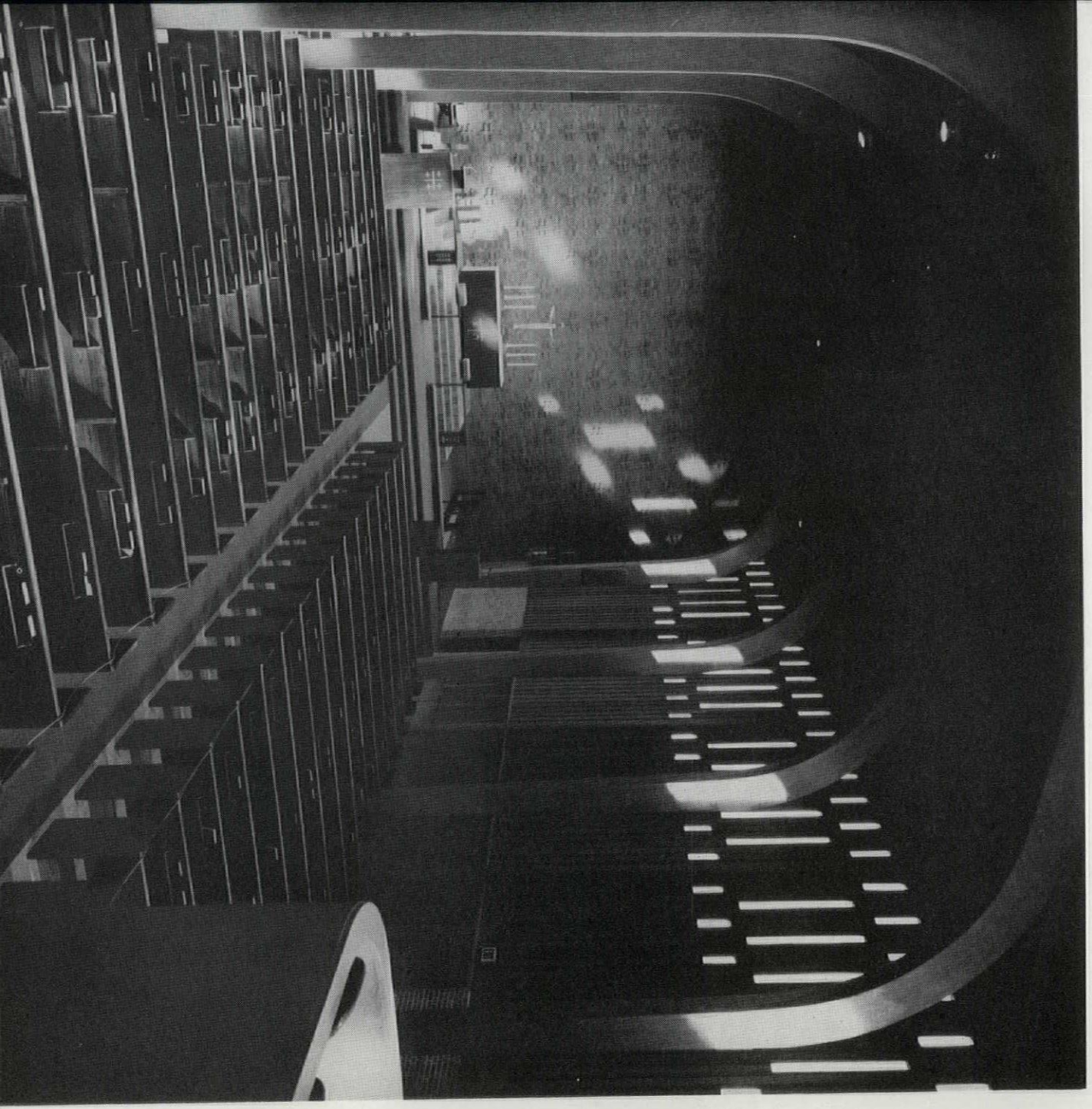


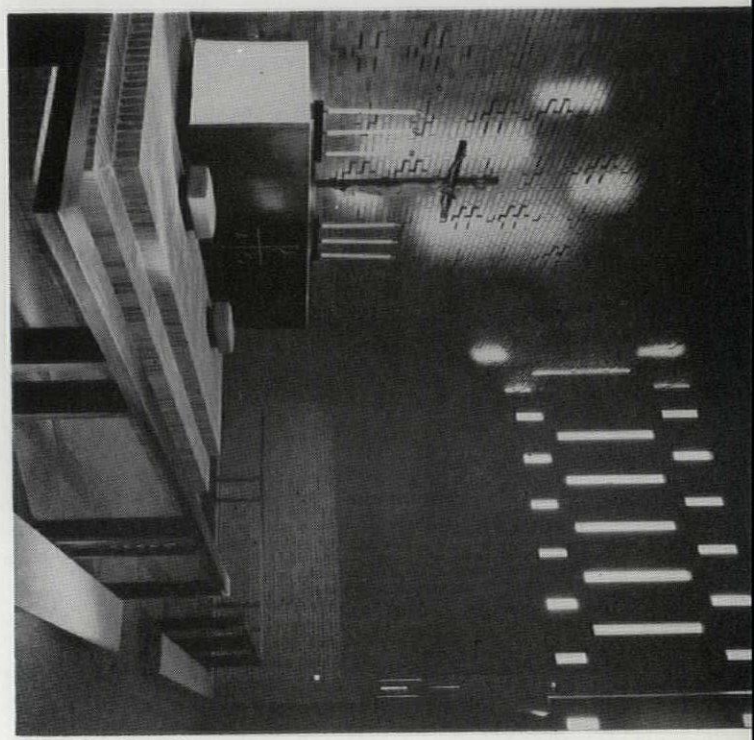


Lutheran Church, Eugene, Oregon

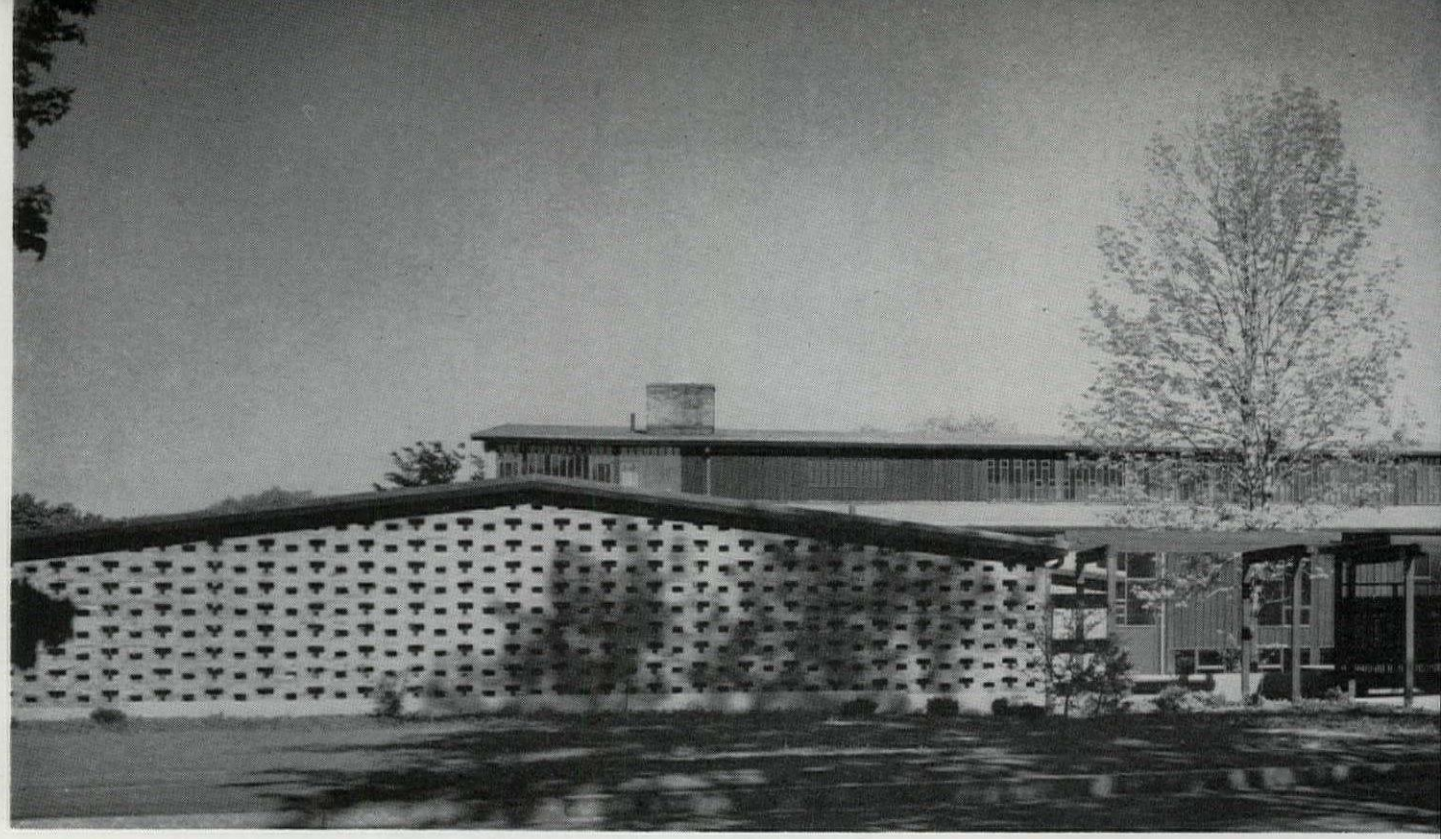
The program called for the addition of a church and chapel to an existing parish house to serve a congregation of 500. Placement of the chapel wing 18 ft west of the parish-house wall creates a peaceful, small tree court bordering the chapel's windowed wall. A soundproof room is provided at rear of nave for mothers with babies. Structure consists of laminated-wood beams, with 2-in. tongue-and-groove roof planks and curtain walls of wood, brick, and cathedral glass. "This framing system was chosen," according to Skidmore, Owings & Merrill, "first for its regionalism, since timber is the native product of this area, and second for the freedom of the interior space that the system provides." The handling of the wood and brick, plus the natural light from narrow strips of colored glass, result in a room with exceptional warmth and texture. Belluschi himself feels that "somehow, this church has one of the most successful interiors in my experience," while he finds the exterior appearance of the building a little severe. Cooper & Rose, Structural Engineers; J. Donald Krocker & Associates, Mechanical Engineers; Pettingill & Kelley, Electrical Engineers; Albert Vik & Son, Contractor.





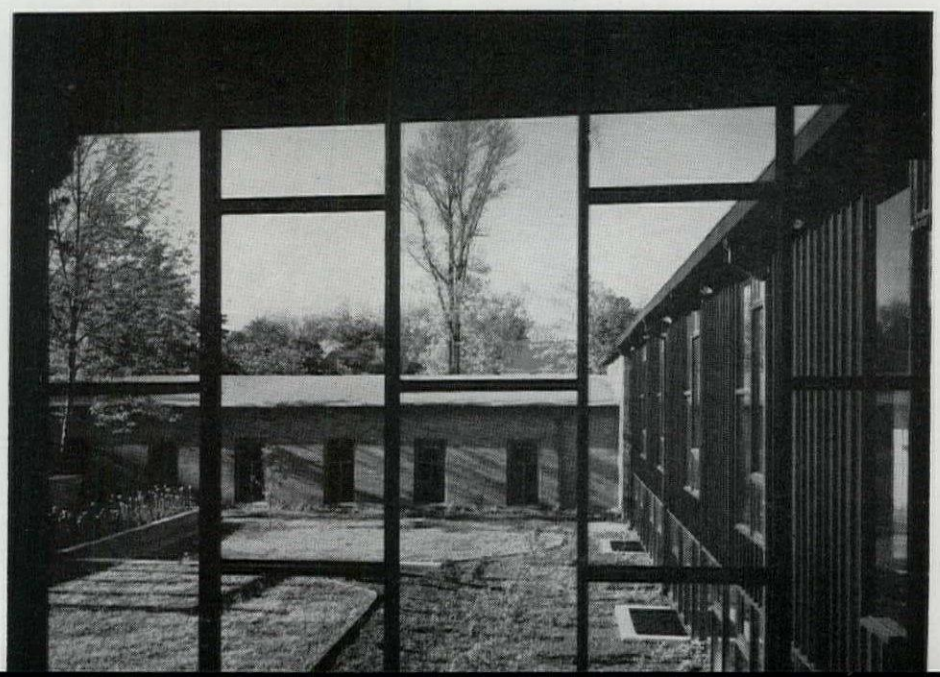


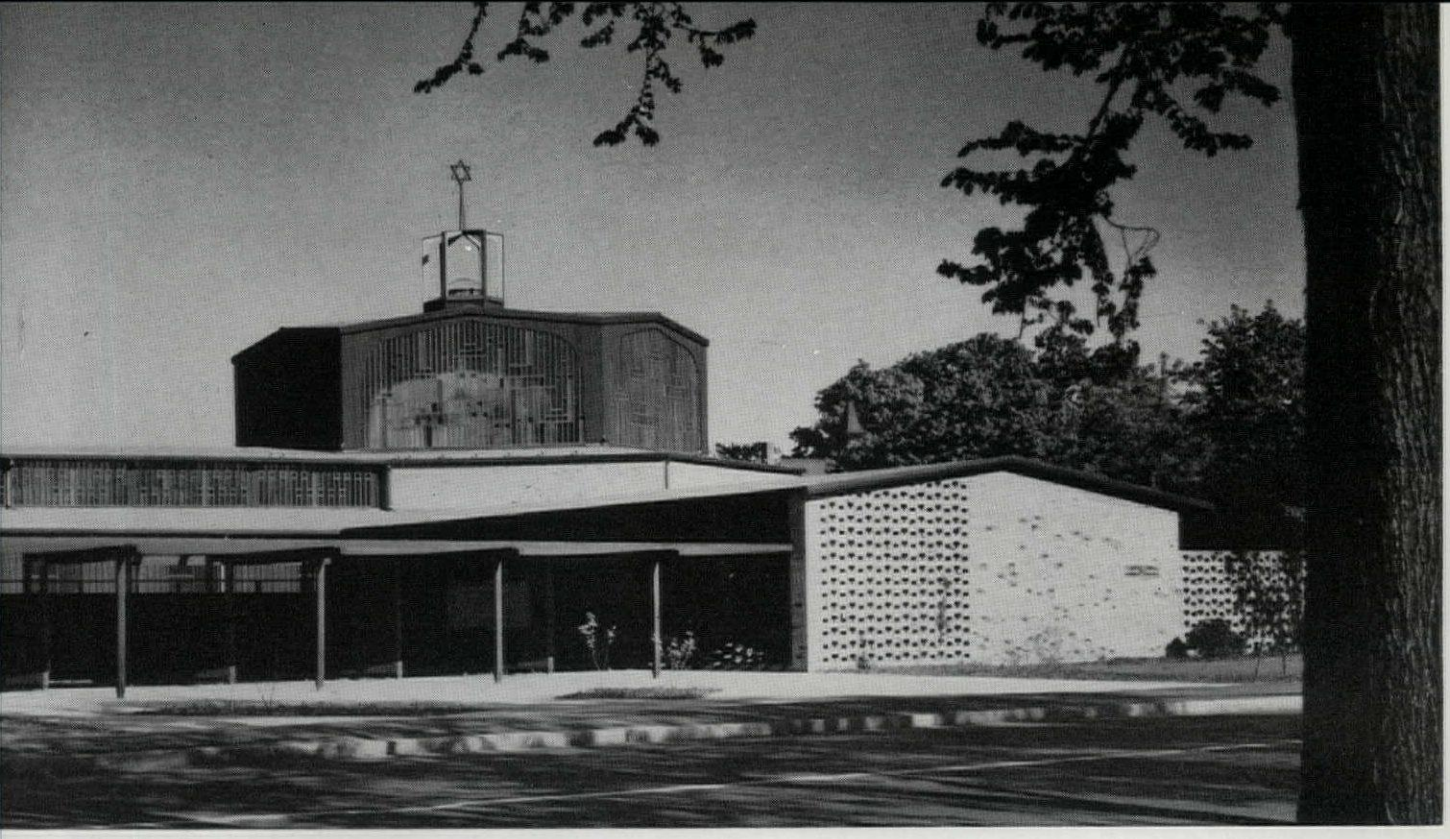
Photos: Tom Burns, Jr.



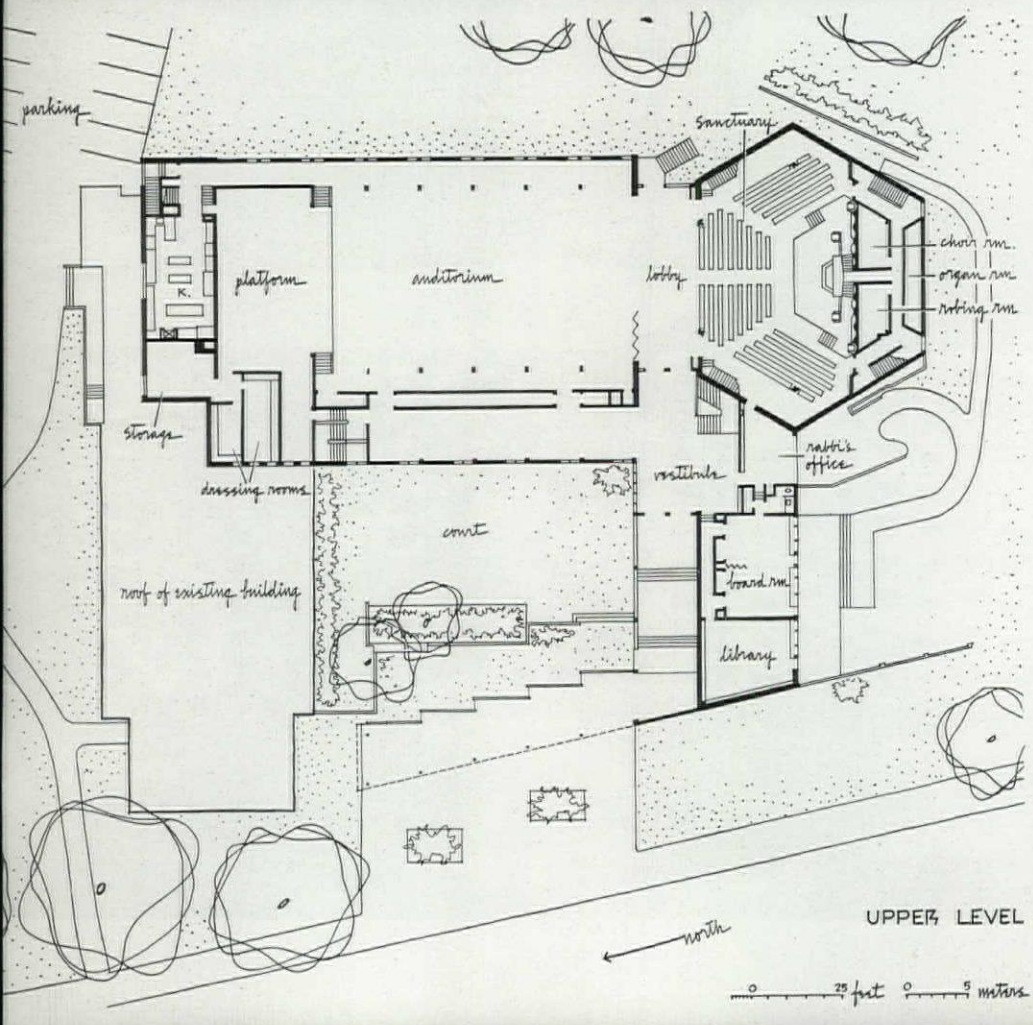
Synagogue, Swampscott/Marblehead, Massachusetts

A special problem with which the associated architects had to cope in design of Temple Israel was the need to incorporate into the plan an existing, largely above-grade structure (that had been built as the basement for a new synagogue, from plans later abandoned). This is the low wing on the north side of the forecourt (left *above*), which now contains a vestry with stage, kitchen facilities, and heater room. Also on this lower level —beneath the floor detailed—are classrooms, assembly hall, hexagonal chapel (under the sanctuary), and miscellaneous service rooms. As is always the case in the design of a synagogue, the areas had to be flexible enough to accommodate small congregations the year round and also the entire congregation on high holidays. The solution employs folding doors that can join the whole auditorium space with the sanctuary area. In discussing the design, Belluschi points out that "the high, hexagonal portion of the temple protruding above the other wings provides the symbolic climax and needed accent." Commenting on his collaboration, he reports "there was great harmony between Carl Koch's office and myself, particularly working with Leon Lipshutz, who bore the brunt of the responsibility." Framing includes both structural steel and laminated wood. Floors are concrete; walls are brick, glass, or wood. Thomas Amirian and R. G. Vanderweil, Consulting Engineers; Lilly Construction Co., Contractor.



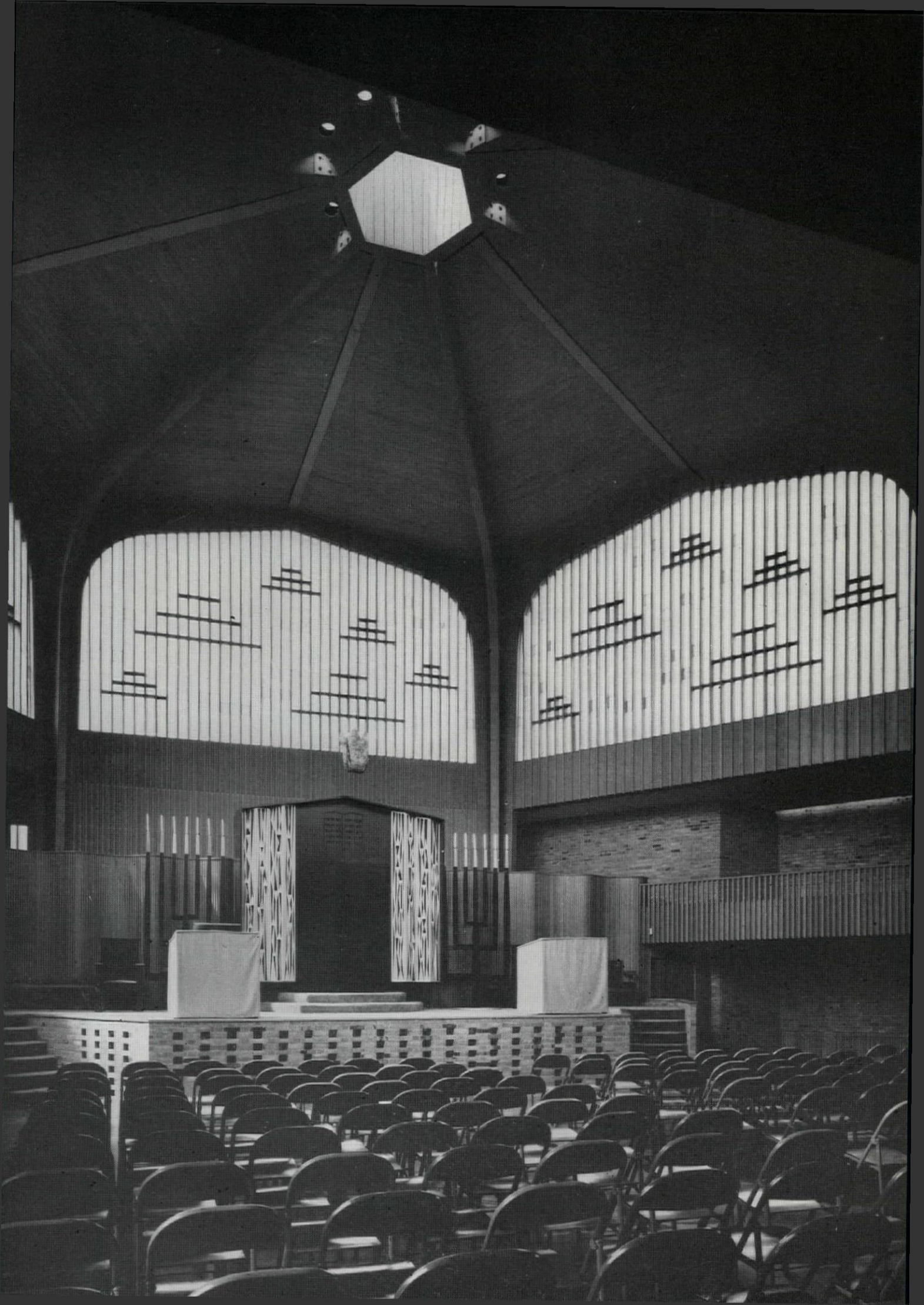


Photos: Joseph W. Molitor

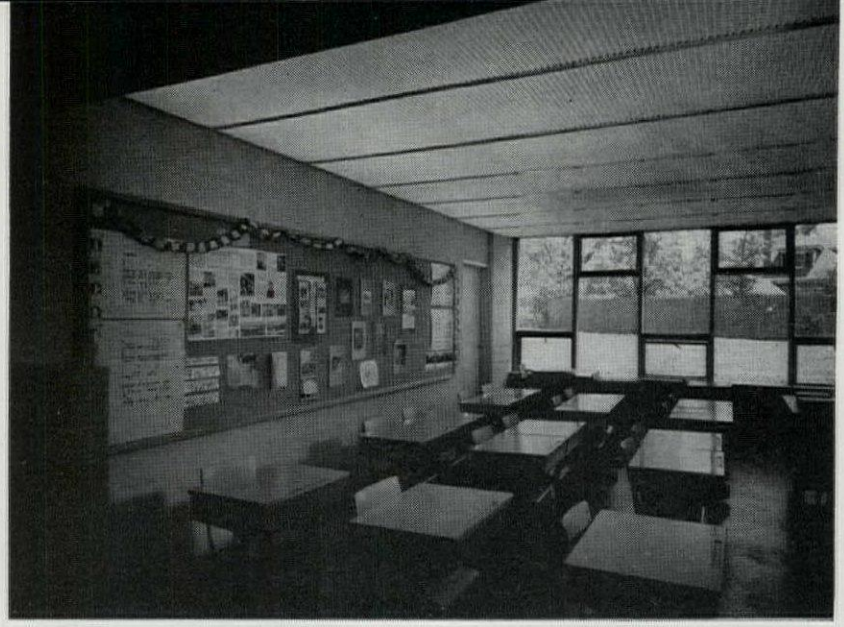


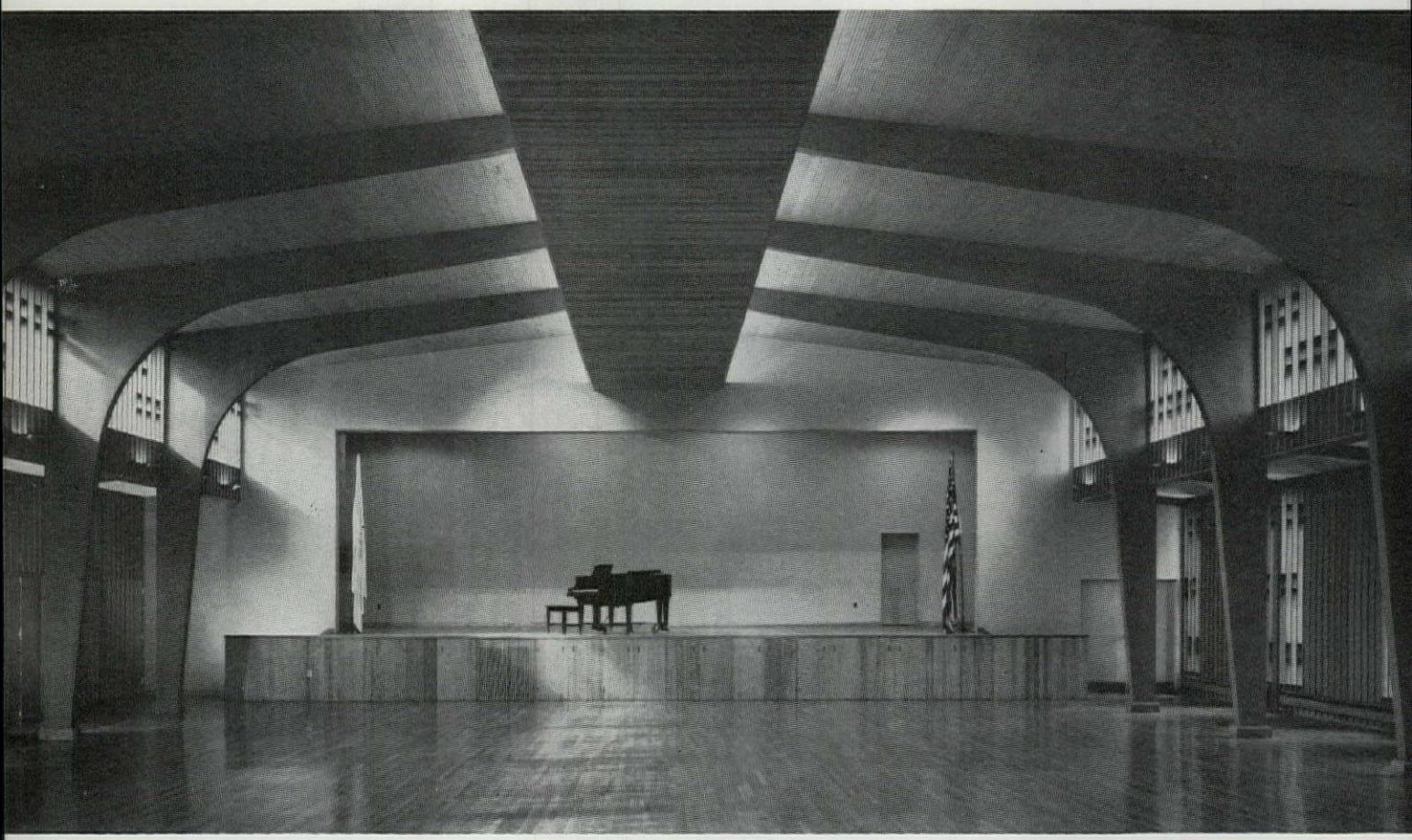
Glass insets in the huge, arched windows in the upper portion of the sanctuary are in tones of amber, blue, and purple; wall finishes, like those of the exterior, are of wood or exposed brick.

For the large congregations, the assembly room (foreground above*) becomes an extension of the sanctuary, by means of fold-back door panels.*



Synagogue

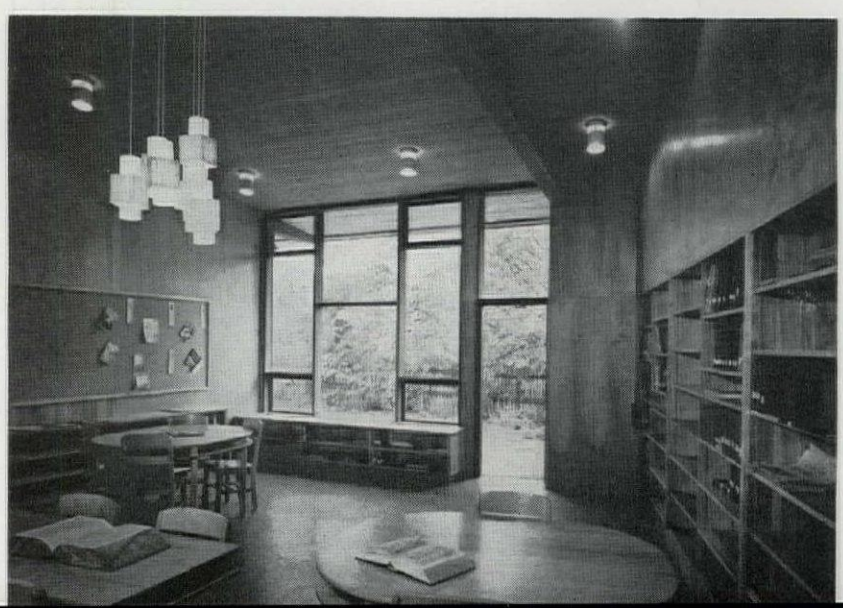




Classrooms (top) *line the east wall of the lower level of the building and have windows that are fully above grade.*

Supplemental daylighting enters the assembly hall (center) *through clerestories.*

The library (bottom) *occurs in the south wing, at an intermediate level.*



high school

location	Littleton, Massachusetts
architect	The Architects Collaborative*
structural engineer	Goldberg LeMessurier Associates
mechanical engineer	Fred Dubin & Associates
acoustical consultant	Bolt, Beranek & Newman

This combined junior/senior high school accommodates 600 students, at present: with addition of another classroom unit, there will be room for 900. The teaching program includes college-preparatory, commercial, home-economics, and industrial-arts courses. The school is also widely used for meetings of town groups and for social affairs. Perhaps the most outstanding elements of the plan are the organization around landscaped courtyards, and the clear articulation of functions, with the gym and shops set well apart from the quieter school areas. The very flexible cafeteria/student-center space that opens to both courtyards serves a variety of school uses as well as accommodating many of the extra-curricular activities. Except for the gym; the shop wing; and the large hall between classrooms at the southwest end, which are steel framed, the school is of concrete lift-slab construction, raised on steel columns. Materials were selected for ease of maintenance, long life, and esthetic quality. Filler walls are of gray face brick, with cinder-block backup, and interior surface of architectural glazed tile. Spandrel areas of portions of the metal-framed window walls are porcelain enamel in four, closely related shades of blue.

Floorings used include asphalt tile; vinyl tile; cork; and maple block. Ceilings are acoustical tile; acoustical form board; painted plaster; or painted concrete. General Contractor was Tornabene Brothers, Inc.

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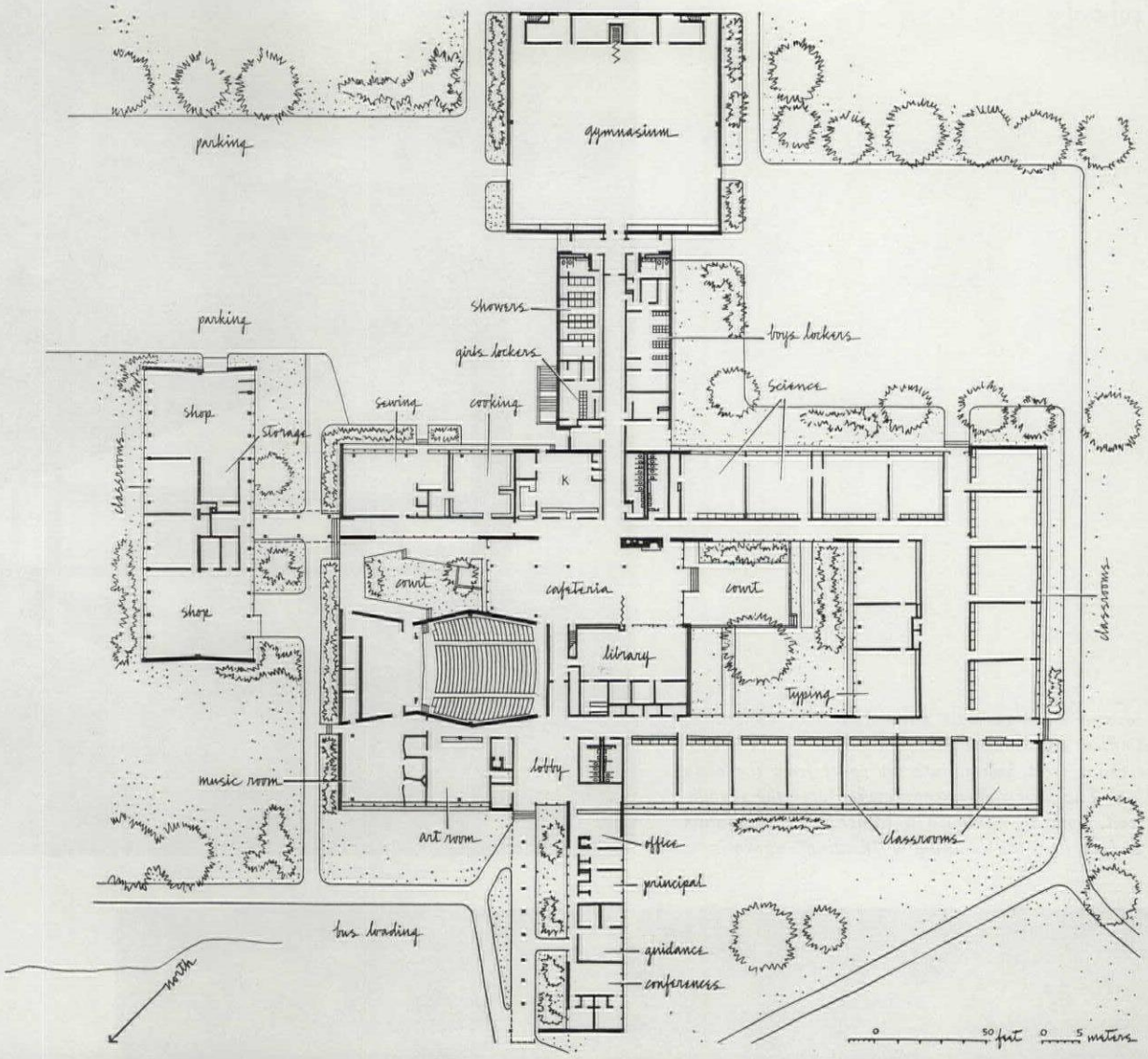
* *Partners: Jean B. Fletcher, Norman Fletcher, Walter Gropius, John C. Harkness, Sarah P. Harkness, Robert S. McMillan, Louis A. McMillen, Benjamin Thompson. Associates: Richard Brooker, Herbert Gallagher, Witold v. Henneberg, H. Morse Payne, Jr.*
Photos: Joseph W. Molitor

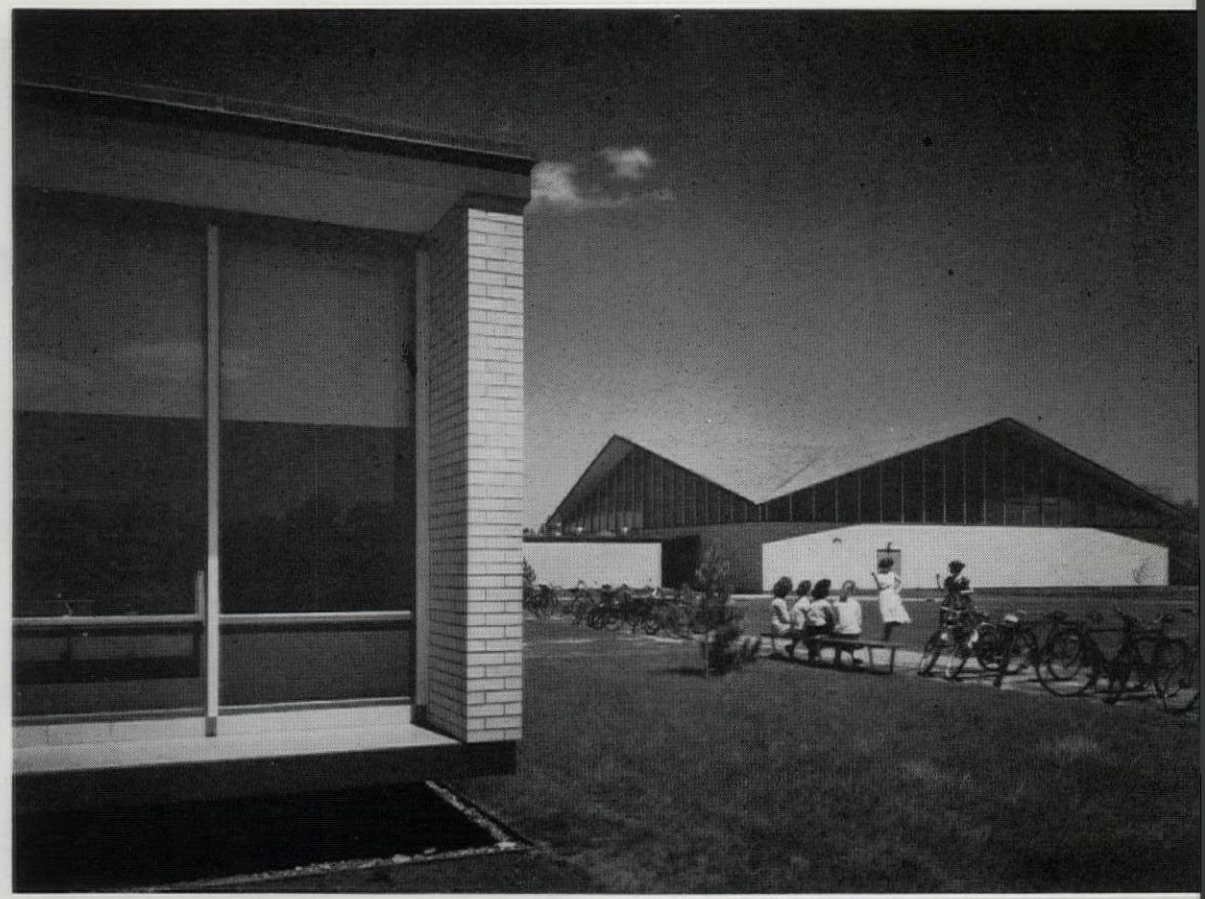


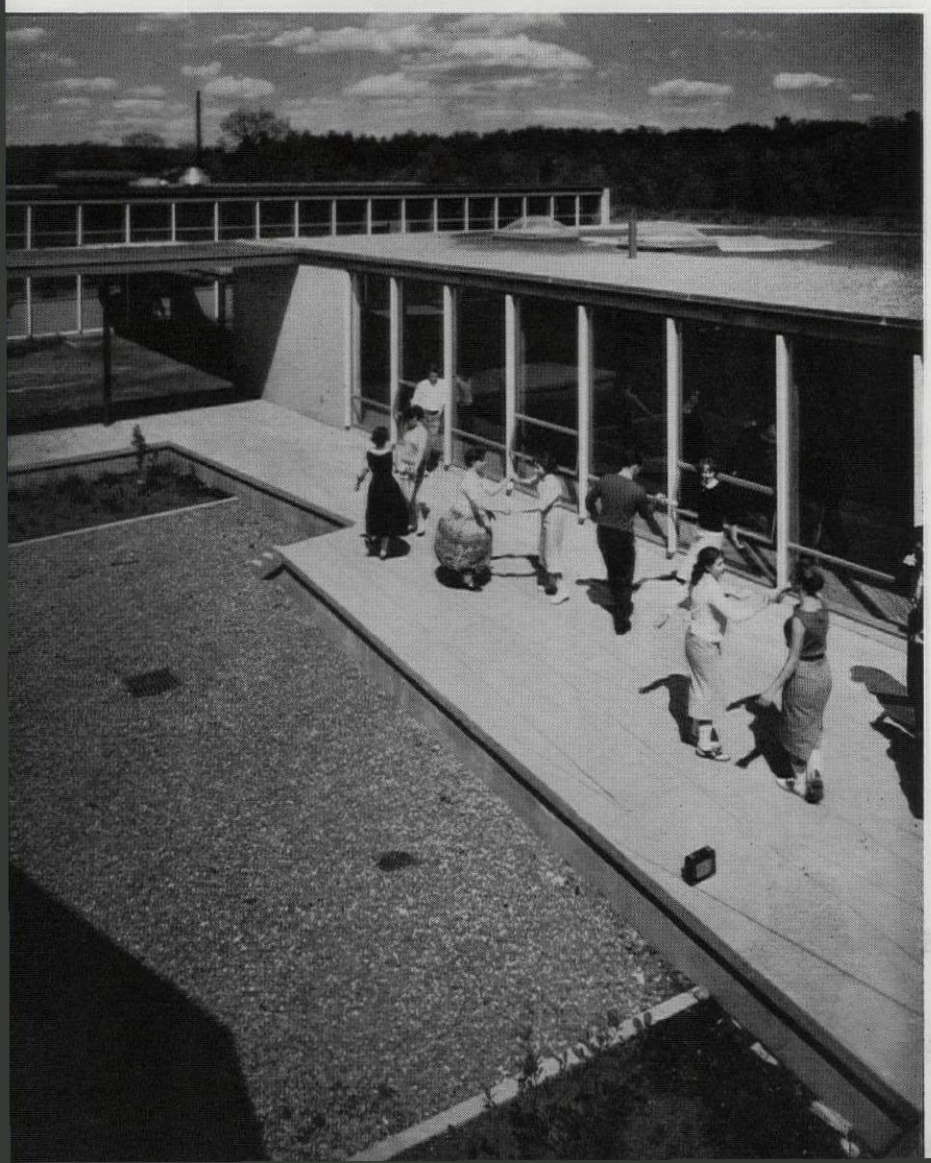
Photos: Joseph W. Molitor

high school

The covered entrance walk parallels a wing containing school offices and student guidance rooms.

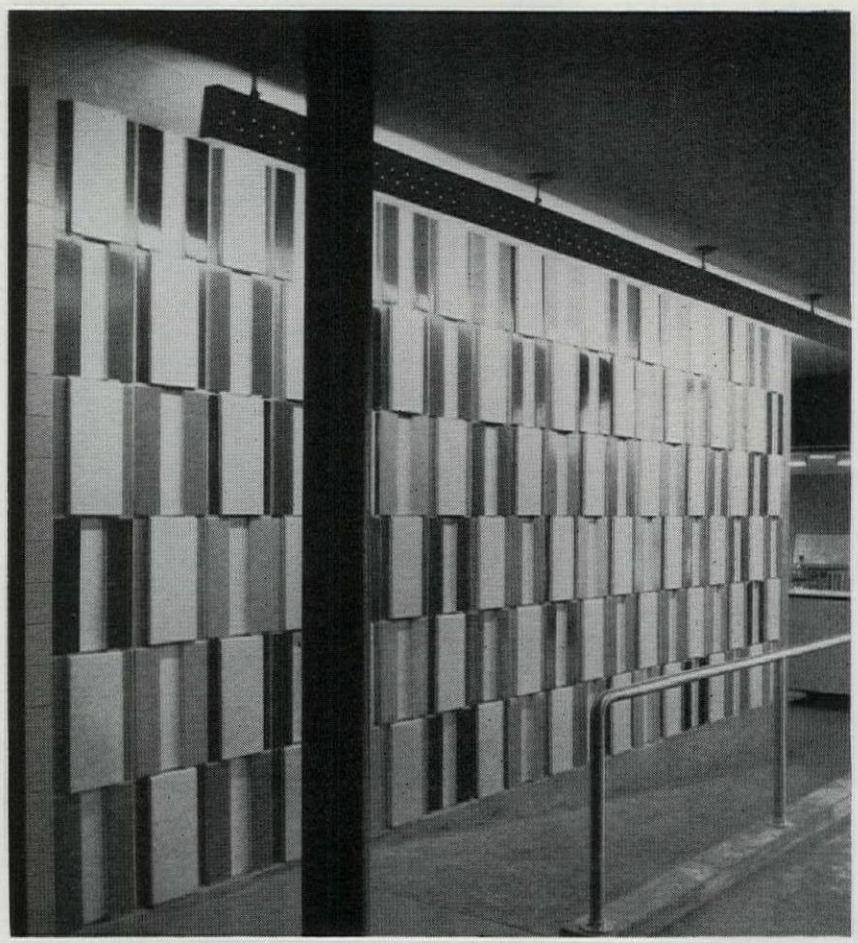
The shops (left, below) are set apart from the main building. The floor slab is cantilevered over the foundation wall, both to minimize a rather high foundation wall and to give the building a "floating" appearance.





The shaped roof of the gym—a double intersecting hip plate truss—forms a dramatic visual element seen from a corner of the classroom block (above).

The smaller of the two courts (left), *to which there is direct access from the auditorium stage, is used for rehearsals and recitals as well as providing daylight for interior spaces.*



In the entrance lobby is a brightly colored, abstract, decorative panel (right) *made of glazed, terra-cotta blocks. The colors repeat hues used on doors and other accent areas throughout the school.*

The suite of commercial classrooms (below) *is sound-isolated from other instructional areas by large courtyard and a wide hallway.*

In the typical classroom (above), *the rear wall has glazed tile up to the tackboard; acoustical tile above. The ceilings are surfaced with acoustical tile.*

A large clerestory-lighted hall (left) *separates commercial-instruction rooms from typical classrooms.*

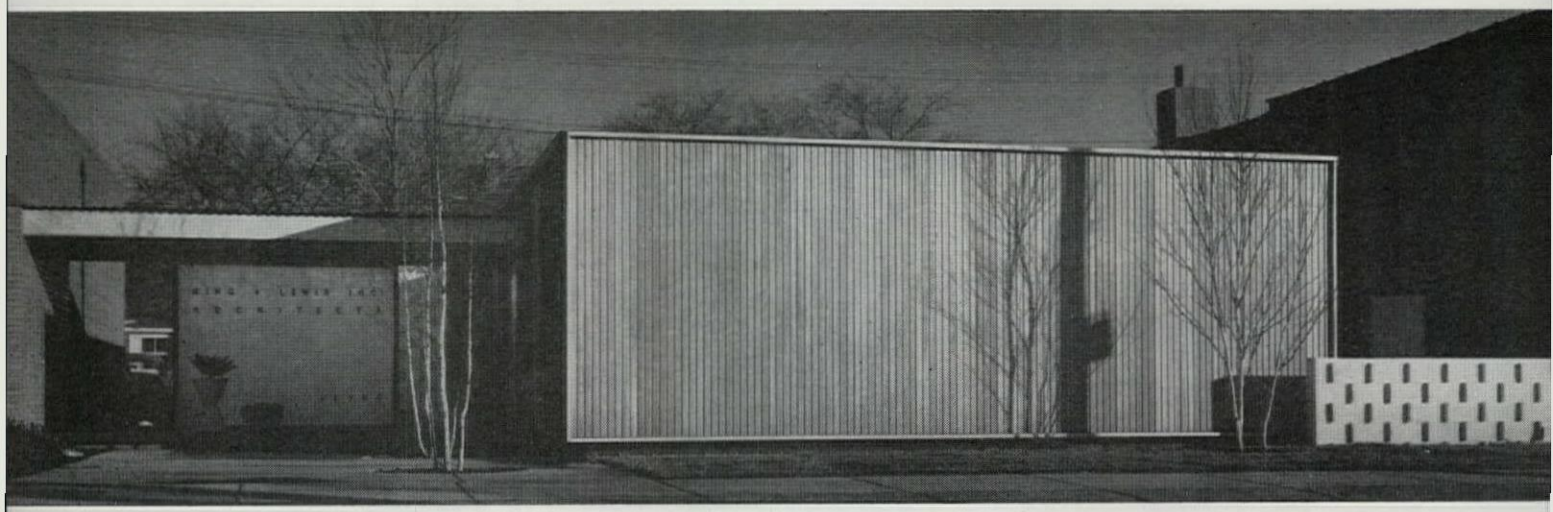
high school

The flexible, cafeteria/student-center area (upper photo) *serves a multitude of uses by both the school and the town.*

Auditorium (bottom) *seats 354; music and art departments adjoin stage and double as dressing rooms.*

All-welded steel members frame the gym (top). *When the roof is fully loaded, the load is taken entirely on the four columns under the peaks at midpoint of each side wall. A folding partition forms two smaller gyms; fold-out bleachers provide seating for 680.*

The two shops (bottom), *each with its own classroom and storage space, occupy a separate building.*

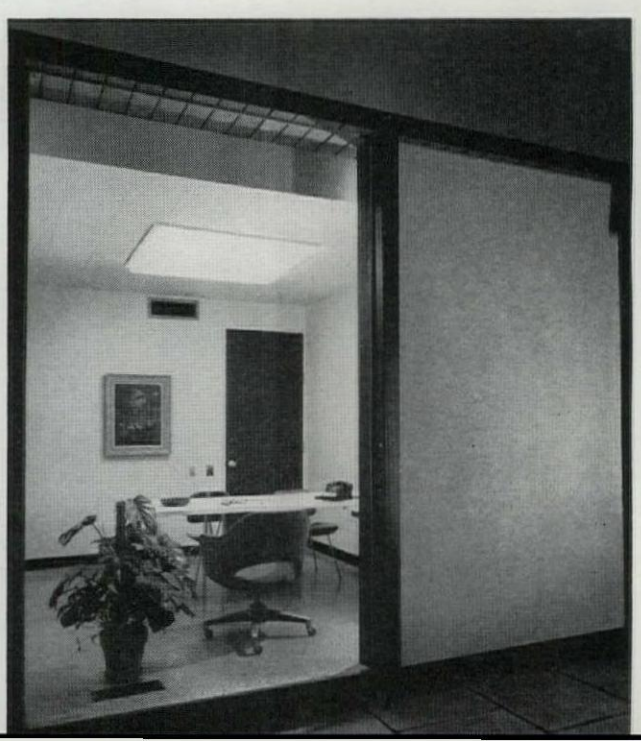


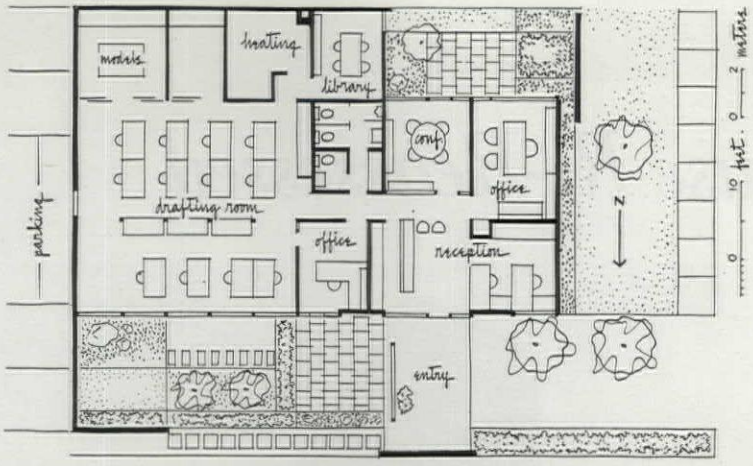
architect's office

location	Detroit, Michigan
architect	King & Lewis Architects, Inc.
engineer	Migdal & Layne

The Architects have created an inviting environment for their own professional use on a routine sort of urban site—60 ft by 90 ft—with one-story buildings at either side. The site was selected because it is near a major expressway and not far from downtown Detroit. The setting of the building back from the front lot line and development of an entrance court and garden on the entire north 20 ft of the property are striking departures from the neighborhood pattern. Another garden occurs at the southwest corner.

The architects tell us that the plan functions well, with work areas satisfactorily related. A wall surfaced with vertical wood siding constitutes the western street front; a sand-blasted sign panel separates entrance court and drafting-room garden. A textured, concrete-block wall at the end of the drafting room continues as a garden wall and shields a parking alley at the rear. Construction is post-and-beam on a 6-ft module supporting a flat roof, of which the wood deck, beams, and columns are left exposed in the drafting room. Heating is a forced-air system on the perimeter of the 4-in. concrete-slab floor. Kendall Construction Co., General Contractor.





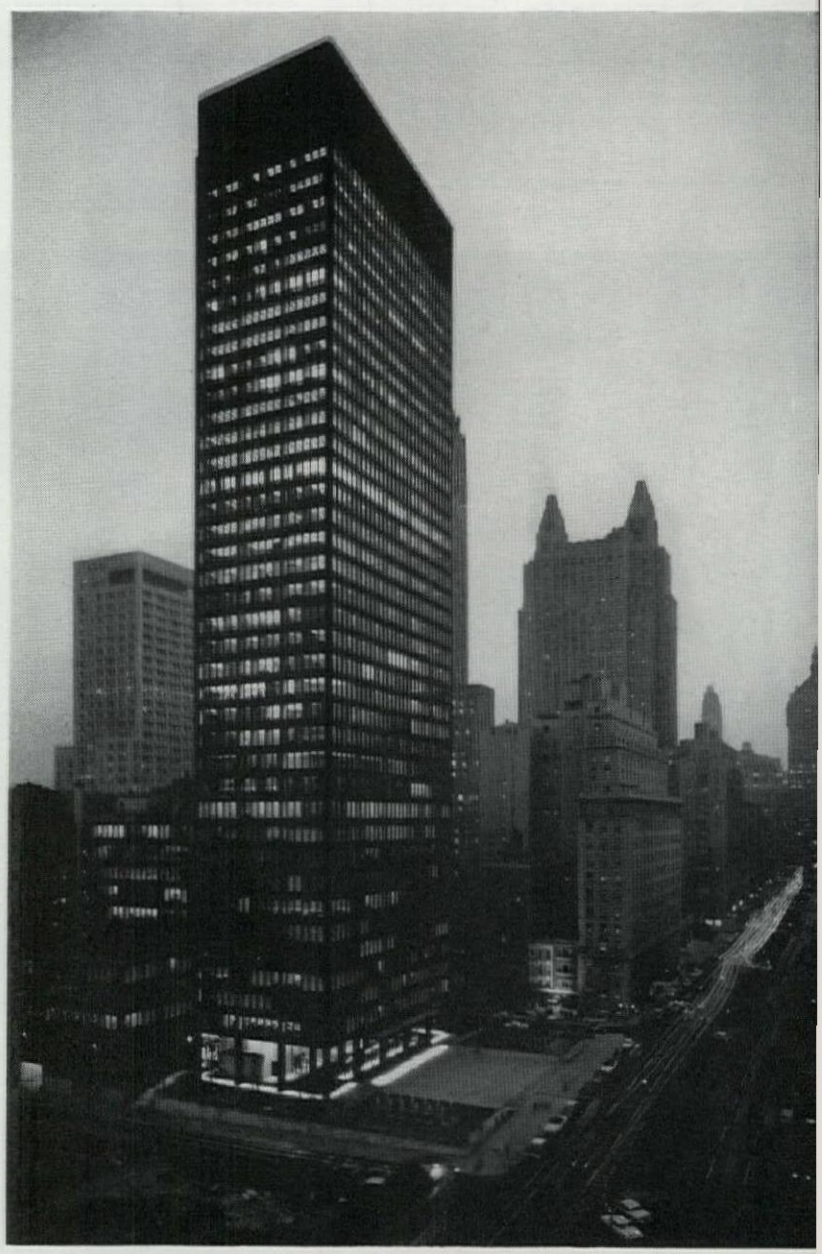
Photos: Lens-Art

Seagram House Re-Reassessed

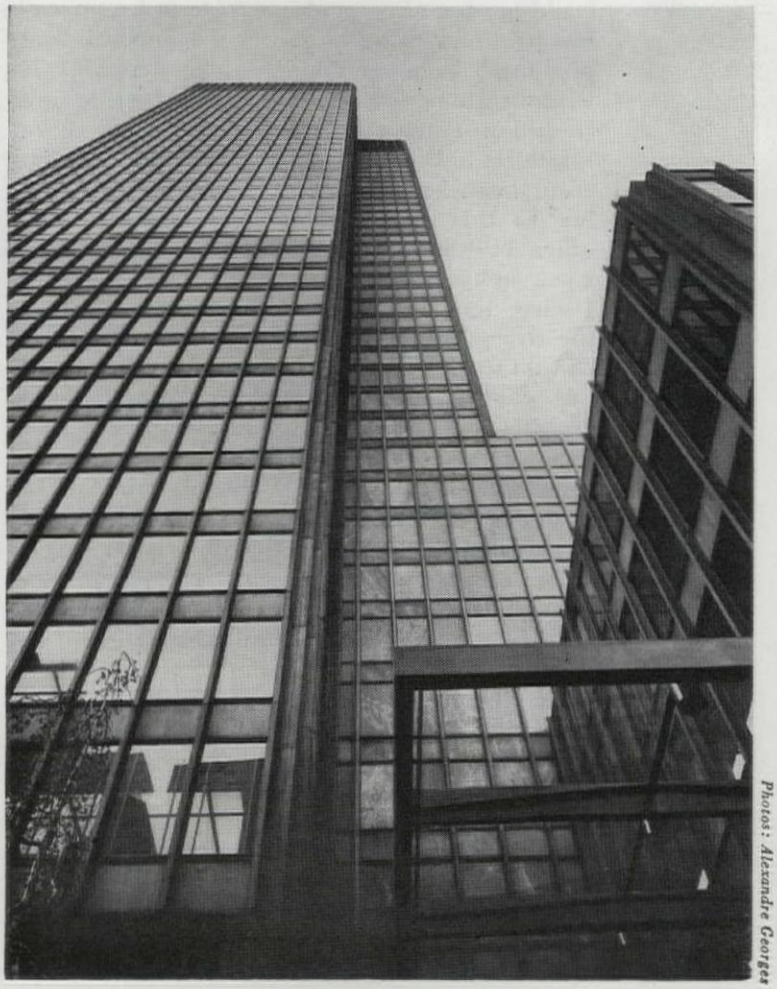
There has been a quantity of architectural "criticism" of Seagram House, very little of which has discussed the building as a work of *architecture*. This published comment has treated the structure—a great office building which occupies a key half-block on one of New York's busiest mid-town thoroughfares—as though it were a large piece of sculpture with no functional purpose worth discussing. Perhaps Seagram House *is* merely a huge sculptural construction, as is Gabo's great work alongside Breuer's department store in Rotterdam. If it were merely that, then it would be a useful act of criticism to say so (Lewis Mumford has referred to it as a "monument"). However, if it is also intended to serve a social and commercial function as a skyscraper office building and as a means of usefully investing a large amount of capital (as we know, of course, that it is), then surely its success or failure as a commercial building might be included in critiques of it as architecture.

Lewis Mumford wrote an appraisal of Seagram House in *The New Yorker*, reprinted in the January, 1959, *Journal of the AIA*, in which he says very frankly, "I have confined myself to its manifest esthetic qualities. I have not considered the practical and functional demands that must be integrated in any complete work of architecture. . . ." Prof. William H. Jordy wrote on article which *The Architectural Review* published in December, 1958, under the title, "Seagram Assessed," in which he is not so frank. In fact, he barely mentions the fact that Seagram House is an office building; it apparently makes no difference in this appraisal for what usable purpose the building was designed. One might almost assume, reading Jordy's critique, that it was another of Mies' well known apartment houses, especially since it is compared throughout the article with those Chicago buildings. What a move away from functionalism to pure consideration of pure form when the *use* of a building being "assessed" not only is not analyzed or criticized, but also is scarcely considered worth mentioning!

It has been generally agreed among critics and students of the critical process that the branch of esthetic criticism which encompasses analysis of architecture should include a number of points of reference. Whether one is satisfied with Wotton's translation of Vitruvius' three criteria (commodity, firmness, and delight) or whether one develops one's own list of "things to



". . . the great mass of the shaft, sitting on two-story-high legs."



Photos: Alexandre Georges

". . . this piled-up rear projection . . ."

". . . the handsome relation of ground-level interior space to the plaza."

judge" (for instance: function, technique, and handling of space), there is certainly more to evaluate in a work of architecture than whether ". . . Mies' Hellenism is peculiarly Germanic" (Jordy), and deeper architectural implications involved than whether there is here ". . . unqualified emphasis on the vertical" (Mumford). I would go even further (again with rather distinguished precedent) and insist that there are even more "ways to judge" than the one value judgment of esthetic pleasure. There are surely, in addition to the pleasure value of "I like it" (or not), the values of context and those of formism (symbolism, stylism, and so on). In other words, there are more ways to consider the building than by the ". . . aesthetic impact that only a unified work of art carried through without paltry compromises can have" (Mumford), and one might question whether "perhaps the most significant aspect of the Seagram Building is its visual weight" (Jordy).

The trap that seems to have snared these two estimable critics, and others, is the great temptation of judging Mies' work (or Wright's or Le Corbusier's—or even, recently, Stone's or Rudolph's or Yamasaki's) purely as form, and not at all as architecture. This reduces values to one—technique—and value judgments to perhaps two—historical and formalist.

As an example of the sort of question one might ask in order to widen the critical base: How does Seagram House fit the concept of the urban commercial center, as it is being restudied by serious planners concerned with blight, with traffic congestion, with the need for more vista and less monotony in the city center? Mumford, it must be pointed out in fairness to him, does consider (to discard) this matter; he points out that the building has ". . . a few urban drawbacks," but these are brushed aside in favor of the building's "positive qualities."

The building's congestion—both internal and as an added increment to midtown density—can surely be debated. It is partly an owner-occupied office building but largely a for-rent series of floors (renting at very high rates; renting successfully, apparently). Does Park Avenue need more office space at the moment; or may the present mad rush to tear down all the sound buildings of the '20s and build speculative (or even proprietary) office space lead to a who-holds-the-bag catastrophe of a glut of rentable space? Should a

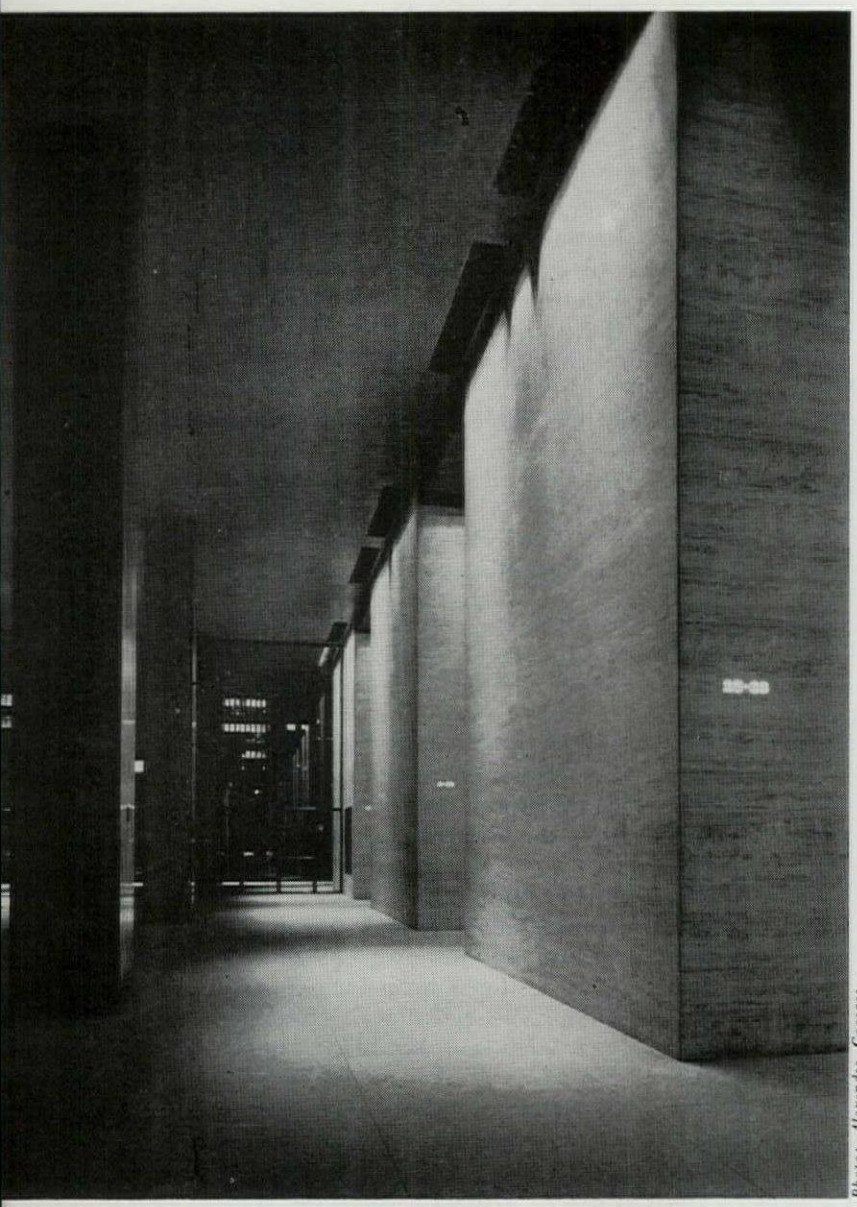
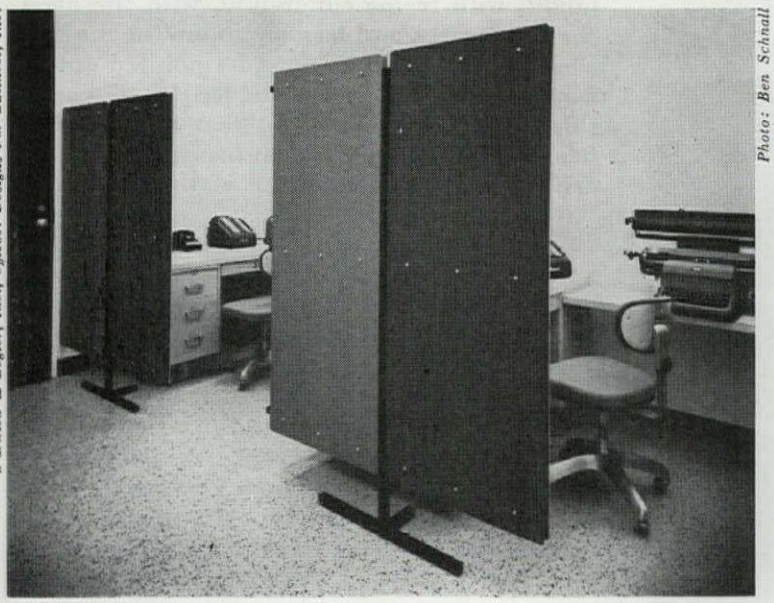


Photo: Alexandre Georges

". . . lower floor, space is articulated, evocative, moving."

". . . interior, claustrophobic space . . ."



Warwick & Legler, Inc., offices: Designs For Business, Inc.

Photo: Ben Schnall

building, even by Mies, be a separate entity, or should it be related to a larger development plan? What can the individual architect with the individual commission do about these broader matters of urbanism? Is he the *only* one who can possibly see the many-buildings-together problem? Or is he powerless to do anything but solve the one-building problem? In most instances, he probably is without wider powers; it may well be that one should not criticize the *architect* for these limitations. But surely the *architecture* which results can be questioned. I find myself coming to this critical conclusion: a midtown office building in the center of one of our great urban complexes which, like Seagram House, ignores today's vital relationship to the over-all development and redevelopment of that urban center may be admired as form but cannot be applauded as "good" total architecture. In this respect, we cannot find Seagram House any better than (if no worse than) any other new Park Avenue office building (including the projected Gropius-Belluschi-Roth-designed Grand Central City). There is one important exception—the plaza.

With regard to Seagram's plaza, commendable as it is, one can still quibble. It is not so much usable, urban opening of the site as it is a visual phenomenon. Mumford says, "Some of that openness will disappear when the vacant block to the north is occupied . . ." Whereas Jordy (who doesn't want open space, but a setting for Seagram House) is happy that "A bulky money-maker now building on the block will suitably wall the Seagram plaza. For once, greedy coverage deserves applause." Pleasant as this open space is to look at, it is not intended, apparently, for human beings to use (as is, for instance, the delightfully usable Mellon Square in Pittsburgh). Again, to quote our critics: Mumford deplores "two or three lapses" such as the fact that ". . . the architects beckoned the passer-by to loaf and invite his soul, but they absurdly failed to provide any benches, which they no doubt thought might mar its spatial purity." Jordy doesn't *want* people, except as design elements, and he includes in his *favorable* critical comments the fact that "absolutely nothing" exists on this slab-plaza and that people (in contrast to the "almost too popular, outdoor space at Rockefeller Center") are simply "human figures moving in long diagonals across the pristine, pink granite Seagram slab [which] evoke Giacometti figures." There are, he points out, low parapets, and "It is to these that idlers (*sic*) are banished. . . ."

One matter of urban relationships in the setting of Seagram House deserves all the applause it has received: the pleasant recognition it affords McKim, Mead & White's

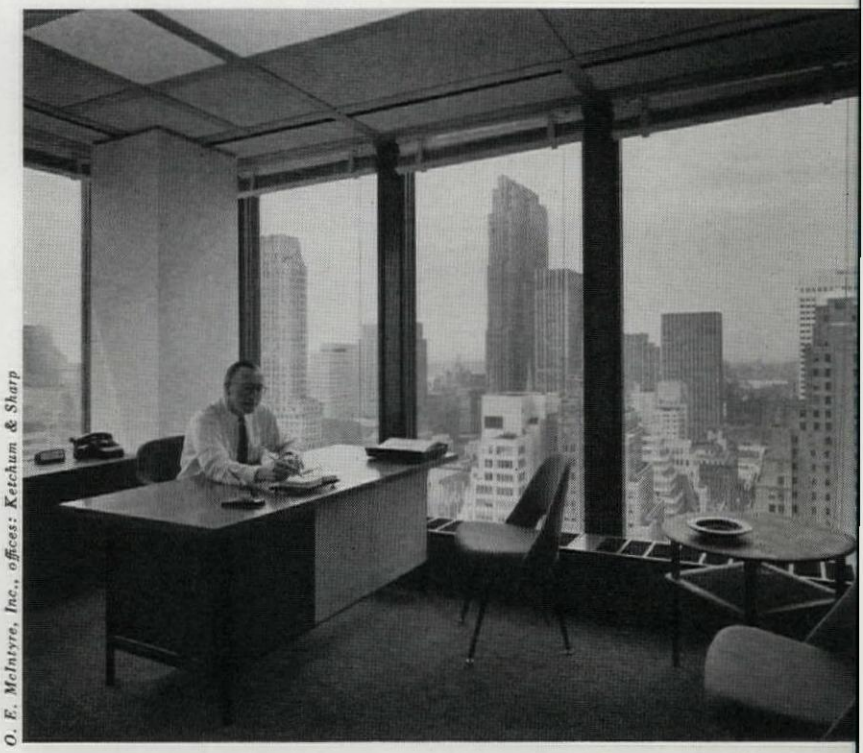
newly appreciated Racquet Club across the street. The bold modern giant and the reserved aristocrat of tradition seem to complement each other and extend a mutual due.

What about Seagram House as space used for a purpose? Is it beautiful space? Is it emotionally moving space? Is it space which adapts itself well to the social purposes of the building? I feel that there would be no disagreement that the lower-floor space is handsomely handled, articulated, evocative, even moving space, with a ". . . ceremonial grandeur in the merger of plaza and lobby" (Jordy) that is marked by "Such purity and dignity [as] are completely lacking in most contemporary metropolitan architecture . . ." (Mumford).

But what about space in the upper floors, so fully ignored by both the critics we are quoting? Here the result is not so happy. One finds two kinds of space on an office floor (as in almost any recent office buildings): a limited amount of peripheral space, occupied almost inevitably by executive offices; a large amount of interior space which might as well be underground or in Hoboken as far as the users are concerned. In Seagram, by and large, the exterior space has breathtaking views of Manhattan's mid-district. Users of this outside space seem to be divided in their reactions as to whether the unusually deep glass area is pleasant, unpleasant, or an unimportant factor to be blocked out by floor-to-ceiling draperies or venetian blinds, so that one can get on with the day's work. Many do, quite seriously, experience a sense of vertigo. The sheer tower forms a sheer precipice, which to some tenants is rather terrifying.

As for users of the interior space, they seem to be in unanimous agreement (off the record): being relegated, in a square-plan office building, to space between the core (elevators, toilets, lobbies, etc.) and the outer offices, is most unpleasant. Seagram is basically a squarish building in contrast to the ". . . now standard thin, slab-shaped building . . ." which Mumford deplores. Thus it has a large proportion of this interior space which, no matter how well lighted, no matter how well ventilated, is still interior, claustrophobic space. And the fact that many of the floors—even those rented by tenants who have had their own architects or decorators do the interior "design"—use the Mies-Johnson floor-to-ceiling doors and other trademarks of the building, does not make the space, as space, any more pleasant or any less confined. In the Seagram offices, the great conference room—36 ft wide and 69 ft long, with the standard 9-ft ceiling—cries for the greater height that two stories would have provided.

". . . a sense of vertigo . . . a sheer precipice . . ."



O. E. McIntyre, Inc., offices: Ketchum & Sharp

Photos: Alexandre Georges

". . . apparent industrial-design-construction discipline . . . is . . . symbolic."

". . . might as well be underground or in Hoboken . . ."

Seagram offices: J. Gordon Carr

Photos: Ezra Stoller

". . . the great conference room cries for greater height . . ."

To consider just one other point which has been ignored by the critics whom we have been quoting: the apparent industrial-design-construction discipline of the curtain wall, the integrated lighting-ventilation ceiling, and the partition system is, of course, merely symbolic. In somewhat the same mood as the Miesian "expression" of a structure by showing nonstructural elements applied as a symbol of the real thing, Seagram House uses a module (symbol of the industrial-assembly approach to architecture) which made impossible the specification of any standard, industrially produced component, without cutting and patching. One of the architects who fitted a tenant into his rented space told me that he had never worked on a building in which it was so impossible to use any existing material without expensive wastage. Mumford says that "van der Rohe himself has gone back to Louis Sullivan's concept of the skyscraper as a 'proud and soaring thing,' " but what a misreading of Sullivan's attitude toward skyscraper design! Here we have a structural and planning module of arbitrary size, adopted in order to achieve a proportion which is based on esthetic decision. Sullivan's suggestion, rather than this, was that "The practical horizontal and vertical division or office unit is naturally based on a room of the comfortable area and height, and the size of this standard office room as naturally predetermines the standard structural unit and, approximately, the size of window openings. In turn, these purely arbitrary units of structure form in an equally natural way the true basis of the artistic development of the exterior."

There are other technical questions which can be asked critically about Seagram House: does the benefit of the 75 percent glass area justify the greatly increased air-conditioning cost; should the four sides of a building as open to solar rays as this be handled as though all orientations were the same; has the problem of glare been countered by the increased artificial lighting, called for by the lighting consultants, at the perimeter?

Both Jordy and Mumford *like* the Seagram Tower. Jordy likes it because, he feels, in its handling of the relationship of exposed symbolic structure to true structure and to the actual curtain wall, this building ". . . participates in a widespread reaction against the ideal of weightless transparency, which, until very recently, has provided the impetus for modern architecture." Mumford appears to like it despite himself ("van der Rohe's famous motto 'Less is more,' comes to mean, in the end, 'Nothing is even better,' " he says at one point) for a number of purely emotional reasons: "It is everything that most of the office buildings that have been going up in

the mid-town area in the last few years are not"; it is "quietly ostentatious"; there is "purity and dignity"; he likes its "classic execution"; he believes it is "the best skyscraper New York has seen since Hood's Daily News Building"; it is a "muted masterpiece." Can one classify as "the best skyscraper" a structure that one has not studied as a usable building?

I am glad that Mies and Johnson were allowed to design this sport. I agree that it is a beautiful, dignified, somber shaft, refined in all its proportions and details to a point of great sophistication (but not of antiweightlessness, Professor Jordy; one of its glories as a spectacle is its floating-above-the-street quality at night.) For a time I felt that the great mass of the shaft, sitting on the two-story-high legs was imbalanced and awkward; I expected the struts to crumple and the building to sag on one knee, so to speak. I have gotten used to that proportion now, and I will almost go along with Jordy's feeling that it "meets the earth firmly on heavy, two-storey stilting." I am not yet ready to admire in any way the low pile behind (usually, in actuality and in photographs, hidden by the main shaft) which, for me, has little relation either to the main building or to the adjacent, transient, lower buildings (to which the five-story street frontages of this piled-up rear projection presumably do relate).

To summarize my reactions: I find myself tremendously moved by the suave beauty of the shaft (though disturbed by the off-Park Avenue aspects, because of the rear protrusion); I am impressed by its arrangement of space on the lower floor, and by the handsome relation of that ground-level interior space to the plaza and to the street (though I *dislike*, subjectively and after talking to users, most of the space, as architectural space, on the upper floors).

However, in the ways that one must look at a work of architecture other than as an isolated piece of virtuosity, I find myself objecting to the building in its urban context as a functioning social instrument and to the building in the technological context of modular-assembly design-construction (masquerading as a prime demonstration).

As to whether Seagram House is, formistically and stylistically, the end of an era, the beginning of an era, the first of the skyscrapers of weighty solidity or the last of the skyscrapers of weightless transparency; whether it stems from the Monadnock block or the Farnese Palace; these questions I am willing to let the historians and the learned reviews debate. I am going to object again, however, if they call this criticism of architecture.

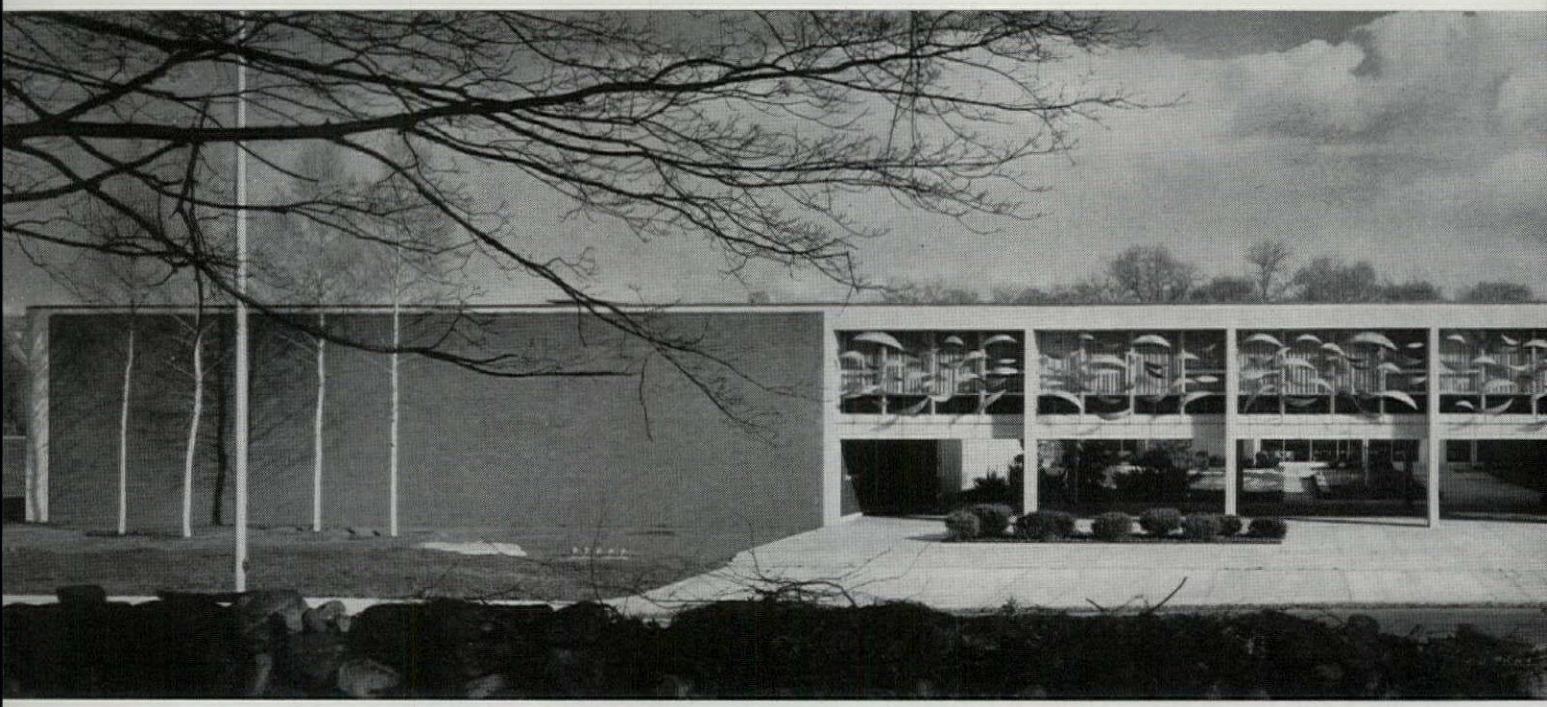
T.H.C.

Photo: Alexandre Georges

". . . refined in all its details to a point of great sophistication . . ."

the corporate neighbor in the suburb

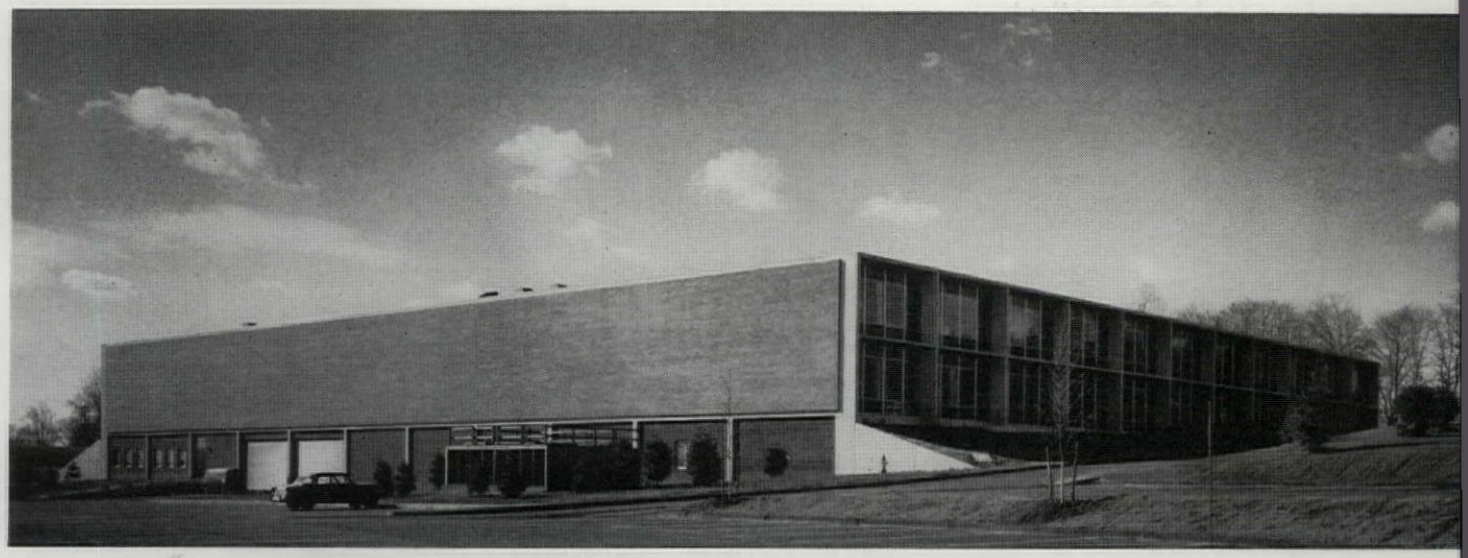
Whether industry should decentralize or recentralize will long be debated. The three companies whose new headquarters are shown on the following pages chose to settle in the suburbs, where employes could be offered healthier and more comfortable quarters, and where major travel difficulties could be avoided. This shift has brought a number of new problems, such as the reluctance of the suburban home owner to accept this invasion of his domain, and the reluctance of the employe to part with the city. Appeasement lies largely within the powers of the architect—as is implied by these examples.



1 Dorr-Oliver Incorporated: Stamford, Connecticut

In designing the headquarters for Dorr-Oliver Incorporated—an international organization of engineers specializing in the solution of process problems in chemical, metallurgical, sanitary, and similarly related fields—it was the problem of Architects Sherwood, Mills & Smith to provide efficient office space for the company, to express the basic engineering character of the client and, at the same time, to respect the interests of the homeowners of this suburban area. This last requirement was perhaps most demanding of the architects, since a design variance had been obtained over local protests, allowing erection of an industrial structure in a residential zone. To this end, the building was kept low and well back from the street; major parking areas were concealed at the rear of the site; and the grounds were carefully landscaped. That the aim has been accomplished is evidenced by the fact that the finished building has not only calmed the storms of protests but also has actually been effective as an instrument of good will.

The building was planned as first-class, climate-controlled, loft-type space, based on a 6-ft planning module for maximum flexibility of arrangement. Permanent partitions occur only in service sections and in the executive office area. Structural bays are 24 ft square, the typical bay being a reinforced concrete flat slab with dropped panel at the column. Form work was kept to a minimum by repetition of equal bays, requiring only variation in reinforcement for different load conditions. The only atypical framing condition occurs at the entrance loggia where 48-ft rigid frames were used, employing the standard rectangular columns as the vertical frame members. After careful investigation of

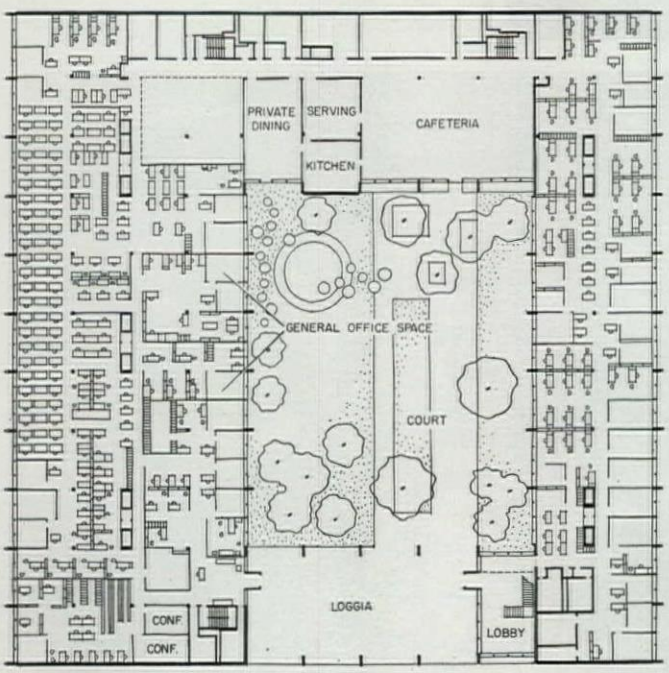


Photos (except as noted): Joseph W. Molitor

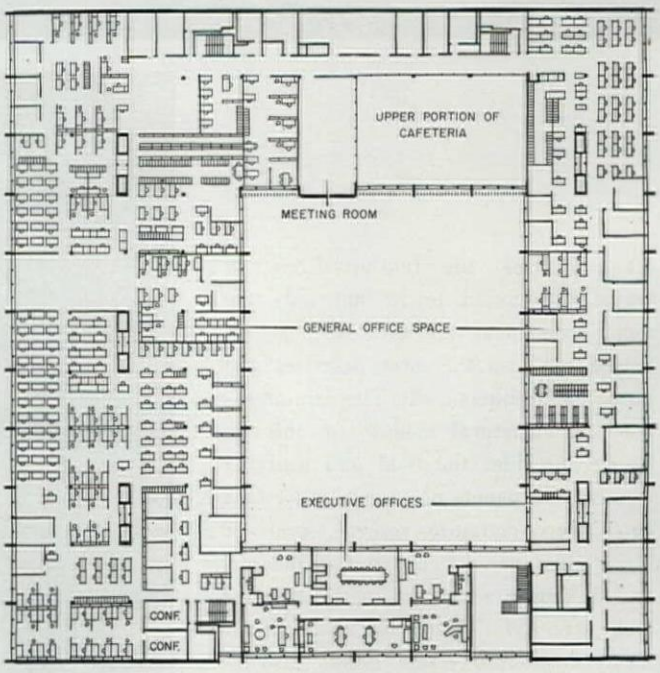
Fairchild Aerial Surveys, Inc.

other systems, the reinforced-concrete frame was found to be not only the most economical for the bay size involved but also the most practical and attractive architecturally. The reinforced-concrete structural module, in this instance, provides the bold and unifying element for panels of glazed, gray, face brick, terra-cotta-tile screens, gray or clear glass panels on the 6-ft module, and a bronze sunscreen sculpture *(see also page 154)*. In certain areas the reinforced-concrete frame serves also as window-washing platform and as built-in sun-control device. Since low cost, flexi-

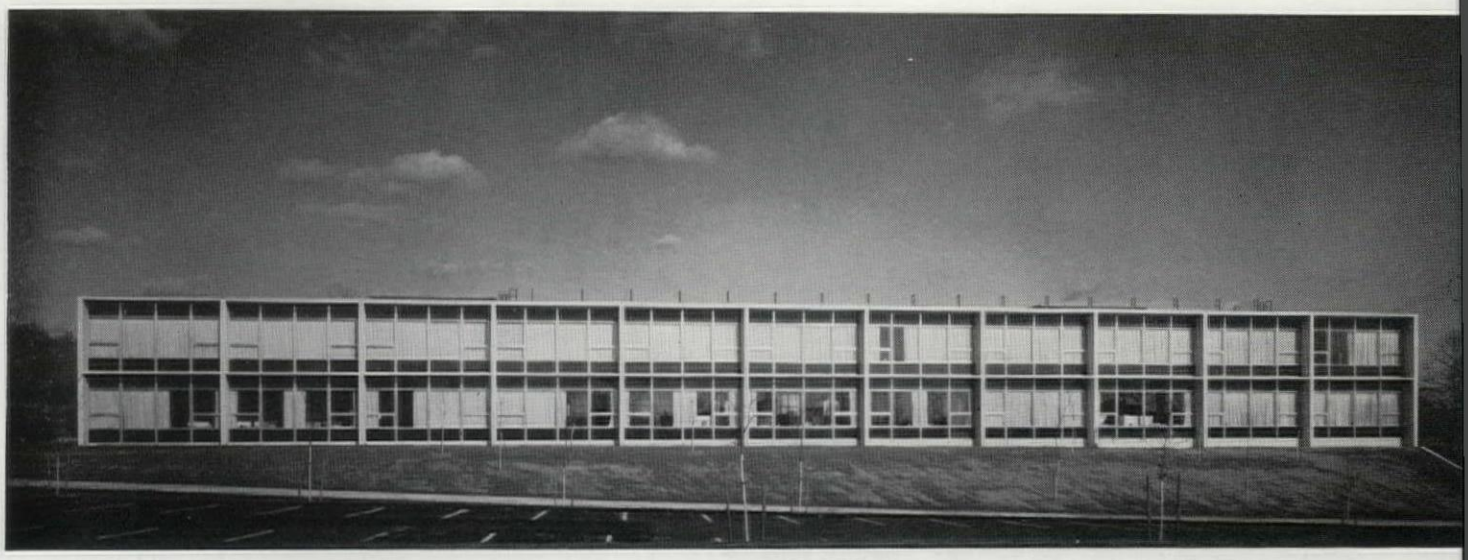
1 Stamford, Connecticut



FIRST FLOOR



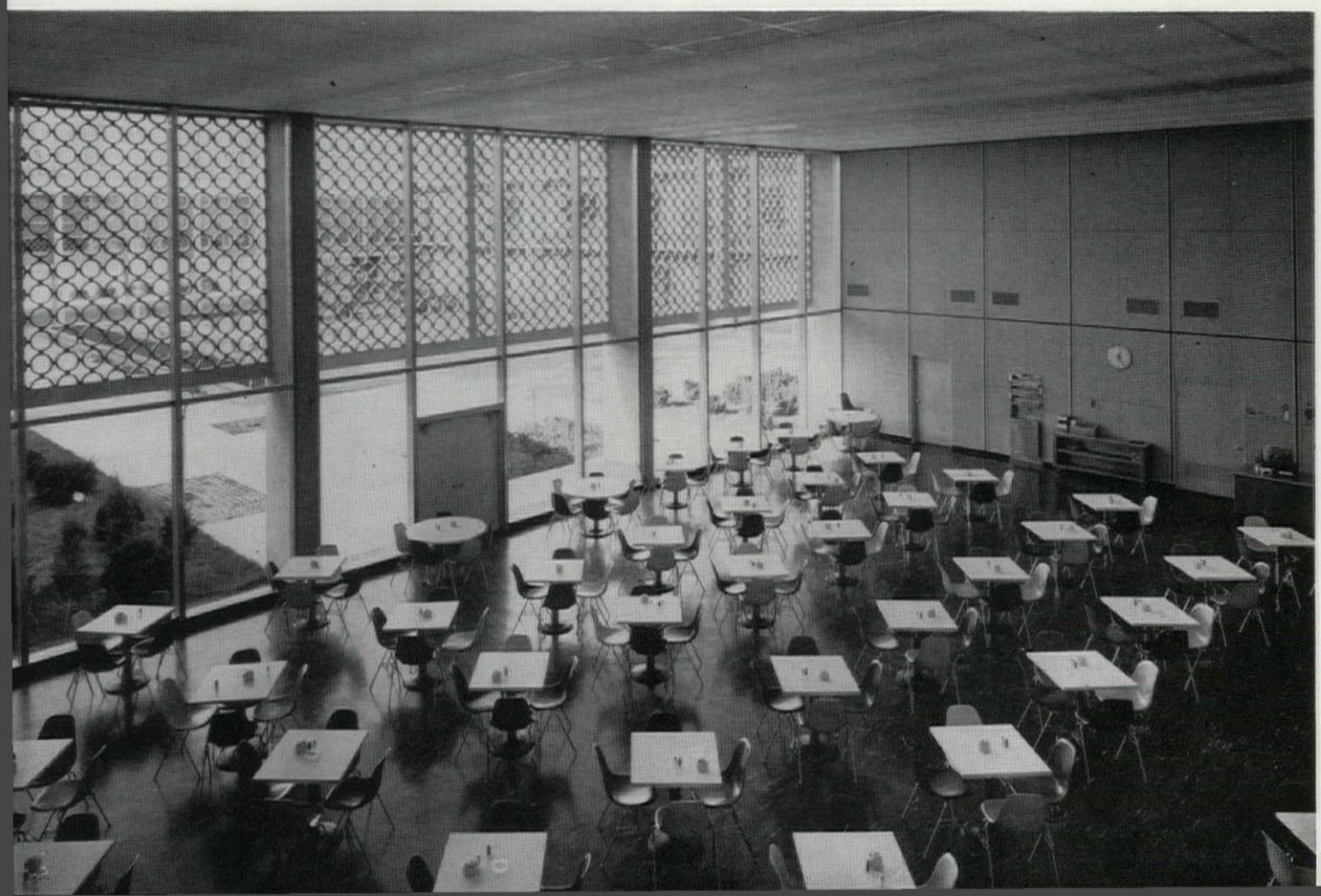
SECOND FLOOR



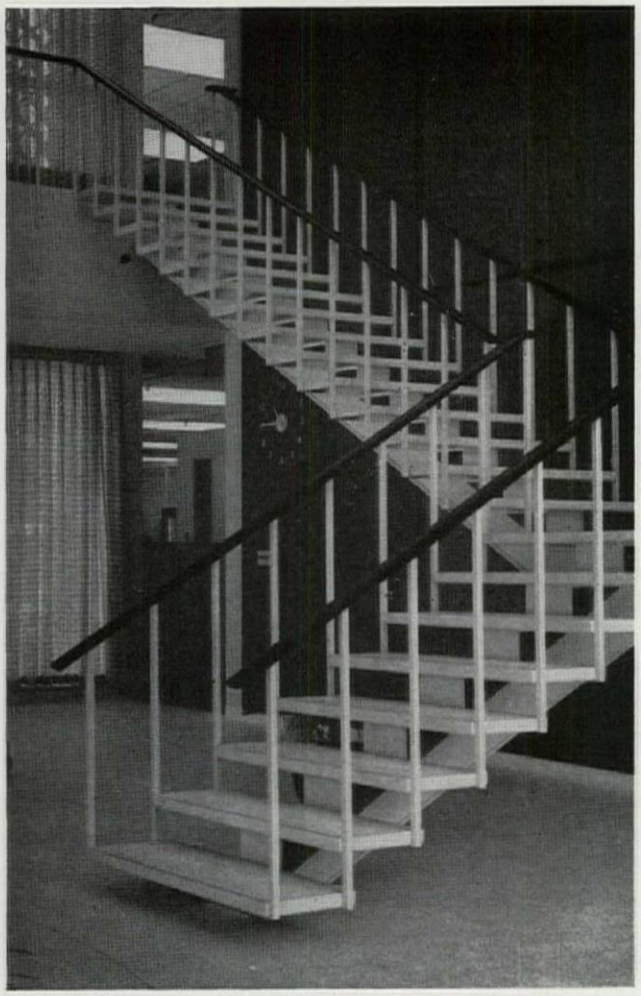
bility of use, and a carefully controlled interior environment were all-important, the mechanical and electrical systems were incorporated into the building's design at a very early stage. The planning process began with orientation and fenestration studies. On the basis of these, the two window walls were oriented north and south, and overhangs and exterior vertical baffles were so designed that they admit maximum daylight yet keep solar heat to a minimum.

Heating and air conditioning are performed by a direct-fired air system. No boiler or heat piping is used anywhere in the building *(see also page 156)*. To maintain the stipulated high degree of plan flexibility, the entire ceiling acts as an air-distribution chamber. Offices can thus be shifted anywhere without the need for relocation of air diffusers and ductwork. A perimetrical air-supply system serves to eliminate drafts at windows. Plenum space and lighting system (a 4 ft wide, corrugated-plastic shield over fluorescent lamps) were closely integrated. Acoustical treatment has been obtained by sound-absorptive ceiling material in all but the luminous-ceiling portions and at the perforated air-distribution pans. "The entire ceiling," explain the architects, "was used for heating, lighting, sound control, and sprinkler piping—a close yet comfortable fit."

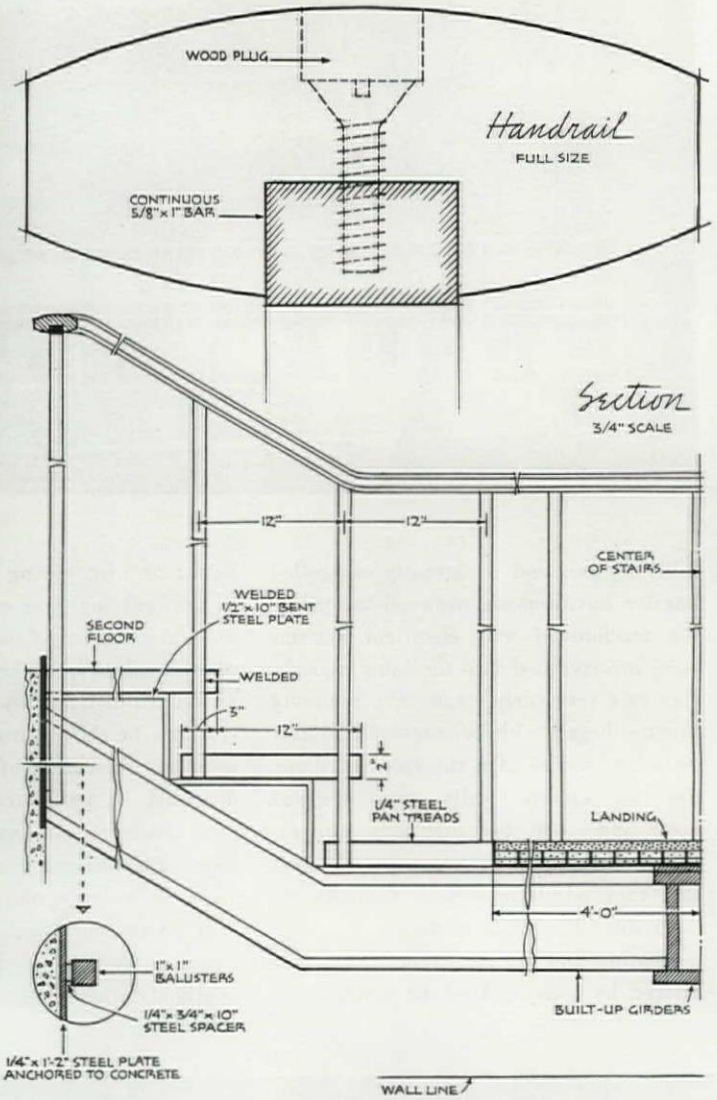
Rodgers Associates were the Interior Designers; Bye & Hermann, Landscape Architects; Robert Cronbach, Sculptor; Werner-Jensen & Korst, Structural Engineers; Bernard F. Greene, Mechanical Engineer; Deluca Construction Company, General Contractor.

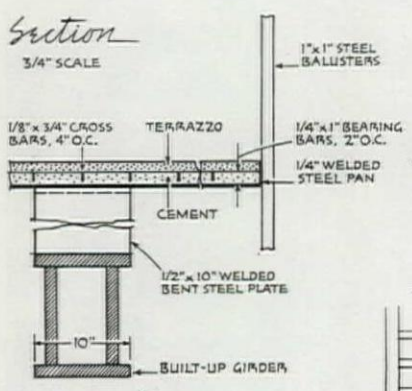


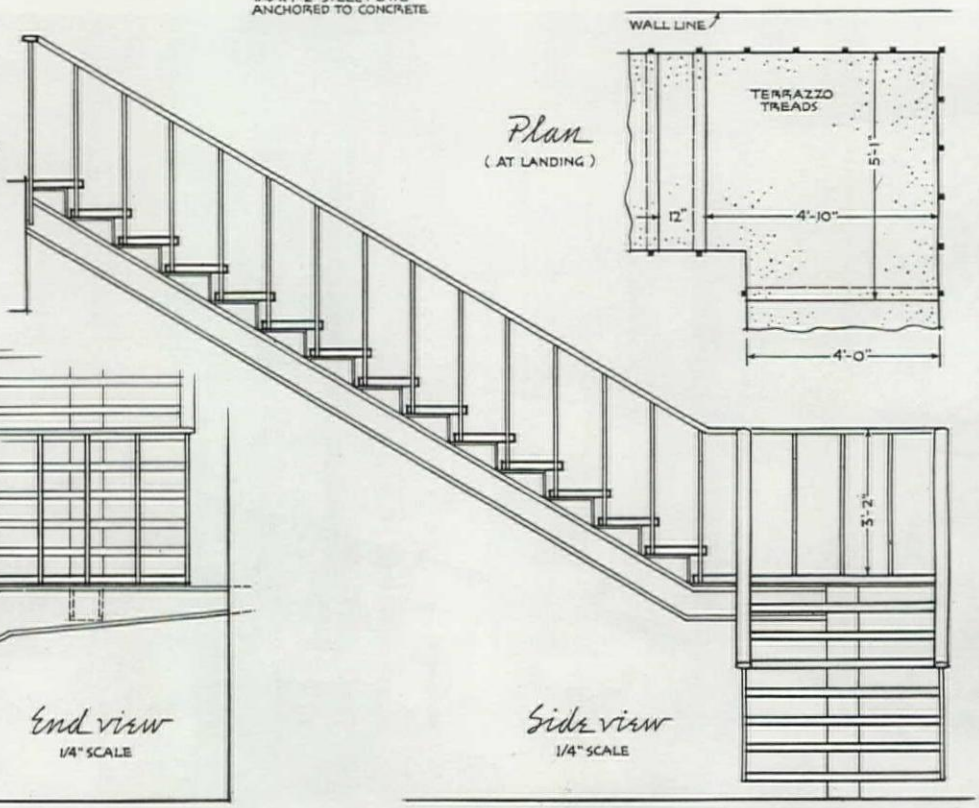
stairway



ROBERT STAHMAN



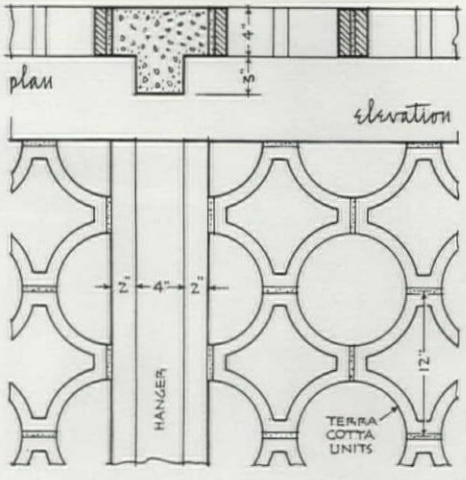




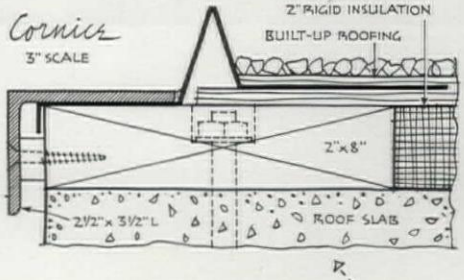
OFFICE HEADQUARTERS, Stamford, Connecticut

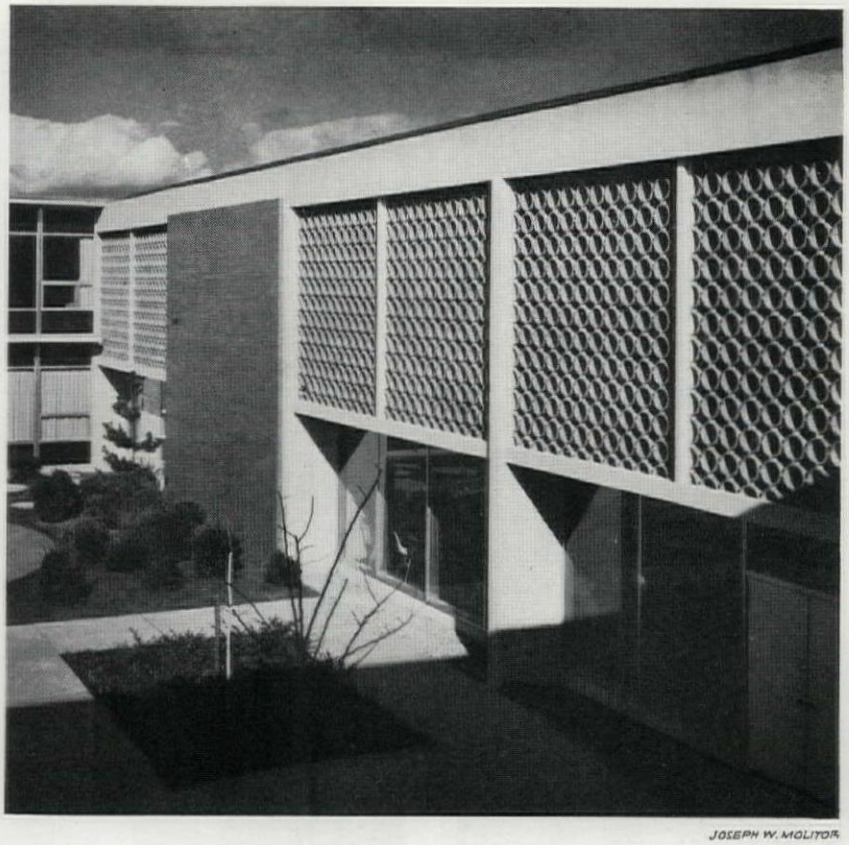
Sherwood, Mills & Smith, Architects

window wall

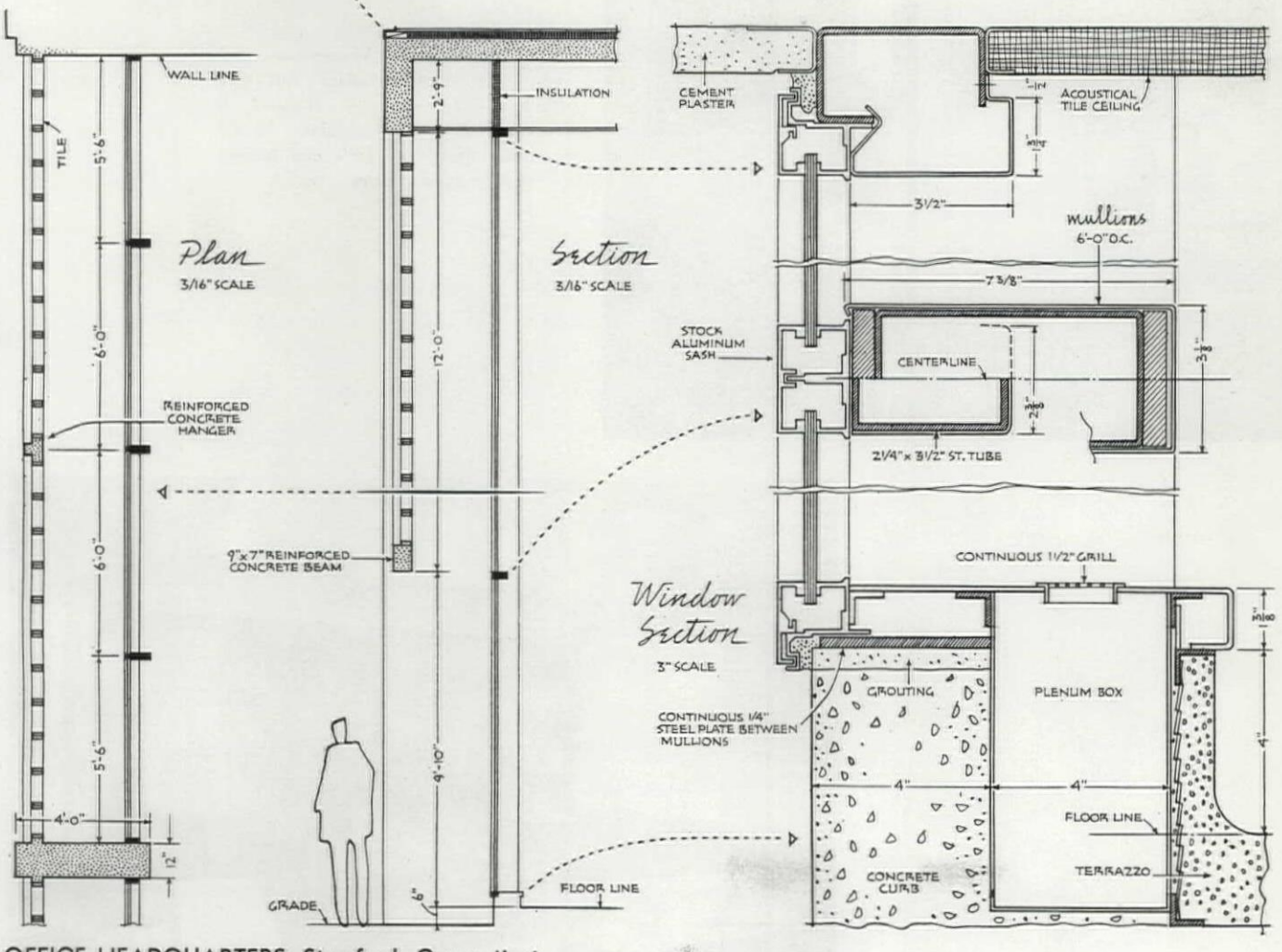


Sunscreen 3/4" SCALE





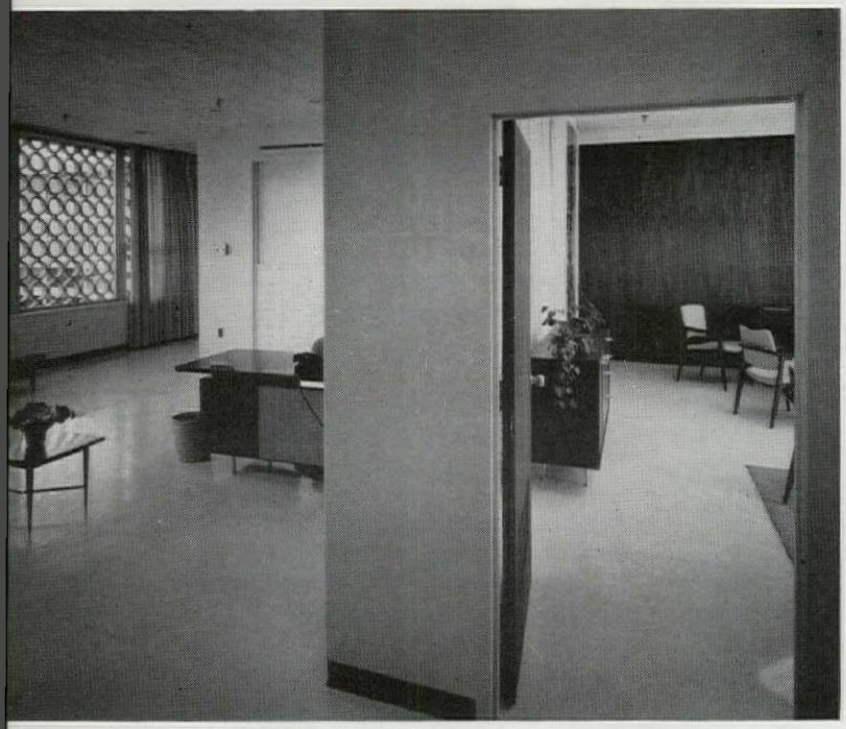
JOSEPH W. MOLITOR



OFFICE HEADQUARTERS, Stamford, Connecticut

Sherwood, Mills & Smith, Architects

1 Stamford, Connecticut



Office partitions in the general office areas (above) *are modular but non-structural and may be relocated, if necessary. However, partitions in the executive office area* (left *and* below) *are of permanent construction.*

Stairway in two-story lobby (below) *above the loggia. Sunscreen sculpture connects with executive offices directly visible through draperies of executive office* (right), *serves not only as decorative element but also reduces air-conditioning load.*

I Stamford, Connecticut

Clyde Flackbart

related design fields: Sunscreen Sculpture

While the Dorr-Oliver Building was still in the preliminary planning stage, Sculptor Robert Cronbach was invited by the architects to study the possibilities of a sculptured screen. "The results of this study," writes the sculptor, "were embodied in a scale model of a section of the screen and a full-size sample in actual materials; and from these, the techniques of production, materials, working schedule and cost could be determined. It was important that I make the study at this early stage. By doing so, I could and did collaborate in deciding the treatment of a number of related areas. For example: the color and texture of the brick walls, the treatment of the mullions and opaque glass in the windows behind the screen, the size and placing of the screen itself in relation to the five entrance openings, and a number of other factors, all of which would greatly affect the success of the whole scheme.

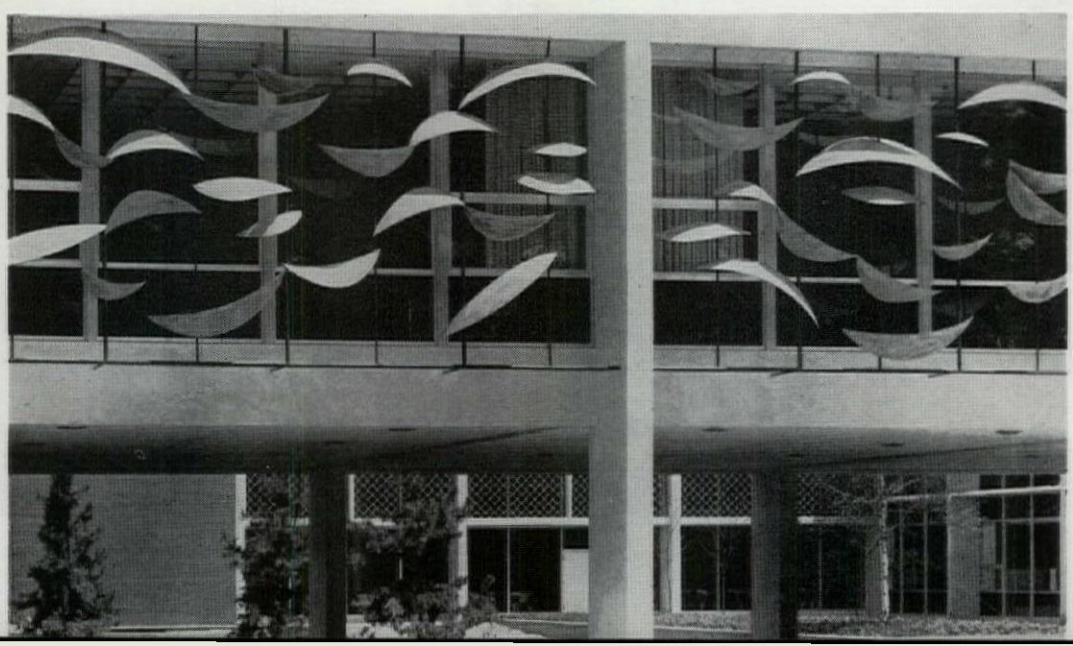
"In this respect there are two oversimple assumptions which are highly unrealistic. First, the artist does not change the architect's total concept of his building and it is foolish to assume that he is going to. Second, the architect cannot make a totally finished plan, then have the artist neatly fill the gap left for him, and still expect the artist to display much creative imagination."

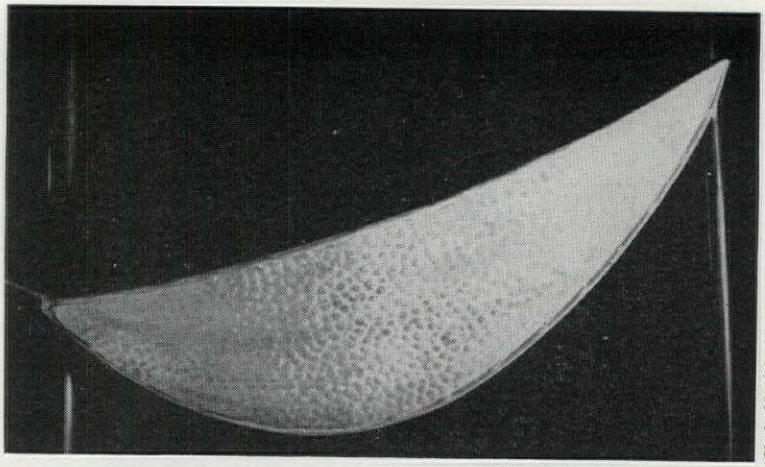
Because of the great scale and inherent character of contemporary building, Cronbach feels, traditional handicraft methods are seldom suitable today. "A screen of this size—12 ft by 120 ft—is feasible only if simple and semi-industrial means of fabrication are employed. At the same time the process must allow for diversity of scale, richness of texture, and accurate control by the artist."

In this case the entire design was assembled of four basic units or "vanes" of varying sizes and asymmetrical shapes. These he has used in various combinations: grouped, singly, obverse, reverse, tipped toward and tipped away from the light.

Actual fabrication proceeded in the following way: a metal-working shop rough-cut all of the vanes and a texture was hammered on them by the artist. The shop then cut them accurately to pattern, welded a metal rod rim and bent them to the correct profile by means of rollers. Next, rectangular grids of seven vertical and two horizontal bronze pipes were fabricated and, following the scale model, the vanes were tack-welded into place. Numerous adjustments in placement and pitch were made by the artist during final, intensive study of the sculpture. The finished panels were then given a patina with copper nitrate, potassium sulphide, and a torch.

"There is both need and possibility for art in connection with contemporary architecture," writes Cronbach. "By 'art' I mean an object or section of the building which is more complex, intense, and directly expressive than any normally functioning part of the building. It may work in harmony or in contrast but in either case it should intensify and complete the meaning of the building."

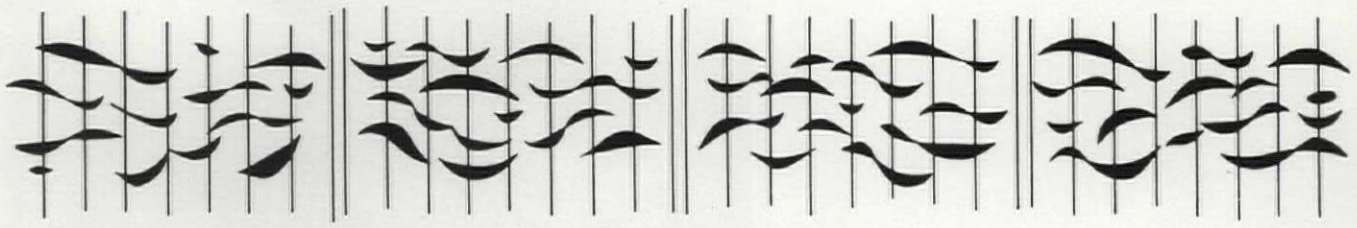




Clyde Flackbert

Robert Stahman

Stamford, Connecticut



Sunscreen Sculpture reduces cooling load, duct sizes, and operating costs

Robert Cronbach's sculptured sunscreen, as well as the terra-cotta-tile screens at Dorr-Oliver, not only help to fill the "need . . . for art in connection with contemporary architecture," but also serve another primary function in helping to reduce the load of the air-conditioning system during summer operation. After the designs for the screens were completed, studies were made by Bernard F. Greene, Consulting Engineer, to determine their effect on the mechanical design and related equipment that would be required for the building.

On the east and west exposures, the solar altitude during August is an average 40 degrees in both morning and afternoon. During this period, the solar heat gain on a vertical surface is 162 Btu/sq ft/hr. With such low angles, horizontal overhangs—unless excessively deep—would not be an effective means of shading. As designed, however, the sunscreens provide both vertical and horizontal shading and have an effective shading factor of 48 percent.

By virtue of the sunscreens, the initial air-conditioning load is reduced by 19 tons. This saving, however, could not be reflected in the initial cost of the refrigeration system, since it would not result in a change to the next smallest size of equipment. Nevertheless, there was an initial savings in air quantity of 10,000 cfm. This allowed an initial savings in duct sizes of about $5200. There is also a savings in operating cost.

air conditioning

In this all-air system, mixed and fresh air is blown over a direct-fired warm-air furnace and/or cooling coils, then distributed to five, main, duct shafts *(plan acrosspage)*. At each shaft, the air is blended under control of local zone thermostats. Blended air in each zone is distributed through the ceiling and dropped into a ceiling space confined by the sides of the lighting fixtures. About eight percent of the ceiling is open for air distribution. Air is returned through a portion of the supply shaft. Complete diffused air coverage without conventional diffusers permits rearrangement of desks and partitions without changing the duct system.

electrical distribution

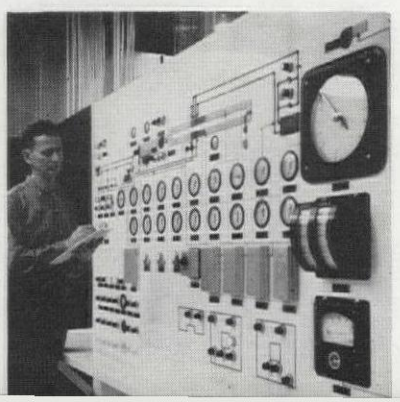
The 460/277-v supply is 3-phase, with a separate 208/120-v transformer having connections to the underfloor duct system. Large motors operate at 460-v and fluorescent lighting at 277. Lighting is built into the ceiling and co-ordinated with the heating zones and space modules. The 4-ft partial plastic ceiling on 12-ft centers affords good lighting distribution, low surface brightness, and low cost. With this over-all system of lighting and air distribution without diffusers, complete flexibility is obtained. The first cost was 43 percent less than a conventional installation.

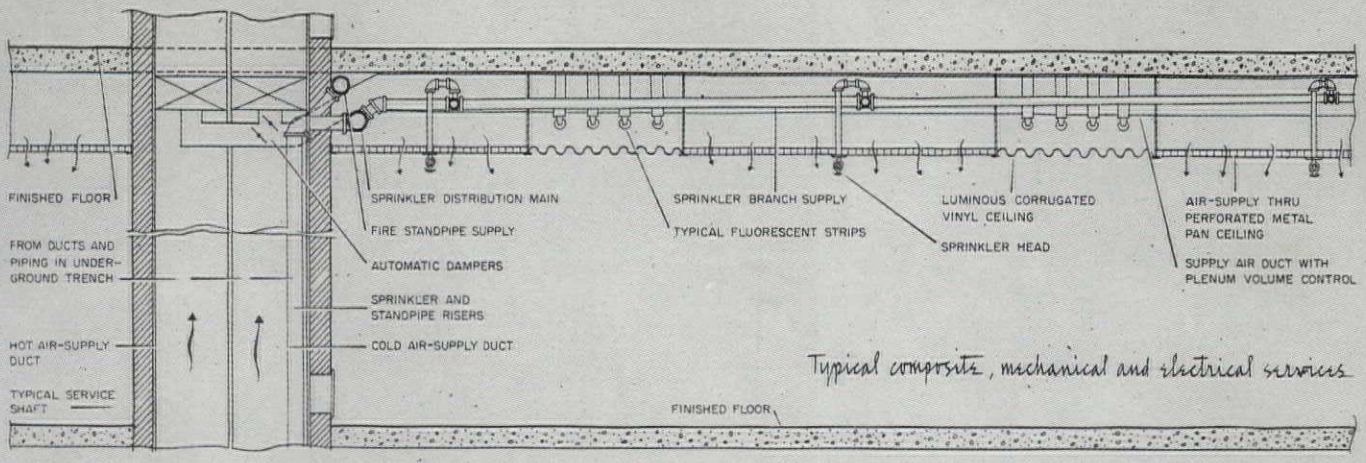
sprinklers/plumbing

Piping is distributed through return-air plenums, up through duct shafts, and then through the ceiling. Located at the duct shafts are water coolers, lighting panels, and coat closets.

control panel

A central, prewired, control panel *(below)* located at lower level contains all switches, relays, day/night clock, temperature indicators, and all electrical or pneumatic accessories. Temperature indicators are provided for hot ducts, cold ducts, outside air, chilled water, and condenser water. The panel also contains suitably labeled lights that indicate which zone is controlling during the night cycle. All fan start-up buttons (supply fan, refrigerating machine, and cooling tower) are likewise mounted on this panel.

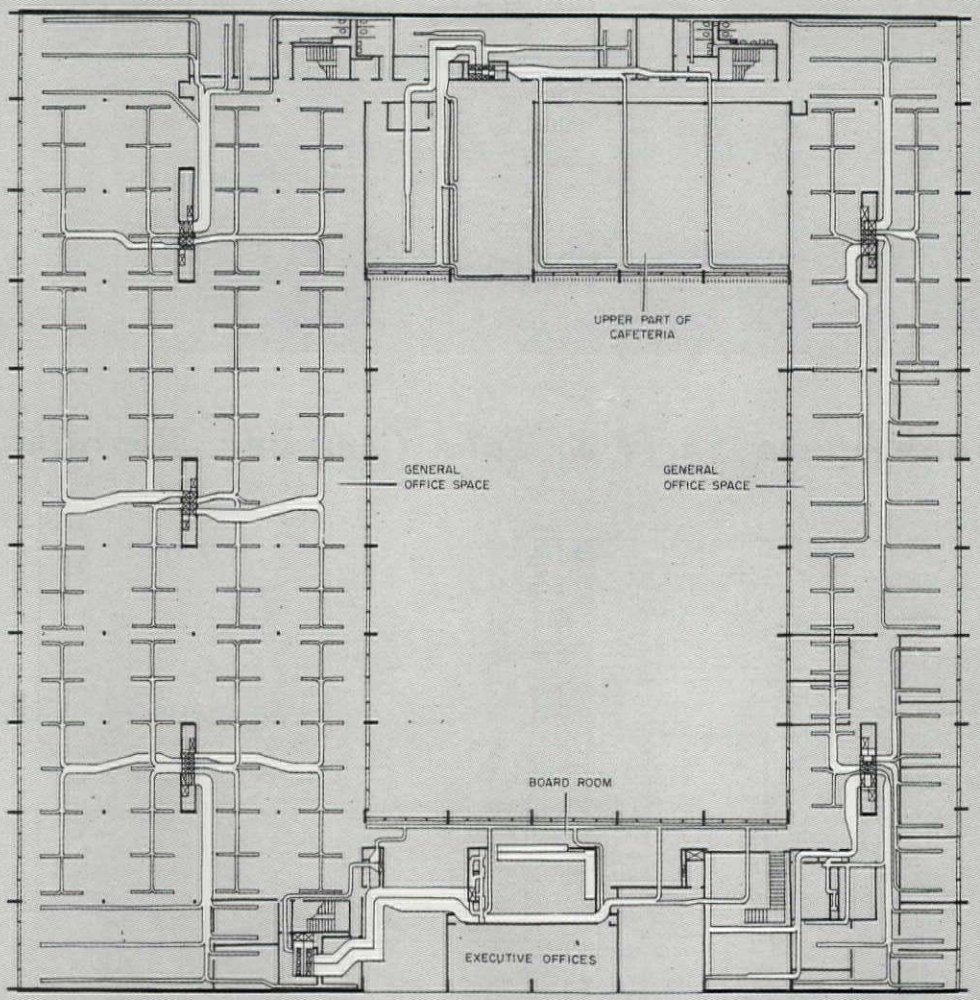




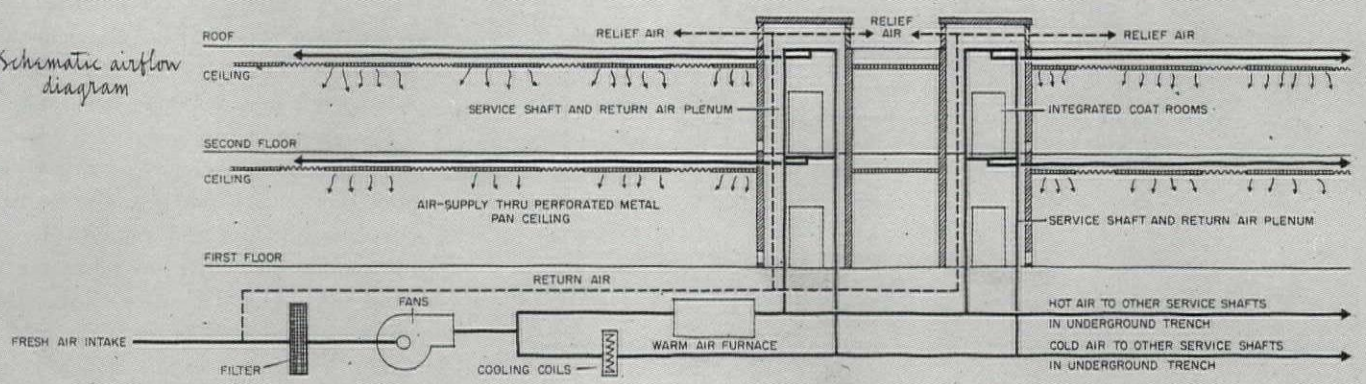
Typical composite, mechanical and electrical services

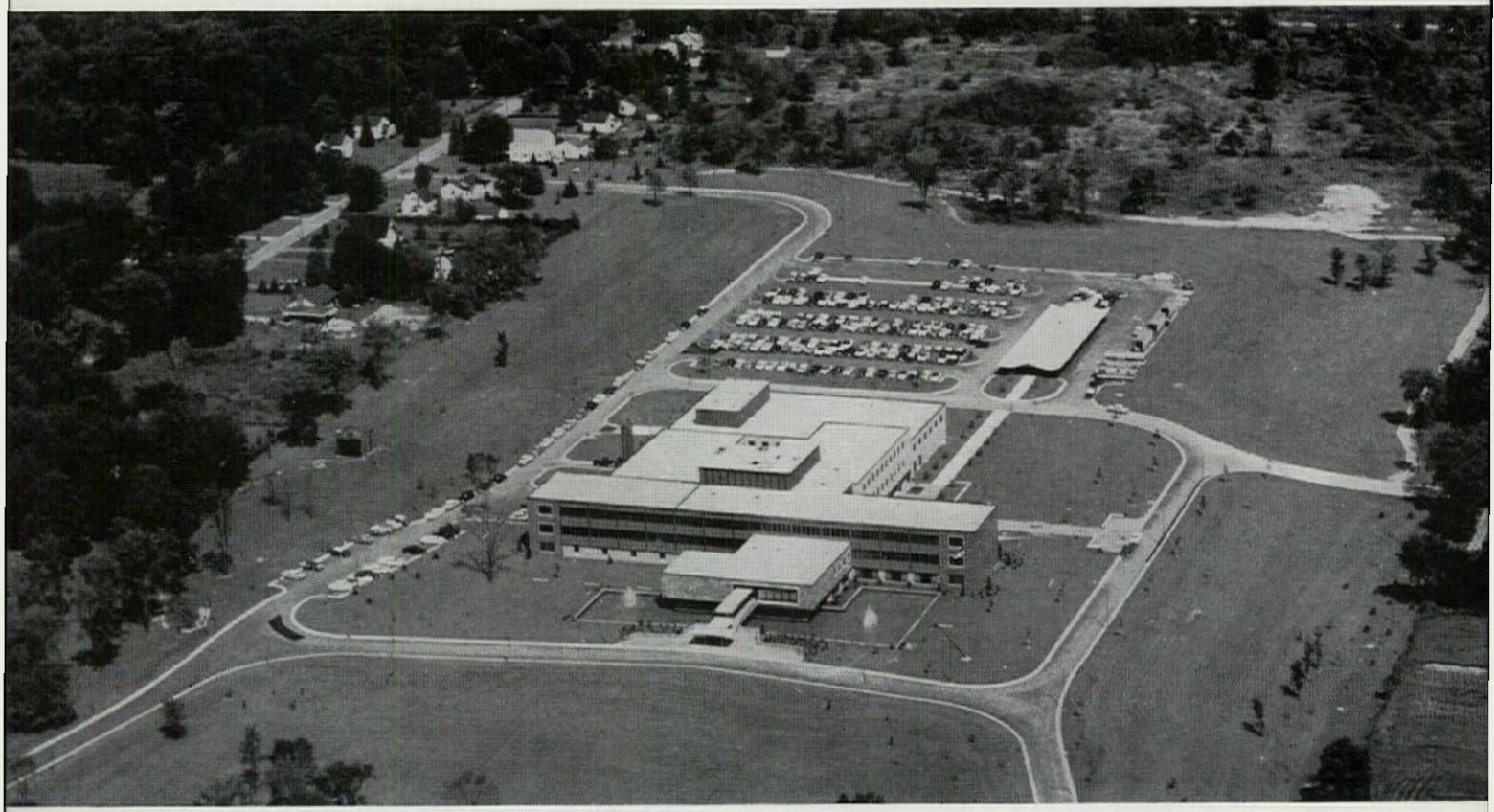
Duct diagram

2ND FLOOR CEILING

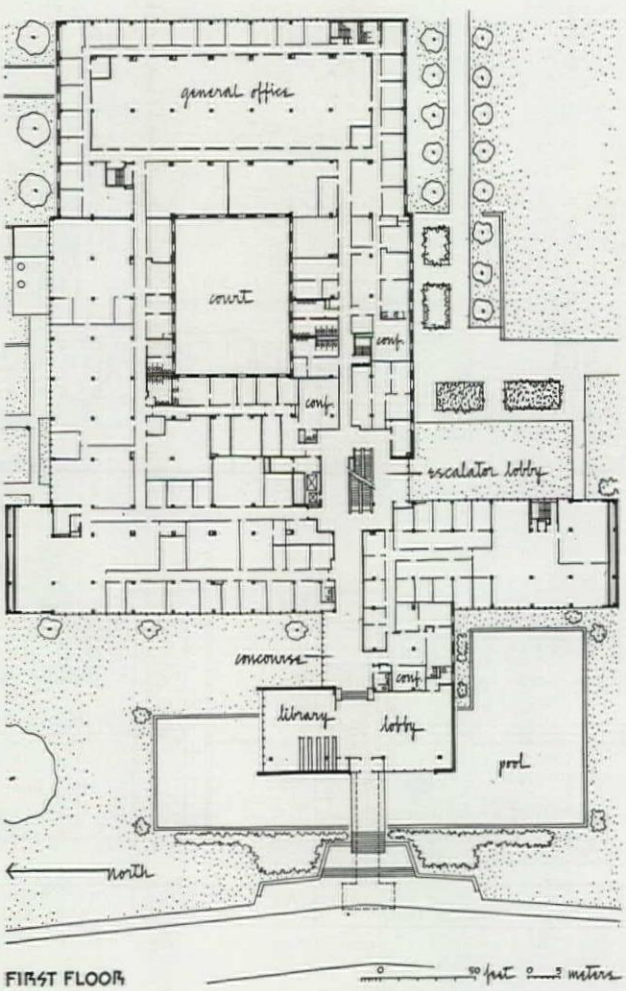


Schematic airflow diagram

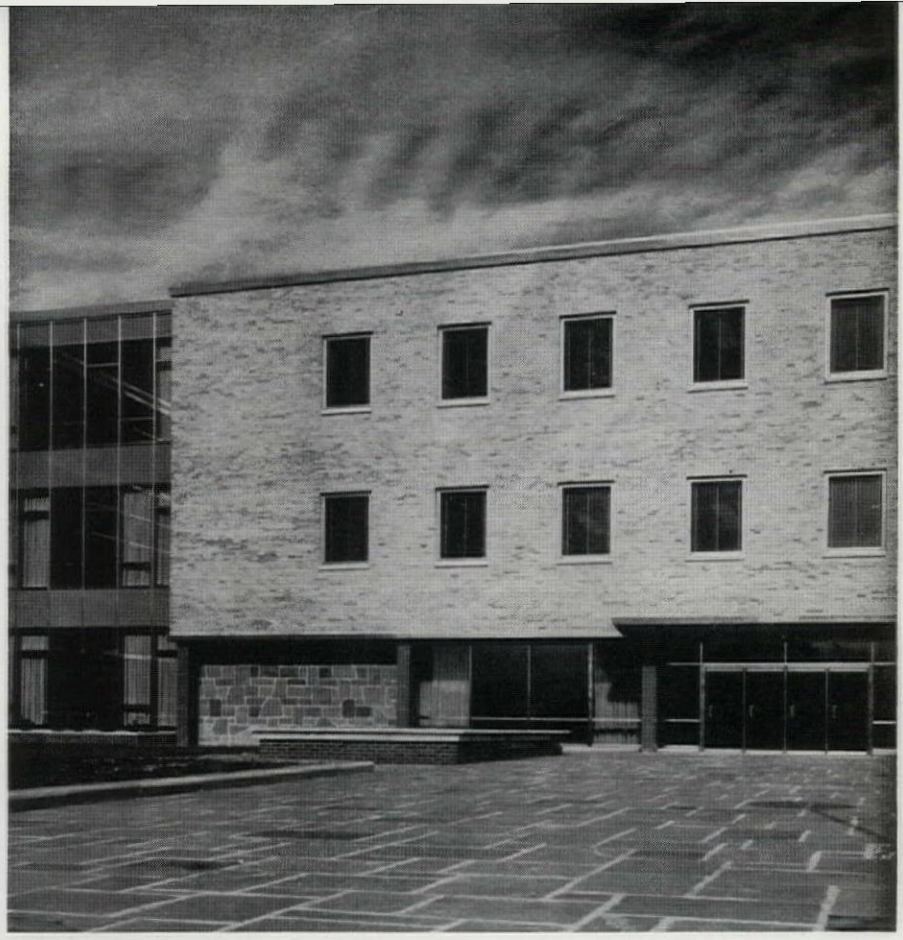


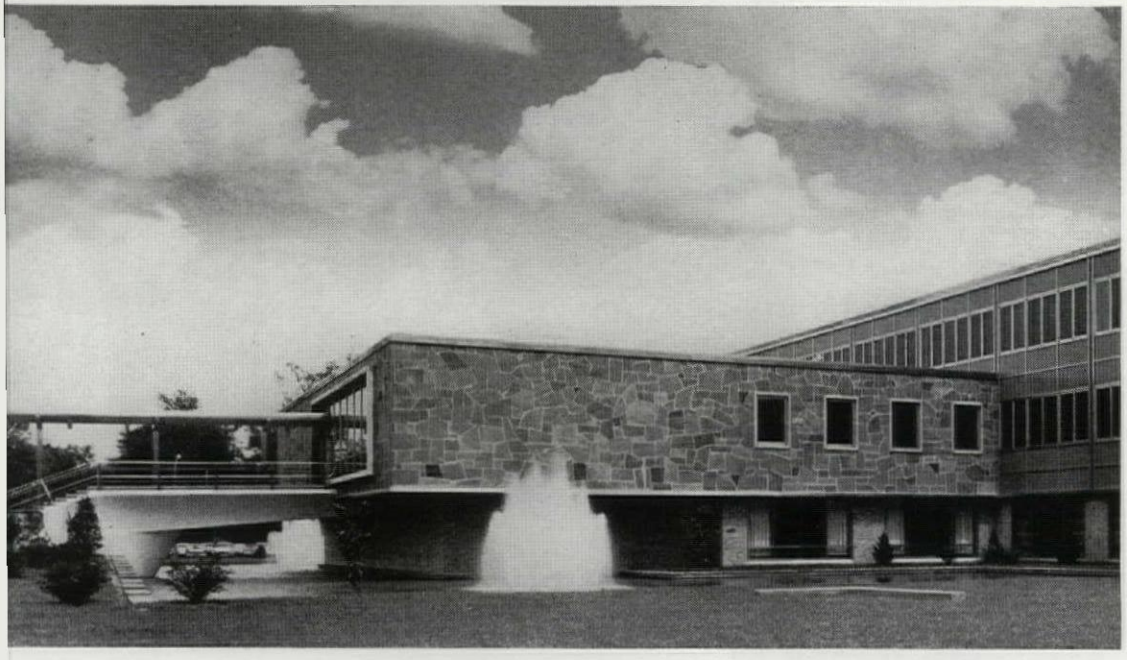


2 *Youngstown Sheet & Tube Company: Boardman, Ohio*



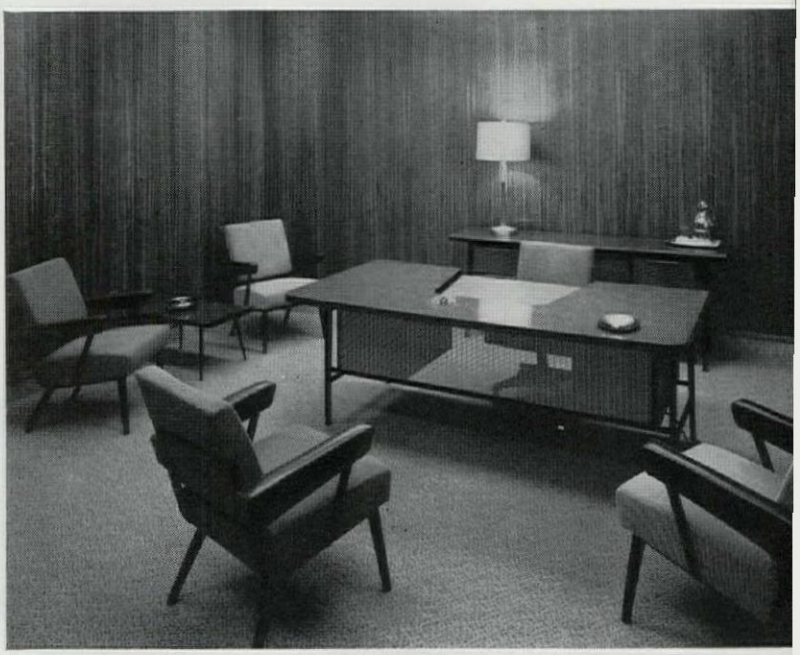
The new headquarters building for Youngstown Sheet & Tube Company, designed by Architects Garfield, Harris, Schafer, Flynn & Williams, is located on a 52-acre site in the midst of a rapidly growing suburban area. According to the architects, "the building was to be particularly attractive and comfortable for the employes, to offset any reluctance to leave the old public-square location for the new site seven miles south of the city." A marshy section, now drained and converted into a spacious lawn, de-





termined the placement of the building 600 ft back from the road. Drainage problems also ruled out inclusion of a basement. Thus service areas are at grade level; offices on two floors above. A ramped entrance drive and a series of stepped platforms form a bridge to the visitors' lobby on the middle floor level. Another entrance at grade level, to the south, is conveniently located in relation to a built-in garage, an open car shelter, and additional parking areas to the east of the property. This entry also serves as main approach to a 190-seat assembly room, a recreation and dining room—all at grade level. Escalators originating from this lobby connect with the two office floors. Structurally, the building is a steel frame using 21′x21′ bays (except at the visitors' lobby), and a cellular-metal-floor system. On the exterior, the architects have made use of curtain-wall panels as well as several masonry materials, such as Pennsylvania Blue Stone and a deep red glazed brick. Mechanically, year-round air conditioning is achieved by ten systems in five fan-room locations. These are double-duct systems with mixing boxes for each zone in the ceiling space. Return air is taken through the metal-tile ceiling into a ceiling plenum.

Partner-in-Charge of the project was Gilbert P. Schafer; James E. Sondles and Frank J. Schlosser were Associates; Barber, Magee & Hoffman, Structural Engineers; Byers, Urban, Klug & Pittenger, Mechanical-Electrical Engineers; The Heller-Murray Company, Contractor.

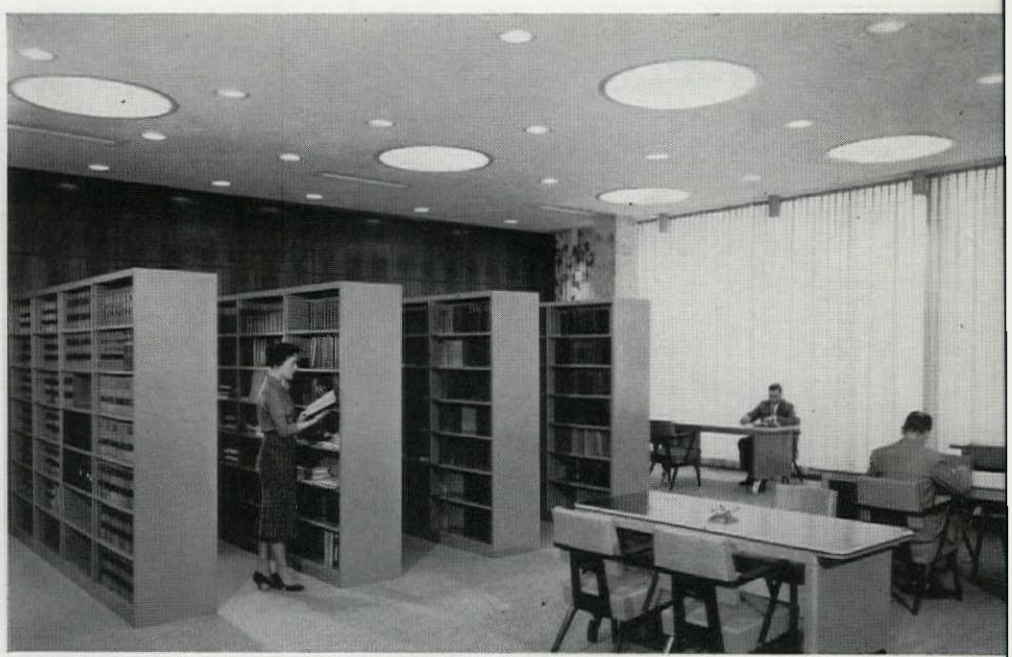


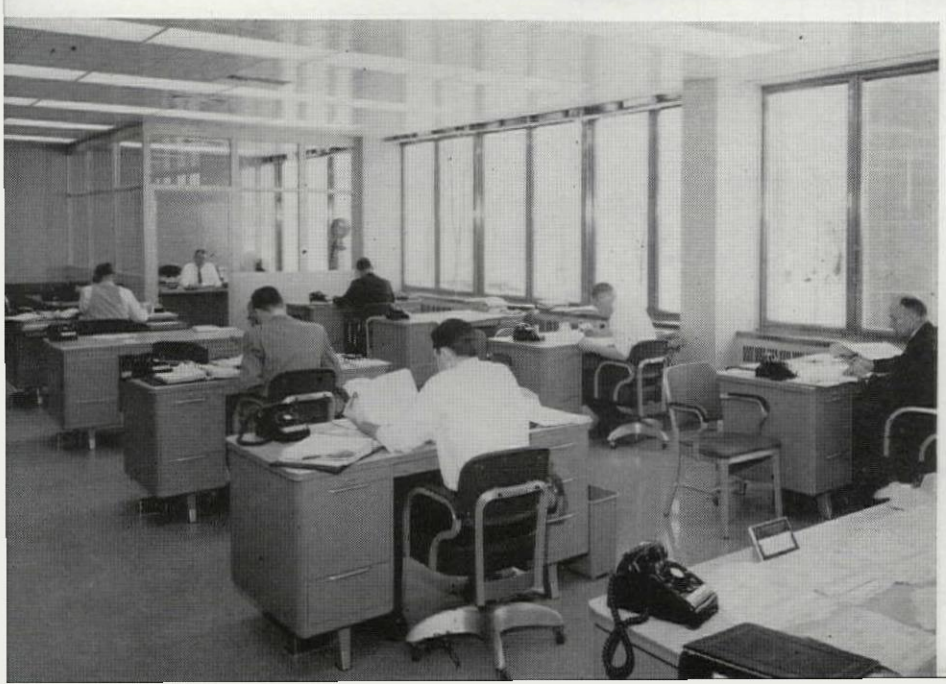
From visitors' lobby (above), *office areas are reached through concourse straight ahead; the waiting area is to the right, and the library* (acrosspage center) *is accessible through doors at the left. Flooring in this and other public circulation areas is of marble; carpeting has been specified in the seating areas; walls are paneled.*

Executive offices (right) *are on the top floor and are carpeted and wood paneled.*

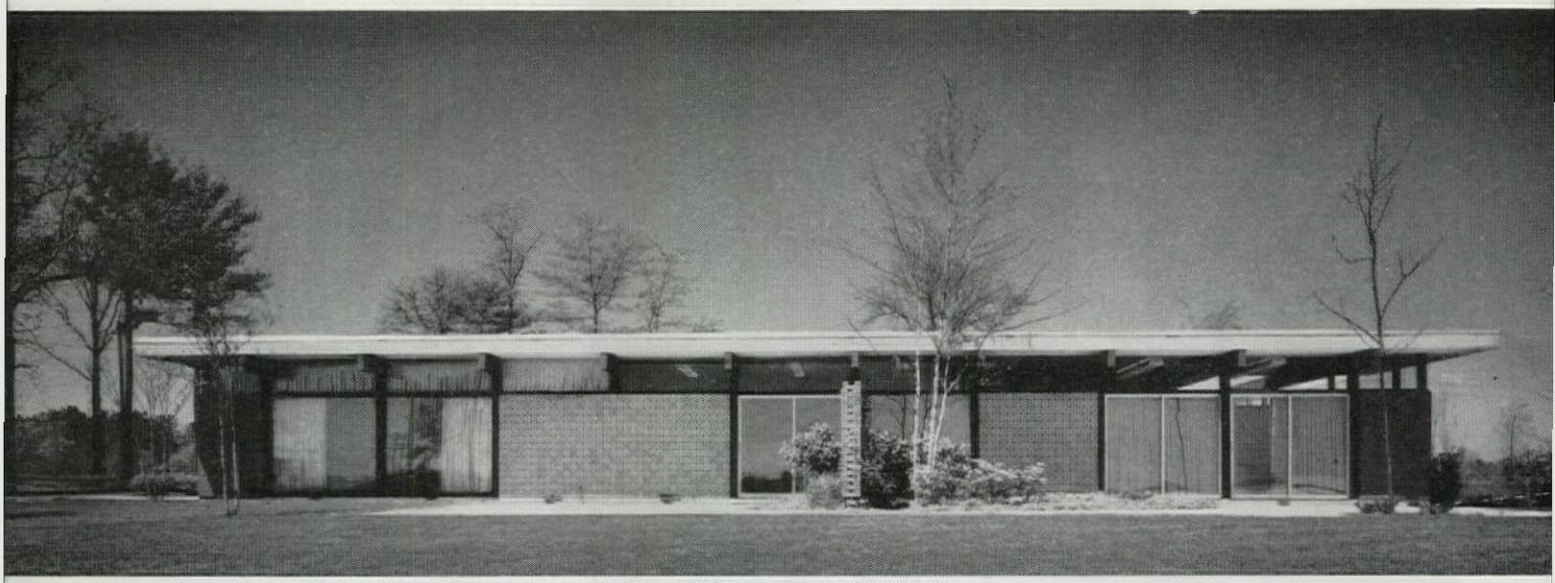
Room (below) *serves as employes' recreation lounge at ground level.*

Waiting area (left) *in the escalator lobby of the executive floor has southern exposure and pleasant outlook. In the co-ordination of color schemes for the executive and public areas,* **Robert Boone** *of* **Irvin & Company, Decorators,** *collaborated with the architects.*





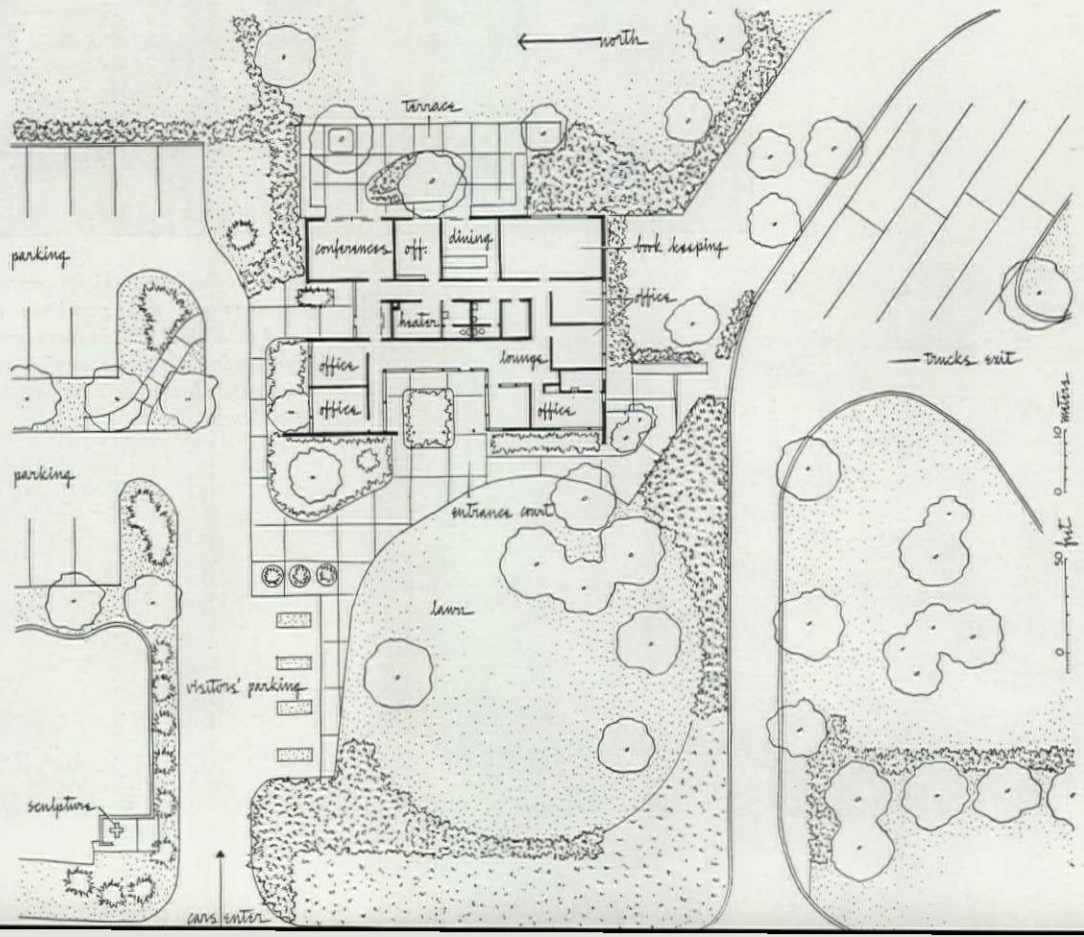
General-office areas (left) *employ steel office partitions and wall paneling; floors are surfaced with vinyl tile. In these areas the* **General Fireproofing Company** *served as interior consultants and suppliers of most of the office furnishings.*



3 Sanford Brick & Tile Company: Colon, North Carolina

Well away from the urban center, this office building by Architect Thomas T. Hayes, Jr. is the home office of a few key personnel. It overlooks adjacent brick-plant operations, and an important element of the plan is the shipping office and truck drivers' room in the southwest corner. Outside this space, and quite separate from other traffic lanes, is parking space for a number of large trucks. While the company's products—both the dark-brown brick and a patterned brick specially made to the architect's design—are naturally used, this usage is limited, as the owners specifically asked for a comfortable, attractive office building rather than a display of products. Basic plan organization is straightforward, with a core of service rooms, and offices, a conference room, and lounge-dining room on the periphery.

Of post-and-beam construction—3-in. pipe columns and laminated-wood beams on 8-ft centers—the building enclosure consists of either brick-cavity walls or double, insulating glazing. For purposes of articulation, the roof is separated from the masonry walls by a band of glass. The floor is a concrete slab on grade. Heating and air-conditioning system uses gas-fired hot and chilled water, with individual room controls. Browning & Landstreet, Mechanical Engineer; Lewis Clarke, Landscape Architect; Knoll Associates, Interiors; L. P. Cox Company, General Contractor.



Photos: Joseph W. Molitor

3 Colon, North Carolina

The building interiors have floors of terrazzo (corridors); rubber tile (offices); and ceramic tile (washrooms). The typical private office has one wall of brick; one of glass; the others of birch, walnut, or fir plywood. Ceilings throughout are of acoustical tile. Partitions have staggered studs with 2-in. blanket insulation. Interior spaces are lighted by plastic domes in the roof.

proposed design method for reinforced-concrete structures

by P. J. Carroll*

In this article, it is proposed that the usual Factor of Safety on the dead load be reduced in the design of reinforced-concrete structures. Although there would be higher stresses—but not excessive—in the steel and concrete, the author points out six primary advantages that would result.

When structures or structural members are being designed, the dead and live loads are added together to give the total design load. Design stresses are then chosen which are a certain fraction of the ultimate resistance—elastic or otherwise—of the structural materials to be used. This method of design is called the Factor of Safety Method and is the usual method adopted. It differs from the Load Safety Factor Method wherein the total load is multiplied by a certain factor to give the working load. The stresses taken are then the ultimate stresses of those materials. In one case, safety is ensured by adopting suitable design stresses, in the other by adopting suitable design loads. Both methods have their advantages. There is, however, one anomaly common to both—although this anomaly can be rectified more easily in the Load Factor Method than in the Factor of Safety Method.

This anomaly exists due to the fact that when the factors are chosen no distinction is made between dead loads and live loads. In other words the same uncertainty is assumed between the dead weight of the structure, or member, and the live load that it may have to bear. If a slab is designed for a live load of 100 psf, a dead load of 80 psf, and the Factor of Safety is 2.2 (that is 18,000 psi working stress for mild steel having an ultimate stress of 40,000 psi, provision is then made in this design for the live load to reach 220 psf while at the same time the dead load increases to 176 psf. Now this is a very poor estimation of the dead load. Provision should be made for some miscalculation of the dead load, but not to that extent. In reinforced-concrete structures where the dead load of the structure is often as great as—or greater than —the live load it is called on to bear, this factor assumes prime importance. Great economies could be achieved by having a lower factor of safety on the dead load than that on the live load. It is proposed that in the case of reinforced-concrete structures, the usual factor of 2.2 on the dead load be reduced to 1.5. The usual method of design by the Factor of Safety Method could then be followed by simply using a percentage of the actual dead load of 1.5/2.2, or 68 percent. This would mean that in the previous example instead of a total of 180 psf being used for design purposes, a load of $100+68\times80/100$ or 155 psf should be used. This gives a reduction of 25 psf on a total of 180, or a reduction of 14 percent—not an inconsiderable figure. This percentage saving would be greater where the ratio of dead to live load is higher. In the case of a dead to live load ratio of six, this saving would be approximately 25 percent. This reduction in dead load, however, has some disadvantages. These are:

1 Higher stresses in steel and concrete.
2 Increased deflection.
3 Increased cracking of concrete.

The increased steel stress "t" in the previous example would be: $t = 18{,}000\ (D+L/De+L)$; where D is the dead load, L is the live load, and De is the decreased dead load. Therefore, $t = 20{,}900$ psi, an amount that cannot be called excessive. It can be shown that for a D/L ratio as high as six, the steel stress will be less than 25,000 psi. The concrete stress will also be increased due to the decreased design dead load.

For a design stress of 750 psi in the concrete, and 25,000 psi in actual stress in the steel, the true concrete stress will be approximately 1050 psi.

The increased deflection due to a stress of approximately 25,000 psi in the steel would be of the order of 20 percent. This can be taken into account by cambering, etc., and has been dealt with fully in a paper to the Institution of Civil Engineers, London.†

The advantages of using this reduced dead load are as follows:

1 Considerable reduction in the amount of steel or concrete used.
2 Reduced amount of form work.
3 Reduced loads on foundations with consequent saving in excavation work.
4 Total height of structures is reduced with consequent saving in area of plastering, pipe runs, elevator heights, etc.
5 Reduced sizes of walls and columns allowing a greater useful area of floors.
6 Better esthetic design due to members of thinner section.

* *M. E., Dublin, Ireland.*

† *"The Factor of Safety as Applied to Reinforced-Concrete Design,"* Journal of Institution of Civil Engineers, *London, October, 1957.*

modern venetian blinds: function and anatomy

by Groff Conklin

Reportedly discovered by Marco Polo, venetian blinds have been a favorite sun-control method for centuries. Economical operation of today's comfort conditioning makes them more useful than ever.

With the phenomenal expansion of mechanical air conditioning for hot-weather comfort during the past 10 years, sun control at windows has become a matter of dollars and cents, rather than primarily one of comfort—as in the past. It costs money to buy and operate an air conditioner: and reducing the quantity of solar energy penetrating the windows with reflective metal-slat venetian blinds is one of the dramatic ways of cutting those costs.

While heat control is economically the most troublesome of the problems connected with the design of building openings, three others are almost as important in every way except financial: daylighting and glare control, privacy, and, in non-air-conditioned buildings, air circulation. These problems are also more effectively controlled by venetian blinds than by any other single window treatment.

The basic difficulty in designing windows is in arriving at a compromise between completely exposed openings, subject to all the violence of the sun's heat and the glare of its rays as well as to the prying eyes of outsiders, and a plain blank wall. An ideal window would permit no radiant heat to enter in the summer, maximum heat in the winter. It would diffuse light evenly throughout the room, eliminating glare and giving a comfortable level of illumination in all parts. It would permit people to see out, keep people outdoors from looking in, and with all that provide gentle air circulation whenever needed. Such a window does not exist. However, venetian blinds, properly designed and used, will control these factors more effectively than any other window treatment, indoor or out.

radiant-heat control

No matter how elaborate an exterior sun-control device, some additional treatment of the inside of a window is almost always necessary. An overhang that will reduce sun load adequately during the hottest summer days, also reduces natural illumination so much that artificial light, adding its own sizeable quantity of heat to the cooling load, often is required. Such an overhang also bars much of the sun's warmth in cold weather, when it is needed in the room. According to a recent study,[1] an opening four ft high in the south wall of an Atlanta building would need an overhang 14 ft wide, if it were to be completely shaded at all times of the year. This is an economic and esthetic impossibility in almost every type of building. In the case of east and west walls, overhangs must approach infinity in width to achieve satisfactory shading during early morning and late afternoon.

Of course, both exterior sun-control devices and interior shading are advisable for the most effective solution of the problem of solar-radiation penetration. But, if only one method can be used, the venetian blind is the obvious method of choice, both from the point of view of economy and that of flexibility.

When compared with other types of indoor window treatments, venetians are likewise highest in over-all efficiency (*Table I*). Roller shades, when completely covering the windows, do reduce instantaneous solar-heat gain considerably, but at the cost of all the ventilation and most of the light. As for opaque draperies, they are so completely unsatisfactory for sun control, that no responsible architect would ever specify them for that purpose. Venetians should be used to manage the sun and dress the window, while draperies can be added to soften the frame. Indeed, venetians with slats set at 45 degrees over the whole window keep out a maximum of the sun's radiant heat, and make it possible to keep the window open, thus giving good air circulation. An even, diffuse light is also achieved with venetians in this position.

Heat-absorbing glass excludes about the same amount of heat as an aluminum venetian with slats set at 45 degrees, but exerts no control at all over elements of privacy or air circulation. In actual practice, venetians are almost always used *in addition* to such glass in commercial buildings: without them, working or living conditions are usually too uncomfortable for the average person.

There is some reason to doubt that heat-absorbing glass in combination with venetian blinds saves enough heat to make the added cost of the glass worthwhile. In 1953, G. V. Parmelee and D. J. Vild presented a paper at the semiannual meeting of the American Society of Heating and Air Conditioning Engineers entitled "Design Data for Slat-Type Sun Shades for Use in Load Estimating." The paper was published in the ASHVE Journal Section of *Heating, Piping and Air Conditioning*. This paper gives a "shade factor" for white, ivory or cream venetians, slats at 45 degrees, window glass common, of 0.56 for a stipulated hour, day, and latitude. For an identical situation substituting heat-absorbing plate for common glass, the "shade factor" was reduced by only 0.001—from 0.56 to 0.55. In an actual example given in this paper, the total instantaneous rate of heat gain in the common window glass example, western orientation, was 134.8 Btu/hr.

[1] *Sunshade Study, Months of October Through April.* Roy A. Martin Company, Atlanta, 1954.

For the identical situation, changing only the glass from common to heat absorbing, the gain dropped to 132.8 Btu/hr. A saving of two Btu/hr seems hardly enough to warrant the much higher cost of the heat-absorbing glass. Venetians do most of the job themselves. Incidentally, the total gain for the window *with no shading* is given as 225 Btu/hr. For thoroughly satisfactory reductions in instantaneous heat gain, exterior sun-control devices are needed, in addition to the venetians.

glare control

Scientific daylighting is also most easily and efficiently achieved with venetian blinds. A study made by Faber Birren in an eastern school shows some of the remarkable results of using venetians properly for such control.[4] Footcandle measurements are shown (*Table II*) for an unshaded window, compared with the same window with conventional semi-opaque shades and with venetian blinds with slats adjusted to effect a maximum reflection of sunlight—but with all direct glare blocked out. According to the Illumination Engineering Society, *minimum* footcandles for schoolroom lighting levels range from 40 ft-c for normal seeing to 150 ft-c for very close work, and for students requiring lip reading. Thus, the venetian-blind installation shown (*last line Table II*) distributes and softens the light well within the recommended intensity levels except immediately in front of the window, where a corridor or passageway usually is left for students to walk to the back of the room.

In a separate study involving schoolrooms with glass block above and regular strip windows below,[6] for the wall in

[4] *Report on the Flexalum Code for the Functional Co-ordination of Light and Color.* Faber Birren & Company, 1952.

[6] *Technical Report on Illumination Measurements to Determine the Effects of Interior Venetian Blinds Used Over a Glass Block Fenestration.* Roy A Martin Company, Atlanta, Georgia, 1952.

TABLE I: Heat gain, west window, August 1, 40° latitude, 3/16″ window glass and wood sash.[2] Gain in Btu/sq ft and percent of total solar radiation.

Sun time	Solar radiation on window Btu	Unshaded one light Btu	percent	Aluminum venetian blind, slats 45° Btu	percent	Roller shade, dark green, half drawn[3] Btu	percent	Single light heat-absorbing glass, unshaded Btu	percent
9-10	22	4.0	18.3	5.3	24.0	6.8	30.7	3.3	14.8
10-11	24	10.5	43.7	6.3	26.4	10.0	41.7	7.4	30.7
11-12	25	15.5	62.1	7.1	28.2	15.1	60.4	8.3	33.0
12-1	60	39.8	66.4	20.7	34.5	38.8	64.6	26.6	44.3
1-2	123	88.4	71.9	55.3	45.0	83.9	68.2	57.9	47.1
2-3	180	153.0	85.0	106.2	59.0	144.4	80.2	104.6	58.1
3-4	206	175.5	85.2	136.0	66.0	166.0	80.6	120.1	58.3
4-5	186	165.9	89.2	133.9	72.0	153.5	82.5	113.8	61.2
5-6	120	123.0	102.5	98.4	82.0	115.2	96.0	84.0	70.0
6-7	40	43.9	109.7	36.4	91.0	46.0	115.0	32.8	82.0

[2] Table adapted from Houghten and Shore, "Heat Gain Through Western Windows With and Without Shading," Transactions of the American Society of Heating and Ventilating Engineers, Vol. 47, 1941.

[3] Shade half-drawn to provide illumination level approximately like that of a venetian with slats at 45°, and also to simulate conditions were window half open for ventilation. A somewhat parallel study of an east wall window during the morning hours, when the sun was on the surface, was made in 1951 by Georgia Institute of Technology State Engineering Experiment Station, with shade fully drawn. With the window closed, the shade lowered room temperatures about 10 F below that of the room unshaded; white venetians with slats at 45° lowered the temperature around 5 F. Of course, the unventilated room was uninhabitable in either case; the temperature at noon ranged from 112 F for the shade to 118 F for the venetian, and was 123 F unshaded. But with the window half open to provide ventilation, shade fully drawn, venetians with slats at 45°, the temperatures were: unshaded, 91.8 F; shaded as described, 91.0 F. Thus, even when the shade was fully drawn, cutting out air from the open window, the temperature was still the same as with venetians with 45° slats and good ventilation. See GIT Report on Project 189-133, December 1, 1951. G. C.

TABLE II:
Summary of footcandle measurements, aluminum venetian blinds vs. semi-opaque window shades, south exposure, noon on September 20, 1952.[5]

Window treatment	Front of window	Center of room	Rear of room
Full window opening	440 ft-c	50 ft-c	32 ft-c
Conventional shades half down	430	30	22
Conventional shades fully down	25	16	12
Venetian blinds half down, 45°	430	42	36
Venetian blinds fully down, 45°	170	48	43

[5] Faber Birren & Company.

direct sunlight, the distribution of light ranged from 190 ft-c nearest the window to 40 at the rear, with no protection on either window or glass block. With venetian blinds over both sections, horizontal slats over the glass block and 45 degrees over the windows, the illumination levels ranged from 90 ft-c at the front of the room to 40 at the rear—an ideal, glare-free light for a schoolroom.

There is, of course, no ideal illumination level for best seeing, due not only to the adaptability of each individual's eyes, but also to the fact that different people are happy with quite a wide difference in levels of light. Nevertheless, the maximum and minimum levels indicated are well within the limits set by the IES. And, it is obvious that venetian blinds are the only sort of window treatment with which these levels can be flexibly maintained in all kinds of weather. (The blinds would be normally raised to the top on cloudy days.)

privacy and air circulation

There is little need to expatiate on the merits of venetian blinds as against other forms of window covering as they affect these two factors. For privacy, no other form of control exists that can at one time provide ample air circulation and safe levels of illumination. And, vice versa, no other form of window treatment gives adequate air circulation and lighting levels, while at the same time offering any real privacy. External treatments such as vertical sunshades often cut off the breeze when it is most needed, and have no value as privacy guards. The same is true of certain types of overhangs, such as awnings. Only venetians with their multiple air-admitting slits-between-slats can do both jobs effectively.

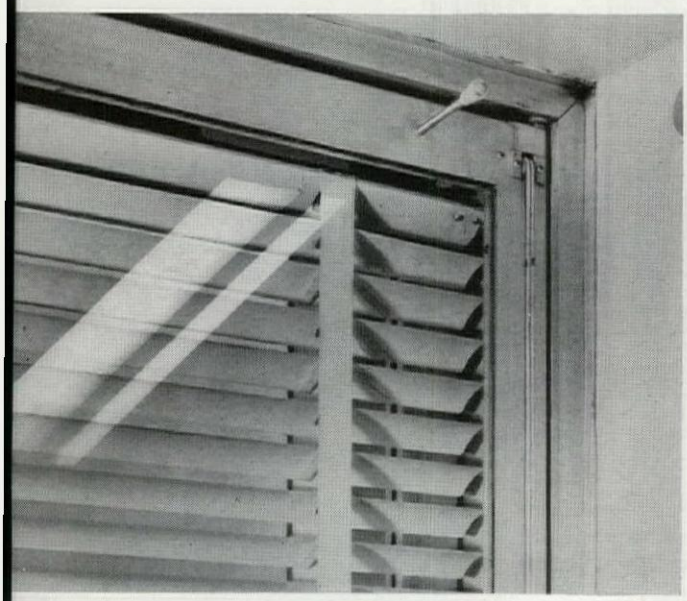
So much for the function of venetian blinds in improving livability and reducing cooling loads. The next question is: what is the anatomy of the modern venetian blind?

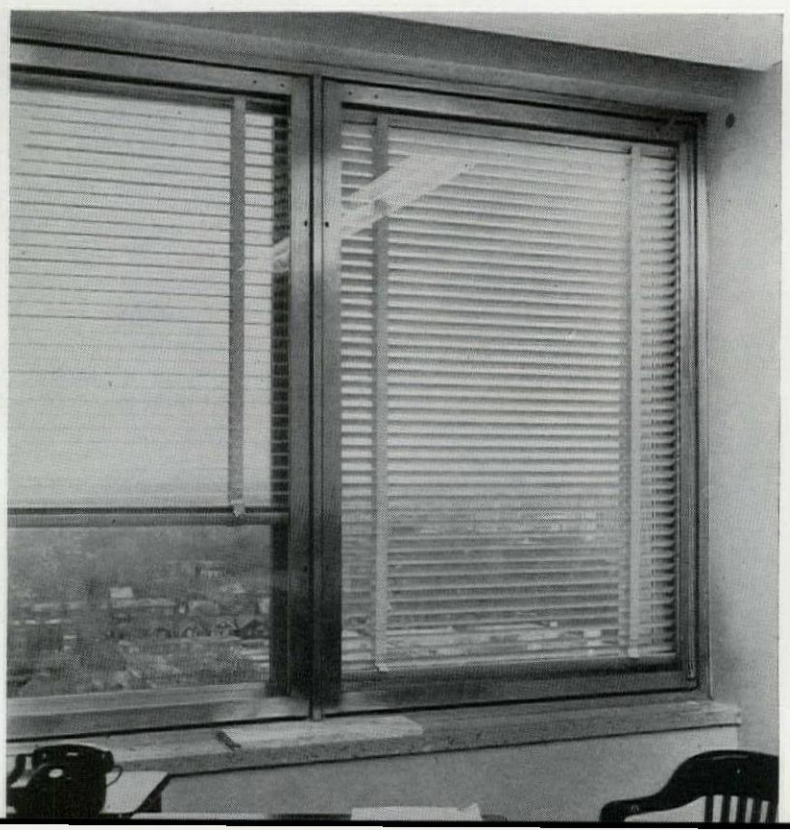
venetian-blind anatomy

The development of today's venetian blind has been a long and gradual process, from the time when, according to legend, Marco Polo is said to have brought some prototypes back to his home city from one of his Eastern voyages. It is reported that their first practical use in Venice was in the windows of the counting houses of wealthy men, who by their use obtained enough interior illumination to work without letting a passing tax collector see how much money they had!

So much for legend. It is no legend that wood-slat blinds were common in this country before the Revolution, as the carefully reconstructed houses and public buildings in Williamsburg, Virginia, prove. Many of them have handsome natural-finish wood venetians. Since those days, modern technology has wrought something of a revolution in blind design: and today's metal units, with their almost indestructible concave aluminum or steel slats, their durable steel top and bottom rails, and their simple and foolproof tilting and raising mechanisms, are as far ahead of those early progenitors as today's airplane is ahead of the Wrights' flying machine.

Contemporary venetian blinds are of two major varieties: the traditional horizontal units with 2″ to 2½″ slats; these still comprise well over 90 percent of the market. The other is the vertical type, with metal, cloth, or plastic slats anywhere from 2″ to 8″ and more wide; these are used primarily in nonresidential buildings, although some modern homes are using them in place of draperies at large window openings, or as room dividers. Vertical venetians differ in many





At the Imperial Oil Headquarters in Toronto, venetian blinds hung between outer and inner frames of double-window units are thus protected from dust or film deposits. Blinds may be raised or tilted by control cord strung through inner frame. Ports in windows allow passage of air and prevent condensation.

Photos: Gordon Rice, Ltd.

respects from the horizontal type, as will be seen later in this article. In general, they are not as functional as the horizontal variety.

A word of warning: typical architects' specifications only too often ask simply for blinds, or at the most require "aluminum." This over-all specification may well defeat what the architect had in mind in designing his window treatments, due to the large variation in quality of blind components. Each component should be specifically described; otherwise the blinds may come furnished with low-priced tapes with a relatively short life, and with too-wide ladder spacings which result in poor overlap of slats and inadequate performance.

Slats. Venetian-blind slats are made of aluminum, steel, and wood, with plastic materials still in an experimental stage. The overwhelming preponderance of quality horizontal slats are of special, springy aluminum alloys, available either in simple concave form (usually 2″ wide) or in a shallow "S" shape (2½″). The best quality slats are approximately 0.010″ thick before painting; the finish adds roughly 0.001″ to 0.002″ of thickness. This finish consists, of a thin baked-plastic finish coat; in subtropical areas with salt-water exposure a catalytic undercoat is often used. The slats are washable, and proof against chipping, cracking, and warping. It is almost impossible to make a permanent bend in one of them in ordinary use.[7]

Lower in cost are the 0.007″-0.008″ aluminum slats. These are sometimes used in light-duty installations such as houses and apartments. However, for offices, factories, schools, hospitals, and other heavy-duty installations, the heavier slat should always be specified. It can much better withstand constant and often careless handling.

Steel slats, which weigh up to three times as much as aluminum for equal thickness, and, in the somewhat thinner gage often used for slats, from two to two and a half times as much, are less expensive. Architects should consider the extra weight of the steel slats when specifying blinds; it may be a factor when unusually wide installations are necessary. Steel is, however, the usual material for the "S" blind, with its 2½″ slat. About nine fewer slats are required for each 4½′ of ladder, and the weight is thus reduced. Aluminum "S" slats can be also obtained, however.

[7] *Government performance standards for slats and other venetian-blind parts are outlined in Federal Specification AA-V-200 (1956).* Venetian Blinds, *U.S. Gov't Printing Office, Washington 25, D.C., 10¢ per copy.*

Slat finishes vary from the standard white or eggshell, all the way through the color spectrum, and from glossy to mat. The selection of finish and color will depend on the use to which the blind is to be put: high-reflectance, light-colored slats should be chosen when the blind's function is to keep out light and reduce glare while still providing a high illumination level. Mat finish and dark-colored slats, and slats with decorative designs printed on them—they are now available in everything from simulated linen finishes to elaborate leaf and star patterns—are suitable primarily for houses and apartments, hotels and motels, and special areas in public buildings and commercial structures which require the added esthetic appeal of a decorated blind.

Wood slats have become something of a rarity today. Custom manufacturers report that less than 10 percent of their work involves this type. The primary reason is their higher price. The metal slat, which first appeared in primitive form less than 20 years ago, has been so improved and lowered in price that it is pre-

Venetian blinds are frequently used to hide or obscure such elements as glaring windows, radiators, or air conditioners located in window walls. Gerald Luss, of Designs for Business, has hung here 15′-wide, metal-slat venetians from a 10′ ceiling; aluminum mullion strips conceal the tapes.

ferred for every use except in occasional luxury residences, and other buildings whose owners nostalgically desire the antique effect of wood and can afford it. For wood slats not only cost more originally, but they also require repainting from time to time. Metal slats are washable. Furthermore, some wood slats tend to warp, crack, and peel, particularly today when it is difficult to obtain properly cured wood for their manufacture.

Experiments have been made with plastic slats, both translucent and opaque, but thus far they have won almost no acceptance. Furthermore, the translucent slat is functionally self-defeating as a means of barring daytime heat and of assuring nighttime privacy. Shadows inside the room are easily seen in the outdoor dark.

Tapes. The older standard materials for venetian-blind tapes was a strong woven cotton. However, tapes made from woven nylon, or nylon, rayon, and cotton mixtures, are gaining in acceptance, while the reinforced plastic tapes now are actually standard on the better quality blinds. This is because of their great durability—they are guaranteed for one to five years—plus the fact that, like metal slats, they can be cleaned with a damp cloth and do not have to be laundered. Tapes are available in as many colors and patterns as slats. A unified appearance can thus be obtained, without the sharp vertical lines the older tapes used to create. Tape ladders, which support the slats, are considerably stronger in the plastic tape than in the older woven type, since the plastic ladders are heat-welded to the tape, rather than stitched. By actual test, these tapes tear across (with very great effort!) before they separate at the seam. In other words, they are amazingly strong.

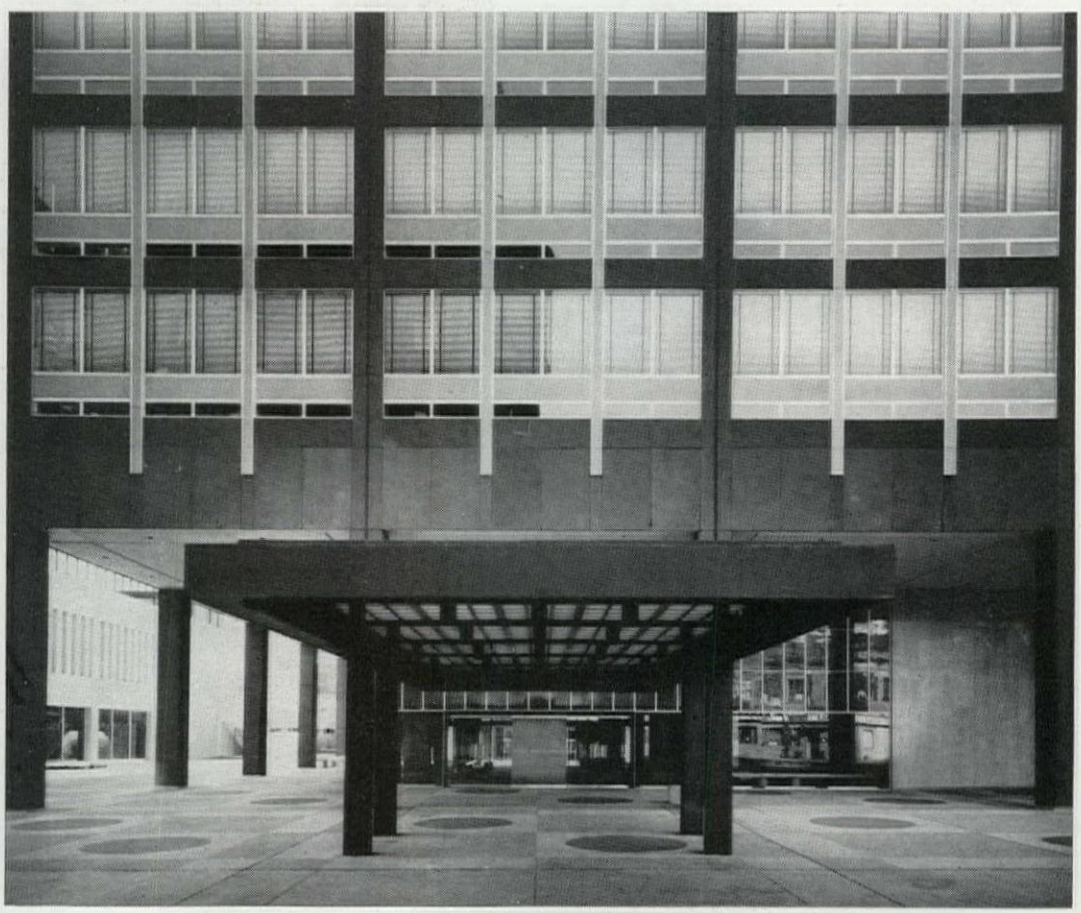
Some nonreinforced-plastic tapes are on the market; it is important to avoid using them, since they have a definite tendency to stretch.

Cords. Today, venetian-blind cords are almost universally made from 3 to 5 percent nylon or cotton with no less than 175-lb breaking strength. They are available in as many colors as the slats, and come with molded-plastic tassels in an equal variety of colors.

Experiments with solid-plastic cords have been abandoned for the same reason that nonreinforced-plastic tapes have been dropped: such cords stretch, and usually cannot meet the strength specifications established by the Federal Government.

Top and Bottom Rails. These are channels of 0.020″-0.025″ steel encasing the operating mechanism of the blinds at the top, and rails of the same gage to conceal the cord and tape at the bottom. The once-standard wood bottom and top rails are no longer available except with wood venetians and some very inexpensive metal types. The modern cold-rolled rails are fabricated much more accurately, and, of course, are considerably stronger and less easily damaged than the older varieties. Furthermore, they are more compact, and therefore neater. They are so designed that the important parts of the operating hardware either snap or screw into place, allowing for easy replacement if a piece of the hardware is damaged.

Hardware. The operating mechanisms of modern venetian blinds constitute an outstanding example of technical advance. At one time, not so long ago, almost every blind had custom-made hardware, and in some instances the parts were not interchangeable even between different blinds made by the same manufacturer.



Today, these items are, if they serve the same purpose, universally interchangeable within one manufacturer's line. Each line, however, has some components that are individual to it.

Quality venetian-blind hardware is for the most part made from steel, though the gears usually are made of brass or bronze, and pulleys are made of either lignum vitae or nylon, or "their equal in strength and self-lubricating properties," as the specifications put it.

A useful result of the standardization of hardware and top rails is the fact that all controls can now be "ganged" at one or the other side of a blind, in the center, or off-center at any point. They can even be remotely controlled by a system of added pulleys.

A number of types of special hardware are available for unusual applications. Sill hold-downs can be obtained; these are used to anchor the bottom rail of the blind and keep the unit from swaying when the window is open. Another special item is an ingenious clip that makes it possible to tilt a portion of the slats while leaving the others at "open" or "closed" position. This clip would be useful, for example, in managing the venetians in the classroom with glass block above strip windows that was previously discussed.

special-purpose venetians

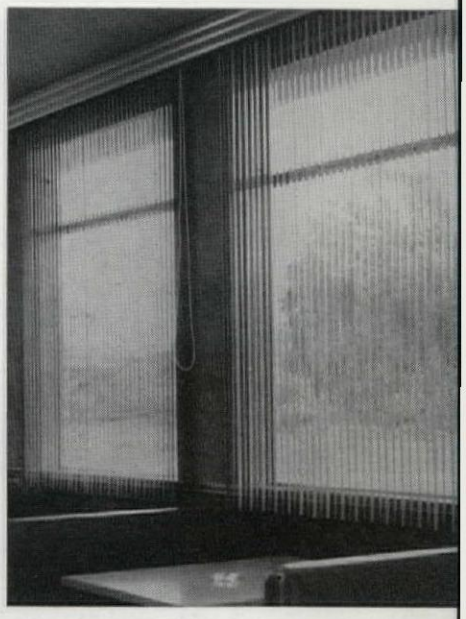
Venetian blinds have been adapted for certain special purposes in recent years. The first is an audio-visual blind, which makes possible the blacking out of light at the sides, and is widely used in rooms where motion pictures and slides are being shown. The second is a so-called "detention room" blind; it is installed in hospitals and mental institutions wherever it is important that patients not be able to reach exposed cords. The skylight blind is the third special design. This provides light control at overhead skylights, domes, and sawtooth windows. Tilting this overhead blind is done with a regular window pole, and tilt cords are eliminated. A fourth type of special blind simply adds a universal coupling to a series of blinds, in a straight line or, if desired, in a bay installation. This coupling makes it possible to tilt a whole series of blinds with one tilt cord.

Motors are used to handle exceptionally large blinds, or blinds that are so far overhead that they cannot be reached by window poles. An outstanding example of a motorized blind is the 88′x18′ unit in the R.C.A. Exhibit Hall in New York's Radio City.

vertical venetian blinds

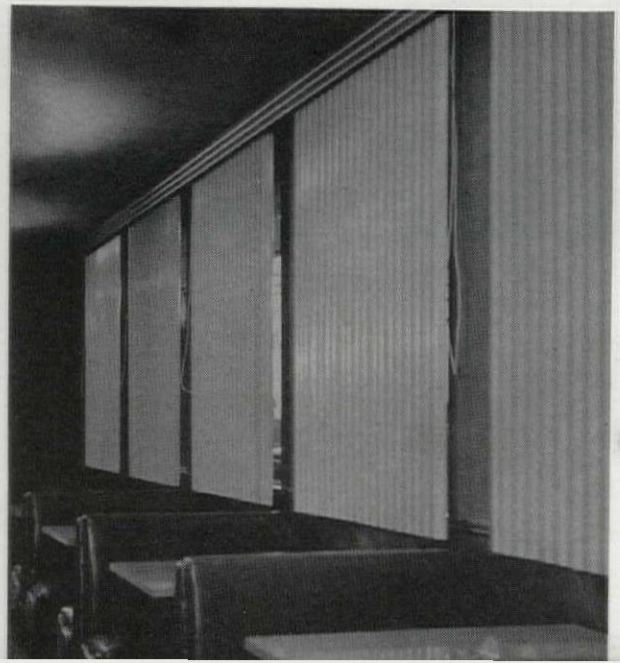
Relatively new on the market are venetian blind adaptations that are installed vertically, both as window treatments and as room dividers. There is somewhat more variety in slat materials with these blinds than with the horizontal type; metal, wood, plastic, and cloth are all available, and in a wider range of widths, from 2″ to 8″ and over. Special hardware is needed to provide drawback and lateral tilting. The operating mechanisms are more complicated than for a standard horizontal venetian. Instead of the usual bottom rails, many vertical venetians have links or metal chains holding them more or less in place, though one or two types do have a metal track to hold the slats in place at the bottom.

Verticals are architecturally fashionable today, with their strong upright lines; however, they require constant manual adjustment or clock operators to move them as the sun moves across the heavens.



Vertical venetian blinds—which may have metal, cloth, or plastic slats varying in width from 2″ to 8″—are used primarily in nonresidential buildings.

At Mile High Center (acrosspage), Denver, venetians became an integral part of the design of the building's exterior—with special attention being given to size and color. Photo: Ezra Stoller



seamless-roll terne roofing

by Thomas J. Boyd*

This roofing material—developed over 200 years ago—is enjoying renewed favor in contemporary architecture. By a relatively new manufacturing process, terne is now available in 50-ft seamless rolls which allow more rapid installation and reduced construction costs.

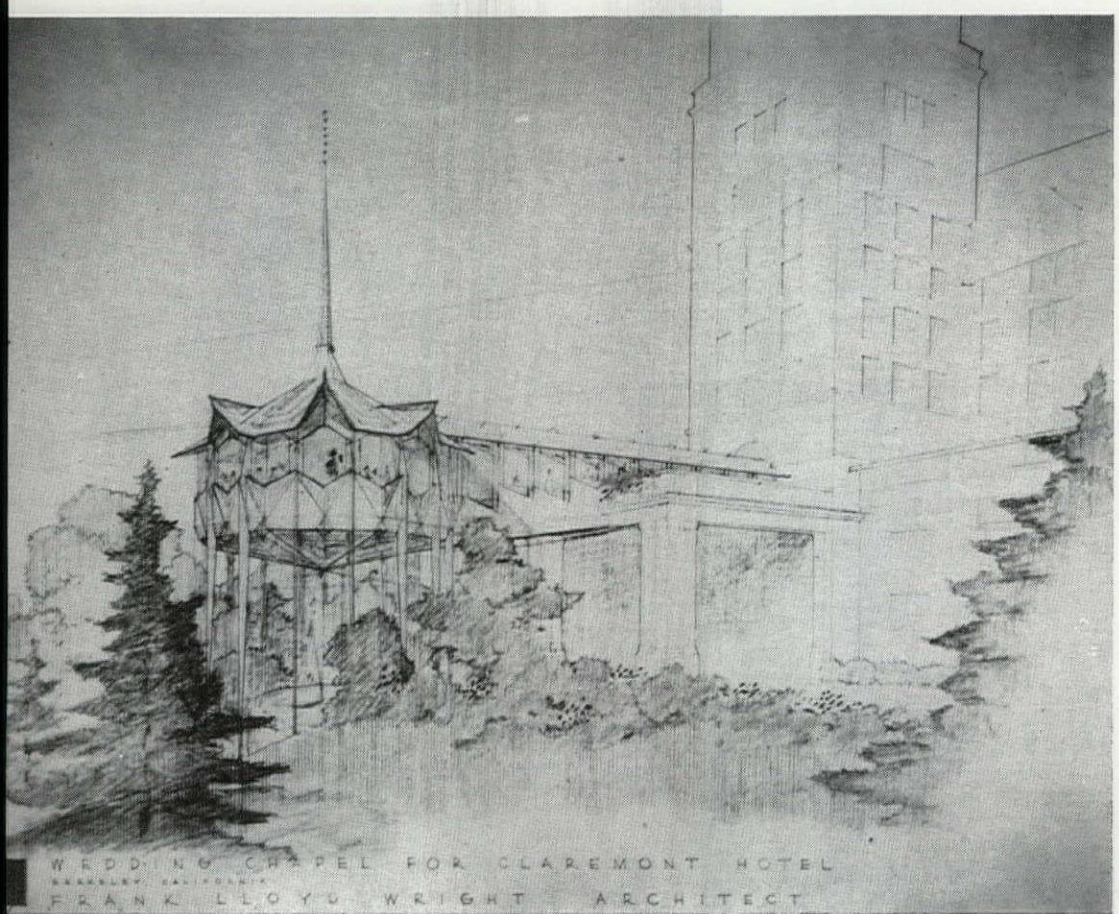
Architectural development in every age is dependent upon two major factors, the quality of contemporary design and the quality of materials available for practical use. From the standpoint of materials, our era is rich in new products, and, in the constant reappraisal and redevelopment of traditional products, there are many that are entering new periods of use and importance.

One such material is terne, originally developed in Wales shortly after the first manufacture of tin plate in 1720. An alloy of 80 percent lead and 20 percent tin on a base of copper-bearing/cold-rolled steel, terne became widely accepted in America during the 19th Century for roofing on private homes, public buildings, and factories. With the significant and far-reaching changes in contemporary architecture since the war, terne's adaptability to functional design has made it an important element in the work of many outstanding architects.

*Chief of Quality Control, Follansbee Steel Corporation.

contemporary installations

Frank Lloyd Wright has endorsed terne verbally and through imaginative use. He has said: "Because of its inherent adaptability in both form and color, terne permits the visible roof area to become a significant part of structural design." His Dobkins residence, at North Canton, Ohio, utilizes terne in a Bermuda-type/horizontal-seam construction. Two forthcoming Wright projects also evidence his appreciation of its qualities: one, the terne roof for the Fasbender Clinic in Hastings, Minnesota, features



To roof his pagodalike Wedding Chapel at the Claremont Hotel, Berkeley, California, Frank Lloyd Wright specified terne "because of its inherent adaptability in both form and color."

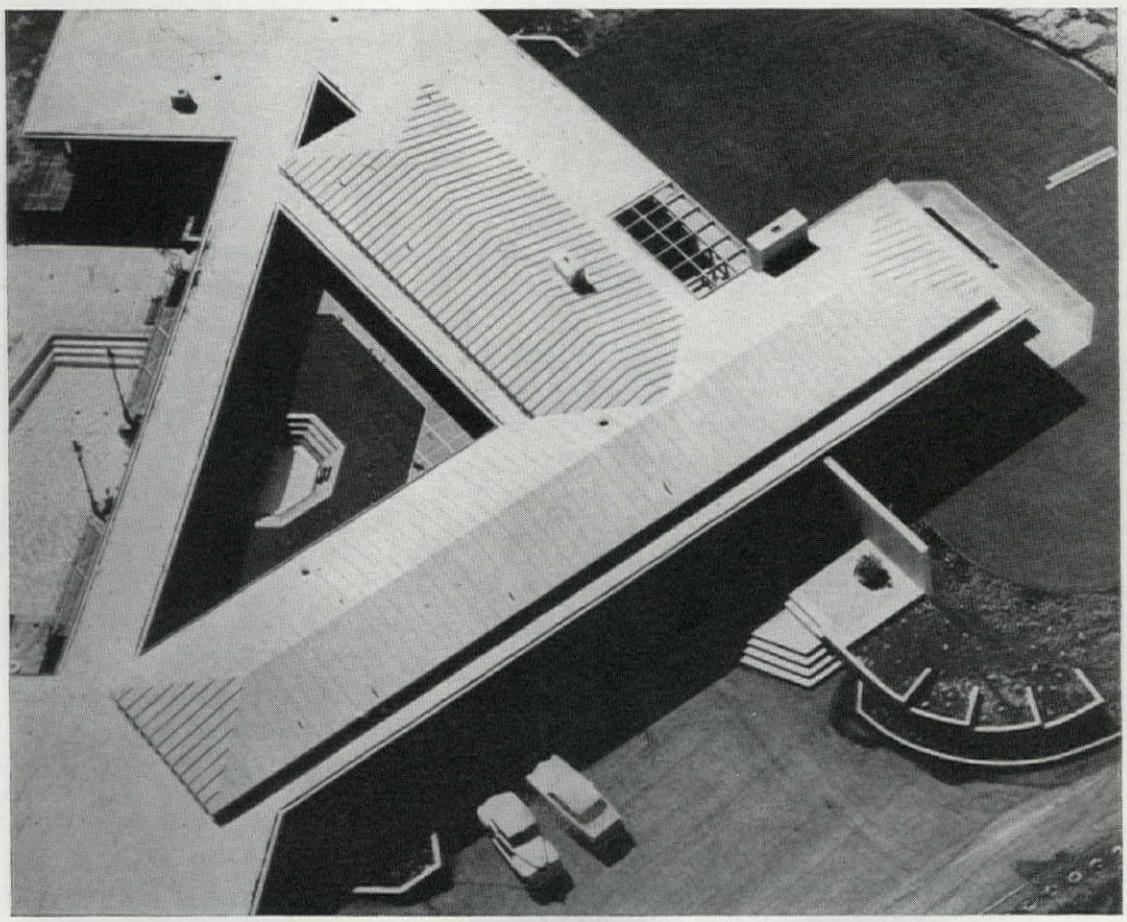
Architects Anshen & Allen chose a batten-type roof for their design of the Gavello house, Sunnyvale, California. Exterior roof composition is 30-gage, 40-lb terne roofing over 2"x2" battens—spaced 2'-2" o.c.—and ½" plywood sheathing.

a deep, all-around overhang for an effect of massive continuity and strength; the other, the Wedding Chapel of the Claremont Hotel in Berkeley, California, shows an entirely different use of terne to create a contemporary pagodalike feeling of lightness, airiness, and grace.

Georgia Tech's Alexander Memorial Center, designed by Aeck Associates of Atlanta, boasts a 270′ dome composed of 32 arched ribs enclosed by terne metal over wood-chip-cement sheathing.[1] At Worcester, Pennsylvania, Charles M. Talley's Central Schwenkfelder Church demonstrates terne's decorative and functional possibilities for a religious structure.

Among recent residential buildings that utilize terne

The Philbrook house, Los Altos, California, designed by Architect Paul J. Huston, has a standing-seam roof of 30-gage, 40-lb terne.



August 1957 P/A.

TABLE I

	Lineal expansion per 100 ft per 100 F
Wood	0.331 in.
Slate	0.696 in.
Terne	0.825 in.
Copper	1.064 in.
Aluminum	1.536 in.
Lead	1.908 in.
Zinc	2.076 in.

roofing are two California installations—Anshen & Allen's Gavello house in Sunnyvale, and Paul J. Huston's Philbrook home in Los Altos.

historical examples

Many 19th Century terne roofs are still extant and in fine condition on historic structures throughout the country. The terne roof finished in 1835 on Andrew Jackson's Hermitage, in Tennessee, remains in service more than a century later; while that on The Octagon in Washington, D.C.—headquarters of the AIA—was installed around 1870 and appears to be good for decades more. A still earlier example is the John Pierpont house in New Haven, Connecticut, one of the finest examples of 18th Century domestic architecture. Remodeled some years ago as a home for the Faculty Club of Yale University, its original terne roof was found to be in excellent condition, requiring no replacement.

roll sizes and properties

Terne's primary values today are twofold: its superior physical properties and its design potential, both contributing greatly to its usefulness for the creative architect. It is now manufactured by a new process in 50-lineal-foot seamless rolls in varying widths up to 28″ for easier handling on the job, and in standard-size fire-door sheets, as specified by fire underwriters. Since this metal is also used for drainage products and weathersealing, and is accepted as the standard in many areas throughout the country, it is produced in seamless rolls in widths as narrow as 4″, as well as in sheet form. Known and used originally as "valley tin" and "roofer's tin," terne is still in demand for valley and flashing work on all types of roofs, for flashing doors and windows, and as termite shields. It also offers an answer to drainage problems presented by low-pitched roofs characteristic of many of today's homes.

A unique property of terne is its low co-efficient of expansion—the lowest of all metallic roofing materials—which permits the use of longer lengths without expansion joints (*Table I.*)

Its ductility and strength, which virtually eliminate the need for repairs after initial installation, are significant considerations. It will not crack due to climatic changes.

roof types

The extensive range of possible seam constructions, both alone and in combination, provides the architect with an opportunity to create varied linear and shadowy effects. There are four basic types of terne roofs, the variations resulting from the manner in which the strips are formed and joined together. When the pitch exceeds 2½″ per foot, the architect has the choice of all four types or any combination of the four. When the pitch is less than 2½″ per foot, the flat-lock seam should be used. Regardless of the type of seam construction, all terne-roof construction must be made over wood sheathing of good quality. Tar paper, or other paper containing acid must not be used.

1 The standing-seam roof is produced by making a vertical bend on both sides of the sheet to form 1″-high double-locked unsoldered seams. The spacing on standard applications is governed by the widths of metal available, giving the architect the choice of approximately 11″, 18″, and 22″ widths.

2 Ribbed- or battened-type roofs have vertical battens ranging from 1″ to 4″ high, and 2″ to 4″ in width. Battens are nailed to the sheathing and the terne-metal strips cover both sheathing and battens. The spacing between battens normally should not exeed 24″ in width.

3 Horizontal or Bermuda-type roofs have the roofdeck surface applied in a sawtooth or horizontal-batten construction. The size of the battens can be varied from a minimum of 1″ to any height, permitting the architect to adapt the shadow line to the character of his building.

4 The flat-locked-type roof may be applied in various size sheets, ranging from 14″x20″ to 20″x28″, depending on the equipment of the roof contractor. The seams are joined with half-and-half solder using rosin as a flux. Wood decks are always covered with rosin paper. No waterproof building papers are recommended. Sufficient drainage must be provided to prevent any water stand-

TABLE II

Terne samples painted with	Percentage of reflection of solar heat[2]
Titanic Outside White	80 percent
Salem Yellow	66 percent
Milwaukee Cream	59 percent
Everglade Green	35 percent
French Gray	25 percent
Spanish Blue	6 percent
Sash and Trim Black	4 percent

[2] Controlled reflectance spectrophotometer tests conducted by Pittsburgh Plate Glass Company on samples brush-coated twice with Pittsburgh Sun-Proof paint.

ing on the metal.

All cross seams are to be single locked and soldered, except for expansion seams which must be placed above the high-water line of gutters, valleys, walls, etc. Cross seams must be made according to the flow, i.e., the higher strips must always overlap the lower adjoining strips.

Terne metal is always fastened by cleats made of the same material spaced 8″ to 12″ apart along the edges of the strips. This method is used with all roof types, and nails are never driven through the strips of metal.

Standing seams may be alternated with battens, or flat seams may be used between either of these types permitting unlimited width variations. By employing flat-lock seams between horizontal battens, Bermuda installations many feet in width may be applied. Terne solders easily and produces a strong waterproof, permanent seal against water and weather, permitting single areas up to 30 feet square to be covered without expansion joints. The higher horizontal or vertical battens produce a massive appearance particularly suitable for large buildings.

color

A valuable asset of seamless-roll terne is its color adaptability. For many years, red iron-oxide paint was so commonly used for this kind of roof that many came to believe that only this paint could be used. It is still one of the best prime coats, but the finish coat may be of any color desired. Terne can be painted any color at any time without special treatment of the surface, the alloy coating providing a nearly perfect bond with paint.

There is a thermal value connected with terne's color adaptability. Painted white or a light color, a metal roof will reflect more of the sun's heat than any other roofing surface—about 68 percent to 80 percent of solar heat in the case of a white metal roof.

Color reflectivity factors have, of course, a direct bearing on the size and type of air-conditioning equipment required, in terms of both original and operating costs. By the same token, a terne roof painted in any of the lighter colors will ensure greater comfort during hot weather in buildings where air-conditioning has not been installed.

cost

Cost, of course, is always an important factor in the specification of any roofing material. In this context, the introduction of seamless-roll terne has substantially reduced installation expense. Where formerly only relatively small sheets were available, 20″x28″ being the most common, today's material is prepared in 50-ft rolls. In many cases, cross seams are eliminated entirely, with strips cut to exact lengths either in the shop or on the job. It lays flat and square, requiring a minimum time for installation. For instance the Bermuda standing-batten-seam installation, one of the most popular types, requires from 4 to 6 hr per square. The basic direct labor cost should not exceed $15 to $20 per square, while material cost, including painting, averages from $17 to $20 per square.

Protection against fire and lightning are safety merits of a terne roof. As an example of its fireproofing, cases have been recorded where a terne roof has smothered a fire after supporting members had collapsed. This material is the underwriters' standard for fire-door covering. Lightning rods are not necessary for this type of roof, which merely needs to be grounded at its four corners to ensure protection against this hazard.

summary

Durability, economy, and design potential are, in essence, the bases of terne's value for roofing. With more than a life-time of service assured for each roof due to the corrosion resistance of the alloy coating and its natural affinity with paint; with the metal's comparatively light weight characteristic eliminating the necessity for special load-bearing substructures; and with the many design possibilities—stemming from possible variations in height and spacing of standing seams; height, width, and spacing of battens in ribbed roofs; and the variety of patterns limited only by the imagination of the architect—seamless-roll terne makes a continued contribution to the evolution of architecture.

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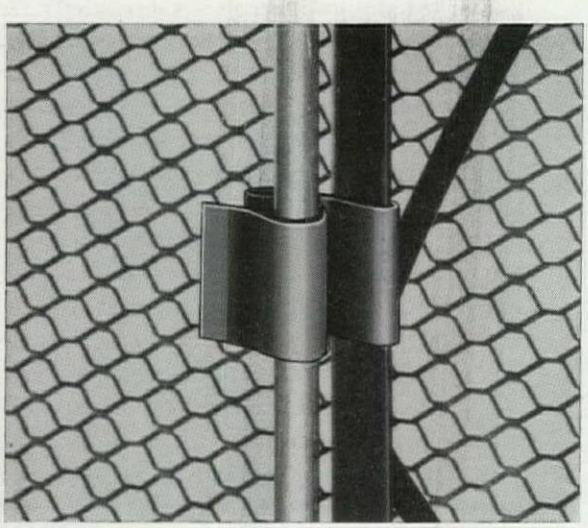

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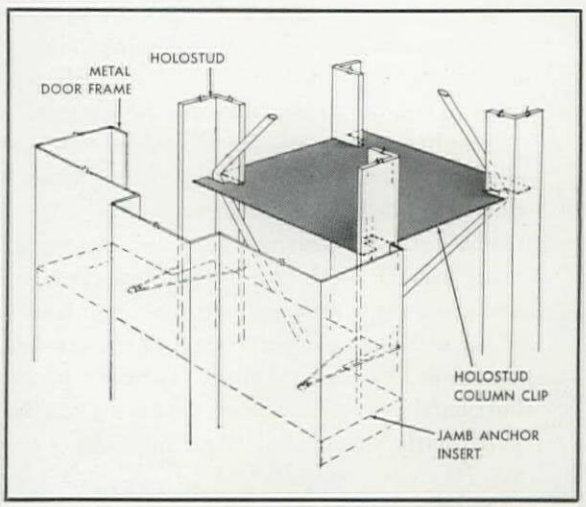

2 **HOLOSTUD COLUMN CLIP** strengthens door frames. It connects the two studs adjacent to the frame, forming a rigid column which absorbs excessive vibrations from door slamming.

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Translucent glass... with a texture that shimmers like watered silk!

This delicate shimmering texture lets light flood through. Yet, you'll be amazed at its opacity.

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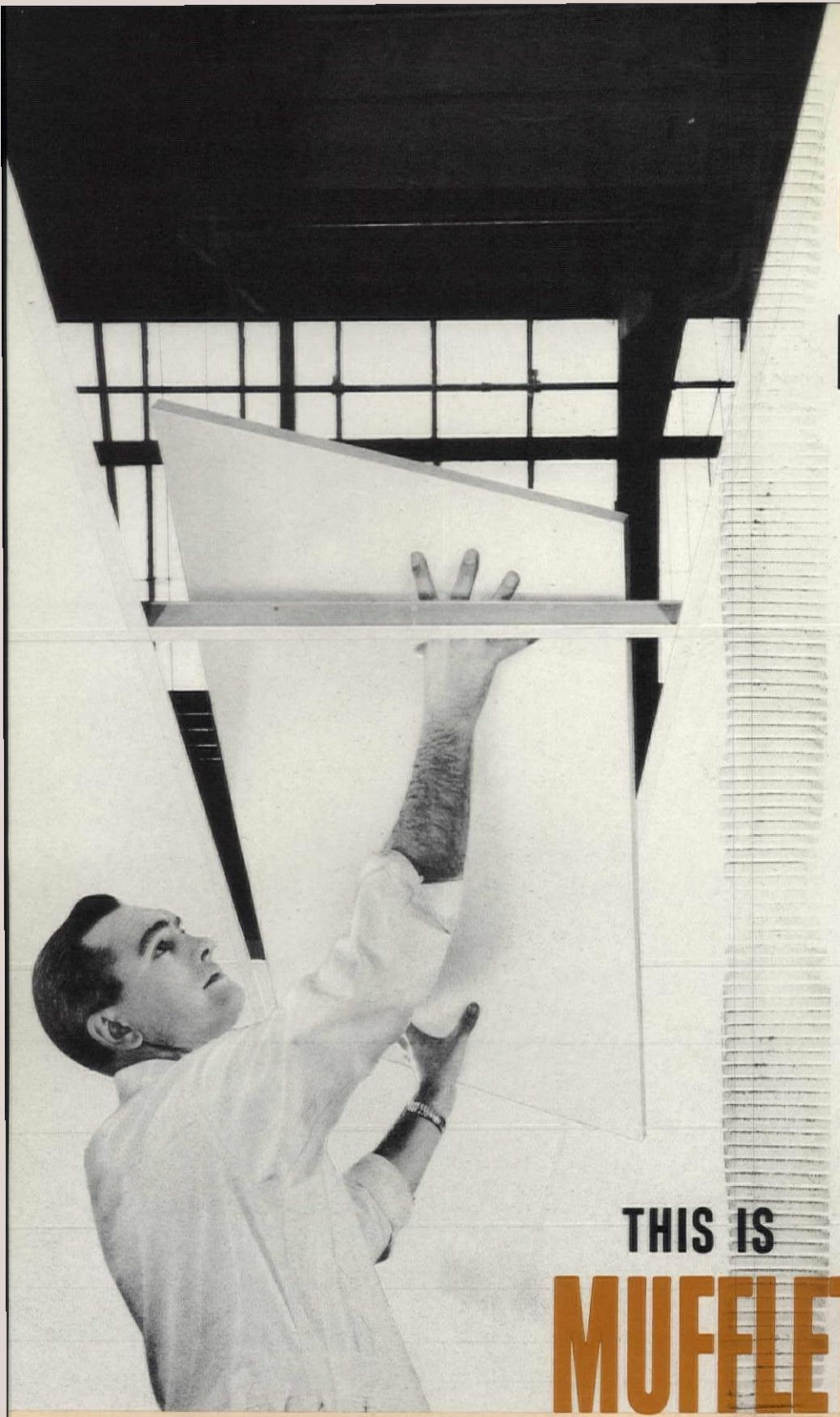

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ATTENUATION FACTORS (AMA two-room testing method)

Frequency (CPS)	125	177	250	354	500	707	1000	1414	2000	2828	4000
Coefficient (db)	25	27	24	24	27	28	30	35	38	45	49

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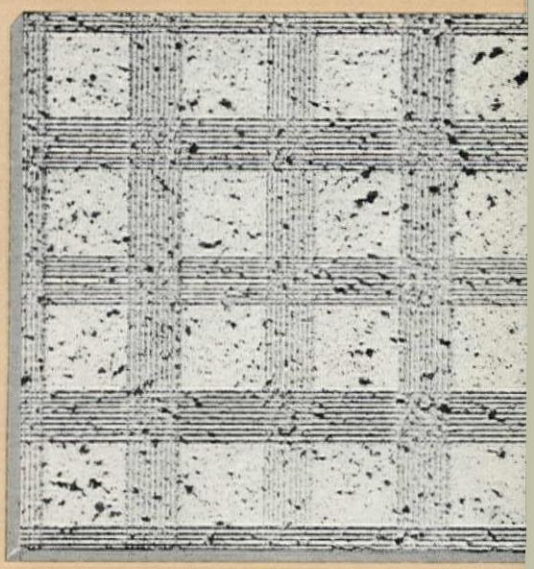

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This new concept in ceilings combines unique decorative effect with highly efficient sound absorption. The pattern of striations completely conceals joint lines . . . creates interesting textural contrast with the travertine-fissured surface.

- High sound absorption: NRC .70 to .80 depending on application
- Incombustible: Class A (Federal Specification SS-A-118b). UL listed and labeled
- Paintable: permanent acoustical efficiency
- Size 12″ x 12″ butt joint, square edges for adhesive application, or kerfed for erection on H&T concealed suspension system
- New Architects' Manual of Specifications and Details available. Ask your Acousti-Celotex Distributor for your copy

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In Canada: Dominion Sound Equipments, Ltd., Montreal, Quebec

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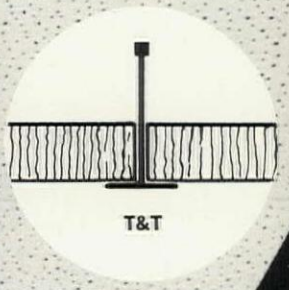
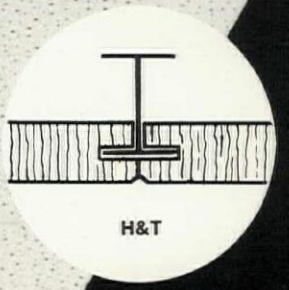


T&T



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- Samples and specification data available from your Acousti-Celotex Distributor

ATTENUATION FACTORS (AMA two-room testing method. On H & T)

Frequency (CPS)	125	177	250	354	500	707	1000	1414	2000	2828	4000
Coefficient (db)	30	31	26	29	30	30	31	35	38	45	54

Barbara J. Melnick

banks

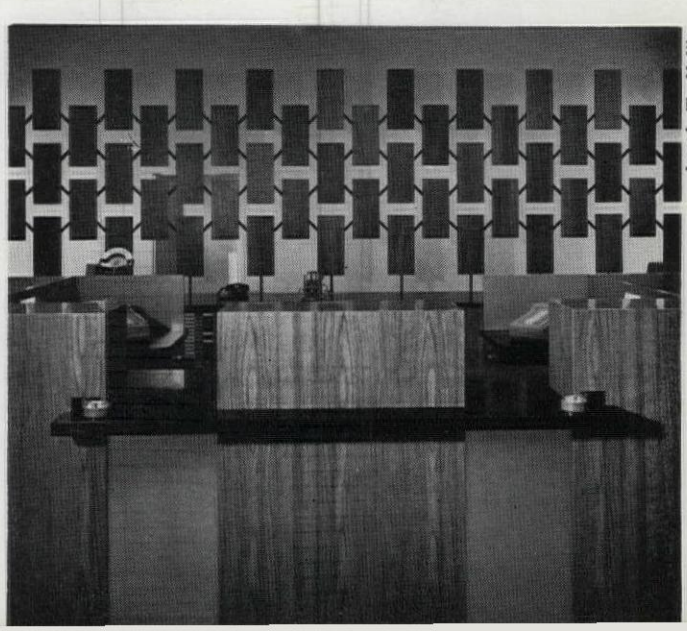
To create a public image of banking as a friendly and personal service, the architects of the three banks we show this month have designed open and inviting banking spaces. Revealed by the transparency of glass walls, these light-bathed interiors—alluring attractions by day—are striking and luminous advertisements at night. Banks, no longer temples where money is venerated or prisons where it is hidden and guarded, have become pleasant places for services essential to the flow of money.

Business is conducted in full view. Protection and confidence are inspired by the openness, the lack of concealment, and the brilliant illumination—rather than by massive walls. Open floor plans, unbroken by heavy or opaque partitions, expose public banking facilities—tellers' counters and officers' platforms—as simply as possible with a minimum of subdivisions. Large, uncluttered expanses, light-reflecting surfacing materials, and pale colors achieve a sense of spaciousness, reinforcing the impression of openness.

At People's Savings Bank in Bridgeport, Connecticut, the architects have capitalized on the bank's excellent location, the corner of a shopping center, by using generous window walls to show off the interior—an inviting space unbroken by supports or partitions. Light is evenly diffused by a luminous ceiling and translucent draperies, and reflected by ceramic-brick walls.

At Seattle First National Bank in Bellevue, Washington, a small community bank, the architects have carried the expression of openness to its extreme by employing a glass curtain wall, hung from the steel roof structure supported by steel columns set well back from the outside walls. Undisguised by box fireproofing methods, the slim columns with plaster molded to the contours of the H-sections maintain the openness and lightness of the interior.

At Girard Trust Corn Exchange Bank branch in Philadelphia, Pennsylvania, the efficient and dignified interior, on the ground floor of a 26-year-old building, is displayed to passers-by in the central commercial core of the city. Gleaming surfaces, crisp contrasts, and specially designed furniture are effective in a public space bathed in warm light from the glass spheres.

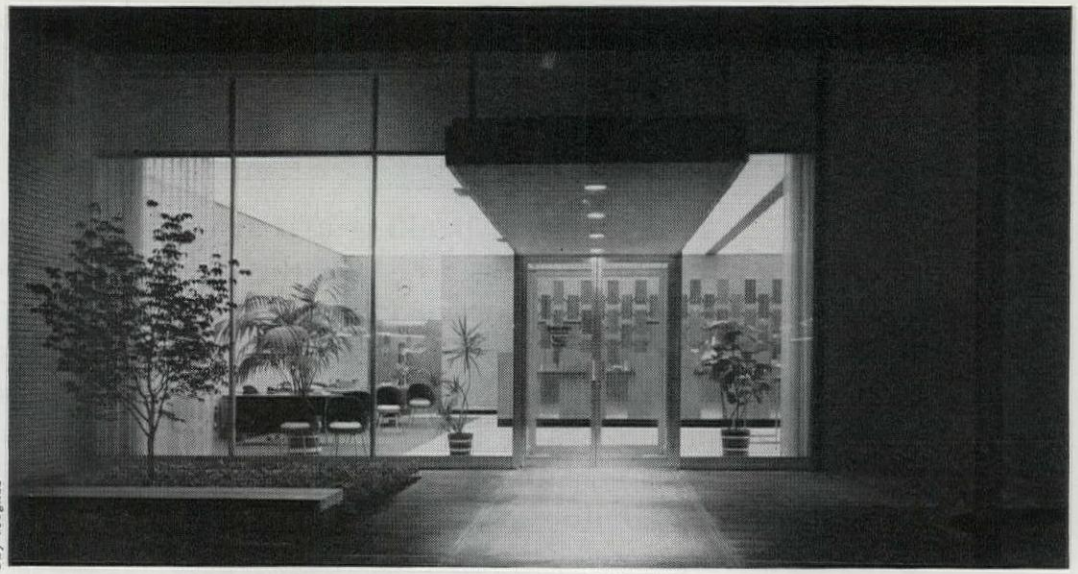


Joseph W. Molitor

Artist Samuel G. Wiener, Jr., has designed the teak and black-steel screen mounted on the back counter of the tellers' area at People's Savings Bank. A handsome attraction against a bright blue wall, the screen actually conceals doors to the back of the bank without occupying valuable corridor space.

Seeming to hover weightlessly over the tellers' counter, the abstract rectangles connected by diagonals recall charts illustrating the flow of money—to become a graphic suggestion of banking transactions.

banks



Guy Mogna

client — People's Savings Bank
location — Bridgeport, Connecticut
architect — Davis, Brody & Wisniewski

Photos (except as noted): Joseph W. Molitor

Design Theory: Generous window walls show off the inviting interior space; semiprivate court with planting, trees, and benches sets the mood for the quiet interior. The spacious open look is achieved by uncluttered surfaces, a foil for the officers' platform and waiting area—set off simply by color, carpeting, and planting rather than by partitioning. At the tellers' counter, opposite the entrance, an elegant screen wall is a decorative attraction which hides doors to the back of the bank without crowding the space.
Color Plan: The major surfaces (luminous ceiling, flooring) are white or off-white (gray brick walls, natural draperies) as a background for the deep tones and intense contrasts at the tellers' counter—teak screen against rich-blue wall above counter paneled in teak-plastic laminate and stainless-steel, with tops of black-plastic laminate; at the officers' platform and waiting area, carpeting is neutral brown furniture teak and brushed chrome, upholstery fabrics black and orange on the side chairs, black or tan on the sofas.

data

cabinetwork, screen

Tellers' Counter: teak-plastic laminate/stainless steel/black-plastic laminate countertops/architect-designed/custom-made. **Screen:** teak/steel-tubing lattice/painted black/designed by Samuel G. Wiener, Jr.

doors, windows

Exterior Door, Windows: aluminum, glass/Amarlite/American Art Metals Company, 433 Highland Ave. N. E., Atlanta, Ga. **Draperies:** natural tan/Saran/fishnet/Knoll Textiles, Inc., 575 Madison Ave., New York, N. Y.

equipment

Vault, Walk-up Window/Night Depository: stainless steel/architect-designed installation/Herring-Hall-Marvin Safe Co., 1550 Grand Blvd., Hamilton, Ohio. **Walk-up Window Grill:** aluminum/Klemp Metal Grating Corp., 6601 S. Melvina Ave., Chicago 38, Ill.

furniture

Check-Writing Tables: teak-plastic laminate / brushed chrome / custom-made. **All Others:** Knoll Associates, Inc.

lighting

Luminous Ceiling: Luminous Ceilings, Inc., 2500 W. North Ave., Chicago, Ill.

walls, flooring

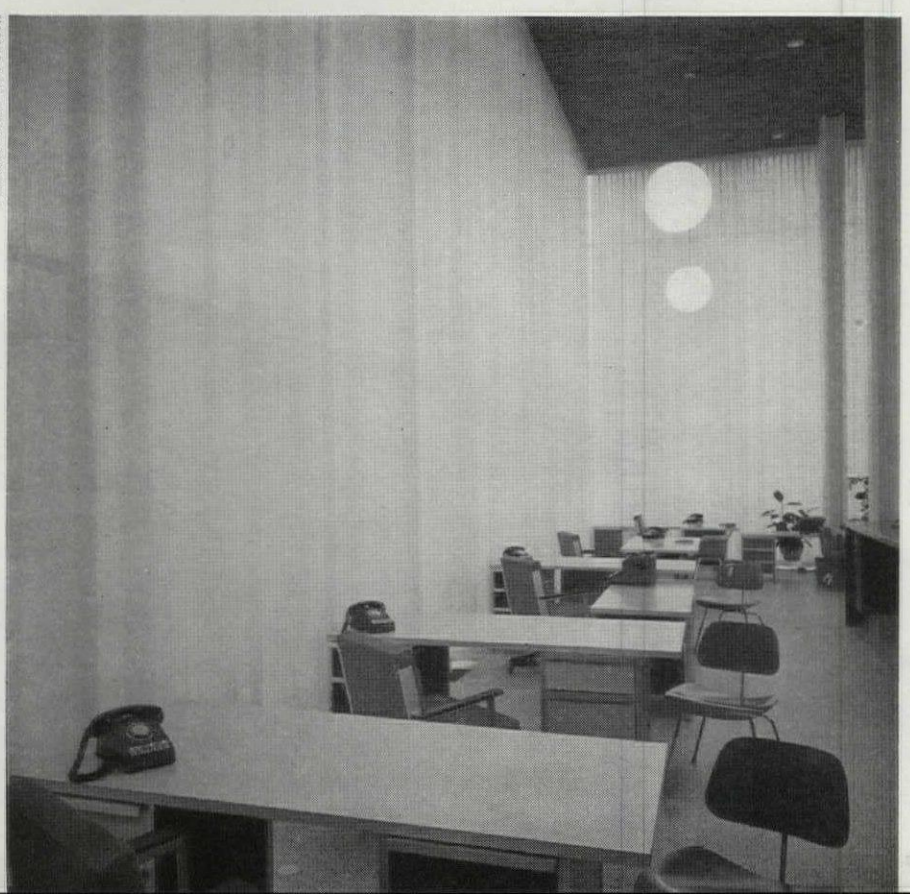
Walls: glazed brick/gray with black speckle/Hanley Co., 1 Gateway Center, Pittsburgh 22, Pa. **Wall Behind Tellers' Counter:** plaster painted blue. **Flooring:** white terrazzo/aluminum divider strips. **Carpet:** neutral brown/V'Soske, Inc., Lord & Adams, 4 E. 53 St., New York, N. Y.

accessories

Clock: Electric Time Co., 16 Union St., Natick, Mass. **Bank Fittings:** Bank Products Co., 3 Park Pl., New York, N. Y.; Beacon Artisans, 301 Walton Ave., New York 51, N. Y.

banks

client — Seattle First National Bank
location — Bellevue, Washington
associated architects — Mithun & Nesland and Ridenour & Cochran



Photos: Chas. R. Pearson

Design Theory: An open, friendly, light interior is displayed to the public through high, one-story glass walls on north, east, and south. Major problems were control of heat and light without extensive heating and cooling or concealing the interior with venetian blinds. Heat-absorbing Thermopane controls heat gain and loss. Without the severe light contrasts created by partial glazing and opaque panels, partitioning, or solid walls, the brightness of direct east and south sunlight is diffused by glass-fiber draperies. Completely open to light, in summer the "glass box" eliminates heat from artificial lighting while the glass itself is a reflective area, making air conditioning cheaper than in conventional buildings. **Color Plan:** The chief consideration was the dominant blue-green color of heat-absorbing glass. Extreme light contrast between inside and outside is avoided by the choice of pale interior surfaces—neutral and white tones, since the blue-green glass reinforces cool colors. All-pervasive white tones (walls, ceiling, flooring, columns, draperies) are accented by blue, yellow, orange (in small wall areas, furniture panels, upholstery), black walnut woodwork, and stained redwood siding.

data

cabinetwork, partitions

Banking Fixtures: walnut-plastic laminate/architect-designed. **Partition at Officers' Area:** black walnut oil rubbed/architect-designed.

doors, windows

Entrance Door: black walnut/colored glass/architect-designed. **Interior:** black walnut/United States Plywood Corp., 55 W. 44 St., New York, N. Y. **Window Walls:** outer glass, heat-absorbing blue-green Thermopane/inner, clear plate/Libby-Owens-Ford Glass Co., 608 Madison Ave., Toledo, Ohio; vertical mullions, light-steel beams/outer flange removed, round bar substituted for resistance to horizontal wind forces/painted silver/Fentron Industries, Inc., 2801 Market St., Seattle, Wash. **Draperies:** white glass-fiber boucle.

furniture, fabrics

Sofa: architect-designed/blue-green fabric. **Other Seating:** blue, yellow, orange fabrics/Herman Miller Furniture Co., Zeeland, Mich.; Knoll Associates, Inc.

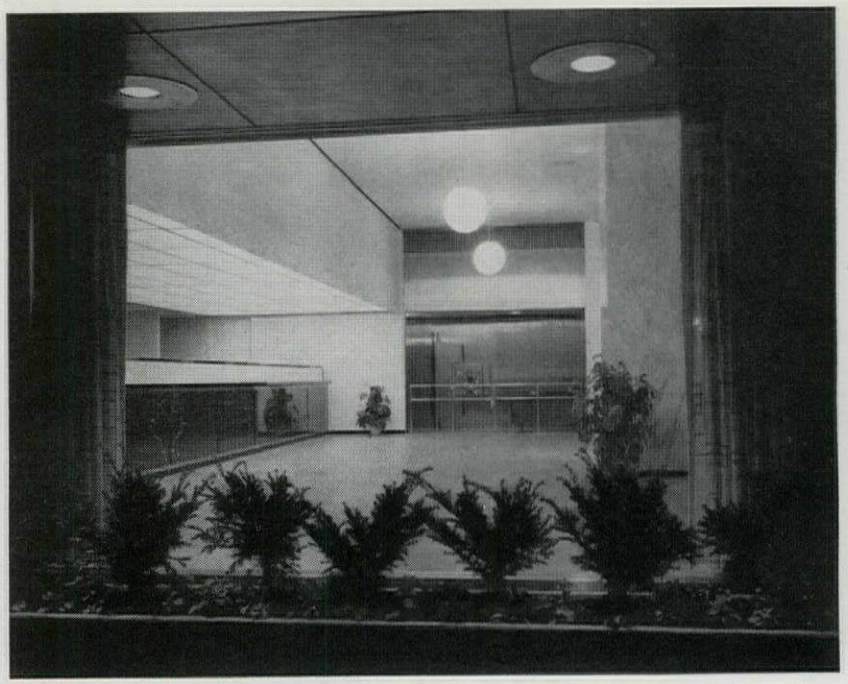
lighting

Recessed: General Lighting Co., Inc., 248 McKibben St., Brooklyn 6, N. Y. **Glass Spheres:** Kurt Versen Co., 4 W. Slocum Ave., Englewood, N. J. **Accent Lights:** Litecraft Mfg. Corp., 100 Dayton Ave., Passaic, N. J.

walls, ceiling, flooring

Walls: sand plaster/white-sprayed lacquer; stained-redwood siding. **Ceilings:** sprayed acoustical insulating asbestos/natural color/Limpet/Keasbey & Mattison Co., Ambler, Pa.; acoustical plaster/white Sabinite/United States Gypsum Co., 300 W. Adams St., Chicago 6, Ill. **Flooring:** white asphalt tile/black fleck/Matico/Mastic Tile Corp. of America, P.O. Box 128, Vails Gate, N. Y.

banks



client | Girard Trust Corn Exchange Bank
location | Philadelphia, Pennsylvania
architect | Vincent G. Kling

Photos: Lawrence S. Williams

Design Theory: Exposed through windows framed by an exterior planting box and an intimately scaled 7'-high entrance canopy, the sleek banking space exhibits its vault, specially designed fluted stainless-steel cladding from floor to ceiling with an open grill at the top for return air. The 13'-high room is bathed in warm light from glass globes hung at 9' level. Optical lights installed in acoustical-tile ceiling direct light to writing surfaces; a luminous ceiling illuminates tellers' couter. The counter, faced with black marquinas set in stainless-steel dividing strips has a white marble strip to screen work area from customer's view. Same care for sharp detail extends to specially designed clock; planters; check-writing desks. **Color Plan:** Large surfaces of off-white (on walls, marble columns, ceiling) emphasize spaciousness. Crisp impression of black, white and stainless-steel counter, gray flooring (terrazzo and carpet) is relieved by Indian Red wall behind tellers. Officers' platform echoes warmth of red in walnut furniture, rich rust and intense-blue upholstery.

data

cabinetwork, partitions

Tellers' Counter: black marquinas/stainless steel/white marble strip/architect-designed. **Check-Writing Desks, Officers' Platform Partition:** walnut / stainless steel / architect-designed.

doors, windows

Revolving Doors: stainless steel/glass/International Steel Co., 1321 Edgar, Evansville 7, Ind. **Draperies:** white rayon/custom print.

equipment

Vault, Drive-In Window: stainless steel/Mosler Safe Co., 320 Fifth Ave., New York, N. Y.

furniture, fabrics

Desks, Chairs: natural-finish walnut/Jens Risom Design, Inc., 49 E. 53 St., New York, N. Y.; dark-blue upholstery/Boris Kroll Fabrics Inc., 220 E. 51 St., New York, N. Y.; turquoise, blue tweed/Stroheim & Romann, 35 E. 53 St., New York, N. Y.; rust/F. Schumacher & Co., 60 W. 40 St., New York, N. Y.

lighting

Glass Spheres: Kurt Versen Co. **Ceiling-Installed:** flush-mounted optical lights/Century Lighting, Inc., 521 W. 43 St., New York, N. Y. **Wall Fixtures:** white-painted metal hour-glass/Gotham Lighting Corp. 37-01 31 St., Long Island City 1, N. Y. **Luminous Ceiling:** Honeylite/Hexcel Products, Inc., 2741 Ninth, Berkeley, Calif.

walls, ceiling, flooring

Walls: plaster painted white, Indian Red accent wall. **Columns:** white marble. **Ceiling:** acoustical tile/Armstrong Cork Co., Lancaster, Pa. **Flooring:** terrazzo/black, white chip. **Carpet:** looped pile/black, white, tan/Hardwick & Magee Co., Seventh & Lehigh, Philadelphia, Pa.

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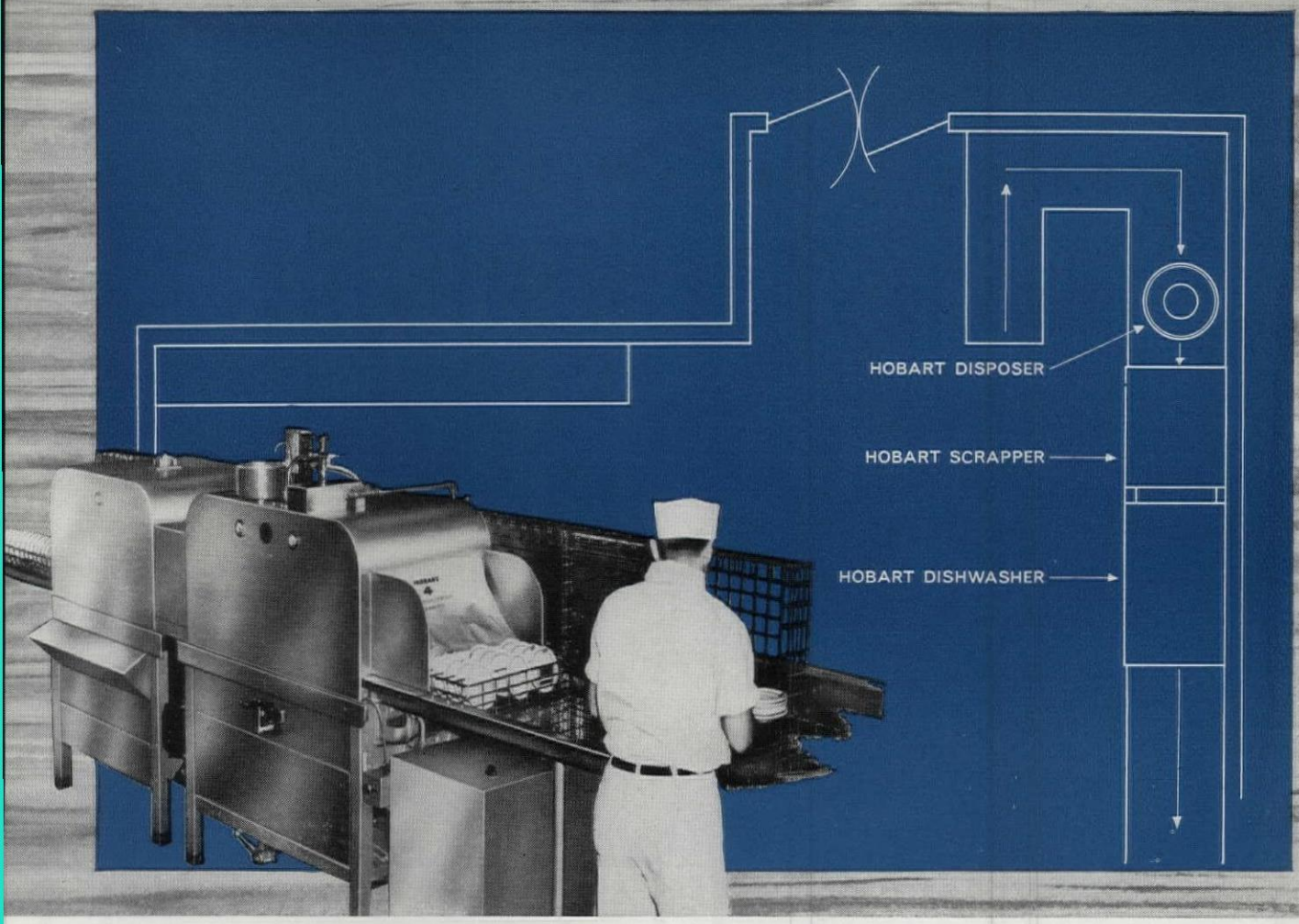

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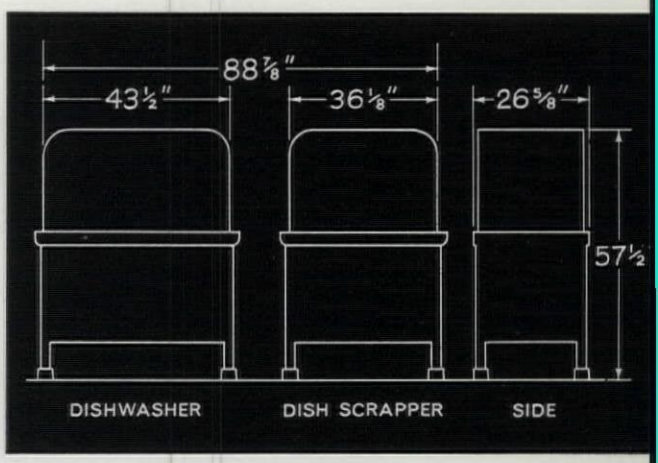

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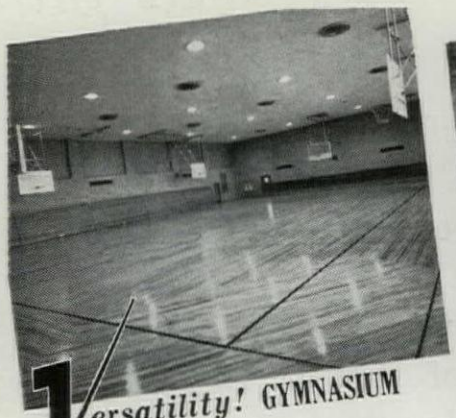

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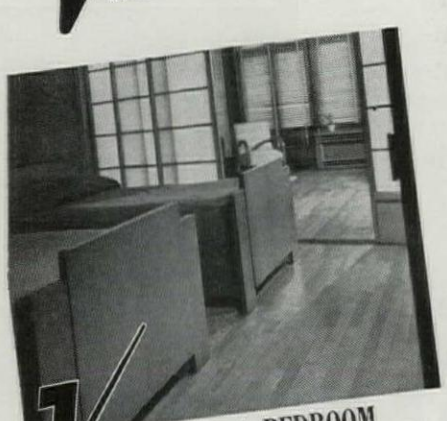

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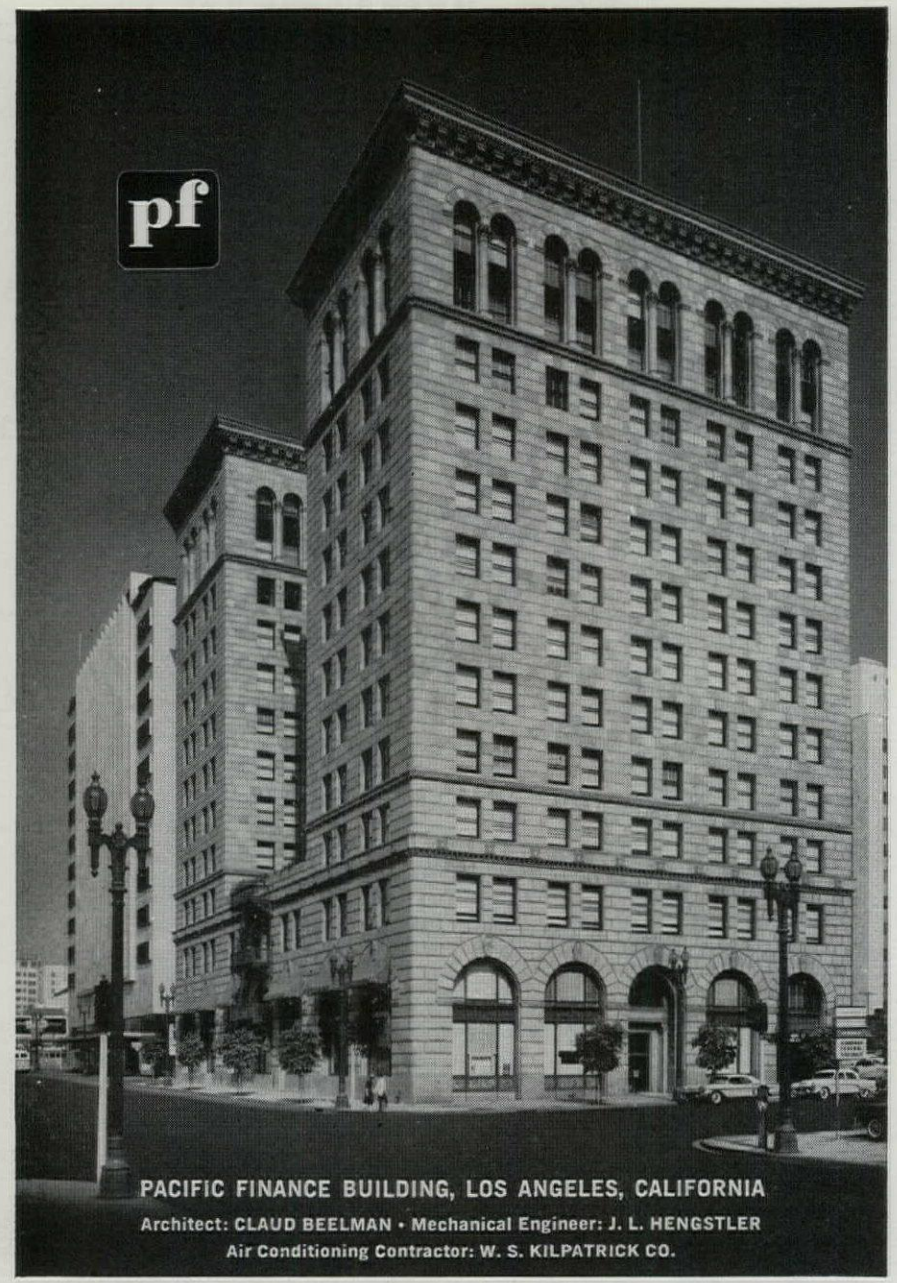

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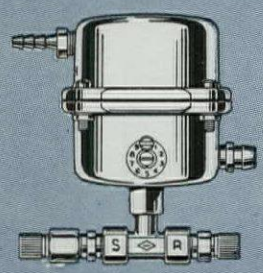

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Emotional Scale in the Minor Key

*by Frederick Herman**

Scandinavian Architecture: Buildings and Society in Denmark, Finland, Norway, and Sweden from the Iron Age Until Today. *Thomas Paulsson. Charles T. Branford Co., 69 Union St., Newton Centre, Mass., 1959. 272 pp., illus. $7.50*

There is an old folk tale about a man who walked backward. Queried as to this peculiar habit, he stated that he liked to see where he had been. Walking backward to see the past is not to be recommended without reservations, but there is a lesson to be learned from it. We are so absorbed with the present and so busy trying to solve the problems of the anticipated future that we forget the present and the future are both the outcome of the past. This is especially true in the fields of the fine arts and of architecture. Today's buildings are not a spontaneous creation but the result of a centuries long process of evolution. This is an obvious fact, but one often forgotten. It seems to have been particularly ignored in the field of Scandinavian architecture.

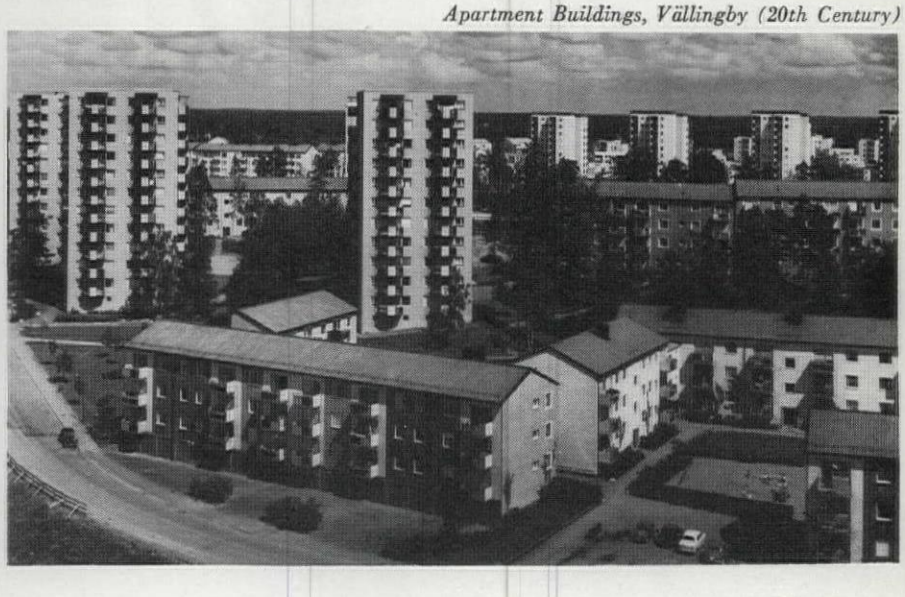
In the past decade or two there has occurred a phenomenon which can only be called the Scandinavian period of modern architecture. This influence has been accepted without any real effort at understanding its background. A mode of architecture characteristic of a certain area has been uprooted and has been treated as an isolated fact. The attempt has been made to adapt it to an environment to which it is alien. It is characteristic of this partial adoption of Scandinavian architecture that until now we have had no study in English which treats the evolution of the subject in an historical context. This book finally places the entire subject matter in its proper historical setting.

The author, at some length, examines the Scandinavian church buildings of the Middle Ages, roughly to 1500. Most of these edifices have been ignored in writings on European architecture, or else they have been regarded as second-rate copies of the architectural styles prevalent in Germany and France. The author gives us a first-rate introduction to this type of Scandinavian architecture and points out that it is quite distinct from other European developments. In his words: ". . . it goes without saying that a national building tradition could not pos-

(Continued on page 200)

Dalby Church, Skåne (11th Century)

Apartment Buildings, Vällingby (20th Century)



* Architect: Professor, College of William and Mary, Norfolk, Va.

The heavily corroded panel was not Bonderized; the virtually undamaged panel was. The panels were scratched and then subjected to the A.S.T.M. standard salt-spray test. In the finish over Bonderite, rust stopped at the scratch-mark — but it spread extensively over the other panel.

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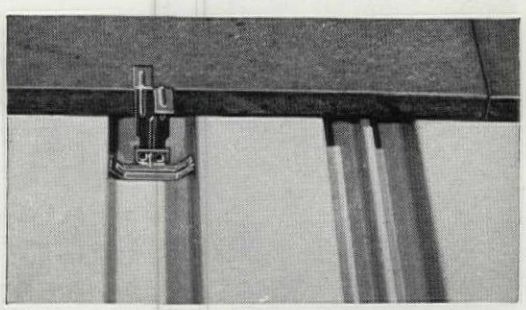

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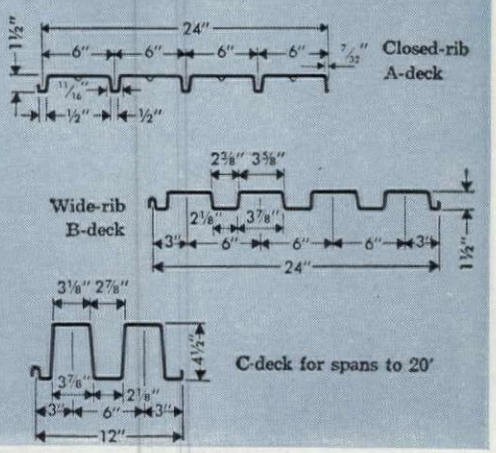

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RD-21

reviews

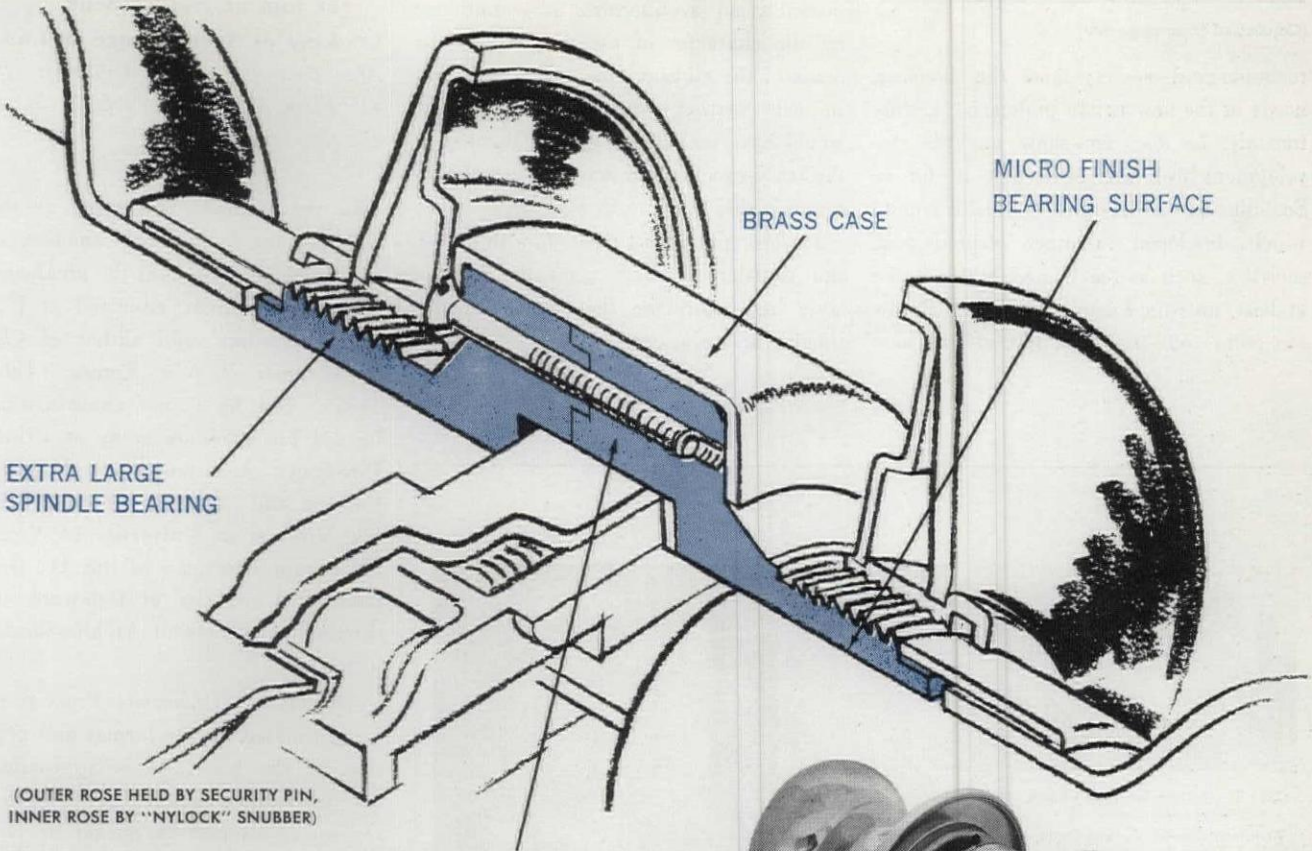
(Continued from page 197)

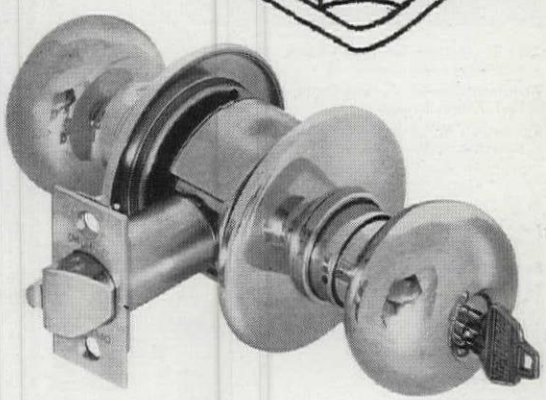
sibly be created out of something entirely negative, out of a mere lack of medieval spirit that ruled the rest of Europe. The lack was certainly not total—the Scandinavians tried hard to follow the evolution. . . . It is as if the melancholy sense of fear contained in the Romanesque churches was never released in the sometimes almost overstrung ecstasy of the Gothic cathedral. Scandinavian emotions never reached such breathtaking heights, although they were no less intensely felt. The Nordic churches are more earthbound, their emotional scale in the minor key. It is as if the northerner could not grasp and experience the full extent of the divine relief that the Kingdom of Heaven offered."

To a very large degree Paulsson may have touched upon one of the main features of Scandinavian architecture in the above passage. Time and time again in the book, and especially in the pictures, one is struck by the restraint, "the emotional scale in the minor key" that characterizes the buildings. Even in instances where foreign architects have been employed and the building becomes monumental in scale, there remains a severe, precise, and restrained feeling in their appearance. Writing of the 17th Century, a period when Scandinavia was at its peak of political power, Paulsson refers to this essential conservatism in Scandinavian architecture and finds that it ". . . must have lain in the personal nature of architects and clients. . . . This traditionalism was an old and familiar feature of Nordic architecture, particularly in Sweden."

In other sections of the book, the author treats various phases of Scandinavian architecture according to a chronology based on the changes in the social structure and outlook in Scandinavia. Of these, the last two, "Declining Monarchy and Rising Middle Class," which covers the 19th Century, and "Industrial Society and its Environment," which treats the 20th, are of special interest: both illuminating and disappointing. Approaching his subject primarily from a social viewpoint, the author succeeds in highlighting the forces which pushed Scandinavia toward a modern architecture—namely the demands of modern

(Continued on page 202)





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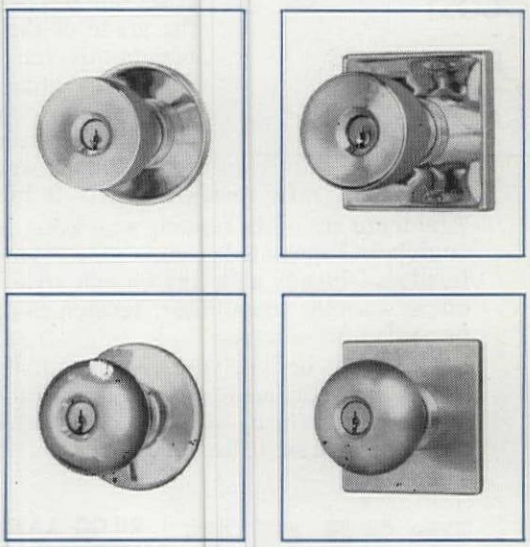

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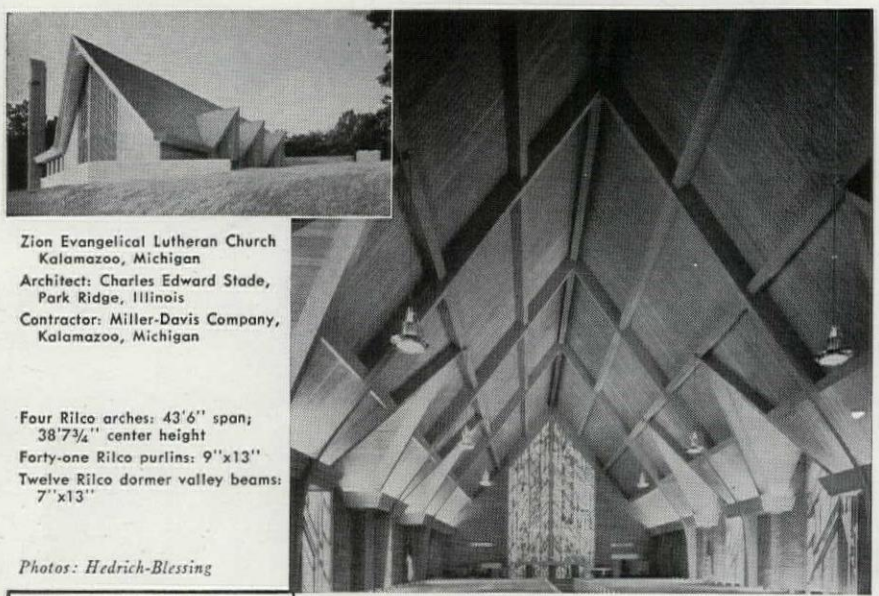
(Continued from page 200)

technological society and the housing needs of the new urban proletariat. Unfortunately, he does not show why this development took the form that it did in Scandinavia—as distinct from the trends which developed in other technological societies, such as the United States. It is, at best, answered implicitly where Paulsson points out that this, like all previous Scandinavian architecture, is conditioned by the character of the people and the needs of the climate. One also wishes that in this section, especially, the author would have included a greater number of the truly excellent photographs which distinguish this book.

In closing one must mention, with praise, the translation which gives the book a style and character that are both distinctive and pleasant.



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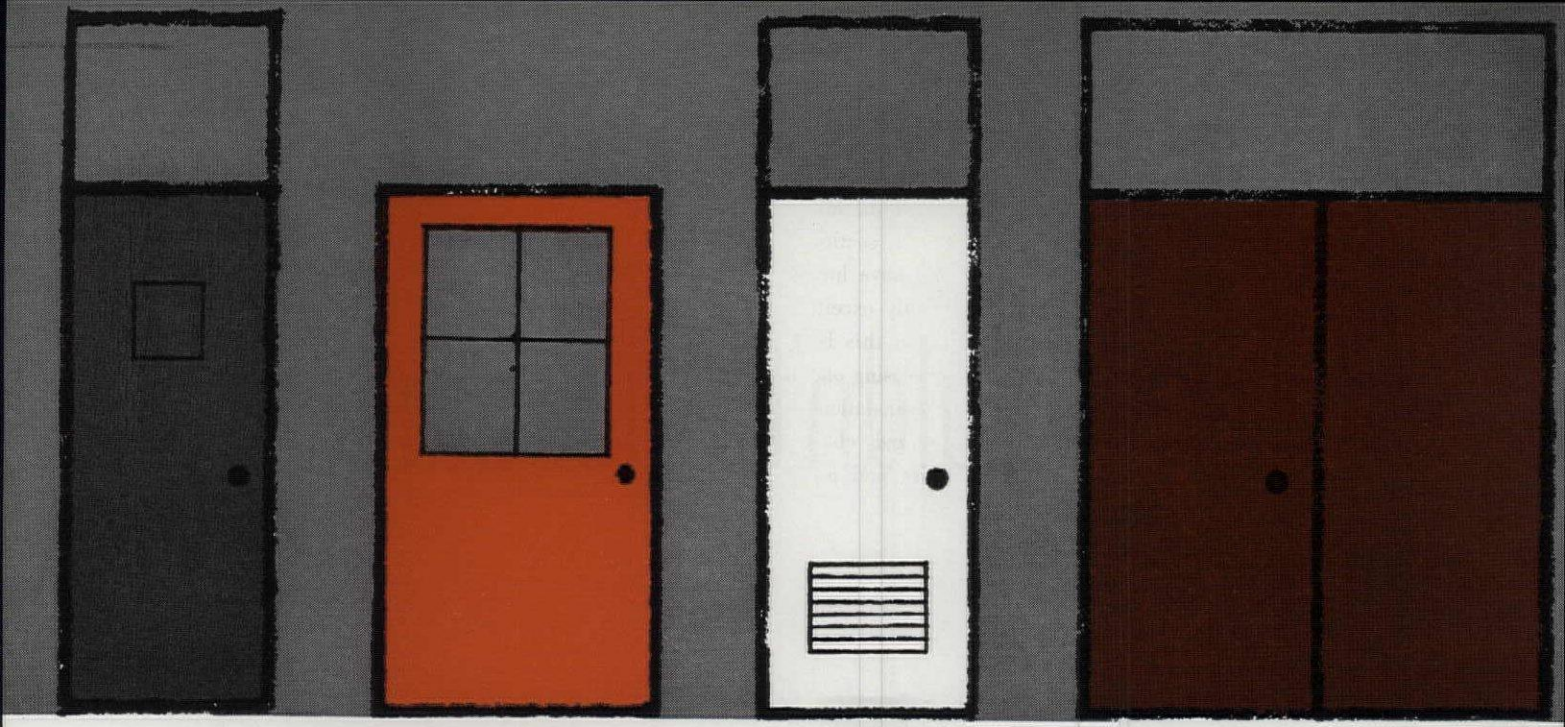
Looking at Architecture in Canada. *Alan Gowans. Oxford University Press, 417 Fifth Ave., New York, N. Y., 1959. 232 pp., illus. $10*

Now that Canada is coming of age, it is high time to look at Canadian architecture. Alan Gowans is the ideal *courier*. He is a Canadian, educated at University of Toronto, and author of *Church Architecture in New France* (Toronto, 1955). But he is not chauvinistic, for he did his graduate study at Princeton University, has taught at Middlebury College, and has been director of Fleming Museum at University of Vermont. He is now chairman of the Art Department at University of Delaware and a director of Society of Architectural Historians.

The Oxford University Press is to be congratulated on the format and production of the book. It is approximately 8½ in. square and weighs 1¾ lb and so can be carried in pocket or pocketbook by the pedestrian tourist. Its *Dufyesque* jacket drawing by Theo Dimson makes it even more attractive for the armchair traveler—also to ornament his coffee table. The size of the pages makes possible good, clear, full-page illustrations, and it permits the text to run in double columns for quick reading, with smaller illustrations inserted in the text. Under each illustration—photograph, ink drawing, plan, detail, or elevation—are several descriptive lines, so that the whole work may be considered a picture-book with 138 illustrations surveying Canadian architecture from Indian houses to Stratford Shakespeare Festival Arena theater.

It is much more than that, however, for the text gives a critical commentary on architectural style from the 16th Century to the present, showing how Canadian examples fit into the world picture. In consequence, the volume is not only a readable and informative book for the layman, but can also be used as a textbook in schools and colleges. This aspect of it is enhanced by the bibliographic note at the end of each chapter. It seems an oversight that nowhere in the bibliography is there a mention of *The Picture Gallery of Canadian History* (C. W. Jefferys. Ryerson, Toronto, 1942-

(Continued on page 206)



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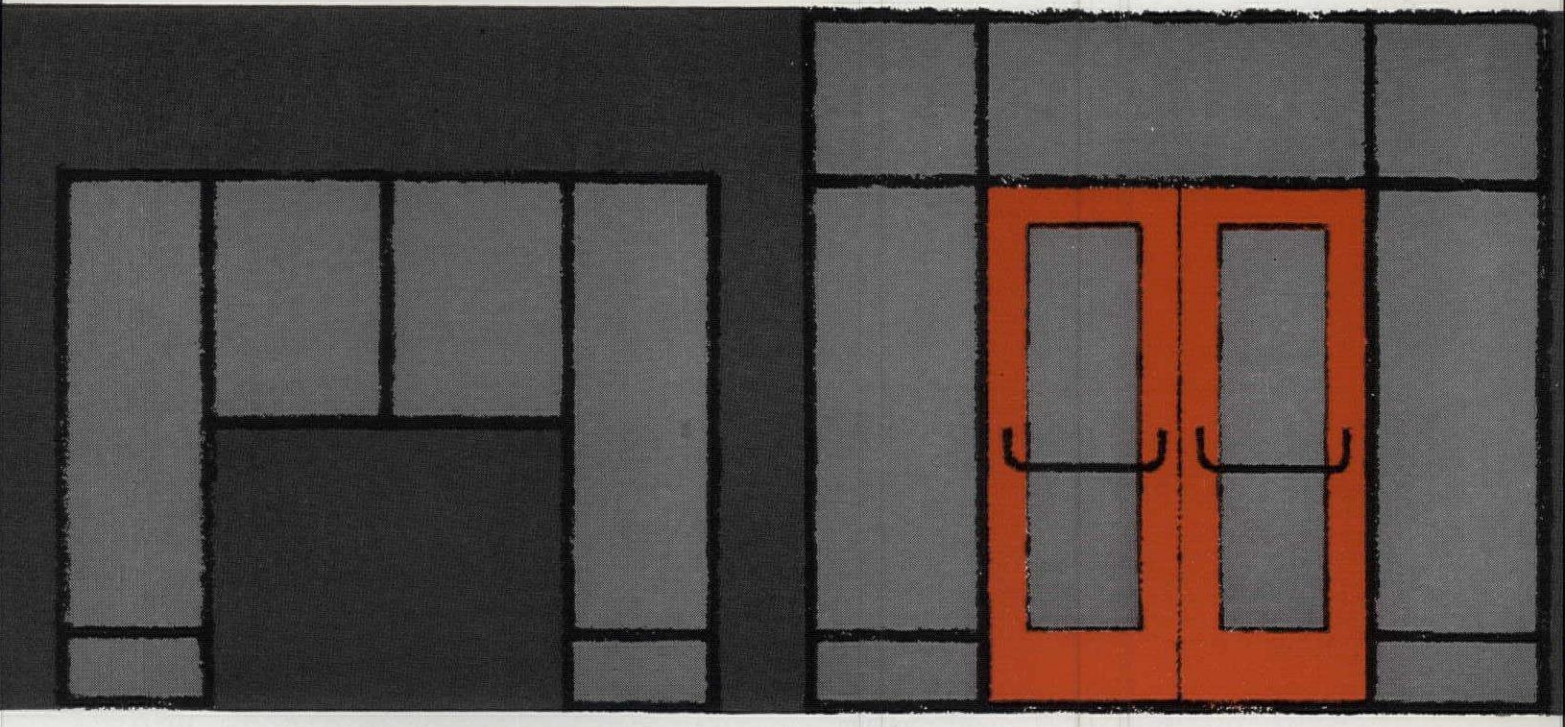

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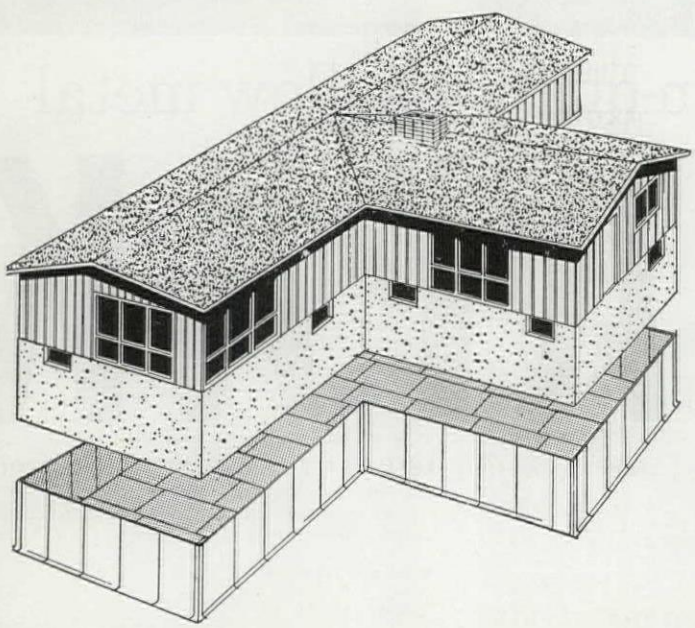

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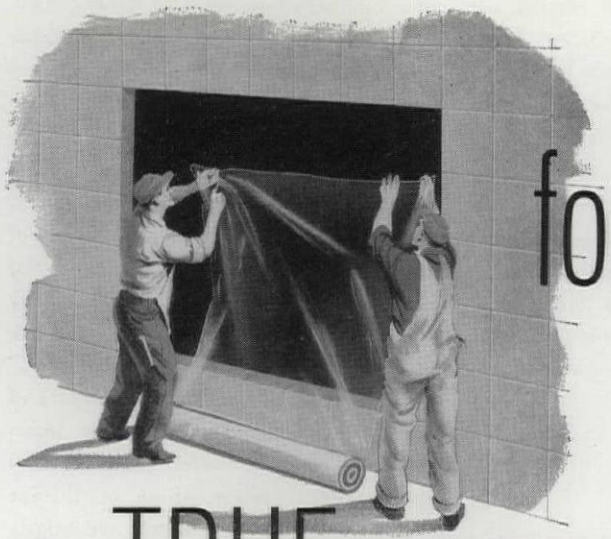

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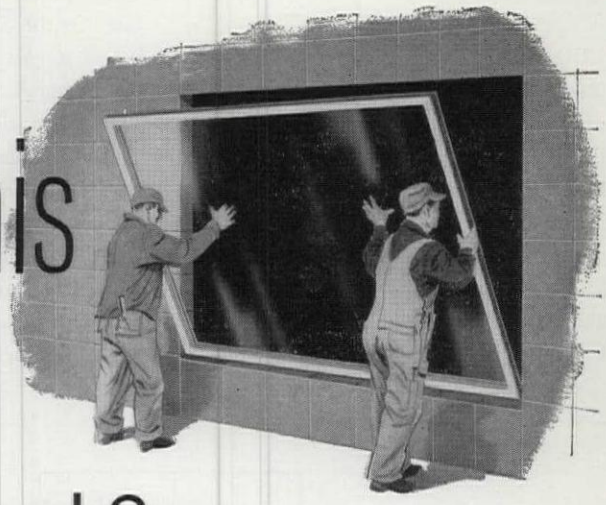

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(Continued from page 202)

1950), which was published in three volumes covering all phases of Canadian development, social and historical, with illustrations of more than 300 Canadian buildings. It seems to this reviewer that Jefferys, although better known as a painter and illustrator, was really the first architectural historian in Canada and as such should have been noted by Gowans.

In the preface, the author states his aims, which are admirably carried out later in the volume. He says that *Looking at Architecture in Canada* is a popular history: partly because it is addressed to the intelligent layman, and partly because the lack of architectural genius or special originality in Canadian architecture brought forth buildings which "are products of common, general, 'popular' taste in their time and place."

Gowans continues, "Canadian (or any) architecture, considered as cultural expression, is the product and reflection of a number of patterns of development, operating simultaneously, and superimposed one on the other." The patterns which he has chosen to disentangle are four in number: the pattern of man's successive stages of dominance over nature or his environment; the pattern of "national traditions"; the pattern of changing beliefs about the nature of what constitutes a work of *architecture* as distinct from mere *building;* and the pattern of successive historical "styles" —Neo-Classical, Gothic, Victorian, and so forth—which result from the interaction of these broader patterns. All these patterns follow those of Europe "with (inevitably) many peculiarly Canadian variations and emphases." In a Quebec church, like the Marial Chapel *Lac Bouchette*, designed by Henri Tremblay in 1952, Gowans sees the beginning of a new Canadian architecture: "of an architecture that will be truly Canadian, and may be great."

Gowans, in his determination to be objective and global in his view of Canadian architecture, has underemphasized some architecture which is uniquely Canadian in character: the villas in Victoria, the Ontario farmhouses with their sharp-peaked central dormers, the flaring eaves of the Quebec houses, and the Catholic parish churches with their high roofs and towers.

Gowans believes that the Vitruvian canons best distinguish architecture from building, and he notes that "different people find, and have always found, different 'delights' in architecture." From this he concludes, "One thing is certain —there is something in architecture generally, and Canadian architecture in particular, for everyone to enjoy." In like manner there is something in this book to appeal to everyone.

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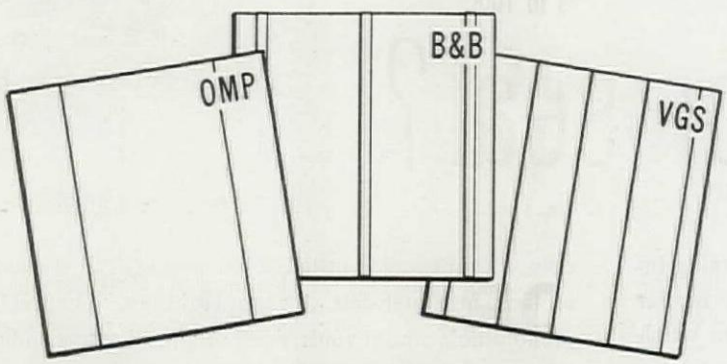

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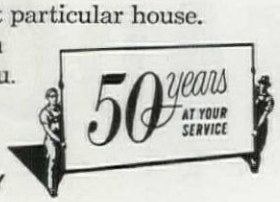

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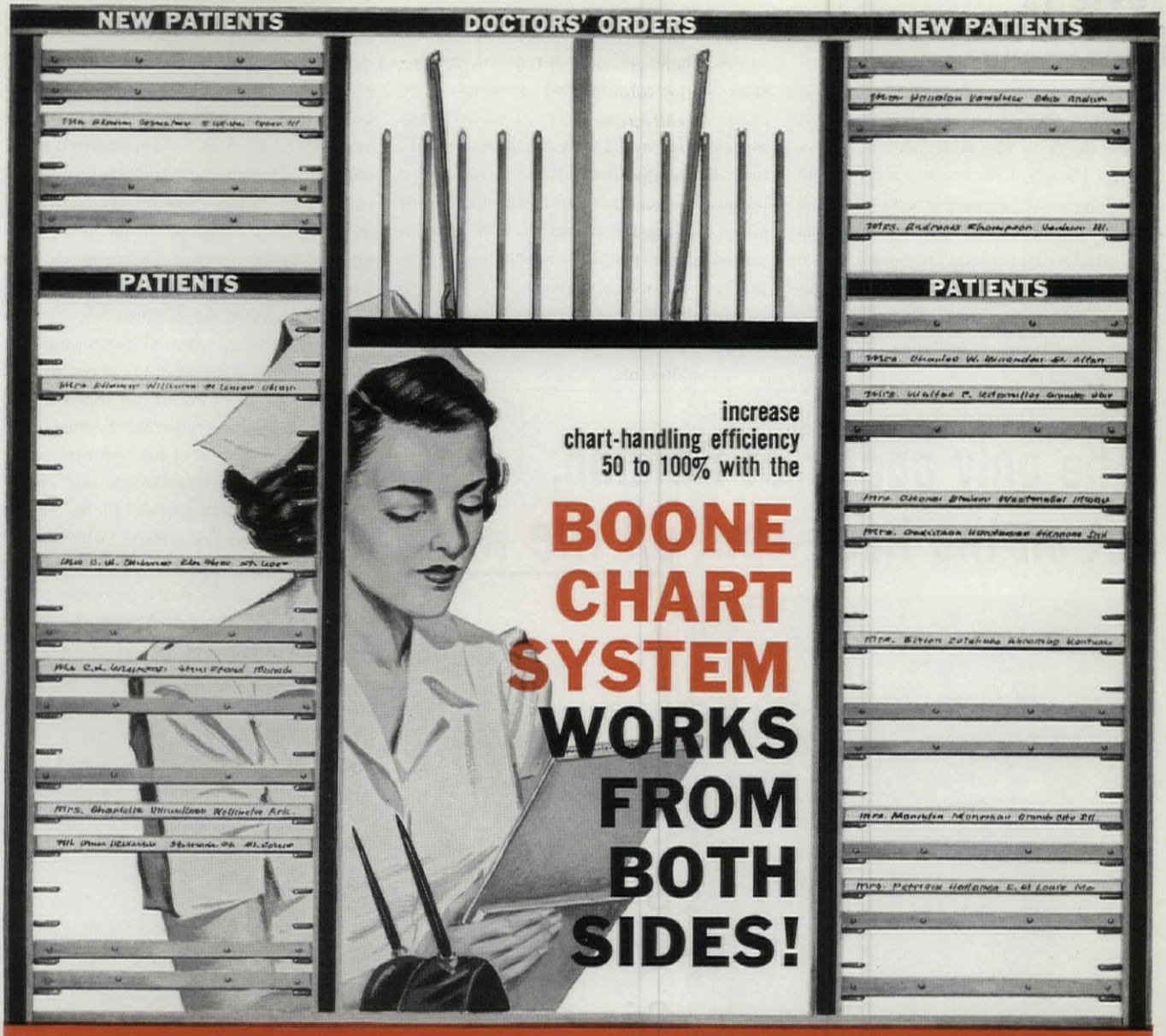

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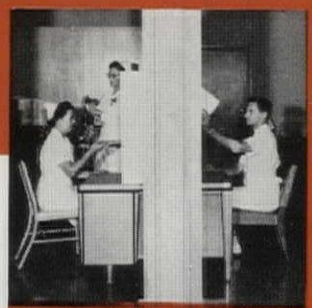

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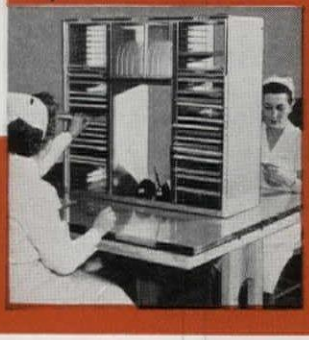

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reviews

(Continued from page 206)

Swedish Society of Industrial Design, contribute much to the fact that the words Swedish Design, have become a symbol of beauty to many. If they are to you, you will be pleased to see this handsomely illustrated small book and to read the brief history and background of industrial design in Sweden.

The genesis of present-day industrial design is the home craft of past centuries, which is today enjoying a renewal, encouraged by the industrial designer. The artist-designer is the center of all design in Sweden. He moved into the factories with the advent of industrialization, and there he not only contributes to the quality of mass produced housewares, but he continues in his studio-within-the-factory to produce individual objects of art. Each designer tends to concentrate, and thereby perfect, his skill in one material: glass, ceramics, textiles, furniture, or silver.

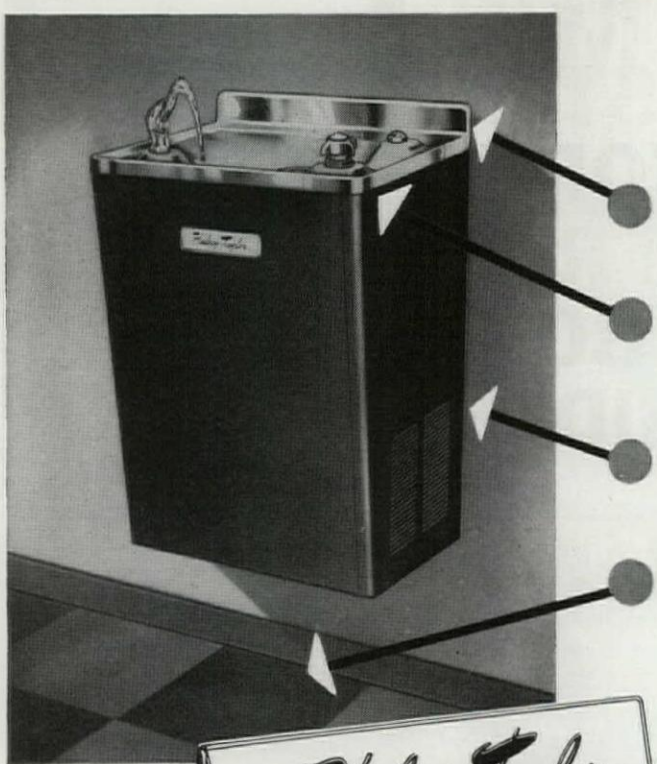
Another factor in the quality of design is the emphasis placed on manual work and manual finish in each specialized product field. Though the number of employes in industry range from an average of 15 in 800 small furniture shops to 1200 in the five large ceramic factories, in each there is the opportunity for the hand of the craftsman to add its touch.

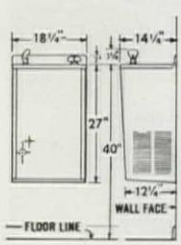
Though several national institutions and organizations continue to maintain the status of design, it could not thrive to the point of being a symbol of Sweden were it not for the people of that country. They seem to possess an inate taste and appreciation for the "esthetic simplicity" of the furnishings and housewares which daily surround them. And one must not overlook the role of the daily newspapers (not the trade journals) which keep the public informed, aware, and critical of design.

The 6x8 plates, in four-color or black and white, illustrating textiles, glass, ceramics, furniture, and silver, are a joy to thumb through and admire, several times. One must compliment the Swedish Institute for continuing the quality of design in the organization and layout of this book.

A.L.

The only cooler of its kind, not on the floor—but *on the wall*





Write for information

Here is a totally new kind of water cooler—it's mounted on the wall, *off the floor!* It's more compact, beautifully proportioned, and, because it does not stand on the floor, there are no corners or crevices to catch the dirt. You can recommend this new Halsey Taylor *Wall-Mount* as an outstanding cooler value. In capacities of 6, 11 and 16 gallons.

The Halsey W. Taylor Co., Warren, Ohio

WM-3

two revised handbooks

Architectural Practice. *Third edition. Clinton H. Cowgill and Ben John Small. Reinhold Publishing Corp., 430 Park Ave., New York, N. Y., 1959. 288 pp. $12.50*

Handbook of Architectural Practice. *Eighth edition. Edited by Clinton H. Cowgill. The American Institute of Architects, 1735 New York Ave., N. W., Washington, D. C., 1958. $8*

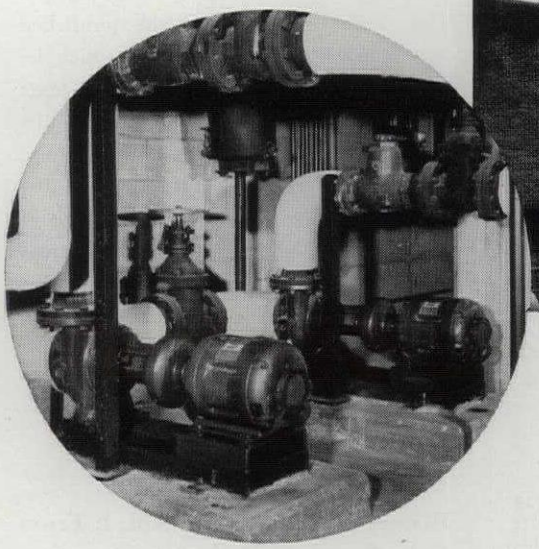
These two books supplement each other; and also have many features in common. The editor of *Handbook of Architectural Practice* is one of the authors of *Architectural Practice.*

Both of the books treat the everyday problems occurring in architectural practice in a thorough fashion. Similar facets of the problems are discussed in each work in a slightly different manner; each has a number of topics which are not included in the other. Together

(Continued on page 212)

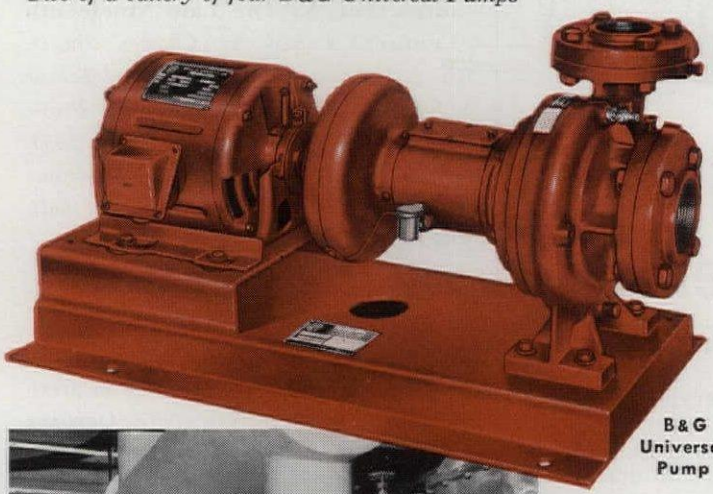
UNIVERSITY OF WASHINGTON
LANDER HALL—MEN'S DORMITORY

Architect: Young, Richardson & Carlton
Engineer: Bouillon, Griffith and Christofferson
General Contractor: John H. Sellen Construction Co.
Mechanical Contractor: L. G. Massart Co.



Two of a battery of four B&G Universal Pumps

B&G UNIVERSAL PUMPS SELECTED FOR DORMITORIES WHERE QUIET IS ESSENTIAL

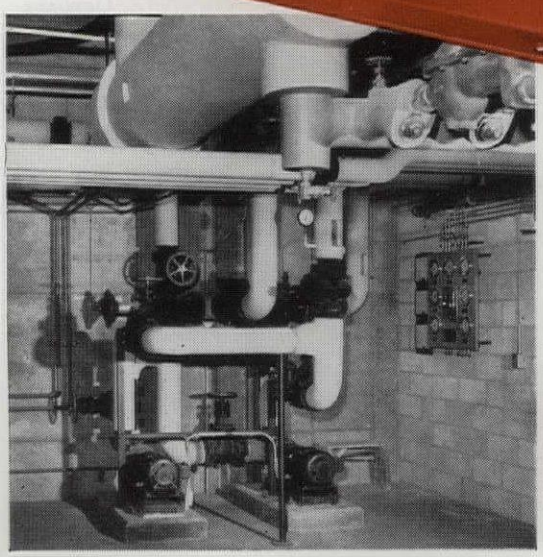


B&G Universal Pump

In buildings where students both study and sleep, *quiet* is needed to derive the greatest benefit from both. That is why B&G Universal Pumps are often selected by mechanical engineers for college dormitories where they circulate forced hot water heating systems without vibration or noise which could be created by improperly selected pumps.

For institutional, commercial or residential jobs, B&G Booster and Universal Pumps are engineered and built for just one purpose: to meet the exacting demands of water heating and cooling systems dependably, smoothly, *quietly*. They are built with such features as special, more costly motors, tested for silent running...oversized shafts of hardened steel alloy...long sleeve bearings...noise dampening spring couplers...oil lubrication and leak-proof "Remite" mechanical seals.

Specify B&G Circulating Pumps where quiet dependability is essential...*over 3,000,000 are in operation today!*



Remaining two B&G Universals; above them is a B&G Type "SU" Heat Exchanger.

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Dept. FT-37, Morton Grove, Illinois

Reg. U. S. Pat. Off.

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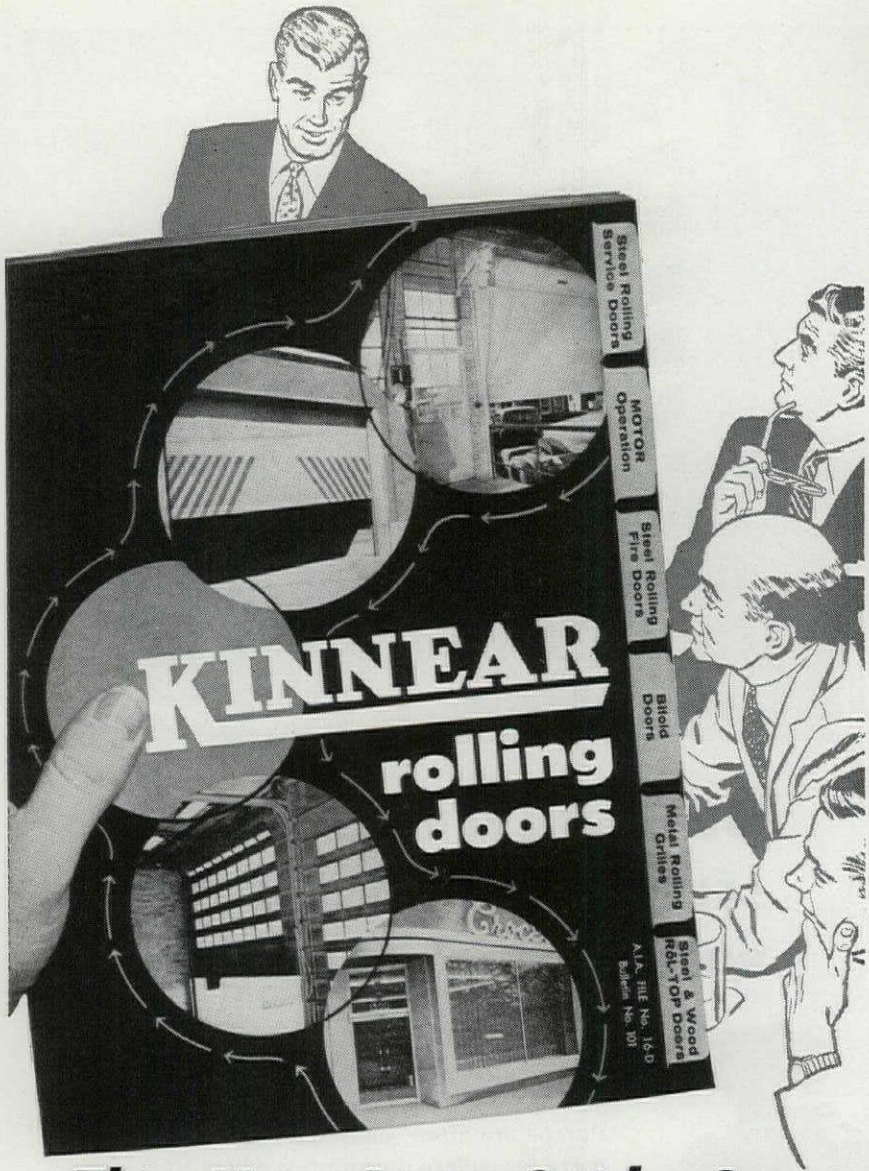

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KINNEAR Rolling Fire Doors — the exclusive, all-steel "Akbar" doors, famous for positive starting action, safe closing speed, other advanced features.

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KINNEAR
ROLLING DOORS
Saving Ways in Doorways

reviews

(Continued from page 208)

they make up a collection of facts, forms, and information of great value to anyone connected with the practice of architecture.

It is regrettable that *Handbook of Architectural Practice* did not have the benefit of skilled editing of the copy. This reviewer noticed in the published text many of the same faults which he pointed out in the preliminary text: simple grammatical errors, inferior diction, lack of precision and clarity, and informal expressions such as "pie-in-the-sky" which do not add to the stature of the work. Good intentions and a great amount of hard work (obvious in this case) do not necessarily result in a great book.

LAWRENCE E. MAWN
Alhambra, Calif.

finale to scholarly study

History of Technology. Vol. I: From Early Times to Fall of Ancient Empires. Vol. V: The Late Nineteenth Century. *Edited by Charles Singer, E. J. Holmyard, A. R. Hall, and Trevor I. Williams. Oxford University Press, 417 Fifth Ave., New York, N. Y., 1954, 1958. Vol. I: 892 pp., illus., 36 halftone plates; Vol. V: 926 pp., illus., 44 halftone plates. $26.90 each.*

The fifth volume of the *History of Technology* completes this monumental undertaking, of which the second, third, and fourth tomes were reviewed in previous issues (SEPTEMBER 1957, OCTOBER 1958 P/A). A glance at the first volume, *From Early Times to Fall of Ancient Empires* (not yet discussed) may be allowed in this context. It must be emphasized again that "to review in detail a book of the scope of this general *History of Technology* would be a superhuman enterprise, as it is encyclopedic in length as well as coverage." Comparing the first and the fifth volumes, both results of painstaking research and thorough knowledge of the respective material, one is struck by how much the relation between technology and architecture has changed.

(Continued on page 218)

Niagara County Court House
Lockport, New York
Architect:
Cannon Thiele Betz & Cannon

series 5212 for multi-level structures

engineered to slash erection time

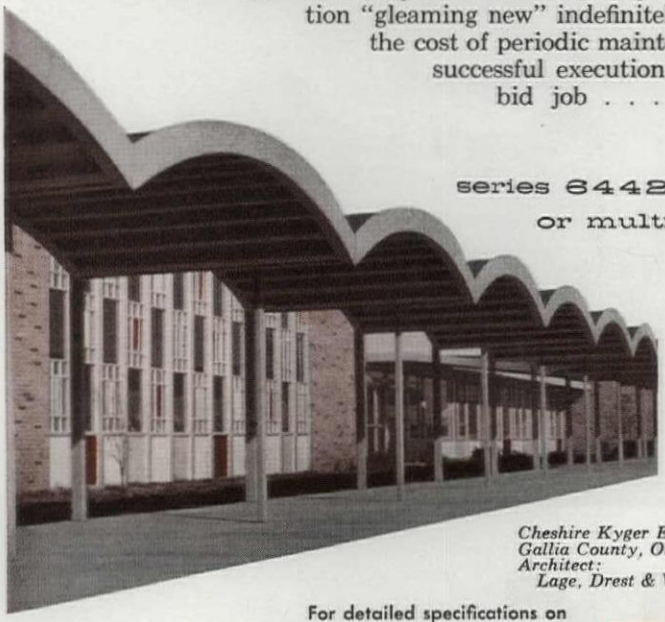
MARMET curtainwall

To assist architects in developing outstanding contemporary designs on closely bid work . . . MARMET has engineered two forms of curtainwall . . . each type erected differently . . . yet in each one labor assembly time is cut significantly. Result: more structures can be sheathed in gleaming aluminum . . . with no sacrifice in quality even on tightly budgeted jobs. And, special dip treatment for every kind of finish, keeps MARMET fenestration "gleaming new" indefinitely . . . saving owners the cost of periodic maintenance painting. For successful execution of your next closely bid job . . . specify MARMET.

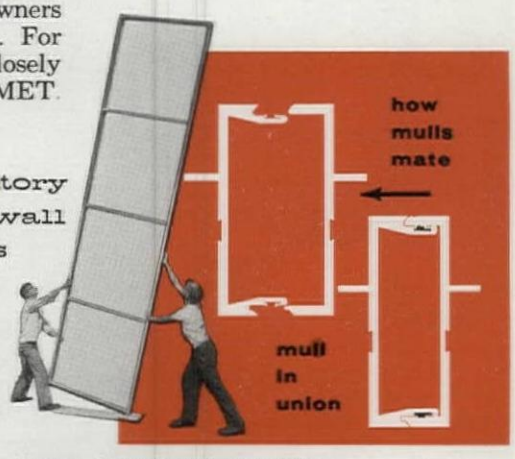
wall panels stack from inside

Once the large, vertical mulls are hung from each story of the building . . . lite sections and wall panels can be stacked one atop the other. Units are small enough that two men can easily handle and install them . . . working from the inside in most cases . . . saving the time and cost of erecting scaffolding.

series 6442-43 for 1 story or multi-story gridwall structures



Cheshire Kyger Elementary School
Gallia County, Ohio
Architect:
Lage, Drest & Walter



large interlocking grids

Available with mating vertical mulls, 4½" or 6" deep for a varying of shadow lines, the large interlocking grids of this series can quickly be erected by two men. Mortise and tenon joints are connected with bolts, carefully concealed by the glass race. Special expansion joints are employed at the proper intervals.

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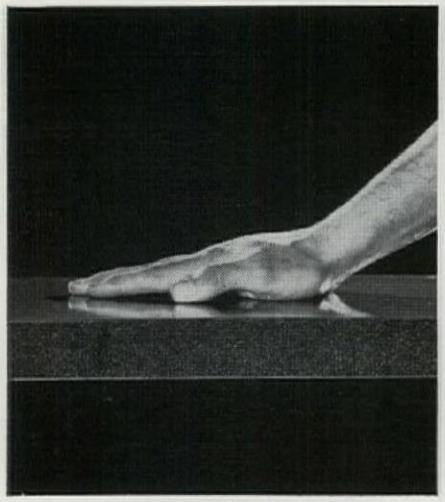
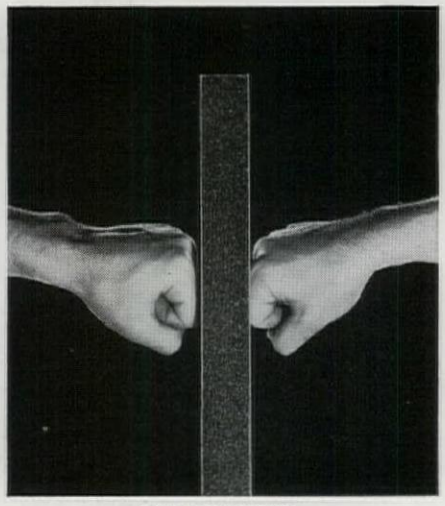
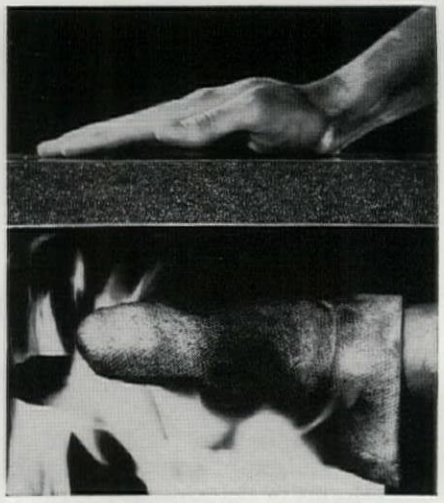


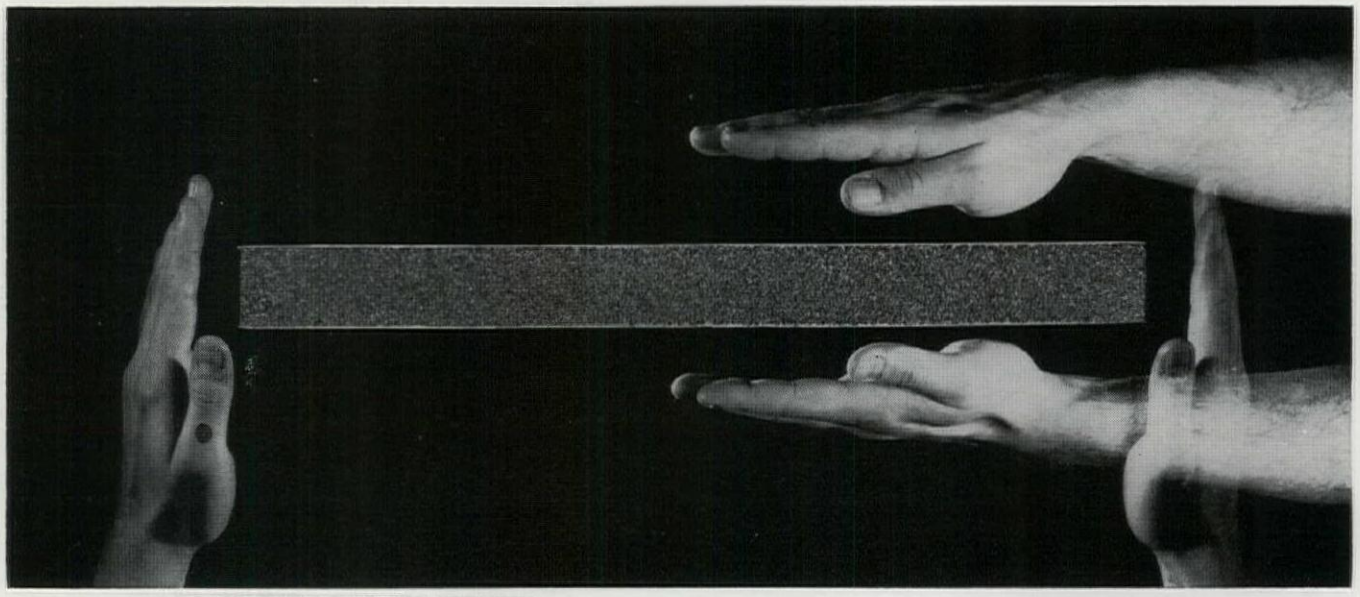
FLATNESS



STRENGTH

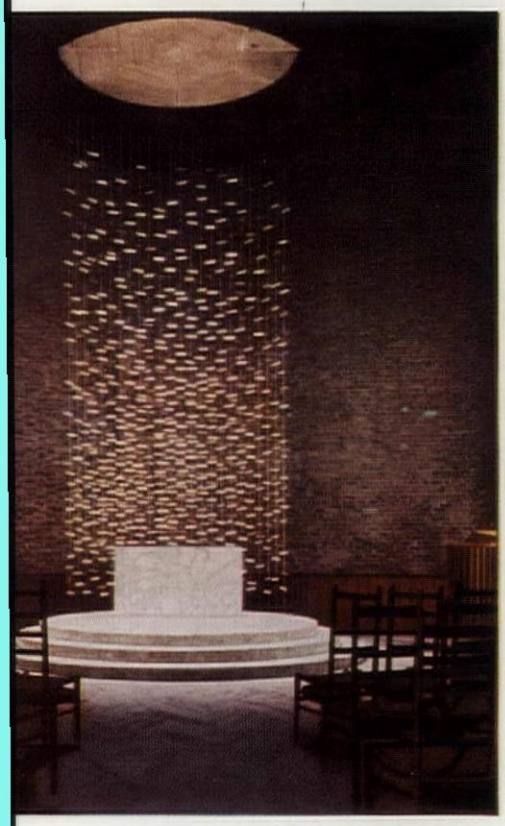


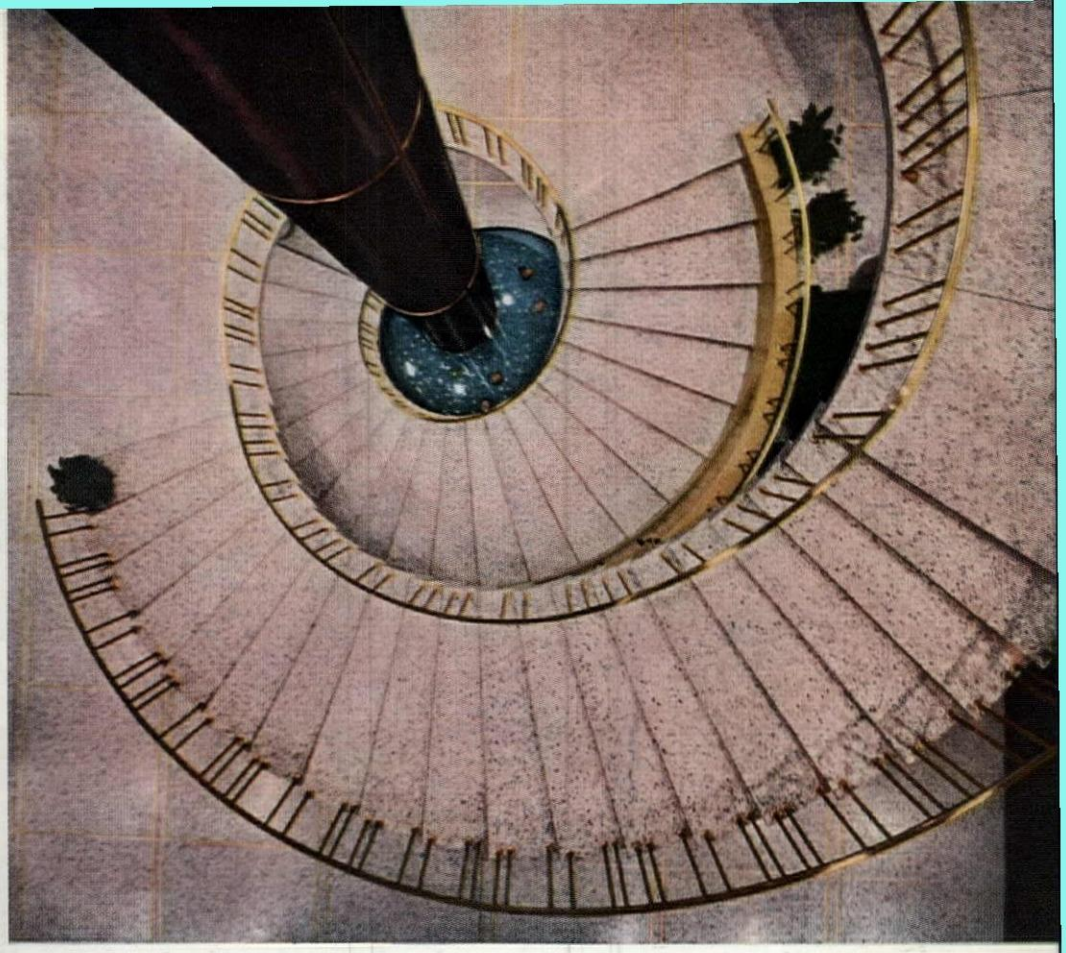
CONSTANT U-VALUE



DIMENSIONAL STABILITY

PITTSBURGH PC CORNING





A few of the many full-color illustrations in the 64 pages of fresh ideas and design data on the use of Anaconda Architectural Metals now available to architects, designers and fabricators. *Upper right:* Red Brass handrails and balusters. Column is wrapped with woven Bronze wire partially colored. *Lower right:* Interlocking Bronze extrusions form wall panels. *Upper left:* Nickel Silver and Architectural Bronze in a setting of black and white marble. *Lower left:* Welded-sculpture screen of Brass and Bronze.

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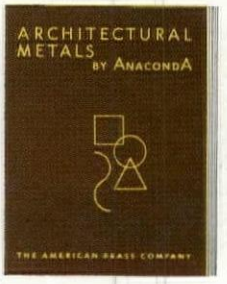

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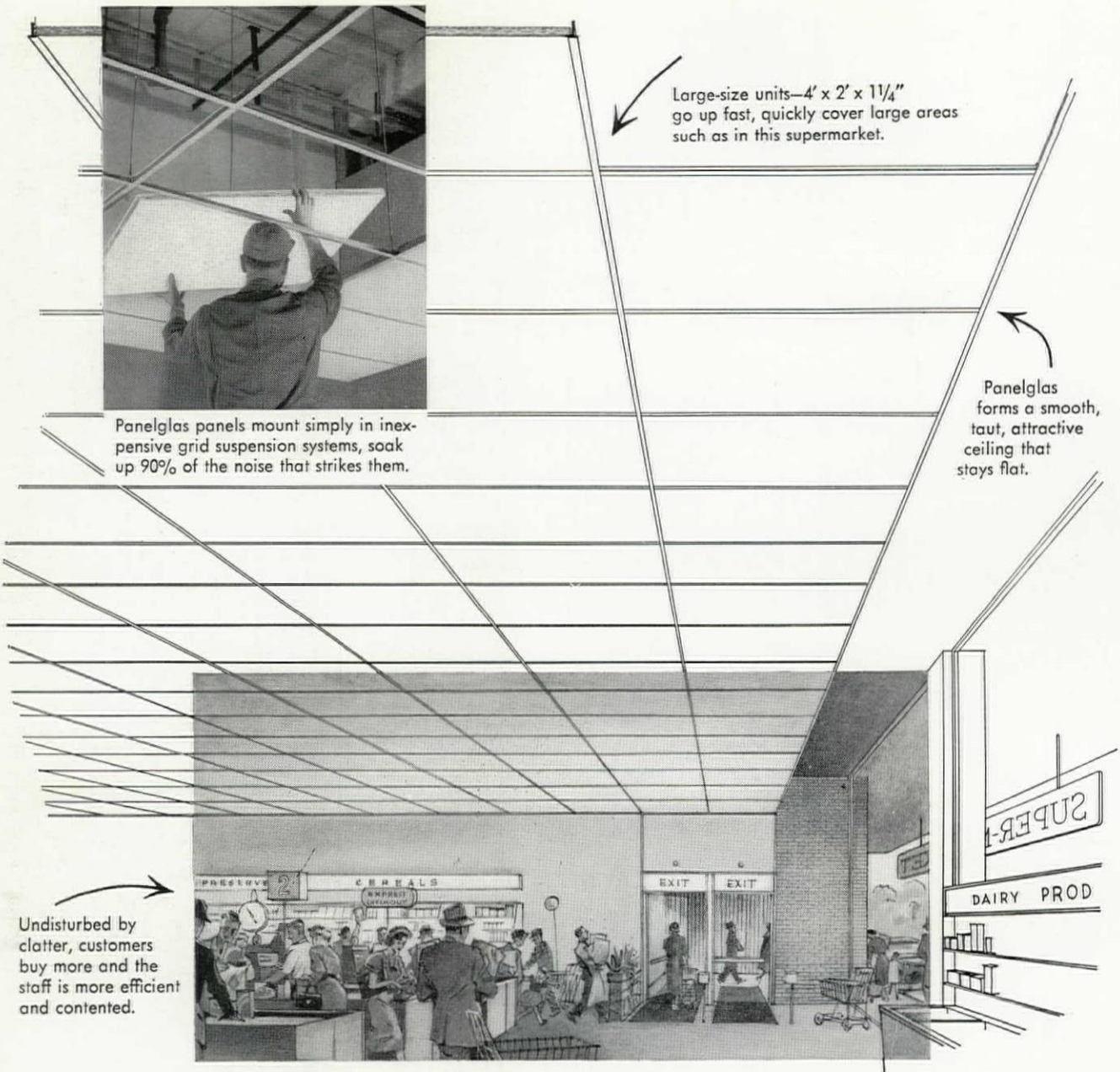

Get rid of disturbing noise

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Panelglas soaks up as much as 90% of the sound waves that strike it—deadens disconcerting din. At the same time it makes a good-looking, slightly textured, light-reflecting ceiling.

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For greater efficiency of staff . . . for more comfortable customers, end distracting noise with a ceiling of Panelglas . . . a ceiling that can be installed at exceptionally low cost. To get all the details, write to Johns-Manville, Box 158, New York 16, New York. In Canada, address Johns-Manville Company, Limited, 565 Lakeshore Road East, Port Credit, Ontario.

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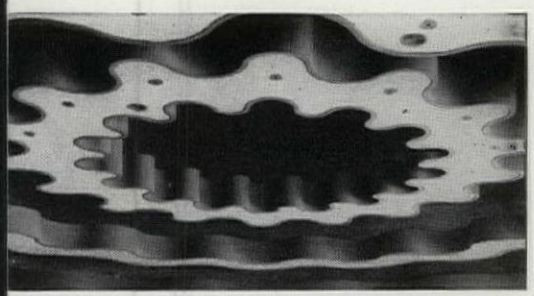
DIPLOMAT HOTEL, Hollywood, Florida.
Architects: Norman M. Giller and Associates of Miami Beach, Florida.
Plastering Contractor: U. S. Plastering Co. of Miami, Florida.



Unusual acoustical ceilings, sprayed on!

These ceilings of softly-textured beauty in Florida's new Diplomat Hotel were produced with Gold Bond Sprayolite Acoustical Plaster. Sprayed on, it has excellent noise reduction characteristics to keep even the gayest crowd-noises down to a pleasant murmur.

Sprayolite goes on fast, leaves no joinings and dries to form a highly efficient acoustical ceiling of uniform color and texture. Unpainted Sprayolite provides high light reflection (up to 65% for Natural White; up to 72% for Superwhite). In the Diplomat Hotel some of the Sprayolite ceilings were painted for a special decorative effect.

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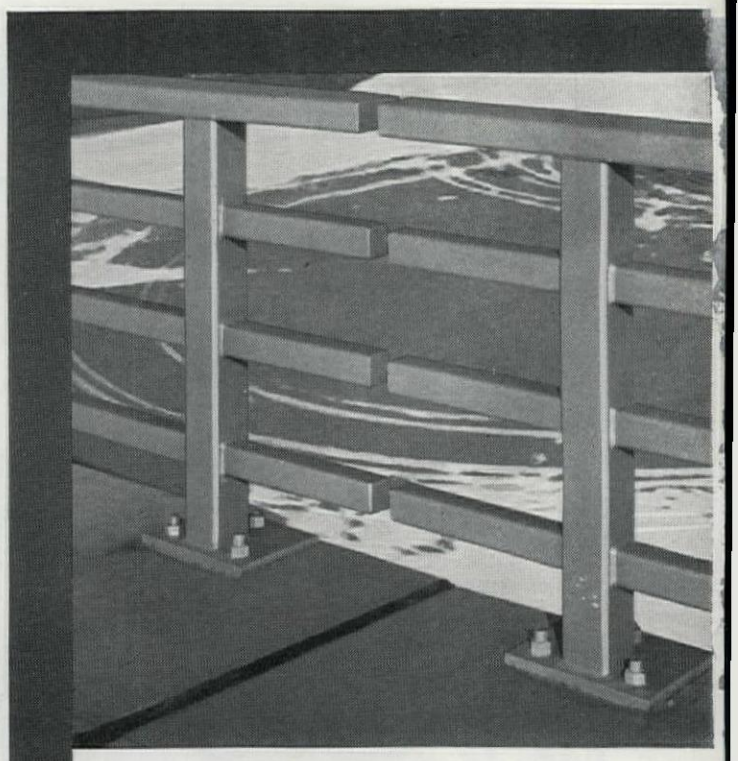
squares, rounds, rectangles ...in peripheries up to 20 inches



Republic ELECTRUNITE Tubing in sizes of 2″ x 4″ Rectangles, 4″ x 4″ Squares, and 5″ x 3½″ Rectangles, is available for bridge railings such as used in the construction of this modern state throughway. Strong, lightweight ELECTRUNITE Tubing offers freedom in design . . . is both functional and beautiful.

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Smooth, unbroken surfaces of ELECTRUNITE resist moisture and corrosion. No sharp corners or bare edges, less chance for personal injuries. Easy to join to other members. Weldable. Eliminates costly false fronts and wasted space. Ideal for skin type construction. Can be painted or furnished galvanized. Available in carbon steels 1010 through 1035, and R-50, Republic's high strength, low alloy product.

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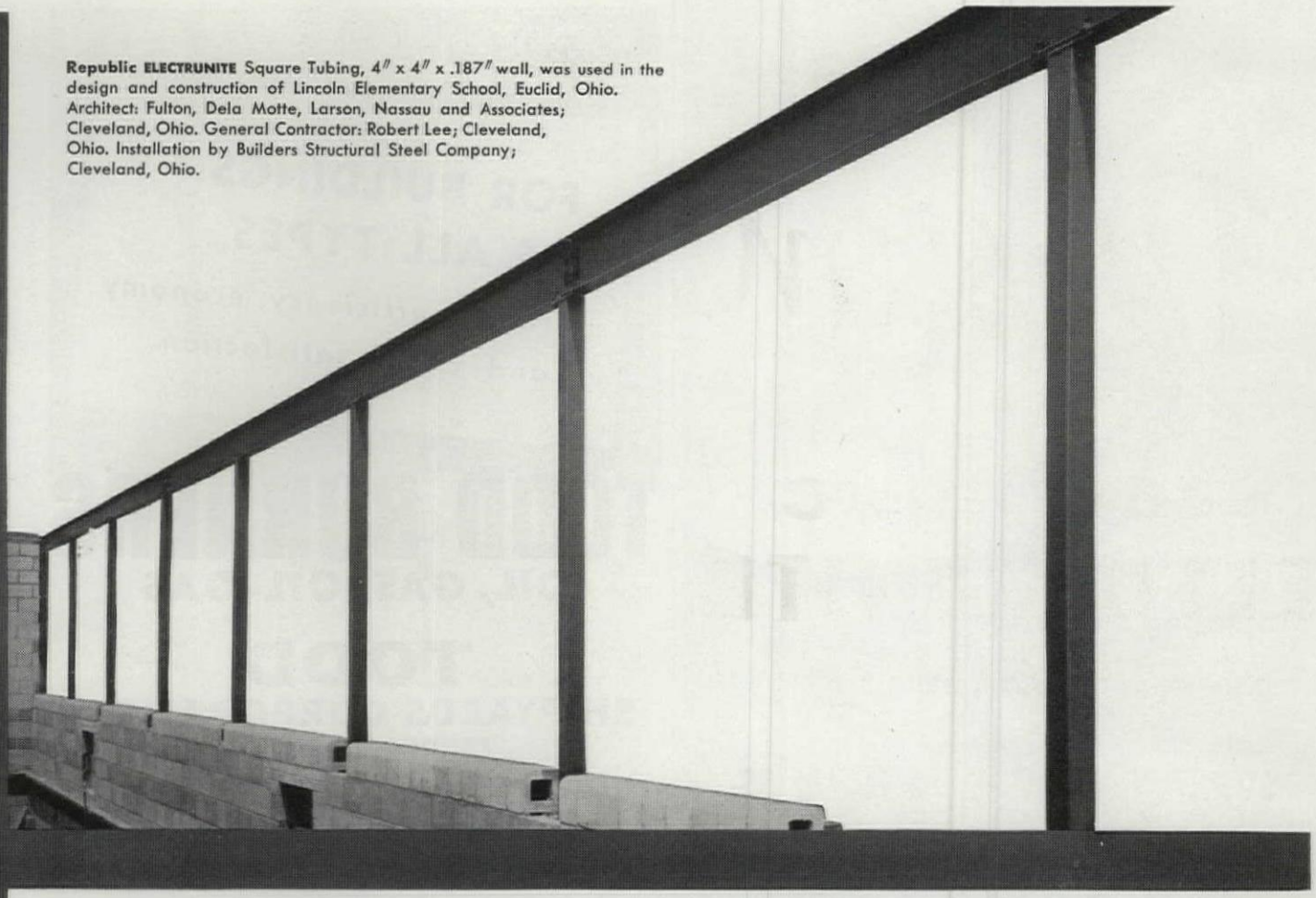
CARBON STEELS

○ ROUND SIZES—B.W.G.												
O. D.	18	16	14	12	11	10	9	8	7	6	4	.250
1″	○	○	○	○	○	○	○	○	○	○		
2″	○	○	○	○	○	○	○	○	○	○		
2½″	○	○	○	○	○	○	○	○	○	○		
3″	○	○	○	○	○	○	○	○	○	○	○	○
3½″	○	○	○	○	○	○	○	○	○	○	○	○
4″	○	○	○	○	○	○	○	○	○	○	○	○
4½″	○	○	○	○	○	○	○	○	○	○	○	○
5″		○	○	○	○	○	○	○	○	○	○	○
6″		○	○	○	○	○	○	○	○	○	○	○

□ SQUARE SIZES—B.W.G.												
O. D	18	16	14	13	11	10	9	8	7	6	5	.250
½x½	□	□	□									
¾x¾	□	□	□	□	□							
1x1	□	□	□	□	□							
1½x1½	□	□	□	□	□	□	□	□	□			
2x2	□	□	□	□	□	□	□	□	□	□		
2½x2½	□	□	□	□	□	□	□	□	□	□	□	
3x3	□	□	□	□	□	□	□	□	□	□	□	□
4x4			□	□	□	□	□	□	□	□	□	□
5x5				□	□	□	□	□	□	□	□	□

▭ RECTANGULAR SIZES—B.W.G.												
O. D	18	16	14	13	12	11	10	8	6	5	4	.250
½x1	▭	▭	▭	▭								
1x2	▭	▭	▭	▭	▭	▭	▭					
1x3	▭	▭	▭	▭	▭	▭	▭					
2x3		▭	▭	▭	▭	▭	▭	▭	▭	▭		
2x4		▭	▭	▭	▭	▭	▭	▭	▭	▭	▭	▭
2x5				▭	▭	▭	▭	▭	▭	▭	▭	
2½x5				▭	▭	▭	▭	▭	▭	▭	▭	▭
3x5				▭	▭	▭	▭	▭	▭	▭	▭	▭
4x6						▭	▭	▭	▭	▭	▭	▭

Above are representative of the common available sizes. Many intermediate sizes also available. Tubes are produced by several processes in accordance with the size-gage ratio; therefore not all sizes and gages are readily available in all grades of product. Please contact your nearest Steel and Tubes Division representative for information on specific size, gage and grade desired.



Republic ELECTRUNITE Square Tubing, 4″ x 4″ x .187″ wall, was used in the design and construction of Lincoln Elementary School, Euclid, Ohio. Architect: Fulton, Dela Motte, Larson, Nassau and Associates; Cleveland, Ohio. General Contractor: Robert Lee; Cleveland, Ohio. Installation by Builders Structural Steel Company; Cleveland, Ohio.

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These are plaster frames for the Gotham Lighting recessed downlites. What is not apparent *(BUT IT'S THERE)* is the heavy cadmium plating and yellow iridite treatment that all Gotham's flush-trim plaster frames receive. This extra protective coating is applied before the baked finish coat to help prevent rust.

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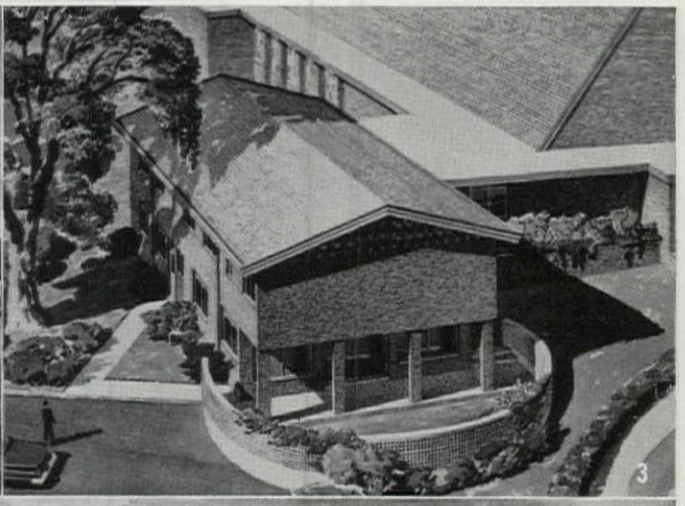

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VAMPCO ALUMINUM WINDOWS WIN 3 NATIONAL ARCHITECTURAL AWARDS IN ONE COMPETITION

Four Catholic institutional buildings with VAMPCO Aluminum Windows and Window Walls (pictured above) received national awards in the Architectural Awards Program in Catholic Institutional Design which took place in Newark, New Jersey, February 23, 1959. In the Category — "A Church Seating 400 to 1,000", Honorable Mentions were awarded to P. Arthur D'Orazio AIA Architect, Youngstown, Ohio for his (1) St. Joseph Church, Maximo, Ohio, and to Arthur Rigolo, AIA Architect, Clifton, N. J. for his (2) Church Of The Immaculate Heart Of Mary, Maplewood, New Jersey. In the Category — "A Complete Parish Plant", Arthur Rigolo received First Place for his Immaculate Heart of Mary Parish. Included in the parish are the Church (2), Rectory (3) and School (4). Vampco Aluminum windows for every type of construction are available in casement, combination casement, awning, intermediate projected, curtain walls of varying sizes and thicknesses, heavy ribbon, window walls, glass block and custom designed types. For complete illustrated literature, mail coupon below, today.

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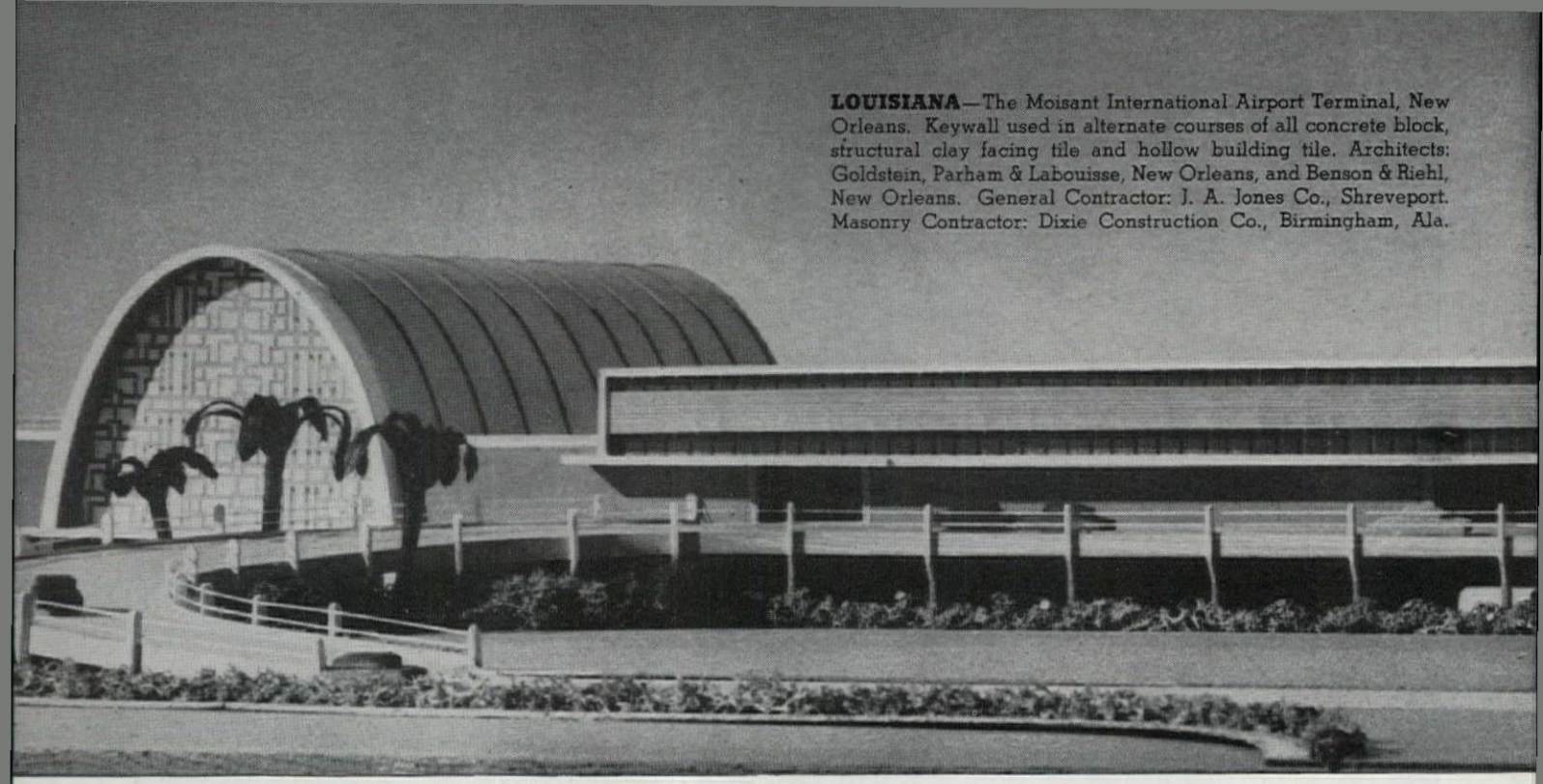

LOUISIANA—The Moisant International Airport Terminal, New Orleans. Keywall used in alternate courses of all concrete block, structural clay facing tile and hollow building tile. Architects: Goldstein, Parham & Labouisse, New Orleans, and Benson & Riehl, New Orleans. General Contractor: J. A. Jones Co., Shreveport. Masonry Contractor: Dixie Construction Co., Birmingham, Ala.

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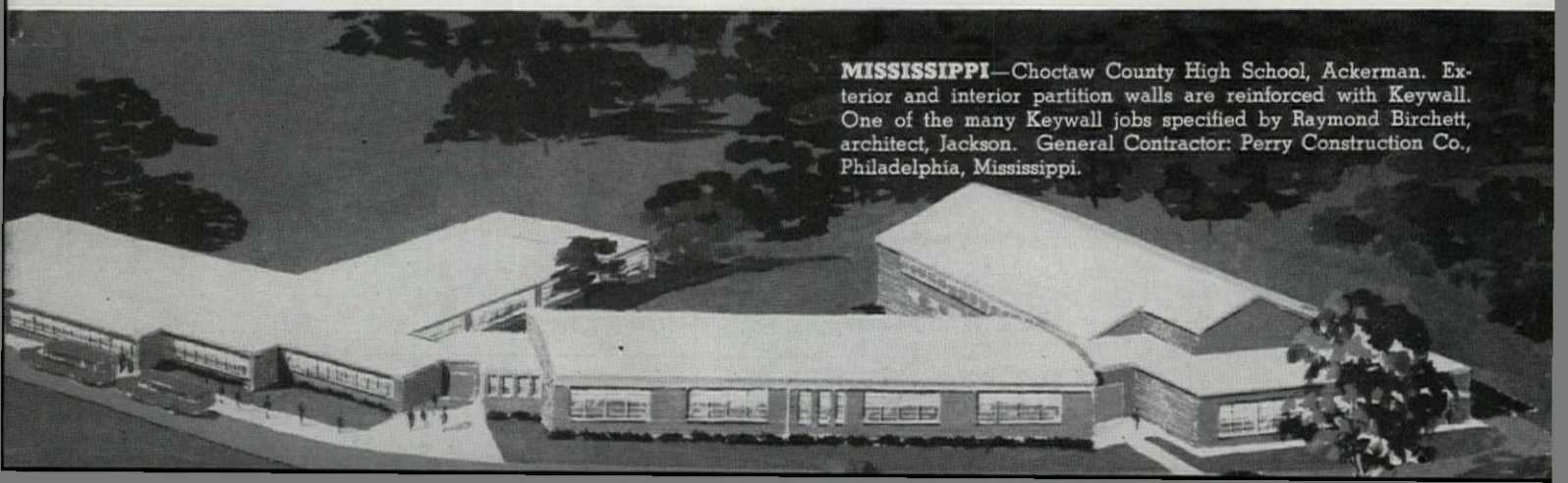

MISSISSIPPI—Choctaw County High School, Ackerman. Exterior and interior partition walls are reinforced with Keywall. One of the many Keywall jobs specified by Raymond Birchett, architect, Jackson. General Contractor: Perry Construction Co., Philadelphia, Mississippi.

MISSISSIPPI— Whisenton School, DeKalb. Keywall used in every third course of exterior and interior concrete block walls. Architect: Bill Archer, Meridian. General Contractor: B & M Construction Company, Meridian.

MISSISSIPPI—One of the fourteen apartment buildings being constructed for married students on the University of Mississippi campus, Oxford. The buildings are of concrete and masonry construction, reinforced throughout with Keywall. Architect: Thomas H. Johnston, Jr., Starkville. General Contractor: J. W. Rich Construction, Humbolt, Tenn.

All over the South, architects and builders are using Keywall masonry joint reinforcement in increasing numbers. Such unanimous approval of Keywall is typical of the entire country. You find this superior reinforcement on jobs everywhere, giving greater crack resistance and increased lateral strength at lower cost.

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TENNESSEE—Pine Hill Community Center, built for the Memphis Park Commission. By reducing shrinkage cracks, Keywall gives longer life to the beauty of this building. Architects: Mann & Harrover, Memphis. General Contractor: W. F. Jameson Construction Co., Memphis.

MISSISSIPPI—The Northside Elementary School, Kosciusko. One of the many buildings designed by William I. Rosamond, architect, Columbus, on which Keywall was specified. General Contractor: Fenwick Brothers Construction Company, Kosciusko.

ALABAMA—Dill Hall, student dormitory, Troy State College, Troy. Keywall is adding greater crack resistance to this attractive building. Architect: Pearson, Tittle & Narrows, Montgomery. General Contractor: Henderson, Black & Greene, Troy.

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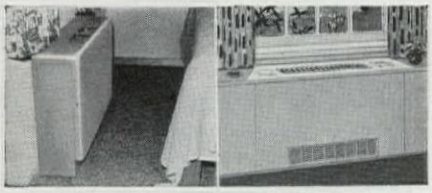

TYPE F (Free Standing) — Cabinets are less than 9" deep and only 25" high. Unit is very accessible for maintenance.

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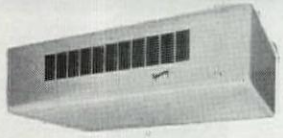

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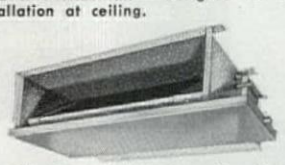

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Write Dept. 249-F for Catalog 7758

reviews

(Continued from page 224)

BOOKS RECEIVED

Architecture USA. Ian McCallum, Reinhold Publishing Corp., 430 Park Ave., New York, N. Y., 1959. 216 pp., illus. $13.50

The Collected Writings of Alvin Lustig. Edited and published by Holland R. Melson, Jr., Department of Graphic Design, Yale University, 1959. 96 pp. $3.50. Copies available from Holland Melson, 1215 Park Ave., New York, N. Y.

Maisons de France, Styles Regionaux. Distributed by the French Book Guild, 145 W. 57 St., New York, N. Y. 228 pp., illus., French text. $17.50. Examples of architecture, interiors, and furniture from Provence, The Pays Basque, Brittany, Alsace, Picardy, and Flanders.

Shadows From India. Roderick Cameron. The British Book Centre, Inc., 122 E 55 St., New York, N. Y., 1959. 214 pp., illus. $12.50

The Architectural Index for 1958. Compiled and edited by Ervin J. Bell. The Architectural Index, 517 Bridgeway, Sausalito, Calif., 1959. 52 pp. $5 (paperbound). Highly recommended to all who wish to review material published in our magazines for design professions, and for ready reference to back issues.

Metropolis Against Itself. Robert C. Wood. Committee for Economic Development, 711 Fifth Ave., New York, N. Y., 1959. 56 pp. $1 (paperbound). The concluding question is whether local metropolitan governments can solve the new public problems: make plans for the provision of regional services in transportation, land use, and redevelopment; determine priorities among those services; and guide the growth process of the urban regions.

The Real Estate Market in an Urban Renewal Area. Chester Rapkin. New York City Planning Commission, 2 Lafayette St., New York, N. Y., 1959. 152 pp. $1 (paperbound). A case study of a 20-block area in Manhattan's West Side, this report reveals the high cost of maintaining a slum. Most serious problem reported: the decline of mortgage money in the area and the increasing stringency of mortgage terms.

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QUARTER CENTURY Barrett Specification BONDED ROOFS

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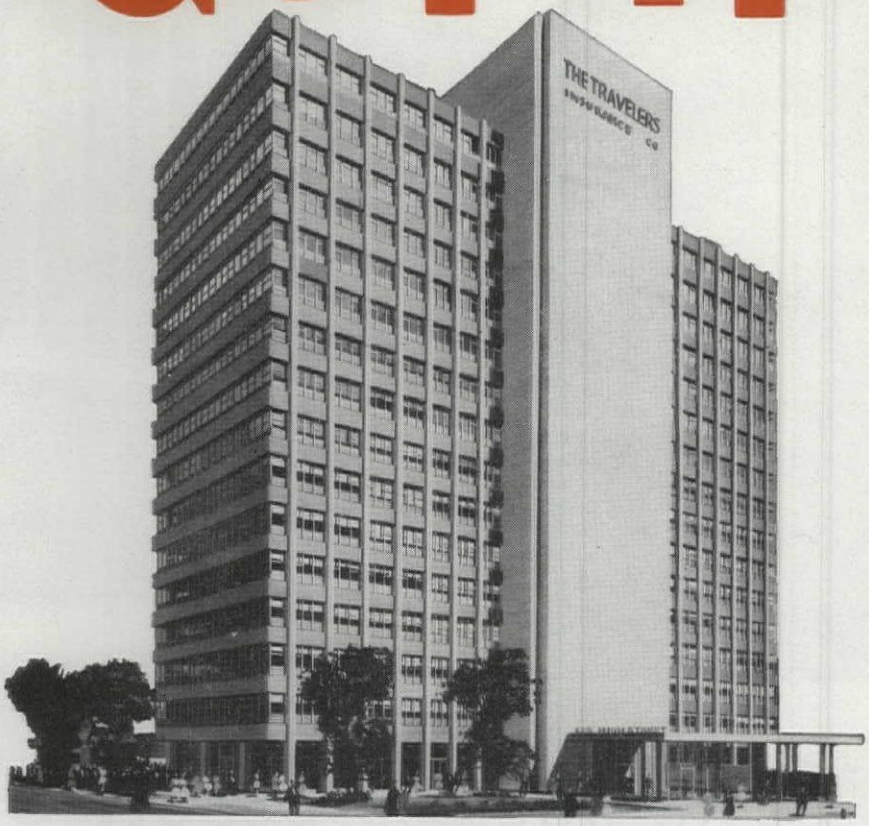

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General Contractor:
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A striking new Boston building joins the growing list of fine structures whose roofs are bonded for 25 years

The Barrett SPECIFICATION® Roof of the new Travelers Insurance Co. Building is guaranteed for twenty-five years against maintenance expenses caused by ordinary wear and tear . . . the longest roofing guarantee in the history of the industry. It's made possible by improved quality controls in the manufacture of Barrett Pitch and Felt, which have piled up phenomenal longevity records on America's leading buildings for more than a century.

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Architect: Edward L. Varney—Associates ,Phoenix, Arizona.

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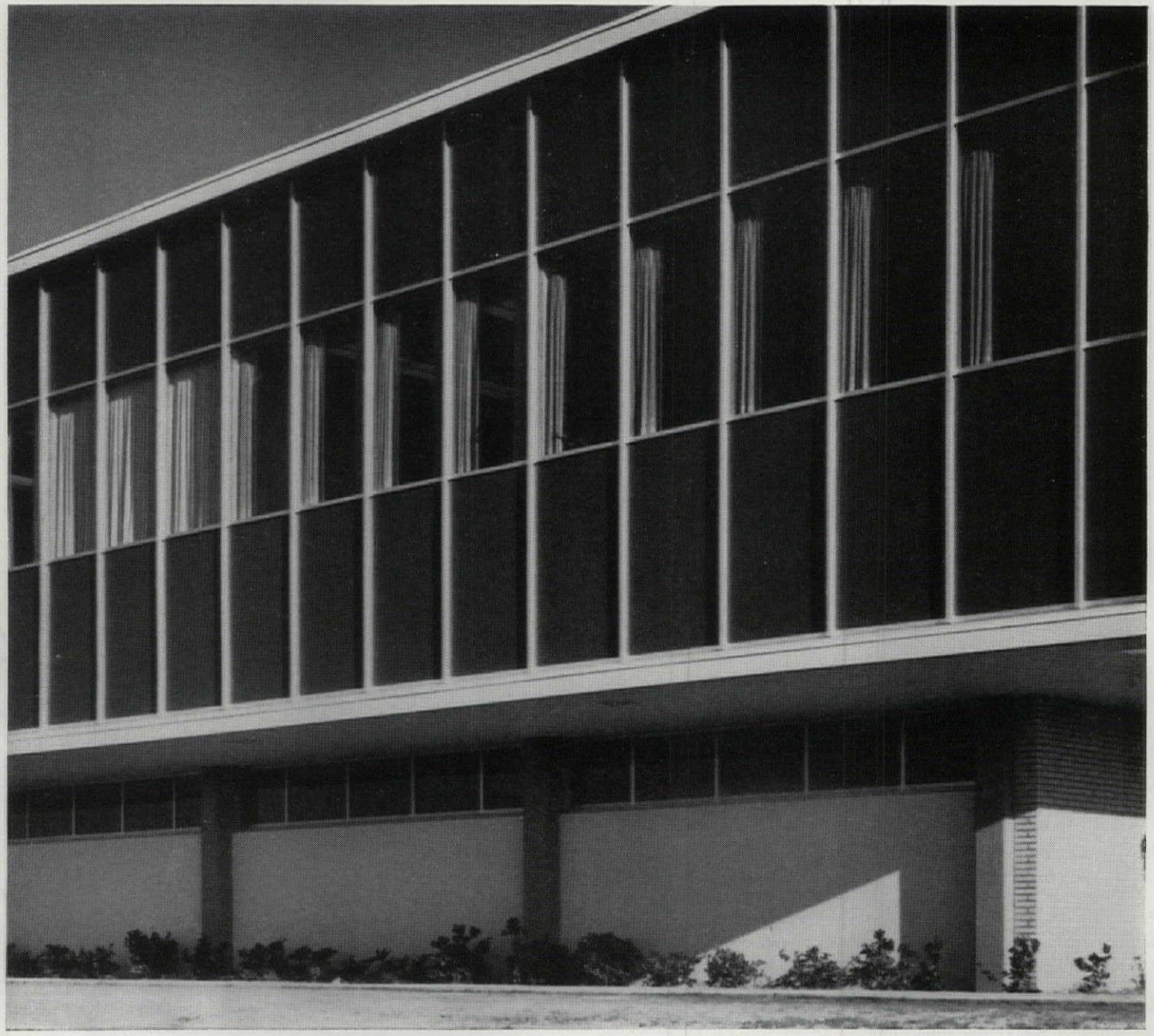

Contractor: T. G. K. Construction Co., Inc., Phoenix, Arizona.

enhances the modern look!

all metal gold anodized, carry out the simplicity of design. The appealing beauty of the glass is permanent, for neither time nor the elements will affect it.

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In planning new buildings, or in remodeling present structures, we suggest you consider the many applications and the many advantages of Pittsburgh Plate Glass Company products. Our Architectural Representative will be pleased to furnish any information you require to help solve construction problems. There is no obligation on your part.

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RUFUS LISLE, appointed Sales Manager, and MAUGHAN GOULD, selected as General Manager, NATIONAL HOUSING CENTER.

JEROME REICH, named Executive Co-ordinator of Styling, and WALLACE MICHAEL, Director of Design of GENERAL TIRE & RUBBER COMPANY's new Plastic Design Program. ARNOLD A. WEINER will head co-ordinated marketing of upholstery materials for TEXTILEATHER DIVISION.

R. D. PAULEY of WEYERHAEUSER TIMBER COMPANY, elected President of HARDBOARD ASSOCIATION.

CLARENCE C. KELLER, elected Executive Vice-President, HOLOPHANE COMPANY, INC.

EDWIN H. BRYANT, appointed Vice-President in charge of Marketing, INDEPENDENT LOCK COMPANY.

NEIL R. TROUT, appointed Assistant Sales Manager, JOSAM MANUFACTURING COMPANY.

WILLIAM H. SLEMP, JR., who will direct the expanded marketing efforts of KAISER ALUMINUM & CHEMICAL SALES, INC., in the new position of Manager of Residential Building Sales.

EDGAR J. GRIESBAUM, appointed Sales Manager of Tubular Products, LACLEDE STEEL COMPANY.

RALPH L. BROWNING, elected Executive Vice-President, and B. C. CARLTON, elected Vice-President of Marketing, LEHIGH PORTLAND CEMENT COMPANY.

EDGAR F. KOLLER, appointed Sales Promotion Manager, MAINTENANCE, INC.

GEORGE SUDLOW, elected President, NATIONAL MINERAL WOOL ASSOCIATION.

ROBERT E. BUCKLEY, elected Vice-President in Charge of Sales, PITTSBURGH CORNING CORPORATION.

ROBERT L. WITHERS, SR., elected Vice-President, PLASTIC PRODUCTS, INC. He will retain his position as Sales Manager.

JOSEPH A. LEADABRAND, appointed Assistant to the Vice-President for Promotion, succeeding THOMAS E. LANG, named Eastern Regional Manager at the PORTLAND CEMENT ASSOCIATION. E. GUY ROBBINS is new Head of Soil-Cement Bureau.

KENNETH H. TRUESDELL, appointed Manager of READ STANDARD SPECIAL PRODUCTS, division of CAPITOL PRODUCTS CORPORATION.

ALBERT M. COLE, elected Executive Vice-President, REYNOLDS ALUMINUM SERVICE CORPORATION, a subsidiary of REYNOLDS METALS.

DON A. PROUDFOOT, appointed Director of Marketing, SIMPSON TIMBER COMPANY.

LEROY C. MCCORMICK, named Sales Manager, and HALEY B. BERTAIN, appointed Fir Lumber Manager for recently formed production and sales organization within SIMPSON REDWOOD COMPANY.

MITCHELL P. KARTALIA, elected Vice-President, SQUARE D COMPANY.

JOHN E. CLARK, named Director of Promotion, and DOUGLAS WHITLOCK II, appointed Assistant to the Director of Mason Relations, STRUCTURAL CLAY PRODUCTS INSTITUTE.

DAVID LAUB, appointed General Manager of Contracting Division of A. C. HORN CORPORATION, and BEN A. GORLIN, appointed Sales Manager of AMPRUF PAINT COMPANY, subsidiaries of SUN CHEMICAL CORPORATION.

O. D. HANSON, elected President, THERMOFLECTOR ASSOCIATES, INC.

ROSE M. COAKLEY, appointed Consultant in Lighting, MOE LIGHTING DIVISION of THOMAS INDUSTRIES, INC.

JAMES EVERETT, named Sales Manager, TRUSCON LABORATORIES.

JAMES R. BILES, appointed Manager, MICARTA DIVISION, UNITED STATES PLYWOOD CORPORATION.

(Continued on page 242)

The Man to see about automatic door controls

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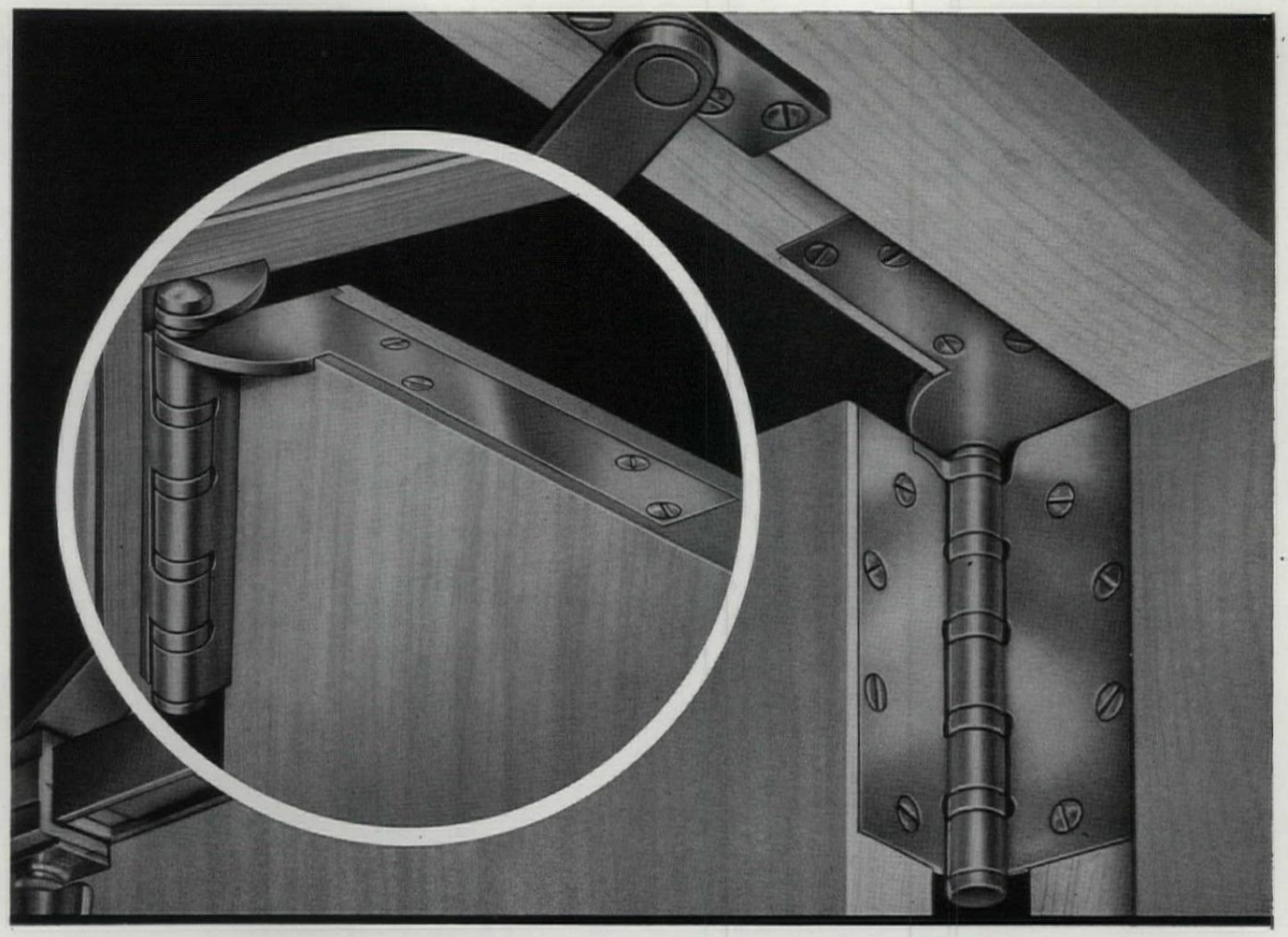

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Pat. Pend.

Hinges on the exterior of buildings take a terrific beating, especially when overhead holders bring the doors to a smashing halt. Stanley has solved this serious problem by designing this much needed PIVOT REINFORCED HINGE, combining a pivot and a butt hinge in one compact, interlocked unit – in which they share the same pin to assure perfect alignment. It is important that both pivot and hinge share the same center and will not damage each other by rotating on separate centers which do not line up precisely. It is a common occurrence when two pivots or hinges are closely spaced that misalignment will cause them to "fight" one another, generating severe overloads even during normal swinging of the door. . . .

Interlocked corners, of pivot and butt leaves, prevent individual sidewise motion of either, so that strain is shared equally by both. The combination of interlocked corners and mutual pin allows locating the screw holes so as to minimize danger of splitting the door parts while improving fastening.

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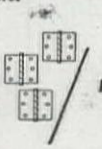
HARDWARE  MAGIC-DOOR EQUIPMENT  ALUMINUM WINDOWS 

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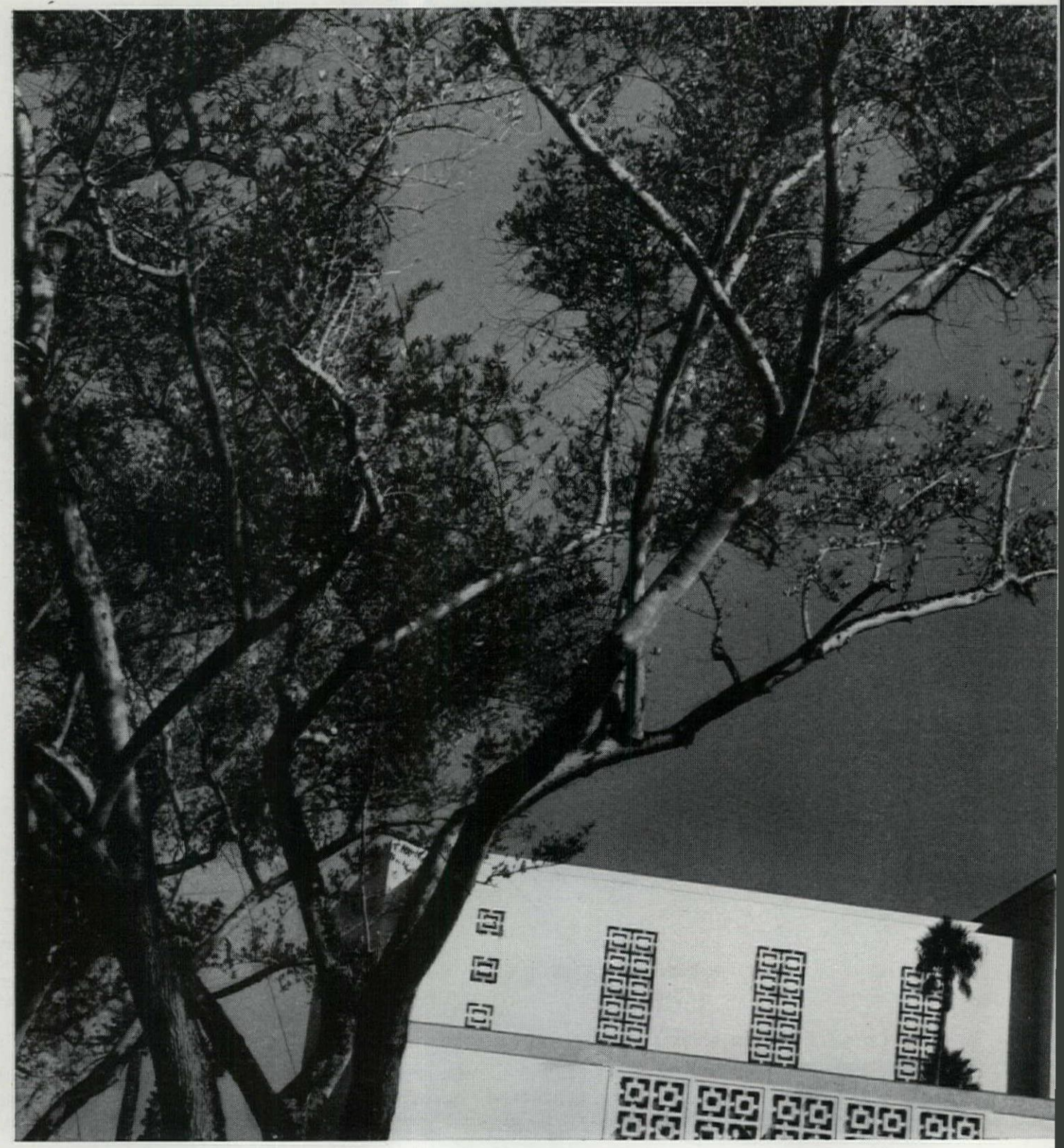

a year 'round basis . . . heating in the winter and cooling in summer. With gas as the boiler fuel, operating costs are cut to a minimum.

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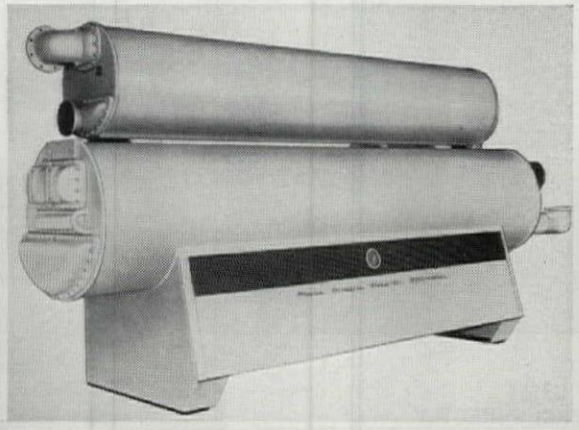

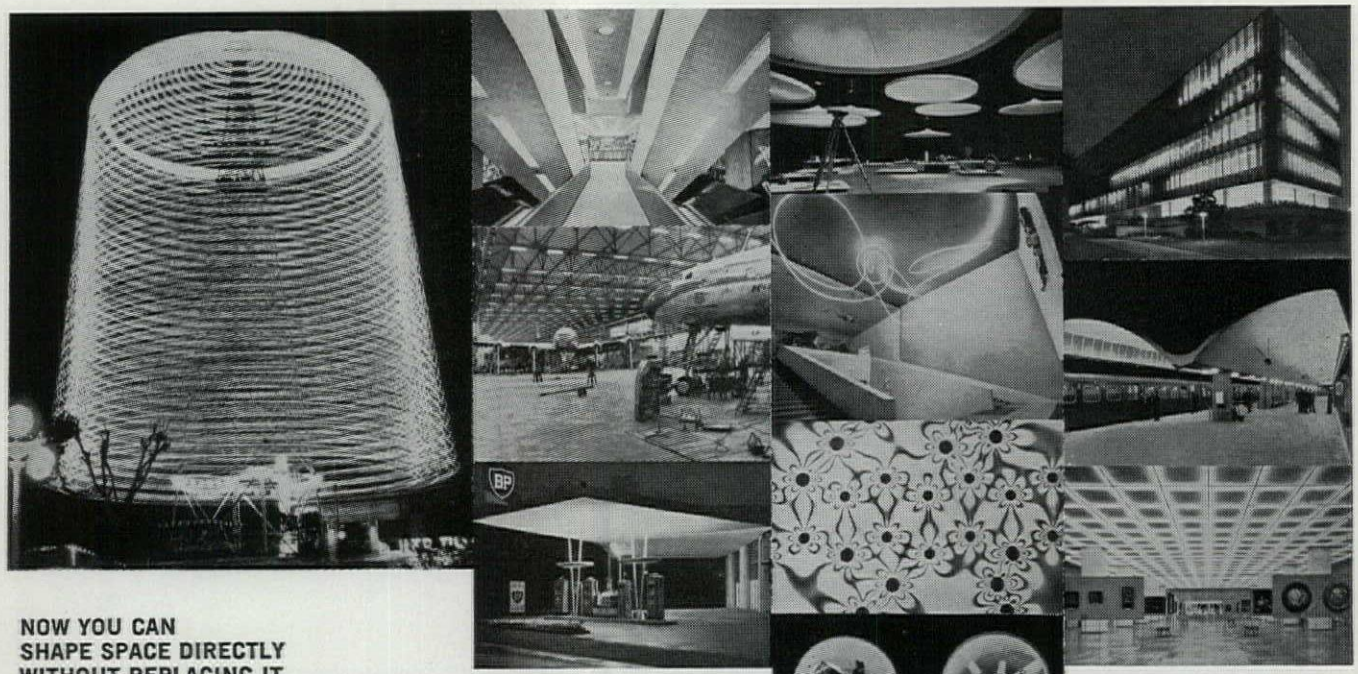

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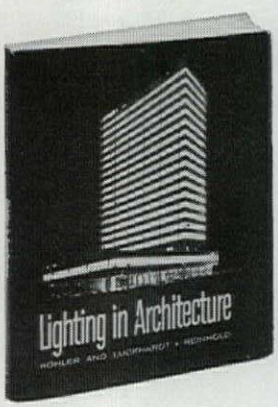
LIGHT AS AN ELEMENT OF STRUCTURE—
A Pictorial Narrative

The first part of LIGHTING IN ARCHITECTURE is compiled by Wassili Luckhardt, an architect. He has chosen to address his readers in the language of pictures—a preferred medium of communication between different nations as well as between different fields. However, he has prefaced his pictorial narrative—or slide film, as he would like to call it—with a brief word of comment. The pictures are not to be viewed so much for their individual content as for a total impression planned to suggest new luminous forms in a broad sweep from microcosm to macrocosm, from complete edifice to minute detail.



LIGHT AS AN ARCHITECTONIC MEDIUM OF CREATION

The second part of LIGHTING IN ARCHITECTURE is written by Dr. Walter Koehler, an illuminating engineer. His exposition of his field for the benefit of other construction specialists is brilliantly written. Academic ballast has as far as possible been put aside. The uninitiated may at first be dazzled by **luxes** and **lumens** . . . , but never mind, they're not as bad as they seem, and a smattering of theoretical background and terminology is indispensable. Along the way Walter Koehler broaches many an idea that transcends the limitations of the subject, introducing general considerations concerning light, color, and form and their effects on man. Here are some of the subjects covered in Part II —"Visual architecture": Architecture as art of light—Light as a tool and as a phychotropic agent—Design of the lighting element—Space as perception—Light and color—Surface color and lighting color—Daylight lighting and evaluation—Modes of lighting—Luminaires and lighting material—Optical shape —On color psychology—Color-conditioning and color hygiene.

LIGHTING IN CONTEMPORARY SPACE

The third part of the book deals with practice. Existing installations are illustrated, described and criticized. It shows how the design of lighting must not only provide the necessary light for the visual work to be accomplished but determine the entire architectonic configuration of the space and control important physiological and psychological effects by its color atmosphere. Special attention is paid to the **Luminous Ceiling** because of its extraordinary versatility. The problems of designing lighting for **workrooms** in industry trades, administration, business and commerce is closely scrutinized from the point of view of choosing the proper level of illumination with functional local uniformity and shading, as well as the selecting of light and color suited to the work being done and shows how to avoid glare, direct or reflected. Other buildings discussed in terms of lighting are Private dwellings—Social rooms and lounges—Theatres, concert halls and cinemas—Exhibition halls—Schools—Museums —Churches—Also Advertising Light, Luminous sculpture and display architecture are dealt with.

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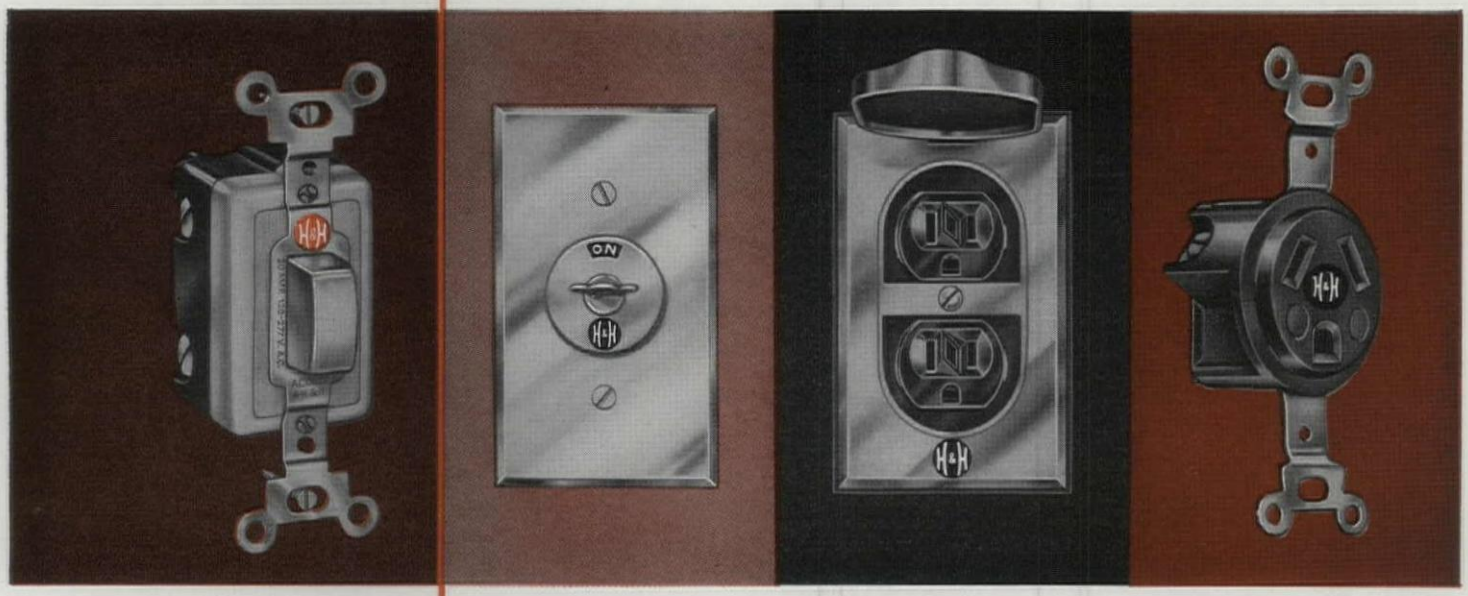

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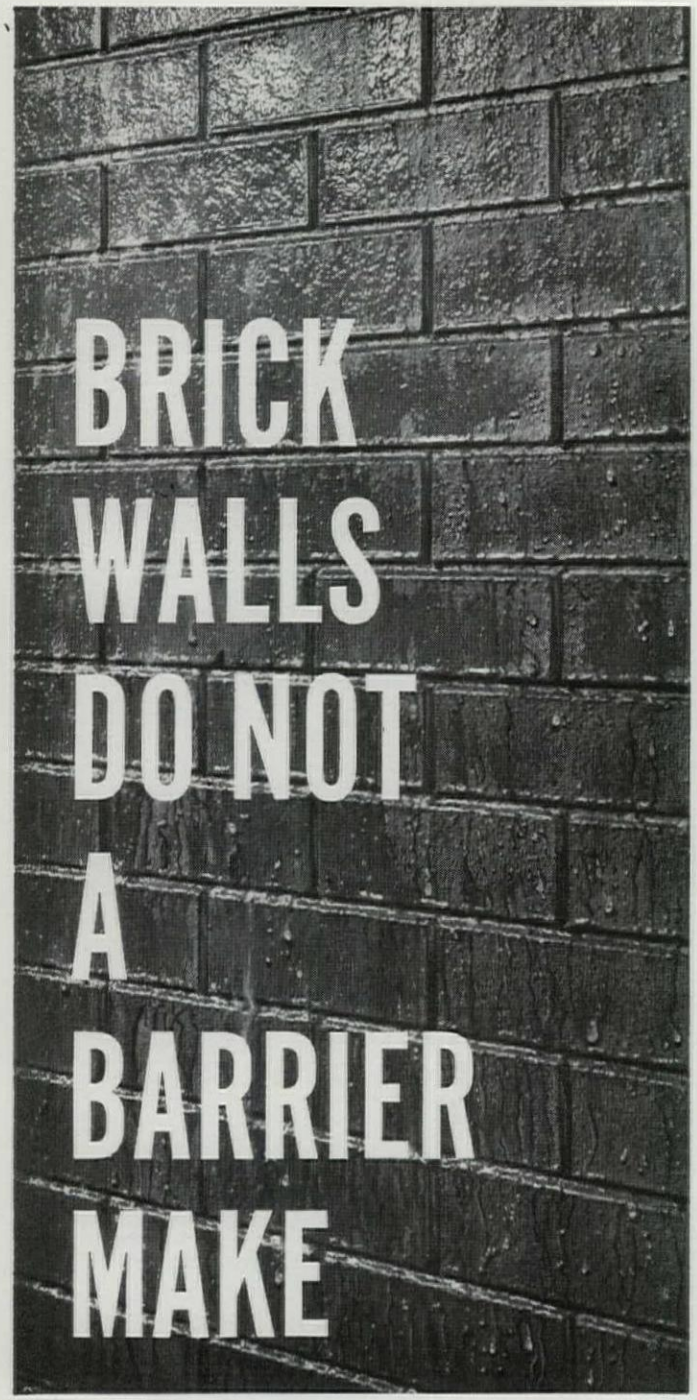

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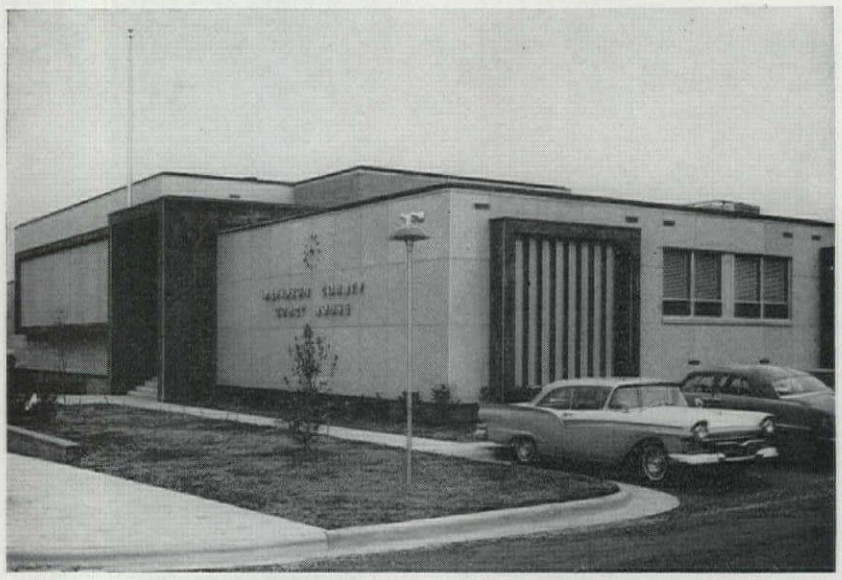

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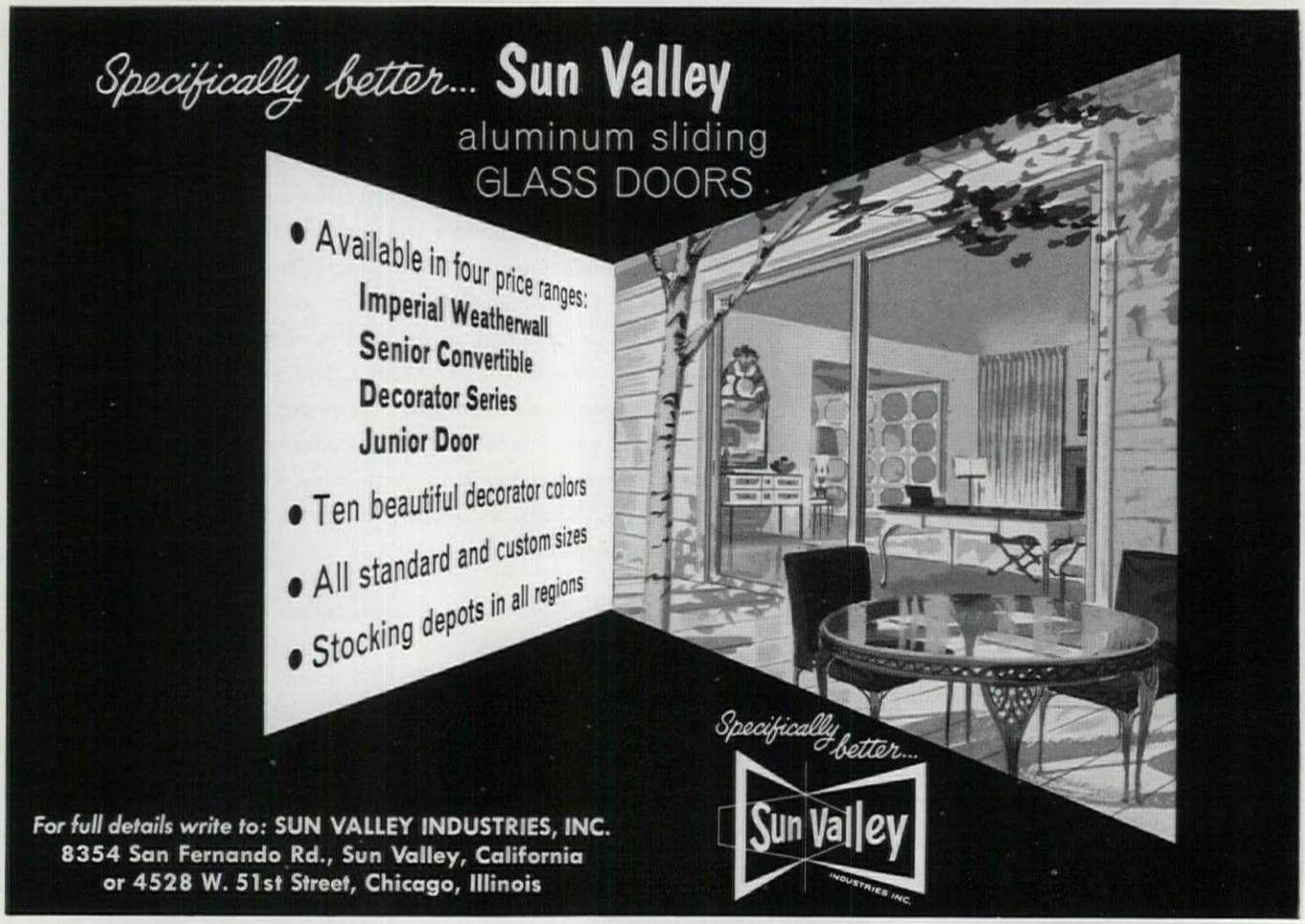

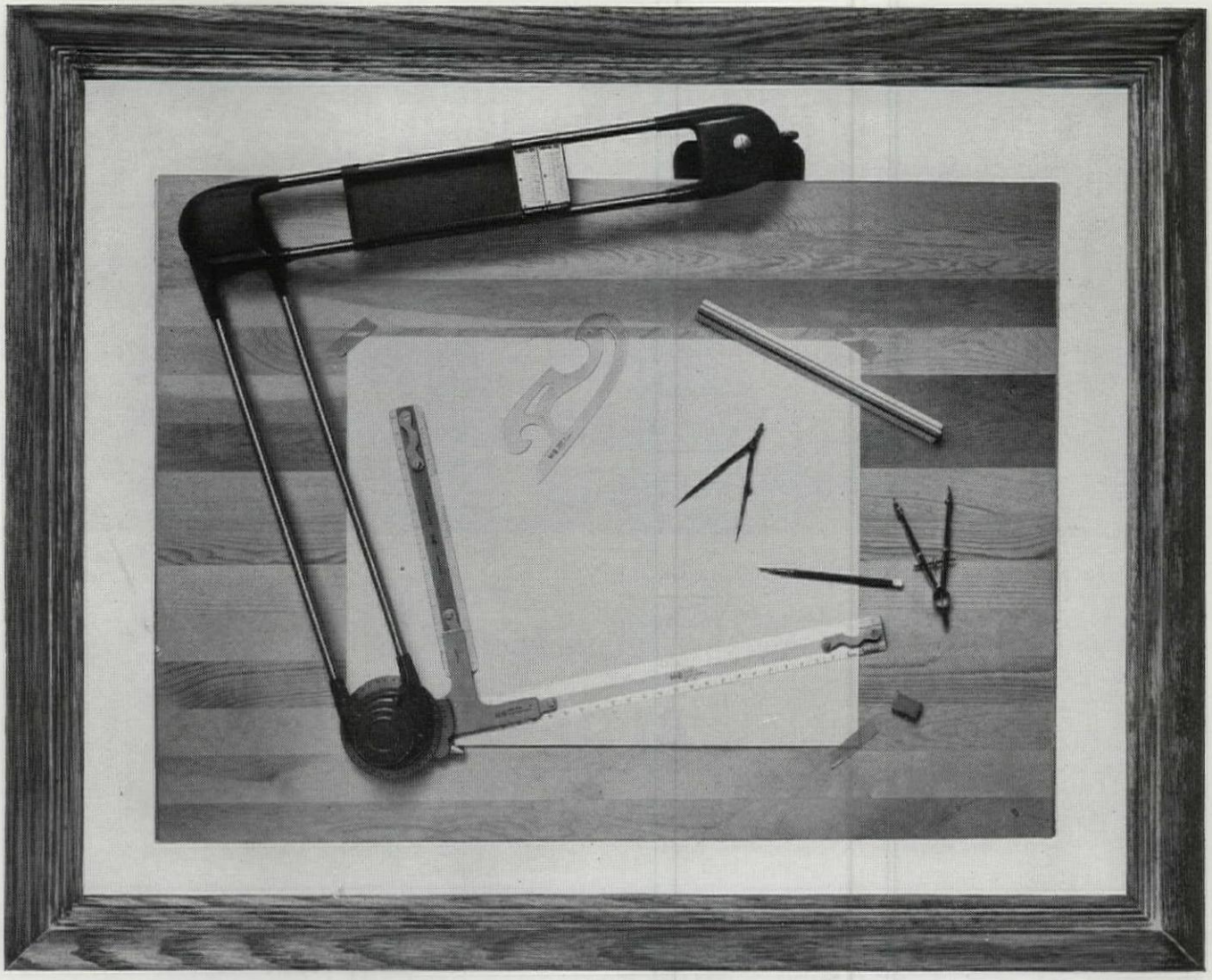

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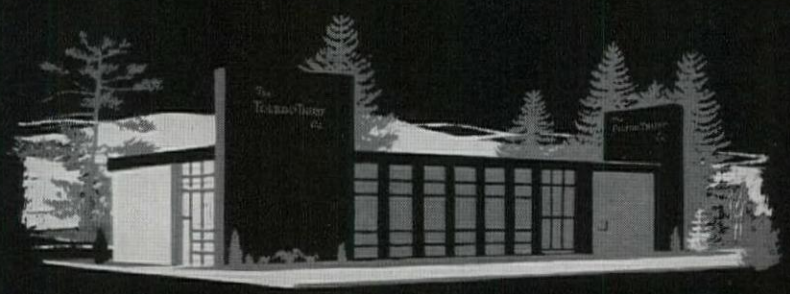

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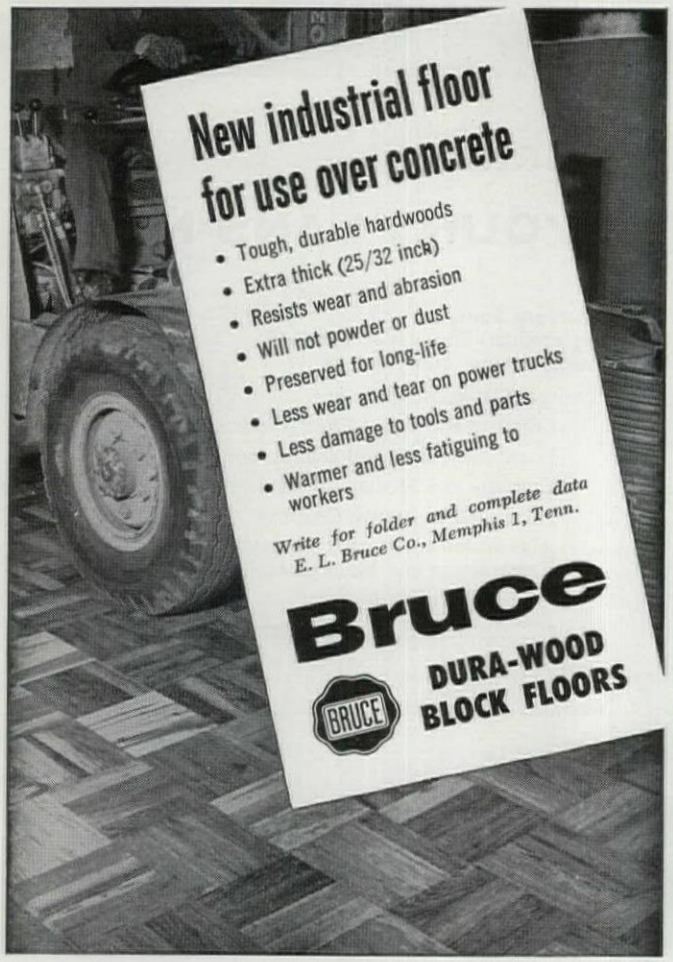

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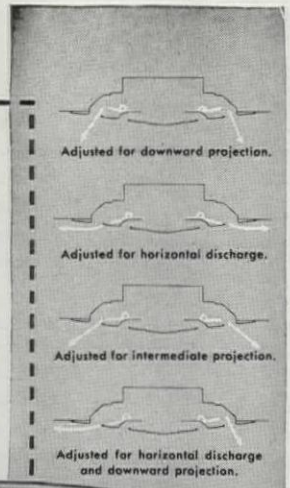

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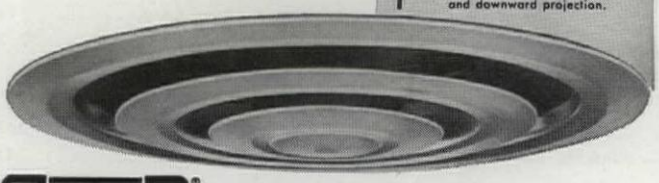

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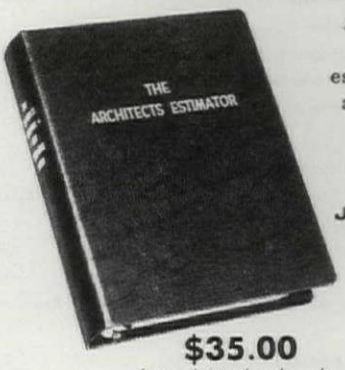

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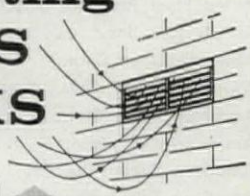

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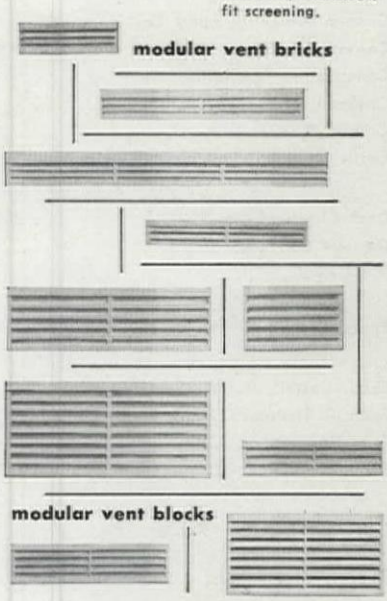

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technical writing

An important aspect of professional journalism is the publication of technical articles on materials and methods of construction. Our editorial aim, of course, is to obtain and publish objective, factually correct articles which will give you technically minded readers information which would not otherwise be available to you. This is not as easy as it sounds. The sources for background for such articles, if not for the articles themselves, are:

- Architectural or enginering men, who are usually inarticulate, have not a broad enough experience to write a truly objective article, or are too busy to write for the magazines.
- Representatives of manufacturers of building materials, equipment, and products—or their press agents—who are not always objective in what they say.
- Free-lance professional writers, who are a great joy to editors when they are truly capable and know this specialized field, which is very seldom.

When a good paper comes to our attention, it is often too diffuse and involved to make interesting magazine reading. When a well written, easy-to-read piece comes along, it is likely to be too superficial and obvious for intelligent readers like you. The answer is usually a great deal of staff writing, and a quantity of ruthless editing even of the best papers.

Let's say we have decided we want to run something on new developments in paints. Burt Holmes, our Technical Editor, comes to me and says, "We haven't run anything on paints in a long time, and there have been a lot of new developments."

"OK," I say. "That sounds reasonable. What have we got to draw on?"

And Burt says: "Well, I have four possible articles. . . . First is a piece by the public-relations counsel of the ABC Paint Company. You know they're the ones that have developed that new color-card system. It begins like this: 'There have been many important new technical developments in the manufacture of paint in recent years. None is more important, however, than the improvements in methods of color selection . . .,' and so on. The second is by-lined by the chief chemical consultant to the XYZ Paint Company. You know they're the ones who have recently introduced the new mixing methods. It begins: 'There have been many important new technical developments in the manufacture of paint recently. None has been more startling, however, than the newly improved methods of mixing paint . . .,' and so on."

"What other possibilities are there for a good article?" I ask.

"Well," Burt replies, "I have a piece contributed by a man who describes himself as the outstanding consultant to consumer groups on paint problems—Prof. Harry Q. Thrugmorton, of Little Falls, Iowa. It begins: 'Glorious new horizons in paint are opening before the user and the specifier of this most important of American products. A glorious industry (which pays me well for writing this sort of stuff) is developing glorious new colors, for instance, to meet all demands of the hapless clients of our glorious decorators. And glorious new methods of mixing these glorious new colors are also at hand, thanks to the farsightedness of the leaders of this great industry . . . .'"

"That's enough," I say. "What else?"

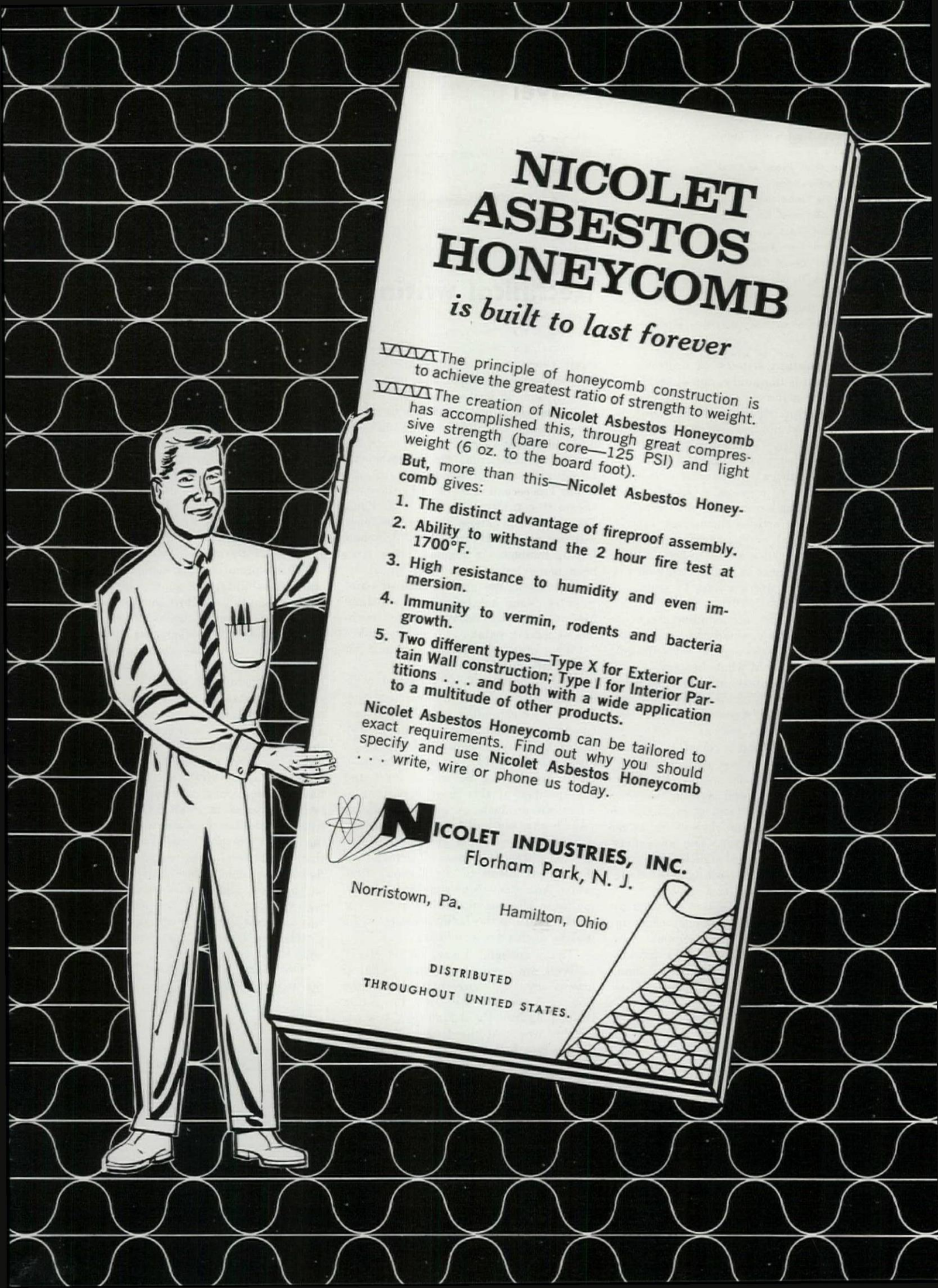
"Well, we have a somewhat technical article by a representative of the Podunk University Research Project in Developing New Paint Materials. It starts off this way: 'At the University of Podunk a new formula for paint to be used primarily on interior metal surfaces has been the subject of a series of experiments. The paint, in extensive tests, covers well, has long nonhardening maintenance characteristics, is practically fire resistant, and can be applied by the simplest sort of an applicator. Color range promises to be wide and constant, and mixing qualities are good. So far the authorities have refused to divulge the formula for the new paint, or its basic ingredients, but a limited amount is being marketed by the RST Paint Company for field testing puropses, and can be specified as Brand X . . .,' and so on."

"That's promising," I comment. "Any other possibilities for an article?"

"Just one more," Burt answers sadly. "It's from a young architect in Iowa named Frisbee L. Sucker. His piece begins: 'It is time that the architectural magazines began telling the truth about building products. I would like to discuss, for instance, recent developments in paints and new paint materials. My article is based on field studies and tests in actual buildings. For instance, I recently specified a paint being marketed under the name of Brand X. This paint has been developed especially for use on interior metal work. Well, I specified it on the metal ductwork in a new office building that I designed, and I must admit that application was easy, the paint flowed well, colors were satisfactory and as specified, and performance generally was excellent. In fact the only trouble was that within one week it had completely dissolved a 12-foot section of 16-gage sheet metal duct . . .'"

"OK, Burt," I finally say. "*You* write the article, as usual."

Thomas H. Creighton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