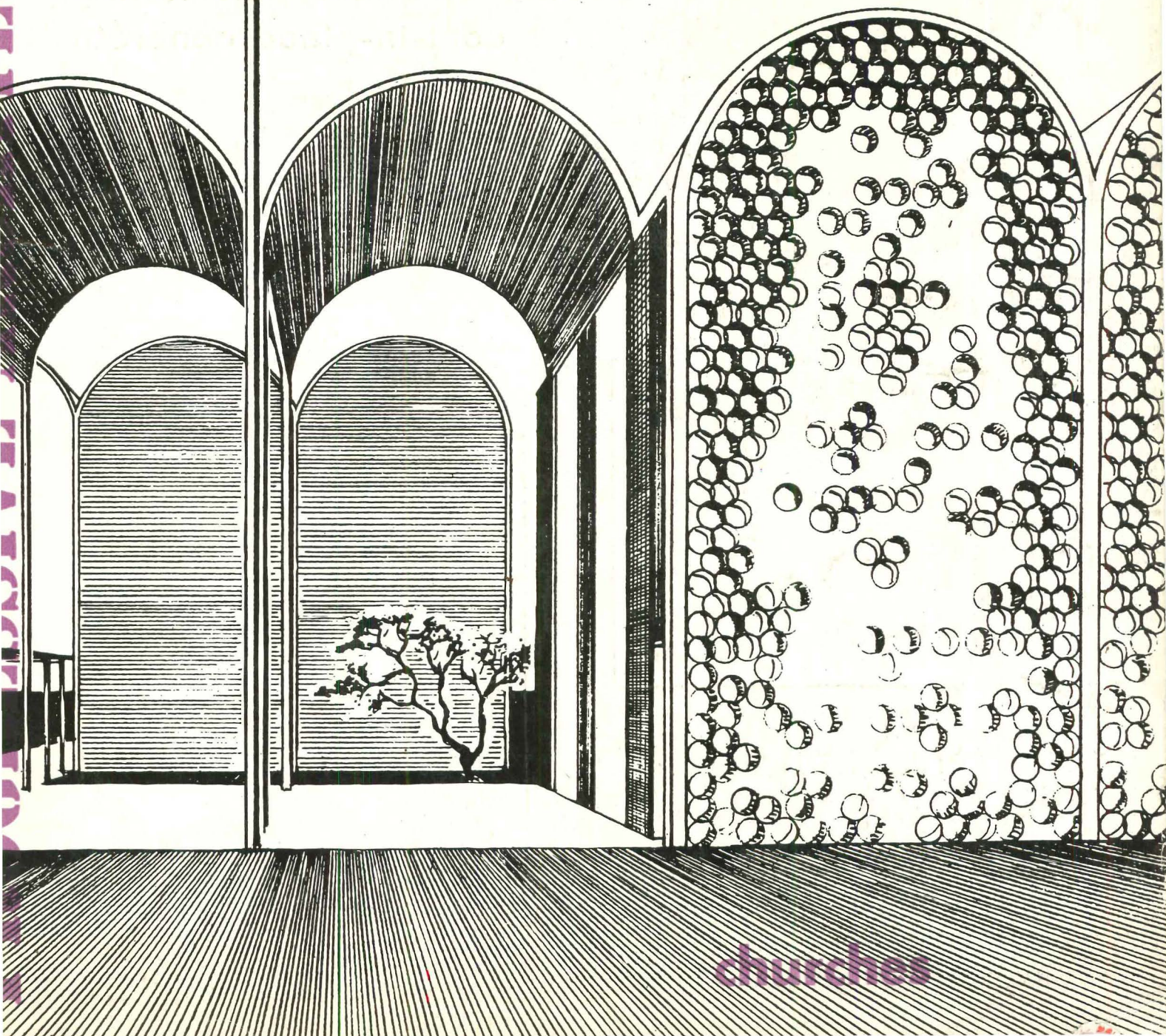




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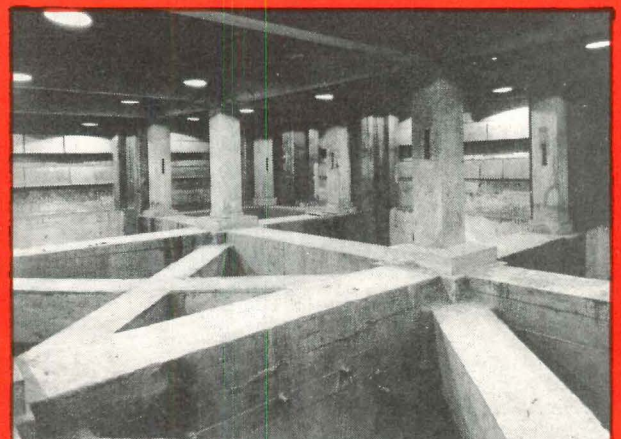
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Typical section of the foundation of the Latino-Americana tower, designed partly as a floating box and partly pile-supported, consists of concrete girders atop a base slab to make piles act as unit.



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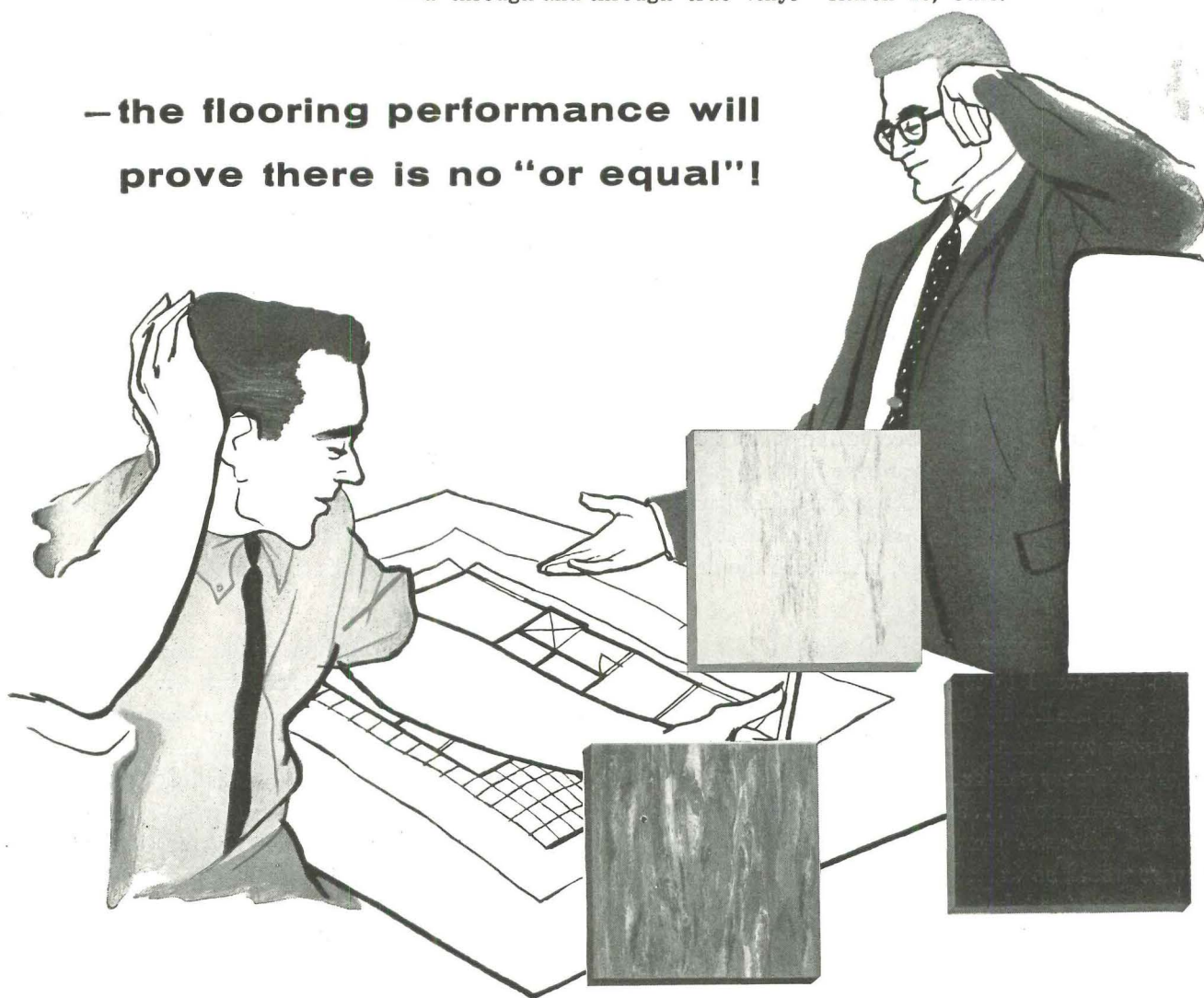
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**LEFT:** Shore Drive Motel, Chicago, Illinois. ARCHITECT: A. Epstein & Sons, Inc. GENERAL CONTRACTOR: Welso Construction Co. Rotary Oildraulic Elevators sold and installed by Gallaher and Speck, Inc., Chicago.

**RIGHT:** Motel de Ville, New Orleans, Louisiana. ARCHITECT: Charles R. Colbert. GENERAL CONTRACTOR: Shelby Construction Co., Inc. Rotary Oildraulic Elevators sold and installed by Louisiana Elevator Corp., New Orleans.



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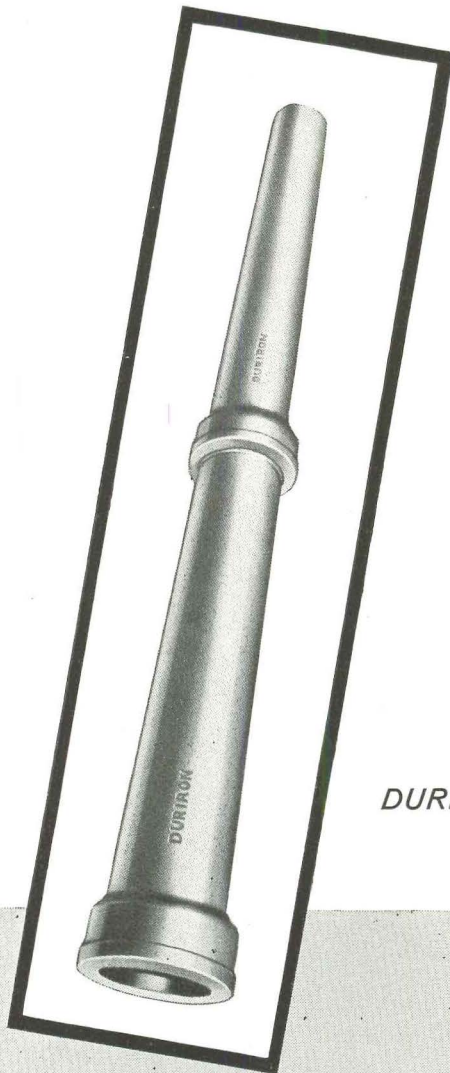
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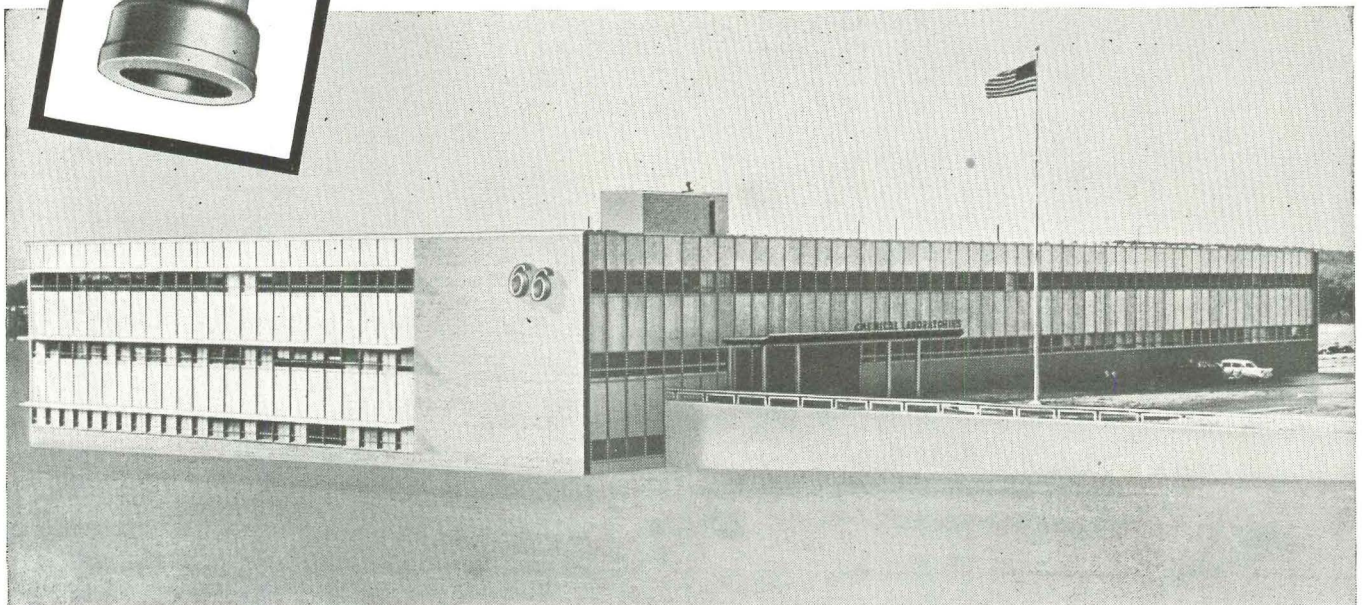


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in America

churches

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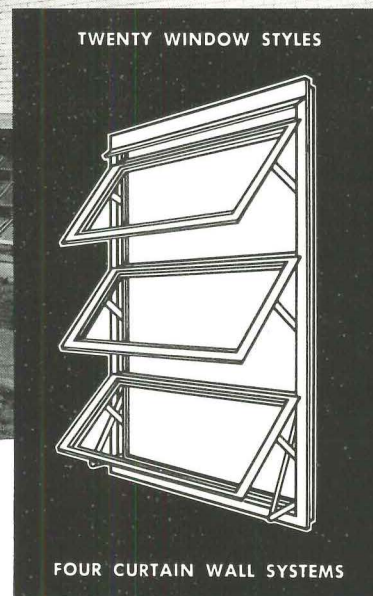
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## *It's the Law* by Bernard Tomson

**P/A Office Practice article discussing the need for a uniform licensing and registration law governing the practice of architecture.**

The need for a uniform licensing and registration law governing the practice of architecture is highlighted by a recent decision of a Colorado court declaring the registration and licensing law of that state unconstitutional. (*People of the State of Colorado v. Wallace*.) This is the third time that a Colorado court has "struck down" a legislative attempt to regulate and control the licensing and registration of architects.

The law which was declared unconstitutional was adopted by the Colorado Legislature in 1955. This act was so hedged with exceptions it had little regulatory effect in limiting the practice of architecture to licensed architects. As a matter of fact, the law contained almost no restrictions upon the right to design or supervise construction. Its most significant aspect was that it prohibited the use of the title "architect" by other than a duly licensed individual. However, even this minimum attempt to regulate was ruled invalid by the Court on the ground that the statute was worded too vaguely and generally to be enforceable.

The defendant was charged with practicing architecture without a license and with advertising and holding himself out in such a way as to indicate to the public that he was entitled to practice architecture. Despite the intervention of the Colorado Chapter of the American Institute of Architects in support of the statute, the Court ruled that the definition of the practice of architecture contained in the statute was so vague as to render the statute unconstitutional. The Court said:

"To say that Section 10-2-2 is verbose is to speak with restraint, but verbosity, though it may unnecessarily obscure the meaning of a legislative enactment, does not necessarily make it void. After clearing out the grammatical brush from this section of the statute, we find that the practice of architecture is defined as the offering to the general public, or the performance, of professional services consisting of the co-ordination of some of the processes which enter into planning, designing, erection, alteration, or enlargement of any public or private building. These processes are listed as 'consultations, evaluations, investigations, preliminary studies, plans, specifications, contract documents, supervision of construction and other related service.'

"It should be noted that it is not the performance of any or all of these processes that constitute the practice of architecture under the statute, but rather, the co-ordination of these processes, whatever that may mean. Parenthetically, it might also be pointed out that it is only the 'safe, healthful, scientific, esthetic and orderly co-ordination' of these processes that constitutes the practice of architecture. Presumably one who unsafely, unhealthfully, unscientifically, or unesthetically co-ordinates the processes is not practicing architecture and requires no license. It is so difficult to conceive of a disorderly co-ordination that I hesitate to hazard an opinion as to whether or not that would constitute the practice of architecture.

"The activities into which the enumerated processes enter are set forth by the statute in the disjunctive, to-wit: 'planning, designing, erection, alteration or enlargement.' It is, therefore, apparent that the co-ordination of these processes in connection with the erection of a building by a building contractor or his agent requires licensing as an architecture [*sic*]. This would be true of the co-ordination by a farmer of the processes entering into the erection of a barn on his farm, or even in connection with the adding on of another stall to that barn.

"It thus can be seen that the statute is very broad and affects many people. Since 'co-ordination' of this type constitutes the practice of architecture, and since the practice of architecture without a license constitutes a crime

under the statute, it is important to know the meaning of the word 'co-ordination.' We are helped a little by the dictionary, however, since 'to co-ordinate,' according to a standard work, means 'to place in harmonious or reciprocal relations; combine or adjust for action or for any end.' These terms are indeed most vague, and general. Vague and fluid words of definition render criminal statutes invalid because, in the words of Mr. Justice Douglas, they may constitute 'a trap for the innocent.' *U. S. v. Cardiff*, 344 U S 174."

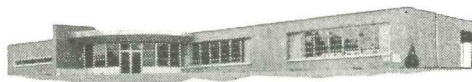
The Colorado County Court further invalidated that part of the statute which prohibited an unlicensed person from holding himself out to the public as entitled to practice architecture. The Court asserted that the wording of the statute in this respect did not indicate a sufficient relationship to the public health, morals, safety, or welfare. The Court ruled:

"Invalidity of that part of the statute defining the practice of architecture doubtless renders void the entire statute. That part of the statute which makes it unlawful 'to advertise or put out any sign or card or other device which might indicate or lead the public to believe that such person, firm, association or corporation is entitled to practice architecture,' however, is objectionable on another ground. The fact that such an advertisement might mislead the public is not enough to justify prohibiting it. The basis for such a prohibition is the police power, and it must have a reasonable relationship to the public health, morals, safety, or welfare. Unless the advertising reasonably could be expected to mislead the public, it is beyond the police power. *Chenoweth v. State Board*, 57 Colo. 74."

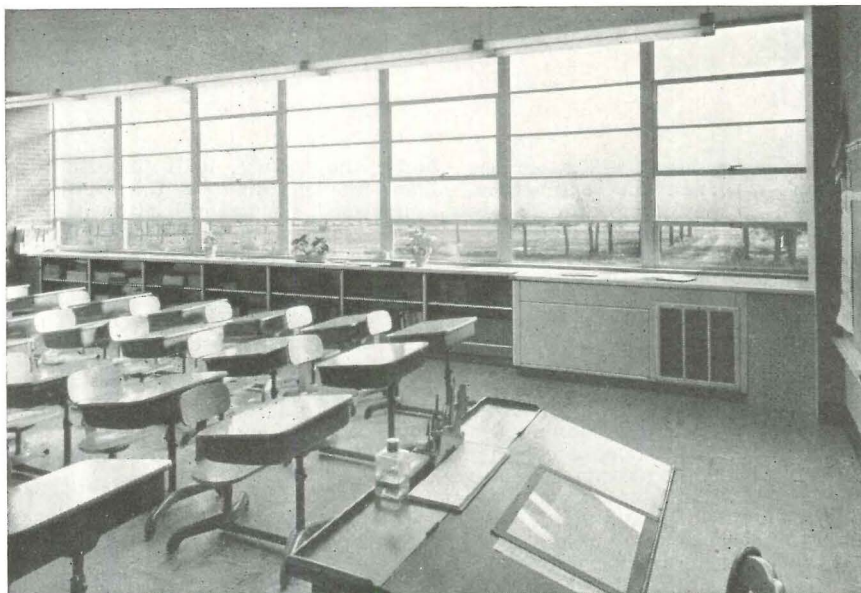
Whatever the merits of the decision of the Court relating to the lack of clarity in the wording of the statute, it is apparent, that the "uniform" statute would be of considerable aid to state groups of architects seeking an effective licensing law.



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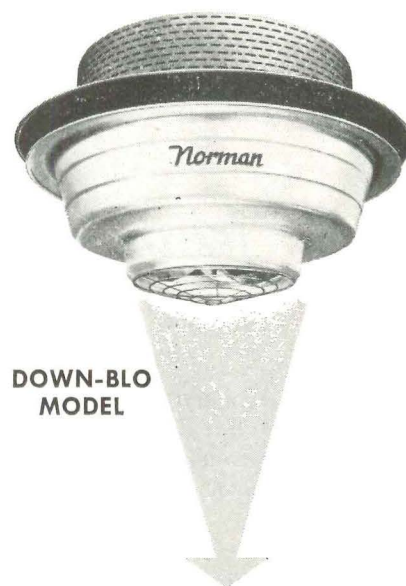
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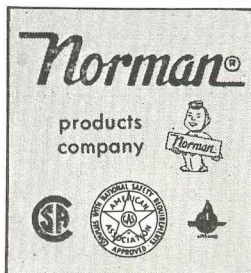
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# Mechanical Engineering Critique by William J. McGuinness

**P/A Office Practice column on mechanical and electrical design and equipment devoted this month to the improving economic status of the heat pump.**

In P/A's recent issue on "Air Conditioning" (p. 157, March 1958), a very economical method of heating and cooling was discussed. The economy was due, in this conventional system, to the use of wrappings, cartons, and paper as fuel to reduce the fuel-oil use in producing steam for heating, and for cooling by absorption machines. The building was Alexander's Department Store in White Plains, completed in 1956 and designed by Ketchum, Giná & Sharp (Francis X. Giná, Partner-in-Charge). The consulting engineers were Syska & Hennessy (A. C. Zuck, Project Engineer). Since then, this team has had a similar building to design for the same owner; it is now about to be built in Rego Park, Long Island, New York.

It might be logical to assume that they would use the same method of climate control and fuel conservation, since the White Plains store had shown such great operating economy. Instead they chose a heat pump. The choice was based on comparative economic studies. There was a difference in size of the buildings; the Rego Park store would be 40 percent larger. This condition put it in the lowest rate bracket as set by its basic electric power demand, not including the power needed for the heat pump. Thus, it became feasible to use electricity (and air) instead of fuel-oil. The cost of operating the heat pump was still greater than for oil-steam, but the lower cost of installing the heat pump—amortized over 20 years—combined with lower power cost, offered a cheaper program than the conventional method. Rates for electricity in areas outside of New York are sometimes even more conducive to heat pump installations. It is evident that this is a very promising and competitive system. Periodically, we must study its evolving pattern.

The summer operation of a heat pump is quite identical with that of any conventional central-station air-conditioning installation. Single-stage compressors in parallel produce hot-refrigerant gas under pressure. This is condensed by the outdoor heat exchanger which blows outside air and spray water over the coils. In this process the refrigerant loses heat which is used to further heat the already warm outside air and to evaporate the spray water. It then passes as a liquid

under pressure to the expansion valve. In expanding to a gas it absorbs heat from circulated water, producing chilled water. This is used in remote, air-handling units to absorb the heat from air in the store. It returns at higher temperature for reprocessing to a chilled condition. The path of heat flow is from the circulated, warm store air to the chilled water, to the refrigerant, to the outdoor air (and partly to the spray water).

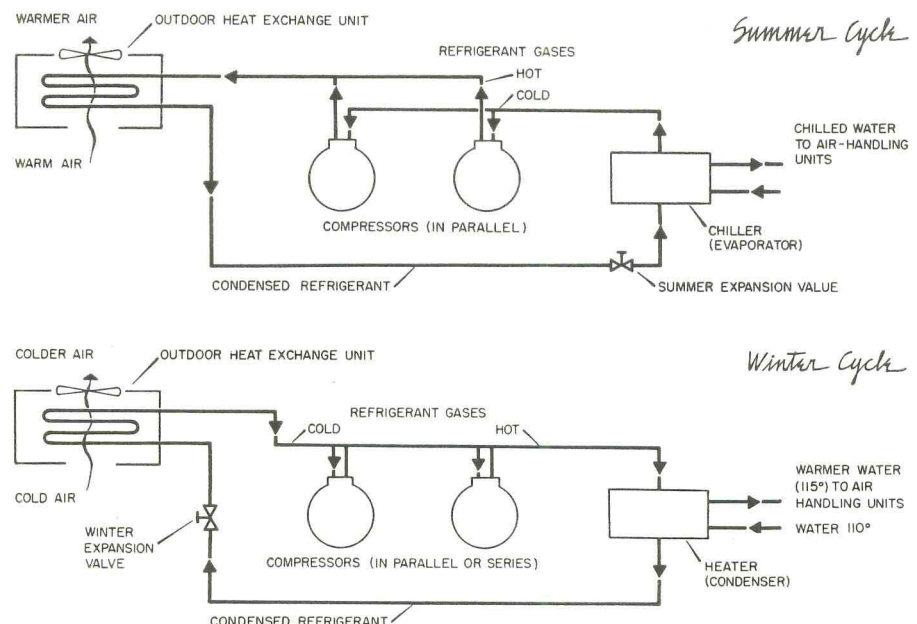
In winter the cycle reverses. The compressors, operating in single-stage when outside air is above 30 F and in two-stage (series) when the air is less than 30 F, compress the refrigerant to a hot gas. This heat finds its way toward the store when circulated water condenses the refrigerant gas by absorbing some of its heat in the condenser. This warmed water at 115 F is used in the air-handling units to warm the air for circulation to the store. The water, after giving up some heat to the air, returns to the condenser for reprocessing. The refrigerant, now a liquid under pressure, continues to the expansion valve where it flashes and expands to a gas at approximately -20 F, absorbing heat from the warmer (0 F) air. The path of the heat flow is from the cold outside air (which is further cooled) to the refrigerant, to the compressors, where more heat is added, to the condenser, to the circulated water, to the circulated air. In both the summer and winter cycles there are four kinds of circulation: the outdoor air, the refrigerant, the water, and the indoor air. In the winter the heat is pumped in the direction indicated by the above order; in summer it is pumped in a reverse direction.

Now let us consider some comparisons. First the effect of two-stage com-

pression. Getting heat out of air at 0 F is not easy. The efficiency of doing this has been improved by about 40 percent at 0 F outside design temperature, since the multistage principle was adapted to heat pumps just a few years ago. Before that it was common to add electric resistance heating, expensive to operate, when outside air temperatures were below 30 F. Multistage compression really put the air-to-air heat pump in business, especially in northern climates. Next the comparison of the more efficient water-to-air heat pumps with those of the air-to-air type. Water at 50 F is a much better source of heat than air at 0 F. At the same time, it is cold enough for the cooling cycle. Air is universally available and water is not. Several things can be wrong with water. It may be chemically undesirable—hard or corrosive. This calls for expensive treatment. It can be too high in temperature for summer cooling, which is increasingly common in congested city areas where much cooling water is taken from the ground and returned at higher temperatures. Finally, if not returned to the ground, it can become an embarrassingly large by-product. Several large industrial plants have had to create and maintain artificial lakes.

The effective use of the heat pump is quite dependent upon a reasonably fixed ratio of heating and cooling load. The condition of relatively high summer load (many people) and relatively low winter load (few windows) was ideal for the system chosen.

Architects like the heat pump. There is no fuel storage, no soot or other combustion products, no boilers or combustion, no flue. The design of Alexander's at Rego Park made the most of these features.





# TECHNICAL *Bulletin* NO. 38

NATIONAL HOUSING AGENCY

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### CONCLUSIONS: (Exact Quotations)

"1. **Condensation will not occur** in wooden floors over crawl spaces, where **reflective insulation** is installed in a normal fashion with some small percentage of openings which permit air to pass through."

"2. The **temperatures** of such insulation surfaces should remain above the dew point of the air in contact. The relative humidities of the air in the spaces within the floor structure are unaffected by opening or closing the crawl space."

"3. A perfect vapor seal by means of the reflective insulation, or other material, is neither necessary nor desirable and would probably permit condensation to occur in some cases. Perforations, of the order used, assure air flow upward through the floor structure, and provide drainage for water which might leak through the floor from above."

"4. Reflective insulation produces a **marked rise in the temperatures of the floor surface.**"

### EXCERPTS (Exact Quotations)

#### Severe Tests With Sudden Cooling

"Eight tests were made with a **single layer of reflective** insulation, six with steady ambient temperatures of **32° F.** and **10° F.**, and two in which the test box was preheated and then the ambient temperature reduced as rapidly as possible to determine whether a **sudden cooling** of the reflective insulation would cause moisture to condense on the upper side. **Three tests** were made with **two layers of reflective** insulation under the floor and with steady ambient temperatures at **25° F.** or **32° F.**"

"**Condensation never occurred** on the upper surface of **either layer** of the reflective insulation **under all of the varied conditions** of these tests. The temperature of these surfaces was observed to be above the dew point of the contacting air under all test conditions."

#### Dew Point Never Reached

"At steady conditions with average outside air temperatures between 30.9 and 32.2 degrees F., the temperatures of the upper surface of the insulation remained above the dew point of the air to which it was exposed by 9.9 to 18.7 degrees F. with one layer of insulation and by 12.5 to 15.7 degrees F. with two layers of insulation."

"Under conditions where the temperature of the ambient air was reduced rapidly, and with one layer of insulation, the temperature of the

upper surfaces of the insulation dropped with the dew point of the air to which it was exposed. When the outside temperature dropped from 56.3° F. to 31.4° F. in six hours, the insulation temperatures remained **above the dew point by 14.6 to 10.3° F.** When the ambient temperature was dropped from **39.2° F. to 9.2° F.** in 24 hours, the insulation temperatures remained above the dew point by 12.9 to 5.8° F."

"As a further indication of lack of condensation, the upper surface of the upper layer of insulation was **deliberately fogged** during several of the tests. Each time the surface of the insulation was so fogged, the condensed **moisture disappeared within 5 to 10 minutes.**"

"**The results indicate that condensation would not occur between the floor and the insulation or between the two layers of insulation during any probable winter condition.**"

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## A Research Proposal:

### Improving and Proving Building Values by Charles F. Neergaard\*

**P/A Office Practice article suggesting a basic research program to demonstrate relation between insulation and heating and cooling methods.**

The time has come for a scientific, controlled test of the values of insulation, double glazing, and various types of heating. Surely readers of the presentation by William J. McGuinness of my experiences in planning hospitals for economical heating (MECHANICAL ENGINEERING CRITIQUE, FEBRUARY 1958 P/A) must have asked, "How can there be so wide a discrepancy in data for different hospitals?" One hospital (Glens Falls, design temperature  $-10^{\circ}$  F) handles 137 cubic feet with one square foot of hot water radiation; another (in Virginia, badly overheated with design temperature  $10^{\circ}$  F) handles only 47 cubic feet with one square foot. Both have wall insulation, but not double glazing. The divergence does not lie in the plant requirements of the hospitals themselves, but in the vagaries of engineering. Even more extreme is the contrast between the Virginia institution and the one in Bethlehem, which boasts a ratio of 1 to 200 at the design temperature of  $0^{\circ}$  F (it has double glazing as well).

The two theses on which millions of dollars of original and operating costs are at stake are: the extravagant over-design by engineers; the value of wall and roof insulation and the double glazing of tight windows.

Why cannot interested manufacturers, architects, engineers, public-housing officials, and mortgagees get together to resolve these problems?

Several years ago the air-conditioning and insulation industries got a big lift from the Austin, Texas, Air Conditioned Research Village. With all the scientific shortcomings of variously designed, oriented, landscaped, insulated, and occupied houses, certain acceptable conclusions could be derived: that families in air-conditioned houses slept better, ate better, felt better, and even saved money (by spending less on doctors and going out to restaurants and theaters to keep cool). Further, those homes that were insulated beyond

FHA requirements saved the cost of the extra insulation by requiring smaller cooling and heating equipment, and, of course, saved on operation later (MECHANICAL ENGINEERING CRITIQUE, MAY 1957 P/A). Because they owned the houses, the occupants had a stake in economical sizing of both cooling and heating plants.

Insulation of walls and roofs is general in small houses and, to a limited extent, so is double glazing. But the acres of walls and hundreds of windows in all types of multistory buildings are rarely protected against heat loss.

Somehow, designers and engineers of hospitals, schools, and multiple housing projects are not all impressed by the fact that you can reduce heating and operating costs for the life of the building at no extra original construction cost (the cost of insulation and double glazing can be absorbed by the reduced boiler plant and radiation). But owners, local governments, taxpayers, and mortgagees, as well as manufacturers, should be vitally interested in any research program that would give exact comparative figures on:

1. The amount of plant required for various types of buildings.
2. Types of heat distribution.
3. Amount of radiation needed.
4. Costs of fuel as affected by types of distribution and use of insulation and double glazing.

The importance of research is well recognized by those in building and allied fields, as witnessed by Building Research Institute, Building Research Advisory Board, John B. Pierce Foundation, the program carried on by American Society of Heating and Air Conditioning Engineers and the various industrial associations. None of these apparently has explored the possibilities of combining insulation and double glazing to reduce heating costs. Several significant studies are under way to find a sound balance between first cost and future maintenance. At Yale University, Dr. Albert Snoke, director of Grace-New Haven Hospital and former president of American Hospital Association, is organizing a broad program that will cover research in hospital design, structure, engineering, organization, and administration. The

Yale Department of Architecture will participate. For nine years the Magnus T. Hopper fellowship in hospital architecture has been focusing the interest of each graduating class on bettering hospital design (APRIL 1958 P/A).

The Ford Foundation has organized the "Educational Facilities Laboratories" to explore ways to improve school and college buildings. Federal and state housing authorities are seeking methods to improve the housing structure and better its economy. Individual architects, engineers, and hospital consultants have communicated their experiences in the use of insulation and better types of heating.

The specific program I propose requires relatively little financial cost, and the conclusions may save millions in the staggering expansion program that the country faces in its schools, hospitals, and housing.

The three types of heating widely used in such buildings are vapor vacuum, circulating hot water with radiators, and occasionally panel radiant heating in the ceiling. Establishing any direct comparison among these techniques depends on finding similar buildings in which they are used. Most authorities will agree that insulation can reduce plant, radiation, and fuel costs, but it should be demonstrated conclusively that these savings are enough to justify the extra original cost.

It is proposed that a demonstration be made in a group of six identical multistory housing units, three well insulated with wall and roof insulation and double glazing, the other three following the current practice to use no insulation. In each of the two groups will be a house heated by vapor vacuum, a second by circulating hot water, a third by radiant heating with prefabricated coils in the ceiling. Each mechanical plant should be designed by a competent engineer, an advocate of that system, with a view to making each building an optimum demonstration of the type.

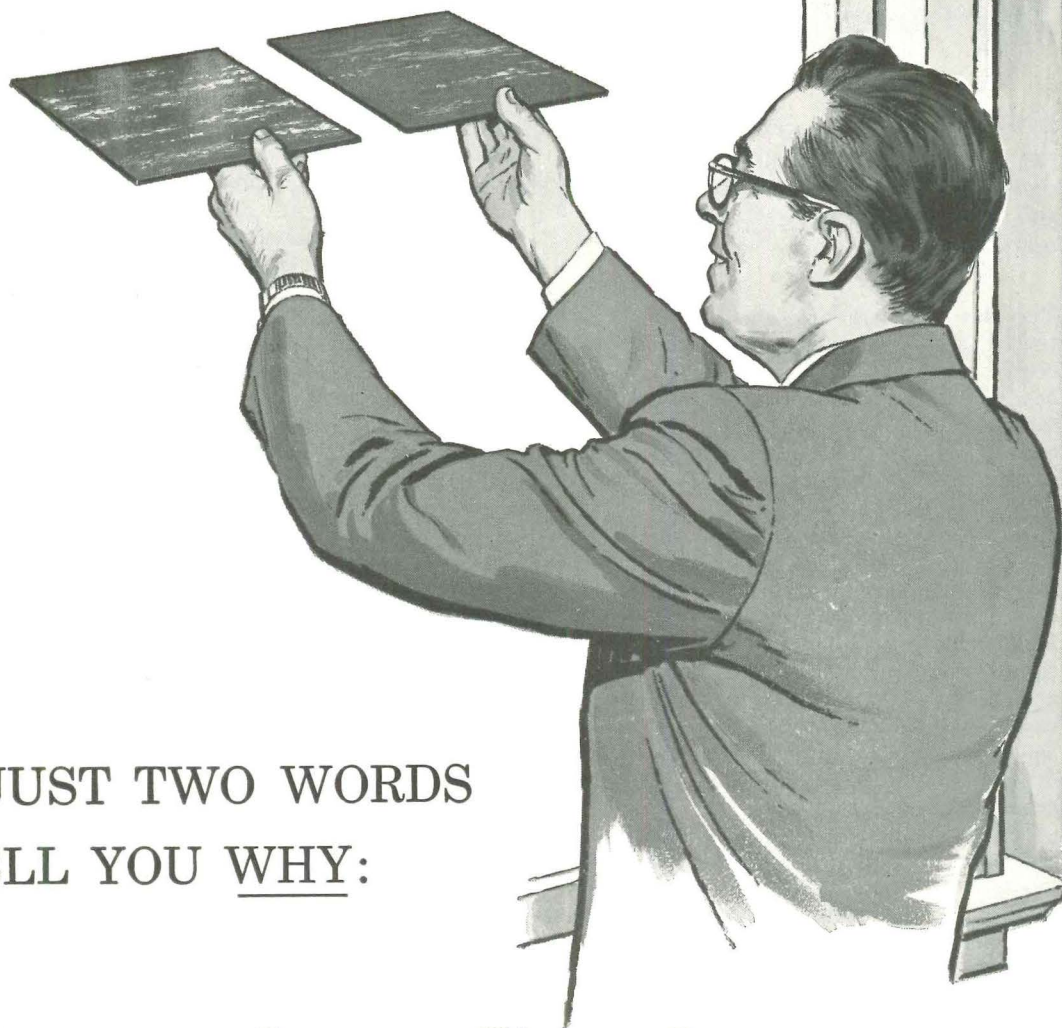
The extra cost of such a demonstration would be largely the preparation of alternate wall details and the six different sets of heating plans. This cost would be insignificant compared to the value of the comparison that would

(Continued on page 13)

\* Hospital Consultant—retired.



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## *A Research Proposal: Improving and Proving Building Values*

show once and for all what complete insulation should cost and what it is worth. The cost of the different heating installations would be known at the start and various operating and maintenance costs would emerge in the first year.

A similar demonstration would be desirable to show the comparative costs of the different types of central air conditioning with and without insulation, to test some engineers' claims that with air conditioning insulation is unnecessary, and with large glass areas, the cost of insulation by double glazing would be prohibitive.

Experience with three of our hospitals, with week long tests in summer, recording thermometers in adjoining insulated and uninsulated buildings, showed that the former averaged 8 F cooler. It would require a great deal of refrigeration to reduce the temperature of a million cubic feet by 8 F!

Identical buildings ideal for the demonstration are to be found in public-housing developments and similar private-apartment projects. A study panel should be organized representative of architects, engineers, and the building trade, to supervise these demonstrations.

My own predictions of the outcome of such tests are on record.<sup>1</sup> Some twenty years ago, associated with Butler & Fenhagen, Architects, and Charles E. Daniel, C.E., I was consultant on the Washington County Hospital at Hagerstown, Maryland. I recommended the adoption of insulation, having discovered its values in an earlier Canadian project. The Building Committee approved and we put up the first multi-story building of any type in the country which was completely insulated and double glazed. The engineer reduced his hot water radiation by half, using one sq ft of radiation to every 160 cu ft of space to be heated, instead of his normal 1-to-80 ratio without insulation. The builder, after careful cost analyses, reported that *the savings in the heating plant offset the extra cost of the better walls and windows.*

Ever since then I have urged the use

of insulation on all hospital projects. I have run into two obstacles: the skepticism of the architects and engineers and, when insulation was adopted, the almost inevitable tendency to over-design the heating plant.

In the data presented in MECHANICAL ENGINEERING CRITIQUE, FEBRUARY 1958 P/A, only four of twelve hospitals analyzed approached Daniel's formula of 1 sq ft to 160 cu ft for 0 F design temperature. The eight others, four of them in Canada, show ratios ranging from 1-to-113 to 1-to-43 (the latter in a building excessively ventilated and designed for future air conditioning). Each of these eight buildings is overheated and wastes a lot of fuel. In the four conservatively engineered hospitals, the capital cost thesis held good: there was no increase in the over-all building budget. The economies of operation in the insulated and conservatively heated buildings are significant.

Data is available for mechanical plant operation of 20 large hospitals, as presented by McNichol Roswell and Co., auditors for 62 hospitals. The average cost was \$1.10 a patient-day. Five of the 20, uninsulated, range from \$1.37 to \$1.82 a patient-day; our eight insulated hospitals, four in Canada, show a spread from \$.65 to \$1.19 a patient-day. The excessively ventilated hospital mentioned just above spent \$2.06. In Canada at the time of the tabulation fuel oil cost \$.106 against \$.06 a gallon in the U.S. The Glens Falls Hospital, which had the lowest figure, \$.65 a patient-day, was well insulated but not double glazed. A highly efficient and flexible three-unit boiler plant contributed materially to the economy. Savings of \$900,000 a year, equivalent to 4% interest on an endowment of \$22,500,000, would have resulted if all 20 hospitals had been built to operate as economically as the Glens Falls plant.

A flexible boiler plant and an economical heating medium are fundamental. My experience is in favor of circulating hot-water heat, properly zoned with temperatures centrally controlled. Vacuum vapor, which is good when it works, may lose its modulated temperatures after a couple of years and function as steam with overheated radiators, unless the traps, valves, and vacuum pumps are kept constantly in proper adjustment.

Years ago, as an investment builder, I erected and managed eight groups of identical four-story duplex block houses. I experimented progressively with hot air, steam, vapor, and circulating hot water and found that the latter used less fuel and was the most comfortable.

Panel heating with hot water circulating through ceiling coils is unquestionably the best of modern systems. It gives greater comfort and costs less to operate than hot water through radiators. But engineers raise the same objection to it as they do to insulation: "It costs too much." A more relevant objection to radiant panel heating is that in climates of violently fluctuating temperatures, as in New York, the time lag will cause unbalanced heat supply. This is answered simply: insulation minimizes the time lag. A rapid drop in outside temperature will not make itself felt inside until the heating system has had time to respond.

We have two successful, panel-heated, insulated, and double-glazed hospitals as evidence against the "costs too much" objection. For the first, the engineer prepared two complete sets of plans, one for hot-water radiators, the other for panel heating, with prefabricated steel coils in the bottom of a thin floor slab insulated against sound transmission, and the insulation made it possible to omit the coils customarily installed under the windows. The heating contractor bid 10% less on the panel-heating system.

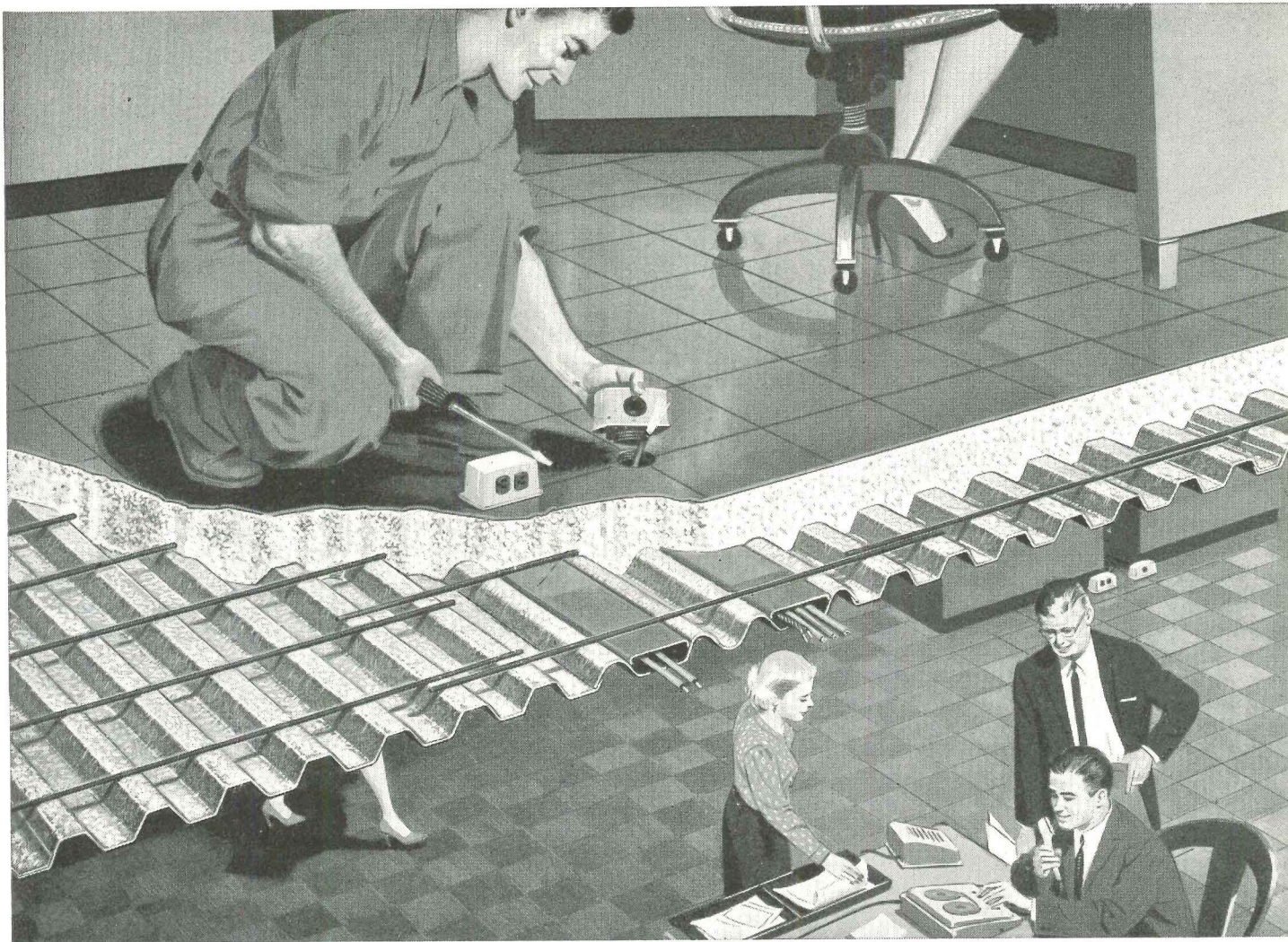
When in London in 1929 I discovered the advantages of their "panel warming" while collaborating on a large medical center with Sir Aston Webb & Sons, Architects. For six raw, cold, winter weeks I worked in a panel-heated office where the air temperature averaged 60 F. I was more comfortable there than in my 72 F hotel room. On exploring English practice in panel heat, I found that the London County Council had built two identical sub-post-office buildings, one with hot-water radiators, the other with panel warming. The latter used 40% less fuel, the records showed.

I have a report of the London Central Bureau of Hospital Information based on the experience of 42 panel-heated hospitals, covering 15-20 years, with an aggregate of 232 heating seasons. There were no leaks and no re-

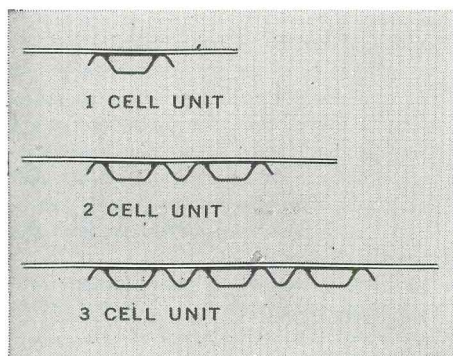
(Continued on page 16)

<sup>1</sup> "Insulation is a Rich Investment," June, 1957, and "Discussion," September, 1957, *Heating, Piping & Air Conditioning*. "Insulation Offers Built-In Dividends," *Modern Hospital*, September, 1957. MECHANICAL ENGINEERING CRITIQUE, FEBRUARY 1958 P/A.

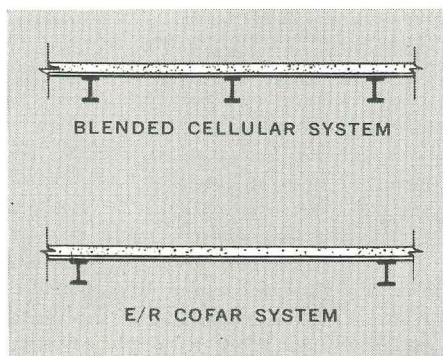




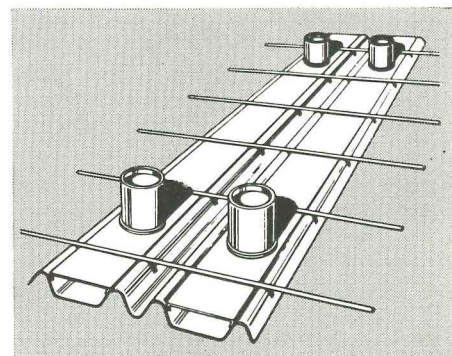
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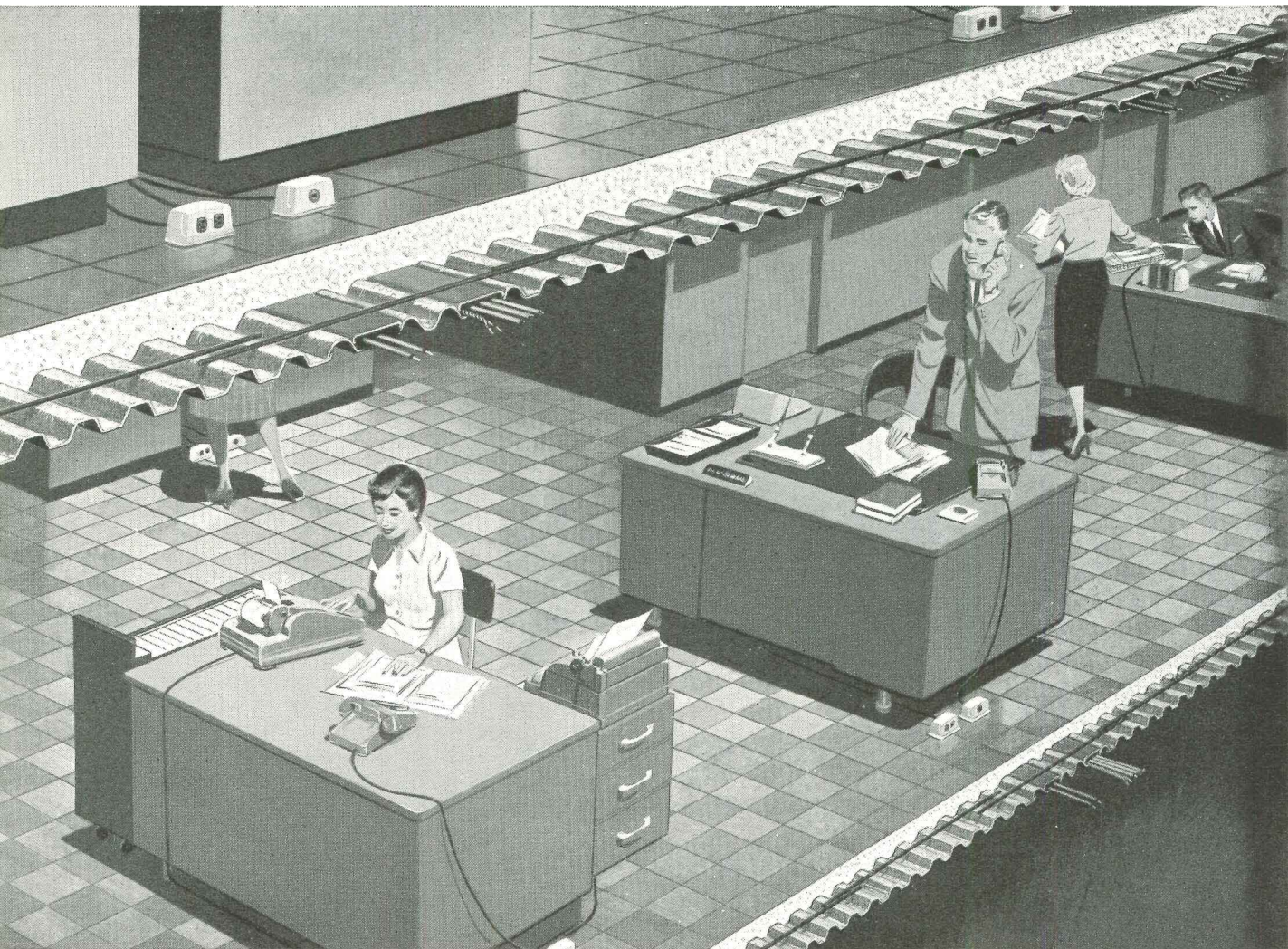


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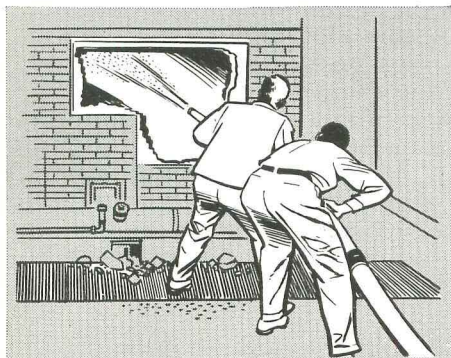
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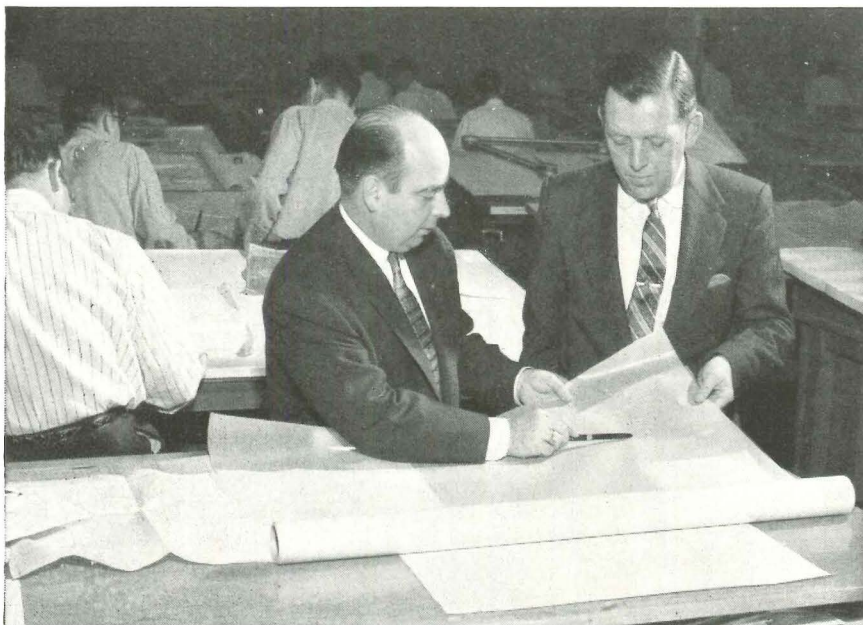
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# DRAFTING TRENDS



At the Caterpillar Tractor Co., Joseph Bryant (right) of the Tool Design Department inspects PTM with Marvin Merritt, Frederick Post dealer in Peoria, Illinois.

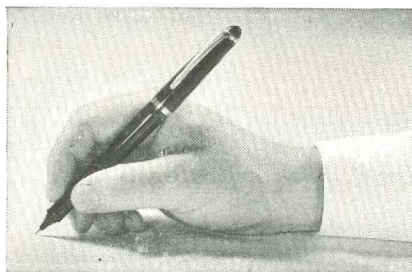
## Improved tracing medium has film-like transparency

Some products remain "news" for several years; usually because their qualities are revolutionary. PTM (Post Tracing Medium) is an excellent example. The transparency, stability and uniform drawing surface far exceed accustomed standards.

The secret of the transparency lies in a patented "welding" process. Special 100% rag paper stock is first impregnated with transparentizing materials. The sheet is then processed under tremendous pressure, literally fusing the materials together into a continuous mass. This produces a sheet no longer resembling paper, but rather a plastic film filled with clear fibers for added strength—a remarkable tracing medium with almost glass-like transparency.

The stability and smooth surface result from the pressure applied during the process. With air pockets eliminated, there are fewer pores in the paper subject to atmospheric changes. PTM offers dimensional stability ordinarily not found in paper based products. The same pressure eliminates all surface variations and traces of grain. PTM provides a smooth, even sheet with uniform drafting performance in every direction.

## Non-clogging fountain pen speeds ink drawing



Here's a fast, easy answer to time-consuming, tedious inking jobs. It's the Rapidograph . . . a non-clogging fountain pen specifically designed to produce constant width lines with India Ink. As simple to use as a pencil, the Rapidograph's continuous supply of ink cuts inking time up to 50% through the elimination of frequent stops for refilling. Use it also for lettering and template work. Five interchangeable pen points are available for Rapidographs in varying weights of lines from broad, medium, fine, very fine to ultra fine.

Further information on these items is available from the Reader Service Division of the Frederick Post Company, 3642 N. Avondale Avenue, Chicago 18.



## office practice

(Continued from page 13)

pairs required for any imbedded panels. Cracks and discolorations of ceilings were negligible. Less cleaning and less frequent decoration were required. Control valves in each room were rarely used, since boiler-room control of the circulated water temperature was sufficient. Warmth was evenly distributed and comfortable temperatures easily maintained.

Recently the 800-bed Ste-Justine Hospital in Montreal followed up our recommendation of panel heating with a letter to the Civic Hospital of Basel, Switzerland, seeking its experience. The director reported that to maintain a room temperature of 72 F-75 F in its radiator-heated wards, an inlet water temperature of 158 F-194 F was required, while in the new panel-heated pavilion the maximum inlet temperature was only 93 F. This is a convincing demonstration of the lower Btu requirements for panel heating. In summer they cooled the building with the ceiling system, maintaining 79 F inside when outside temperature was 95 F. The new building cost 22 million Swiss francs; the extra costs of the panel heating was only 100,000 Swiss francs.

Broad possibilities of simple year-round air conditioning with panel heating and cooling emerge from this experience. With insulation the time lag of response is less significant, and condensation problems are minimized. The recent statement by C. V. Fenn, vice president of Carrier Corp., that two-thirds of the hospitals in the nation either have or are planning to install air conditioning of some form, is significant of a trend that must be faced and evaluated. Already staggering costs of patient care demand utmost concentration of economy in both construction and operation. Before making the major investment in central air conditioning and committing the hospital to more than doubled plant operating costs for the years to come the Building Committee would be well advised to explore widely the experience of other hospitals in keeping their plants efficient and maintaining comfort temperatures.<sup>2</sup> The test program proposed herewith seems a minimum first step toward the accumulation of necessary data.

<sup>2</sup> "The Realistic Approach to Hospital Air Conditioning," presented at Eastern Air Conditioning Conference at Lehigh University, November 10, 1939. Published in *Journal of the American Society of Refrigeration Engineers*. "Hospital Air Conditioning," *Modern Hospital*, May, 1954.





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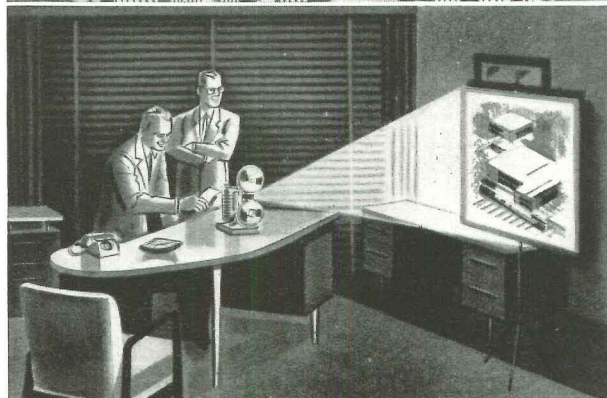
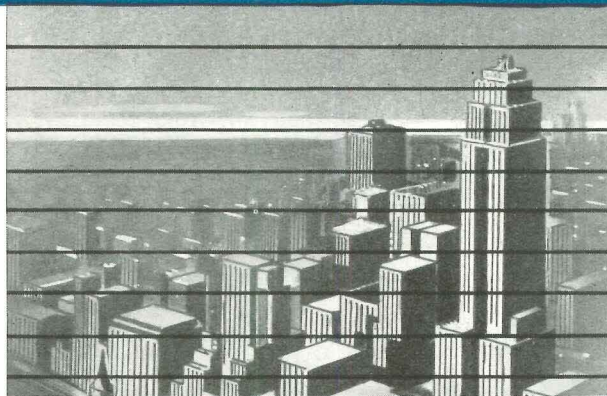
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# BANK . . . CHURCH . . .



## EASE OF MAINTENANCE—at low cost

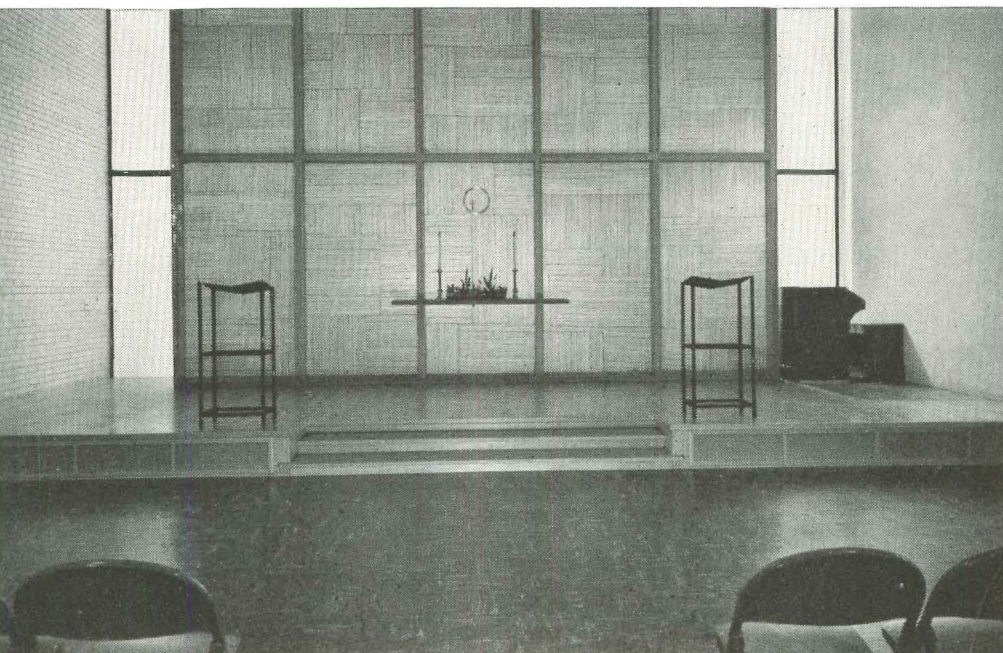
It's twenty-five to nine—and this bank has just had its nightly cleaning. The job was done in double-quick time, because the floor of Armstrong Asphalt Tile is exceptionally smooth and remarkably easy to keep good looking. It's highly resistant to abrasion and marring, stands up well under heavy traffic. And during banking hours on rainy days, water and dirt disappear at the touch of a mop, so that the floor always looks spick-and-span. The designer used three different colors of Armstrong Asphalt Tile in an informal "random" pattern that helps make this modern bank a pleasant, inviting place.

The Bank of Georgia, Ponce de Leon Office, Atlanta  
interior design: Alan L. Ferry Designers



# GENERAL OFFICES

## the flooring spec: Armstrong Asphalt Tile



### DIGNITY—at low cost

The stark simplicity of this Chicago church gives it an atmosphere of reverent dignity. The architects used subtle textured contrasts of several different materials as the theme of the design. Armstrong Asphalt Tile, with its gentle colorings and striking graining, handsomely complements the over-all aesthetic scheme. Its low cost was well within the church's building budget. Armstrong Asphalt Tile is scuff-resistant, keeping its luminous sheen with an occasional light waxing. And it will give years of satisfying service.

First Universalist Church, Chicago

architects: Schweikher, Elting and Bennett

### CUSTOM DESIGN—at low cost

In this office, two colors of Armstrong Asphalt Tile were installed in flooring "bays" that attractively subdivide the large, open interior. Asphalt Tile is so low in cost, even elaborate custom designs can be created economically. And Armstrong Asphalt Tile is precision-cut square. The tile courses line up perfectly—eliminating costly fitting on the job.

Cities Service Division Office Building, Kansas City, Mo.

architect: Earl D. Clark, Jr., in association with Henry Dreyfuss, Industrial Designer

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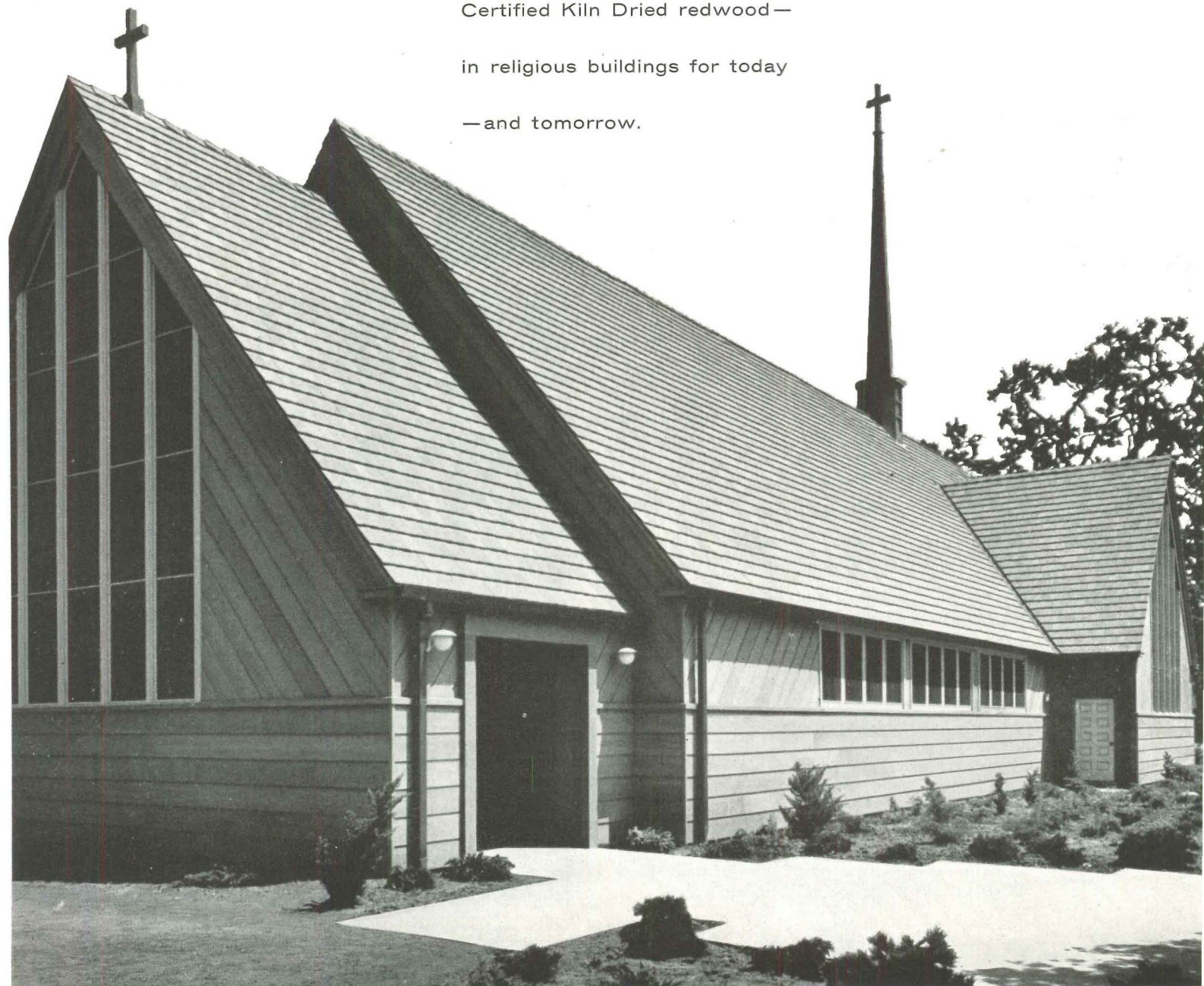
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20¢ to 35¢	Linoleum Tile Asphalt Tile, $\frac{1}{8}$ " (A, B, C, D) Linoleum, light gauge Asphalt Tile, $\frac{3}{16}$ " (A, B)	35¢ to 45¢	Linoleum, standard gauge Asphalt Tile, $\frac{3}{16}$ " (C, D) Linoleum, $\frac{1}{8}$ " ("Battleship") Greaseproof Asphalt Tile Cork Tile, $\frac{3}{32}$ "	45¢ to 60¢	Corlon (Sheet Vinyl) Linoleum, $\frac{1}{8}$ " Cork Tile, $\frac{1}{8}$ " Excelon Tile (Vinyl-Asbestos) $\frac{1}{8}$ "	60¢ to 70¢	Rubber Tile, $\frac{1}{8}$ " Cork Tile, $\frac{3}{16}$ " Linotile Corlon (Hydrocord Back) Linoleum (Cushion-Eze Back)	70¢ to 90¢	Custom Corlon Tile (Homogeneous Vinyl) $\frac{3}{32}$ ", $\frac{1}{8}$ " Cork Tile, $\frac{5}{16}$ " Rubber Tile, $\frac{3}{16}$ " Corlon (Cushion-Eze Back)	95¢ to \$1.30	Custom Vinyl Cork Tile Imperial Custom Corlon Tile
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Kingsford Jones, Architect • William Siarell, Associate Designer

Photo: Lionel T. Berryhill

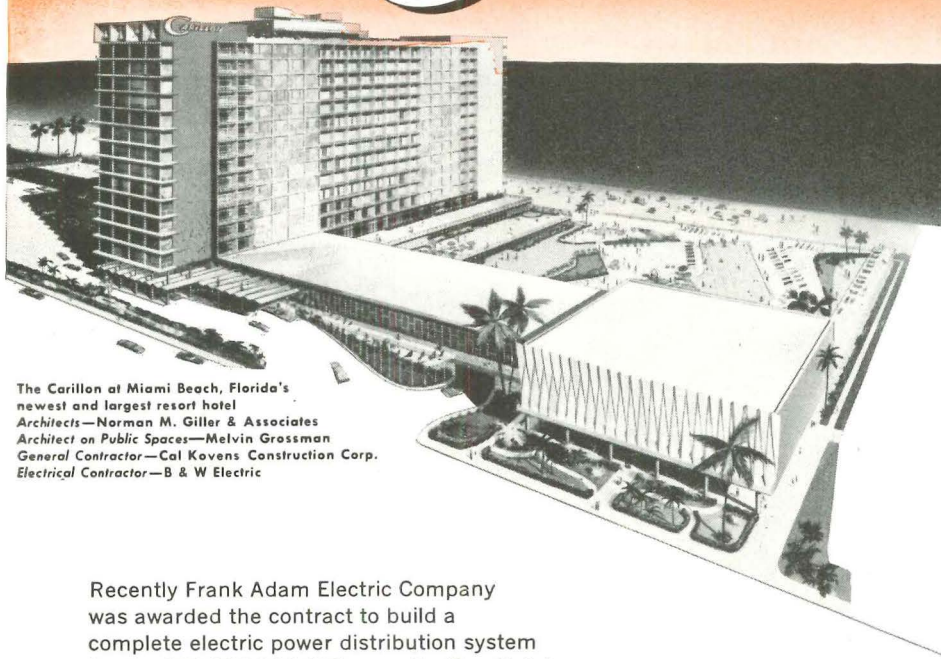
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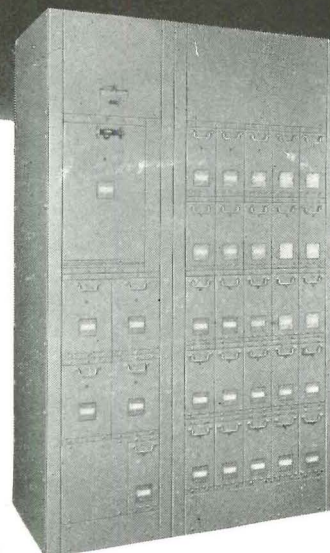
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# FRANK ADAM builds COMPLETE ELECTRICAL DISTRIBUTION SYSTEM for new \$20,000,000 **CARILLON** hotel in record time!



The Carillon at Miami Beach, Florida's newest and largest resort hotel  
Architects—Norman M. Giller & Associates  
Architect on Public Spaces—Melvin Grossman  
General Contractor—Cal Kovens Construction Corp.  
Electrical Contractor—B & W Electric



Recently Frank Adam Electric Company was awarded the contract to build a complete electric power distribution system for the \$20,000,000 620 room Carillon Hotel, Florida's newest and largest resort hotel at Miami Beach.

Because the hotel was scheduled to open December 21, necessary equipment had to be designed and produced in record time.

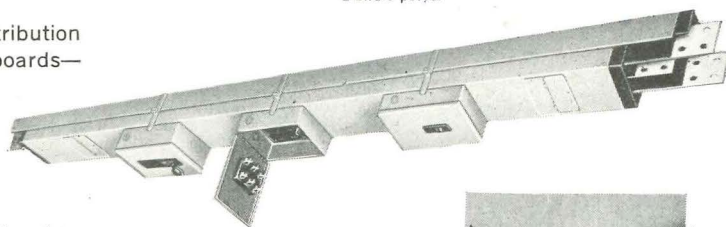
Responding to the challenge Frank Adam built a distribution system that included two Ⓐ Klampswitchfuz switchboards—Klampswitchfuz power distribution panelboards, Powerplugin busduct and QP Quicklag P lighting panelboards to handle the hotel's heavy load concentration safely, efficiently and economically.

Recommendations of Frank Adam engineers were promptly accepted and six days after the final "go ahead" order the last of the equipment was shipped.

What Frank Adam engineering skill and technical "know how" did for the Carillon they can do for you. Let your nearest Ⓐ representative listed in Sweet's tell you how Frank Adam equipment can fit into your next big job.

## Ⓐ Klampswitchfuz Switchboard

Features a hinged type, horsepower-rated operating switch that combines both disconnect switch and fuse protection into one unit. Ratings, 30 to 600 amperes, 250 volts AC or DC 2 and 3 poles.

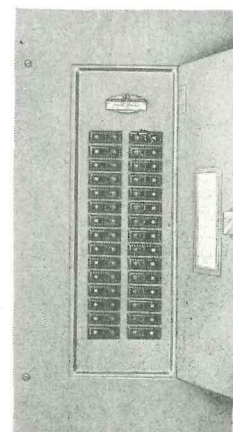


## Ⓐ Powerplugin

The modern system of distributing power from service entrance to machines and light. Ratings 225 to 1500 amps. 600 volts AC or less with Klampswitchfuz, Shuttbrak or Circuit Breaker plug-in devices.

## Ⓐ Quicklag P Panelboard

A plug-in type thermal-magnetic circuit breaker panelboard that provides safe, dependable, automatic circuit protection against overloads and short circuits. Breaker capacities are 10 to 50 ampere up to 42 poles.



# FRANK ADAM

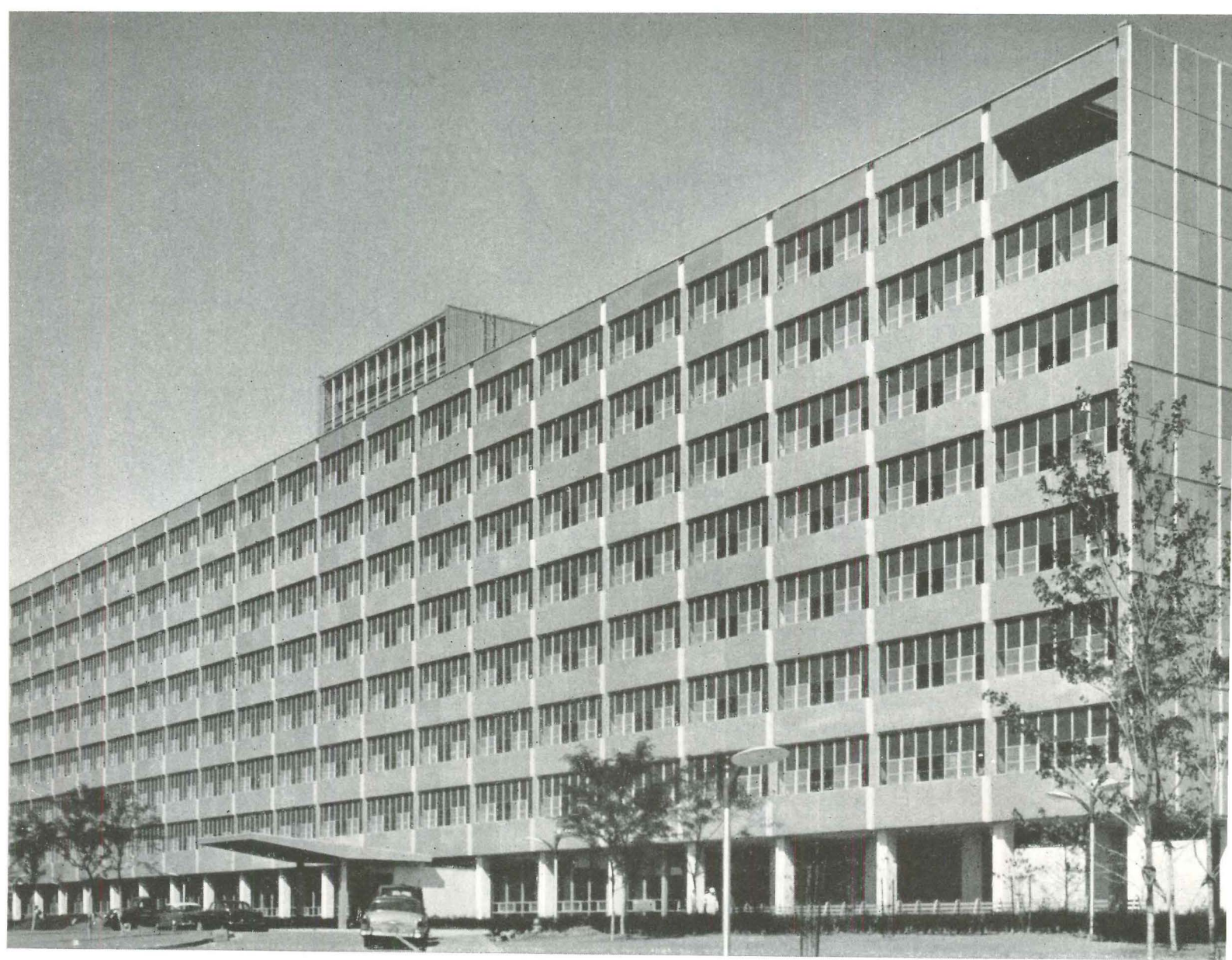
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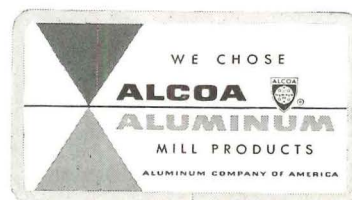


# JOHN J. KANE HOSPITAL USES ALUMINUM

Forward-looking design of the new John J. Kane Hospital is emphasized by the fresh, smooth lines of flat sheet used for the extra-large spandrels.



BUILDING: *John J. Kane Hospital, Allegheny County, Pa.*  
 OWNER: *Allegheny County Institutional District*  
 ARCHITECTS: *Button & McLean—Mitchell & Ritchey, Pittsburgh, Pa.*  
 GENERAL CONTRACTOR: *Sherry Richards Company, Chicago, Ill.*  
 ALUMINUM SUBCONTRACTORS:  
   Curtain walls, architectural metal work: *Albro Metal Products Corp., Bronx, N.Y.*  
   Projected windows: *The William Bayley Company, Springfield, Ohio*  
   Dome: *Overly Manufacturing Company, Greensburg, Pa.*  
   Sheet metal work: *H. C. Smith Company, McKeesport, Pa.*

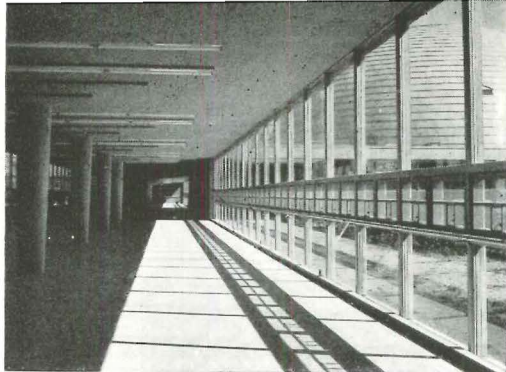


Your Guide to the Best  
in Aluminum Value



"ALCOA THEATRE"  
Exciting Adventure  
Alternate Monday Evenings

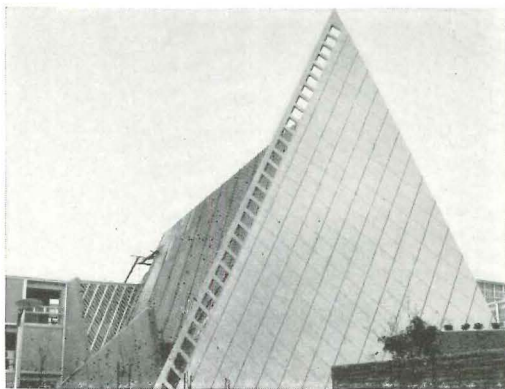




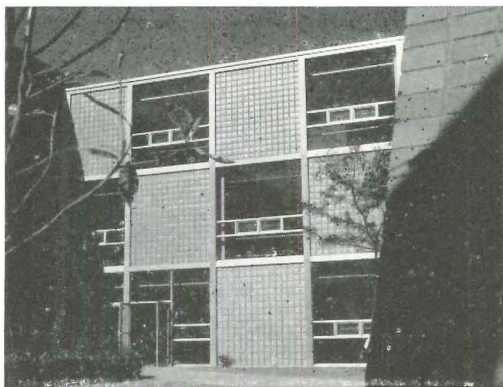
Attractive aluminum window frames and trim will remain bright and handsome for years, with no maintenance except easy cleaning.

# TO PROVIDE A BRIGHT "CURE" FOR AN OLD PROBLEM

With striking effect, the unique architectural design of the hospital chapel blends aluminum, glass, mosaic tile, brick, copper and wood. Alcoa Aluminum frames the entrances and forms intricate webs of glazing members in the varicolored glass windows.



Intriguing design of aluminum checkerboard wall system combines aluminum glazing bars, mullions and operable vents with glass block and glass to provide an attractive pattern variation.



Aluminum-clad auditorium dome is an outstanding example of aluminum's functional beauty. The reflective surface guarantees cool comfort, even without air conditioning.



Something new has happened to the old "County Home." The bleak look is gone. The drab buildings have disappeared. In their place is a modern architectural masterpiece with fresh, clean lines creating an inspiring combination of scale, form and space . . . an environment that at once suggests bright, healthy living with a future.

This transformation was never more apparent than in the John J. Kane Hospital in Allegheny County, Pennsylvania, hailed as one of the finest new hospitals in the country. And Alcoa® Aluminum has played a big part in achieving the forward-looking construction that is part of the therapeutic psychology for the "old folks." Exterior walls, windows, entrances, roofing, copings, canopy, railing, hardware, benches, lighting fixtures and exterior trim are among the many aluminum components contributing to the "youthful" design of the building. In all, 1,750,000 pounds of aluminum were used.

*Functional* beauty is the big reason that Alcoa Aluminum played a major role. Its light weight and easy handling resulted in lower construction costs. Its no-rust, easy-to-clean features assure taxpayers continuous low maintenance costs.

Alcoa engineers worked closely with the architects on this project. Their technical advice and personal assistance are also available to help you. As the pioneer and leader in architectural applications of aluminum, Alcoa is in a unique position to assist you. For more information and complete technical data on aluminum's many forms and applications, contact your nearest Alcoa sales office. Or write Aluminum Company of America, 1890-E Alcoa Building, Pittsburgh 19, Pa.

Alcoa Aluminum supplies functional beauty and graceful design even to simple bench supports. Corrosion-resistant qualities make them virtually impervious to the effects of weather.





THE VAST MAJORITY OF THE NATION'S FINE BUILDINGS ARE SLOAN EQUIPPED

MILTON M. SCHWARTZ & ASSOCIATES  
*architect*

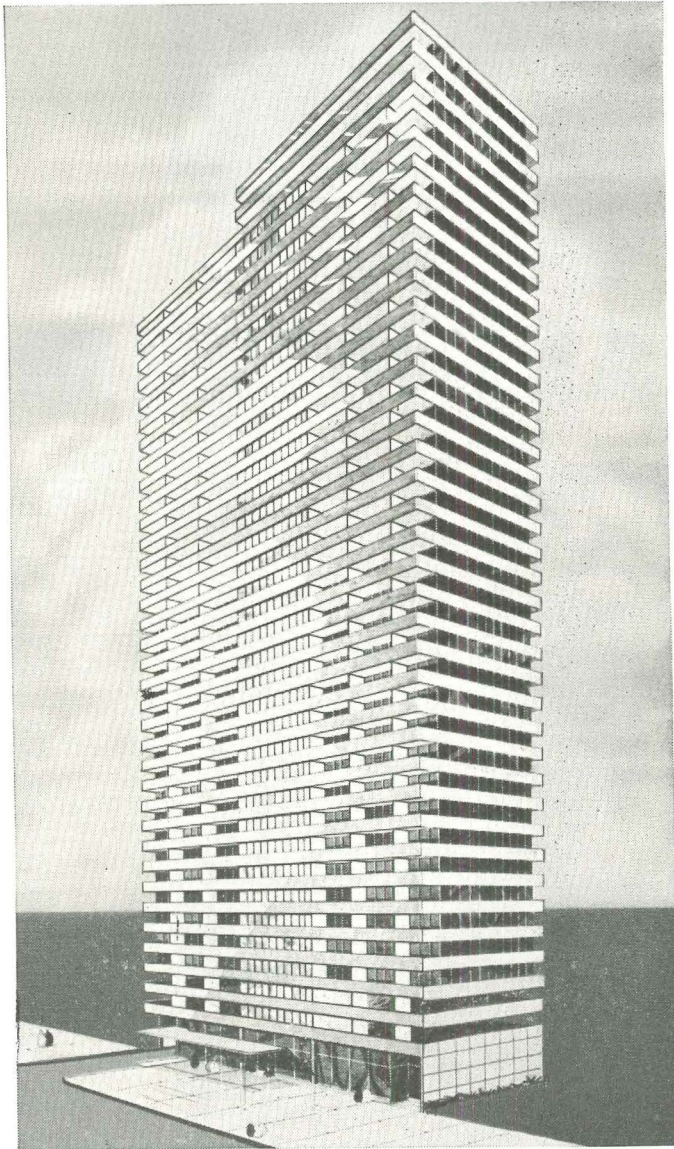
A. H. SCHWARTZ  
*mechanical consultant*

C. A. THARNSTROM & COMPANY  
*general contractor*

ECONOMY PLUMBING & HEATING CO.  
*plumbing contractor*

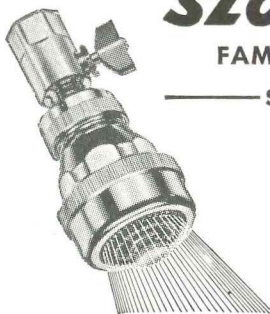
MID-CITY PLUMBING SUPPLY CO.  
*plumbing wholesaler*

## Chicago's ENTIRELY NEW HOTEL CONCEPT



• The new \$6-million, 40-story EXECUTIVE HOUSE, soon to be completed in downtown CHICAGO, bears the distinction of being the tallest reinforced concrete building in the U. S., and the first hotel to establish a new concept in operations. Approximately half of its 448 units will be leased to business firms to accommodate out-of-city clients or company representatives who make frequent business trips to Chicago. Suites consist

of studio-living room, kitchenette, bath and shower. Larger units include bedroom. All areas throughout the building will be comfortized by a combined heating and cooling system. The building is sheathed in stainless steel and glass, and nearly three-fourths of the units will have private balconies. As are thousands of other great buildings, this remarkable hotel structure is completely equipped with SLOAN Flush VALVES.



## **SLOAN** *Flush* **VALVES** FAMOUS FOR EFFICIENCY, DURABILITY, ECONOMY

— SLOAN VALVE COMPANY • CHICAGO • ILLINOIS —

Another achievement in efficiency, endurance and economy is the SLOAN *Act-O-Matic* SHOWER HEAD, which is automatically self-cleaning each time it is used! No clogging. No dripping. Architects and Engineers specify, and Wholesalers and Master Plumbers recommend the *Act-O-Matic*—the better shower head for better bathing.

*Write for completely descriptive folder*







## DESIGN WITH

**Corrugulux®**

the  
multi-purpose  
translucent panel

Corrugulux has a place in most of today's industrial, commercial and institutional construction . . . for sidewall glazing, skylighting, room dividers, patio covers, partitions, canopies, store fronts, covered walkways, curtain walls and many other applications.

**SHATTERPROOF**—Corrugulux does away with the expense and hazard of window breakage, withstands vibration, vandalism, accidental impact.

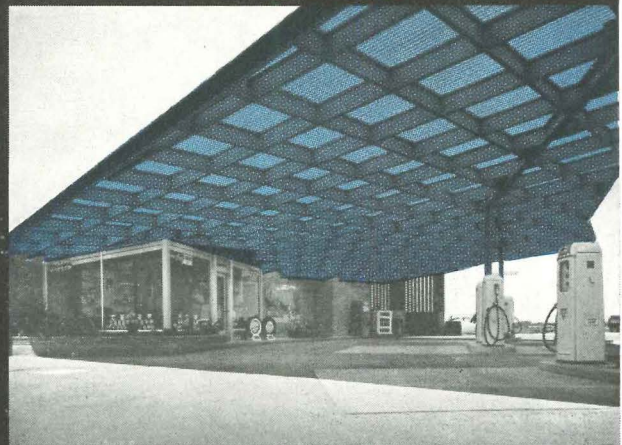
**TRANSLUCENT**—Corrugulux diffuses daylight, cuts glare, admits more usable light, creates a flattering glow for the presentation of merchandise.

**COLORFUL**—Corrugulux is handsome and decorative, adds bright color accents.

**ECONOMICAL**—Corrugulux can pay for itself in savings in artificial lighting. Low installation cost, low maintenance.

**STRUCTURAL STRENGTH**—Corrugulux is amazingly strong, yet light in weight.

Complete specifications and samples on request, or see Sweet's Architectural file. **WRITE DEPT. 36.**



**Corrugulux®**

L-O-F Glass Fibers Company  
P. O. Box 20026, Houston, Texas

CORRUGATED SHEETS • FLAT PANES • PYROPANL • DOUBLE DOME SKYLIGHTS





# MARBLE...

The Mutual Benefit Life Insurance Building in Newark, New Jersey, was given the William E. Lehman Award for outstanding architectural design. Editorially, the building was called "a symbol and igniting force behind the chain of events forming the blueprint of Newark's redevelopment." And no small factor in the distinction achieved by the architectural firm of Eggers and Higgins was the profuse use of marble.

Marble is used with magnificent effect in the main entrance lobby, all elevator lobbies, in washrooms and toilets, on walls and floors, for superb decoration, and for sensible, low-maintenance utility. Wherever used it adds beauty, reduces cost, provides distinction.

Yet even the initial cost was low, since less than 1.2% of the building cost was absorbed by the marble.

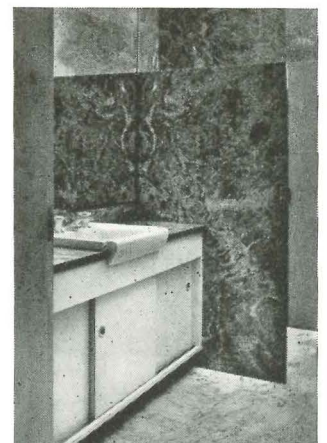
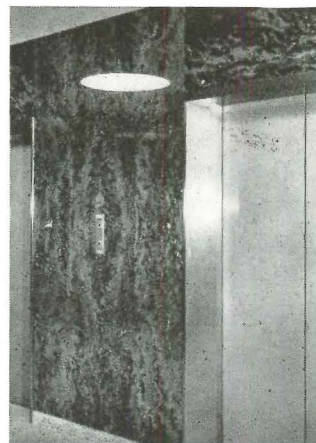
Here again, Marble *proves* its economy, a fact that has been clearly demonstrated in a comprehensive study "Proof that Marble Costs Less..." Write now for your free copy to



## MARBLE INSTITUTE OF AMERICA, INC.

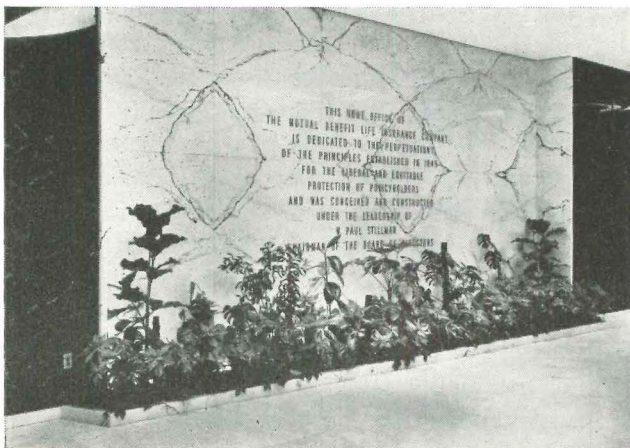
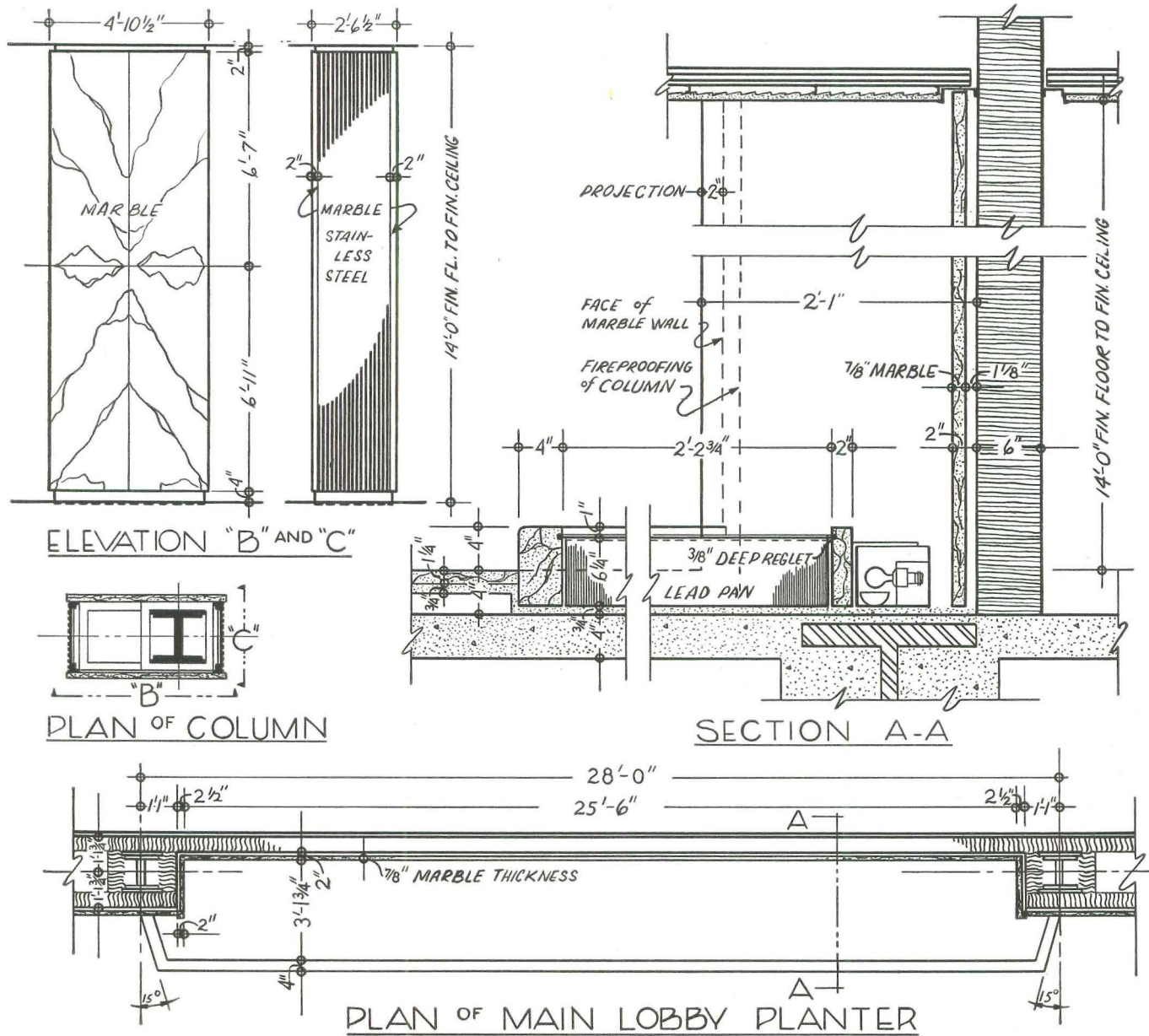
32 SOUTH FIFTH AVE. • MOUNT VERNON, NEW YORK

MUTUAL BENEFIT LIFE INSURANCE BUILDING, NEWARK, N. J.; EGGERS & HIGGINS, ARCHS.



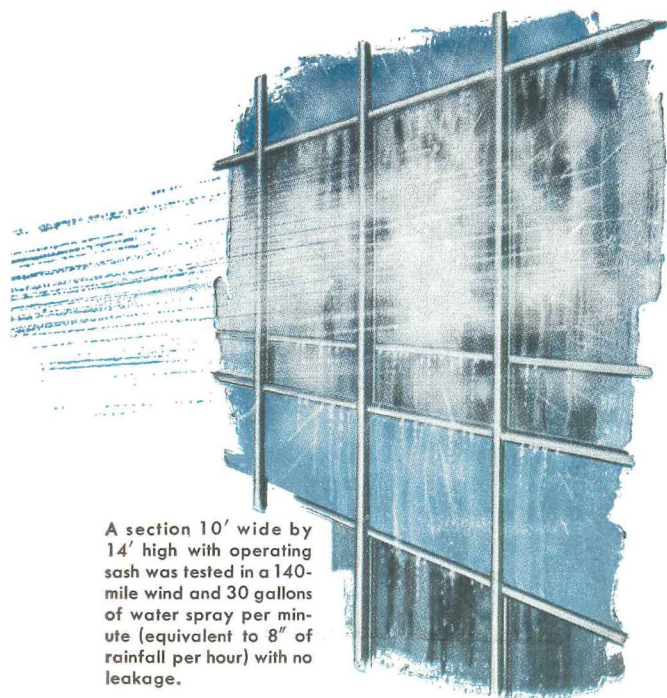


# in an award winning building





## New Versatile-Wall offers weather-



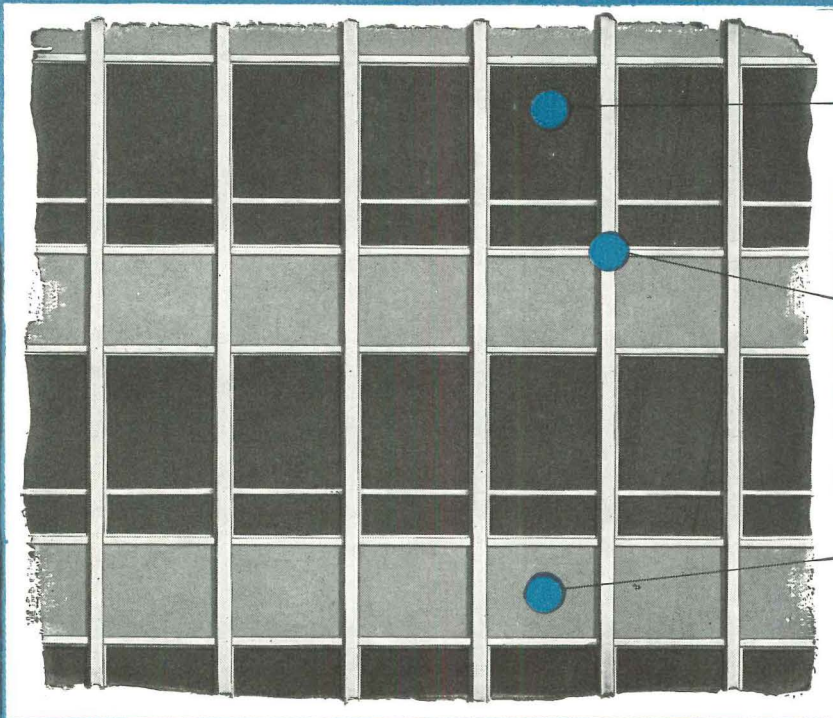
A section 10' wide by 14' high with operating sash was tested in a 140-mile wind and 30 gallons of water spray per minute (equivalent to 8" of rainfall per hour) with no leakage.

With Robertson Versatile Wall, architects and engineers can enjoy full freedom of expression in the use of modular units and colors and still be sure of the precision of fit necessary to resist the ravages of weather. Developed after years of experience, research and testing, this curtain-wall system combines the advantages of standard units with the artistic latitude of tailor-made walls.

The results of extremely severe tests proved beyond a doubt that the rugged, weathertight construction of Robertson Versatile Wall can more than withstand the devastating forces of hurricanes and tornadoes. Units are designed to expand and contract to take care of building movement and steel framing tolerances without loss of tight seal. Yet infinite design variety is available. Verticals can be made with a variety of sizes and shapes in stainless steel, aluminum, bronze or porcelain enameled metal. Spandrels also can be designed in a great variety of colors and textures.



## tightness plus extra design freedom



### ROBERTSON V-WINDOWS

Exclusive new side hinged inswinging windows make cleaning easier and safer, and seal positively when locked. There is no interference from pivot pins if hopper is used below, and the entire window can be removed in minutes for easy shop reglazing.



### MULLIONS AND SILLS

Great versatility is yours. Trim members can be porcelainized aluminum, stainless, aluminum or bronze. Trim also can vary greatly in depth and surface because of new positive "snap-on" design. A system of weep holes provides positive drainage and ventilation for condensation.

### SPANDRELS

Here the designer has infinite choice. The V-Panels are available with a wide variety of surface patterns and can be fabricated in aluminum, bronze, stainless steel, Color Galbestos or vitreous enameled aluminum or steel. Versatile Wall is as individual as your signature!

Though any type of window can be specified, there are many advantages to the new Robertson V-Window. Hinged at the side, it swings into the room for safer and easier cleaning, plus a more positive seal than possible with a pivoted window. An ingenious hinge allows the window to be removed and replaced with a spare, so that any reglazing can be done in the shop. Moreover, when a hopper window is specified underneath, weight is better distributed on the sill, and it is not necessary to accommodate pivots.

When you design your next curtain-wall building, take advantage of this completely "weather-wise" system which allows so much architectural latitude. Write for literature.

*With 150 trained sales engineers and 60 qualified service dealers, Robertson is ready to serve you in any part of the country. You will always have the best of technical assistance when Robertson products are specified.*

# Robertson

# Versatile

# Wall

## H. H. Robertson Co.

50 years of experience in Puttyless Glazing Construction

2405 Farmers Bank Building • Pittsburgh 22, Pa.

In England—Robertson Thain Ltd., Ellesmere Port, Cheshire

In Canada—Robertson-Irwin Ltd., Hamilton, Ontario;  
Edmonton, Alberta



Please send additional information.

NAME

TITLE

COMPANY

ADDRESS

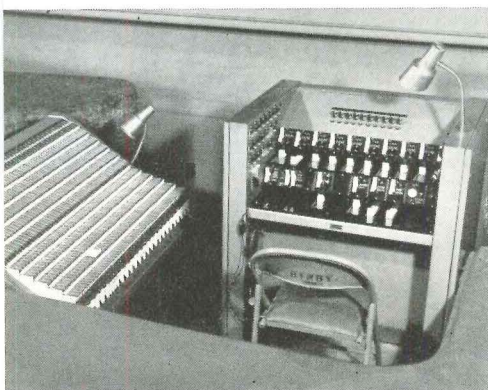
CITY



# high-efficiency magnetic amplifiers add new flexibility to lighting control



**STAGE OF KIRBY MEMORIAL THEATRE**, Amherst College, Amherst, Mass. Lighting equipment designed and built by the Lumitron Division of Metropolitan Electric Mfg. Co., Long Island City 5, N. Y. Preston E. Ward, of Roland Oakes Co., Holyoke, Mass., was supervising contractor for lighting equipment.



**THIS LUMITRON CONSOLE** controls 50 lighting circuits with W/L MAG-A-TROL dimmers in Kirby Memorial Theatre at Amherst College. It includes scene master, fader, independent master and system master. The 10-scene preset panel is at operator's left. Power-handling MAG-A-TROL Dimmers, remotely located in rack (right photo), handle the power required for lights.

## OTHER MAG-A-TROL INSTALLATIONS COMPLETED OR IN PROCESS

New Jerusalem Cathedral, Bryn Athyn, Pa.  
Montclair State Teachers College, Montclair, N. J.  
Canadian Broadcasting Co. T.V. Studios, Montreal and Toronto  
St. Louis Fine Arts Museum, St. Louis, Mo.  
University of Pittsburgh, Pittsburgh, Pa.  
Oak Hill High School, Cincinnati, Ohio  
San Diego State College, San Diego, Calif.  
Orlando Fountain, Orlando, Fla.

Today, a fingertip's motion on a fingertip-sized key can dim kilowatts of lamps; a complete lighting control console need occupy very little more space than an office typewriter, with bulky power-handling components located elsewhere.

That's what magnetic amplifiers have done to lighting control for theatres, auditoriums, floodlight controls, and many other applications. With Ward Leonard's MAG-A-TROL\* magnetic amplifier dimmers, you get the maximum ultra-compact installation flexibility and more besides: Efficiency to cut power bills, identical dimming characteristics for all loads from 1/30th to full capacity, nearly complete linearity of control. And no maintenance, no electronic tubes, no moving parts.

Four sizes, with maximum ratings of 3.2, 6.3, 10, and 16 kw. Strict conformity to A.I.E.E. transformer standards. Write for full details. Ward Leonard Electric Co., 22 South Street, Mount Vernon, N. Y. (In Canada: Ward Leonard of Canada, Ltd., Toronto.)

\*T. M. Reg. U. S. Pat. Off.

8.15

**LIVE BETTER...Electrically**

**WARD LEONARD ELECTRIC CO.**

**Result-Engineered Controls Since 1892**

RESISTORS • RHEOSTATS • RELAYS • CONTROL DEVICES

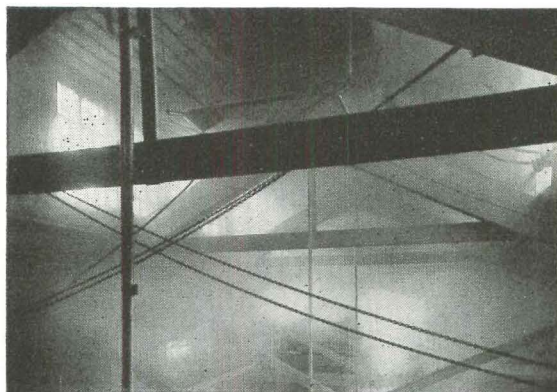




# Wolmanized

## PRESSURE-TREATED LUMBER

time-tested protection  
against  
process moisture



The buildings you are designing may never "take the beating" the roof decking of this New England textile mill has since 1924. But the facts remain—moisture, condensation, alternate wetting and drying are enemies of *all* structural materials. All, that is, except Wolmanized® pressure-treated lumber!

Wolmanized pressure-treated lumber is the time-tested material that should be specified when wood is subject to high humidities, condensation, masonry contact or used in areas of termite infestation.



Since 1924 the roof of the Belding Heminway Corticelli Company textile mill in Putnam, Connecticut, has been subject to day-in and day-out cycles of alternate steaming-condensing-drying. Yet the Wolmanized® pressure-treated lumber used for roof decking is as sound and strong as the day it was installed . . . a truly remarkable service record for this versatile structural material!

**Wolman Preservative Department, Koppers Company, Inc.**

752 Koppers Building, Pittsburgh 19, Pennsylvania

Please send me the 16-page Booklet on the use of Wolmanized pressure-treated lumber in light and heavy construction.

Name \_\_\_\_\_

Firm \_\_\_\_\_

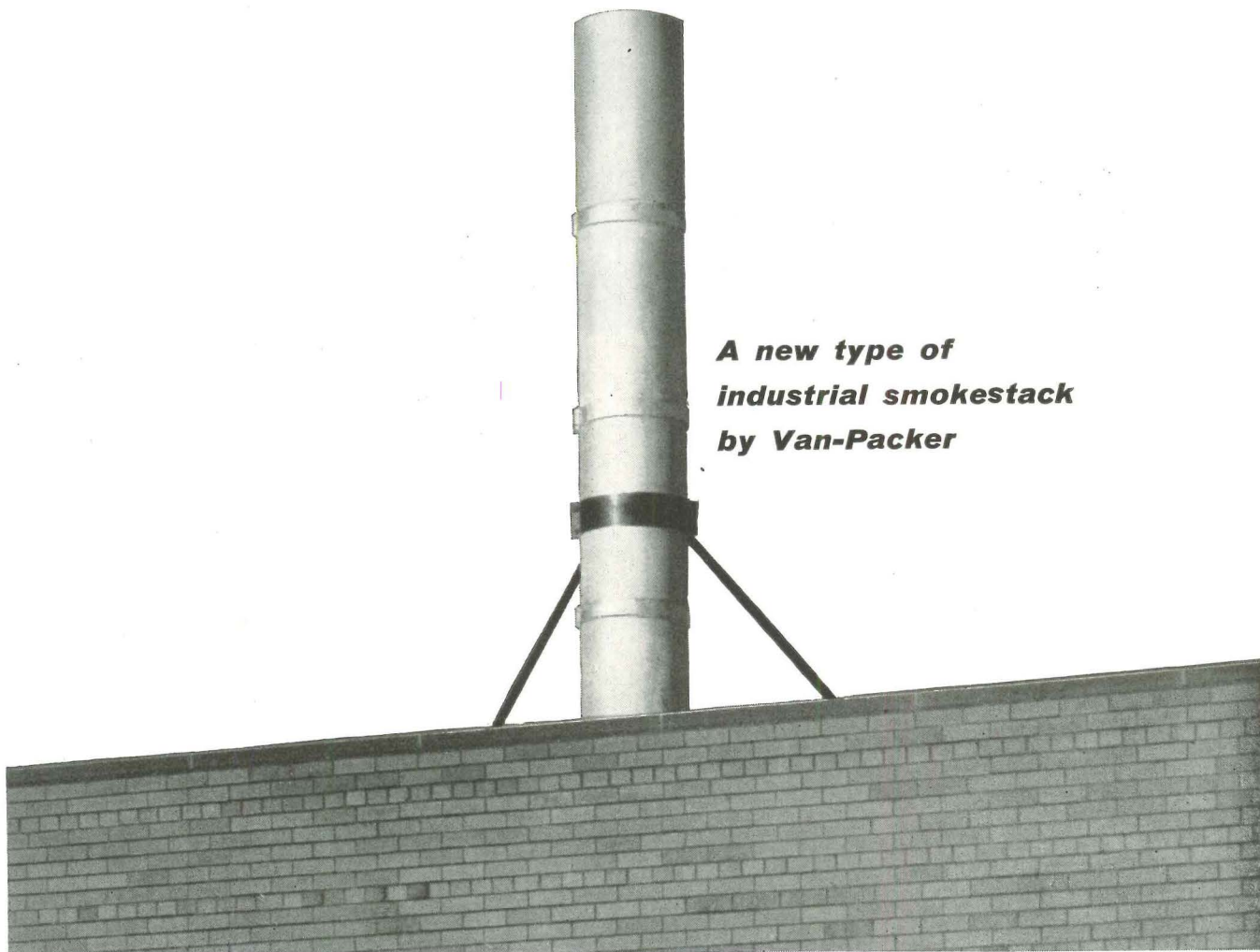
Address \_\_\_\_\_

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



## Wolmanized® Lumber





**A new type of  
industrial smokestack  
by Van-Packer**

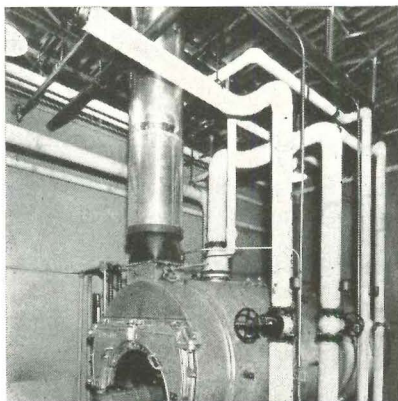
## Outlasts steel stacks, costs no more

**Won't corrode** — The Van-Packer industrial smokestack is made of centrifugally-cast 3-foot refractory sections that will far outlast a steel stack. An aluminum jacket encases each section and eliminates maintenance.

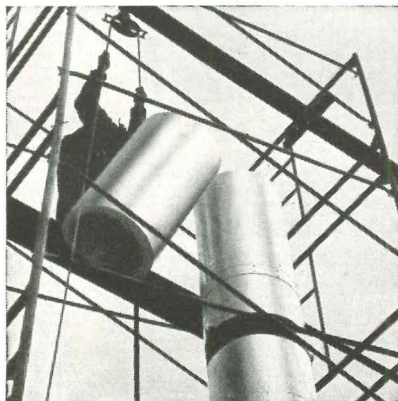
**Economical** — The Van-Packer costs no more than a steel stack; 2/3rds less than a brick stack. Easy installation, savings on maintenance, and long life results in further savings. Provides high draft equal to that of a comparable brick stack.

**For boilers or incinerators** — Van-Packer stacks can be installed inside or outside to handle boilers, furnaces or incinerators. Comes in seven diameters from 10-inch ID to 30-inch ID. Handles all fuels.

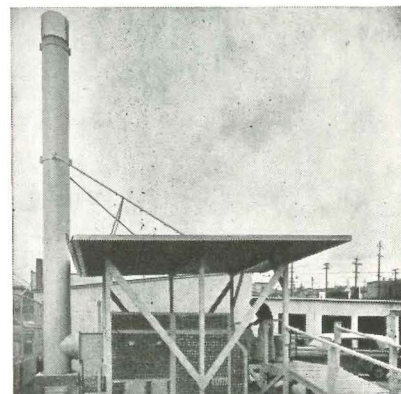
**Available nationwide**—Van-Packer Stack is available through local Van-Packer Jobbers and Special Representatives. See "Chimneys — Prefabricated" in Yellow Pages, or write Van-Packer for Bulletin IS-32-53.



*Van-Packer Stack with Standard Sections handles boilers and furnaces efficiently. Can be superimposed or floor supported.*



*Installing this stack is quick and easy. Three-foot sections are simply cemented atop one another with acidproof cement.*



*Van-Packer Stack with Hi-Temp Sections handles industrial incinerators with continuous flue gas temperatures of 2000° F.*

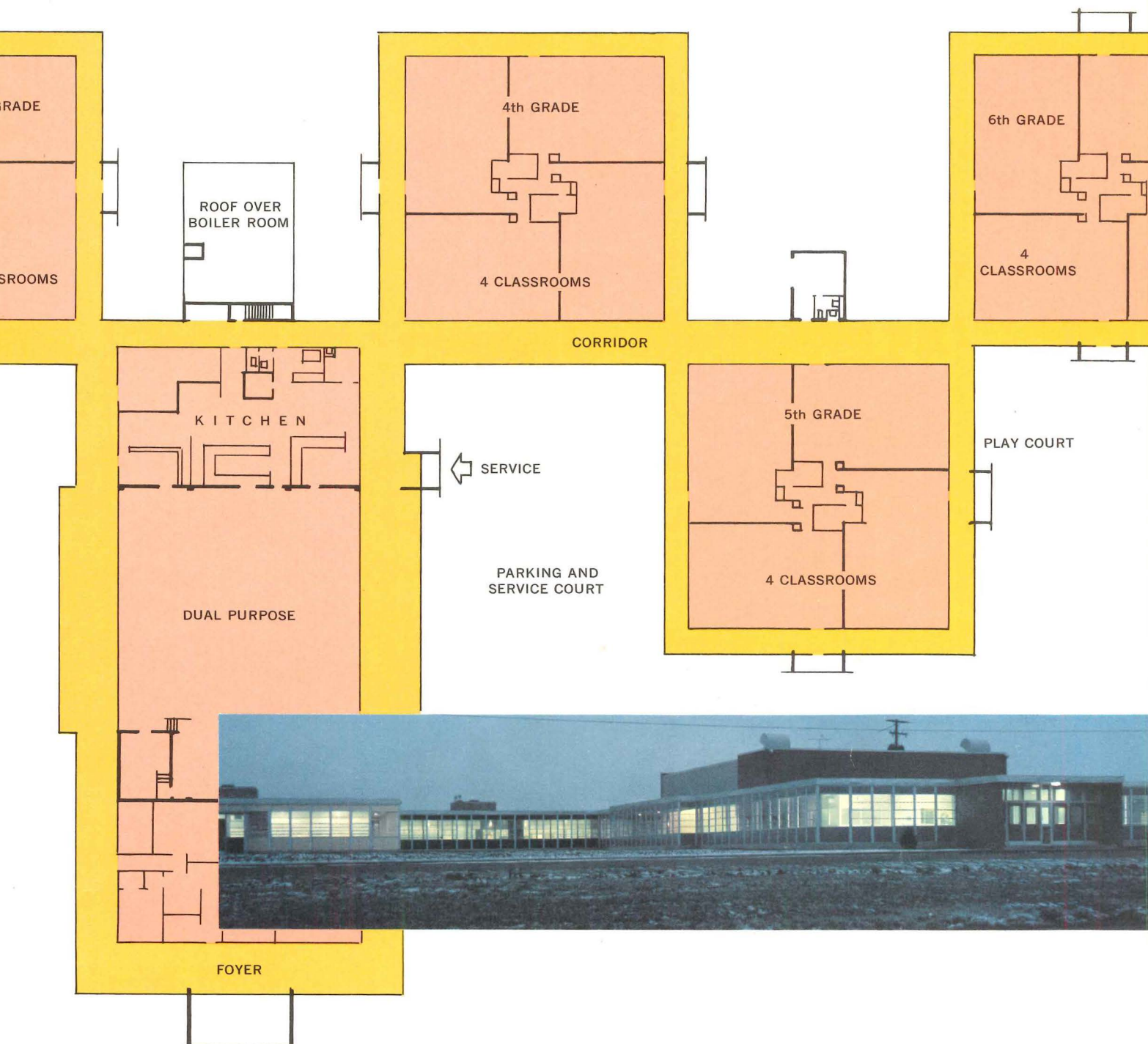


**Van-Packer** PREFABRICATED REFRACTORY **Stack**

Van-Packer Company • Division of The Flintkote Company  
P. O. Box No. 306, Bettendorf, Iowa • Phone: East Moline, Ill. 3-5288







## *An on-the-spot L·O·F Investigation of a* **School designed for separation of Age Groups**

How can you put 800 kids (from 1st through 6th grades) under one roof and give each age group a "private school" atmosphere on a building budget of only \$570,000?

Architects Zeller and Hunter of Springfield, Ohio, accomplished just that for the new 45,180 sq. ft. Northwestern Elementary School in the same city. Cost: only \$12.41

per sq. ft. (other new schools in the area averaged from \$12.50 to \$15 per sq. ft.).

L·O·F men went to Springfield to find out from the people who are an every-day part of the school, how its unique design is working out.

Here is what they told us:







Children are routed from classroom units to the auditorium-cafeteria through corridors of glass. When used for civic functions, the public enters from the street through the school's main entrance.



**R. O. BRINKMAN**  
Executive Head  
Northwestern Local Schools



"The layout is wonderful! The six, four-classroom units are placed like checkerboard squares, radiating from a central administration-auditorium and cafeteria core. Each age group has a unit. Each unit has its own identifying exterior color styling, its own toilet facilities and its own playground. So first graders, for example, are never thrown with the bigger, more boisterous, children. And the sixth graders never have the small ones underfoot.

"Each unit is surrounded by a glass-walled corridor, six feet wide, connected to the next unit at a corner. At mealtime, and for assemblies, each group of pupils files through the corridors into the dual-purpose auditorium-cafeteria. There are no crosscurrents of traffic, no congestion.

"The school was designed for an enrollment of 720. We already have 800, and the plan still works. If our enrollment grows any more, we'll expand by adding more classroom units—with this layout it will be easy enough to do, and we have 20 acres.

"If you want to know about the practical workings of the building, I suggest you talk to our Principal, Mr. Northup."





L. W. NORTHUP  
*Principal*

"After 34 years as a teacher, I was frankly dubious about the design of the school. I thought the children would be distracted by people walking through those glass-walled halls. But the teachers tell me that the children adjusted rapidly. They now pay no attention to corridor activity.

"I was also concerned for their comfort, but the halls are like double-glazing with a 6-foot air space. And the baseboard heating is marvelous. One day last winter it was 8° above zero outdoors and a high wind was blowing, yet it was 71° in the corridors and 73° in the classrooms.

"The units are comfortable in warm weather, too. The roof of the corridor functions as an overhang to keep the hot sun rays out of the classrooms. And both classrooms and corridors have windows that open, so each room has cross-ventilation. On still days, we can turn on the heating system blowers.

"But why not get a teacher's reaction to our school. I'd suggest you talk to Mrs. Geeting."

Daylight walled corridors of L·O·F Glass surround each building unit, and are interconnected, unit to unit.



Daylight floods each classroom from two sides. The children are comfortable, year 'round, insulated by the corridors which surround them.



MRS. MARY C. GEETING  
*Sixth-Grade Teacher*



"It's like being released from prison. I taught in the same room at the old school for 26 years. It was dark and dingy—and often cold. The children were hard to organize, and discipline was a problem.

"Here, the daylight surrounds us and you feel almost like you're outdoors. The children never complain that they can't see, and I haven't had a single complaint about headaches. I feel less tired, myself, at the end of the day.



"We call the *corridor* our 'sun porch'. And it makes it so easy to get outside at recess. It's also a sort of *mud room* where snow and dirt is stomped off—so it doesn't get tracked into the classroom.

"Of course, you've noticed our old-fashioned desks. But that's only temporary. We've been promised new equipment when delayed funds become available. De-

spite the old desks, children take a lot of pride in their own particular units. They even wash their own classroom windows and boast that 'our windows are cleaner than yours'.

"To sum it all up, you have my permission to say—for all the teachers and all the kids—we wouldn't trade our new school for any other, anywhere."

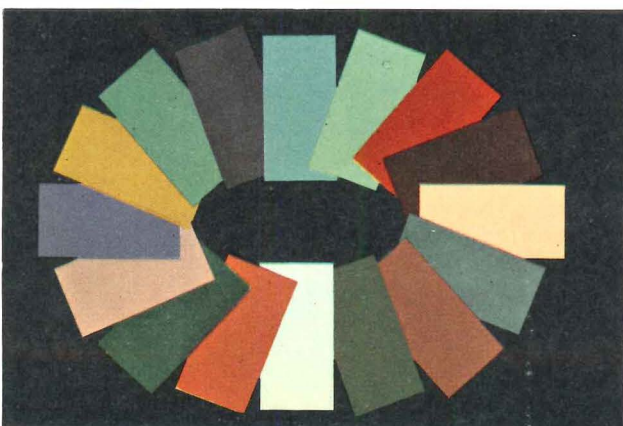
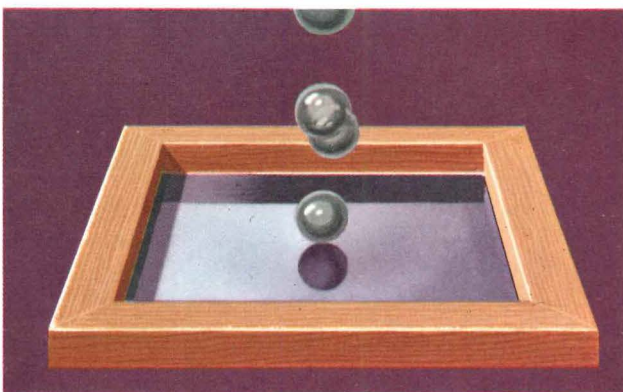
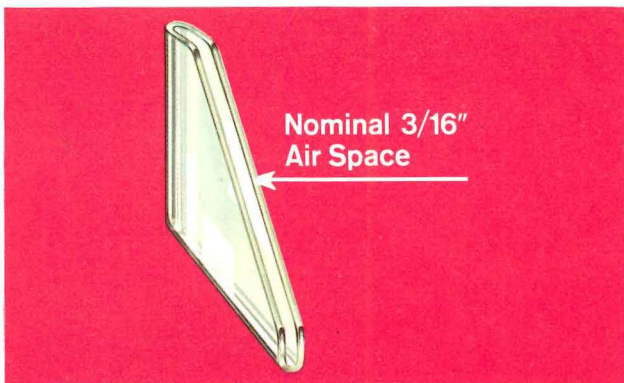
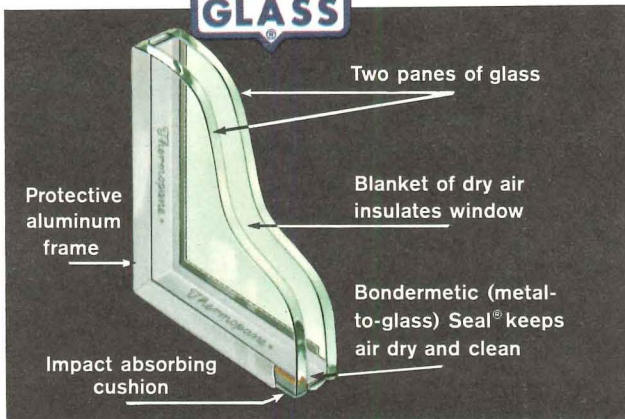


a Great Name in

*Glass*

LIBBEY • OWENS • FORD GLASS CO.

TOLEDO 3, OHIO



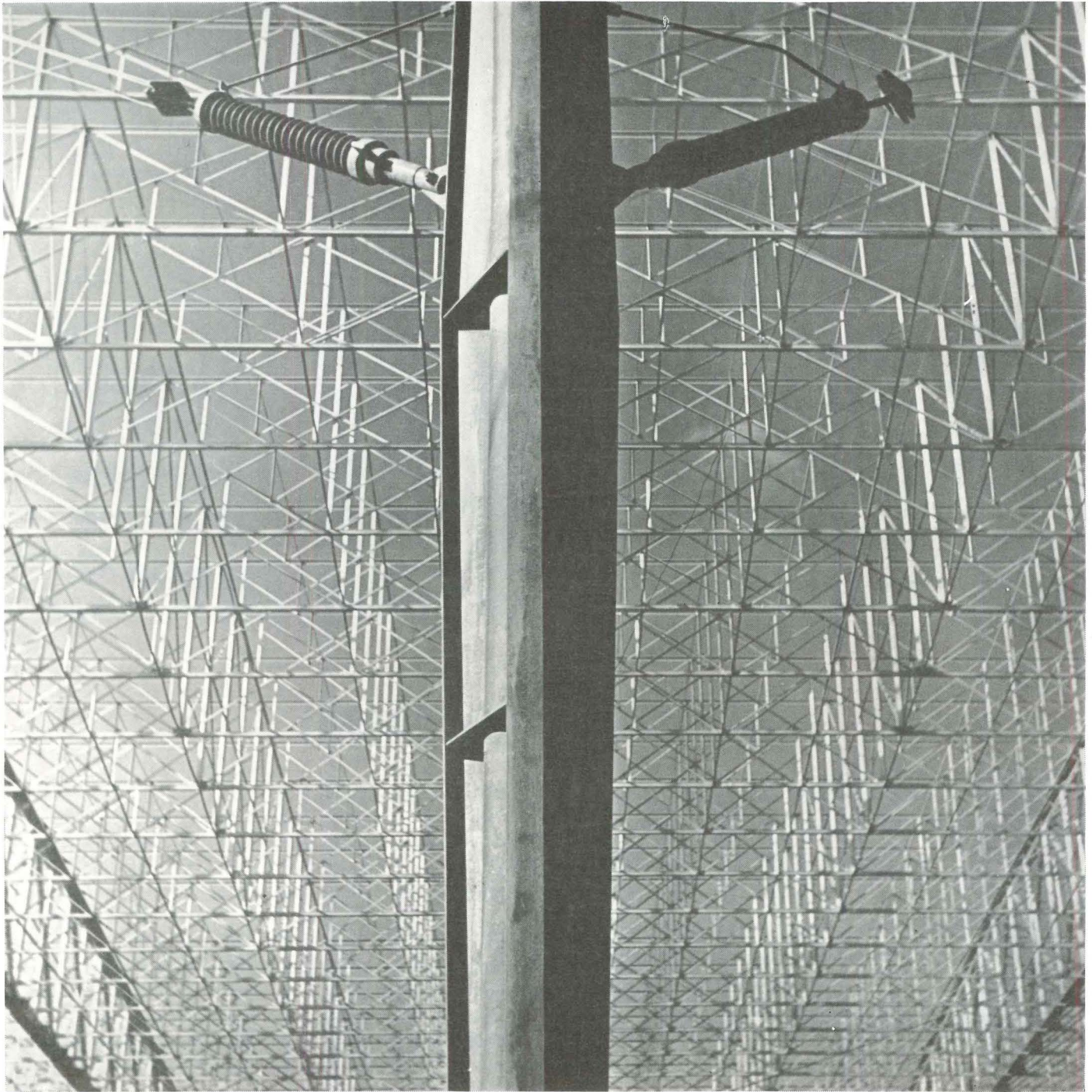
**THERMOPANE®** *Thermopane* insulating glass puts two panes of glass and a sealed-in blanket of dry, clean air between the children and the outdoors. Drafts are reduced so rooms are more comfortable, especially for children sitting close to windows. *Thermopane* even deadens outside noises. And the heat lost through single panes is cut almost in half. Recommended for all windows where its insulating properties would result in substantial savings in winter.

*Thermopane* is now available in two new, improved types: *Bondermetic Thermopane* (left, above) with the famous metal-to-glass seal now has its edges protected with an aluminum frame. *GlasSeal® Thermopane* (left, below) sets new quality standards for all-glass insulating units. Made of DSA sheet glass, its uniformly rounded, smooth edges make glazing easier and faster. Ideal for both wood and metal sash.

**TUF-FLEX®** Here you see a half-pound ( $1\frac{3}{8}$ " diameter) steel ball, dropped from a height of ten feet, bouncing harmlessly off  $\frac{1}{4}$ " thick *Tuf-flex* heat-strengthened glass. *Tuf-flex* is 3 to 5 times stronger than regular plate glass of the same thickness. If maximum resistance is reached, *Tuf-flex* disintegrates into relatively harmless, rock-salt size particles. Recommended for gymnasiums, entrance doors and side lights, areas facing playgrounds . . . any area where youngsters and missiles are in rapid motion.

**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 school. Natural resistance to weathering, crazing and checking. Standard maximum size of *Vitrolux* panels is 48" x 84". Special orders up to 60" x 84". Thickness:  $\frac{1}{4}$ " plus  $\frac{1}{64}$ " minus  $\frac{1}{32}$ ". Sixteen standard colors plus black and white. Also in nonstandard colors subject to manufacturing limitations.





## **REYNOLDS AWARD WINNERS ANNOUNCED**





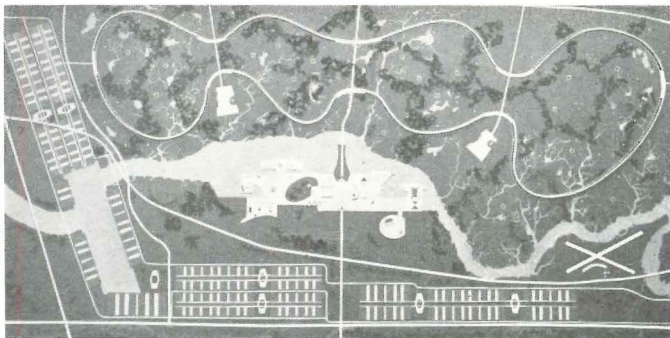
## p/a news survey

Second Annual R. S. Reynolds Memorial Award will go to six Belgian architects for their design of the Brussels World's Fair Transportation Pavilion—an open-air structure housing Belgian transportation industries exhibits under an immense free-span roof, measuring 644'x227'. The Reynolds Award, administered by AIA, is made for outstanding use of aluminum, esthetically and structurally, in modern architecture. Commenting on the Pavilion, Jury Chairman Arthur Loomis Harmon reports: "It makes a significant contribution to the use of aluminum—esthetically because of its total conception, and structurally because of its total dependence on aluminum as chief construction material." One of the unique features of the design is the use of specially constructed springs and cables which brace the aluminum trusses against wind pressure (drawing acrosspage). The roof and ceiling, made of corrugated aluminum, shield 19 aluminum, latticed trusses supported by graceful columns. Winning architects are: T. Hoet-Segers, Mme. F. Hoet-Segers, H. Montoies, R. Courtois, J. Goossens-Bara, and R. Moens de Hase—all of Brussels. In addition to a \$25,000 honorarium, a sculptured emblem design by José de Rivera (acrosspage) will be presented to these architects. Besides Chairman Harmon, other Jurors were: J. Roy Carroll, Jr.; Richard M. Bennett; Richard J. Neutra; and Pier Luigi Nervi, Italian engineer.

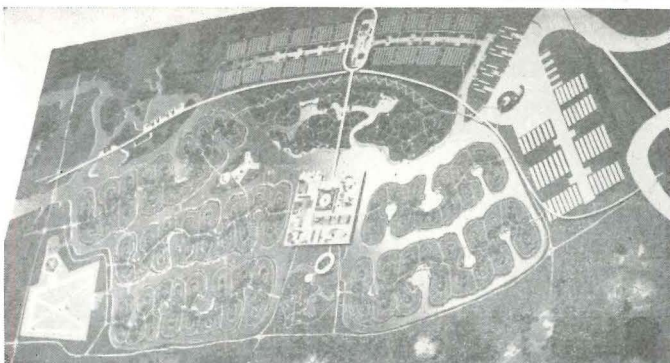
Sergius & Dietena



## PRATT STUDIES JERSEY MEADOWS

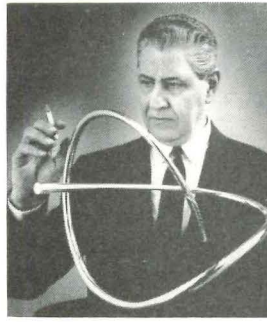
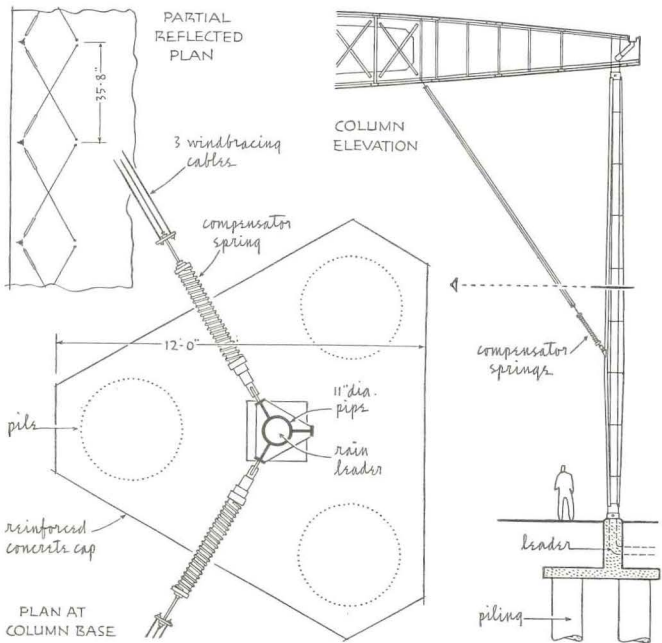
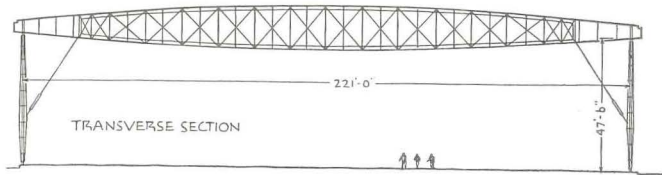


Photos: Tod Fujihira



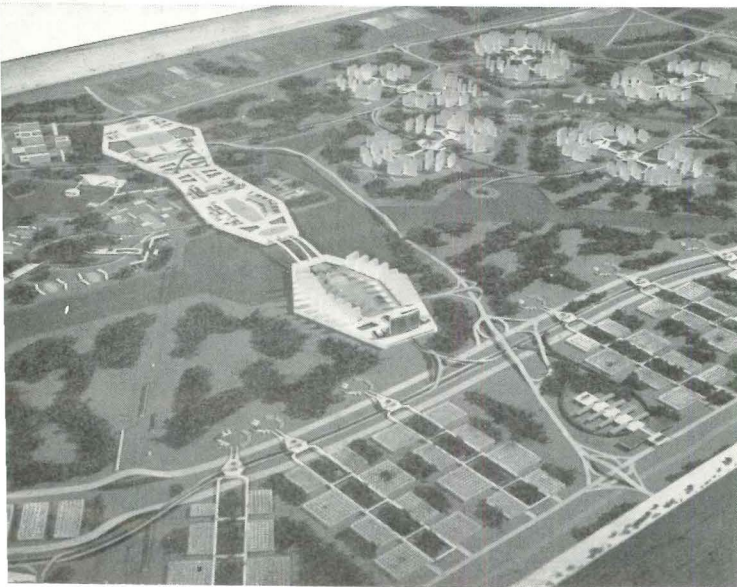
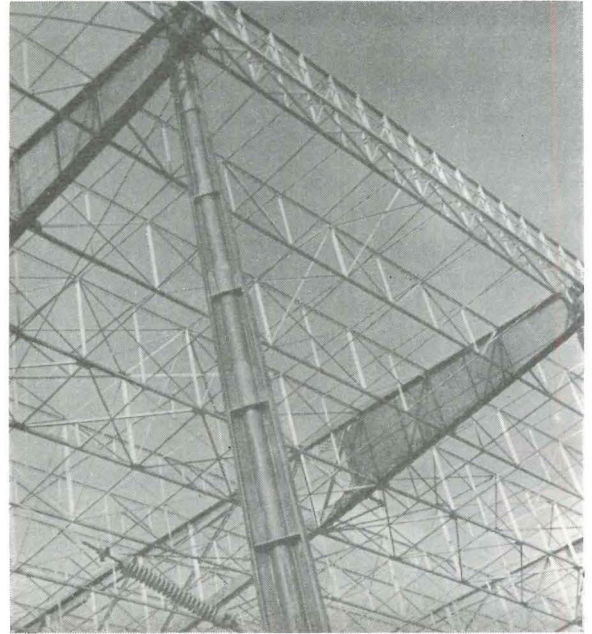
A senior student problem held at Pratt Institute's School of Architecture suggests solutions to a long-time New York headache—the swampy flats that lie across the Hudson River in New Jersey in the center of the urban region. Conducted by Paul Nelson, architect of St. Lo Hospital (October 1957 P/A), who came home from France last year for a Graham Foundation Fellowship, and with Dean Olindo Grossi's advice, the project resulted in six student solutions which have attracted serious attention. Basic planning problems were: land reclamation; construction on unstable soil; internal transportation linking to existing highways and railroads. The program called for 22,000 acres to be reclaimed: 5,000 as industrial development, 15,000 as residential sector for 600,000 people, and the rest as usable waterways. Solutions included small, island-like neighborhoods, largely of single-family housing, reached by water transportation (below left); larger islands with circle-cluster housing groups tied together by an ingenious individual-car rail system (above acrosspage); finger-like neighborhoods connected by a spinal road, leaving most land for recreation (below acrosspage). The "First Prize" scheme (above left) proposed a single 16-mile long ribbon of flexible-use apartment spaces, suspended from towers at 200-foot intervals, and indicated maximum development of the land as highly used park. Nelson believes that this is "design for tomorrow" in use of technology, plans for leisure, and relation of individual to work, play, culture.





Lionel Freedman

José de Rivera (left) with sculptured emblem—shaped from  $\frac{3}{4}$ " aluminum rod—he was commissioned to execute for 1958 R. S. Reynolds Memorial Award.



## VANISHING LANDMARKS

As America's historic architecture disappears in the wild surge of speculative building and urban redevelopment attempts, the criteria for buildings to be preserved—and how to preserve them—become increasingly pressing problems. At a recent New York Preservation Forum held at The Museum of The City of New York (one of a series being conducted this spring in various cities by National Trust for Historic Preservation, in co-operation with local sponsors) the several aspects of the problem were aired: standards of selection ("Criteria for Evaluating Historic Sites and Buildings," by National Trust speakers); the touchy matter of choice in categories less safe-and-sure than comfortable Colonial or Classic ("Preservation of Buildings Later Than Mid-19th Century," by Carroll L. V. Meeks, Yale architectural and art historian); methods of physical preservation ("Restoration and Standards of Research," by Gerald R. W. Watland, architectural consultant to National Trust); and publicity and promotion for the cause of preservation, discussed by Barbara Snow, managing editor of *Antiques*, and John M. Patterson, New York.

In a keynote talk, "Reconciliation vs. Restoration," Pres. Richard H. Howland of National Trust tactfully questioned the mania for "correct" restoration by which authentically interesting additions are stripped from a building, along with flavor and color of its history. His important rule-of-thumb: it is better to repair than to preserve, to preserve than to restore, to restore than to reconstruct.



## p/a news bulletins

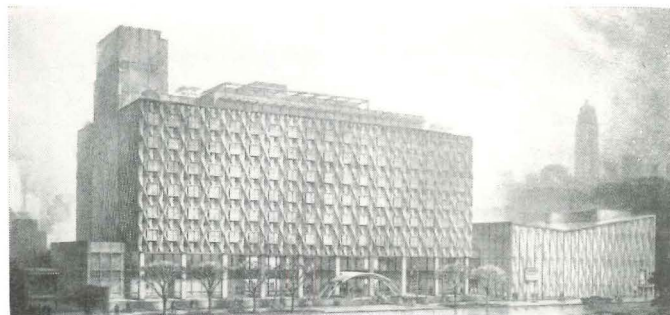
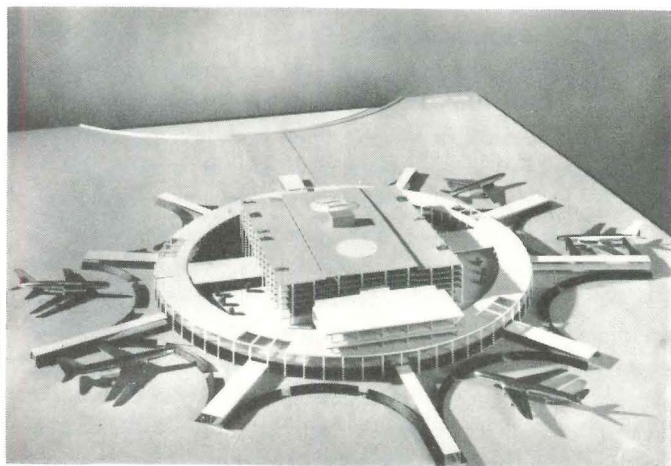
- Winner of a Guggenheim Award for study of structural and design advances of architecture in United States is Ada Louise Huxtable, architectural historian and author. Award was based on research and writing resulting in P/A's series, "Progressive Architecture in America."

- Eight successful competitors in preliminary judging of Toronto City Hall Competition include four American firms and representatives from Australia, Finland, Canada, Denmark. The following will present their finished designs for final judging in Sept. 1958: I. M. Pei & Associates, New York, N. Y.; Frank Mikutowski, South St. Paul, Minn.; William B. Hayward, Ann Arbor, Mich.; Perkins & Will, White Plains, N. Y.; David E. Horne, Toronto, Canada; Viljo, Rewell, Helsinki, Finland; John H. Andrews (Australia), Cambridge, Mass.; Halldor Gunnlogsson & Jorn Nielsen, Copenhagen, Denmark.

- "Modern Church Art and Architecture" tour of Europe will be conducted by Mural Painter Carol Safer in late August and early Sept. For details, contact: Paul F. Damaz, c/o World Travel Plan Corp., 150 E. 50th St., New York 22, N. Y.

- U. S. Department of Labor recently announced that construction activity for first four months of 1958 was up 2%.

- Plans for Toronto, Canada, new multi-million dollar airport have recently been released. Surrounding a central administration building and control tower will be several "aeroquays" (below)—circular structures reached by underground subways from main terminal building—to be used for collection of tickets, dining, and actual embarking to planes parked around the periphery. Special sound baffles and soundproofing will cut sound and make area particularly adaptable to jet transportation. John B. Parkin Associates were Architects-Engineers for the project, initiated by Dept. of Transport of Canada. Two "aeroquays" are scheduled for original construction; others will be added.



- New building (above) for Fashion Institute of Technology, New York, is now being constructed in the heart of New York's famed garment district. Two-year community college will be erected under auspices of state and city governments in collaboration with Educational Foundation for the Apparel Industry, presided over by Sidney Blauner. Designed by Architects deYoung, Moscovitz & Rosenberg, nine-story structure will be constructed of steel and concrete, featuring 12'x12' panels of brown and gold aluminum. Unit will accommodate 1,250 day students with additional facilities for 3,000 part-time students, and will include 35 classrooms, 40 laboratories, auditorium, gymnasium, library, seminar rooms, exhibition area. Occupancy is scheduled for Fall, 1958.

- International Federation of Landscape Architects has selected Sidney N. Shurcliff, Boston Landscape Planner, to succeed Belgian Landscape Architect René Pechère, as President of the organization.

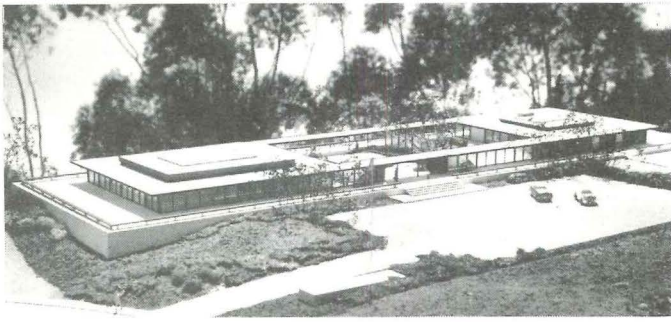
- Mies van der Rohe will be awarded medal of honor by New York Chapter of American Institute of Architects, June 4, for his contribution to the field both as a teacher and designer, announces Robert W. Cutler, Chapter President. . . . Brunner Memorial Prize in Architecture given by National Institute of Arts and Letters has been presented to Paul Rudolph, Chairman of Dept. of Architecture, Yale University, New Haven, Conn.

- William B. Tabler, hotel architect (September 1957 P/A), recently was recipient of Horatio Alger Award, voted by Association of American Schools and Colleges to deserving men of prominence who started from humble beginnings.

- Twenty-ninth Biennale Art Exhibition in Venice, Italy, June 14-Oct. 19, will contain group of American paintings by Mark Rothko and Mark Tobey, sculpture by David Smith and Seymour Lipton, sent under sponsorship of International Council, Museum of Modern Art, New York. U. S. Pavilion is only one which is privately owned—all other exhibition plazas are supported by governments which traditionally exhibit in the festival.

- Commission for design of Gallery of Modern Art, to be erected on Columbus Circle, New York, has been awarded to Architect Edward D. Stone. Ten-story building will house collection of Mr. and Mrs. Huntington Hartford, plus other contemporary exhibitions. Hanford Yang will be project manager for the structure. Museum will cover complete block, and will rise without setbacks from the normal street level.





- U. S. Consulate, Niagara Falls, Canada (above), was designed by Thornton Ladd & Associates, Architects, Los Angeles, Calif. Newest foreign consulate, Canadian structure comprises pavilionlike office building and residence. Landscaped gardens give continuity to plan. Alternate steel columns and panels of clear and translucent glass are outstanding characteristics of rectangular buildings which are surmounted by one roofed portico. Use of white, black, burnt apricot accents setting opposite the American Falls and Queen Victoria Park.

- Winners of the seventh annual Competition for Better School Design, sponsored by The School Executive, have been announced. Top awards were given to: Caudill & Rowlett & Scott; Desmond & Davis; Hellmuth, Obata & Kassabaum, Inc.; William B. Ittner, Inc.; Vincent G. Kling; Eberle M. Smith Associates, Inc.; Smith & Sellew, by jury consisting of John W. McLeod, Washington, D. C., John C. B. Moore, New York, N. Y., Linn Smith, Birmingham, Mich., John H. Herrick, Columbus, Ohio, Grant Venn, Corning, N. Y.

- The Solar House, created by Peter R. Lee in firm of Robert L. Bliss, Minneapolis, Minn., and winner of 1957 International Architectural Competition sponsored by Association for Applied Solar Energy, has been completed on site near Phoenix, Ariz. House is first in U. S. to receive all heat, domestic hot water, water for heated swimming pool from

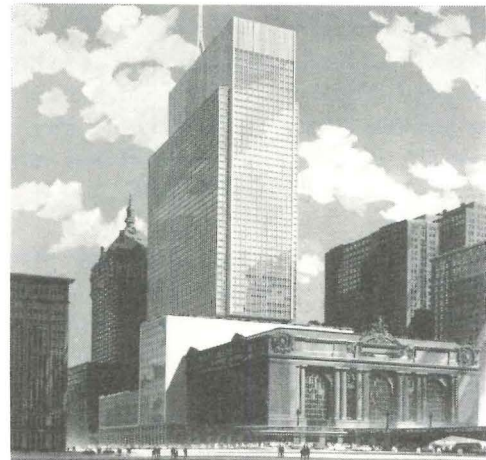


sun energy. Collector panels on roof are turned toward sun each day and rotated at night and during summer to act as shading devices when necessary. Water circulated through copper tubes is heated and stored for future supply. Two standard air-to-air heat pumps transmit warmth to house as needed. Plan includes two distinct sections separated by central court and connected by glass walkway.

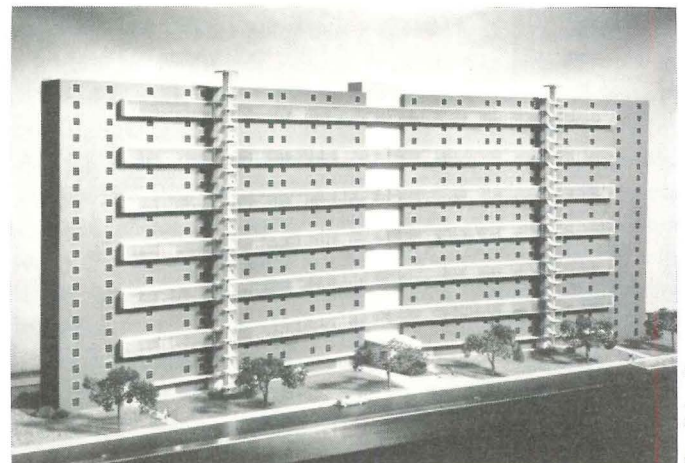
- John Wellborn Root, of Chicago, defeated in election for AIA President in 1954, has been named recipient of Institute's 1958 Gold Medal. Non-Gold Medalists still include Mies van der Rohe, Walter Gropius, Richard Neutra.

- Ammann & Whitney, Consulting Engineers, have been awarded contract by Civil Aeronautics Administration for planning, design, supervision of new Washington International Airport to be built at Chantilly, Va. Eero Saarinen & Associates, Bloomfield Hills, Mich., Ellery Husted, Washington, D. C., Burns & McDonnell, Kansas City, Kans., will be associated with Ammann & Whitney on the project. Complete airport, with terminal building, control tower, service buildings, will be included in final construction plans.

- World's largest commercial office building will rise adjacent to Grand Central Terminal, New York, sometime in 1961. Designers Emery Roth & Sons have planned 50-story building with interior floor space of more than 3-millions sq ft. "Grand Central City" (below) will have aluminum-and-glass exterior. Building, to cost \$100 millions, will contain theaters, open-air restaurant, parking facilities.



- Latest in design of public housing project is shown in proposed Borgia Butler Houses, to be erected in Bronx, N. Y. Architects Joseph & Vladeck have planned unconventional structures featuring long, narrow buildings (below) with skip-floor exterior elevators to deliver passengers to galleries running along facade. Five 20-story buildings will house 1160 families, while one 21-story structure for elderly residents will be constructed with conventional interior halls and elevators. Main buildings will be 400 ft long, 30 ft wide. Design allows stacking of apartments, eliminating much wasted interior space, and thus allowing a great savings in cost. Construction is scheduled to begin in 1959.



Ben Schnall



## Washington report

by Frederick Gutheim



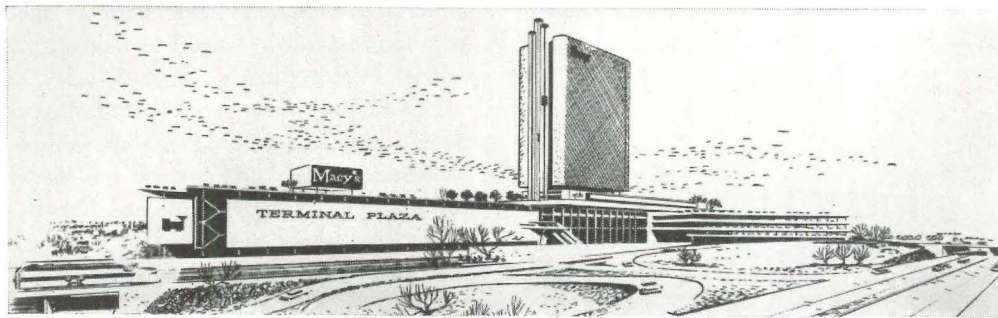
Prospects for any substantial employment of public works as a recession remedy continue dim. Washington still expects the economy to straighten itself out without major correctives. Unemployment relief and tax cuts are the favored methods, if anything is to be done. They are quick and hit the spot. Any efforts to speed up Federal aid to school building, housing, public works, rivers and harbors construction, and even highways, have been greeted with something less than enthusiasm. Indeed, the argument has been running, if we are to do anything to provide relief we ought to economize on such capital outlays. That this is crooked thinking, which confuses long-term and short-term expenditures, and assumes that the nation's basic need for capital equipment can be postponed indefinitely, goes without saying. But few people in or before Congress, and few even in the building industry have been heard saying it. This would be a perfect time to revive the Ruml plan for a Federal capital budget.

- Most architects who have seen the Lincoln Memorial will need little explanation why some of the most enduring values of this great monument will be jeopardized if it is set in the spaghetti of a typical modern traffic approach to a new Constitution Avenue bridge. The bridge has been authorized by Congress, and only the fact that it is now

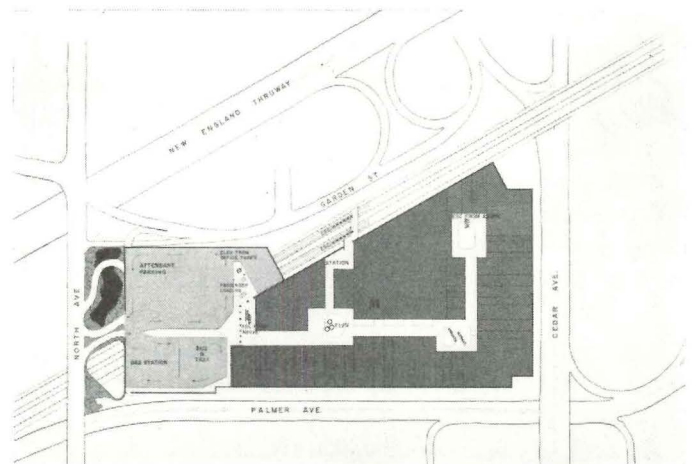
being reconsidered by a measure that has passed the Senate and is still bottled up in a House Committee keeps the District of Columbia government from proceeding with its construction. This legislation deserves more support than it has received. But the *Washington Star*, in a recent editorial comment, has pointed to the real difficulty—the neighboring, shabby, temporary office buildings, a heritage of improvisations in both the World Wars. Some of these are on their way down. Those housing Central Intelligence Agency elements, for example, will go when the Agency moves to its new building in Fairfax County. Their removal will measurably restore the proper character of the memorial area. With this reduction in central area employment, today artificially congested beyond anything planned for, and with the construction of outer circumferential highways and the two Potomac bridges designed to serve them, these improvements will remove the need for any bridge in the vicinity of the Lincoln Memorial. To plan highway improvements of such destructive impact on the basis of this transitory need is a costly piece of folly, justifiable only by those whose thinking has been narrowed and foreshortened by their daily experience in bridge-traffic jams.

- The Senate has been flirting with a House-approved proposal that would halt the systematic removal of the wartime temporary buildings that clutter the city's parklands, notably the Mall, and are major contributors to traffic and other forms of congestion. The main reason advanced for getting rid of the tempos is their higher maintenance cost. New information on this has just been produced by the General Services Administration to show that the typical cement-asbestos-on-studs tempo costs 88 cents

## UNIQUE URBAN SHOPPING CENTER SCHEDULED



The nation's first downtown shopping center, to be built in New Rochelle, New York, across the tracks of the New Haven Railroad, will consist of 25 levels and include 70 retail establishments (one of them, Macy's Department Store), 100-room hotel, railroad station, bus terminal, 15-story office building, and 6 parking levels that will accommodate 5200 cars. Designed by Victor Gruen Associates, the \$41-millions "Westchester Terminal Plaza" is being developed by Richard and Lawrence Zirinsky. The three lowest levels are parking decks; above these are two levels of stores and concessions (with service mezzanine between), topped by three more parking levels. Gruen calls this new-type of skyscraper center a "conceptual guide" for urban areas seeking to eliminate downtown deterioration.





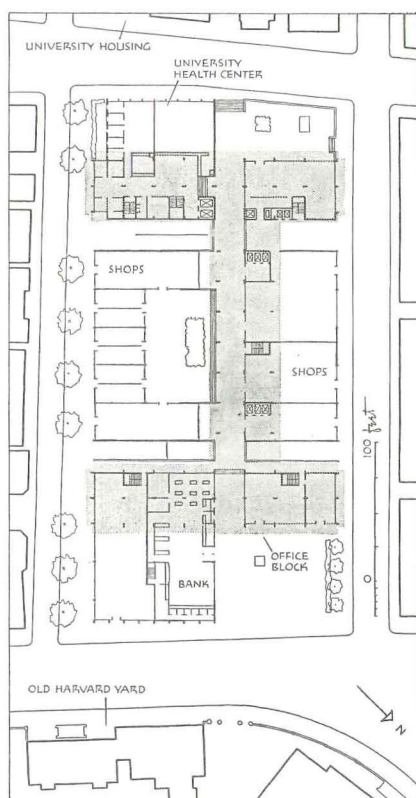
per net square foot to maintain yearly. This contrasts with 58 cents in the General Accounting Office building, a structure considered typical of buildings that would replace the tempos. But far more significant is the waste in terms of operating efficiency to the Government agencies occupying such substandard space. The State Department, whose various units were in 32 separate buildings, figured that it lost more than half a million dollars a year in the productive time of employees who had to travel between buildings. Scattered operations require the maintenance of separate stock rooms, duplicating shops, libraries, communications facilities, and other housekeeping services. In Washington's sweltering summers, employees in non-air-conditioned tempos are usually allowed to go home early—a practice that may be humanitarian but which costs millions in lost working time. Tempos with individual air-conditioning units turn in fantastic operating costs, but the gains in working efficiency make it worthwhile. These factors complicate personnel hiring for agencies located in temporary buildings. They compromise the prestige of Government regulatory agencies and others with a public patronage, who frequently look upon shabby, temporary surroundings as indications of bureaucratic status. The Civil Aeronautics Board has publicly complained about the conditions in which it is obliged to receive visiting delegations from all over the country. All of this has repeatedly been pointed out, and a well conceived continuing program for the replacement of temporary buildings with permanent offices was authorized by Congress several years ago. But this now looks like one of those reforms that can be postponed.

- One Government agency with a new building is the

International Monetary Fund. This 13-story office building, designed by A. R. Clas, is a matter-of-fact commercial building that joins a similar older building of the World Bank. From any point of view this should have been an important monumental building, comparable to the United Nations as a landmark of international co-operation, but its location and design have utterly negated such a contribution. In fact, one gets the uncomfortable feeling that the World Bank and Monetary Fund as institutions could dry up and blow away tomorrow, and their buildings would readily be filled with insurance agents, travel agents, brokers, factors, sales representatives, and the generality of people who occupy office buildings. In fact, of course, this is the place where 66 nations of the world (aside from the USSR and its satellites) send their top central banking men to learn their jobs. It should have had the valeur of a Pan American Union or a Federal Reserve Bank, but it does not. It is hard to feel that things are going well with our architecture when it misses the boat as it does here. Having made this point, I hope I will be excused from further description of this standard, self-contained office building.

- The White House staff has got the crying towel out and is trying to enlist public sympathy with its overcrowded conditions. These, of course, are supposed to justify the demolition of the Old State Department Building, west of the White House, now occupied by the Executive Office of the President, and the block immediately north facing Lafayette Square. Plans offered for these two sites have been hooted at by architectural preservationists who regard this issue as only a little less important than that of the Capitol East Front.

## COMBINED-USE CENTER PROPOSED FOR HARVARD



This full-block development, which, by means of planted side areas and a central covered arcade, would link Harvard Yard and the University's residential houses to the southwest, depends for its realization on gifts that Harvard is currently seeking. Designed by José Luis Sert, Dean of the Harvard School of Design, facilities include health services (emergency ward, medical and surgical facilities, and infirmaries) for both Harvard and Radcliffe College; a bank; restaurant; 18 stores, and 168,000 sq ft of office space to house University administrative and faculty offices, as well as some rental space.

Model photo: Robert D. Harveu Studio





by William Hurd Hillyer



In Dixieland a small beetle known as the "doodle-bug" affords youngsters much amusement. The fun consists in putting one's lips close to the bug's crater-like sand hole and coaxingly repeating, "Doodle up!" When the insect emerges and starts to climb out of his depression, the command is uttered, "Doodle down!" In like manner our statesmen and statisticians are apparently playing games with the nation's economy—adjuring it by turns to come up and to go down. Only a few months back, fears that the boom-bug had advanced too far caused a retreat to be sounded. Today the cry is "Doodle up!" but at this writing the coy arthropod has not yet obeyed the summons.

As mid-'58 approaches, the prophesied date of the depression's leveling off recedes. The first quarter has buried a multitude of hopes and the second quarter is reaching for another mortuary spadeful. March and April were successively set for the desired turn; the accent is now on a prosperous Thanksgiving. To the architect, accustomed as he is to consistent planning, such instability is repugnant. Perhaps an orderly marshalling of facts may yield a more rewarding perspective.

Contravening the forecasts of many meliorists, who look for a quick and easy recovery, the current depression has followed and still adheres to a cyclical pattern. Judging by previous readjustments, this pattern has passed through the primary stages of tight money, high interest rates, drastic stock-market downslide, and is well settled in the median stage of easy money and low interest. This period heralds a flock of disappointing profit reports from industrial concerns, both large and small. As witness to this is the 35% decline in earnings of some 500 reporting companies for the first three months of '58 when compared with '57's like period. Figures such as these provide a contrast between the current situation and the readjustment of 1954, when the deepest quarterly drop was only 13%. The necessity arises of using the early 1930's as a yardstick. Today's developments unfold in similar order but more speedily and less deeply than in the earlier depression. This phenomenon—which should please the optimist—is strikingly depicted, insofar as unemployment is concerned, on a graph prepared by the nation's largest brokerage firm. It shows that the unemployment pool is still only a fraction of what it was in the Thirties. Furthermore, an improvement (partly seasonal) has already set in, whereas in the earlier doldrums, unemployment kept rising for three years.

First National City Bank of New York notes encouraging "straws in the wind," which include improved influx of orders in appliance, aluminum, apparel, machinery, and nylon-fiber fields, besides "scattered instances" of worker rehiring. However, the bank does not see in these slight betterments a

"bottoming-out" of the depression, but only that "counter-recessionary forces are gathering strength." Fortifying this conclusion is the rebound of machine tool orders for the third month in a row.

- Against all of this, however, it is important for architects and the building industry generally to note that again, as in the Thirties, increased building activity is the factor that is opening the way for a general upsurge. The effect is being felt first in industrial production, in the steel industry, with increased production scheduled at Pittsburgh, Youngstown, and Chicago. Republic Steel is reopening its blast furnace at Troy, N. Y., "because of an upturn in orders."

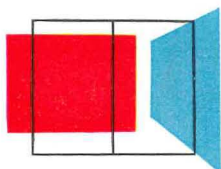
- The volume of bank clearings at 25 centers—that sensitive trade-meter—is down 8.5% from last year on a weekly basis, late reports indicate. Current average decline is 6.6%. Freight-car loadings (another economic barometer) are off 22% from '57, but only 0.2% from the previous week. By contrast, steel-ingot production, which is closely tied in with heavy building, is beginning to make up its 42% drop from 1957 and rose 2.2% on a week-to-week movement. (See preceding paragraph.)

- Real-estate men, particularly in New England, are calling upon all realty and lending interests to urge enactment of pending legislation, which would set up the Federal Home Loan Guarantee Corporation under the jurisdiction of the Federal Home Loan Bank Board. This corporation would encourage mortgage lenders to make "conventional" (non-Governmental) loans up to a high percentage of property value, by insuring the top segment thereof "and thus materially reducing down-payments for approved conventional risks." This legislation is regarded as practical and timely, now that mortgage lenders are again in surplus funds.

- Smaller housing units, well dispersed instead of up-piled in huge projects, are favored by the Federal Public Housing Administration for social and esthetic reasons. The hazard of creating new slums, it is argued, will thereby be diminished. The preferred units are two-family single-story brick-veneer structures with ample windows and yards and are designed to attract middle-income homeseekers. Experimental construction of this kind is proving successful at Cedartown, Georgia. This trend, which may strongly influence the 50,000 Federal public-housing units contemplated for 1958, should prove interesting to architects because it demands harmonious neighborhood design for each dwelling.

- Construction of schools and other public buildings is still finding funds in generous volume via the municipal-bond market. Twenty-four new major issues totaling \$186 millions were offered and well absorbed the first week in May at an average interest yield of less than 3%. This is at the volume rate of around \$10 billions annually. Another nonresidential forelight may be glimpsed in downtown urban areas, which felt the effect of pre-depression exodus to the suburbs. Encouraged by the upsoaring of new office structures, people are again thinking in terms of civic redevelopment, say important bankers in the Midwest. Some leading executives believe that downtown living quarters are also an urban necessity.



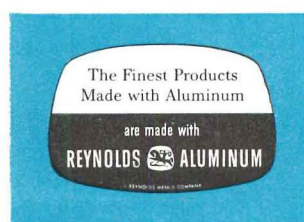


*Composition in Vertical Planes...*

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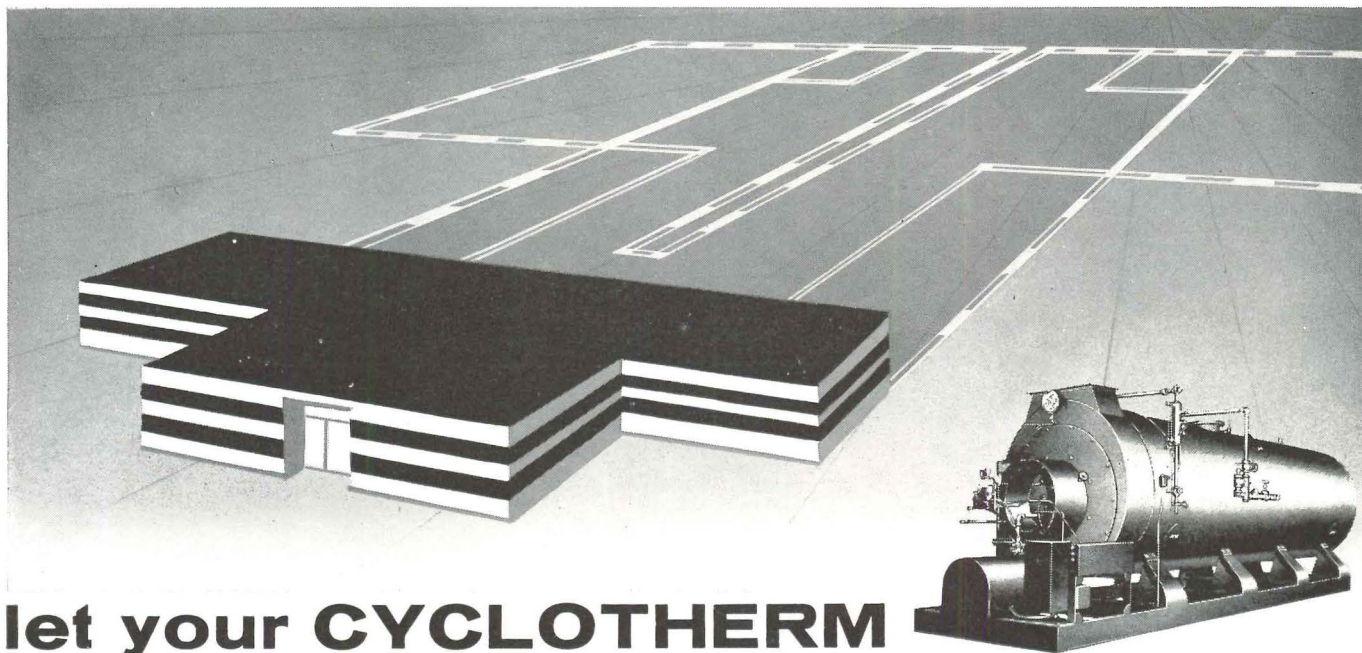
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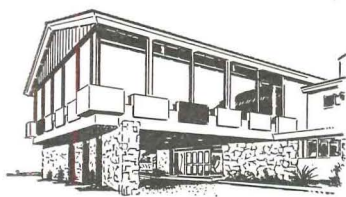
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Almost limitless design potential is opened to the architect who plans with Acousti-Celotex Sound Conditioning products.

Shown at the right is an interesting example in which Celotex Acoustical Materials have been used with outstanding effect

...integrating color- and design-ideas to create an unusually attractive ceiling appearance at a moderate cost yet with high sound absorption and easy maintenance.

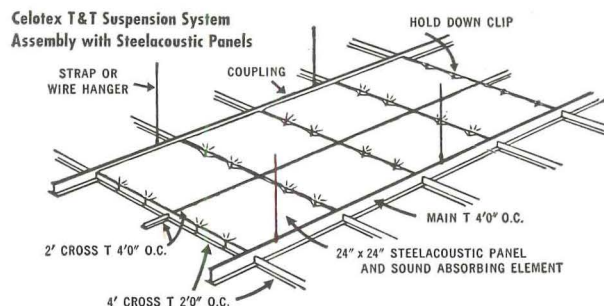
The wide range of Celotex products and installation systems insures unique planning freedom for ceiling design. They integrate with heating and air conditioning equipment, Celotex Acousti-Lux translucent panels or other lighting systems... enhance any design motif.

Your Acousti-Celotex Distributor is a man you should know. He has worked with architects on every type of project. His experience, and the facilities of his trained service organization, are always available. You'll find consultation with him, right from the start, helpful and profitable.

La Jolla Country Club, La Jolla, California, showing ceiling of Acousti-Celotex Stria-Colored Steelacoustic® Panels on a T & T\* Suspension System. Architects: Paderewski, Mitchel and Dean, San Diego. Acousti-Celotex Contractor: Hackett Acoustics and Specialties, Inc., San Diego, Cal.

\*TRADE MARK REG. U. S. PAT. OFF.

**SPECIFICATIONS:** Write for portfolio of specifications, including detail drawings, covering this and other ceiling assemblies and Acousti-Celotex applications.



**ACOUSTI-CELOTEX SOUND CONDITIONING** Products to Meet Every Sound Conditioning Problem... Every Building Code—  
The Celotex Corporation, 120 S. La Salle St., Chicago 3, Ill. • In Canada: Dominion Sound Equipments, Ltd., Montreal, Quebec

**ALABAMA**  
Birmingham 3, ..... Acousti Engineering of Alabama, Inc.  
New Orleans 12, La. .... Acoustics & Specialties Co.

**ARIZONA**  
Phoenix ..... Phoenix Roofing & Supply Co.  
Tucson ..... Garrett Building Specialties

**ARKANSAS**  
Little Rock ..... Acoustics & Specialties Co.  
Memphis 3, Tenn. .... Acoustics & Specialties, Inc.

**CALIFORNIA**  
Bakersfield ..... McNaul Company  
Glendale 4 ..... The Harold E. Shugart Co., Inc.  
Fresno, Oakland 6, Sacramento 14, San Francisco 3,  
San Jose, Stockton ..... Western Asbestos Co.  
San Diego 1 ..... Hackett Acoustics & Specialties, Inc.

**COLORADO**  
Denver 1 ..... Lauren Burt, Inc. of Colorado

**CONNECTICUT**  
West Haven ..... Thermal Acoustics, Inc.

**DELAWARE**  
Baltimore 11, Md. .... The Hampshire Corp.  
Philadelphia 31, Pa. .... Jacobson & Co., Inc.

**DISTRICT OF COLUMBIA**  
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**FLORIDA**  
Jacksonville 4, Tampa 5, Orlando  
Miami 32 ..... Acousti Corporation of Miami, Ltd.

New Orleans 12, La. .... Acoustics & Specialties Co.

**GEORGIA**  
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Chattanooga 4, Tenn. .... Hale & Wallace, Inc.

**IDAHO**  
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Spokane 10, Wash. .... Noise Control of Spokane, Inc.

**ILLINOIS**  
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Peoria ..... R. L. McManus & Co.  
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Pittsfield ..... Acoustical Ceilings, Inc.

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Grand Rapids ..... Leggette-Michaels Co.  
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New Orleans 12, La. .... Acoustics & Specialties Co.

**MISSOURI**  
Kansas City 8, St. Louis 3 ..... Henges Co., Inc.

**MONTANA**  
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**NEBRASKA**  
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Denver 1, Colo. .... Lauren Burt, Inc. of Colorado

**NEVADA**  
Sacramento 14, Calif. .... Western Asbestos Co.  
Salt Lake City 4, Utah ..... Lauren Burt, Inc.



# CELOTEX



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## NEW JERSEY

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## NEW MEXICO

Albuquerque . . . . . R. E. Leggette Co. of New Mexico  
El Paso, Texas . . . . . Southwest Acoustical Co.

## NEW YORK

Albany, Rochester 10, Syracuse 3 . . . . .

. . . . . Collum Acoustical Co., Inc.

Buffalo 2, Jamestown . . . . . Jacobson & Co., Inc.

New York 17 . . . . . Western New York Collum Acoustical Corp.

## NORTH CAROLINA

Charlotte 3 . . . . . Acousti Engineering of Carolinas, Inc.

Norfolk, Va. . . . . The Hampshire Corp.

## NORTH DAKOTA

Minneapolis 15, Minn. . . . . Insulation Sales Co., Inc.

## OHIO

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Cleveland 13, Columbus 8, Akron 4, Pittsburgh 12, Pa. . . . . The George P. Little Co., Inc.

## OKLAHOMA

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Tulsa . . . . . Oklahoma Acoustical & Specialties Co.

## OREGON

Portland 10 . . . . . Noise Control of Oregon, Inc.

## PENNSYLVANIA

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Pittsburgh 12 . . . . . The George P. Little Co., Inc.

Buffalo 2, N. Y. . . . . Western New York Collum Acoustical Corp.

Baltimore 11, Md. . . . . The Hampshire Corp.

## RHODE ISLAND

Providence . . . . . Pitcher & Co., Inc.

## SOUTH CAROLINA

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## SOUTH DAKOTA

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Denver 1, Colo. . . . . Lauren Burt, Inc. of Colo.

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Salt Lake City 4 . . . . . Lauren Burt, Inc.

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Burlington, Rutland . . . . . The Bader Co.

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Richmond 22, Roanoke 2, Norfolk . . . . . The Hampshire Corp.

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Seattle 3 . . . . . Noise Control of Seattle, Inc.

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Charleston . . . . . The Hampshire Corp.

Pittsburgh 12, Pa. . . . . The George P. Little Co., Inc.

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**CHEMISTRY  
IN  
CEMENT**

**VITRO  
GLAZE  
BY  
DESCO**



Typical Vitro-Glaze installation along main concourse of Pershing Memorial Auditorium.

**... Functionally Superior Spray-on Cement-Base Vitreous Wall Surfacing Available in a Complete Range of Color Combinations!**

From the modern field of chemistry in cement comes *Vitro-Glaze* ... by Desco—first perfected product from an exciting industry. Vitro-Glaze is specifically designed to have *the properties you'd want in an ideal surfacing!* Its marble-hard, durable finish is artfully textured to diffuse light and elim-

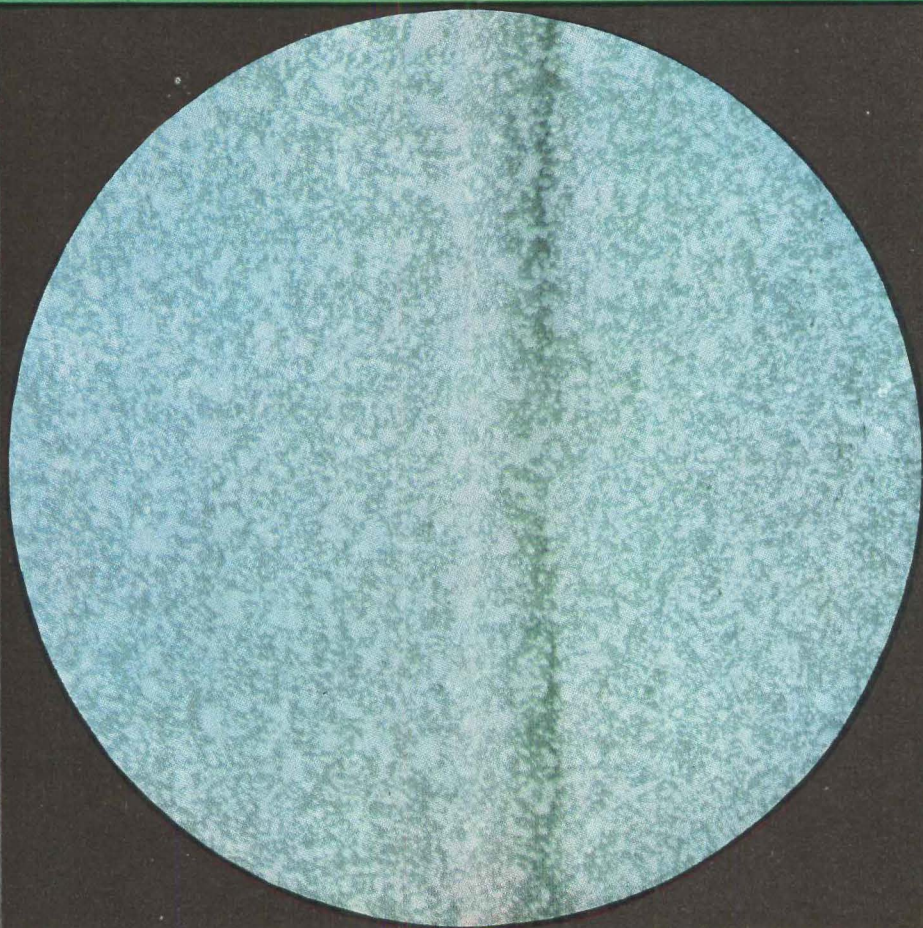
inate glare. Low cost, wide color range and reliable installation methods are added Desco features.

You can achieve perfect harmony in multi-hued, color-diffused effects, and still get the durable protective finish necessary for churches, schools, institutions and similar commercial structures.

Vitro-Glaze is highly resistant to water, acid and alkali fumes, grease and oil-base products ... even repeated steam cleaning. It can be applied to concrete, plaster, block or almost any rigid, structurally-sound masonry surface. Vitro-Glaze bonds *chemically*, becomes an integral part of the wall!



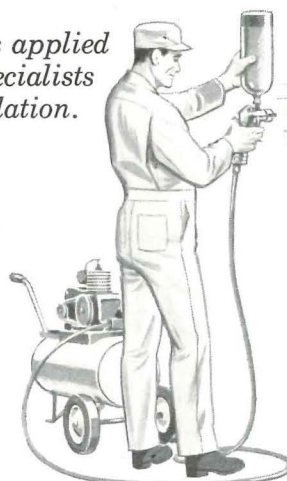
**PERSHING MEMORIAL AUDITORIUM:** Lincoln, Nebraska's new civic center has a main auditorium seating capacity of 8,000 and is equipped for all sports, theatre and group activities. Outstanding features include an exterior mosaic, the largest of its type in the world, completely sound-controlled auditorium, and Desco Vitro-Glaze on main concourse and restroom walls. *Architects:* Associated Auditorium Architects Committee, Steve Cook, Supervising Architect. *Desco Vitro-Glaze Contractor:* Universal Terrazzo and Tile Company, Omaha, Nebraska.



Close-up of Vitro-Glaze finish showing covered mortar joint. Joints were tooled to produce a pattern throughout the concourse. Colors are White, Spotted over Shade Green.

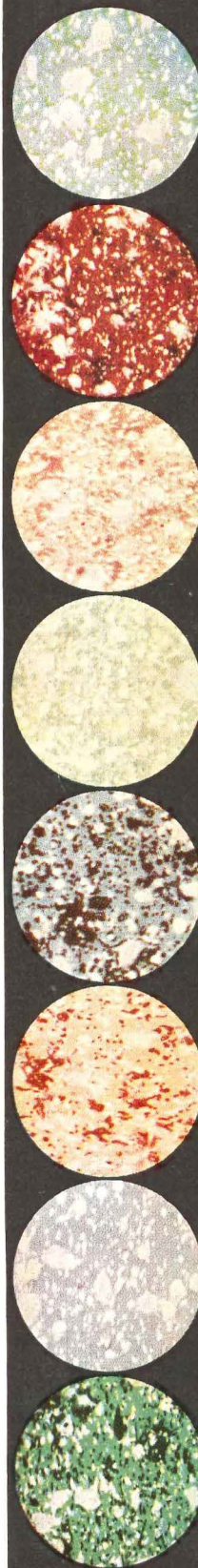
*Desco Vitro-Glaze is applied only by factory-trained and equipped specialists to insure quality installation.*

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VITRO-GLAZE  
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COMBINATIONS**





# Homes of American architects designed with Insulite Roof Deck



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*4-in-1 Roof Deck panels contribute to strength, beauty and comfort of these distinguished open-beam designs*

**H**ere you see some notable examples of happy freedom in home design—because, in each case, the designer was his own client. And isn't it interesting that these six architects, plus so many others throughout the U.S., have designed their own homes with Insulite Roof Deck?

The excellent quality of design in these homes is self-evident. But in addition to that, Insulite Roof Deck adds a 4-in-1 functional advantage: It's decking . . . insulation . . . vapor barrier . . . and prefinished ceiling . . . all in one.

Want technical data, and literature showing the growing use of Insulite Roof Deck in fine homes and commercial buildings? Just write us—Insulite, Minneapolis 2, Minnesota.

Home of Reginald Roberts, A.I.A., San Antonio, Texas



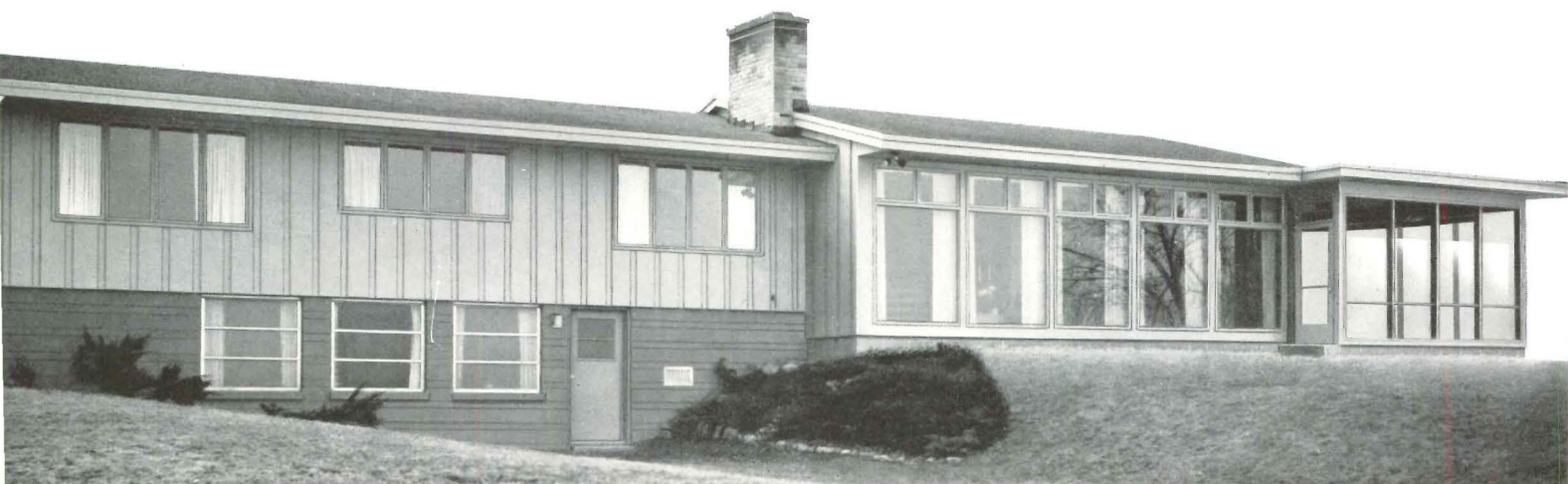




*Home of John Brenneman, Manhattan, Kansas*



*Home of Paul F. Lewis, A.I.A., Overland Park, Kansas*



*Home of Robert Arthur Jones, Canandaigua, New York*

build better with  
**INSULITE®**  
 Roof Deck



Insulite Division, Minnesota and Ontario Paper Company  
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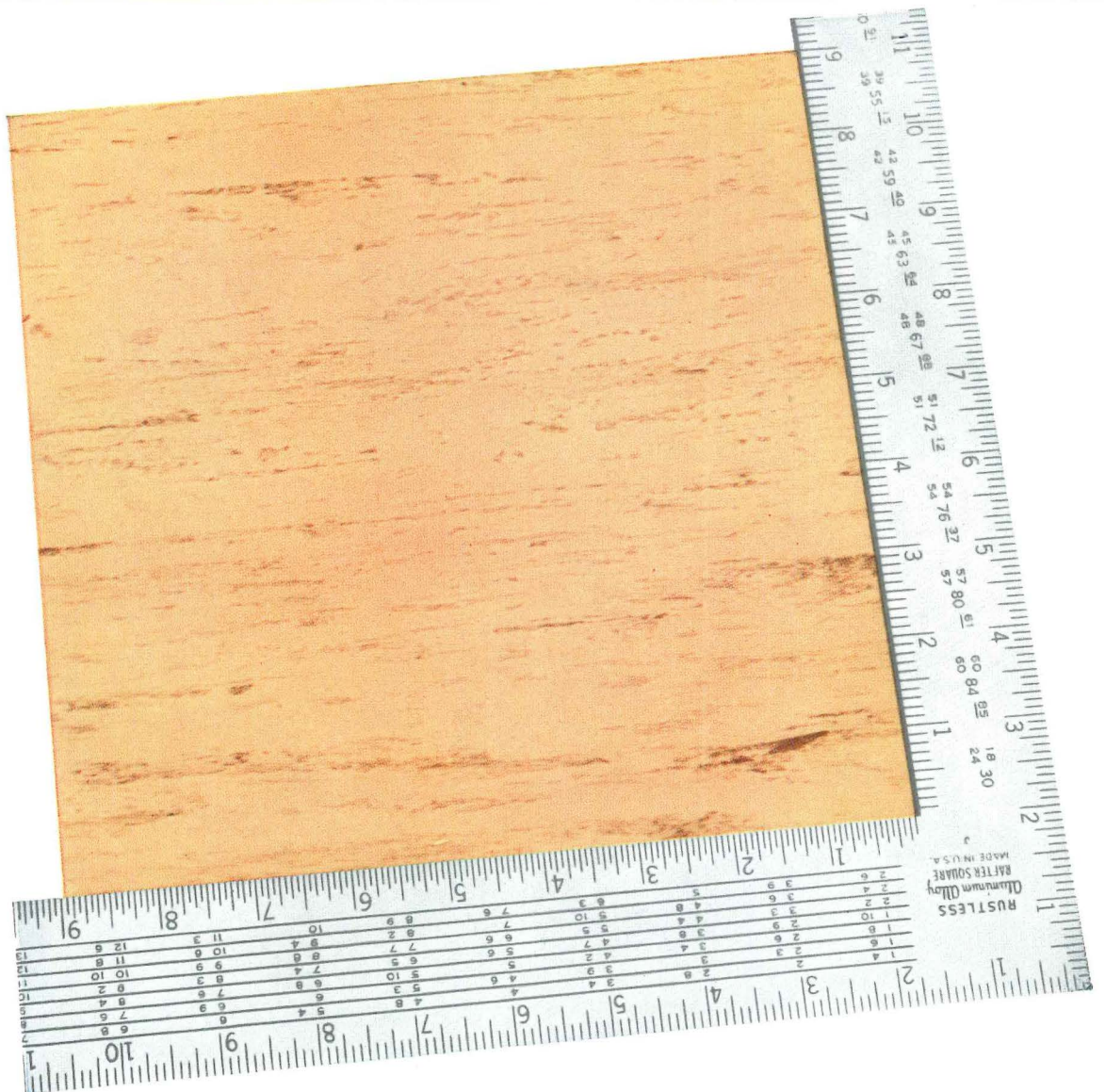


*Home of Richard C. Hafner, Arch. Eng., St. Louis County, Missouri*



# ACCURATE

# SIZING



## *Vina-Lux*® FLOORS WITH *Micromatic Veining*

Changing climatic and temperature conditions won't affect dimensionally-stable Vina-Lux — "Micro-cut" to a new high standard of dimensional precision. Vina-Lux floors continue to give trouble-free service long after ordinary resilient tile must be replaced.

Vina-Lux is a versatile tile that solves many floor problems. It's greaseproof and durable — slip-safe and easy to maintain. Solve *your* floor problems with this outstanding vinyl asbestos tile. Available in 31 colors and 4 styles. Samples are yours without obligation.

*Color shown: V-320, Caliche*



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REINHOLD

#### content and approach

*Dear Editor:* I have very carefully read NOVEMBER 1957 P/A, concerning the subject of MODULAR ASSEMBLY. To say the least, I was more than pleased with not only the content, but also the approach to the subject.

I have been a long-term subscriber to your magazine, and I find it to be one of the most informative in the architectural profession. Your approach to the subject of MODULAR ASSEMBLY has certainly maintained your lead.

Magazines such as PROGRESSIVE ARCHITECTURE have a real responsibility to the architectural profession, not only from the standpoint of current information, but also as a stimulus to the architectural mind. This, I believe to be the true value of communication.

H. H. CHARLES, Director  
Architectural Research & Development  
Reynolds Metals Company  
Richmond, Va.

#### visibility poor

*Dear Editor:* Deepest regrets on 4900 wasted acres in your DECEMBER 1957 P/A. Better it was a swamp. Chloe is lost again in the ego-aeromob.

CHARLES R. COLBERT  
New Orleans, La.

#### for big firms only?

*Dear Editor:* We can certainly agree to the value of planned public relations for architects—for firms large enough to engage such adroit manipulators of public opinion. With more and more clients being public bodies, boards, and corporate groups rather than individuals, such campaigns are undoubtedly effective.

But the writer in OFFICE PRACTICE (JANUARY 1958 P/A) would have us believe that such "snow" jobs are invaluable to the profession as a whole. Is he trying to use those tricks of the "invisible sell" on us, the readers? Possibly he doesn't know that the small, practicing, professional architect is just what he is because he is utterly opposed to the widely held cant that the "biggest is the best"; and that is without exception the theme of these well placed handouts. But then, I don't pretend to speak for any segment of the profession.

If it can be shown to be true that the "big 10" (insert your own number) invariably do better work than the small offices and that they are better for being bigger, then "we're dead, man." Possibly the writer of your article can suggest some implement to carry in my briefcase to counter the large photo of a 175-man staff—all experts and geniuses who will converge on the new project—count 'em. But when that state seal locked in the steel file shrinks down to just the size for a ring, I hope to be in the chicken business. Don't worry, I'll still be subscribing to P/A.

MARC A. GRUENENFELDER  
Kirkwood, Mo.

#### heavy-service floors

*Dear Editor:* Harold Rosen's article "Concrete Floor Finishes" (MARCH 1958 P/A) is a splendid piece of work. In the light of over 35 years' experience in installing concrete floors, I should like to emphasize the following:

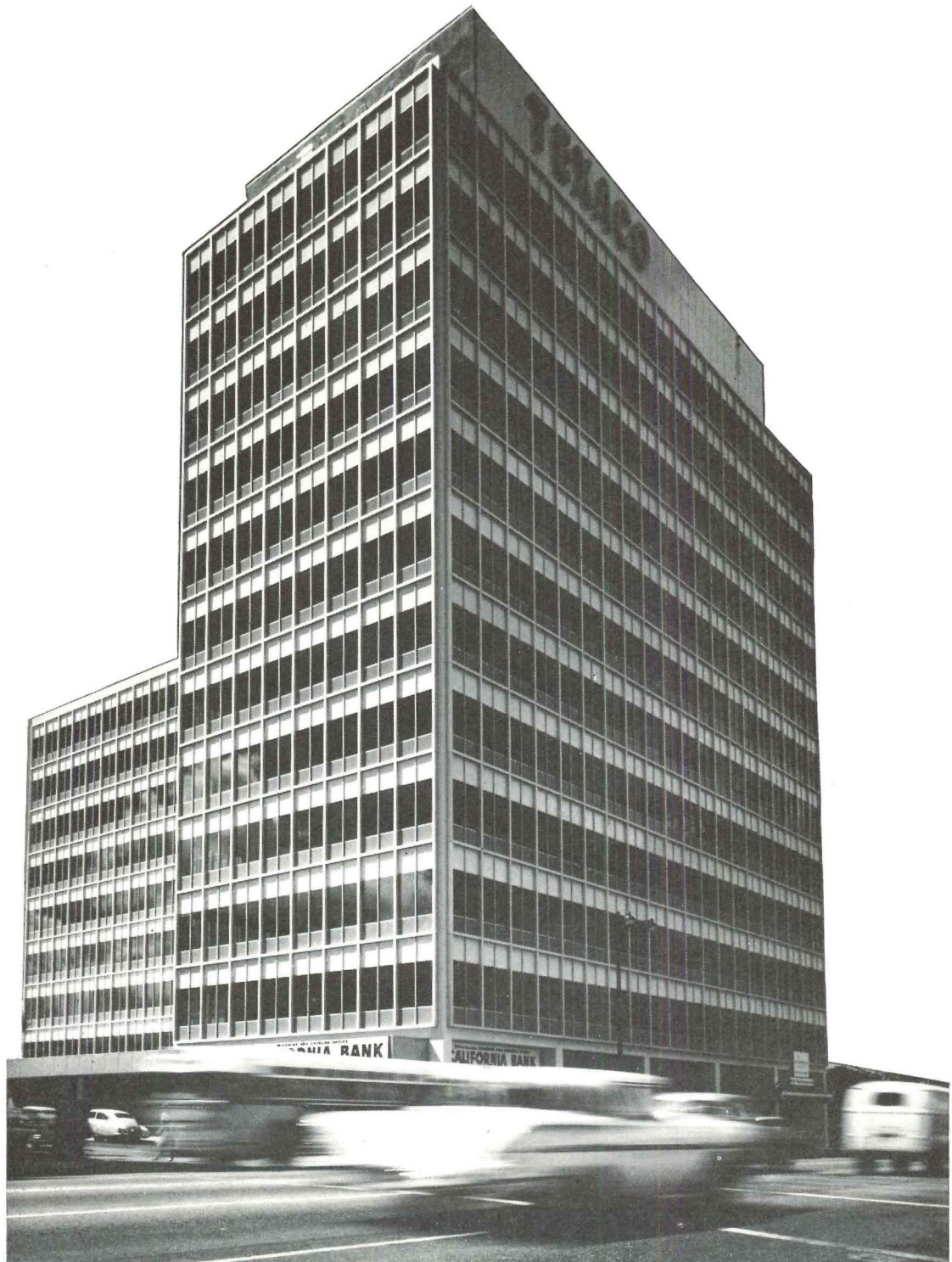
(Continued on page 60)



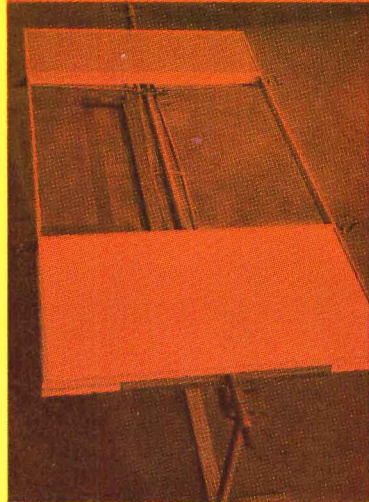
*What the architect conceives ...  
aluminum achieves!*

**ARCHITECT:**  
Welton Becket, F.A.I.A., and Associates  
**CURTAIN WALL FABRICATOR-ERECTOR:**  
Ador Corporation  
**GENERAL CONTRACTOR:**  
Del E. Webb Construction Co.

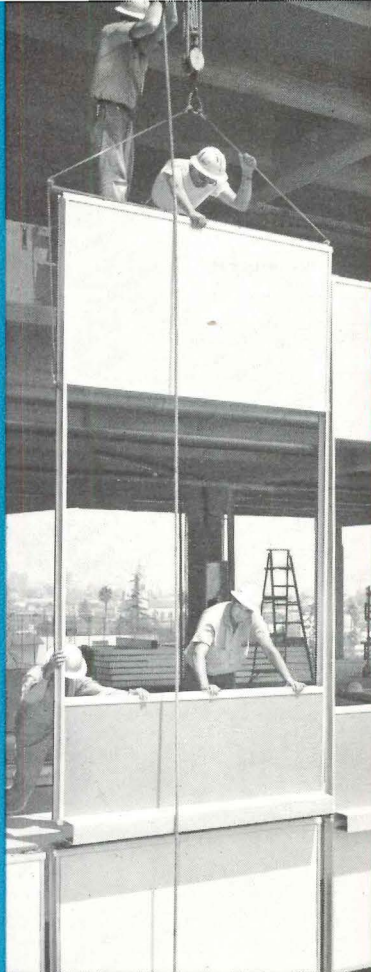
For The Texas Company's new Pacific Coast headquarters on Wilshire Boulevard in Los Angeles, the architect specified a curtain wall system unique in the area: a custom-designed grid type panel assembly with aluminum extrusions to create equally dominant horizontal and vertical lines.







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



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



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

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

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

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

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

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

Kaiser Aluminum & Chemical Sales, Inc., *Executive Office*, Kaiser Bldg., Oakland 12, Calif.; *General Sales Office*, Palmolive Bldg., Chicago 11, Ill.



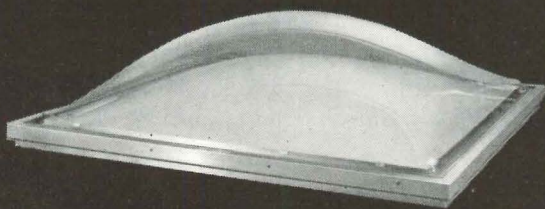
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**"I found the perfect**  
**solution to overhead**  
**daylighting problems—**  
**water-tight Wascolite**  
**Skydomes®."**



The Stuart Co., Pasadena, Calif.  
 Edward D. Stone, Architect.

Overhead daylighting does more than dramatize this pharmaceutical company's indoor court. It cuts artificial lighting bills and gives eye comfort, because it provides even, glare-free, reading-level daylight throughout the entire room.

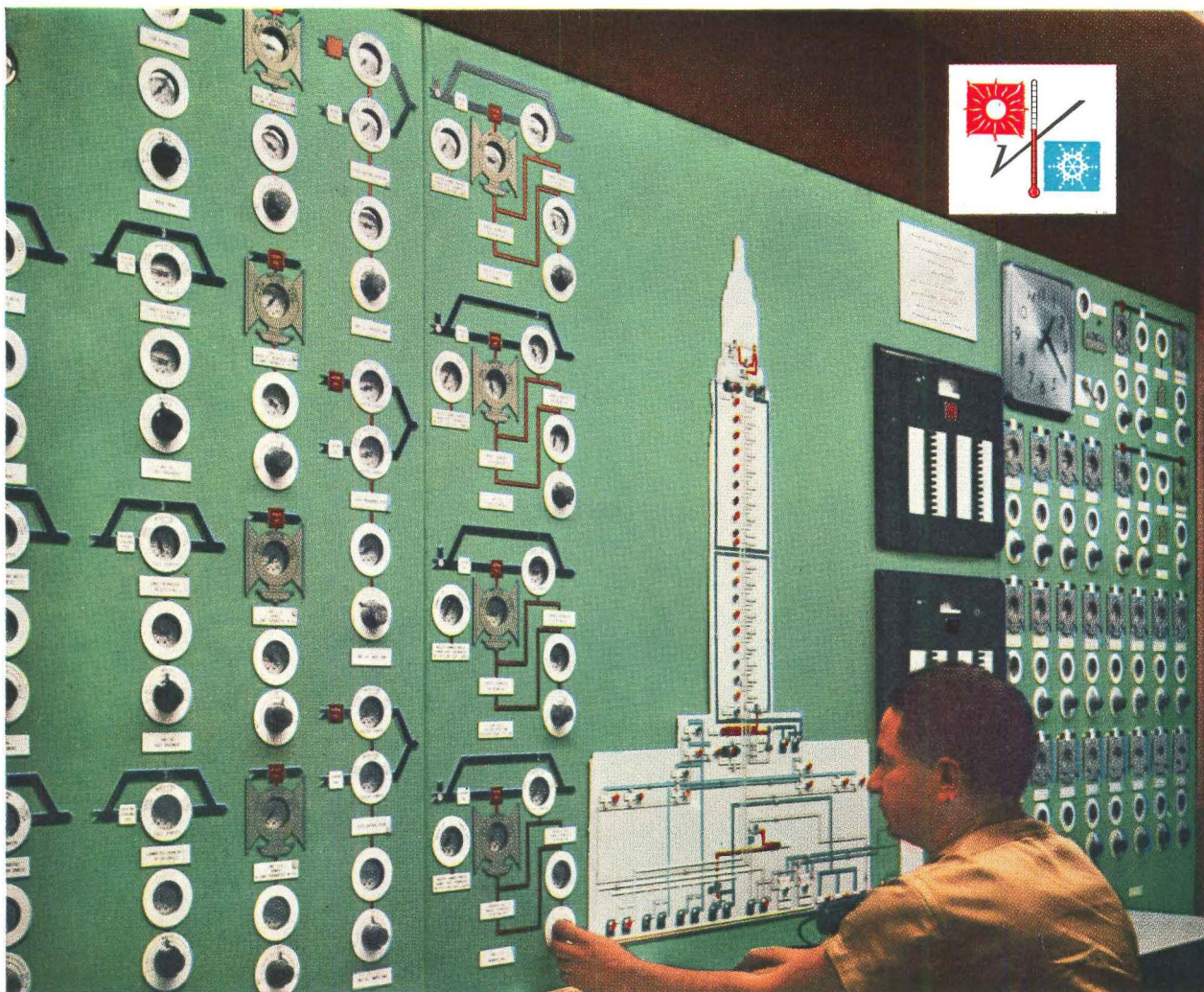
You can obtain the same dramatic benefits whether you're designing an industrial, commercial, educational or residential building. There is a Wascolite Skydome that fits your every specification and need. Each Wascolite Skydome has an Acrylite® dome and a welded aluminum frame with integral weepage and condensation gutters that have proven effective in thousands of installations. For complete information see Sweets 20a/Wa or write:



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## With This Modern Johnson Control Center One Man Runs 34 Floors of Air Conditioning!



Louisiana State Capitol, Baton Rouge. Dreyfous, Seiferth & Gibert, architects; De Laoreal & Moses, mechanical engineers; James F. O'Neil Co., mechanical contractor; all of New Orleans.

Without leaving his office, the engineer can start all 36 air conditioning systems in Louisiana's famous Capitol. More important, with simply a glance at a dial or the touch of a button, he can observe how each system is operating and check room temperatures at key control points.

Remote adjustments of equipment located anywhere from the basement to the 34th floor are made with equal ease and efficiency, right from the panel!

This Johnson Control Center pays off in added comfort for the building's employees and visitors, while saving money for the State. For example, it allows just *one man* to operate the entire air conditioning system!

It also assures year 'round operation at top efficiency, resulting in longer equipment life and large fuel and power savings.

Because such economies so quickly recover their cost, Johnson Control Centers are now being installed in buildings of all types and sizes. Your local Johnson branch will gladly supply you with complete details about this pace-setting development. Call today. Johnson Service Company, Milwaukee 1, Wisconsin. 105 Direct Branch Offices.

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



(Continued from page 55)

1. Low water-cement ratio is a proved principle, resulting in stronger concrete, but it is not fully recognized that when "workability" is absent the water-cement ratio principle "goes out the window." An initial mix of 3½ to 4 gallons of water per bag of cement results in a very harsh mix, practically precluding achieving the density needed for a strong, tough floor.
2. In addition to proper methods of

application, the actual installation by a skilled, trained organization is of paramount importance, and yet it is practically impossible to write such qualities into a specification. Industry has learned to depend upon organizations that have proved themselves in such installations and will carry forward to completion all of the operations, including hand trowelings, that are necessary, even though the work is done during the evening or night.

3. Monolithically finishing of slab concretes produces a comparatively weak surface. The addition of proper aggregate will materially strengthen such monolithic surfaces.

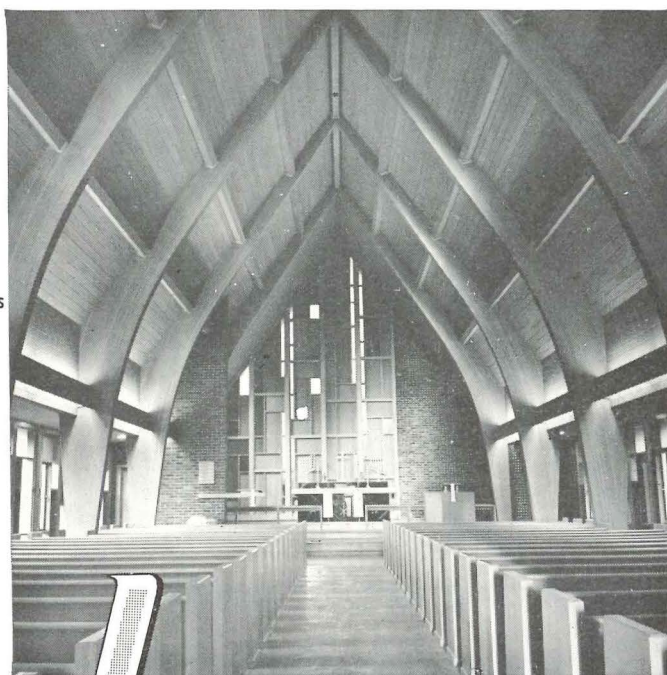
Elaborating on the statements above, we can point out that granolithic toppings, properly processed and installed, afford tremendous advantages.

In this respect, *KALMAN's Absorption Process* has enough water in the original mix to permit easy workability. Absorption blankets used immediately after screeding extracts the excess water so that the finished floor has the basic low water ratio required and at the same time achieves a maximum density and aggregate uniformity.

Concerning the monolithic construction, our *MONOROCK Process* incorporates wear-resistant rock aggregate with cement into the base slab, resulting in a strong, smooth, long lasting wearing surface.

We have found it necessary in almost all the 300,000,000 sq ft of *Absorption Process* flooring we have installed to have a minimum of five trowelings. It is only through this extra labor, properly done by experienced craftsmen, that we have a finished product capable, as proved, of standing 30 years' hard usage.

C. F. YTTTERBERG  
Kalman Floor Company, Inc.  
New York, N. Y.



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## IMPRESSIVE BEAUTY OF NATURAL MATERIALS

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"Rilco Arches allowed us complete freedom of design. The arches we chose were used to give a feeling of height in smooth, flowing lines.

"The natural wood of the arches and purlins gives a warm, pleasing feeling that blends with the brickwork and paneling of the chancel."

QUALITY ENGINEERED TO YOUR SPECIFICATIONS  
Rilco Laminated Wood Products are

fabricated from selected West Coast Douglas Fir, and manufactured with modern precision equipment under rigid factory control. Rilco's experienced engineers will be pleased to consult with you about your requirements and give "on the job" cooperation. See our catalog (2b/Ri) in Sweets or write for complete information.



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### listing alphabetically

Dear Editor: My office practice is small and insignificant, but I have worked for over 20 different architectural and engineering firms throughout the United States. In some of these offices I have written specifications.

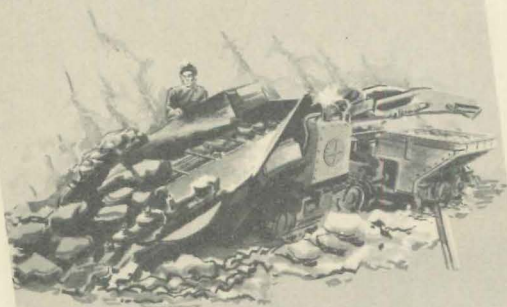
On my most recent job, a school, I decided to take a new tack on the listing of specifications because the normal listings are so confused that you never know what to look for. In my opinion, it does not make any difference how many sections you have in a specification. With the addition of new and specialized materials there are new sections which should be added from time to time. Therefore, I have concluded that this business of setting up the sections according to the manner in which they are supposed to go into the job is all wet.

(Continued on page 68)

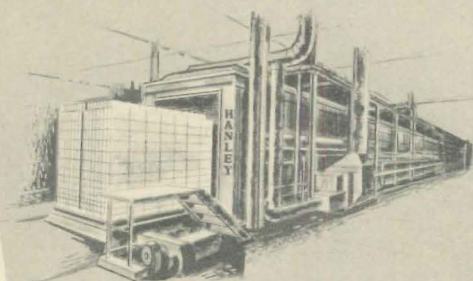


# BRICK

## FROM CLAY



## TO KILN

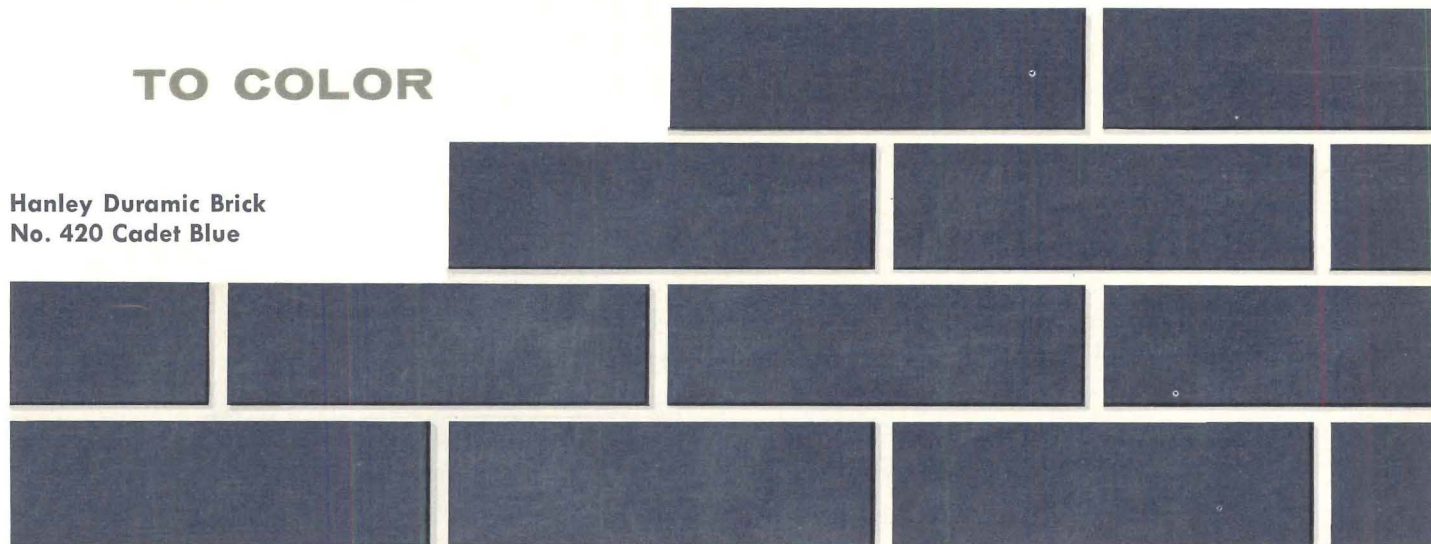


# HANLEY

Architects favor Hanley Duramic Brick for two important reasons—quality and color. *Quality* that is the result of strict control—from grading of raw material, through production in the Hanley patented kiln, to the finished product. *Color* that enables the architect to create structures of unique, lasting beauty; color such as this Hanley Duramic Brick No. 420, Cadet Blue.

## TO COLOR

Hanley Duramic Brick  
No. 420 Cadet Blue



The Hanley glazed brick and tile catalog is filed in Sweet's. For copies contact your nearest Hanley Sales Office or Distributor.



## HANLEY COMPANY

Administrative Office: One Gateway Center, Pittsburgh 22, Pa.

Home Office: 28 Kennedy Street, Bradford, Pa.

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*Edgemont  
Junior-Senior High School  
Town of Greenburgh,  
Scarsdale, N. Y.*

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

## WINNER OF CITATION FOR SPECIAL FEATURES IN COMPETITION FOR BETTER SCHOOL DESIGN

This distinguished school continues to win awards for its novel solutions to problems posed by the new demands of today's educational programs. The latest, presented at the University of Buffalo conference on school and college design, is a Special Feature Citation in the seventh annual competition of The School Executive.

Each building in this school is a special purpose unit in an educational plan that provides for separation of functions; but with improved communica-

tions. All its buildings make the most effective use of Hope's Window Wall Units. These are constructed of Hope's Pressed Steel Sub-frames with Hope's Heavy Intermediate Ventilators combined with stationary glazing and porcelain enameled insulated panels. The special adaptability of Hope's Windows and Frames in layout is of great help in the design of buildings in all architectural styles.

You are invited to make use of Hope's engineering and layout aid in any problem on use of windows.

*Write for catalog 158 for your files.*

**HOPE'S WINDOWS, INC., Jamestown, N. Y.**

THE FINEST BUILDINGS THROUGHOUT THE WORLD ARE FITTED WITH HOPE'S WINDOWS



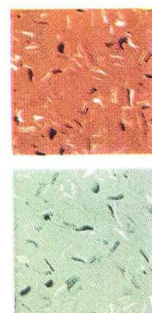


*Illustrated above is B. F. Goodrich "Suprex" Koroseal in Princess White and Emperor Black, 2 of 10 striking colors.*

## New vinyl floor tile keeps its luxurious looks for life!

First cost is last cost with new B.F. Goodrich "Suprex" Koroseal! A high-fashion flecked tile—vinyl clear through—there are no laminates to peel, crack. Tough as armor-plate, it will outlast the building. Detergents, oils, grease, household chemicals and other common spillages can't hurt it. And, its permanent lustre means minimum maintenance. Use on or above grade. 9" x 9" tiles, 80 gage, in 10 glowing colors. For further information, write:

The B. F. Goodrich Company, Flooring Products, Watertown 72, Mass., Dept. PA-6.



"SUPREX"

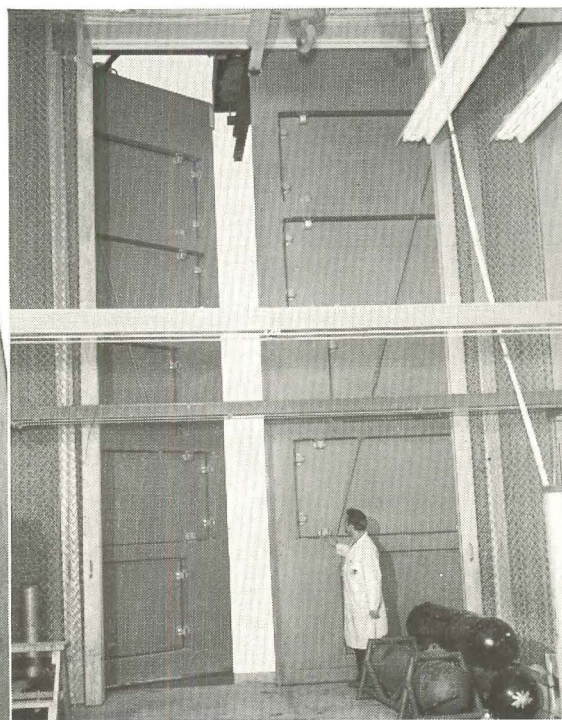
*Koroseal*<sup>®</sup>

VINYL FLOOR TILE BY

**B.F. Goodrich**

*Flooring Products*





**HUGE TEN-PANEL** double leaf Jamison Sound Reduction Doors in test cell built for hypersonic combustion tests. (right) In the event of explosion, blowout panels are forced open to prevent personnel and cell structure damage.

## Power Operated Jamison Sound Reduction Doors Protect Against Explosion and High Level Noise

At the Wright-Patterson AFB, Dayton, Ohio is one of the Air Force's newest and most important test facilities devoted to research in the fluid dynamics of air breathing and non air breathing propulsion systems. Jamison Sound Reduction Doors have been chosen here to provide protection from both explosion and high level noise . . . These Jamison doors are built with blowout panels which would be forced open by an explosion, thus dissipating the sudden force of any violent detonation.

Ram jet engine testing, which reaches a noise level of 120 decibels, is reduced by approximately 50 decibels by these same doors. Detonations in test equipment, moreover, are expected to reach pressures greater than 3,000 atmospheres.

This is another example of the successful application of Jamison's knowledge and experience in this specialized field. If you have a noise problem, it will pay you to call on Jamison for a practical, economical solution. A new bulletin describes Jamison Sound Reduction Doors and contains interesting new test data. Write for your copy to Jamison Cold Storage Door Company, Sound Reduction Door Div., Hagerstown, Md.

# **JAMISON**

**ENGINEERED DOORS**





# ATLAS<sup>®</sup> MORTAR

IMPROVES MASONRY

**PROJECT:** Office and warehouse,  
Reinhard Bros. Co.  
St. Louis Park, Minn.

**ARCHITECT:** David Griswold

**MASONRY  
CONTRACTOR:** Kraus-Anderson, Inc.  
Minneapolis, Minn.

**"... provides a more uniform, workable mortar,"**

says R. J. Randolph, Mason Foreman  
Kraus-Anderson, Inc.  
Minneapolis, Minn.

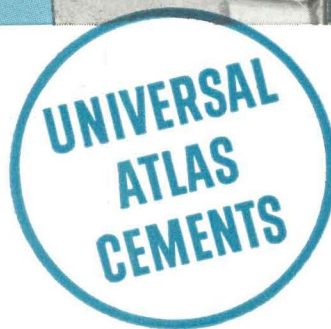
- To produce serviceable, watertight masonry walls, the mortar mix must be plastic—and have adequate "board life."
- Masons on the job consistently confirm that ATLAS MORTAR cement *does retain* its workability—and gives higher yields.
- Quality-controlled manufacture of ATLAS MORTAR cement maintains high product standards, assuring uniform performance and appearance on every project.

*(Complies with ASTM and Federal Specifications.)*

Write for your copy of "Build Better Masonry,"  
Universal Atlas, 100 Park Avenue, New York 17, N. Y.

**Universal Atlas Cement Company**

**Subsidiary of United States Steel**



**OFFICES:** Albany • Birmingham • Boston • Chicago • Dayton • Kansas City • Milwaukee • Minneapolis • New York • Philadelphia • Pittsburgh • St. Louis • Waco

M-69



(Continued from page 60)

Since trying an alphabetical listing of my sections in my specifications, regardless of the order of construction, I have found it much easier to find any section I want without using an index with numbers that don't mean a thing. Numbered indexes just mean that you have to

hunt through the whole (damned) list to find what you want. Now, who is going to memorize all the sections of a specification and its corresponding numbers? Why shouldn't *Sec. 1* be *Asphalt Tile*, *Sec. 2*, *Acoustic Tile*, etc.?

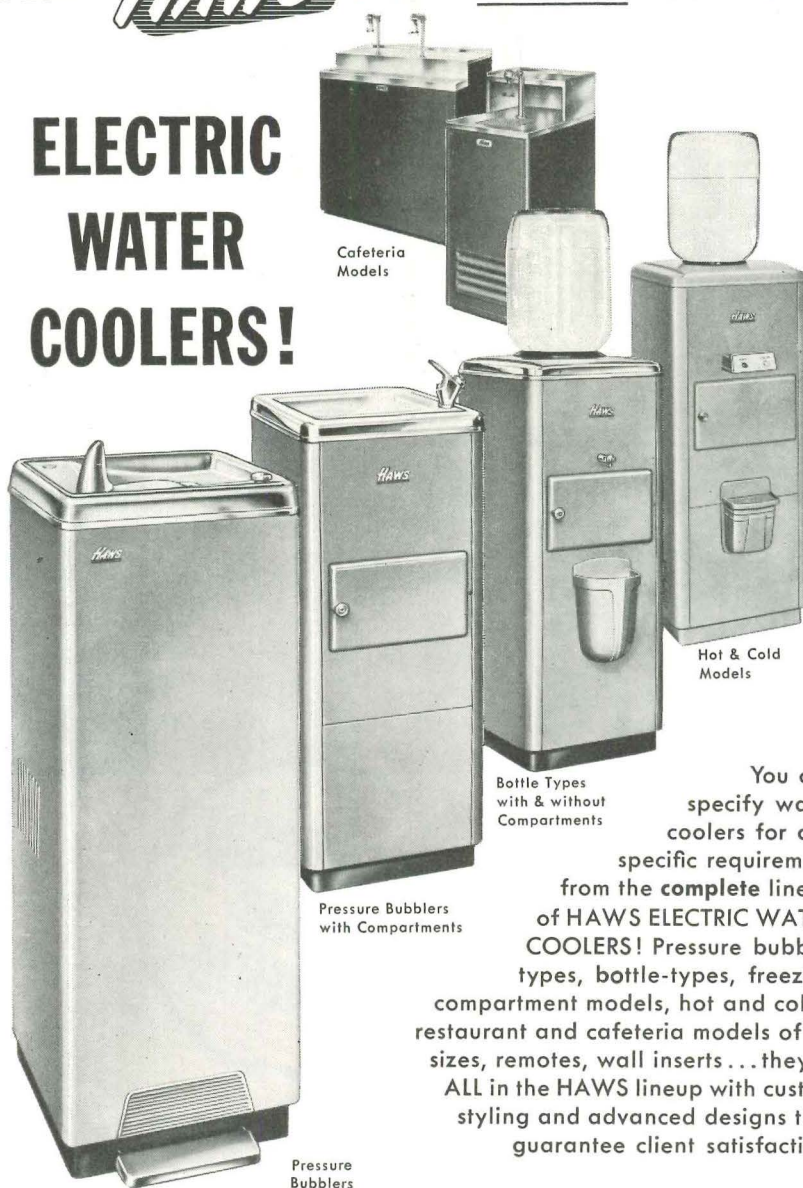
As for painting specs, well, they are real easy. I use the Pratt & Lambert standard painting specifications for application, care of materials, preparation of surfaces, etc.,

then I consult with the P & L representative regarding the type of surfaces and materials to be used on each surface. We prepare a schedule of finishes listing the surface to be covered, prime coat, first coat, and additional coats. In this manner, any painter knows exactly what I expect and each competitive manufacturer's representative knows what will be required of him. There is no guesswork! This schedule is included in the *Painting Specification*. Usually, three or more acceptable manufacturers are listed as approved, others must qualify.

JES R. JOHNSTON, JR., Architect  
Marietta, Ga.

## SPECIFY **HAWS** FROM A COMPLETE LINEUP OF...

### ELECTRIC WATER COOLERS!



Cafeteria Models

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You can specify water coolers for any specific requirement from the **complete** lineup of **HAWS ELECTRIC WATER COOLERS!** Pressure bubbler types, bottle-types, freezing compartment models, hot and colds, restaurant and cafeteria models of all sizes, remotes, wall inserts... they're **ALL** in the HAWS lineup with custom styling and advanced designs that guarantee client satisfaction.

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1441 FOURTH STREET (since 1909) BERKELEY 10, CALIFORNIA

### is the practice of architecture a profession?

*Dear Editor:* I am becoming more and more bewildered by the confusion that exists regarding this subject. So, I have decided to take the bull by the horns and try to establish the fact that the *practice of architecture is a professional act* in the highest sense of the word—not less than the practice of law or medicine!

Since receiving my license to practice I have searched for the answer to this question. I have been an active member of every architectural society, read every item published in the field, attended meetings, conventions, worked on committees, listened to the "highest and mightiest"—and can only say that the bewilderment felt by the general public regarding architects and what they do in their practice is no less than that of the architects themselves and the profession in general!

If what I have observed as acceptable in our practice were to happen in the medical profession, there would be a Congressional investigation! A judge will not listen to anyone but an attorney in a courtroom, but we permit builders, attorneys, yes, anyone who cares to, to bring cases before our highest area of practice—the Board of Standards and Appeals!

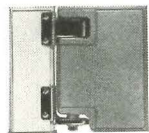
Contractors, draftsmen, carpenters,

(Continued on page 70)





*We  
would  
like  
to  
open  
your  
door...*



... so you can try ours. Weis sales engineers are now calling on leading architects and prospective builders with a demonstration model like this. It graphically demonstrates all details of Weis new construction, newly designed hardware and practical styling. For your developing building plans . . . institutional, commercial or industrial, we believe you and your associates should be acquainted with the advantages of a Weis installation. May we have our man open your office door? Just send coupon below.

#### **TYPICAL WEIS INSTALLATIONS**

SOUTHWEST JUNIOR HIGH SCHOOL, OMAHA, NEBRASKA  
Architect: Leo A. Daly Co.—Contractor: Peter Kiewit Sons Co.

STANDARD LIFE INSURANCE CO., INDIANAPOLIS, INDIANA  
Architect: Skidmore Owings & Merrill—  
Contractor: Wm. P. Jungclaus Co.

CONEMAUGH VALLEY MEMORIAL HOSPITAL, JAMESTOWN, PA.  
Architect: L. F. Freicht Associates—Contractor: Jim Cullen

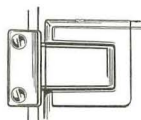
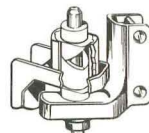
BRANIFF AIRWAYS MAINTENANCE HANGAR, DALLAS, TEXAS  
Architect: Mark Lemmon / Pereira & Luckman—  
Contractor: J. W. Bateson Co.

SHOPPING CENTER, GRETN, LOUISIANA  
Architect: August Perez & Associates—  
Contractor: Keller Construction Corp.

FLINT PUBLIC LIBRARY, FLINT, MICHIGAN  
Architect: Louis C. Kingsott & Associates—  
Contractor: Taylor & Gaskin Co.

G.S.A. REGIONAL OFFICE BUILDING, WASHINGTON, D.C.  
Architect: General Services Administration—  
Contractor: Joseph B. Bahen Construction Co.

**NEW NYLON LOWER HINGE**—Concealed within the door, this quiet hinge never needs lubrication, never wears out. And, it is "in line" with bottom door edge for clean appearance. May be simply adjusted so door will automatically close or stand ajar at any point within its swing.



**NEW FLUSH UPPER HINGE**—Inset pintle-type is newly designed so cover is flush with both faces of door. Bearing is nylon; needs no lubrication, is quiet and has extremely long life.

**NEW DOUBLE-LOCKED CONSTRUCTION**—Doors and partitions are now ingeniously double-joined to provide extra sturdiness and long trouble-free life. It's a feature you'll want to see before specifications are written.



**NEW TAMPER-PROOF JOINING**—All accessible screws and bolts have theft-proof heads.

# **WEIS**

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Henry Weis Mfg. Co., Inc.,

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Gentlemen: Please have your sales engineer demonstrate new Weis toilet compartment features.

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city, state \_\_\_\_\_



(Continued from page 68)

even high-school boys can build structures without approved plans, provided such structures are supposed to cost less than \$10,000, and contain less than 30,000 square feet. What minor operation does the medical profession permit a man without a license? One must be licensed to

cut a corn! A barber cannot cut hair without a license in New York City! Yet these same men could call themselves designers and make plans for small houses, and actually practice architecture—*legally!*

What do we do about it? Worse than nothing! We encourage these unethical practices! Some architects illegally seal draftsmen's drawings! Our legislative committees consider increasing the exemption of build-

ings for Departmental approval to larger cubes and higher costs! Our Societies extend their blessings by inviting nonprofessionals to associate membership!

Our attitude toward the client is apologetic and over-co-operative. We sell partial service; architects get their plans approved by the Department of Buildings then turn them over to the owner; they make no supervisory inspections; and when the alterations or construction are completed, they are lucky if the finished construction even vaguely resembles the approved drawings. Some architects run a plan service—a complete set of plans, details, and specifications for \$20.

I am not surprised by the public's ignorance of the cost of architectural service. Most architects themselves do not know what to charge. If they ever see a published fee schedule, they use it only as a guide to charge a percentage of the recommended minimum. In addition, to make things more interesting, our two big societies publish schedules that vary by about 20%.

What can be done about this? Think like professionals! Act like professionals! *Be professionals!* Insist that our city, state, and federal building departments require filing and approval of all construction and alterations by licensed architects. Make existing laws so strict that none but a registered architect can file drawings to build, alter, or repair any structure. Have the penalties strong enough to discourage the practice of construction work without approved plans and specifications. Make professional societies *exclusively* for registered architects. Publish recommended-minimum-fee schedules and insist that they be followed!

When are architects going to be as intelligent as television repairmen—who not only get paid for their work, but also get an additional fee just to appear at your door . . . or electricians and plumbers who are protected by legislation—so no work can be done unless signed by a licensed practitioner?

HENRY KOHLER  
New York, N. Y.

## Planned FOR EASY MAINTENANCE



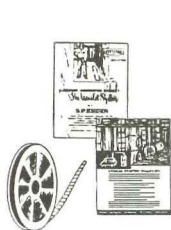
THE HENRY AND EDEL FORD AUDITORIUM, DETROIT, MICHIGAN  
ARCHITECTS: CRANE, KIEHLER AND KELLOGG • O'DELL, HEWLETT AND LUCKENBACH

### with a **SPENCER** CENTRAL VACUUM CLEANING SYSTEM

No "Model T" cleaning methods here! Thanks to foresighted architectural planning, maintenance methods are as modern as the building.

A SPENCER central vacuum cleaning system . . . with vacuum producer and dirt separator in the basement . . . piping to inlet valves conveniently located throughout the building . . . speeds and simplifies cleaning.

And the building stays cleaner . . . sanitation is improved . . . because dust and germs cannot recirculate into the air.



#### ◀ AIDS TO ARCHITECTS

- CATALOG 133—Spencer central vacuum cleaning systems.
- BULLETIN 153C—Spencer Vacuslot system.
- COLOR MOVIE—20 minute showing of systems in operation.

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

ALSO PRODUCERS OF  
COMPLETE LINE OF  
PORTABLE VACUUMS



## NEW

### bigger-than-life rooms

Because new B & G Window Walls allow for full-width windows, each of these motel rooms feels and looks bigger than its actual dimensions. All insulated panels were sealed-in at the Brown & Grist plant for 100% weather-tightness.

## HOW

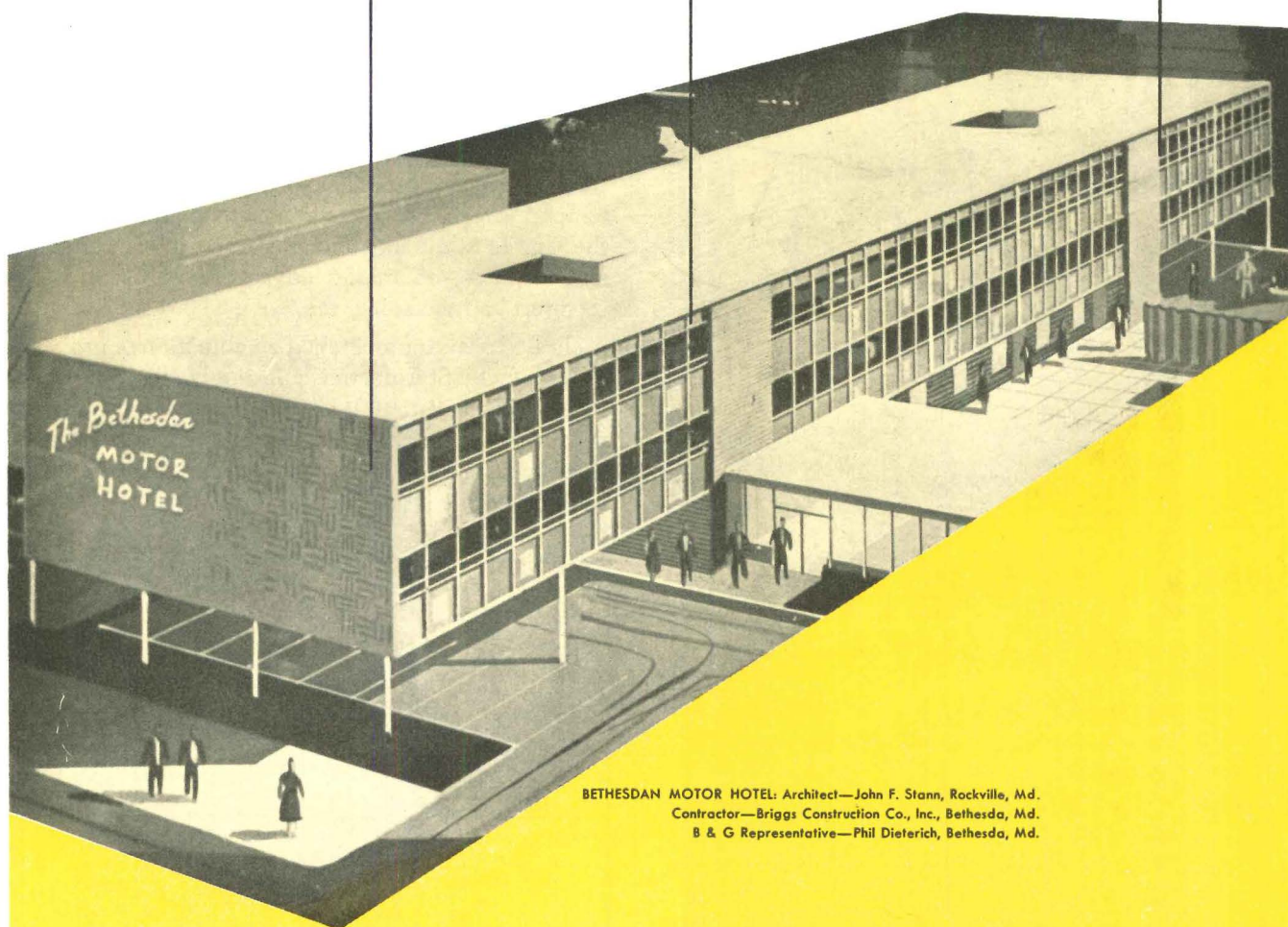
### window walls cut cost

Less structural steel was needed due to the amazing light-weight and high rigidity of Brown & Grist Window Walls. When the proposed third floor is added, B & G Window Walls will cut weeks off construction time.

## WHY

### Brown & Grist

As Architect John Stann said, "Low cost. Design. Elimination of maintenance. Speed of erection." He had over 100 Brown & Grist panel materials to choose from. Like all B & G walls, they were custom-built at stock prices. And they were delivered on schedule in 2-story units, ready to go up quickly without special crews.



BETHESDAN MOTOR HOTEL: Architect—John F. Stann, Rockville, Md.  
Contractor—Briggs Construction Co., Inc., Bethesda, Md.  
B & G Representative—Phil Dieterich, Bethesda, Md.

## BROWN & GRIST WINDOW WALLS

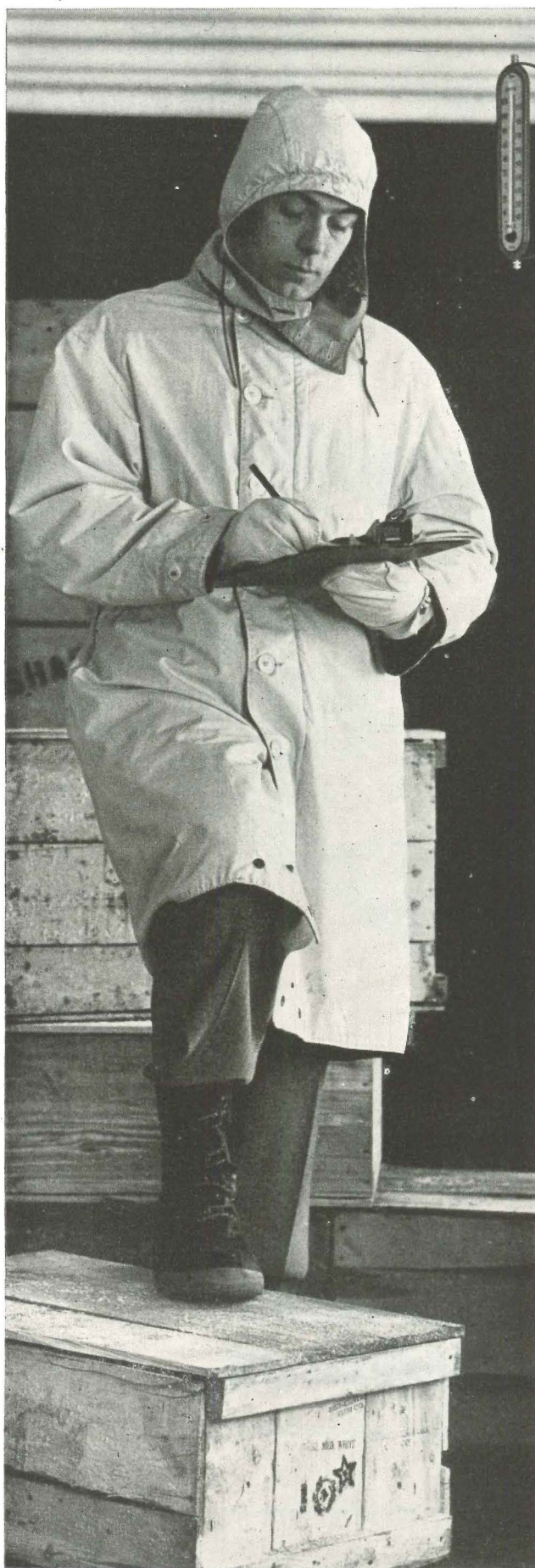
Got a building on the board? Refer to Sweet's for B & G Window and Window Wall Catalogs.

BROWN & GRIST, INC.



25 Tyler Avenue, Warwick, Va.



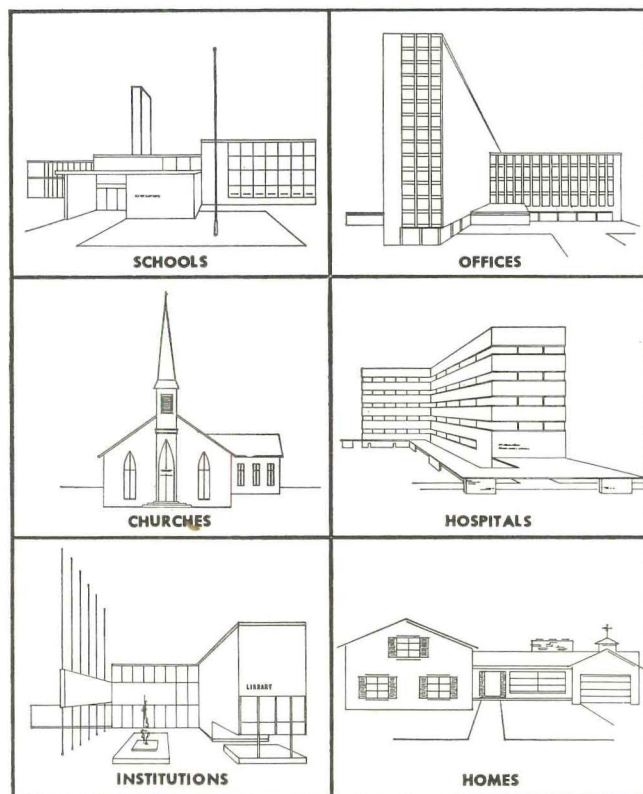


*In just ten years, Styrofoam has set new high insulating standards in the cold storage rooms of leading U.S. companies . . .*

## **No wonder Styrofoam®**

Ten years ago, a newcomer in the field . . . today, the most copied insulation on the market. That's the performance record established by Styrofoam® in the low-temperature rooms of leading companies throughout the United States and Canada. And now . . . architects and builders are taking advantage of Styrofoam in "comfort" applications, too.

A close look at its unmatched combination of properties tells you why Styrofoam is a lastingly efficient, maintenance-free insulation. It has a permanent low "K" factor that stays low because Styrofoam is waterproof. It has thousands of noninterconnecting air cells that water can't penetrate. It doesn't rot, mold or deteriorate . . .

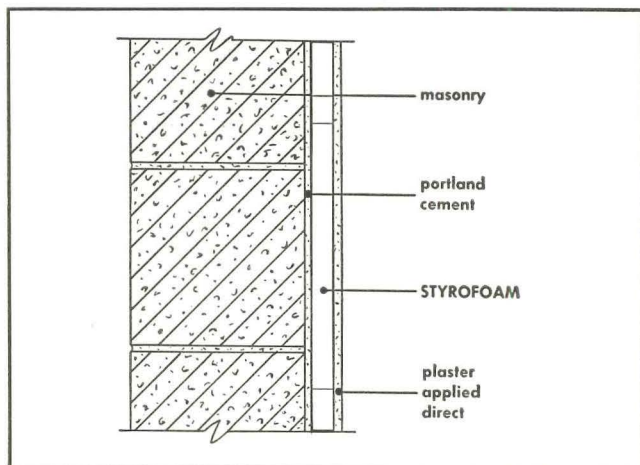


**Styrofoam holds the right temperature in freezer room or front office**



## is proving superior as "comfort" insulation!

doesn't attract insects, vermin and rodents. In addition, Styrofoam is lightweight, clean and easy to handle. This remarkable combination of properties makes Styrofoam a superior insulation for churches, schools, offices and homes as well as for cold storage rooms.



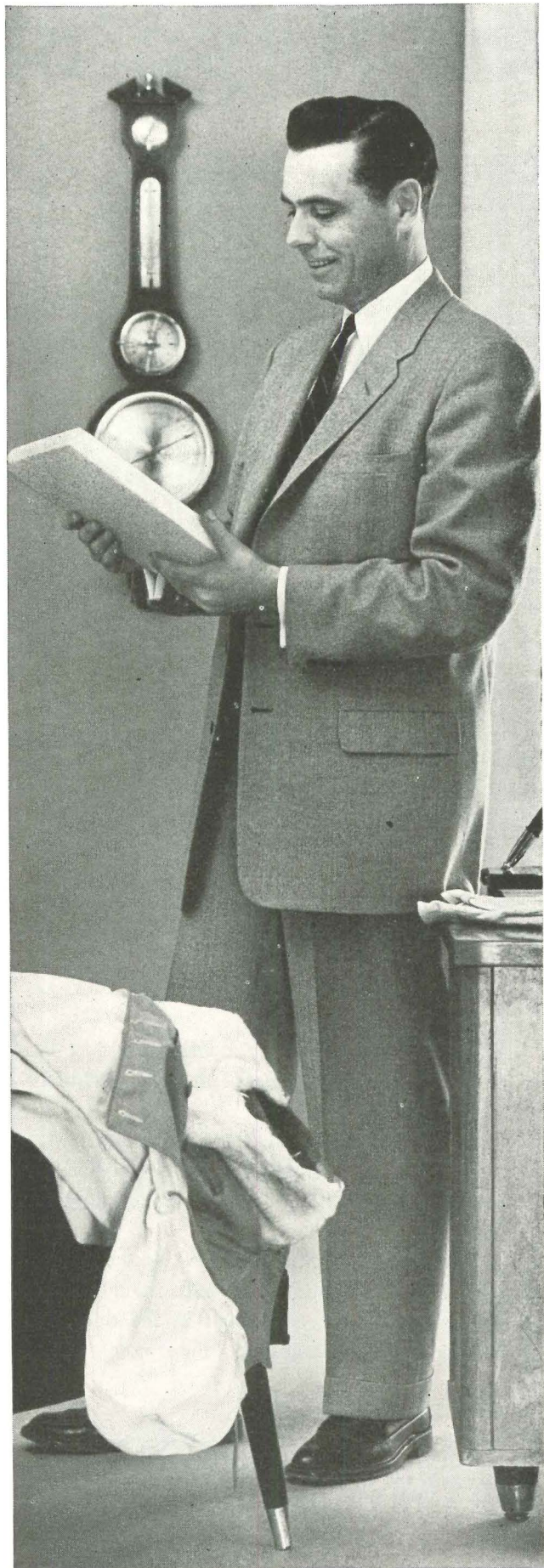
**New construction method** substantially cuts costs in masonry construction by eliminating furring and lathing—assures a warm, dry interior. Styrofoam is adhered to brick or concrete block wall with Portland cement mortar. Plaster keys directly to Styrofoam. For more information, write to THE DOW CHEMICAL COMPANY, Midland, Michigan, Plastic Sales Department 1919F.

\*Styrofoam is a registered trademark of The Dow Chemical Company

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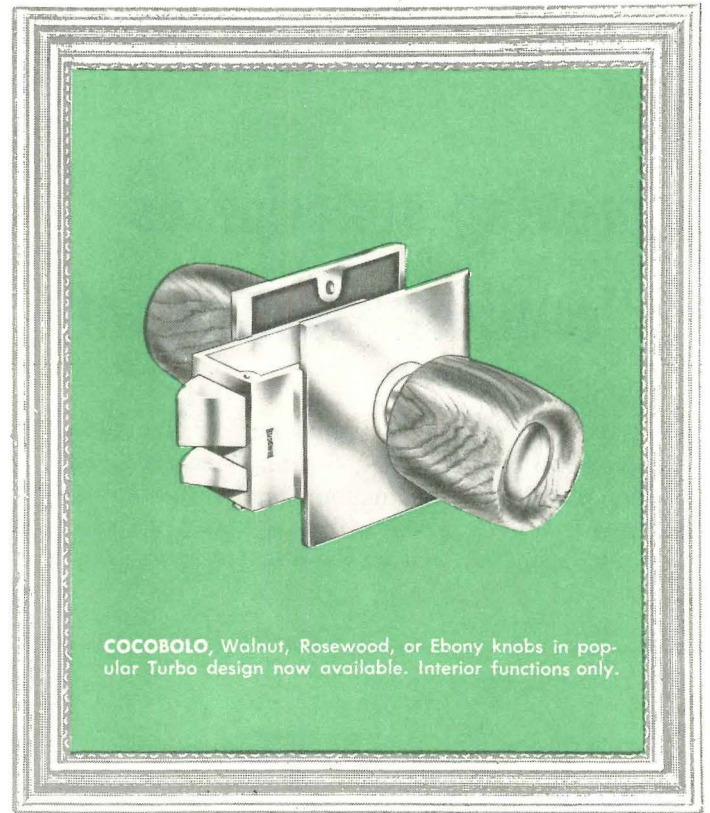
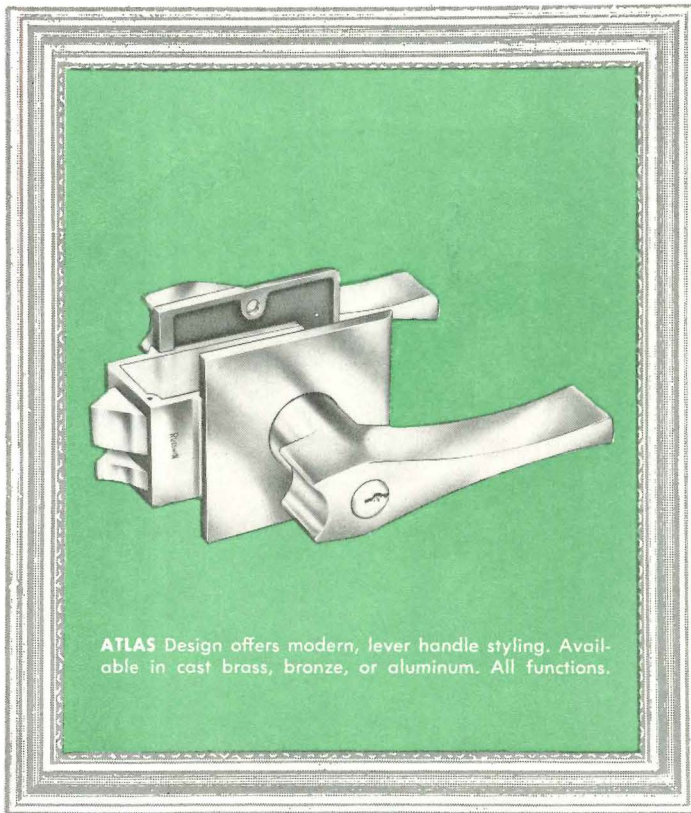


because it has lifetime insulating efficiency, unyielding resistance to moisture





# New Reputation Builders



## in the UNILOC Gallery of Masterpieces

**D**istinctive stylings . . . cost-cutting installation . . . virtually wear-free service. Unilocs offer all three!

New designs include the smart Atlas, with modern, lever handle styling. Also available now are Unilocs with handsome rare wood knobs for interiors.

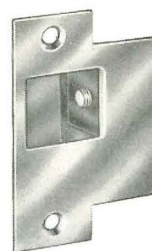
Both designs feature Uniloc "unit construction." This heavy-duty doorware mounts intact into a simple, saw-cut notch in the door. No mortising. No disassembly. Almost no chance of

misapplication or misadjustment. Extra heavy, extruded brass frames keep parts permanently aligned . . . practically eliminate wear.

Generations of service are built into these lockmaking masterpieces. You can recommend them with confidence for the toughest applications. Have your Russwin representative show you the new designs. Call him today. Russell & Erwin Division, The American Hardware Corporation, New Britain, Connecticut.

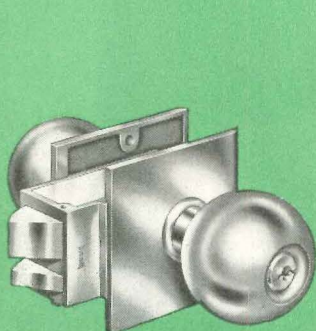
Unilocs are available in cast brass, bronze, or aluminum. Finishes include dull brass, polished brass, dull bronze, bright chromium, dull chromium, or dull aluminum. For dimensions and available functions, consult your Russwin representative. Or write direct for new Uniloc Catalog.

**New UNILOC Strike**  
features Nylon Screw Adjustment  
assuring snug latch bolt fit

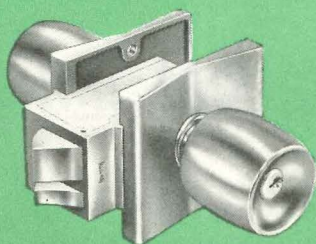


**RUSSWIN**<sup>®</sup>  
doorware

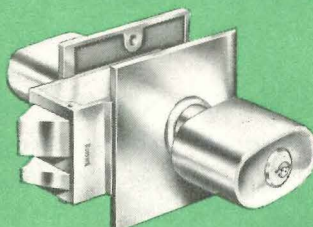




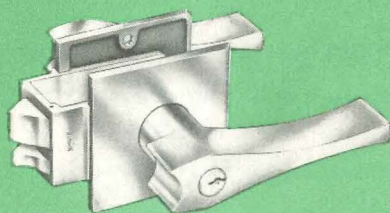
MODERA



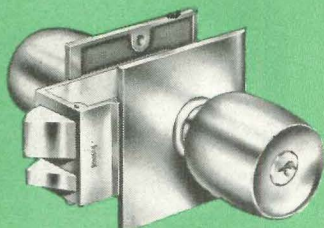
UNITY



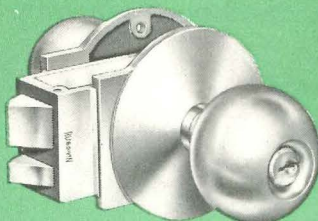
AERO



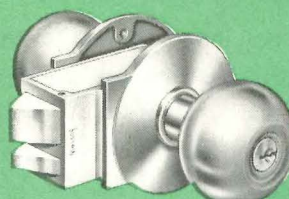
ATLAS



TURBO

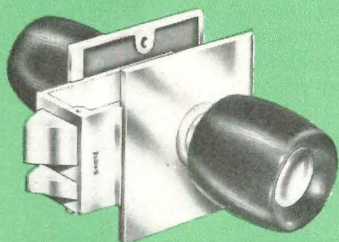


MONO

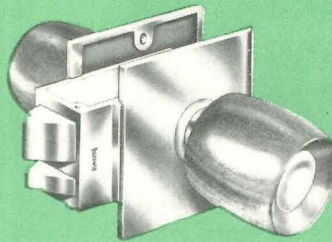


BRISTOL

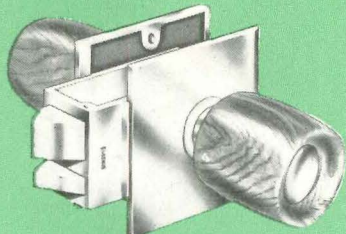
.....RARE WOOD KNOBS FOR INTERIORS.....



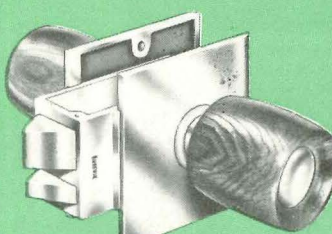
EBONY



WALNUT



COCOBOLO



ROSEWOOD

**RUSWIN**  
doorware



# *Marlo* Comfort

## *for the world's tallest building*

Under an air conditioning program inaugurated in 1956, a comfortable working atmosphere is being provided for 25,000 tenants of New York's fabulous Empire State Building.

In the latest phase of the 5250-ton cooling job, Marlo central station units are being installed. The ceiling type units, with various capacities, are being installed in suspended-acoustic ceilings for concealed comfort conditioning.

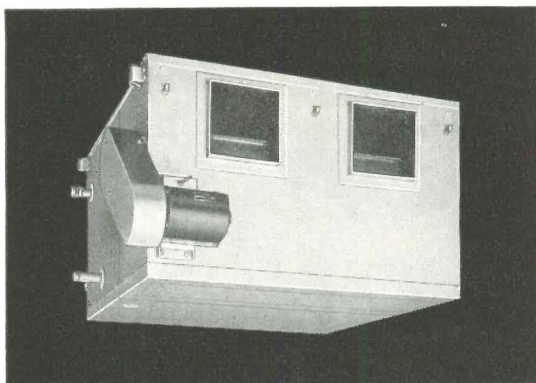
The building is owned by the Empire State Building Corporation. Consulting Engineer for the Marlo units was The Firm of Edward E. Ashley, and among air conditioning contractors are: Kennedy-Scheidel & Young

Riggs Distler & Co., Inc.

Almirall & Co., Inc.

Wolff & Munier, Inc.

Thermodyne Corporation  
all of New York City



One of the 120 Marlo central station air conditioning units installed in the Empire State Building. Units will be concealed by suspended ceilings.

# **MARLO coil co.**

SAINT LOUIS 11, MISSOURI

Quality Air Conditioning and Heat Transfer Equipment Since 1925



# Tree top view of White Top Roofing

The same glittering crystals that add so much to the beauty of White Top marble chip roofing give it a reflective value unmatched by any other known roofing. Heat bounces back, leaves interiors 8 to 14 degrees cooler, cuts the costs of air conditioning.

In winter, the dense structure of this Georgia Crystalline Marble helps bar the cold, keeps it warmer inside, lowers the fuel bills. Add up the efficiency, the economy, the simple beauty of this sparkling lifetime roofing. No matter how you measure it, you just can't beat a White Top Roof.

White Top is being specified for plants, office buildings, institutions and residences all over America. Send for free samples and research statistics. Just drop your card note to:



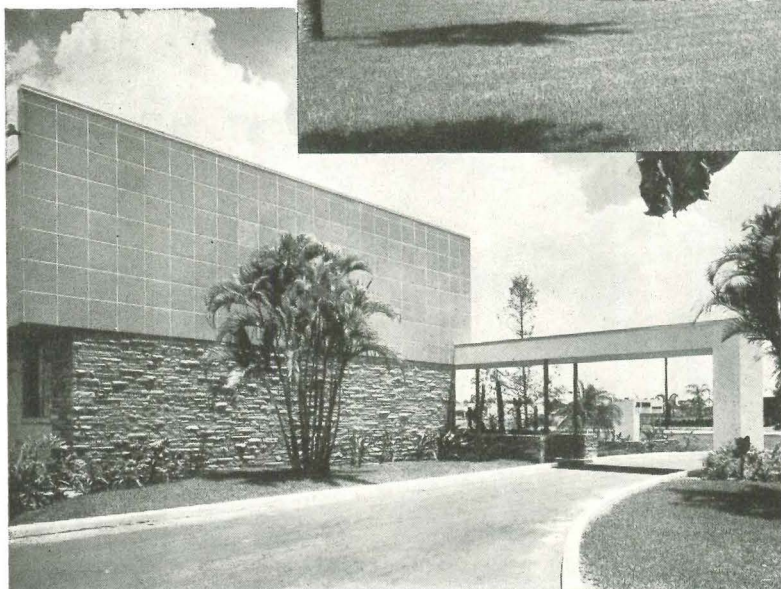
## CALCIUM PRODUCTS DIVISION

THE GEORGIA MARBLE COMPANY  
STATE GEORGIA

**—almost impenetrable—  
by heat  
or by cold**







#### **OFFICE BUILDING**

TAMPA, FLORIDA

**Richard S. Himes and McAllister Blanton**—*Architects*

**Rañon and Jimenez**—*Builders*

**Jim Walter Corporation**—*Owner*

Facing units 24" x 24" are adhesion-type Ceramic Veneer, 1 1/4" thick. Color is tan-mottled cream.

There's always the  
right color to complement  
your design

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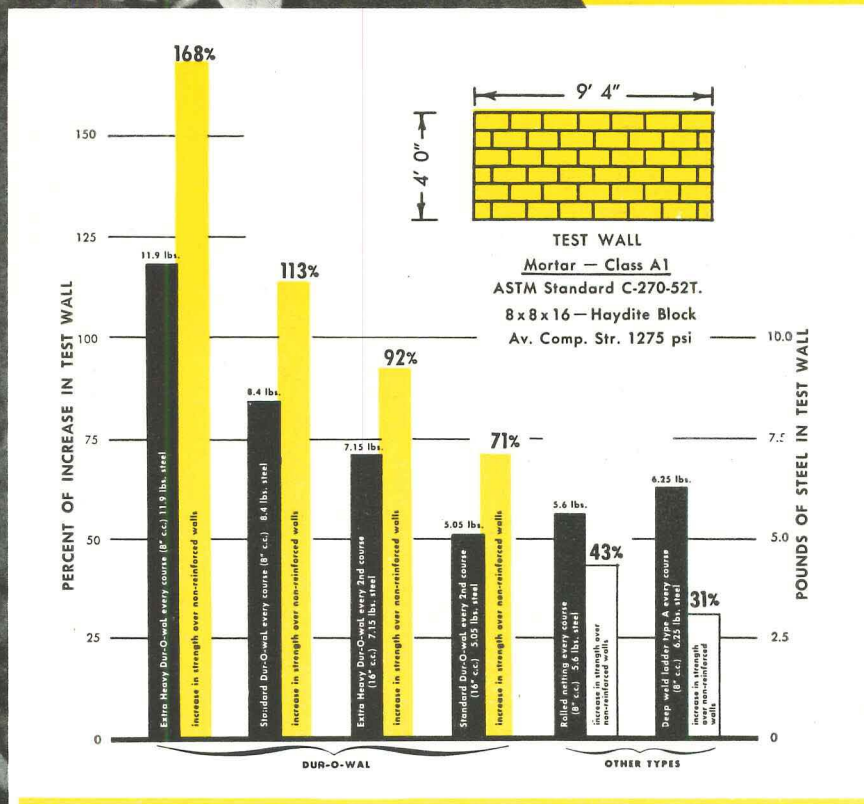


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Dur-O-wal with patented trussed design out-performs other reinforcing two to one . . . reduces lineal foot requirements by half . . . cuts building costs. Every pound of high tensile steel in Dur-O-wal works twice as hard because the exclusive trussed design and superior bonding characteristics make every inch work together as a unit. Test results prove why building experts insist on Dur-O-wal . . . the steel masonry reinforcement that exceeds ASTM specifications . . . by far your best and most economical buy.

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Tests Conducted by Toledo University Research Foundation



# HANDSPLIT RED CEDAR SHAKES

*the right roof  
for a  
rambler*

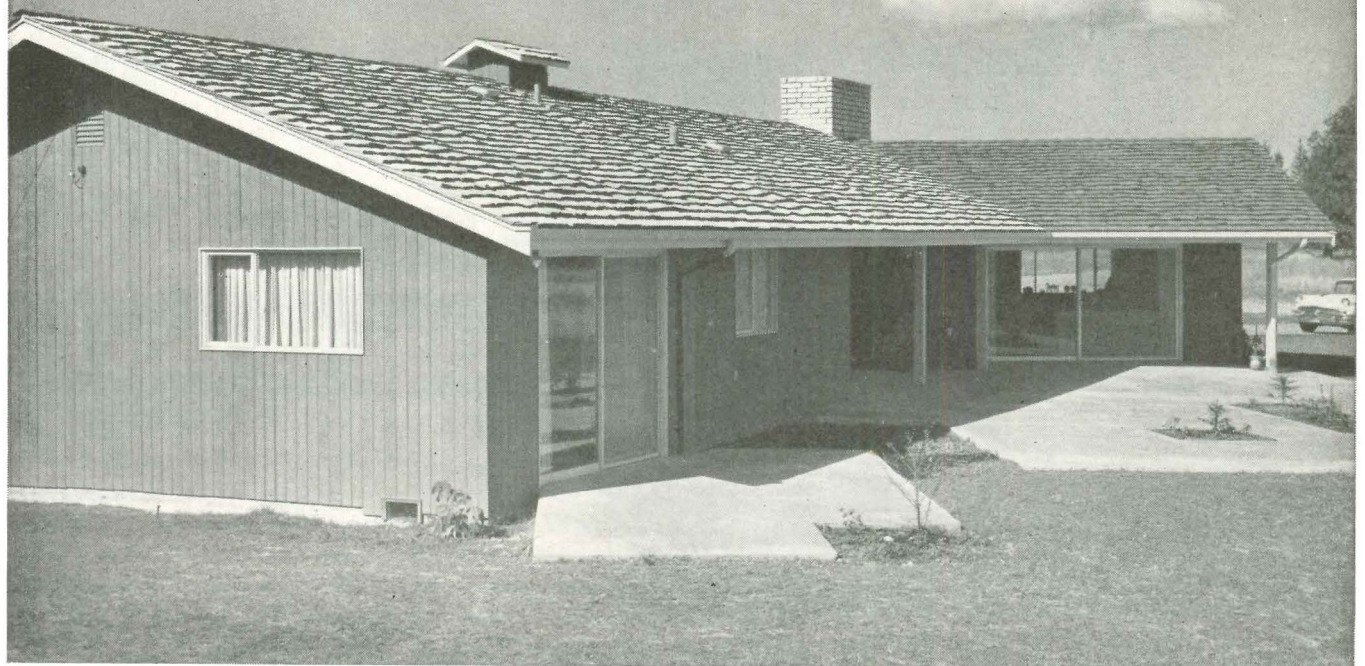
*Eye-level architecture requires a roof of distinctive character. That is why handsplit cedar—with its bold textures and compelling shadow accents—is so uniquely suited to the rambling roofline.*

Handsplit cedar is the carefree material. No other roofing stands up to it...or *stands up like it!* Applied three layers thick, heavy shakes will ward off anything the weatherman can muster. *For generations to come.* And, because shakes have rigid structural strength, they can be applied over *spaced* sheathing. This makes a roof of genuine handsplit cedar shakes much less costly than its dramatic good looks would indicate. *Above all, make certain it's cedar!*



## RED CEDAR SHINGLE BUREAU

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550 Burrard St., Vancouver 1, B. C.

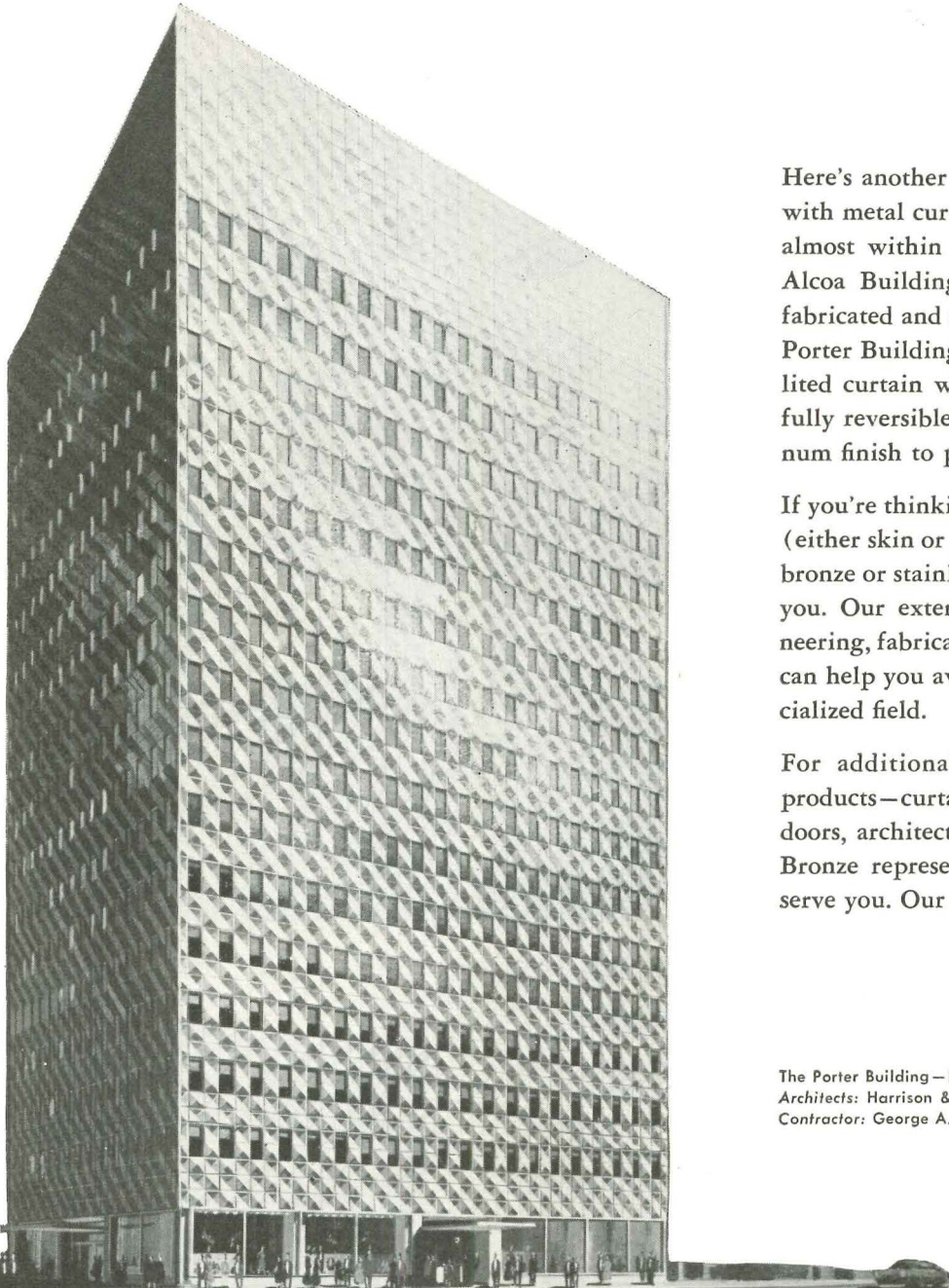




THE PORTER BUILDING...ANOTHER PITTSBURGH LANDMARK WITH

# CURTAIN WALLS

by **GENERAL BRONZE**



Here's another example of a modern office building with metal curtain wall by General Bronze. Located almost within the shadows of Pittsburgh's famous Alcoa Building (with its aluminum curtain wall fabricated and erected by General Bronze), this new Porter Building makes use of 1026 dark gray aluminized curtain wall panels. Its 864 vertically pivoted fully reversible windows are in natural color aluminum finish to provide a pleasing color contrast.

If you're thinking of curtain walls for new buildings (either skin or grid and panel system) in aluminum, bronze or stainless steel, we can be of great service to you. Our extensive experience in designing, engineering, fabricating and erecting curtain wall systems can help you avoid costly pitfalls in this highly specialized field.

For additional information on General Bronze products—curtain wall systems, windows, revolving doors, architectural metalwork—call in the General Bronze representative. He is ready and anxious to serve you. Our catalogs are filed in Sweet's.

The Porter Building—Pittsburgh, Pa.  
Architects: Harrison & Abramovitz  
Contractor: George A. Fuller Co.



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CORPORATION • GARDEN CITY, N. Y.

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ARCHITECT: CHICAGO BANK EQUIPMENT CO.  
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with GAS



*Specify Arkla-Servel Gas Air Conditioning  
and you specify years of trouble-free comfort*

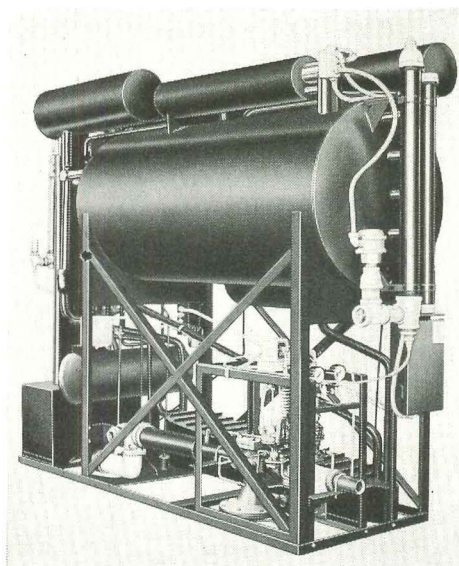
With their new Arkla-Servel Gas Absorptive Cooler, the La Grange Federal Savings and Loan Association keeps customers cool in summer with the same compact system that keeps them warm in winter.

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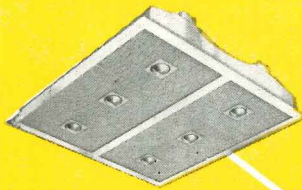
- high efficiency at all times—even during the light loads
- temperature control is constant
- modular adjustment of capacity (instant automatic adjustment to match actual cooling requirements)
- dependability of fuel service at all times

Take advantage of the consulting services provided by your Gas company. They have trained specialists who have been working with architects and engineers for years. Check the facts and you'll see modern Gas air conditioning out-performs all other fuels. *American Gas Association.*





Brascolite 4' x 4' Silver Bowl Recess with Guth Gratelite Louver Diffuser



Brascolite Surface Gym Lights with Guard and Louvers

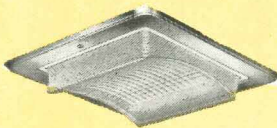


Brascolite Hinged Glass Drum Units with Alzak Reflectors

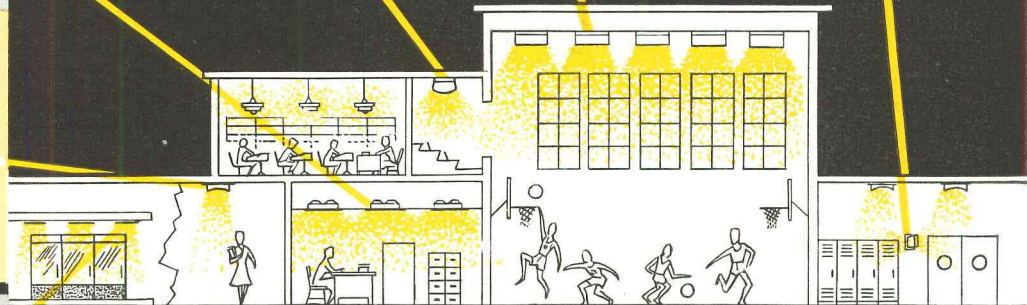


Brascolite Exit Signs—5 different Styles for All Requirements

Brascolite Square Recess Unit with Holophane Corridor Controls



Brascolite Round Recess Unit with Corning Concave Lens



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and everywhere in between*

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lighting  
needs*



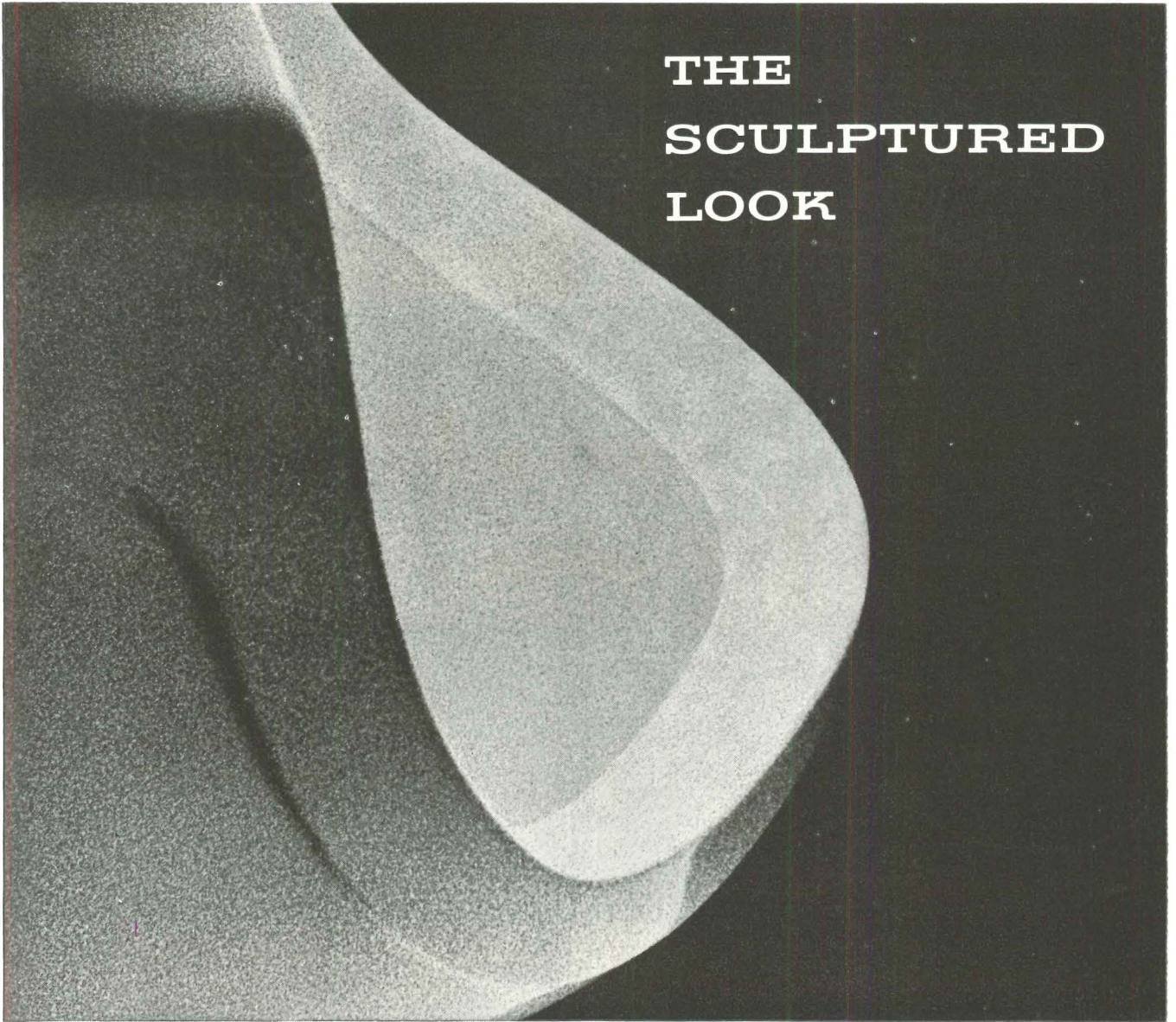
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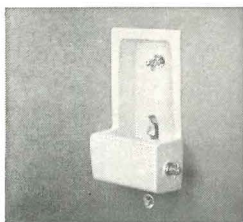
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# Stephens College Chapel

roofed and  
spired  
by Overly



*Eero Saarinen & Associates, Architects,  
Bloomfield Hills, Michigan*

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## OVERLY MANUFACTURING COMPANY

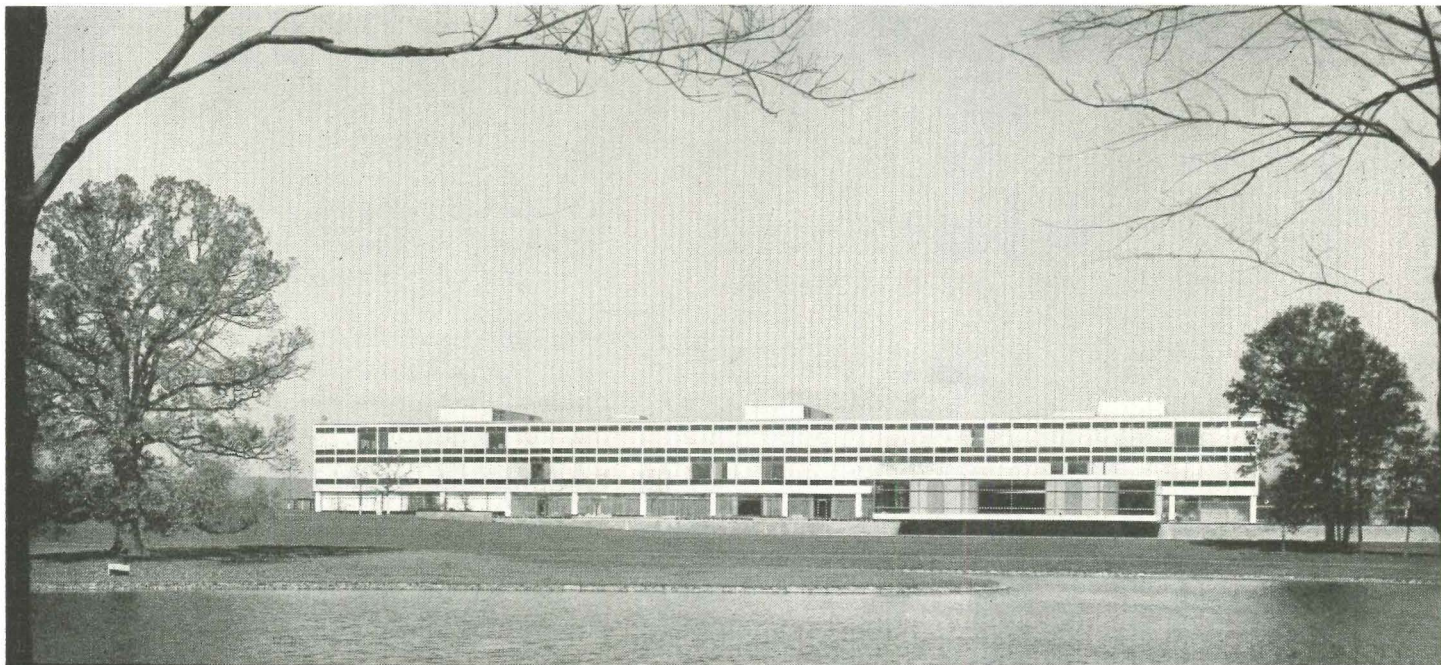
GREENSBURG, PENNSYLVANIA

LOS ANGELES 39, CALIFORNIA





# WHY CONNECTICUT GENERAL CHOSE STAINLESS STEEL TO INSURE LIFE LONG BEAUTY AND DURABILITY



Home Office Building: Connecticut General Life Insurance Co., Bloomfield, Conn.

Architects: Skidmore, Owings & Merrill

Engineers: Weiskopf & Pickworth (Structural); Syska & Hennessy, Inc. (Mechanical & Electrical)

Consultant: Building Methods & Materials: Walter C. Voss

General Contractor: Turner Construction Co.

When the Connecticut General Life Insurance Company planned their ultra-modern office building in suburban Hartford, they carefully projected their needs into the future.

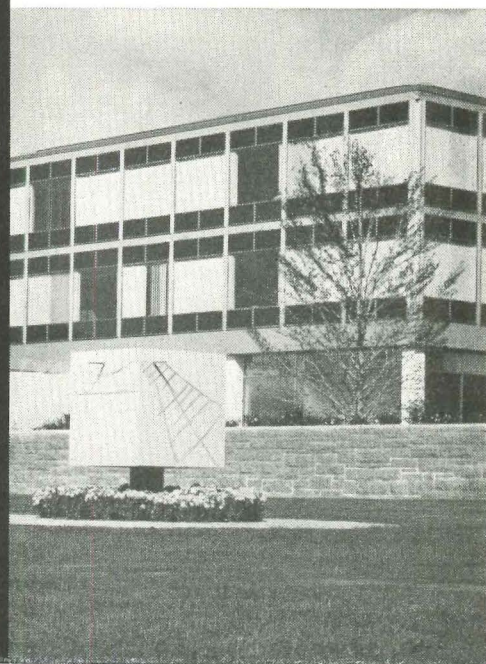
They wanted the nearest thing to "no maintenance" costs for 50 and preferably 75 years. Where initial investment in materials could cut down the yearly costs of cleaning, painting, and repairs they would make the investment.

That's why, throughout the building—both on the exterior and the interior—Republic's ENDURO Stainless Steel is used generously to protect, beautify, and reduce maintenance costs.

The main building—which contains some 400,000 square feet of floor space unbroken by a structural column—is penetrated by four garden courts, 72 feet square, making it possible for nearly all employees to be within 35 feet of a window. The cafeteria juts out from one end of the main building, cantilevered 15 feet over a pool. At the other end of the building, across a glass bridge, is a special department wing.

Once inside the metal and glass walls the stylish gleam of gracious architecture comes alive.

**STAINLESS STEEL WINDOW FRAMES** on all levels provide permanent beauty and low maintenance. ENDURO Stainless Steel was selected for the frames because of its high resistance to corrosion. It will not discolor with age. Will never need painting. The building's large window walls admit the outdoors and command scenic views of wide lawns, pools, and trees. Complete details and specifications on Republic ENDURO Stainless Steel for architectural applications are contained in Sweet's File, or can be obtained by sending the coupon below.







**STAINLESS STEEL ADDS STYLE AND CHEER** to the 800-seat dining room. Table and chair supports, column covers, and food-handling equipment of stainless steel assure attractive clean surroundings. All food-preparation and food-service equipment in the kitchen and counter pick-up areas are fabricated of stainless steel for peak sanitation and attractiveness. Dishwashing facilities are stainless steel, too, to resist corrosion and abrasion.

**DOORS FRAMED IN STAINLESS STEEL** open onto one of the four garden courts that penetrate the main building. Although receiving heavy use, the doors resist scuff, scratches, and dents—thanks to the metal's strength and toughness. Like all the entrance doors, the first level and upper level fixed glass windows are framed in stainless steel to resist corrosion and weathering.



**STAINLESS STEEL FOOD-SERVING COUNTER** accommodates some 2,000 employees each day. The cafeteria is completely equipped with stainless steel—from refrigerator doors and back walls to steam tables, display cases, and working areas up forward. In the working areas, cleanliness is easy to maintain since everything with which food and dishes come in contact is made of easy-to-clean and keep-clean stainless steel. Republic offers architects competent metallurgical and engineering help in obtaining the best possible results with ENDURO Stainless Steel.



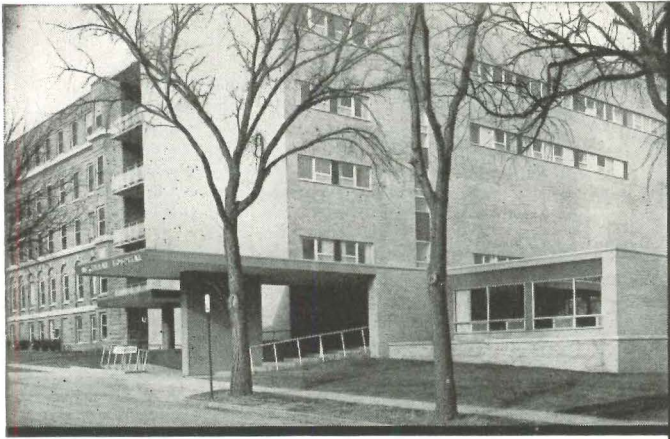
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**1441 REPUBLIC BUILDING** • CLEVELAND 1, OHIO  
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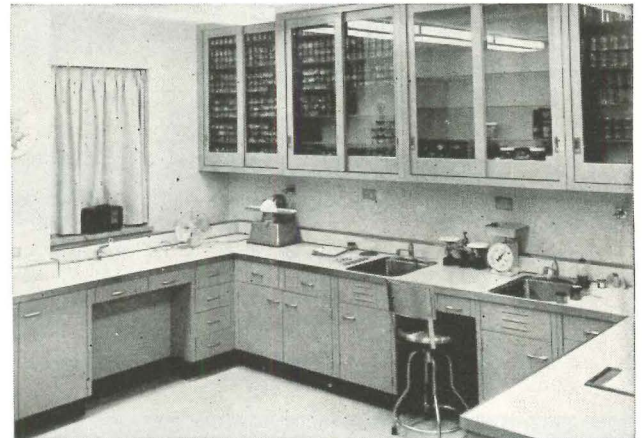
# Hospital Casework by *St. Charles*

At McKennan Hospital, Sioux Falls, S. D.

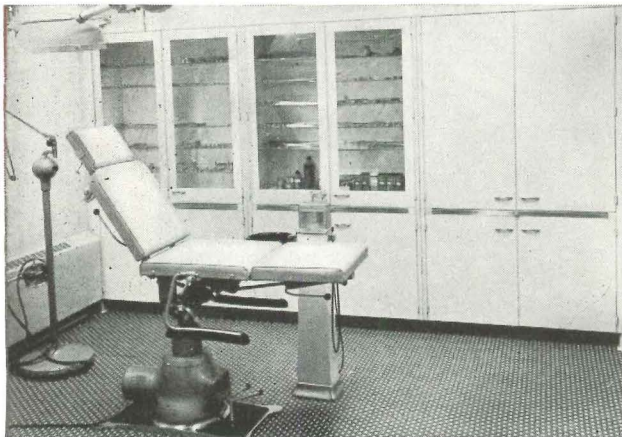
Arch.: Harold Spitznagel & Assoc.



Hematology



Tissue Laboratory



Oral Surgery



General Laboratory

Functional beauty was the guiding concept in the construction of this new addition to McKennan Hospital, Sioux Falls, where skilled use of color interiors complement the clean architecture of the building. This concept was carried through even to the selection of St. Charles Steel Casework in color.

St. Charles' quality, dependability and ability to

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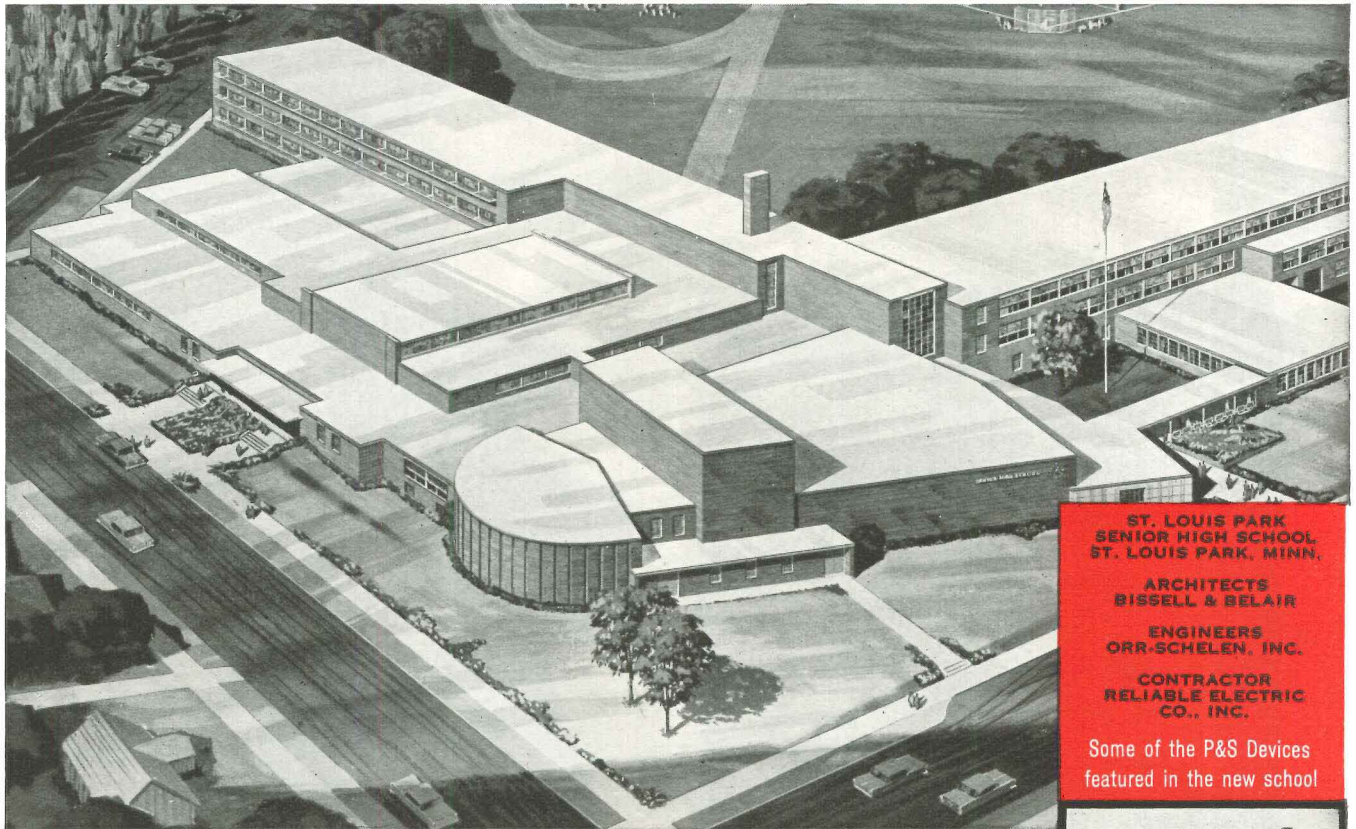
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Some of the P&S Devices  
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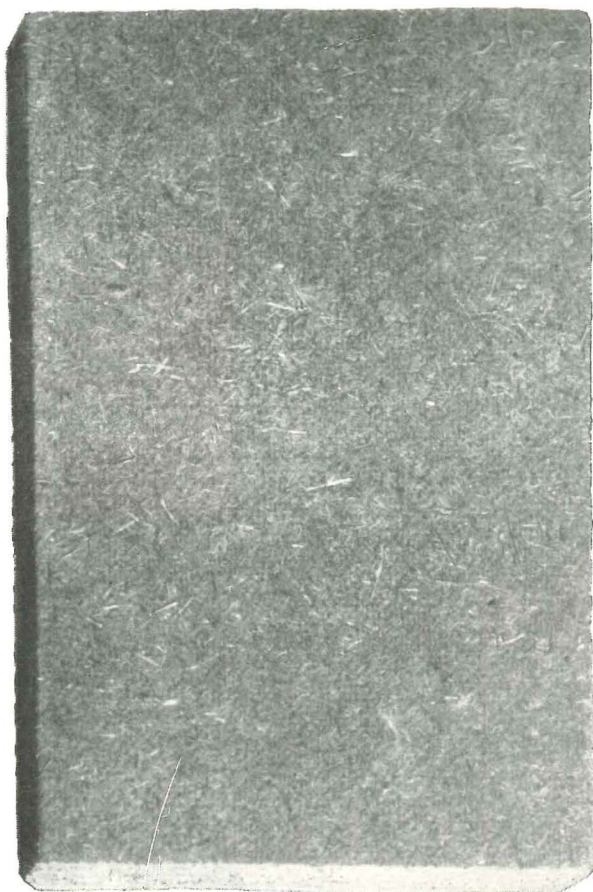
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the  
bond...



The new Connecticut General Life Insurance Building at Bloomfield, Conn., is an outstanding example of Barrett roofing know-how at work from the deck up.

The roof insulation was laid and the SPECIFICATION® Roof applied by a Barrett Approved Roofer. Installation was supervised by a Barrett inspector, to assure compliance with Barrett requirements. The roof is guaranteed by Barrett against maintenance expenses for 20 years.

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Barrett Roof Insulation is manufactured by automation in a new plant. Its superior strength and uniformity help applicators do their best work. Barrett SPECIFICATION Roofs combine the moisture repellence and self-healing qualities of coal-tar pitch with a method of construction that has never been approached for endurance.



# SPECIFICATION® ROOF EQUALS ROBUST ROOF

FOR CONNECTICUT GENERAL LIFE BUILDING



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*Connecticut General Life Insurance Building; Architects: Skidmore, Owings & Merrill, New York City; General Contractor: Turner Construction Co., New York City; Barrett Roofer: Southern New England Roofing Co., Hartford, Conn.*

Allied  
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## BARRETT ROOFS





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When you make anything in metal for homes, kitchens  
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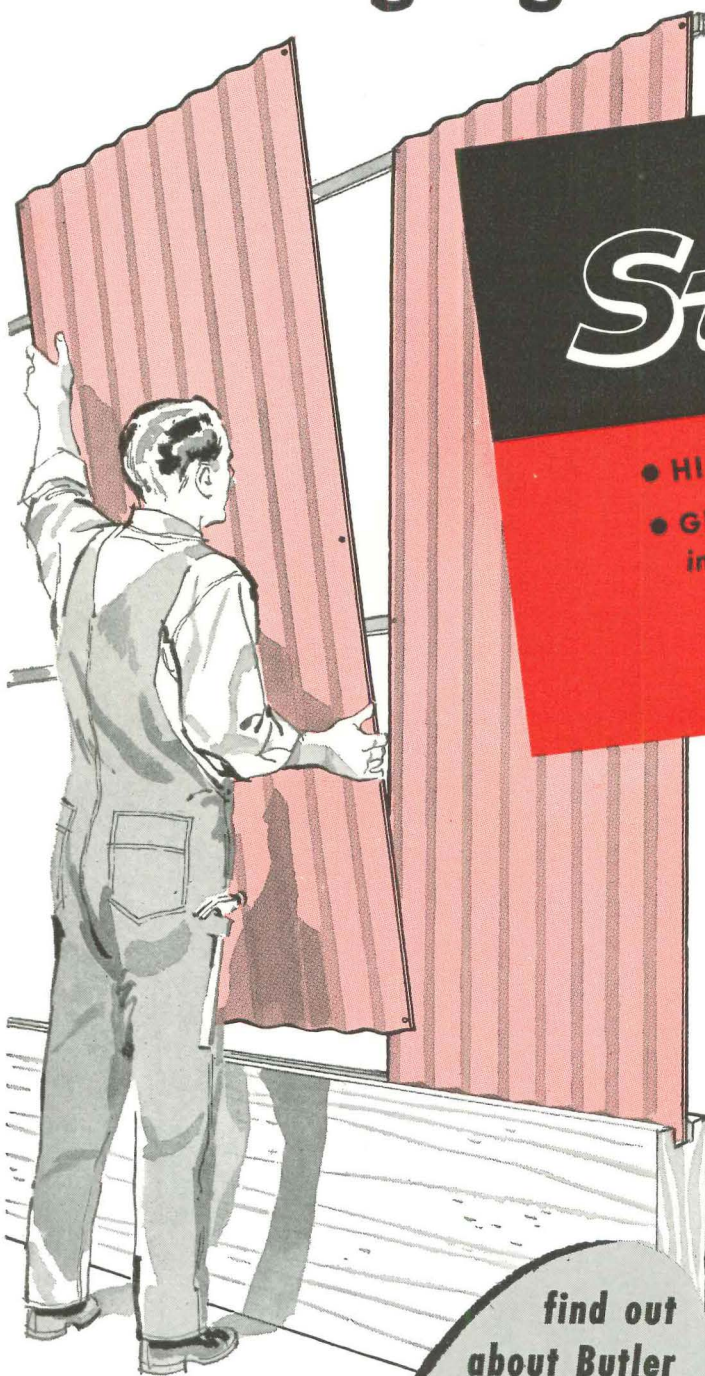
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the new  
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you can talk  
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Kansas City 1, Kansas

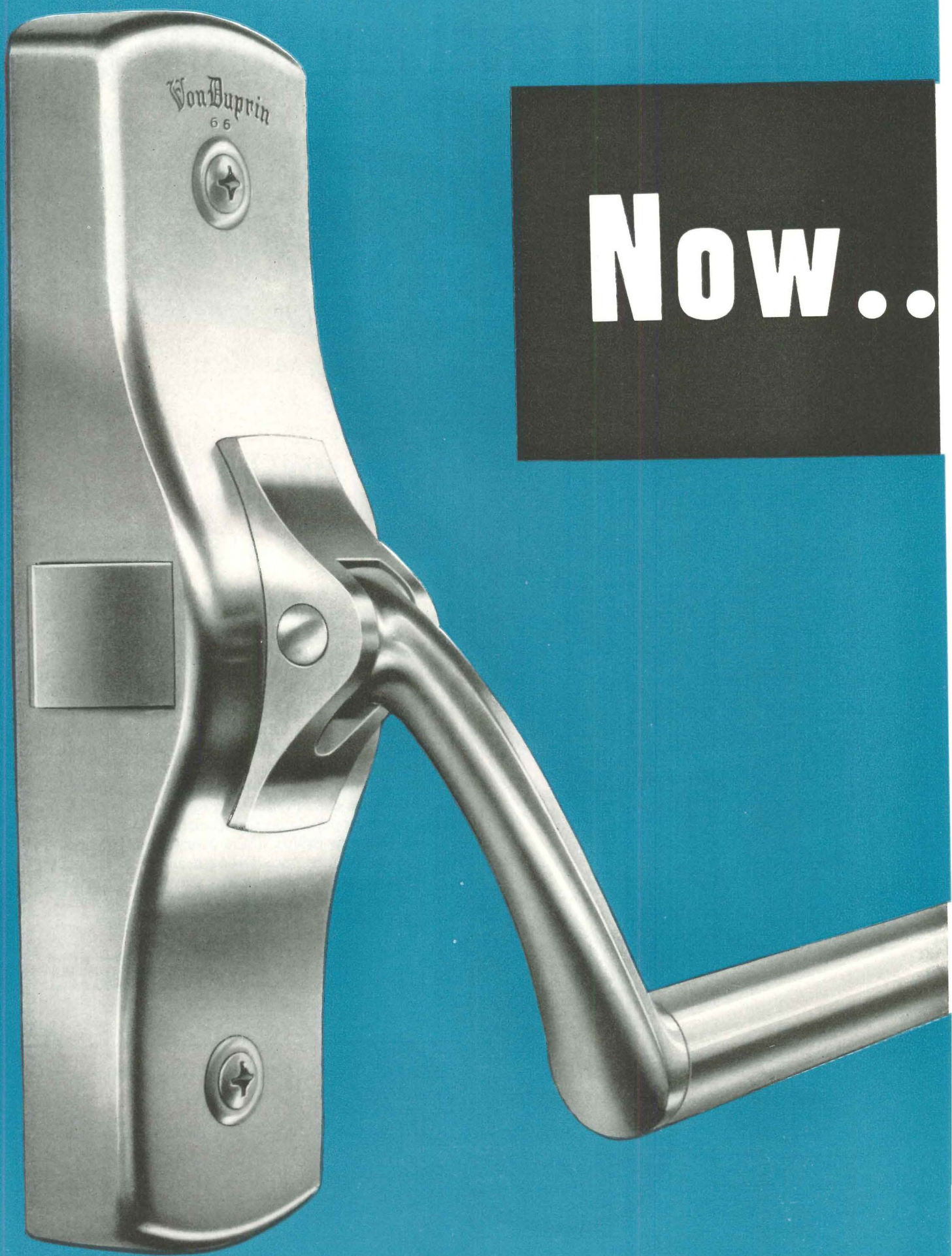
Please send me full information about Stylux, America's brand new plastic panel!

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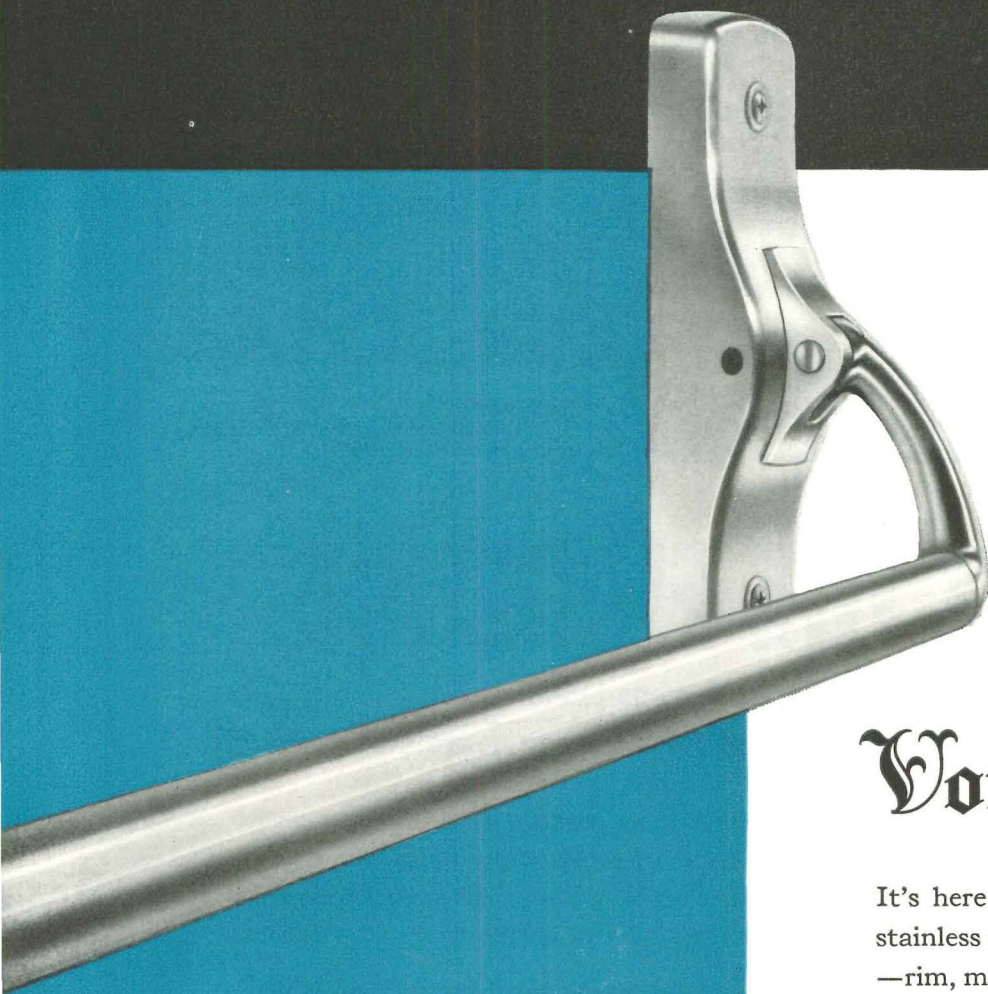




**Now...**



# Stainless Steel



"the safe way out!"

## Von Duprin 66

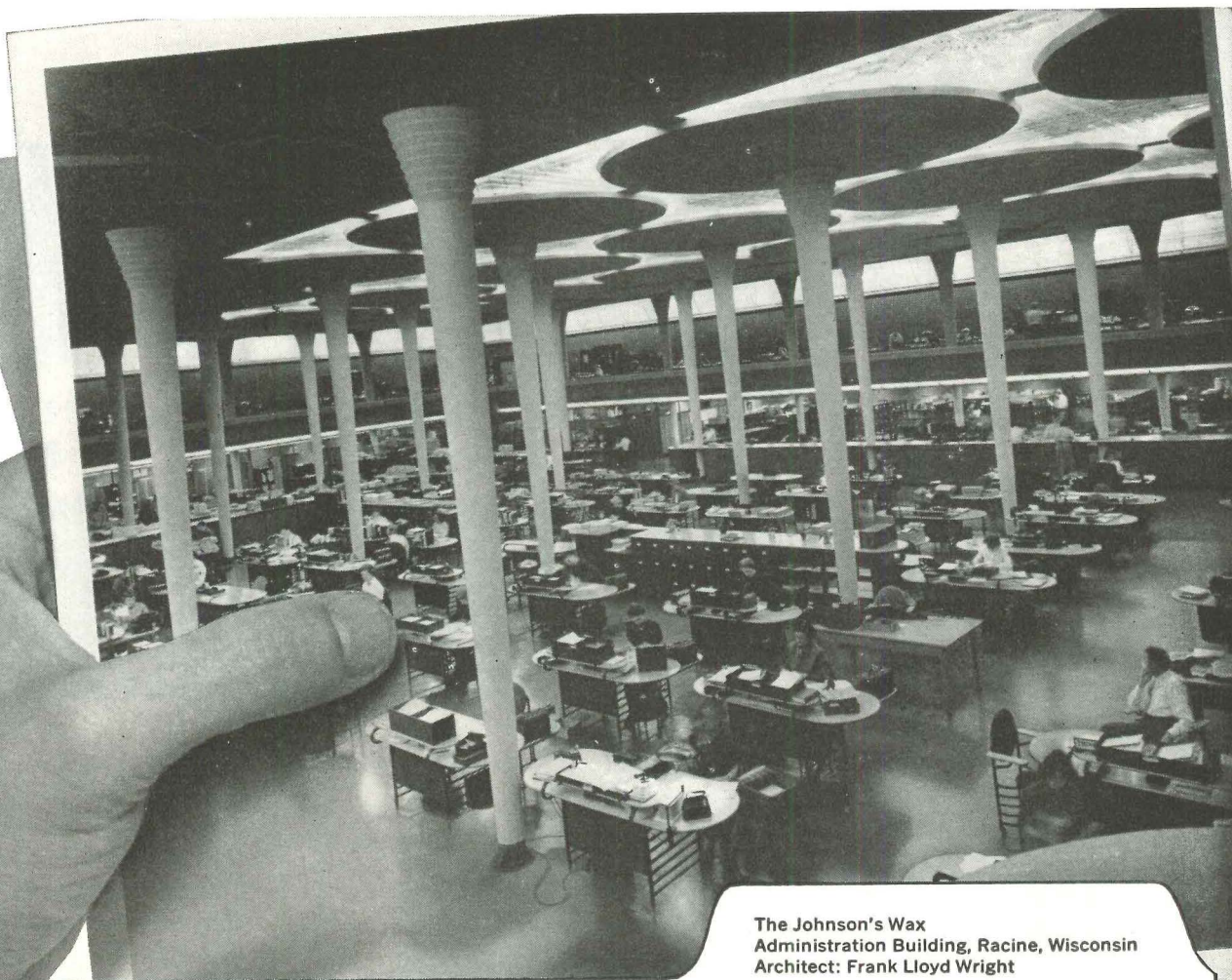
It's here . . . a sleek, slim exit device of stainless steel! Available in a complete line —rim, mortise lock and vertical rod models in either stainless steel or bronze. And a smart new series of matching outside trims.

If you have not yet received your catalog section on Type 66, please write:



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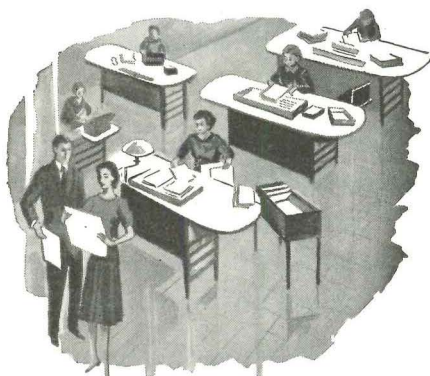




The Johnson's Wax  
Administration Building, Racine, Wisconsin  
Architect: Frank Lloyd Wright

# HERE'S THE EVIDENCE

The original **WRIGHT** floors in this famous building,  
installed 18 years ago... are still "young"!



A busy office is the perfect testing lab for on-the-job performance of a flooring. Wright passes with ease... surpasses expectation. There's still a long life ahead for this 18-year-old floor (of course, it's waxed regularly).

For projects requiring colorful, luxurious flooring that's quiet, comfortable and easily maintained, specify Wright Rubber and Vinyl Tile with confidence. There's plenty of proof that Wright is not only one of the most beautiful but also the most practical of floor tiles.

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WA36



# there's **EXTRA** safety

when the  
**RIXSON**  
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 the door

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

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



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



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



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



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

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

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



Write for complete description and details

THE OSCAR C. **RIXSON** COMPANY

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CANADIAN PLANT: 43 racine road • rexdale, ontario



A mid-century modern interior scene. The wall is covered in a mosaic of small, light-colored tiles with larger, colorful tiles (blue, red, orange, green) arranged in a grid pattern. A brass side table with a round top and three legs holds a rolled-up orange magazine, a newspaper, and a small vase with a pink rose. A black metal chair with a dark seat is positioned to the right. The floor is covered in a striped rug with shades of blue, green, and red. A large, dome-shaped brass lamp hangs from the ceiling.

presenting...

Wall Motif is Suntile Design No. 12 COLOR GRAPHS IN GRANITE, mounted with the graph pattern in vertical position for increased room height effect. Floor is No. 11 FOREST TRAILS on 157 Ivy Field. Scene photographed for normal interior-light color values.



# new designs in *Suntile* ceramics

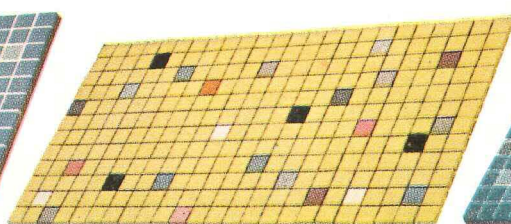
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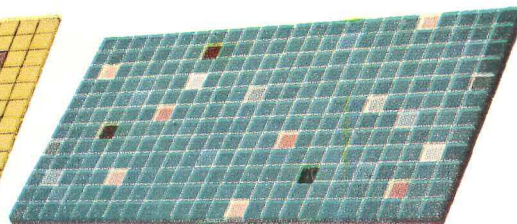
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No. 15 DRESDEN BLUE BUCKSHOT



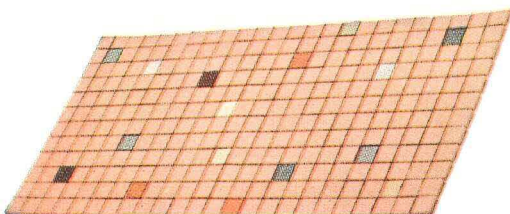
No. 19 CITRUS YELLOW BUCKSHOT



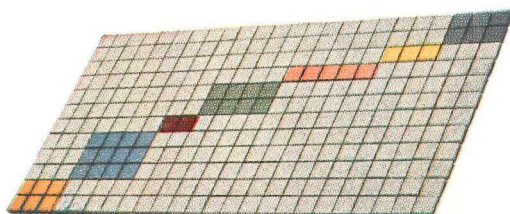
No. 17 TURQUOISE BUCKSHOT



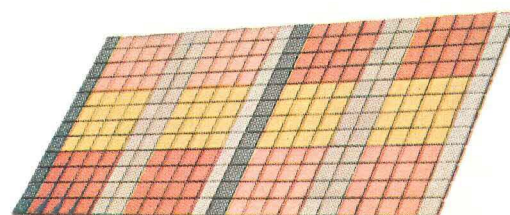
No. 11 FOREST TRAILS on 157 Ivy Field



No. 18 CAMEO PINK BUCKSHOT



No. 12 COLOR GRAPHS IN GRANITE



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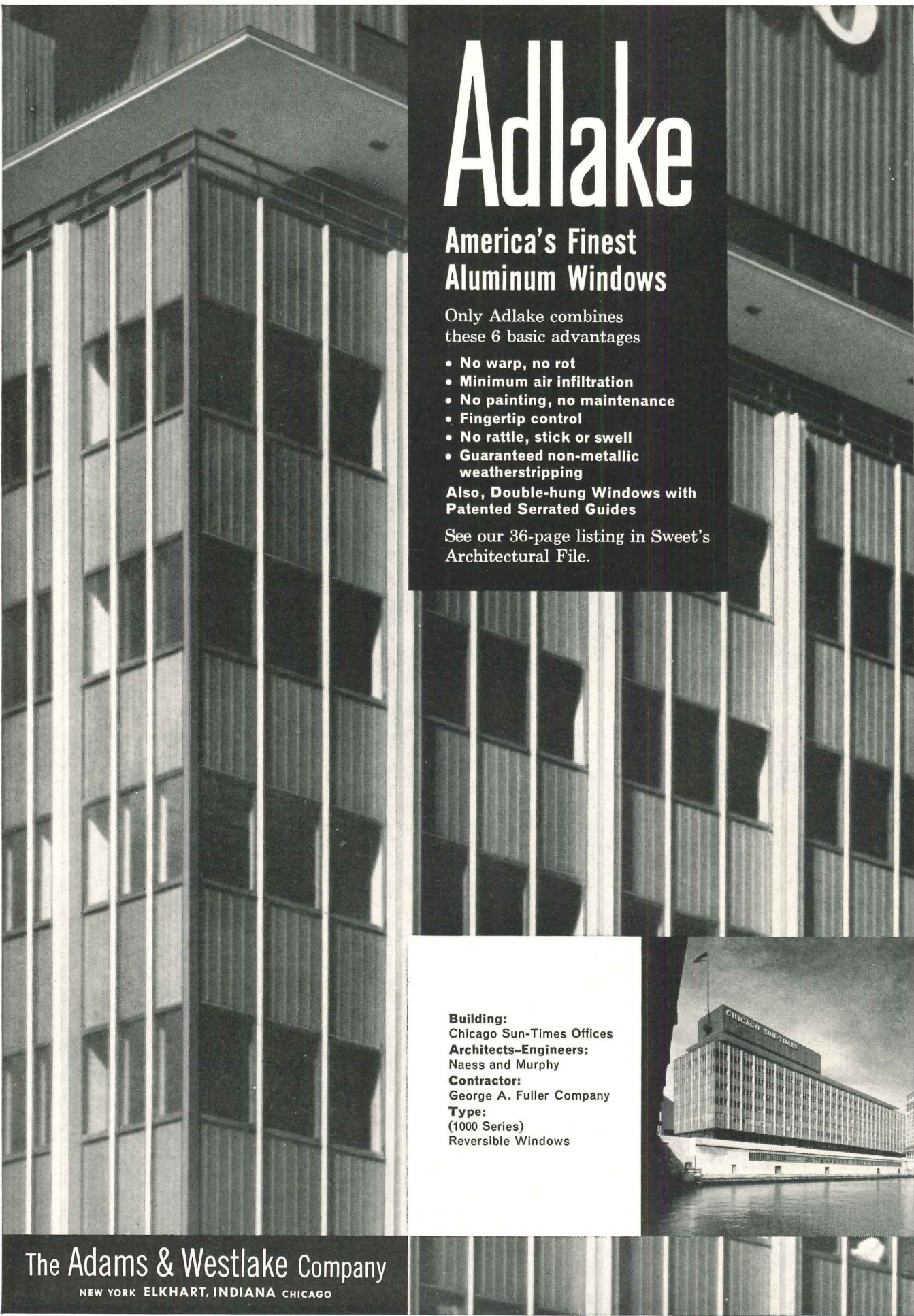
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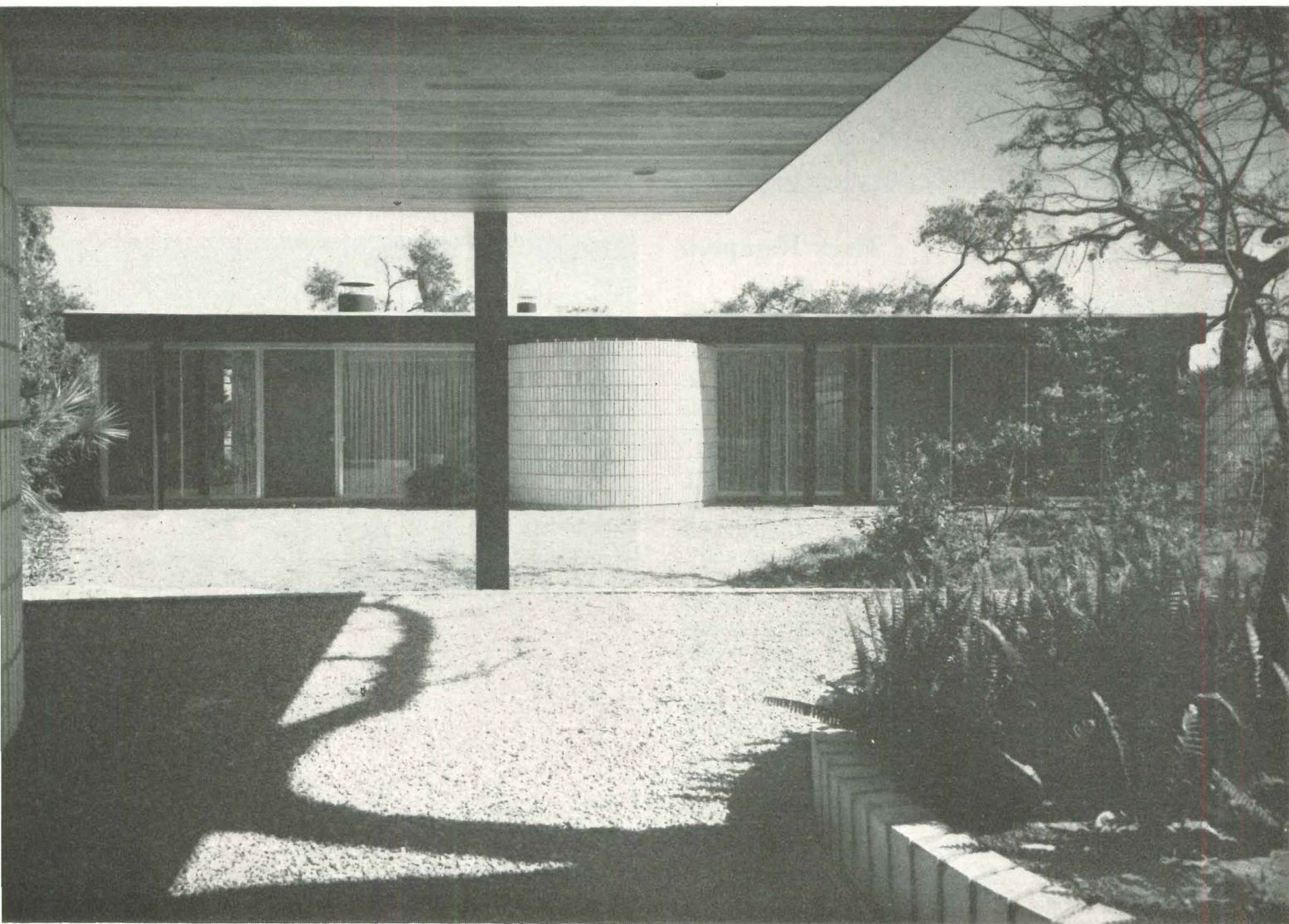
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*With this discussion of the work of Architect Mark Hampton, of Tampa, Florida, P/A inaugurates a series of studies wherein we will report on the progress in philosophy and design of selected firms that, we feel, are doing exceptionally competent work, though not necessarily work accorded the widest publicity. The house shown below (JULY 1956 P/A) is a handsome expression of Hampton's design wish to achieve "consistency and logic in structure, materials, color, and detail."*

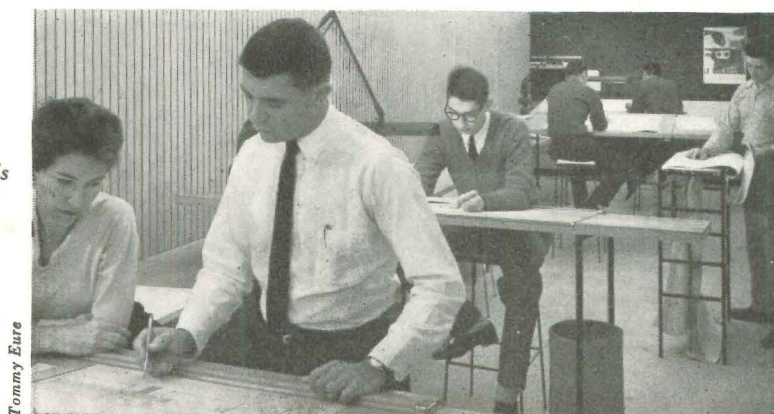
## **progress report:** *The Work of Mark Hampton*

Text by George A. Sanderson; Photos (except as noted) by Alexandre Georges



*Hampton Thompson Bovard Bouterse*

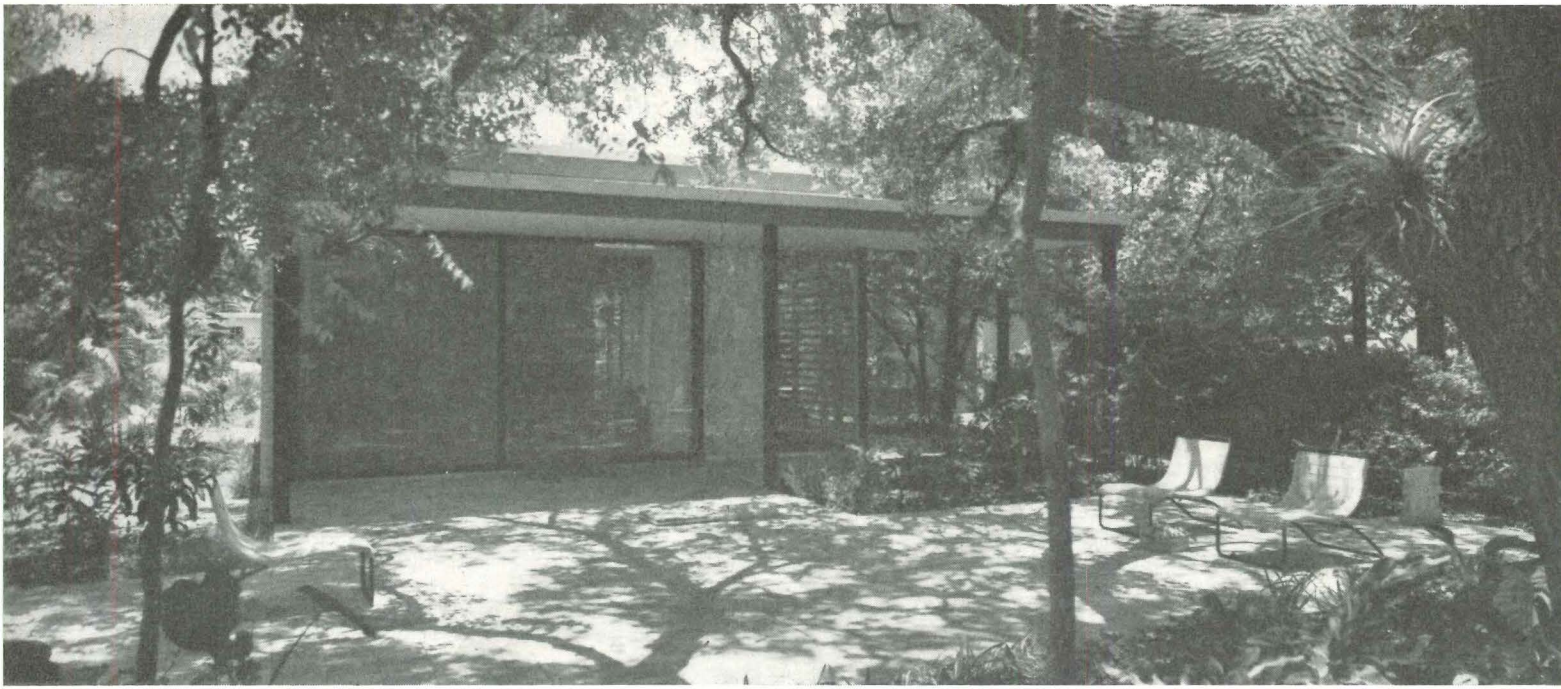
*Wells*



*Tommy Eare*

*Alfano*

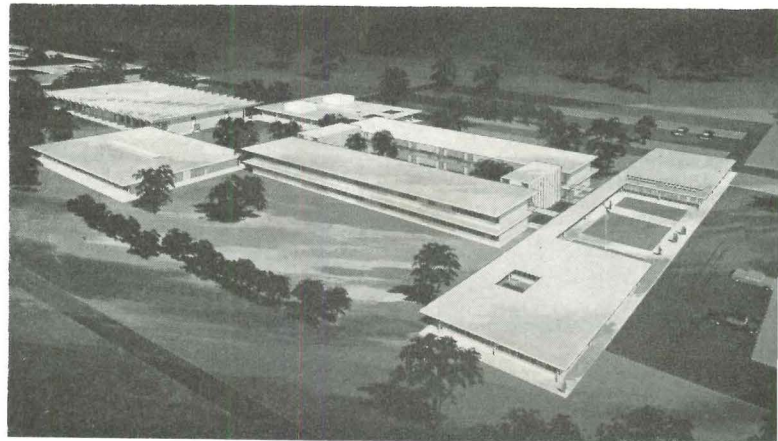




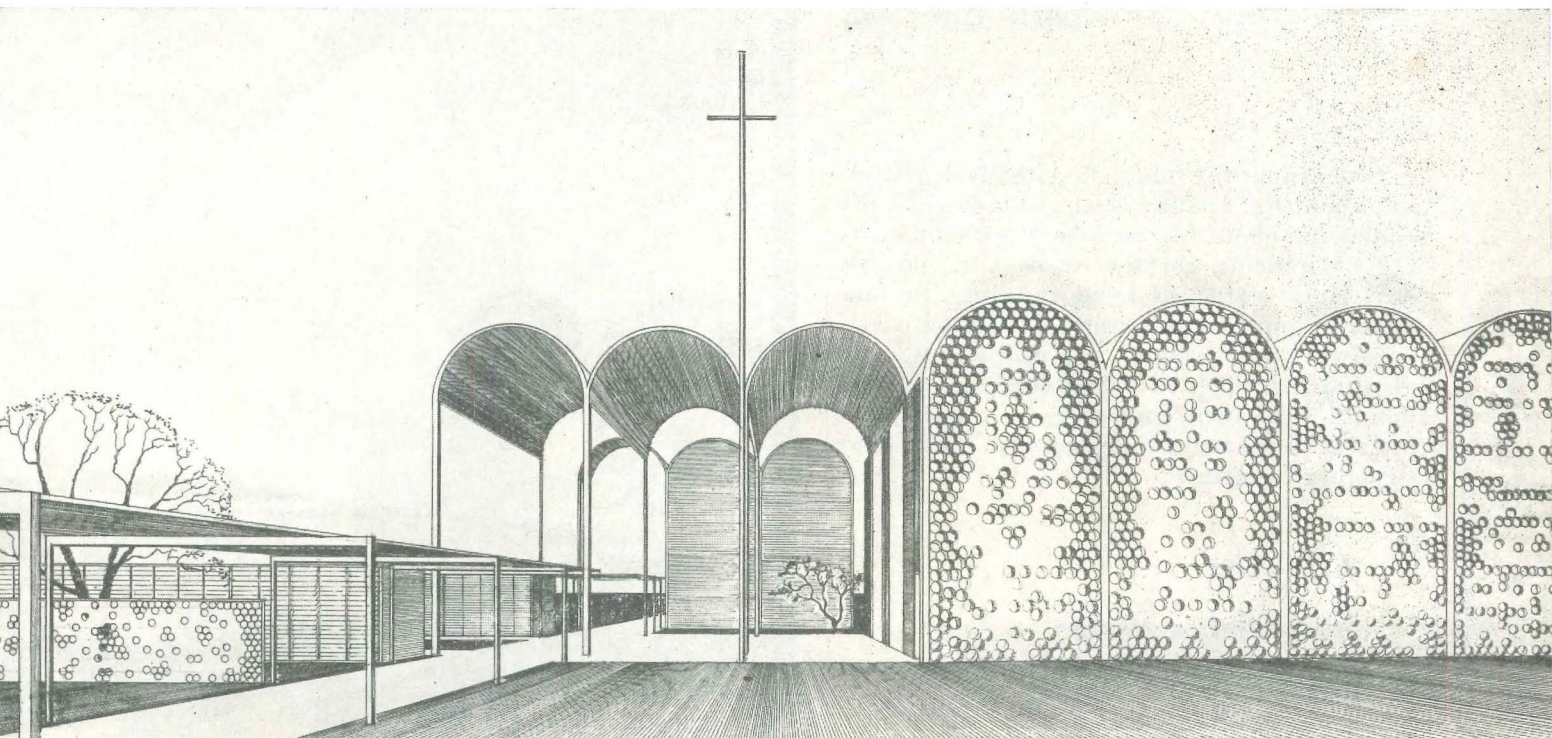
## Mark Hampton

It is impossible to isolate all of the influences, experiences, and convictions that go to make up a man's talent. One may, however, study the person's accomplishment; and from such study, draw some general conclusions. One may talk with him and find out why he does what he does; one may even obtain a specific statement of his design philosophy. Still, there will remain broad areas under the headings of inspiration or (sometimes) genius about which one can only speculate. To say this, however, is not to say that it is fruitless to consider the more definable factors. From these, at least, will be gained a clearer understanding of his work. From them, too, some may glean principles, not before so clearly discerned, that they may apply with benefit to their own endeavors. It is from this point of departure that we launch *Progress Report*, a new P/A series that will explore work of selected architects who either are young and full of promise or who have done consistently outstanding work, progressing as their practices have thrived.

We selected Mark Hampton as our first guest for a number of reasons. He is but 34 years of age. His practice is young—established only 6 years ago. And his design accomplishments in this brief period have appeared in the pages of newspapers and consumer and professional magazines, and have won top awards in many quarters. Though his product is not yet impressive quantitatively, in quality, we feel, the things he has built have a refinement and distinction that place them in the category of important architecture.







The initial impetus that prompted Hampton to become an architect is one of the missing pieces in this analysis. All we know is (to use his own words) that "I was born and raised in Tampa, starting July 17, 1923. I went to local schools and very early acquired the idea of becoming an architect." There was no family precedent for the choice. His father and grandfather were both doctors; his two brothers are doctors now.

Architectural training at Georgia Institute of Technology was interrupted by war service as Infantry Company Commander (42nd Division) in the E.T.O. Discharged as a Captain in 1946, he returned to Georgia Tech, graduating in 1949 with B.S. and B. of Arch. degrees. The following summer was spent with three other graduates "doing Europe," where "we had the opportunity of studying most of the good contemporary work." Subsequently, he taught briefly at Tech, worked part time for the Atlanta firm of Bodin & Lamberson, but then "realizing that I wished to live in Florida," went to Sarasota to work with Twitchell & Rudolph. While there, Hampton obtained his Florida registration and returned to Tampa in 1952 to design and supervise a residence-clinic for Dr. George Morrison (*subsequent pages*) and a house for his mother (*top photo, across-page*). Most recent Hampton commissions are the 32-room John Quincy Adams Junior High School (*acrosspage*); St. Mary's Episcopal Church (*above and cover*); #1 Davis Medical Building (*left*). Both school and medical building are scheduled for completion later this year; so far, only the rectory of the church has been built; other elements will go forward as funds allow.





## Mark Hampton

One cannot for long talk with Mark Hampton about his architectural goals or read his comments about his own work without hearing or noticing certain words and phrases recurring, words to keep in mind as one views examples of his work—"simplicity . . . consistency . . . logic . . . refinement . . . rhythm . . . unity . . . flexibility . . . orderly definition of form and space . . . minimum materials repeated throughout . . . modulated structural systems."

### *flexibility*

### *exploited in design*

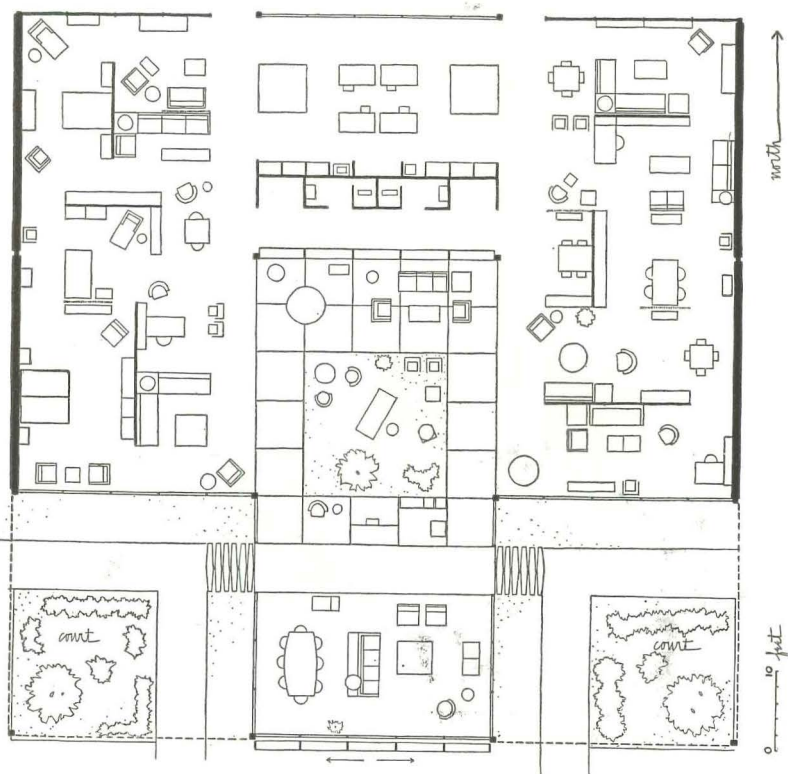
### *for furniture display*

Galloway's Furniture Showroom in Tampa has many of these qualities. Built on a flat, angular corner on a main thoroughfare, the building was designed as a background for display, with materials selected and applied so that the background would be secondary to the furniture displayed, "complimentary, rather than competing, designwise." Brick was chosen to give scale to room settings and all is organized on a 6-ft module—window-mullion spacing; terrazzo screeds; suspended ceiling grid, with continuous plug-in strips for light fixtures—to provide utmost flexibility and serve as a measuring unit in display set-ups.

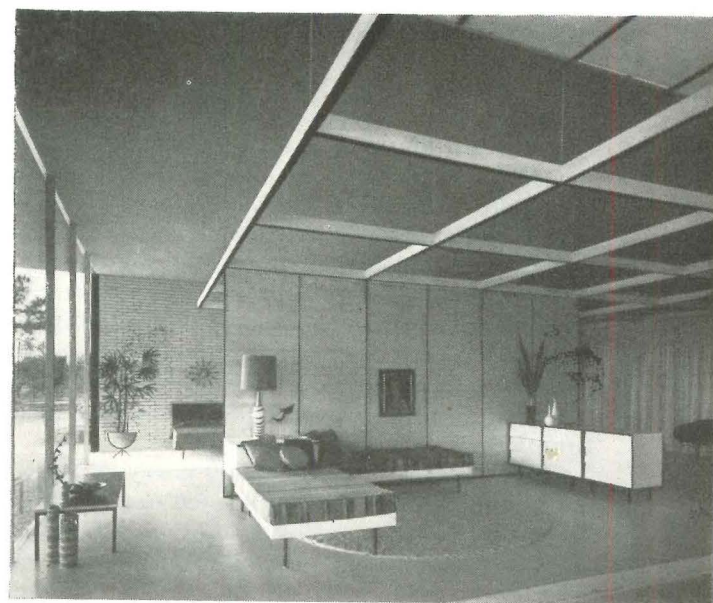
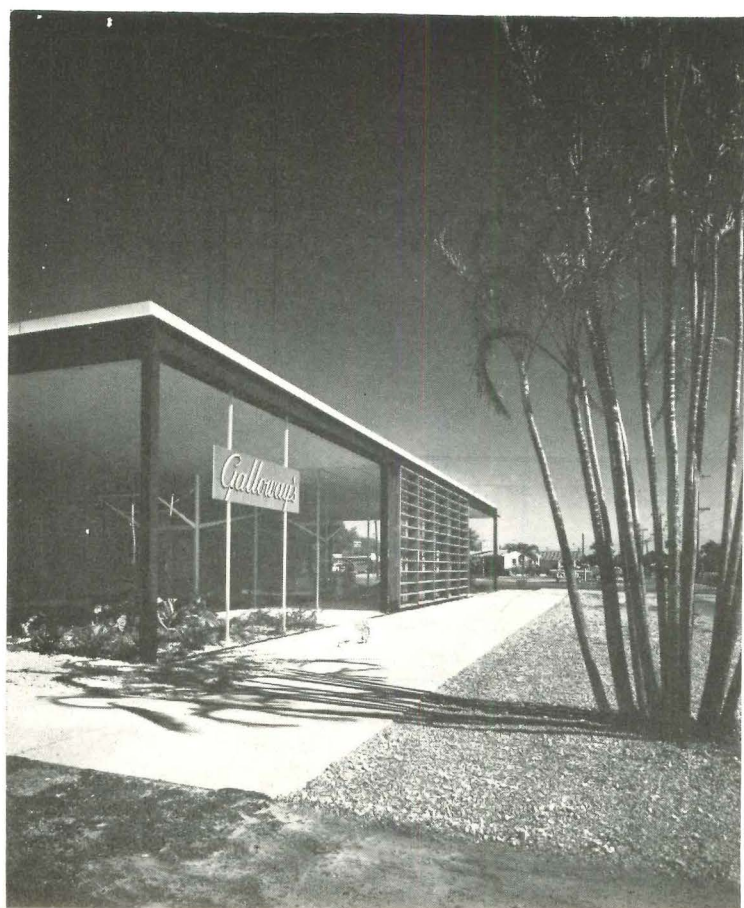
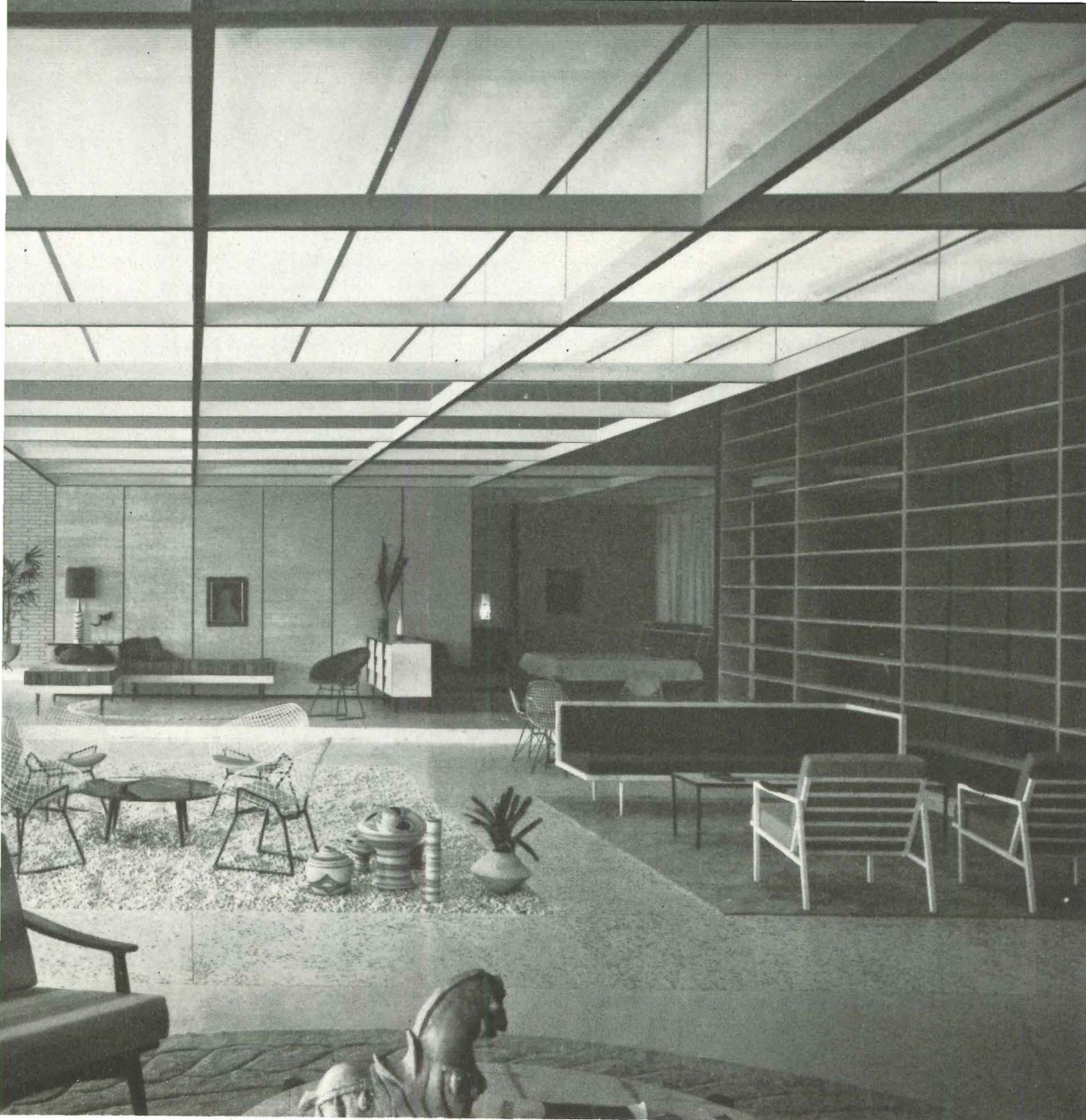
The plan scheme was developed to give maximum effect for auto traffic, yet still allow varied display for the pedestrian shopper. To overcome the sun problem, with windows on east, west, and south, deep entry courts occur on east and west; and a sliding, louvered wood screen is used on the projecting south window.

The steel structural system is laid out in 30-ft-square bays, with columns and beams supporting bar joists 3 ft o.c. Permanent exterior walls are either of glass, on a 6-ft module, or cavity-brick filler panels. The rear wall, of plaster on steel studs, will be removed and the showroom extended three additional bays in the future. The only color, inside or out, is provided by natural materials—walnut partitions, weathered redwood sunscreens, buff-sand brick walls, buff plaster ceiling, white terrazzo flooring.

Natural light, the architect points out, was desired "for correct color choice. The supplement of luminous ceiling and lamps was for character in the groups. The two bays of









## Mark Hampton

luminous ceiling were introduced so that the center bay would give a courtyard appearance in the daytime for display of terrace furniture, and the outside bay would provide night lighting for the front show window." Acoustical treatment was provided by acoustical plaster ceiling and exposed brick side walls.

Russello & Barker were Structural Engineers; Holmes Nurseries, Landscape Architects; Chester Mabry Construction Co., General Contractor.

*spaciousness*

*created*

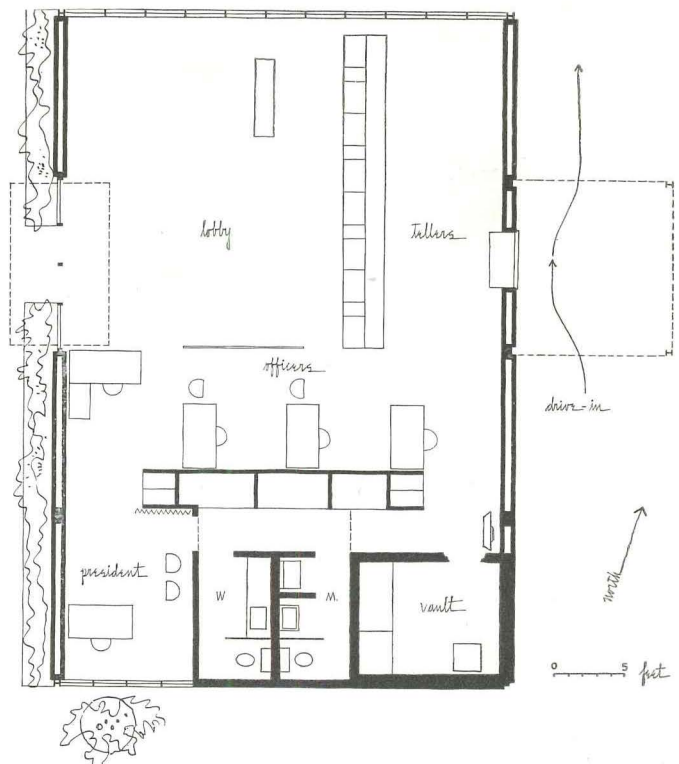
*in small, urban bank*

"I do not necessarily strive for formality, unless it is a program requirement," Hampton comments, "but I feel that a certain formality always results from a studied, well thought out, modulated structure." This quality is apparent in the First Industrial Savings Bank of Tampa. The problem here was to provide full banking facilities within an extremely limited area, and "the design approach was to provide as much of a feeling of space and size as was possible within the limitations." Elements that contribute to the success of the solution include a full north wall of blue, translucent, glare-reducing glass; high, unbroken ceiling plane; single visible wall division of vertical walnut strips. Steel columns and beams support 33-ft precast, prestressed double T slabs—a system selected for speed of erection to meet a tight building schedule. The steel H columns are left exposed at the end of cavity-brick walls. Natural light, adequate for all but night use, is supplemented by fluorescent fixtures above the central area; directional spots for highlights on brick walls; and hanging brass fixtures to identify officers' desks. The building is heated and air conditioned with an air-cooled heat pump located above the vault.

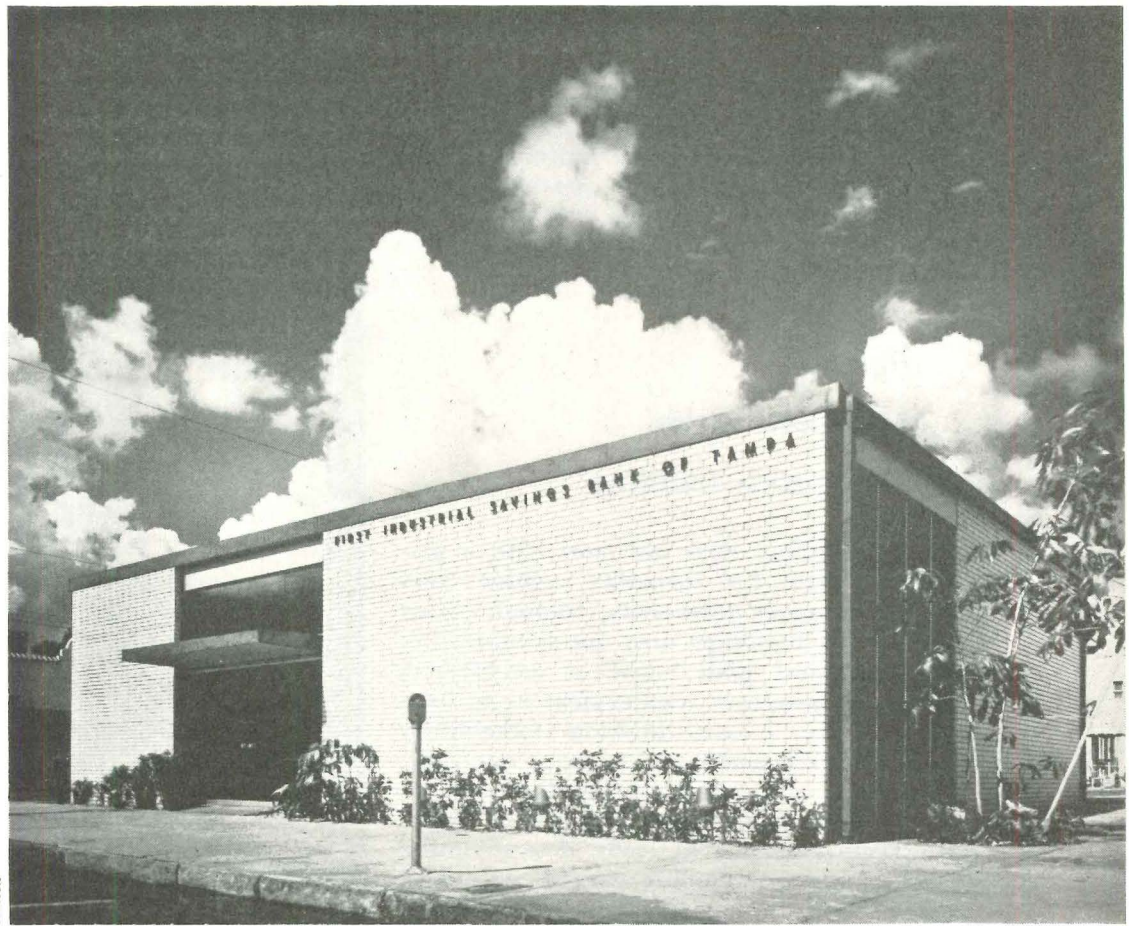
Interior and exterior colors carry through, using buff brick, black structural steel, copper fascia, blue glass; walnut counters, paneling, and furniture. Black and gold marble counter tops are used with white marble change plates.

The architect handled all interior design work; Norbert Fuller, Inc., was General Contractor.

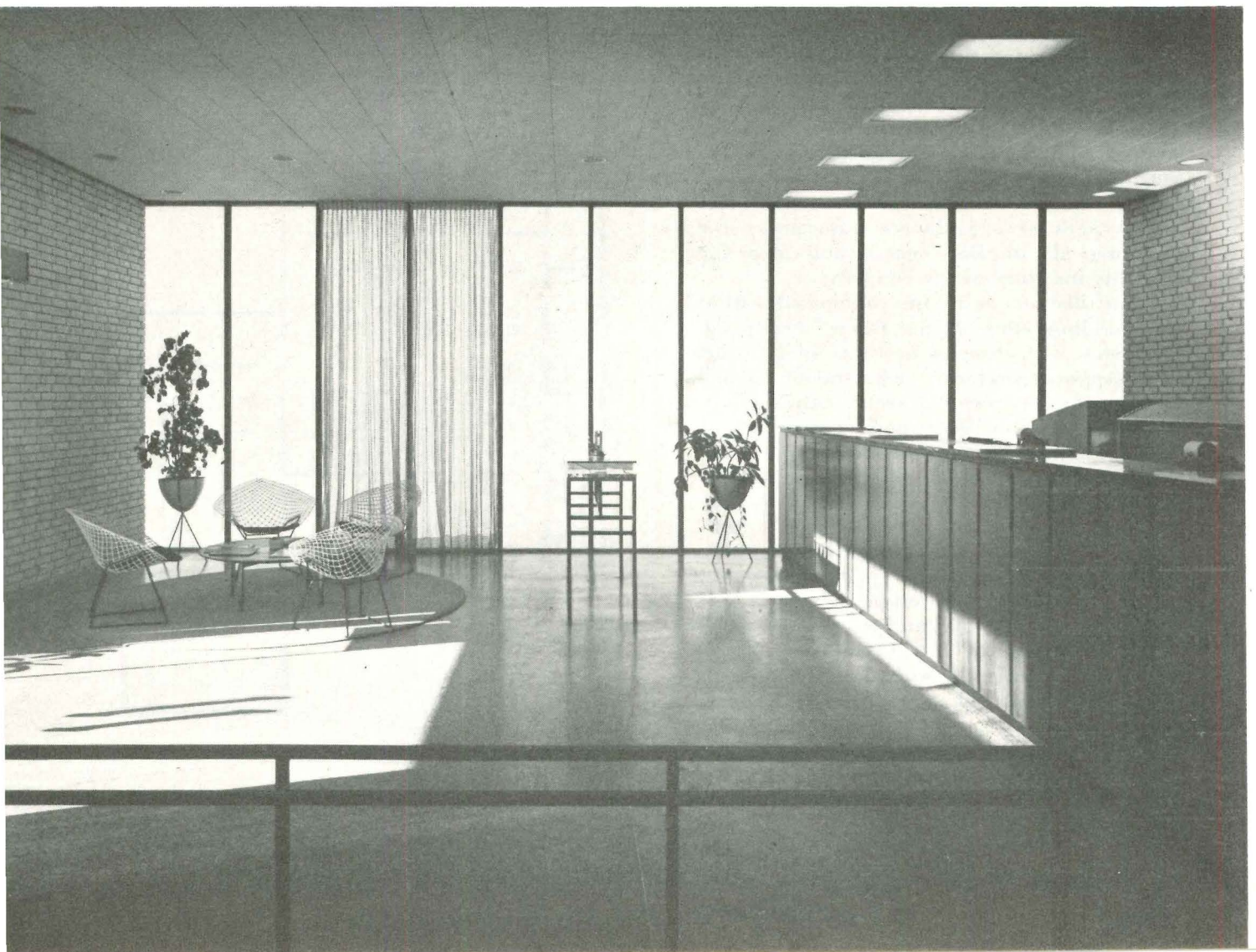
"In general, a simple building is easier to live with," says Hampton. "Materials, I feel,







Amick





## Mark Hampton

should be held to a minimum, selected for their best possible usage, and repeated as a theme throughout. Color in building should be kept to a minimum, particularly in Florida, where our strong sun makes the color of outside foliage and sky very hard to compete with."

### *offices*

### *organized within*

### *windowless building*

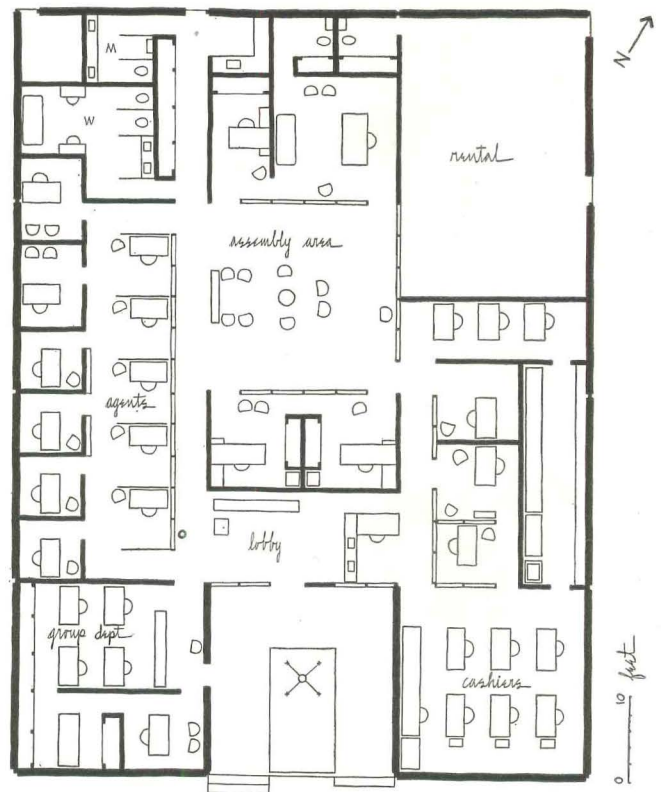
Just as Hampton does not start with a preconceived wish for formality, neither does he seek symmetry necessarily, "though a good many of my buildings turn out symmetrical. After a logical plan 'parti' is established, solving the program requirement as to location and size, I start thinking immediately about structure, mass, and space at one time. A repetitive structural system that can be used throughout is generally suggested by the plan requirements. An early determination of this structural module can be an aid in defining the form and space, in that it usually leads to a more simplified form and suggests interior spatial effects possible within the limitations of that particular structure."

In the design of the office building for Gulf Life Insurance Company—rigidly symmetrical on the exterior—it was early decided to eliminate windows, both because of undesirable outlook and to cope with sun exposures. Instead, there is a plastic-roofed entrance patio and a luminous-ceilinged interior space that serves both as a patio-like passageway for reaching all interior spaces and also for monthly meetings of the company.

Four distinct areas are organized within the building—the "Home Office" group department, with exterior entrance of its own; bookkeeping-secretarial department located adjacent to the reception area; central executive offices and meeting room; agents' space. The present rental area will be used later for expansion of secretarial or executive spaces.

The structural system is reinforced-concrete columns and beams with pan deck; buff-colored cement brick constitutes exterior filler panels in the white-painted exposed structure. Interior wall surfaces include walnut panels, grass cloth, and white plaster. All wood doors are in two shades of yellow; floors are covered in white or black vinyl-asbestos tile, or (in executive offices) carpeted.

Asked for any reactions from those who use the building, the architect commented: "Reactions have been favorable."









## Mark Hampton

Many might be interested in how the Hampton office is organized and operates. With the exception of Hampton's secretary, Barbara Prendergast—who, he tells us, “handles the usual nasty chores of channeling salesman and clients in the right direction, plus a multitude of other duties”—all of the staff are shown on the introductory page of this study. Gene Bovard handles the supervision for the office, with assistance from the draftsman on a particular job, writes specifications, and interviews material salesmen, passing on only items of interest to the rest of the office. “I feel the tie-in of these three jobs is most essential,” Hampton comments. “In this capacity, he is abreast of new materials available to incorporate into specifications; and having written the specifications, he is completely conversant with the job and its requirements before starting supervision.” Of the four draftsmen, Frank Alfano, Gene Thompson, and Lea Wells are registered architects; Don Bouterse has been with the office just a few months and has not yet applied for registration.

*open scheme*

*developed for*

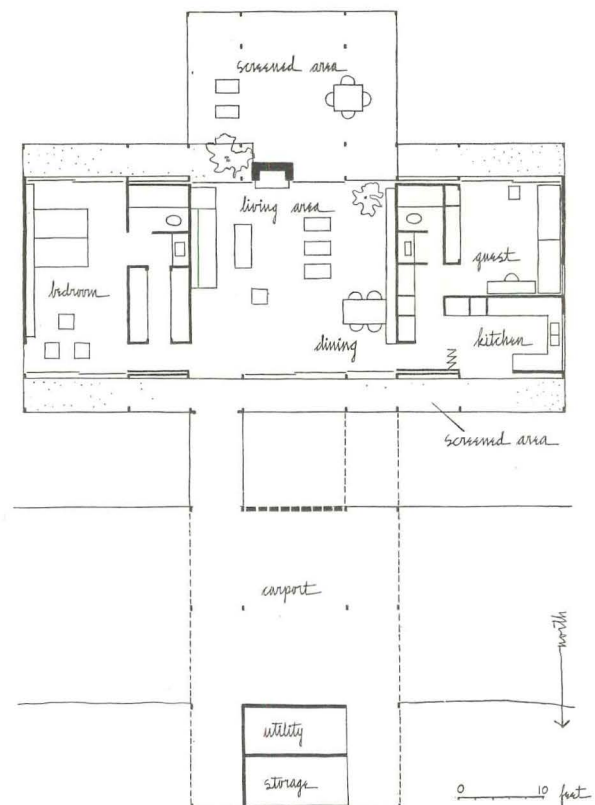
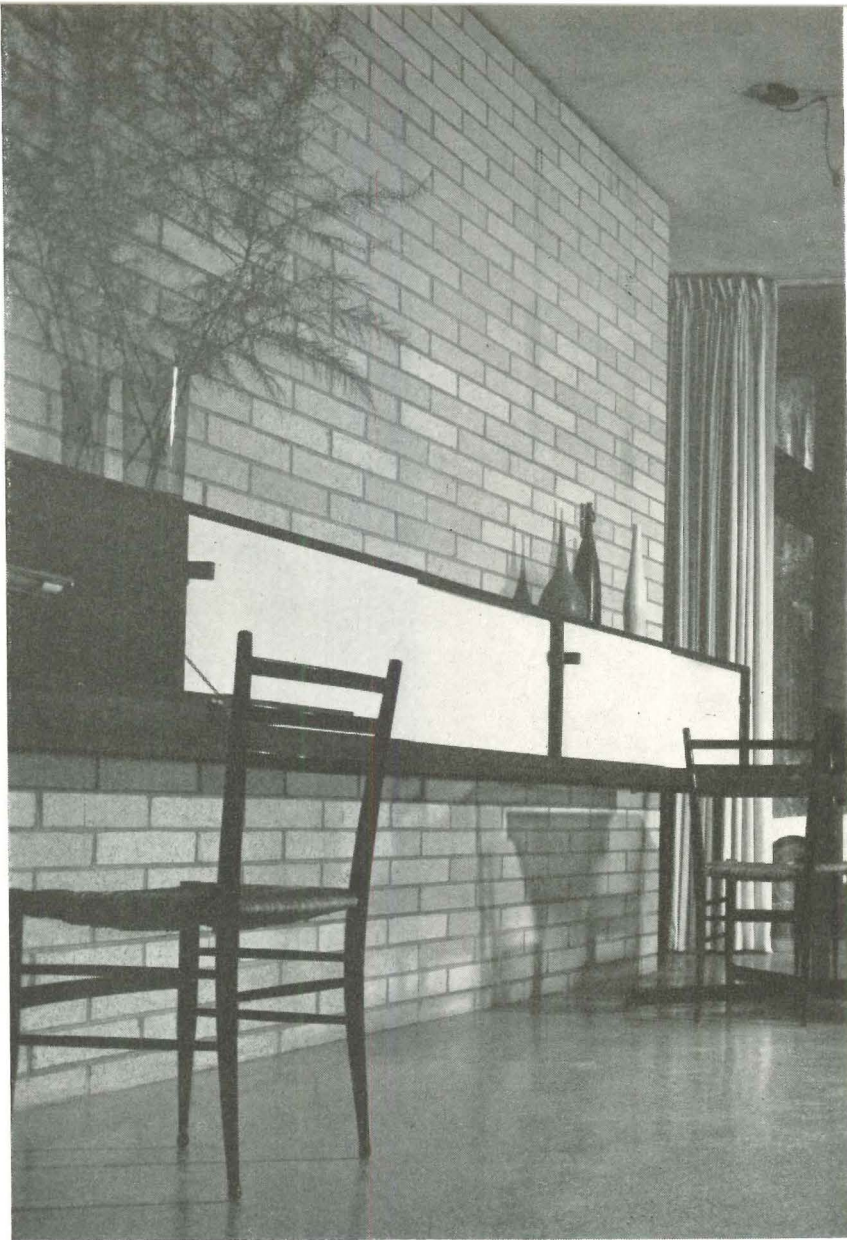
*small, lakeside house*

In designing a building of any type, Hampton feels that “other than achieving a workable solution to the physical requirements, there must be a consistency and logic in the use of structure, materials, color, and detail within a building for it to be successful.”

In the house shown on these two pages, built in Lutz, Florida, for a middle-aged couple, this design-wish seems to be happily realized. Planned as a retirement home, chief requirements included that the house demand little maintenance; that it include, in addition to the master bedroom, some space for a guest; and that the living area should be usable all day. They wanted no air conditioning, other than natural breezes off a neighboring lake. The site, flat land with a dense growth of cypress trees, was large enough to permit a very open scheme.

The house is placed so as to catch the prevailing breeze off the lake and to leave as many trees as possible intact. Taking advantage of the large site, spaces are planned adjacent to planting areas so that, by sliding back glass doors into pockets, entire walls are opened, producing an effect not unlike that of screened porches.

Of wood post-and-beam construction, the







© 1958, J. RICHARDSON, JR., NEW YORK, N.Y.





## Mark Hampton

beams are left exposed on the exterior of the house. To serve the minimum-maintenance desideratum, all materials were selected with this in mind—rough-sawn, stained cypress columns; buff-colored clay brick with rough texture; wood paneling. The electric radiant heating system—coils in the plastered ceiling—also needs little or no maintenance. Floorings, over a concrete slab, are terrazzo in the main spaces; vinyl tile in the kitchen; and paving brick in the patio. Plastic skylights are used above interior areas.

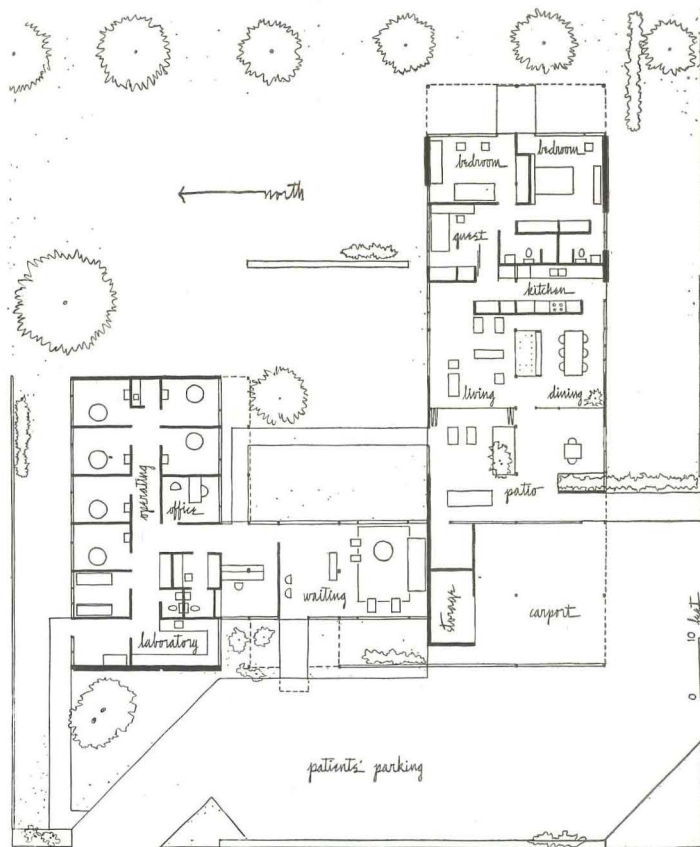
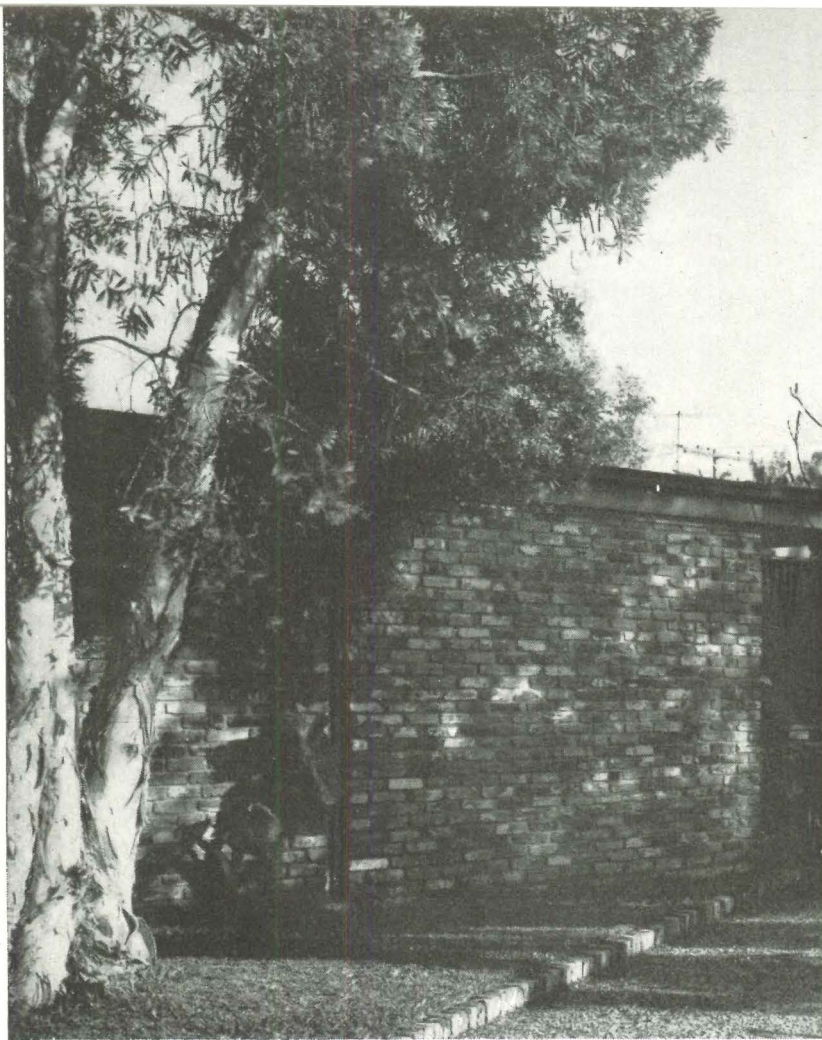
As usual with Hampton work, colors are natural for the most part—brick, wood, a copper fireplace hood. The furnishings are mainly black and white, with incidental accents of strong color. For this house, Sara Blount designed the interiors, and Ostie Miller was Contractor.

### *clinic and residence combined*

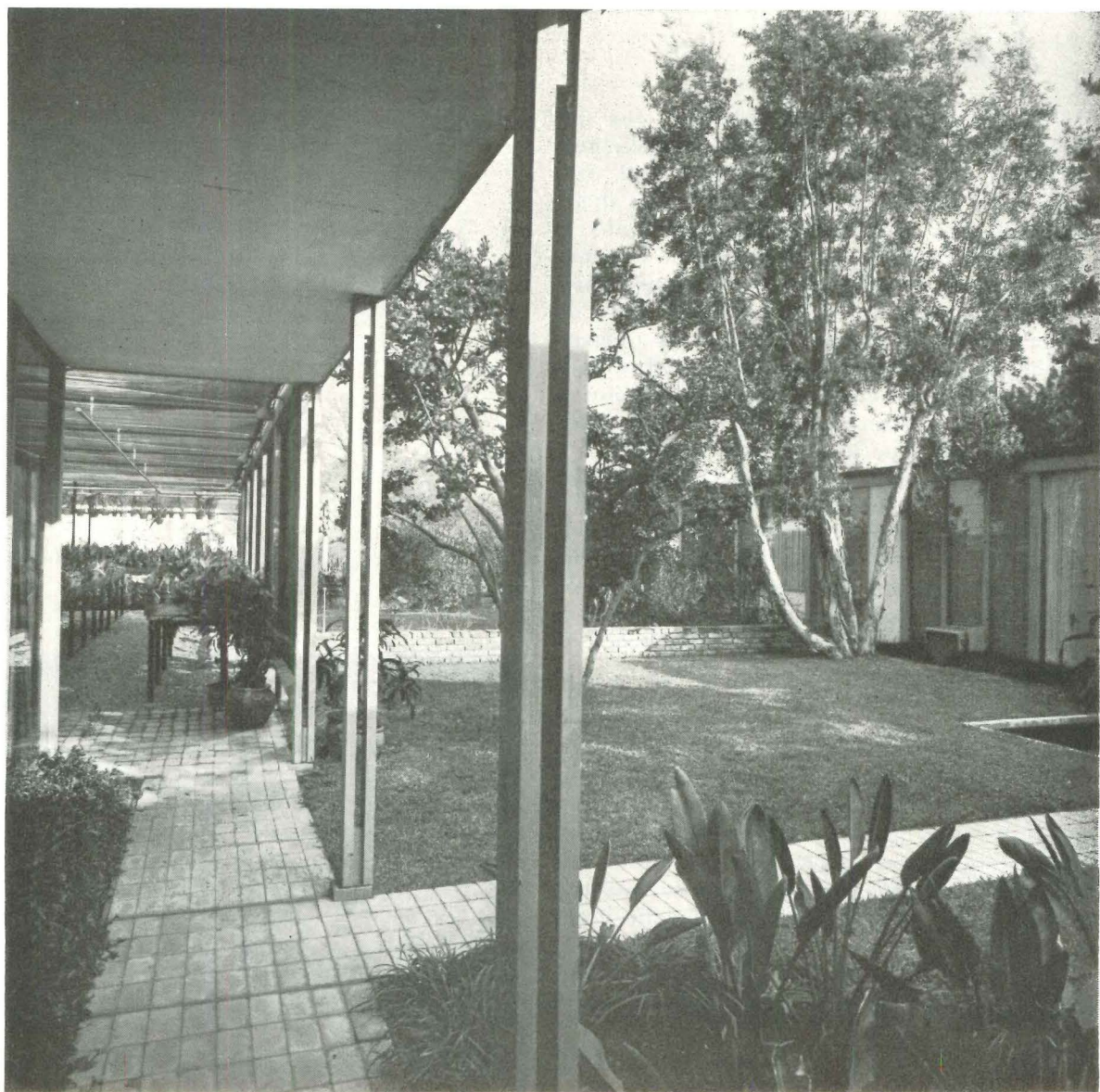
One of Hampton's earliest commissions (1952) was the combined residence and dental clinic for Dr. George Morrison shown on these two pages. This job, as well as the house he did for his mother (introductory pages) were done "at home," with no real office. Soon, however, "I moved downtown to the attic of the building where I now have my office on the ground floor . . . I think it was a pretty good test for the sincerity of my clients, since it was entered only by navigating a flight of stairs, dark passages, and an elevator machinery room."

In designing this residence/clinic, the design wish was "to create an atmosphere of repose—a residential feeling—in order to warm up the cold business of dentistry." To achieve this end, materials selected were an important factor—natural wood, textural old brick, paneling, and floor-to-ceiling fixed glass. Generous landscaping also played a sizable role here.

Each of the operating rooms has its own small garden view, scaled to the room. The residence wing, though separated from the clinic wing, is tied to the latter through a carport and central screened area. As in all of Hampton's work, once the materials were chosen, they were used throughout, producing the typically pleasing characteristics of consistency and order. The frame structure consists of paired 2" x 6"s, spaced 8 ft o.c., that carry concealed wood beams supporting









## Mark Hampton

14-ft wood joists. Ostie Miller was General Contractor for the project.

Both because he enjoys such things and also because it helps make and keep Tampan "Hampton conscious," Mark Hampton takes part in a number of extra-curricular activities. Among them is membership in social clubs, a civic club, local architectural groups, the AIA (he is presently a Director of the Florida Central Chapter), Tampa Chamber of Commerce (serving on the Urban Development and Beautification Committee), and the Tampa Art Institute, of which he was President in 1957. "I have been particularly interested in this last organization," Hampton writes, "since it has been an element lacking in Tampa. Last year we were able to secure 9000 sq ft of space to start Tampa's first real art gallery." He also gives talks to various groups—civic clubs, garden clubs, etc.; has appeared on TV; served on discussion panels at Georgia Tech; and been guest critic at the University of Florida.

### *modular disciplines*

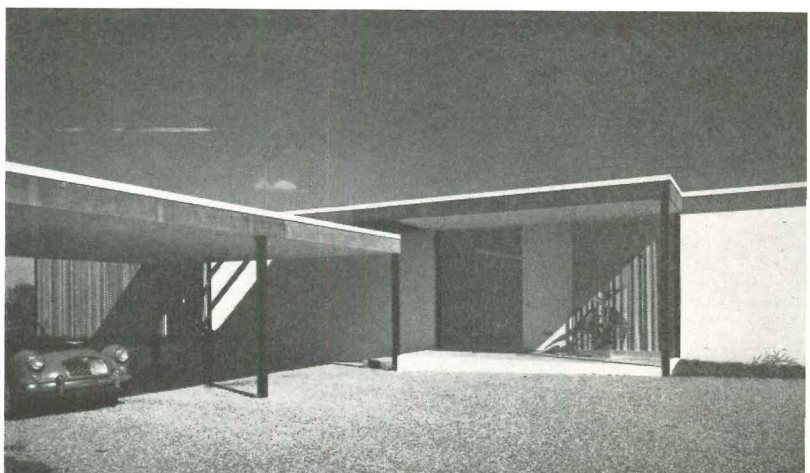
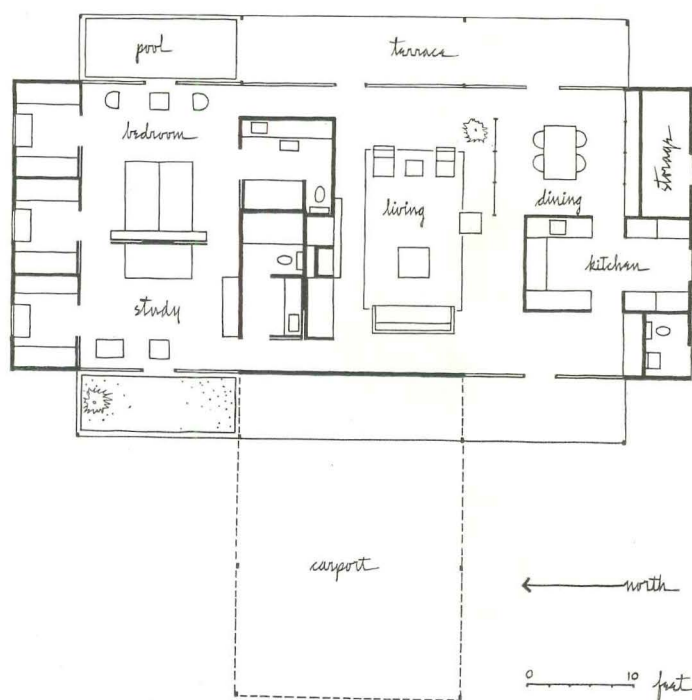
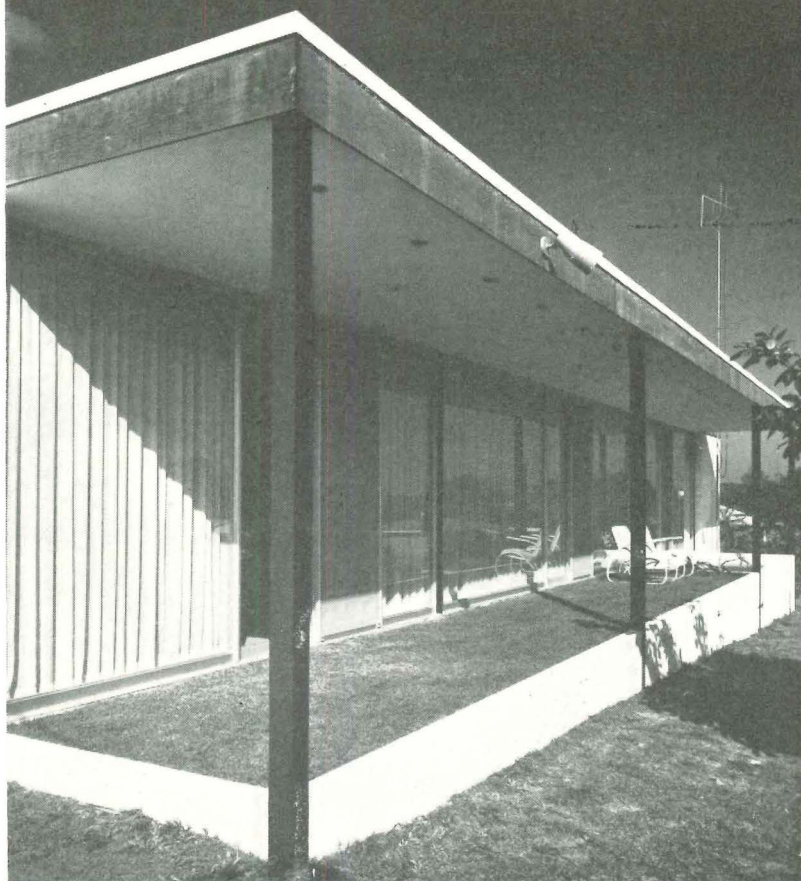
### *govern*

### *design for living*

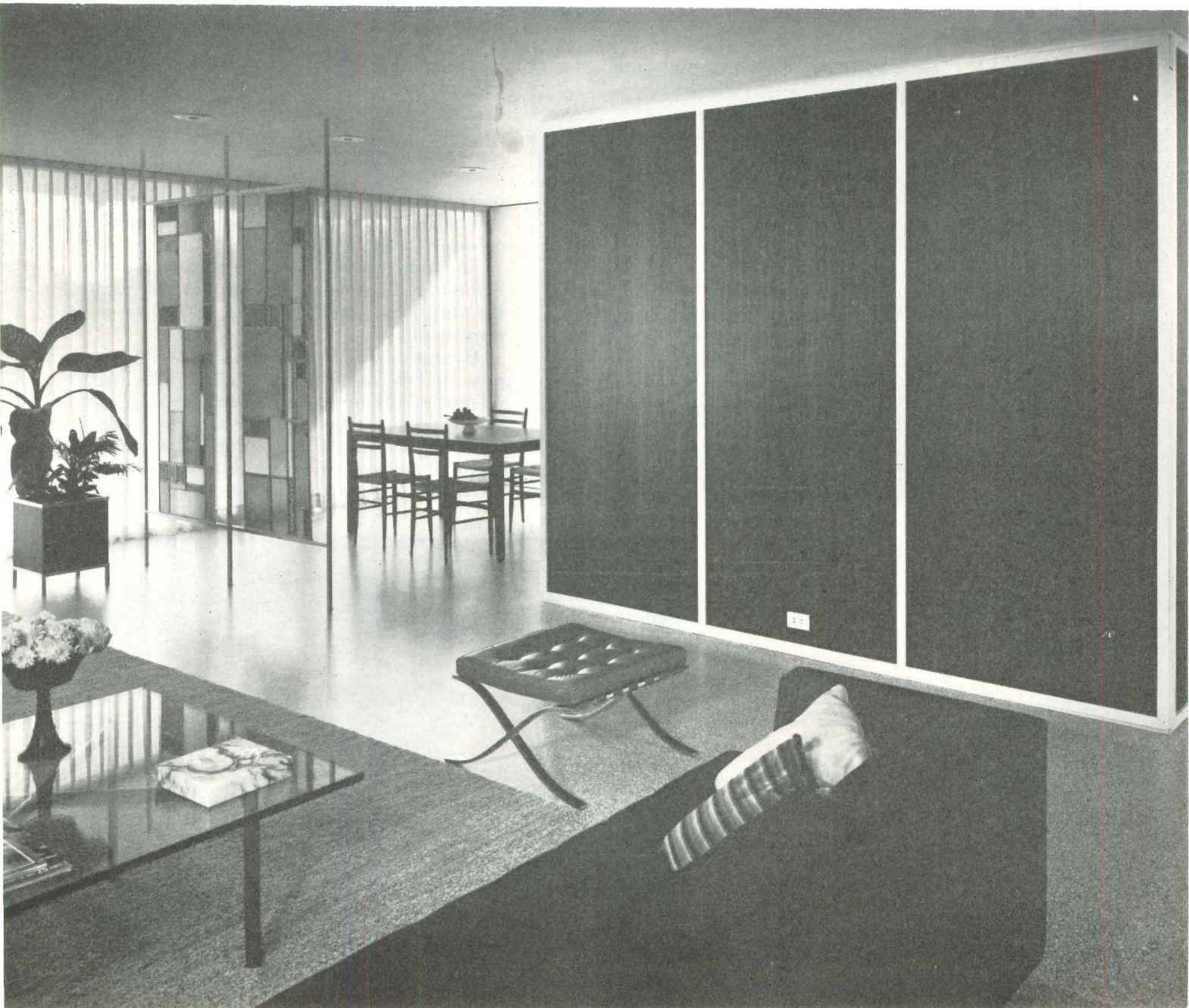
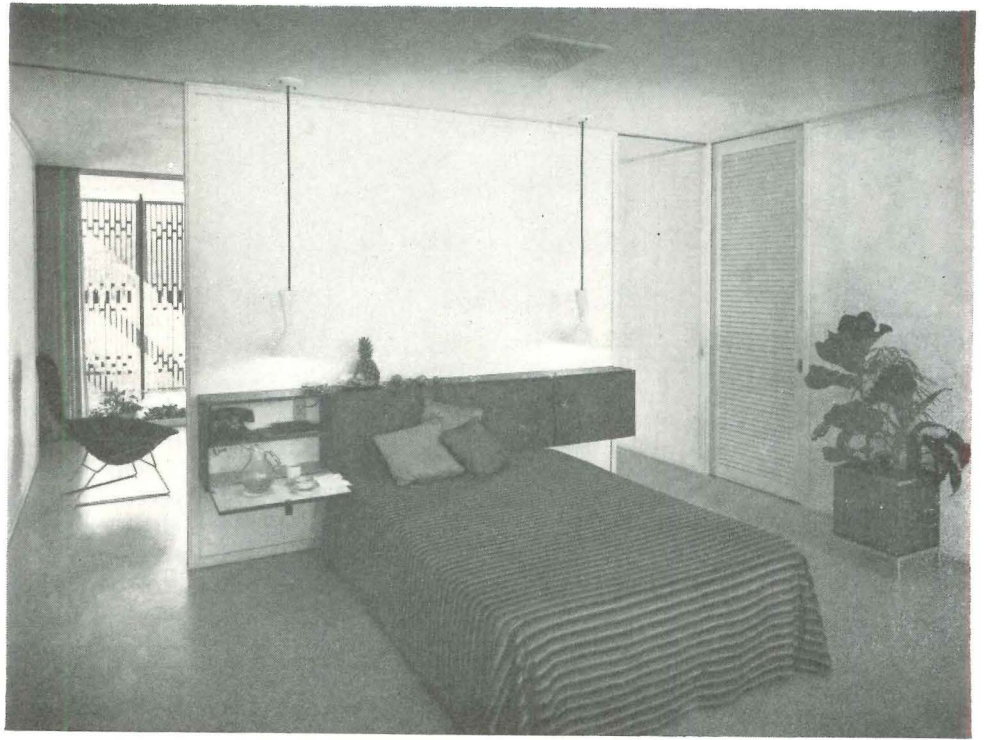
In studying the working drawings for this home for a semi-retired couple in Lakeland, Florida, one finds repeated over and over again the module of 3 ft, or multiples thereof. And this applies whether one looks at structural frame spacing (steel H columns and beams; wood joists); centering; door widths, partition elements; stained glass divider between living and dining areas (Joseph Escuder, stained-glass artist), or sliding door units. The house clearly demonstrates one of Hampton's firmest design tenets, which he spelled out for us in a letter as follows:

"The form will certainly be suggested by the program requirements, but can be unified and simplified by a consistent structural system. This means, of course, that since the structural module was determined by interior requirements, the interior spaces themselves will obtain an orderliness and consistency of expression."

The site for the Lakeland house slopes toward the north; trees were nonexistent; and the only view was of a lake in the distance to the northeast. To gain the distant lake view, the architect ignored the sloping ground and placed the house on a podium. Solid (stucco on block) storage units are organized at either end of the house, and the central space (interrupted only by the bath-











## Mark Hampton

room and air-conditioning and kitchen cores) is opened onto 6-ft porches at front and rear.

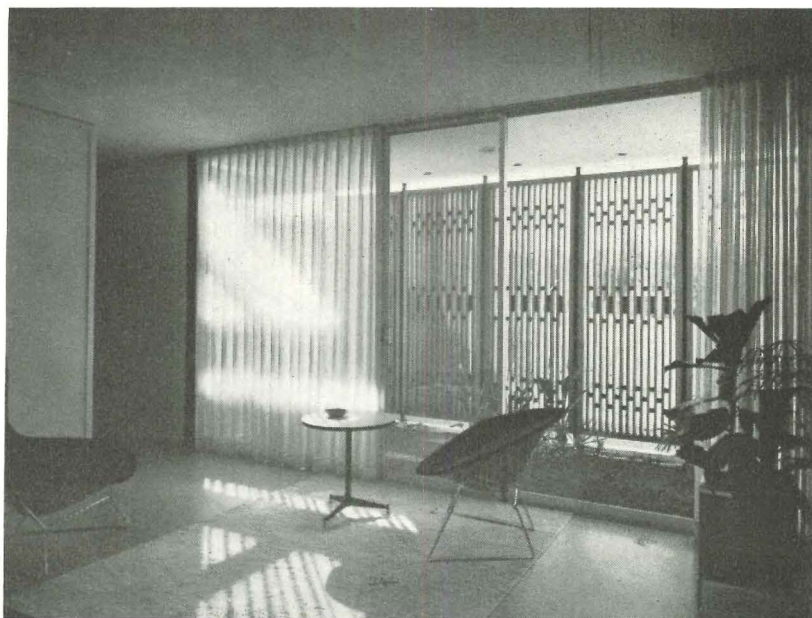
The floor of the house is slab on fill, with terrazzo floor surfacing. Exterior walls are either stucco on block or polished plate glass; interior wall finishes include plaster, grass cloth, or walnut paneling. Marble and tile are used in the bathrooms.

Eventually, the type of wood screen that is presently installed outside the front study-bedroom (*bottom*) will be used at the three other corners of the house. Year-round air conditioning is handled by a heat pump system.

"Simplicity and neutrality of color were desired," comments Hampton. "The stucco and plaster are white, columns black. The redwood fascia and screen are stained to a weathered gray finish. The grass cloth and walnut paneling are left in natural tones with white battens. Furnishings are in black and beige, with natural leather on the chairs. The stained glass panel (*top*) repeats all of these colors in various tones."

For this house, Russello & Barker were Structural Engineers; Florida House handled the interiors; and Ostie Miller was General Contractor.

Hampton has been fortunate in the business of "client winning." As he tells us, "I do not recall to date actually seeking out a job. . . . Clients have been referred to me, or have seen a job I have done that pleased them. I sincerely hope it will continue this way, since these people make the best clients."





# PROGRESSIVE ARCHITECTURE IN AMERICA

GRANITE WHARF, WAREHOUSE, OFFICE BUILDINGS—c. 1823-1872

Boston, Massachusetts

Alexander Parris, G.J.F. Bryant, others, Architects



State Street Block, G.J.F. Bryant, 1858.

When Mayor Josiah Quincy recorded his civic achievements in *Municipal History of Boston* in 1852, he happily looked back at his favorite project: the redevelopment of Faneuil Hall area and the building of Quincy Market in 1825-26. At the same time, he noted with satisfaction that the opening of that part of the city had created opportunities "for the foundation of those noble blocks of granite stores which have since been erected. . . ."

These commercial structures—warehouses, wharf buildings, store blocks—were the pride of 19th Century Boston. Built in great numbers from the 1820's to the 1860's, the effect of their massed gray granite must have been one of remarkable power. Many employed a unique type of stone-slab design in which huge structural blocks were used with almost 20th Century directness, and an unprecedented functional severity. Broad in concept, simple in detail, monumental in scale, they have an arrestingly proto-modern look to contemporary eyes. Although the majority was destroyed in the

fire of 1872, those that remain rank with America's finest commercial architecture. They are forgotten buildings, however, except for the attention of a few diligent historians who suspect that they played a considerable part in later developments. They have been admired by some architects, like Henry Hobson Richardson, whose predilection for massive masonry construction is well known. Richardson was undoubtedly aware of these rugged granite blocks, which were among Boston's most important new edifices during his student years at Harvard, and he could easily have been influenced by this spectacular manifestation of what Sigfried Giedion has called "the American tradition of the plain and massive stone wall."

The history of these buildings is incomplete. We know that the earliest were constructed on or near the waterfront, in the mid-1820's, concurrent with or just following the Quincy Market development. Later guides to Boston business buildings all name one granite block at 122 State Street, in 1823,



predating Quincy Market; another at 72 State Street, in 1827, just after its completion; with the beginning of the boom indicated by an increasing number in the 1830's. It seems more than likely that many of these early buildings were designed by Alexander Parris, architect of Quincy Market and its facing stores. By the 40's, a great many four-story granite business blocks and wharf warehouses were under construction; directories contain long lists. In the 50's, Commercial Street was built up, Franklin Street created, other streets continued and opened, and the entire district was soon lined with impressive granite edifices. Many of the later buildings, dating from the 50's and 60's, were the work of a spectacularly successful Boston architect, Gridley James Fox Bryant, son of the owner of Quincy quarries.

Even more important than the role of the individual architect in determining the nature of this admirable commercial construction were the material and the method of construction. Talbot Hamlin has attributed "the peculiar simple effectiveness of the Boston commercial work to the use—increasingly direct—of granite." Before 1800, granite had been employed for comparatively few buildings, in small pieces obtained from local boulders. When Chelmsford quarries were started, they offered the first generous supply of the material that was eventually to revolutionize Boston architecture. It was only with the opening of Quincy quarries, however, by Solomon Willard, in 1826, and his development of mechanical hoists and sponsorship of a pioneer railroad, that granite became available on a large scale and in sizable slabs—due to Willard's dedicated persistence in seeking a material of suitable monumentality for the Bunker Hill obelisk, and in arranging for purchase and transportation of the stone. Long before its completion, the monument accounted for only one-thirtieth of the business done at the

Quincy quarries. Willard's almost fanatical belief, as recorded in W. W. Wheildon's *Memoir* of the architect, in 1865, that "an improvement in the material for building purposes . . . would gradually effect a change in the style of building and in the general architecture of the times" proved to be well founded.

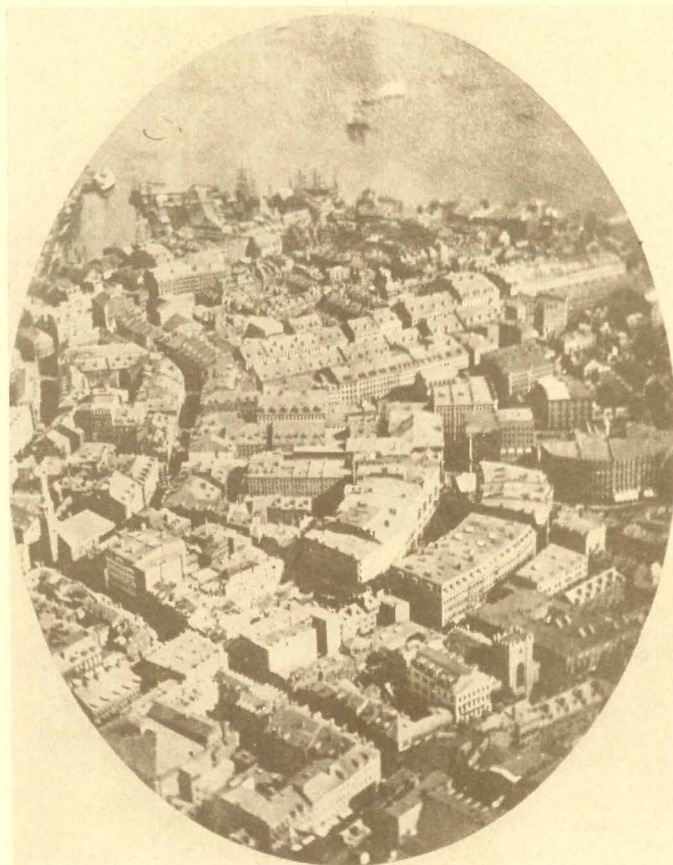
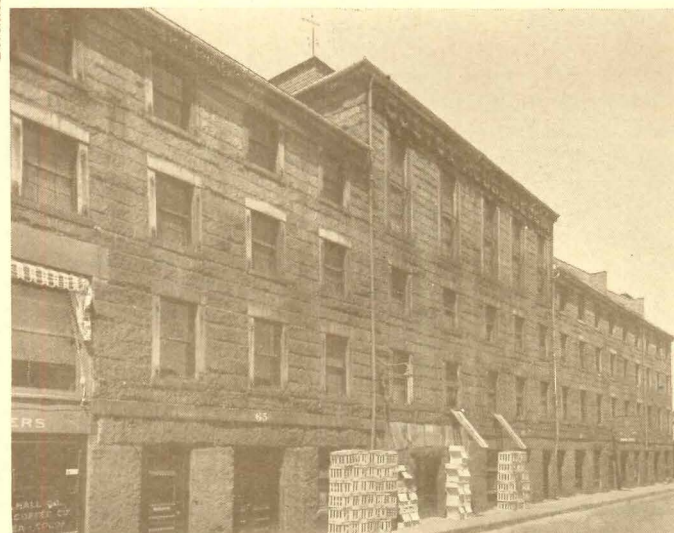
As the taste for monumentality spread—due primarily to the popularity of the massive Greek Revival style but partly to the engineering innovations that made it possible to cut and move bigger and bigger blocks of stone—it became the accepted custom to build with as few and as large pieces as possible, instead of laying up courses of small-stone ashlar construction. The result was a new kind of design based on the functional use of monolithic structural elements: piers, beams, and lintels precut at the quarry in single pieces and assembled at the site. This dramatic, unconventional method of constructing "skeleton" façades had its greatest acceptance from the mid-20's to the 40's, and produced a characteristically handsome architecture. In the late 50's and 60's, there was a return to ashlar construction, particularly in the work of Bryant, but the lesson of unadorned mass had been well learned, and even these buildings are notable for an equally effective insistence on rich surface quality and decorative restraint. Although most of the existing examples have been vulgarized by signs, added stories, and modish remodeling, it is still evident that this granite commercial construction is an architecture of simplicity, suitability, and strength.

ADA LOUISE HUXTABLE

*Grateful acknowledgement is made to Henry-Russell Hitchcock for valuable suggestions and illustrations, and to Boston Athenaeum and Bostonian Society for research assistance.*



Berenice Abbott



G. M. Cushing photograph for Boston Athenaeum

View from a captive balloon, 1860 (above), showing the exceptionally fine massive masonry buildings of commercial Boston before the fire of 1872, many of which were erected during H. H. Richardson's student days at Harvard.

Two of these characteristically strong, severe, granite-faced office buildings (above left), one of ashlar construction, the other of huge "skeleton" slabs.

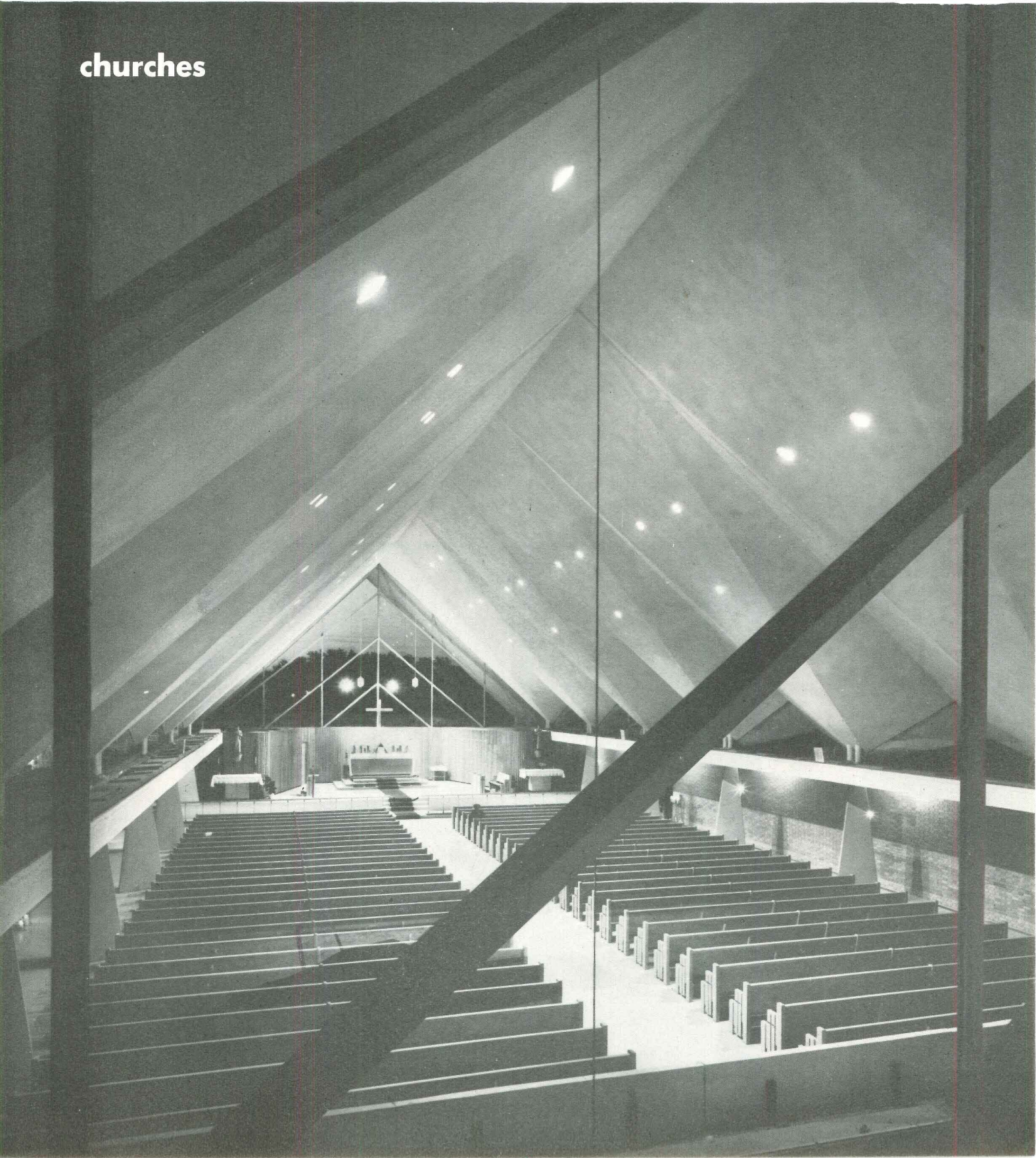
A wharf building (left) in dock area, Custom House Block, 1857.



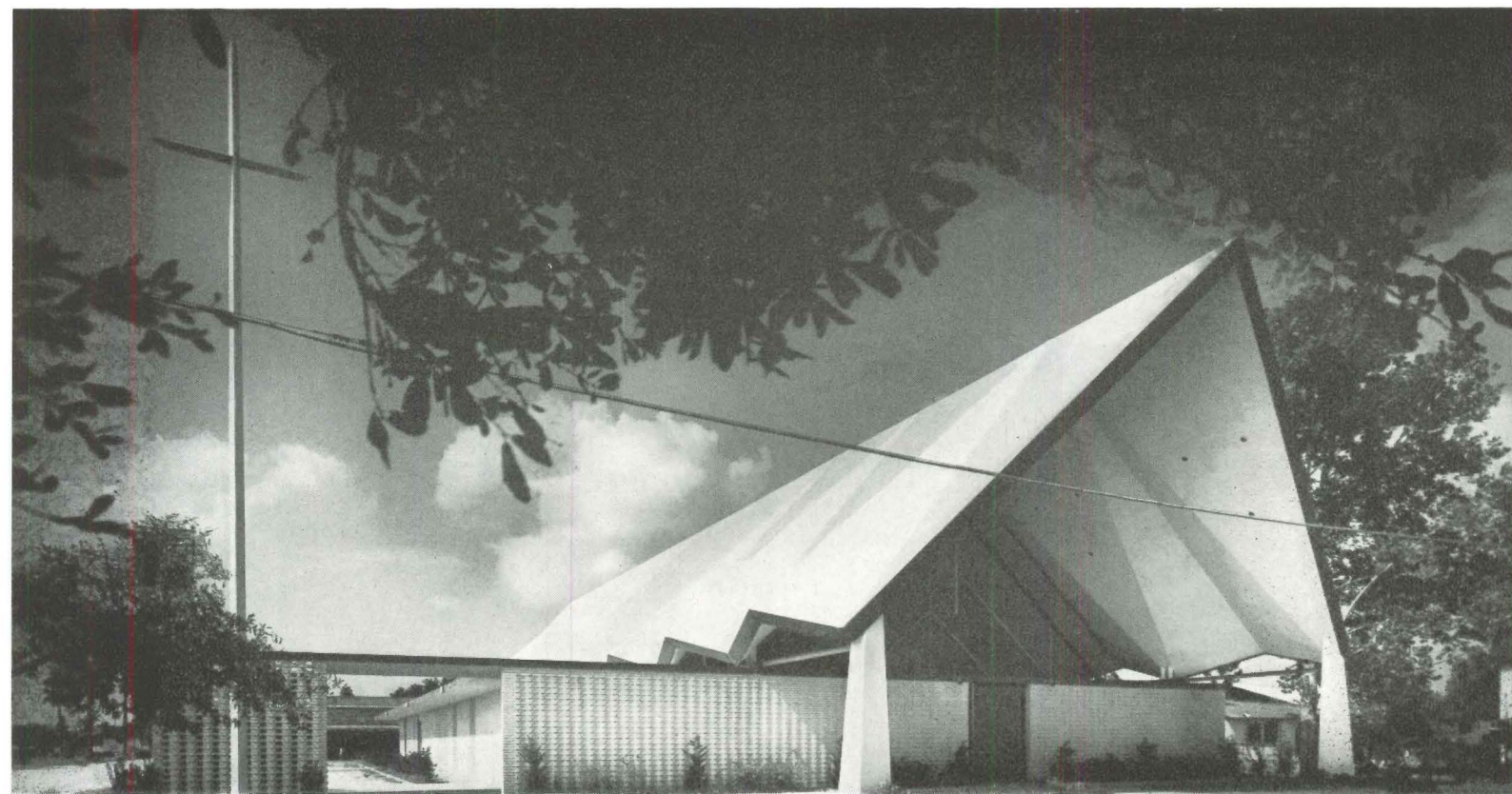
With today's noticeable resurgence of religion and the resulting increase in church building activities, architects are more than ever searching for the intangible quality which *marks* a religious building. There are today no accepted church standards such as in previous times have guided and limited the architect. Today's efforts range from the highly romantic and plastic to the cold and abstract expression. Too often in the recent past this architectural freedom has resulted in the bizarre. This, we feel, is not the case with the four examples shown on the following pages. Though highly individual they are executed with taste and restraint and are, to us, noteworthy expressions of the lofty purpose of the church edifice.

Frank Lots Miller

## churches





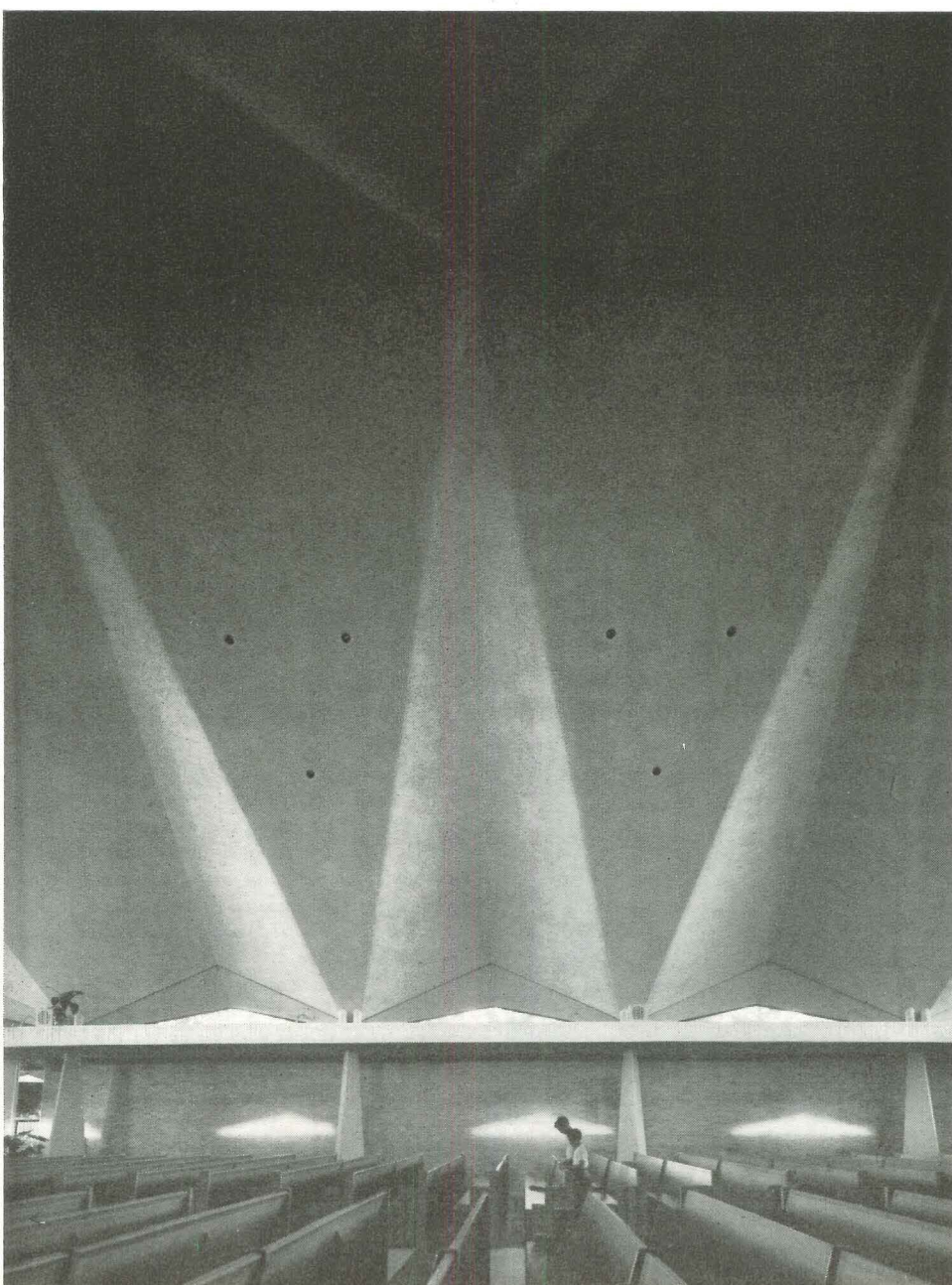
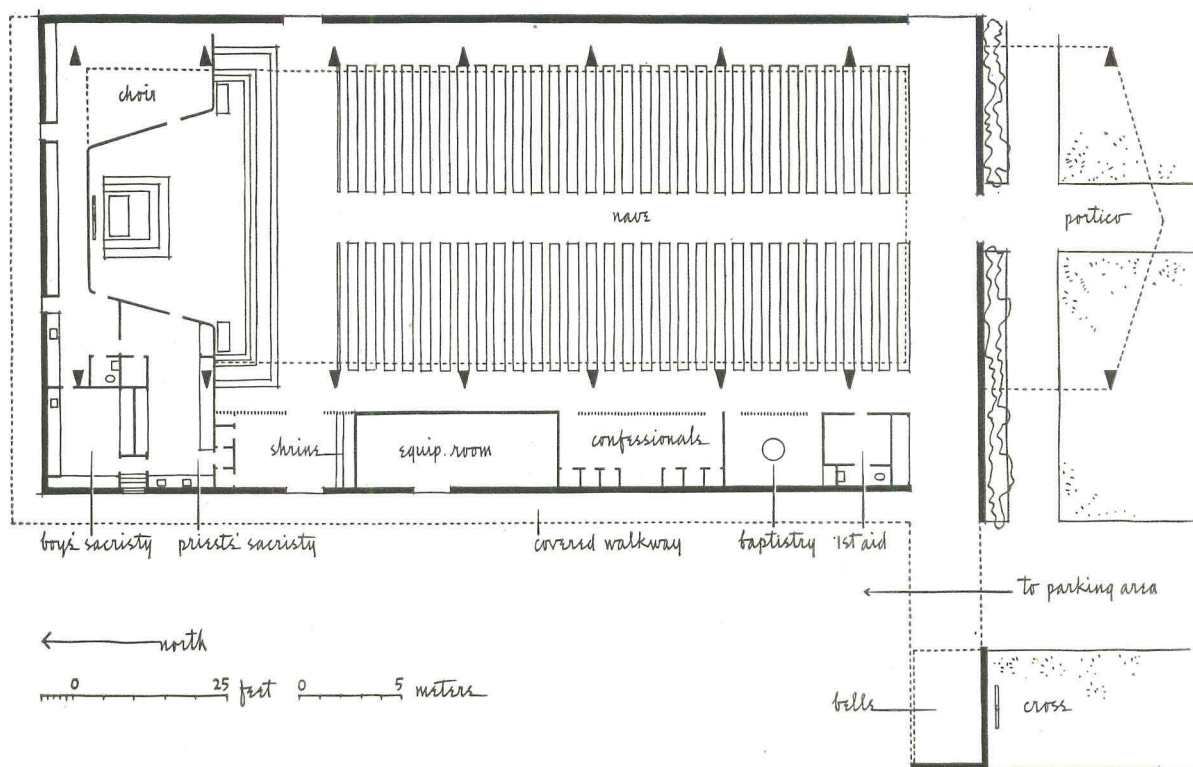


*space for worship—cloistered and exalted*

location	Marrero, Louisiana
associated architects	Curtis & Davis and Harrison B. Schouest
associate-in-charge	Walter J. Rooney, Jr.

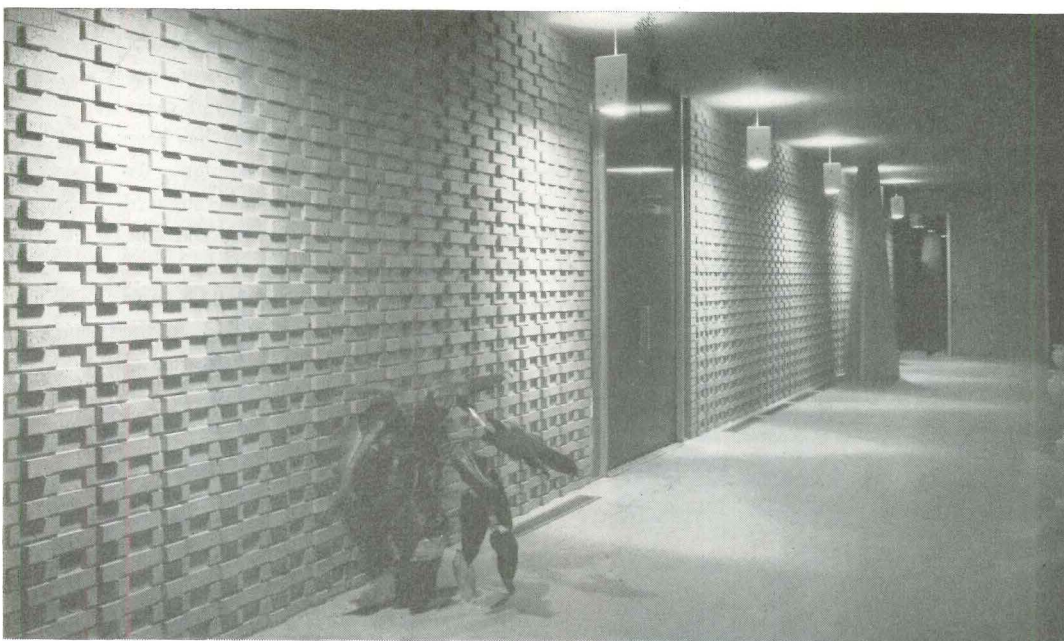






Since its first publication as a P/A Award Citation winner in January 1956, the design for this Roman Catholic church has undergone considerable revision. While the earlier scheme focused on a side garden, the new and now executed design concentrates attention on the inside of the building. In this interior two kinds of architectural spaces—the sheltered and the lofty—have been brought together. “The low peripheral areas,” explain the architects, “dimly illuminated, lend emphasis to the vaulted nave. The undulating ceiling plane hovers lightly over the congregation, imparting a strong emotional impact and focusing all attention on the sanctuary and main altar.” Two separate structural systems were employed to express the two types of space enclosure. Loadbearing masonry has been used at the low areas; the columns, triangular in shape to overcome the outward thrust of the roof, are of reinforced concrete. In contrast, the high-pitched roof has been made up of pie-shaped panels of structural steel, pre-assembled on the ground and lifted into place. The use of these panels cuts erection costs to an appreciable degree. Due to the light weight of the panels further savings were realized through smaller foundation and piling costs. The structure is heated and cooled by a forced air system. Walter E. Blessey, Jr. was Structural Engineer; Guillot, Sullivan & Vogt, Mechanical-Electrical Engineers; Gervais F. Favrot, General Contractor.

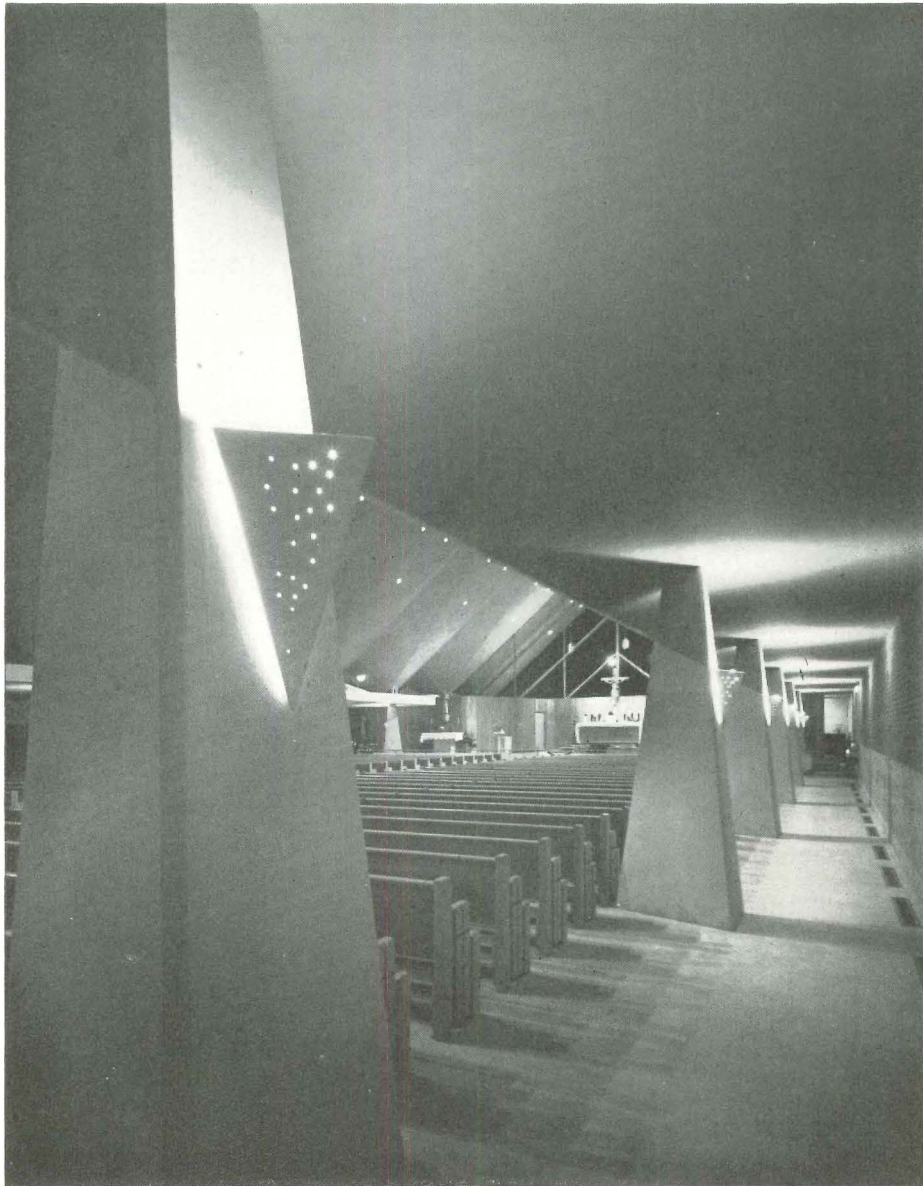




*In contrast to the simple and flat planes of the structure, the architects have introduced a number of decorative design elements. These include: a handsome altar screen of vertical wood members; a sculptured fascia (above), and a narthex screen (above and across page bottom), both of precast concrete parts, designed by Jack B. Hastings, sculptor; decorative light fixtures; textured brick walls (laid in flemish bond with projecting and recessed headers in alternate courses) at street façade and narthex (left). When additional funds become available, a triangular metal sculpture, with inserts of colored glass, will be suspended above the altar, in order to control sky glare and to impart further richness to the worship room. Interior colors have been sparingly used, and range from off-white to beige, to dark gray-brown.*

**Photos: Frank Lots Miller**





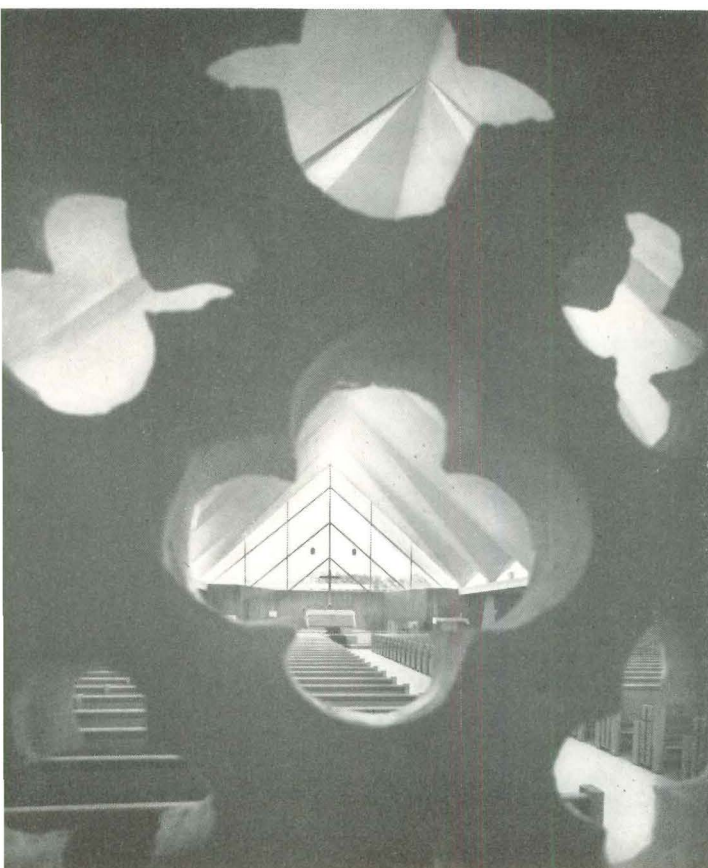
## Materials & Methods

### construction

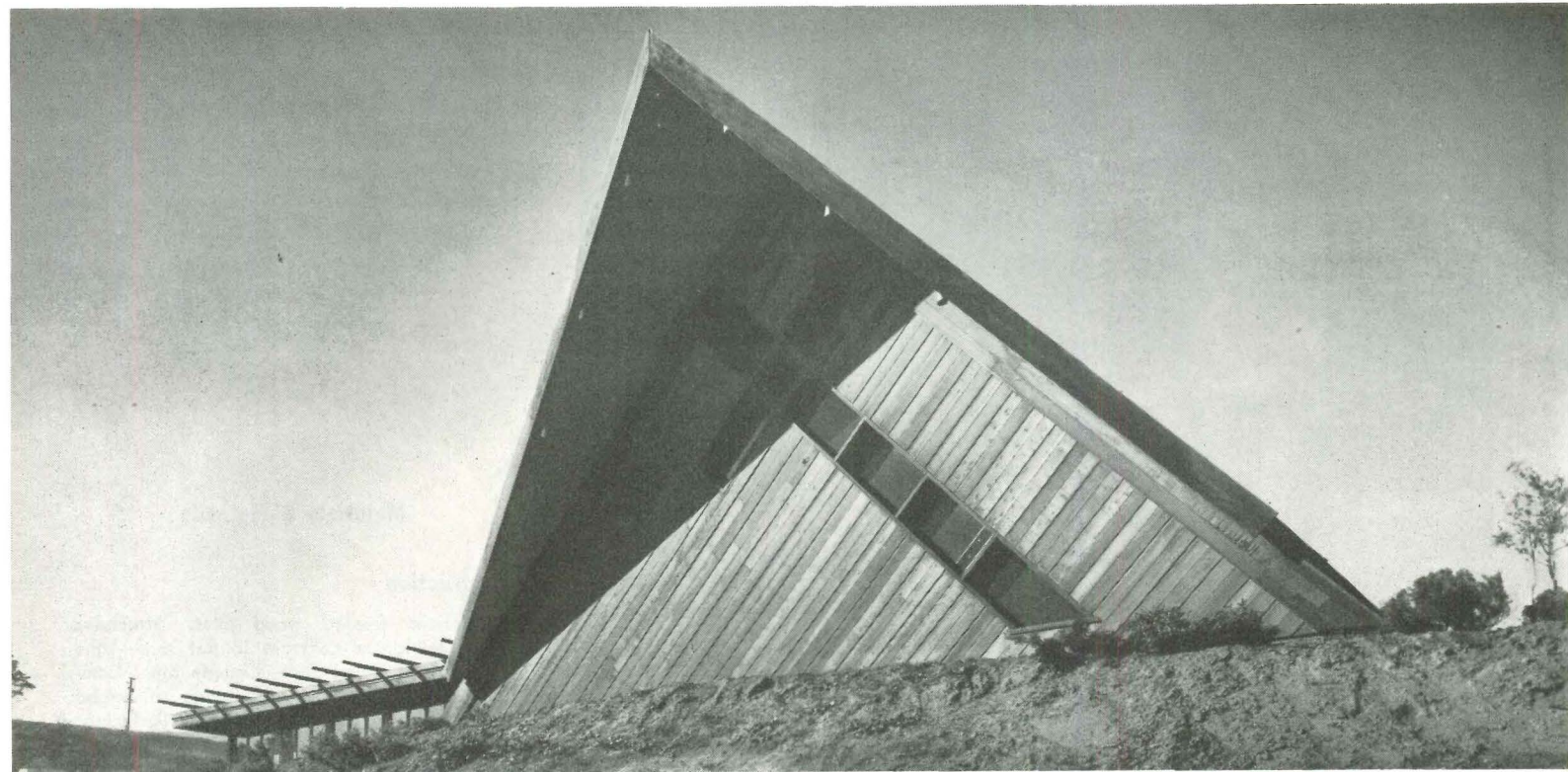
**Foundation:** treated wood piles. **Structure:** frame: reinforced concrete to flat roof—Lone Star Cement Corporation, Laclede Steel Company; walls: brick-bearing; floors: reinforced concrete; roof: structural steel. **Wall Surfacing:** outside: brick; inside: brick, birch plywood, ceramic tile. **Floor Surfacing:** terrazzo. **Ceiling Surfacing:** acoustic plaster. **Roof Surfacing:** composition. **Insulation:** acoustic: acoustic plaster—National Gypsum Company; thermal: batts in ceiling, isolation at equipment rooms—Johns-Manville Corporation. **Roof Drainage:** copper gutters in walls, roof drains. **Partitions:** interior: wood stud and plywood; plaster—National Gypsum Company. **Windows:** glass: polished plate—Franklin Glass Corporation; skylights: copper well—Wasco Products, Incorporated. **Doors:** interior: solid-core flush wood—Ipiak Plywood Company; entrance solid-core flush wood with formica covering—Ipiak Plywood Company, The Formica Company. **Hardware:** lock sets: chrome mortise type; door closers: floor type—Russell & Erwin Division, The American Hardware Corporation, LCN Closers, Incorporated; hinges: chrome butts—The Stanley Works; casement—Soss Manufacturing Company.

### equipment

**Specialized Equipment:** public seating: wood pews; special: carillon system. **Lighting Fixtures:** recessed, adjustable in high ceiling area—Rambusch Decorating Company. **Electric Distribution:** main switchboard and panel boards—Cleveland Switchboard Company; low voltage switching system—General Electric Company. **Heating:** type: hot water to coils in units; boiler: inclined water tube—Riteset Manufacturing Company; fuel: gas; piping or ducts: sheet metal overhead, transite underground—Johns-Manville Corporation; electric controls—Barber-Colman Company. **Air Conditioning:** type of unit: air handling with water coil—Thermal Engineering Corporation; refrigerant: Freon—E. I. duPont de Nemours & Company, Incorporated; package waterchiller—Worthington Corporation; cooling tower: steel, induced draft grills—Barber-Colman Company; filters—American Air Filter Company; cooling coils: chilled water, hot-water system; ventilators: centrifugal roof exhauster; electric controls—Barber-Colman Company.







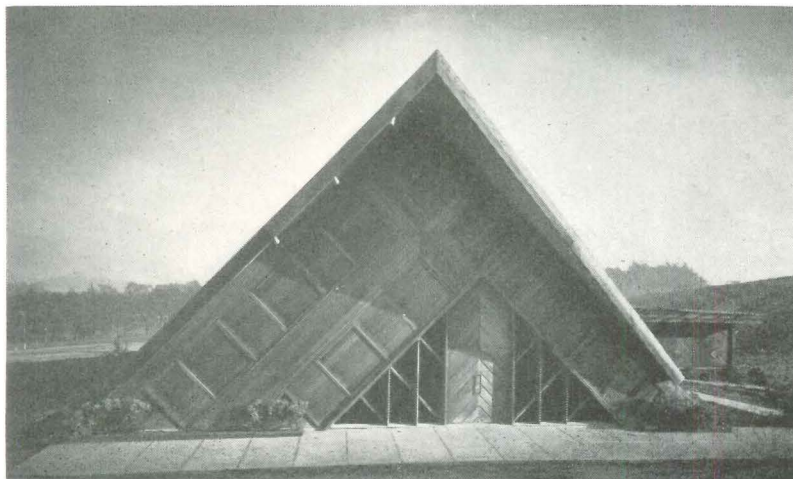
## *gabled shelter as a place for worship*

location | Daly City, California  
architects | Mario Corbett & Ellis Kaplan

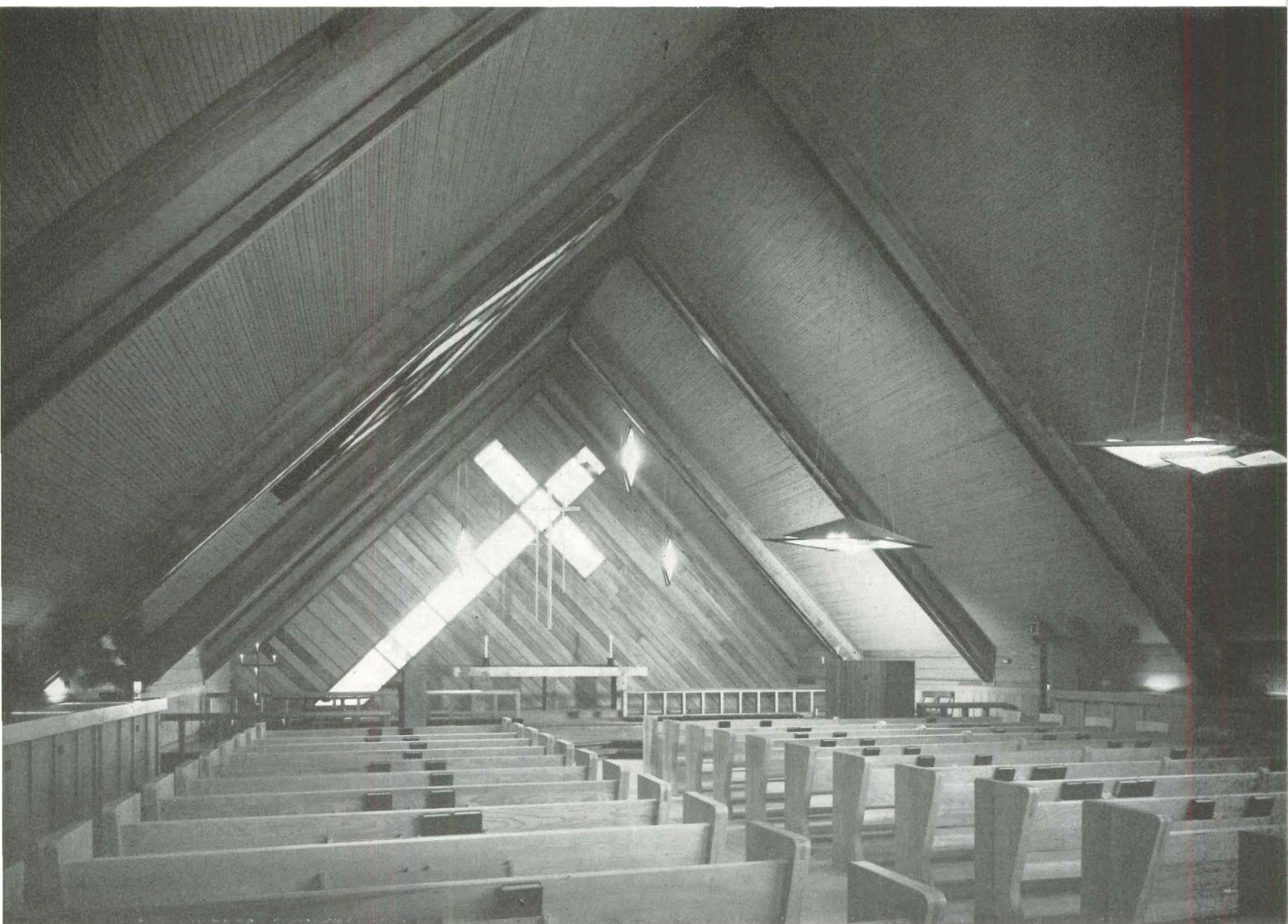
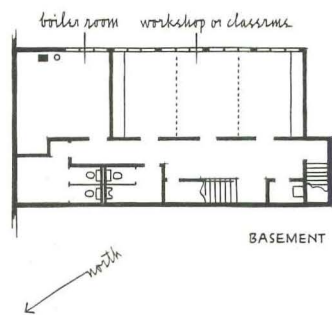
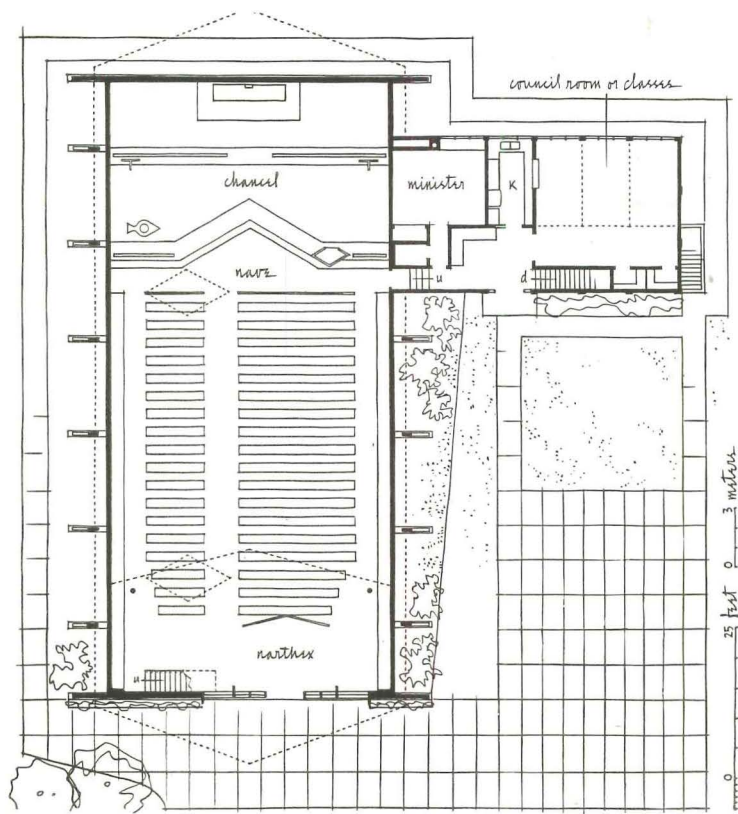
This church with adjoining administration/classroom wing serves a congregation of 300. Situated at the top of a gentle hill, the gabled form of the church provides the natural terminus. The maturing of trees and growth of other plant material as well as the natural weathering of the redwood sheathing and shakes will further unify building and site. No attempt has been made to open the building toward the outdoors, but rather to provide a completely sheltered and se-

cluded atmosphere. "Natural lighting," writes Corbett, "is on a low key in the church. What openings there are have been greatly tuned down by the use of 'honey church glass' and amber plastic panels with embedded burlap pressed between two sheets." The warm tones of the screened daylight are further reinforced by the color of natural redwood, dark-red painted steel members, pink-gray painted ceiling; cork floor, natural ash wood of the pews; and gilt-sprayed

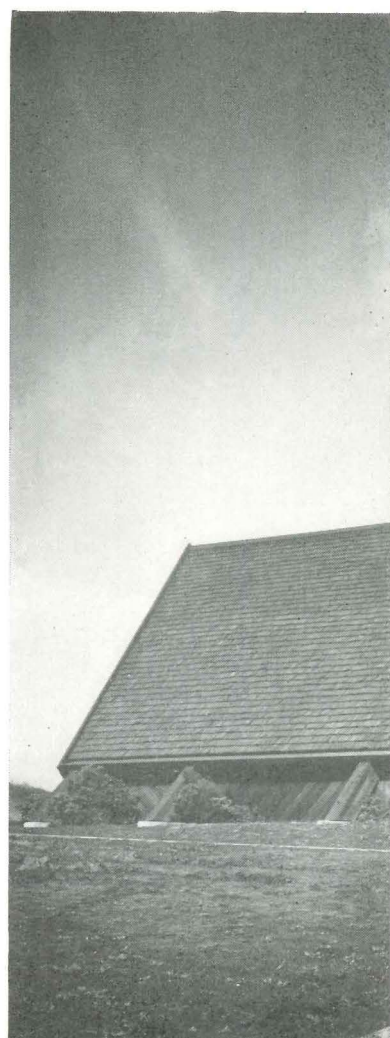
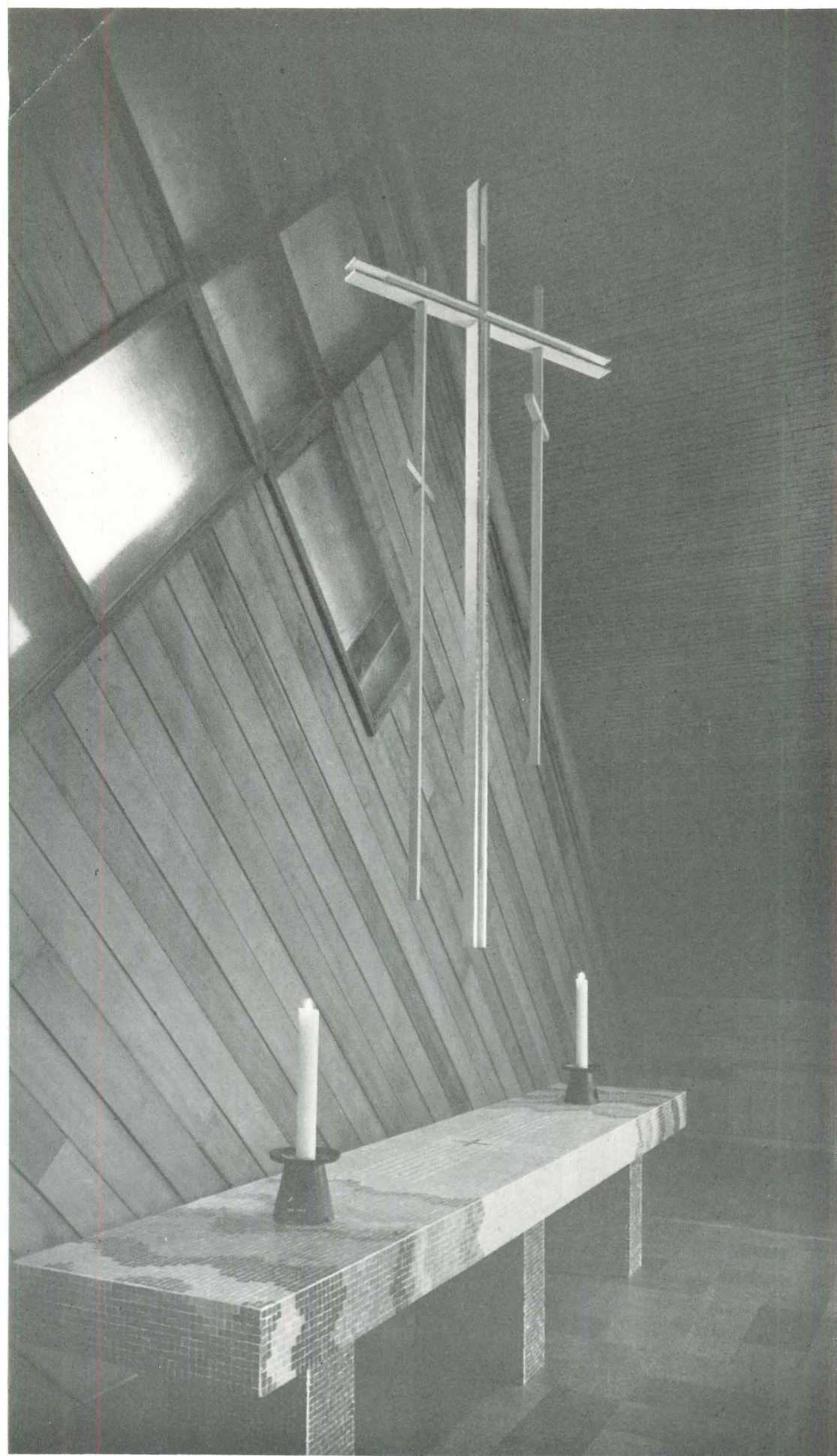
soffit of the choir loft. The plan of the worship room was to a great degree determined by the need for a deep chancel, traditionally one-third the depth of the nave in Lutheran churches. To counterbalance the space required by the chancel, the depth of the narthex has been kept to a minimum. Acoustically, the interior has been found to be most satisfactory. Mac D. Perkins was Structural Engineer for the building; Roberts & Company, General Contractor.



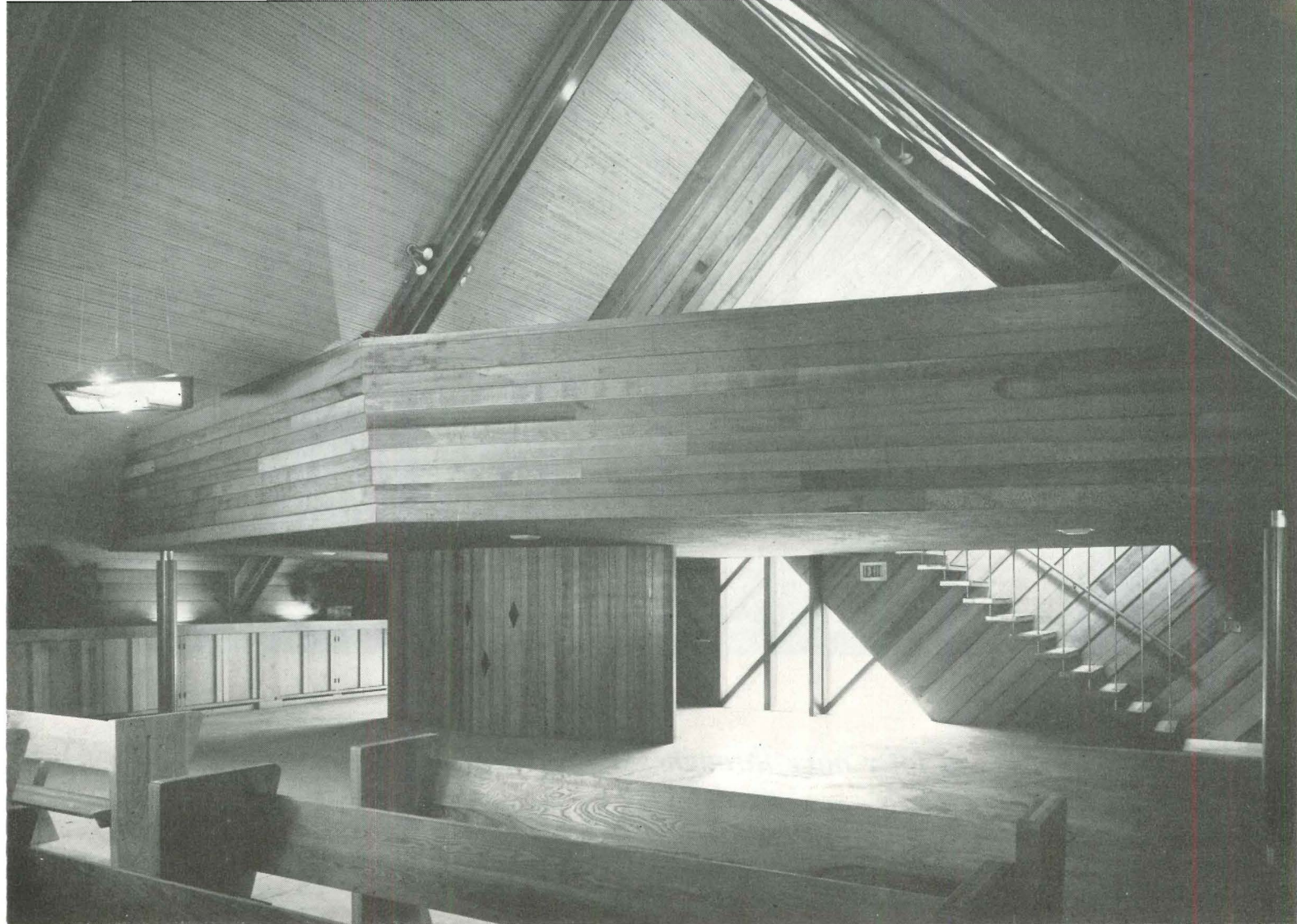












*Liturgical vessels and ornaments (acrosspage) were designed and executed by various members and friends of the church, under the guidance of Architect Corbett. Lighting fixtures in nave and chancel are by Leslie Larson.*

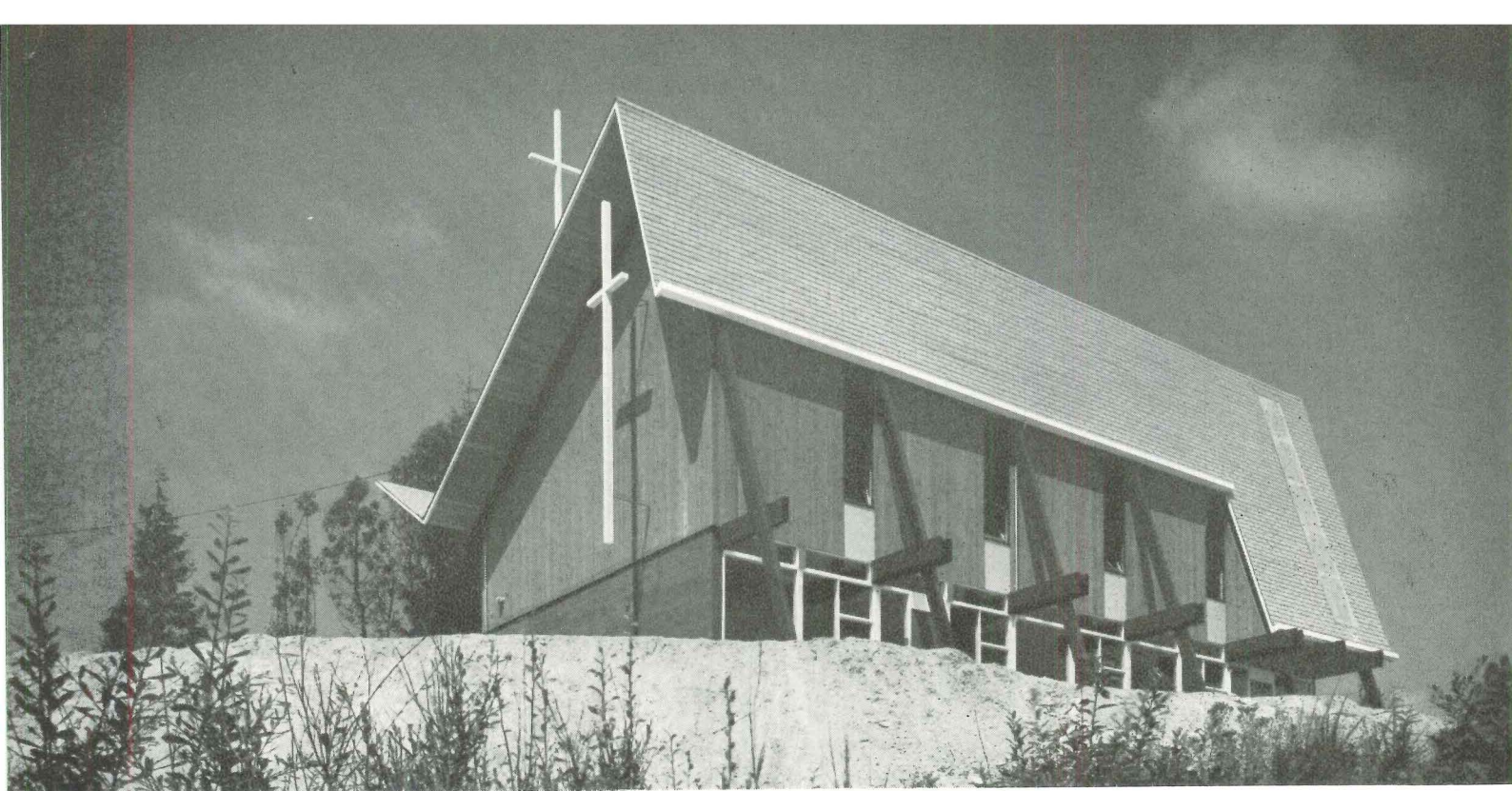
*Main entry to the church is through doors in the east façade (above), directly into narthex (top) from where stairs lead to choir loft.*

*Structurally the church is composed of a series of A-frames tied with cables, encased in concrete below grade. It is of interest that, due to this structural system, the building—located in the focus of the 1957 San Francisco earthquake—was left undamaged.*

*To heat the building, warm air is directed through metal chambers set between the rough and finished floor. After circulating under the entire floor area, the air is expelled through registers along either side of nave.*

*Photos: Dean Stone, Hugo Steccati*





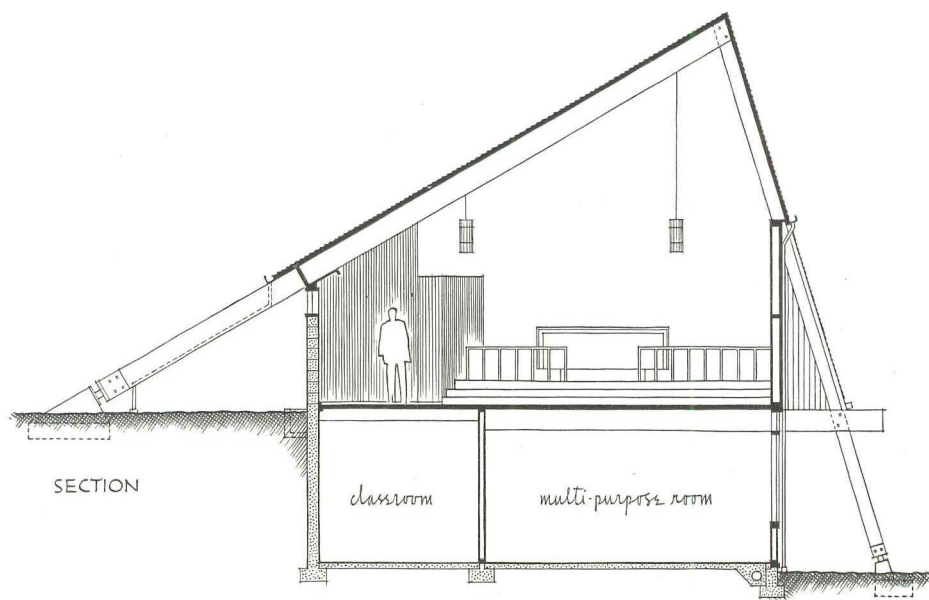
## *a lofty nave through simple structural means*

location | Bellevue, Washington  
architects | Grant, Copeland & Chervenak

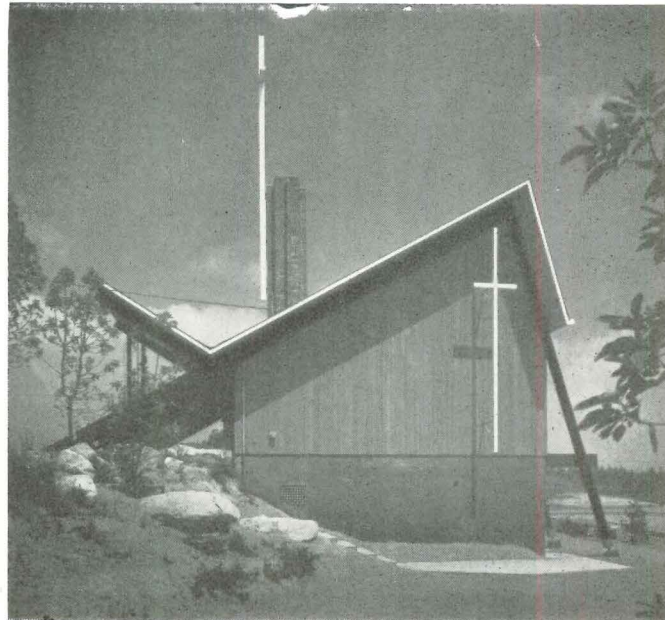
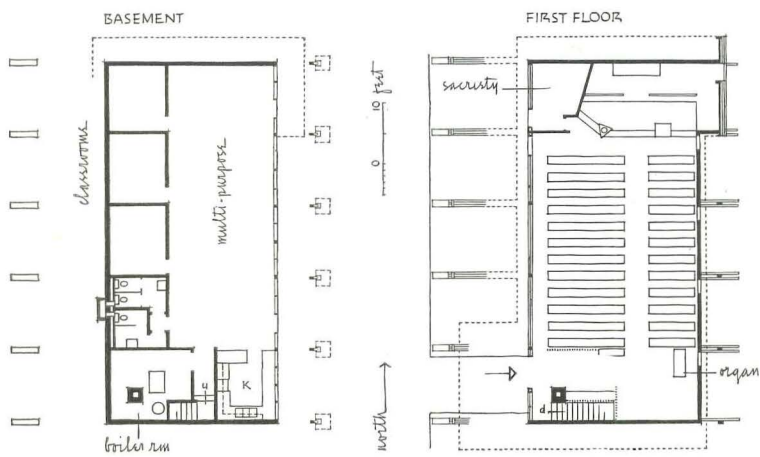
It was required that the worship room of this Lutheran church seat 200, that an adequate parish hall and facilities for Sunday school be provided, and that the future growth of the congregation be taken into consideration. A site in the center of the newly established suburban community, at the crown of a 120 ft-high elevation, assured the church a prominent setting. In placing the building on the side of the hill, direct entry into the worship room could be gained from the

upper grade level, while a parish hall, which also doubles as Sunday school, could be provided on the floor below. This lower level is fully daylighted and has access to a terrace. "The rather unusual cross section (*below*)," writes Chervenak, "provides a relatively simple way to achieve the desired feeling of height in the nave, while still preserving the simplicity of construction." Six inverted V-frames, their terminals anchored to concrete footings, provide the structural

supports. Roofing consists of fir decking and composition shingles. The west wall is constructed of 8" concrete blocks; the east wall of studs and cedar boards. It is anticipated that the present church will later be devoted to parish and Sunday-school use, and that a larger church will be erected. Stern & Towne were Mechanical Engineers; Howard E. Johnson, Electrical Engineer; Roy F. Boese, C.B.S. Construction Co., General Contractor.









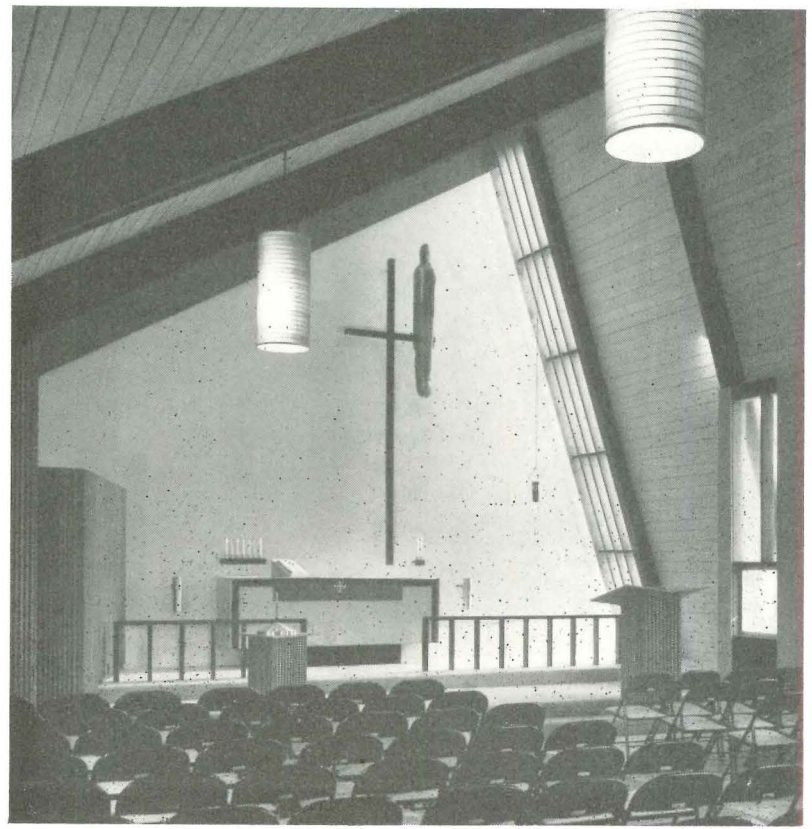
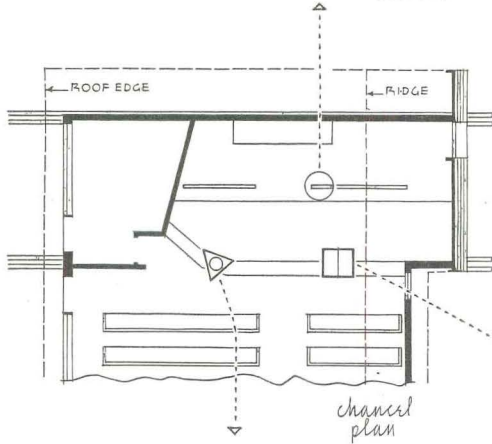
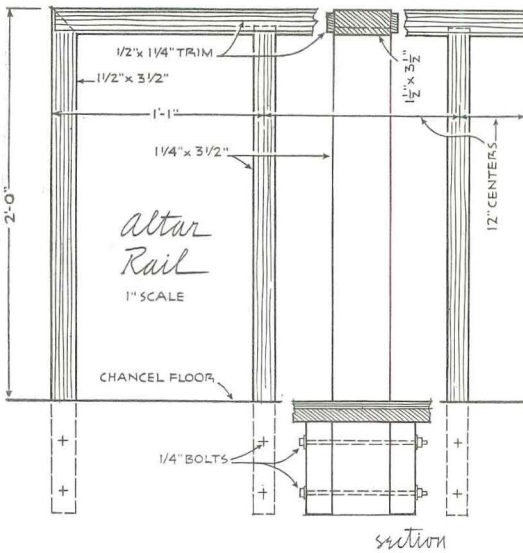


*Access to the worship room is from the high ground to the west of the building, through main entry (left). Interior colors and finishes are the following: stained driftwood gray for wood ceiling; dark charcoal gray for wood beams; redwood stain for chancel screen; warm gray sandstone and white birch for altar; redwood stain for base of baptismal font with natural birch top; redwood stain for base of pulpit with natural birch top; yellow-amber, blue, and red-orange cathedral glass for nave windows. Sculpture, dominant design element of side lighted chancel, is the work of Ernest Schwidder. Electrical fixtures are by Irene McGowan.*

**Photos: Dearborn-Massart**

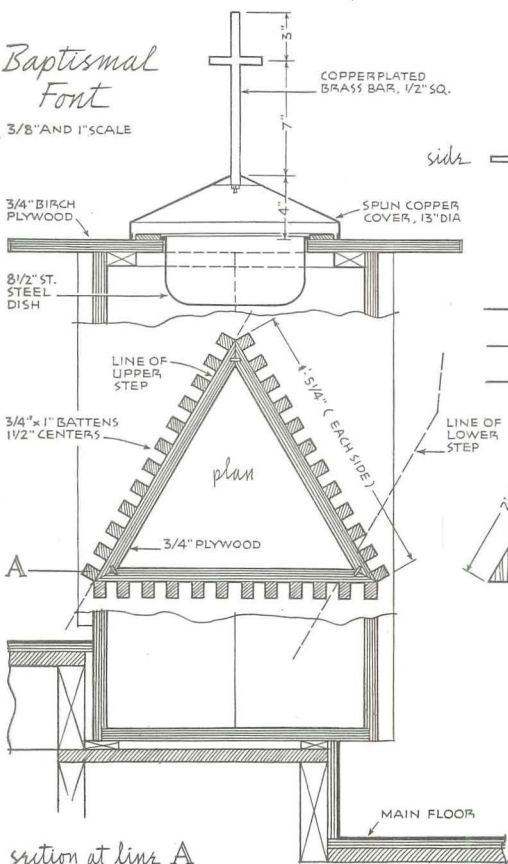




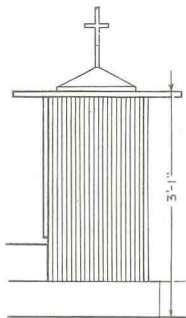


DEARBORN - MASSAR

Baptismal Font  
3/8" AND 1" SCALE

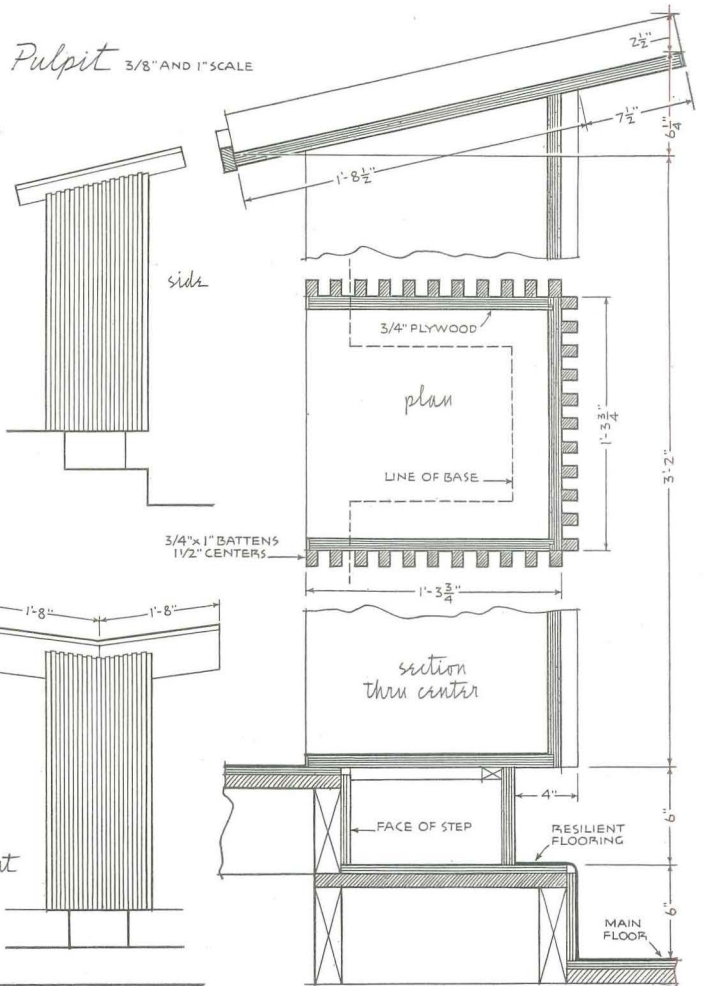


side



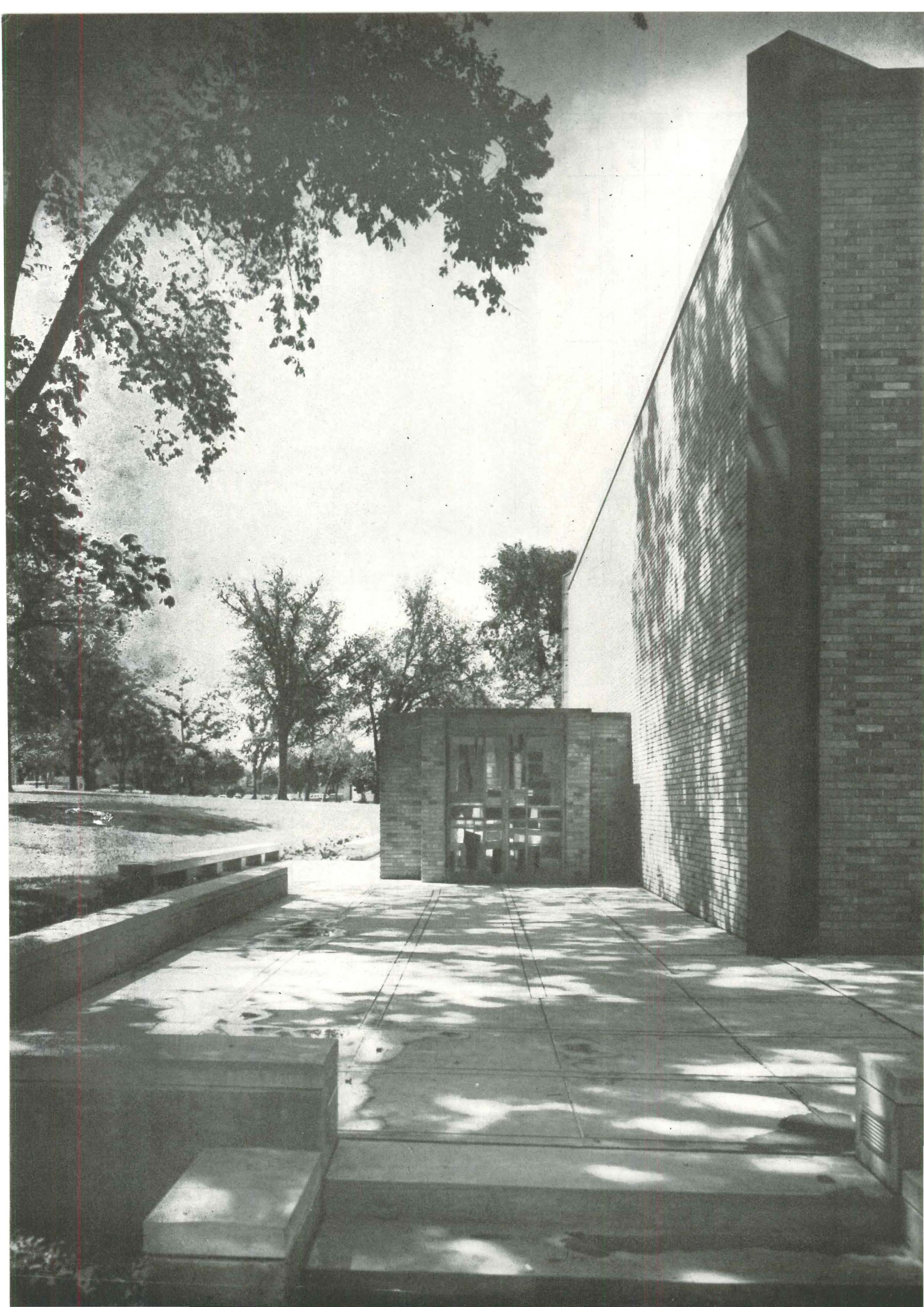
plan at top

Pulpit 3/8" AND 1" SCALE

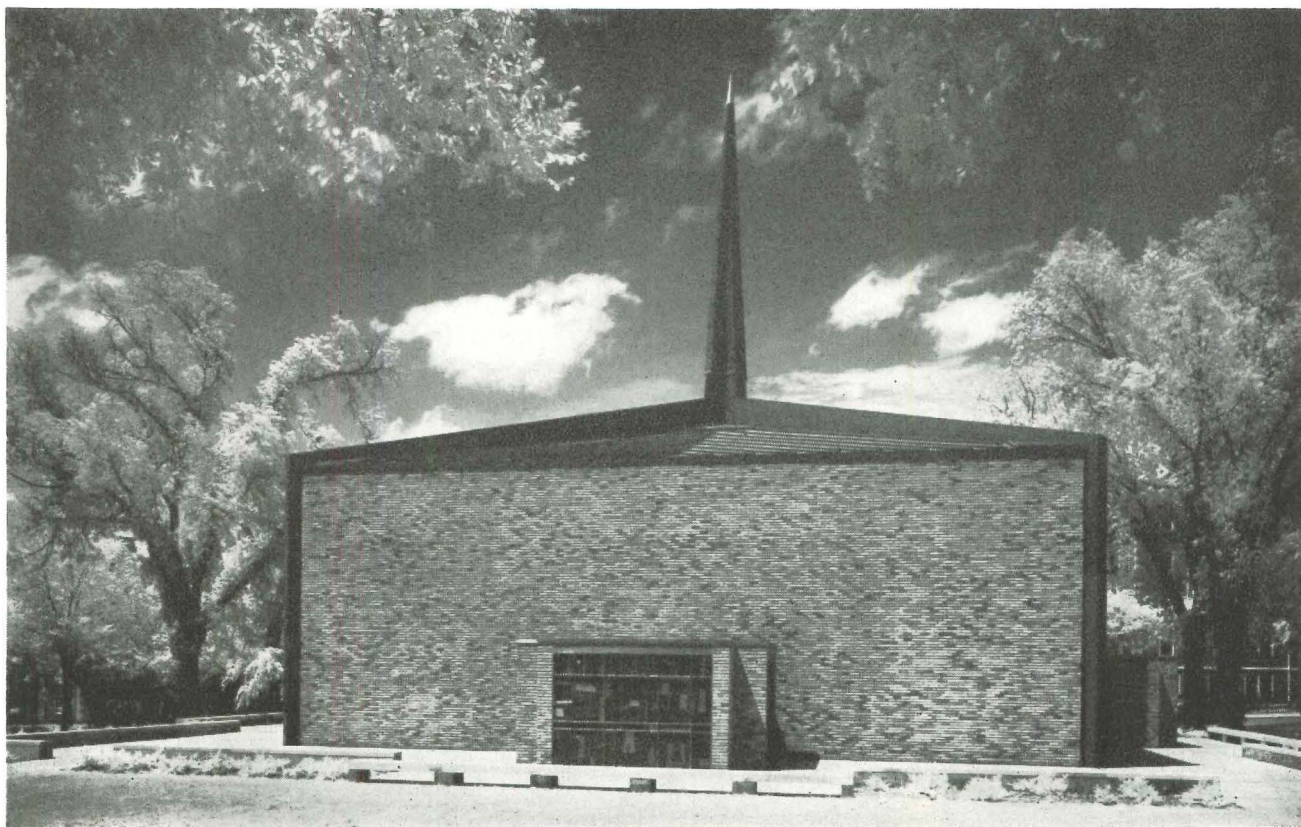


CHURCH, Bellevue, Washington  
Grant, Copeland & Chervenak, Architects









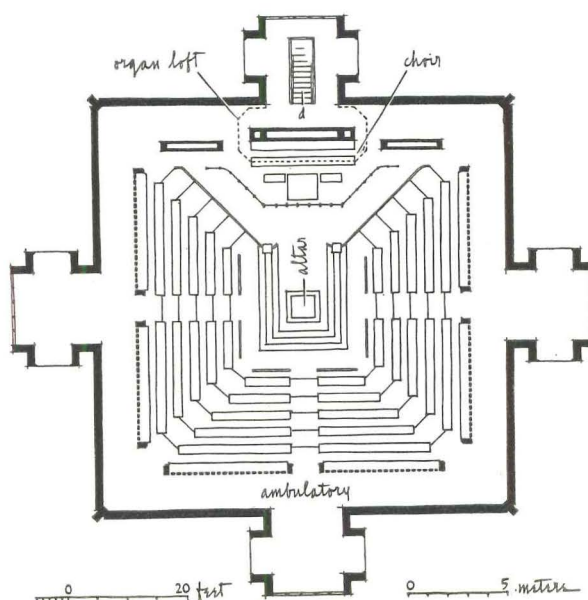
## *central plan for a college chapel*

location | Stephens College, Columbia, Missouri  
architects | Eero Saarinen & Associates

The desire of the college administration to place a chapel in the middle of the campus determined to a large degree the choice of the centralized plan—a form found in some of the early Christian churches, later revived in the Renaissance, and also used in several early New England churches. "In order to blend this building into the total campus picture," writes Saarinen, "we chose the very simple brick used on the surrounding buildings and a roof similar to others.

The fact that the chapel is a bolder building at a stronger scale makes it the focal point. It is also emphasized by the four entrances which, like little rich lanterns in front of the simple brick walls, should be very nice at night when the stained glass windows can be seen from the outside." These vestibules lead to an ambulatory which further conditions and prepares the visitor for the quiet and dignity of the prayer room. A central altar, day-lighted from above, is the dramatic

focus of the chapel. Construction is of aluminum-covered laminated wood bents which rise from the ground at the four corners and terminate in a center spire. The bents support a lamella-type roof structure of beams and planking. Unit heaters and hot-water floor coils heat the building. Severud-Elstad-Krueger were Consulting Engineers; Samuel R. Lewis & Associates, Consulting Mechanical Engineers; John Epple Construction Company, General Contractors.

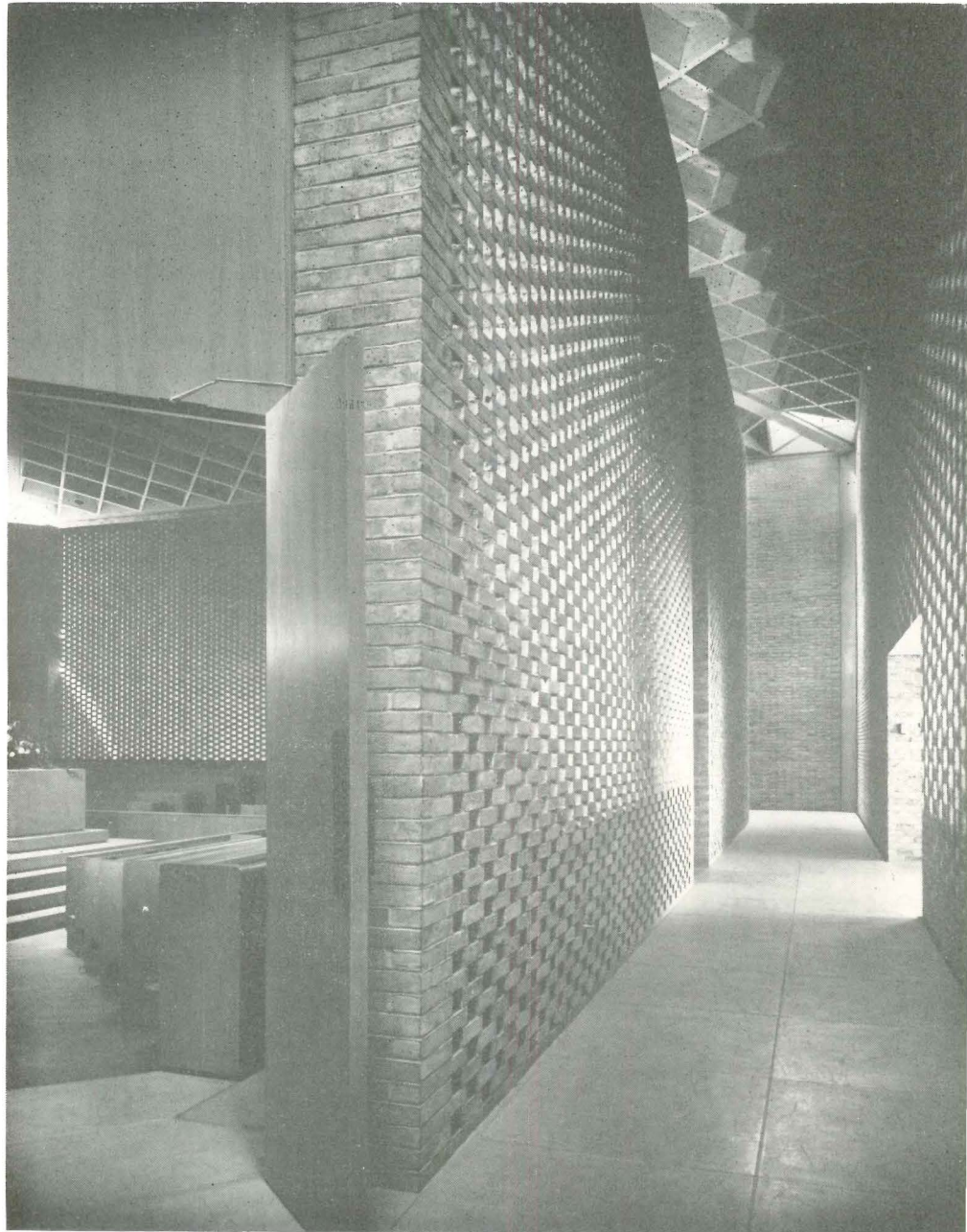




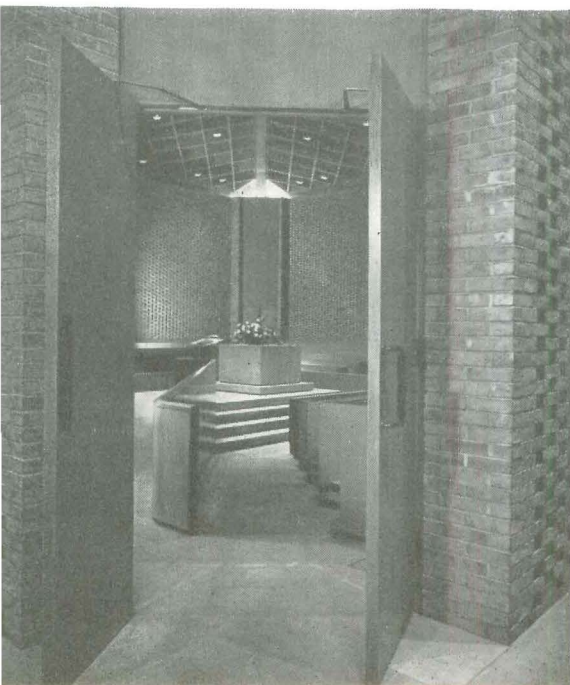


Entrance to the building is through one of the four stained-glass vestibules (left and far left) into a passage (below) between outside brick-cavity wall and pierced brick screen. "The ambulatory," writes Saarinen, "behind the brick screen seemed like a nice transition from the outdoors into the chapel itself. Too sudden a transition between the thoughts that you have outside and the thoughts you have inside does not seem appropriate." From the passage seven doors open onto aisles which radiate from the altar. Design of the stained glass is by Robert Sowers.

Photos: Julius Shulman





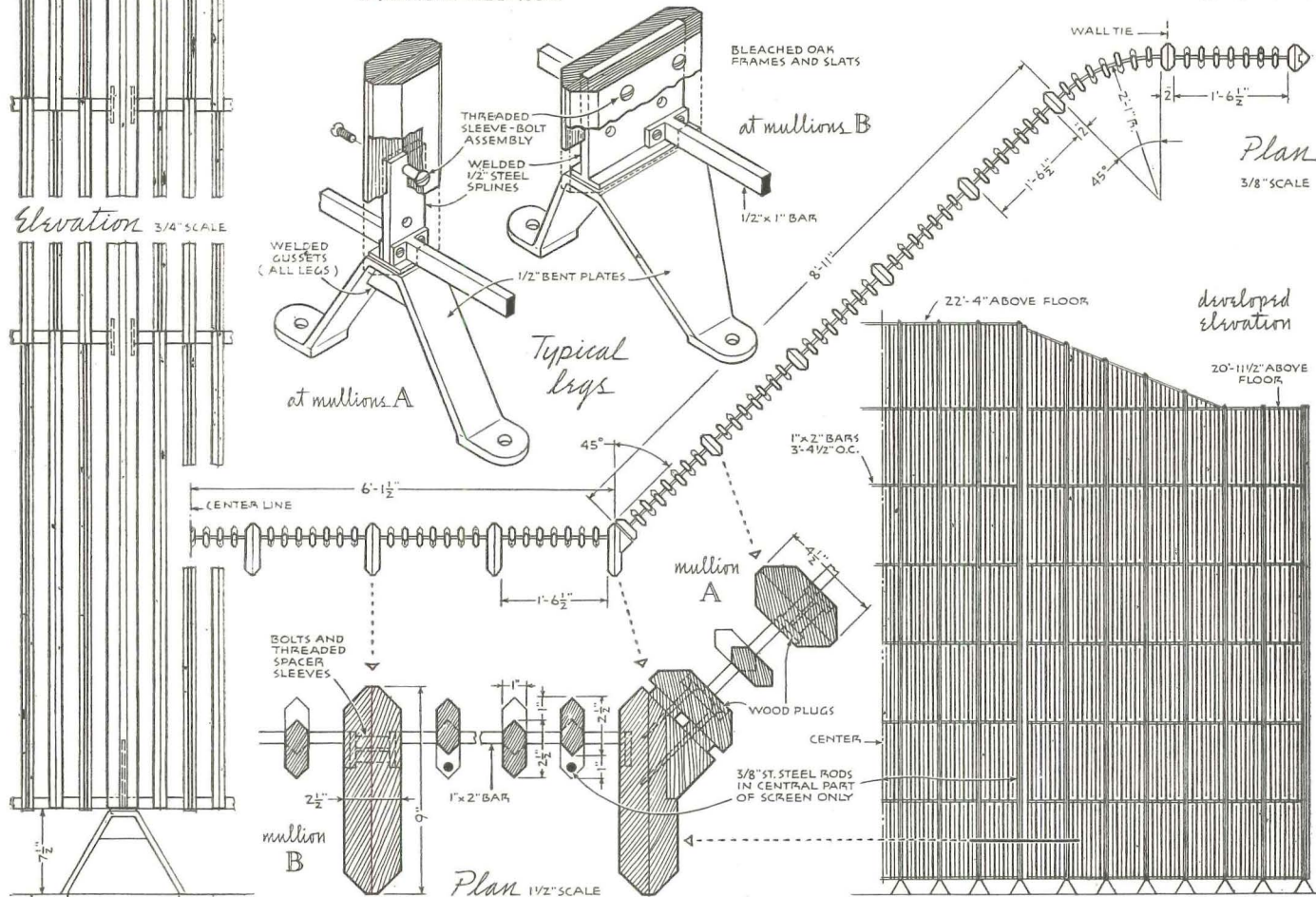
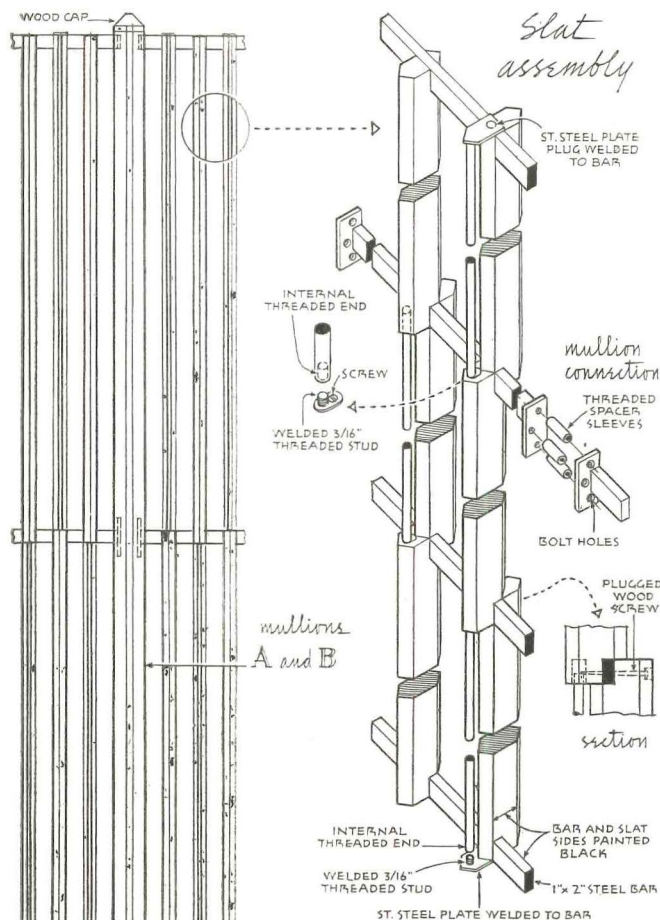


*The screen in front of the choir and organ (above and following pages) serves to keep the choir from becoming a distracting element during ceremonies. However, when desired, the choir can be made visible by a change in lighting. Interior materials and finishes are: natural and painted brick walls; stained Douglas Fir ceiling construction; limestone flooring; oak benches, doors, and woodwork.*









COLLEGE CHAPEL, Columbia, Missouri  
Eero Saarinen & Associates, Architects



# A Miracle in Waterville

In late July, 1956, residents of Waterville, Maine, drew a sigh of relief. Speculation was at an end. Contracts just awarded for restoration of a former Lockwood-Dutchess mill offered final assurance that C. F. Hathaway Company would continue its local manufacturing of shirts. For community and financial leaders who had engineered the deal, it was the culmination of long negotiation to keep a nationally known manufacturer from moving out of the town—a move that would have cut deeply into local economy. To some 800 or more employes it meant job security and—as time went on—more employment for more people. Waterville had every reason to be relieved.

Maine, like other New England states, has been going through an industrial upheaval. Following mergers of large textile interests, mill after mill has permanently closed. Whether manufacturers moved, lock, stock, and barrel to southern states nearer their sources of supply, or consolidated operations of several plants into one, results were the same. Thousands of Maine citizens have been thrown out of work and bright young native sons, graduates of Colby, Bates, or University of Maine, have sought greener pastures for employment.

Maine's industrial outlook was grim, so grim that the state set up a special Commission to work out ways and means of getting idle mills back to work. And public-spirited citizens — seriously concerned with local situations — formed their own committees to deal with conditions closer to home. If state and local economies were to be maintained, new prospects had to be lured into Maine, vacated mills modernized to suit incoming business and industries, and facilities of Central Maine Power Company correspondingly expanded to meet stepped up conditions.

Waterville, meanwhile, having barely recovered from the Lockwood-Dutchess shutdown, learned that Hathaway, urgently in need of better manufacturing facilities, was scouting remote areas for a

large, thoroughly modern plant. The company's long and steady growth, from one modest factory on Appleton Street to seven in various parts of the town, was involving too much trucking between plants and slowing down production. Consolidation of these seven operations had long been under discussion, but for a manufacturer requiring so much heavy duty, high-wattage manufacturing and computing equipment this was not easily resolved.

The vacated Lockwood plant—an architectural monster in many respects—offered ample floor space, and very little else. Built in 1869, of brick construction and multiwindowed, it runs 500 ft back toward the Kennebec River. It has a five-story 300'x300' center section and two four-story 100' x 100' wings. These vast unpartitioned interiors, with high, wood-beam ceilings supported by rows of wood columns, were thickly caked with years of accumulated dust, lint, oil, and paint that later required sandblasting to remove.

Originally the plant was operated by a water wheel. Although subsequently converted to electric power, the existing electrical system—adequate for jack-shaft weaving methods of previous occupants—was hopelessly inadequate for shirt manufacturing which required a ½-hp stitcher for each 65 sq ft of floor space. High-tension power purchased from Central Maine Power Company was stepped down through two small transformer banks to supply a 550-v system for two antiquated elevators in the building, and 120/240-v for lighting and miscellaneous equipment. Power was distributed to various floors by means of conduit located on the exterior of the building.

To make this plant architecturally desirable called for skill and imagination; to bring it up to present streamline manufacturing requirements called for a big capital investment, which could be why Hathaway failed to exercise its own earlier option on the premises. They

had little desire, certainly, to leave Waterville. Since they use many imported fabrics for their shirts, southern states offered no particular inducement. Their labor situation was entirely satisfactory. During the 120 years the company had been in existence, it had employed different members of the same local families—from grandparents down to present off-spring. Company sentiment and interest centered in that part of New England. Business, nevertheless, was business. Consolidation and expansion of local operations had to be worked out. If Maine—and more particularly Waterville—could not provide suitable premises and facilities to accommodate Hathaway's demands, space would be located elsewhere, and with states bidding competitively to attract diversified industries this would not have been difficult. Several suggestions offered by the Maine Development Commission, involving idle mills of nearby towns, had proved impossible. Present employes were unwilling to travel 15 to 20 miles “down country” to and from their work, and the towns in question had too few families on which to draw for labor.

It was at this point the Waterville committee went into action. It felt—and rightly so—that Hathaway, an outstanding social and economic factor in the community, belonged in the town where it had been born and reared, and Waterville, of course, could ill afford to lose a second big industry. As a result, the local committee came up with a plan to purchase and restore one of the Lockwood plants in accordance with Hathaway's requirements, and lease it to them on a long-term basis. A pool made up of several Maine banks would collectively own the property and handle the financing; the Federal Trust Company of Waterville would act as Trustee.

The plan was acceptable, but if the mill were to be modernized for shirt manufacturing, two things to be immediately determined were: (1) the anticipated electrical load when all



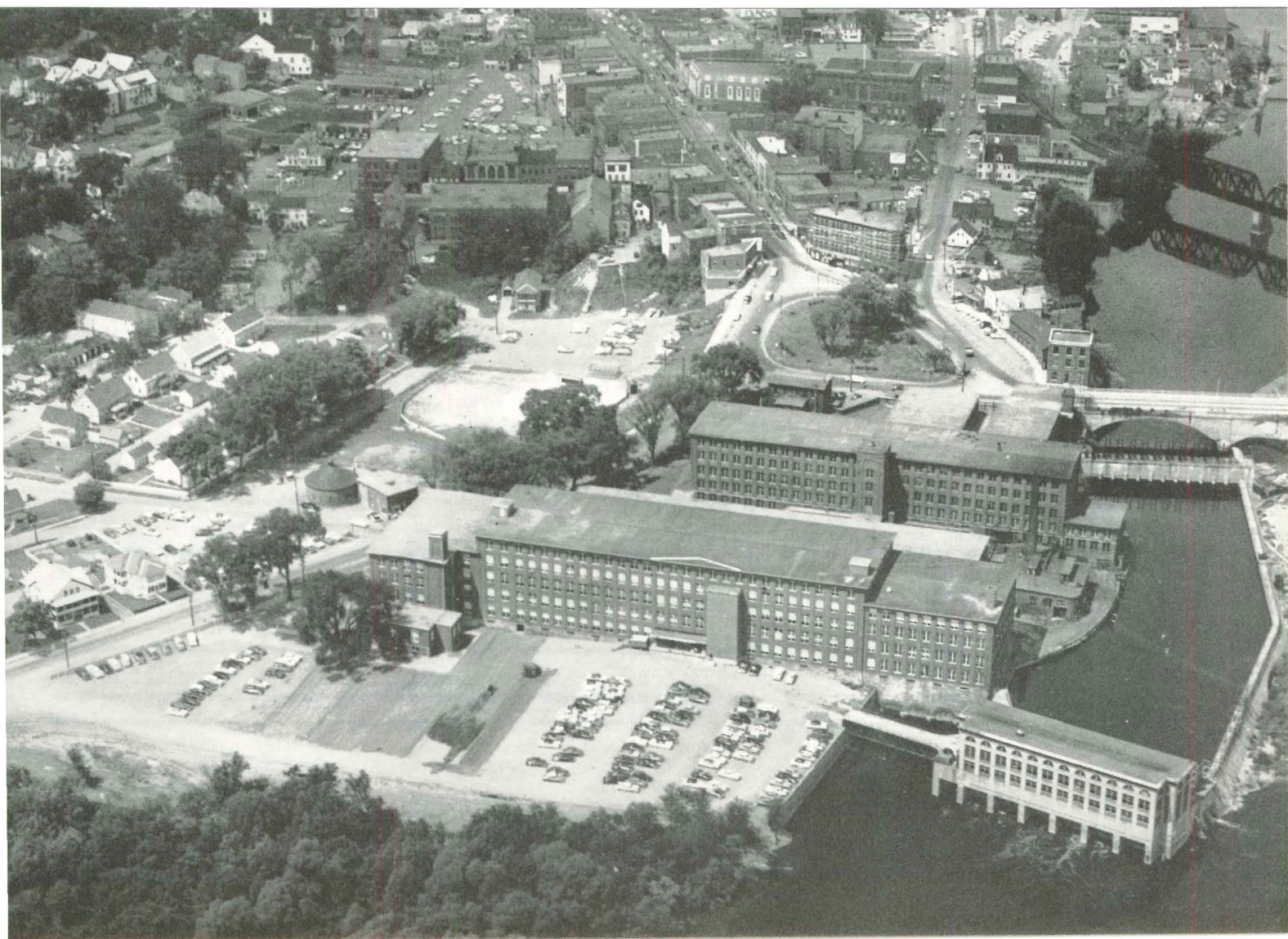
equipment was assembled under one roof; (2) whether sufficient capacity could be made available by the power company. In estimating this load, several factors had to be considered: preparation for an immediate 30 percent increase in production, facilities for future growth, and the fact that Hathaway continually replaces equipment with faster and better units as they come on the market. The restoration, moreover, was to include replacement of the existing elevators, the installation of a cafeteria, a fully equipped 100-kw kitchen with electric ranges and other equipment, an electronic-tabulating department, complete boiler room, and heavy equipment such as air and steam compressors. All this in addition to high-intensity lighting.

With characteristic foresight, provision was also made for the future use of 220-v equipment for existing 120-v units in certain departments, although these were not commercially available at the time.

Emil Backstrom, industrial architect for all of Hathaway's plants, and Edward Landreth, the company's chief engineer, together prepared a tentative plant layout along with a tabulation of the initial and final electrical power requirements. This was based on the flow diagram previously made by Backstrom who, with the engineer, re-engineered production schedules of the several factories to fit the new plant.

The next step—to determine from the power company whether this capacity was available, and its characteristics—was

placed in the hands of a specialist. Alfred J. Kleinberger, consulting engineer of New York, was selected to confer with the power company and to prepare the necessary plans and specifications for competitive bidding. Having previously been associated with the architect in similar projects, he was familiar with the problems involved and was already known to officers of the local power company. He was the electrical engineer for the Brunswick Naval Air Station housing project and a similar proposed development in Winter Harbor, Maine. Without this personal relationship, the entire project might have ended when he submitted his first set of figures. Utility officials later admitted they had never anticipated a load of such magnitude, nor were they





able at the time to provide it. The industrial growth of the state—plus increased defense facilities—had imposed an exceptional burden on the company's lines. In their planning they had assigned one new feeder for the entire Lockwood-Dutchess group, and Kleinberger's figures equalled this for Hathaway alone! Utility officials did not dispute his computation, but the inflexible limit of this feeder made a compromise mandatory—a compromise of ultimate benefit on both sides.

After numerous conferences and much correspondence, the Hathaway people agreed to accept sufficient capacity for their initial operation, plus some allowance for future growth. It was agreed that the initial demand factor would be 70 percent, and increased to 90 percent or more with full operation. These allowances provided a necessary breathing spell for the utility's expansion program and assured an uninterrupted supply of energy for the plant. Hathaway's further agreement to rent transformers from the power company provided them with immediate and various benefits; they were spared the expense of the installation and carrying charges for equipment not to be fully utilized for some time, the factors of obsolescence and maintenance were eliminated, and the responsibility for pro-

viding capacity commensurate with growth was thrust on others. In addition, the power company agreed to extend its lines into the plant area instead of terminating them at the street, and Hathaway provided underground conduit to avoid unsightly overhead wires.

Not all of the plant's 250,000 sq ft were to be immediately utilized. Executive, administrative, sales, and clerical departments were to be located in the front wing. The production flow pattern—for the time being confined to four floors of the center section—left available for future expansion the entire fifth floor, the rear wing and part of the front wing, a total of some 50,000 sq ft. This is ample space to accommodate a 50 percent increase in production, and the presently unassigned areas are so located that their functions can be converted later without disturbing production schedules prevailing at the time.

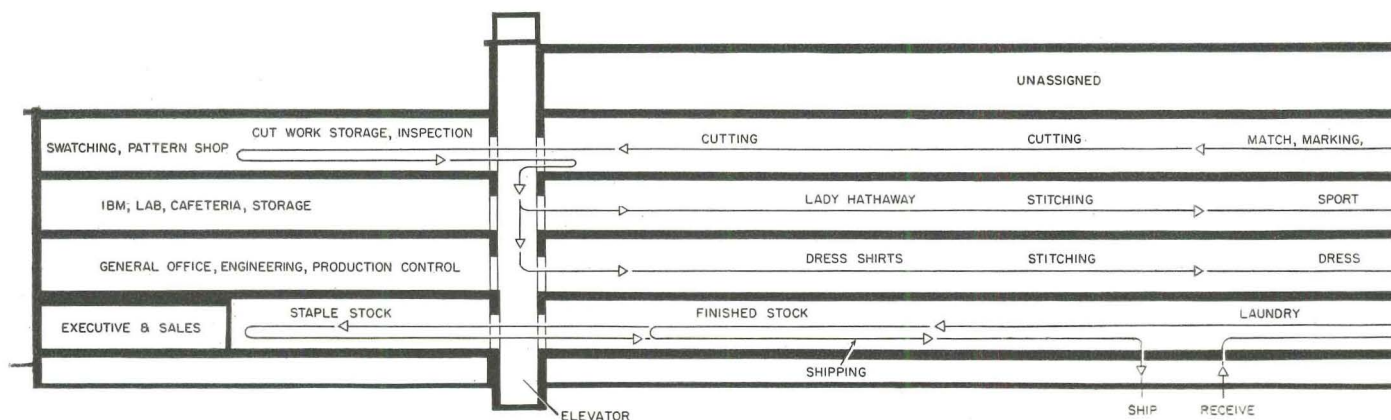
A corresponding foresight was manifest in the electrical installation. Here, three important objectives governed the design: (1) continuity of service under all conditions regardless of load; (2) sufficient power available for initial and intermediate needs; (3) provision for final power and light requirements in all areas.

From the utility company's trans-

formers, one 3-phase 480-v service is fed to the main switchboard on the ground floor where similar feeders distribute it to the various floors. Here it is stepped up to 550-v 3-phase for the elevators, and down to 120/208-v 3-phase 4-wire for lighting and appliances, using 20 dry-type transformers. A separate set of 480-v feeders serves heavy equipment using this voltage. The switchboard was designed to accommodate the second feeder, which will be needed for full operation, by merely removing a few interior straps.

On each floor, separate power and light panels—some 30 in all—supply the respective loads. Lighting fixtures, of the industrial RLM type—except in the offices and other nonproductive areas—provide intensities ranging from 75 ft-c maintained in the cutting area and for sewing (where each machine also has a local light) down to 25 ft-c in the cafeteria, and slightly less in the shipping department. However, in the upper floors of the two wings, and the fifth floor, now either unassigned or temporarily in use as storage, raceways and panel for maximum intensities based on probable use in the future have been installed. It is estimated that approximately 10 percent of the initial installation has been provided on this basis.

In general, the continuous-row lighting



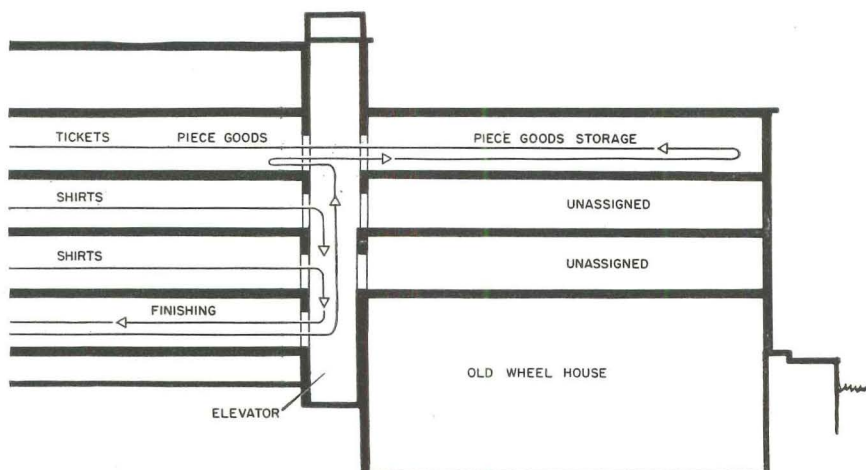
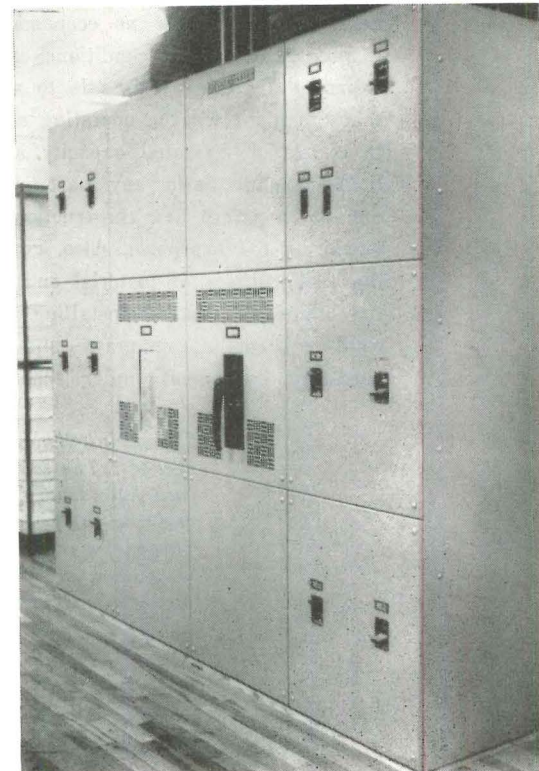


Installation was laid out independently of the power lines in order to provide uniformly distributed light. But on the fourth floor, where the cutting is done, the power bus is run under—and symmetrical with—the lighting fixtures to provide maximum light where required, free from shadow. Each system is independently supported to facilitate maintenance. This method, of course, is more expensive than single mounting but the savings will be apparent when, and if, a fixture need be replaced.

Solid brick-wall construction and ceiling heights dictated the use of exposed rigid-steel conduit throughout, and about 10 miles of various sized conduit was ultimately installed. To provide more flexibility for equipment such as cutting machines operating over long tables—and greater freedom of movement for other machine operators—a 208-v 3-phase 4-wire overhead trolley bus with twist lock connections was used wherever possible. The longest buses—120 ft—are over cutting tables, the stitching machines (which operate at a rate of 4500 to 5000 stitches per minute), and the finishing machines. Some operations are served from conventional convenience outlets on conduit runs. In the new plant 65 sq ft is allowed for each machine, as opposed to only 45 sq ft in the old plants.



*Main distribution switchboard (right) at termination of utility's lines. Main switch is on right; a future main switch, a spare not yet in use, is on left.*





All buses are rated at 50-amp each, and because ultimate loads were designed within this limit, the number of bus runs and feeder circuits were necessarily increased. At present all sewing equipment connected to the buses are 208-v, 3-phase units. However, all cutting equipment is 120-v single-phase so that the 3-phase installation will serve the larger machines ultimately to be required for increased production. Each bus section is supplied from the local panel board by means of a ceiling-mounted conduit run, and, due to the length of the building, conduit and cable sizes were increased to avoid voltage drop in the most distant areas. In this connection, another important factor was labor. Because the girls operate on a piece-work basis, they are highly critical of any breakdown in their machines or any slow-down due to voltage drop which is reflected in their pay checks. To guard against this contingency, the engineers took particular pains not to overload branch circuits and—as a further precaution—provided extra circuits.

Every necessary conduit facility was anticipated. To insure functions of the areas presently unassigned being quickly changed to meet production schedules, provision for all future installations were designed to conform with the definite production flow. The degree of flexibility thus provided will be enormously beneficial later on, and the reasoning behind it will prove as economical as it was astute. When conditions call for expanded facilities, it is safe to assume that the plant will be operating slightly in excess of its rated capacity at that time—to shut down any part of production to permit new construction work would be too expensive. Also, considering rising prices of material and labor, the additional cost of installing empty rigid-steel conduit raceways—and other necessary equipment under the initial

contract—was much less than it would be say two or three years hence, and it will be more than offset by the savings effected through uninterrupted production. This same far-sighted policy extended even to increased facilities to be provided by the power company. A written agreement specifically stipulates that when the additional transformer capacity is required, the change will be made over a weekend to avoid any shut-down.

As a matter of fact, the entire restoration emphasizes two traits common to New Englanders—thrift and sentiment. Notably frugal, they seldom hesitate to lay out dollars today that will save them more dollars tomorrow. As for sentiment, they revere their heritage; tradition rates high. In their book, the old mill stood for something. As typical of a hardy, by-gone era as a covered bridge, it represents a period in which New Englanders take understandable pride. Preparing it for modern manufacturing methods and for employee convenience and comfort was the important objective, but preserving its characteristic features also became a factor.

To what extent this sentiment registered with every citizen no one would know exactly, but for those concerned with the restoration it had real meaning. To no one, unquestionably, did it have more meaning than to Ellerton M. Jeffe, Hathaway's president, and his wife—authorities on early Americana, collectors of considerable renown. And in Emil Backstrom, the architect, they had an able partisan. His feeling for color, his ability to make decorative use of existing and frequently unfortunate structural conditions did much to preserve and glamorize old mill features.

The days consumed in sandblasting layers of dirt and grime from interior walls were well spent for underneath was old brick—as fine and firm as the day it was made. Since painting would

neither have improved nor equalled this native quality, the walls were left as they were. High ceilings and wood cross beams, however, were painted in various Williamsburg greens, blues, or tans—darker shades that give an illusion of lower ceilings and blend with the terracotta brick walls.

Treating the rows of supporting columns, which could have baffled many a decorator, Backstrom took in stride. He considered them first in engineering the new work flow pattern, then made them both decorative and important. They serve as department dividers between large cutting tables, or between machine groups, and down the center of each floor two rows set off a center traffic aisle. Treated in units of six or eight, each column is painted, and no two in a unit are the same color. Backstrom bases his interesting application of color to industrial plants on the belief that if well chosen and harmoniously assembled, it has a psychologically favorable reaction on employees. He used more brilliant tones, for example, where operators constantly work on white shirts, subdued tones where sport-shirt patterns are being worked on.

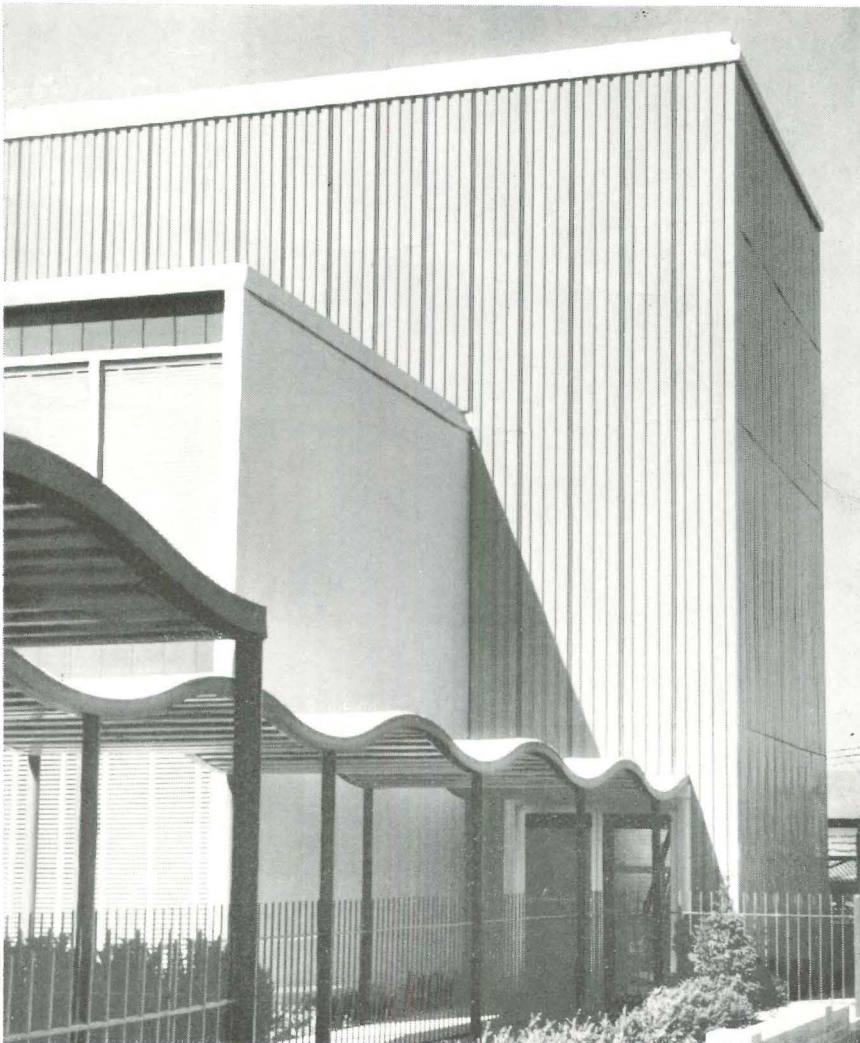
The plant's 1000 windows, badly battered after 88 years facing the elements, were all replaced. Cleaned of its former grime, equipped with every conceivable employee convenience and comfort, completely modernized for manufacturing, and—best of all—wired to the hilt for immediate and future loads, the plant today is as up to the minute as next year's Easter bonnets. Yet, internally and externally it retains all the fine old features of a New England mill. As one resident expressed it: "To appreciate this transformation you would have to have worked in mills for years, known them as intimately as I did. What has been created here is an almost unbelievable miracle—the miracle of Waterville."

*Typical installation, at each floor, of riser connections. The second, third, and fourth floors each have four of these. Provision has been made on the fifth floor for two in the future. Tapped for various lighting and power equipment, most are 480-v power switches. Transformer, above, steps down voltage to customary 120-v.*





# Showcase Office Building



Last fall, a sparkling new office building was completed in the heart of the industrial section of Ambridge, Pennsylvania (near Pittsburgh). Purpose of its erection was to serve two functions: to provide additional office space for administrative activities of H. H. Robertson Company and to stand as a full-scale model of the principle building components produced by this manufacturer. The exterior elevations demonstrate possibilities for Robertson's new curtain-wall system which has been evolving over the past 20 years (*left*), its well known asbestos-asphalt protected metal roofing and siding, and its more recently introduced resin structural panels. The interior areas, however, set the stage for this company's latest refinement of its cellular-floor panel system—the introduction of air-conditioning and heating distribution to complement services already accommodated.

This structure—designed by New York Architect Oscar F. Wiggins—is a two-story building, approximately 50 ft wide and 180 ft long, with a full basement which is also used as office space. All air-conditioning equipment for the central plant is located in a penthouse on the roof. Each level of a three-level air-conditioning cabinet—one for each story—contains a preheat coil, a set of filters, cooling coils, and a separate blower for each side of the dual-duct system. Re-heat coils are located on the hot duct just beyond the blowers. Hot- and cold-air streams from each level of the cabinet are conducted to a vertical core through which they drop down to the underside of their respective floor levels. There, hot and cold supply headers parallel each other down the center of the building—running longitudinally under the cellular floor.

The system is a high-velocity dual-duct system operating at a maximum duct pressure of about 4 in. w.g. at the head, and declining to about  $1\frac{1}{2}$  in. w.g. at the far end. Because of the high velocity, supply duct sizes were small enough to be taken through the web of the girders by using a welded doubler plate to re-



store the mechanical strength of the member. From the supply headers air is fed upward and into the undersides of the air-distribution cells of the cellular-floor panels. Duct cells are fabricated

on a 12 in. modular width with an air cell 3 in. deep and about  $9\frac{5}{8}$  in. wide—providing approximately the same carrying capacity as a 6 in. round. These distribution cells are alternated with 24 in. modules of electrical cells and run the width of the building.

Most of the air is discharged into the occupancy space through sill boxes lo-

cated at the ends of the air-duct cells. Straddling a pair of duct cells—one hot and one cold—the sill boxes are primarily mixing devices which modulate the air by action of the room thermostat. In general, the sill boxes are covered by a continuous sill enclosure with as many as six units controlled by a single thermostat—depending on zoning require-





ments. For some of the interior zones, ceiling units are used to discharge air from the underside of the air-duct cells. In other instances, units located in the ceiling serve as mixing units with the air being reintroduced into low-pressure duct cells, or for discharge through grills located in stairwells or over doorways at strategic locations. Peak cooling capaci-

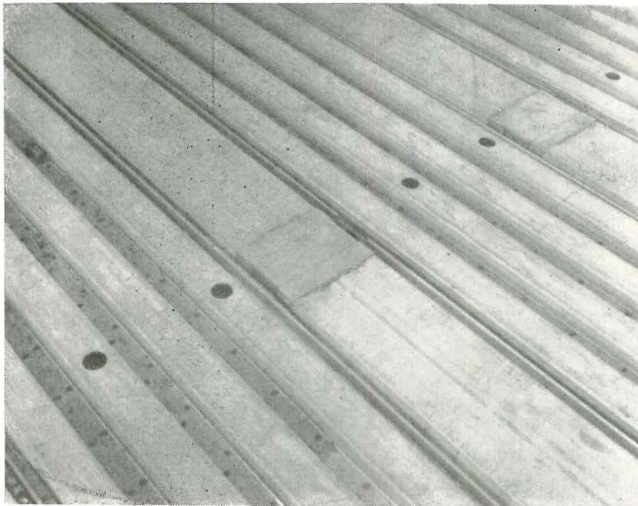
ties call for about 23,000 cfm at temperatures of about 55 F. Peak heating requirements call for about 15,000 cfm of air at temperatures which are scheduled in an inverse ratio with respect to the outdoor air temperature by means of an outdoor master thermostat.

In conjunction with the system, there is an elaborate panel for monitoring the

temperature and pressure throughout the building. There is also a number of units which can be switched to manual operation for a demonstration of their operating features.

*Loadbearing standard cells and air ducts, supported by beams, span the width of the building (right). Longitudinal air supply headers will run through holes cut in girders.*

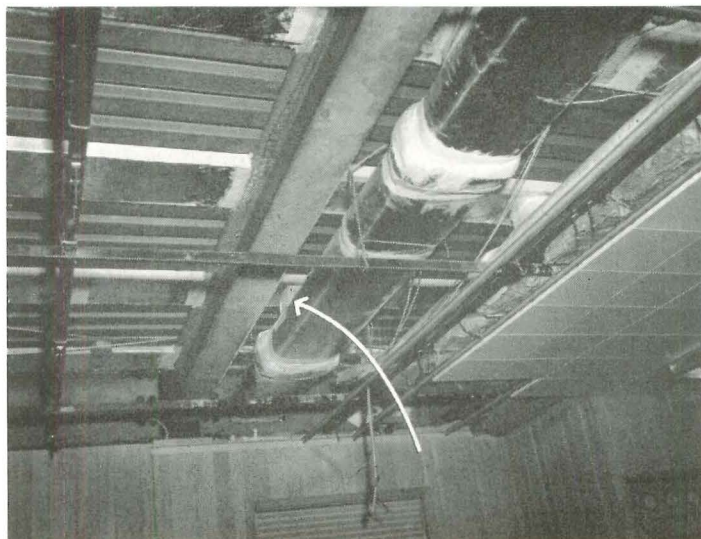
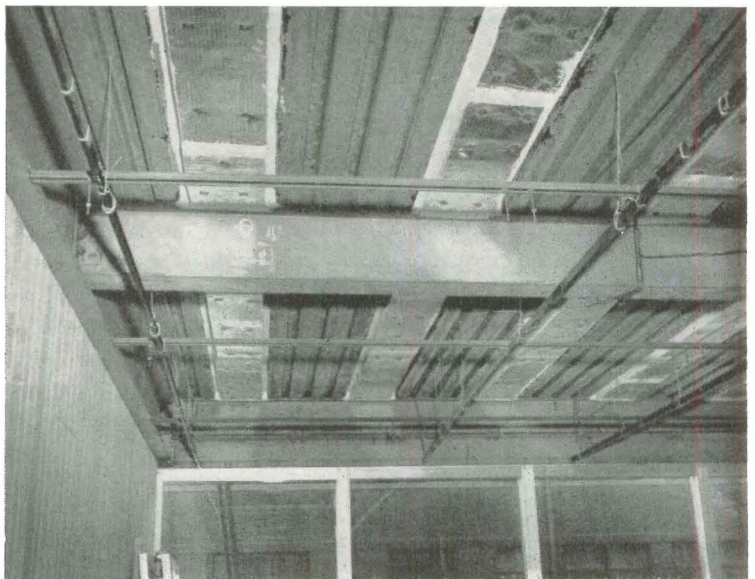
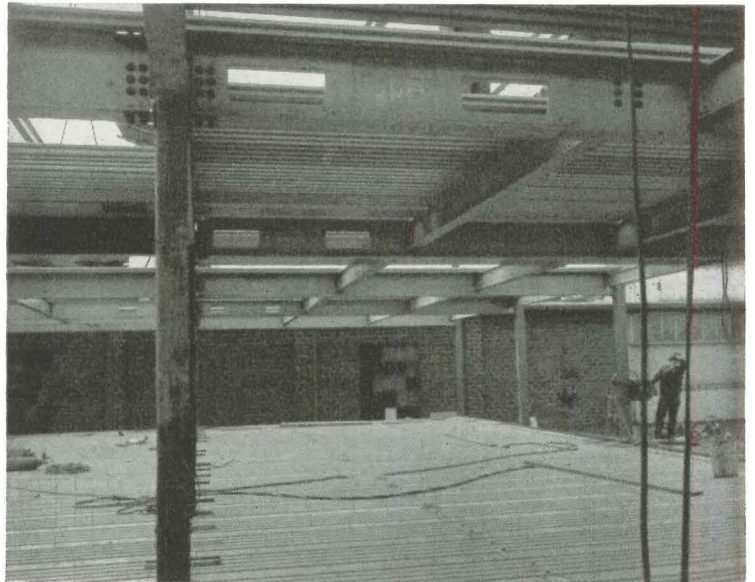
*End joints of structural air ducts are carefully sealed (below).*



*Structural air ducts, alternating with electrical-cell modules, are insulated (right).*

*Arrow indicates connection between supply header and air duct in floor system (below). Note header penetrating girder.*

*Corridors connecting new office building with old (acrosspage) are enclosed with resin structural panels.*

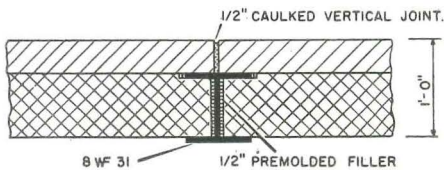




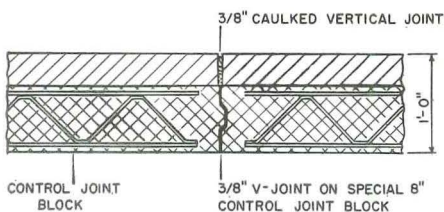
# Control Joints

*There exists a paucity of useful literature on the subject of control joints in buildings. To cope with this situation, one firm of engineers developed its own office standard for control joints—not only as a guide for its own members but also for its architect clients to help stimulate their concern for this vital element of design. That standard, presented here, was authored by Charles G. Marchant and Donald S. Wild, of Marchant & Minges, Engineers, West Hartford, Conn.*

## 1. Exterior Masonry Wall Construction: Case 1. Exterior wall with columns—usually nonbearing.



## Case 2. Exterior wall without columns.



### NOTE:

1. REINFORCING NOT TO CROSS CONTROL JOINT.
2. REINFORCING EVERY SECOND COURSE.
3. CONTROL JOINT TO BE CAULKED.
4. CONTROL JOINT TO BE PREFERABLY 20' ON CENTER BUT NOT MORE THAN 30'.

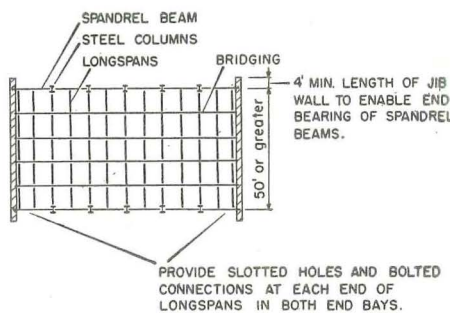
*Note:* For a cavity wall, joints at the recommended 20' spacing are probably sufficient in block only, with every third joint through brick. If other than 8" block is used, without stacked bond, blocks at every other course will have to be cut to form vertical joint.

## 2. Interior Block Wall Construction:

Refer to Case 2 (Exterior Masonry) for recommended details and notes.

## 3. Roof Construction for Large Open Areas (i.e., Gymnasiums):

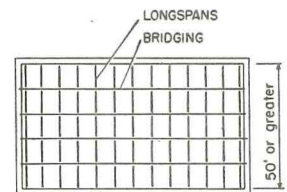
## Case 1. Steel frame and bearing wall.



*Note:* The case shown above is somewhat unusual in that, normally, columns would be used at ends of spandrel beams, in lieu of wall bearing. If columns were used, they should be wrapped, at masonry contact surfaces, with 1/2" premolded filler—and all joist ends could then be welded. Note that if spandrel ends are wall bearing, jib extensions on wall must be sufficient to distribute concentrated bearing load properly. Note also that top of wall must have the lines of joist bridging anchored securely to it (see following detail in steel-joist section) in order to obtain required lateral support. The necessary tying in of deck, and joist bridging to top of wall, has apparently never caused a shear crack at top of the wall. Probably, the reason this has not occurred is that the expansion of the joists can adjust itself in increments throughout the entire wall length, due to the several uniform attachment points. But, when the total thrust, from the linear expansion of joists in end bays, is brought into the wall through spandrel-end anchorage, a

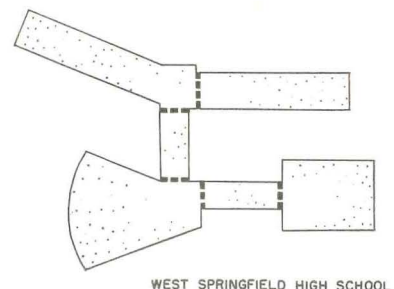
crack will be almost inevitable. Also, when there is a masonry return at corners at end walls, a crack at the inside corner will result not only from expansion of end-bay joists (if anchored to the return), but also from linear expansion of the spandrel beams (See Item 5).

## Case 2. Bearing walls.



Provide slotted holes in long-span bearing shoe at one end only—to engage typical anchor bolt through uplift plate into masonry. Other end is then tack-welded to uplift plate which is independently anchored to the masonry.

## 4. Large and Complicated Structures.



Joints should be located where logical. There is no hard and fast rule, and no truly sound or accurate theoretical law. Good common sense, applied after a thor-



ough study of the building, will dictate the most probable necessary locations. A good general rule is to separate the masses of building units from smaller, more fragile connecting portions; favoring locations, where practicable, at changes in direction. Joints within any particular wing, or other fairly prismatic and lengthy building have been recommended at anywhere from 150' to 350'. Undoubtedly, the shorter length would be a safer rule—therefore, 150' to 200' would be a practical linear spacing of control joints.

In general, a control joint should be carried completely through the superstructure (that is, everything above grade), but not necessarily through a slab-on-grade or through the foundation. The reasons for this are that the superstructure is exposed and subject to extreme changes in temperature, while slabs on grade and foundations are protected, respectively, by the building and the ground, with relatively constant temperatures. Also, a slab-on-grade will usually have adequate construction joints if placed according to our concrete specifications and notes (Item 8, Slab-on-Grade). Likewise, foundation walls are required by specifications to have construction joints and control joints at frequent intervals (Item 7, Foundation Walls). However, it is probably advisable to carry a joint through a structural slab, at the location of a joint through the superstructure, as well as planning a joint through the foundation wall at the same location.

It is important that a joint be a complete separation of the portions of the building, necessitating double columns and beams at the joint to keep the portions completely separate. The type of slip joint used in the past (i.e., common supports at the joint) is not entirely satisfactory, unless the movement action is simple and clear cut, as for a covered-passage type slab.

One hundred ft of welded-steel con-

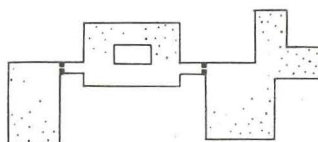
struction will change its length  $13/16''$  for a 100 F temperature change. Bolted-steel construction could be expected to have a length change somewhat less. One hundred ft of concrete will change about  $15/16''$  for a 100 F temperature change. Brick would change only about  $3/8''$  for the same statistics.

Thus a  $1\frac{1}{2}''$  joint width is probably satisfactory for most cases, with 1" as a minimum, and  $2\frac{1}{2}''$  as a maximum for special cases. The architect must treat the nonstructural parts properly, such as bellows and slip-type flashing at breaks in roofing, gravel stop, etc.

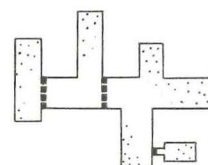
A general rule to follow when in doubt

whether to locate a joint at a specific location, is to locate it, or at least recommend it to the architect.

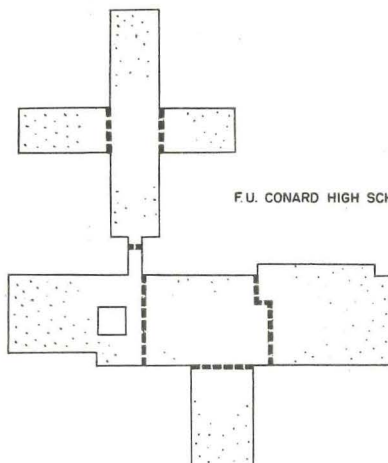
In addition to West Springfield High School (*above*), the following examples show control joints as located on other jobs. In general, they are the result of simple logic, taking into account mass, length, and change in direction. In some cases, a joint might be considered superfluous, while in others, additional joints might be deemed advisable. In all cases, the joints are a complete separation of the superstructure, being parallel to main steel beams, or reinforcing bars, requiring double columns, etc.



AVON HIGH SCHOOL

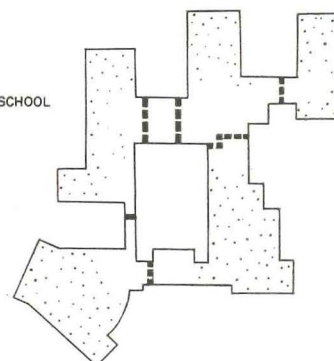


NEW LONDON COUNTY JAIL

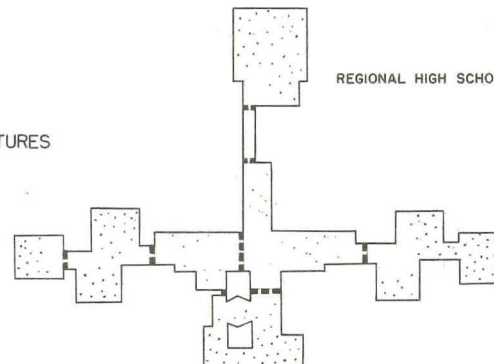


F.U. CONARD HIGH SCHOOL

HERRICKS SR. HIGH SCHOOL



LARGE AND COMPLICATED STRUCTURES

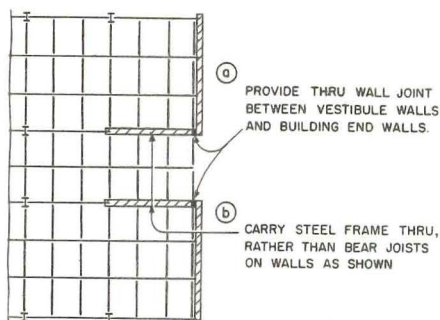


REGIONAL HIGH SCHOOL NO. 8





## 5. Entrance Vestibule Walls:

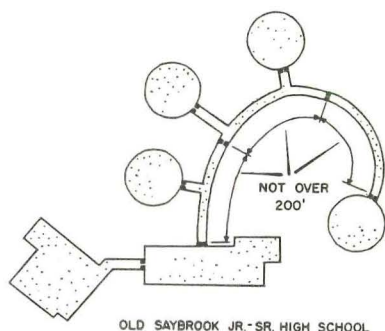


a. The end wall of the building should be separated from the vestibule walls, since linear expansion of bridging and deck may tend to "lean" end wall, causing a crack at vestibule corners.

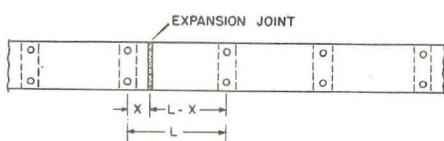
b. Similarly, anchoring joists and corridor beams to top of vestibule wall may transmit the linear expansion of deck to the vestibule walls and cause a shear crack starting at joist bearing. This crack may find a diagonal path down through the wall, as a portion of the wall tries to act as a buttress.

## 6. Canopies:

Divorce canopies from all units with expansion joints as shown (below)—spaced preferably at  $150' \pm$  apart, but not exceeding  $200' \pm$ .

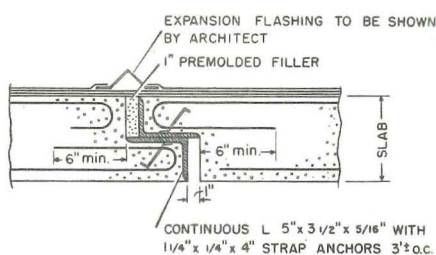


Canopies can be spliced at an approximate point of contraflexure or about  $\frac{1}{4}$  of the span between supporting columns, or whatever distance figures most efficiently as described (below).



Design slab to right of expansion joint as continuous with end span =  $L - x$ . Design slab to left of joint as continuous with end cantilever =  $x$ , and with con-

centrated load on cantilever end equal to end reaction of slab on right side of joint. Detail joint as follows:



TYPICAL DETAIL THRU EXPANSION JOINT

## 7. Foundation Walls:

Case 1. Foundation walls with 12" or less exposed above grade and no basement area on inside.

a. Vertical construction joints placed so that maximum continuous placement of concrete does not exceed 75' in length. (See our Concrete Specifications.) Discontinue steel.

Case 2. Foundation walls with 12" or less exposed above grade, but exposed to basement area on inside.

a. Vertical construction joints placed so that maximum continuous placement of concrete does not exceed 50' in length. Joints should contain a continuous waterstop. (See our Concrete Specifications.) Check effect of joint on earth retaining action of wall; do not continue more than half of horizontal reinforcement through joint.

Case 3. Foundation walls with more than 12" exposed above grade, either with or without basement area on inside.

a. Vertical joints at  $20' \pm$  o.c., located midway between columns.

b. Joints to be constructed by tacking to forms—for both wall faces—a removable rubber strip which leaves a narrow 1" deep vertical groove in the concrete.

c. Narrow groove on outside of wall should be filled with nonstaining, concrete-colored calking compound.

d. Include continuous vertical waterstop at all such joints when a water condition exists with a basement area on inside.

e. If other than one bar top and bottom, continue only one half of horizontal reinforcement through joints.

f. Refer to our Concrete Specifications.

## 8. Slabs on Grade:

Place slabs in checkerboard fashion,

each area not exceeding  $750 \text{ sq ft} \pm$ , or  $40' \pm$  in length.

If steel columns go through slab for pier or footing bearing, center checkerboard areas on columns, to facilitate concrete encasement of column bases.

For butting of slab to walls with a water condition, design slabs structurally for uplift, no joints. As an alternative, joints may be sawed, if accomplished within 48 hr after finishing concrete. (See our Concrete Specifications.)

## 9. Plastic Flow or "Creep":

Careful study and thought should be given to treatment of partitions supported on structural concrete-floor systems with relatively large spans (over 16'). A recent publication by the Portland Cement Association indicates that plastic flow may nearly quadruple the theoretical deflection—actually 3.8 times the theoretical. Eighty-three percent of this added deflection should occur within the first year.

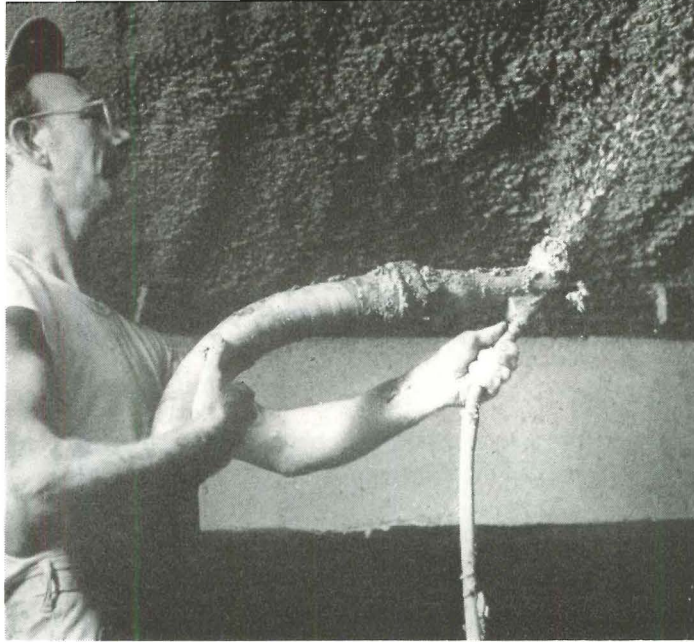
On past jobs, deflections of concrete floor systems with spans over 16' have probably caused cracks in the supported partitions more often than not. Typical trouble spots are partitions between classrooms on relatively shallow concrete construction spanning between corridor and exterior walls, and partitions on a flat-plate floor system.

Cracks occurring in partitions which are continuous from corridor to exterior wall, or between columns, will usually show up in either the second or third horizontal joint above floor, if block, or at base of partition if plaster on studs. Accompanying this may be a smaller vertical crack at midspan. These cracks result from the partition's attempt to span itself from support to support—because of its depth, it is considerably stiffer than the floor.

Cracks occurring in partitions which are not continuous between points of floor support, will usually occur as vertical cracks where abutting columns, or where perpendicular to another wall located on centerline of floor supports. These cracks open at top, remaining tight at bottom; since walls are not continuous they cannot span, and therefore deflect with the floor.

When a floor of this nature must be used to support partitions, consult with the architect for proper co-ordinating of control joints.





## New York's First Machine Plastering

For the first time in the history of New York construction, machine plastering has been used. Its first appearance was made at the recently completed Deering-Milliken Building where vermiculite acoustical plaster was the fireproofing material specified under the terms of the permit issued by the City's Building Department Board of Standards and Appeals. Designed by Architects Carson & Lundin, the building has eight stories plus a two-story penthouse. Its structural-steel framing supports a metal cellular floor panel system rather than the conventional reinforced concrete.

The vermiculite acoustical plaster, which easily betters New York's three-hour fire specification, was applied directly to the under side of the floor,

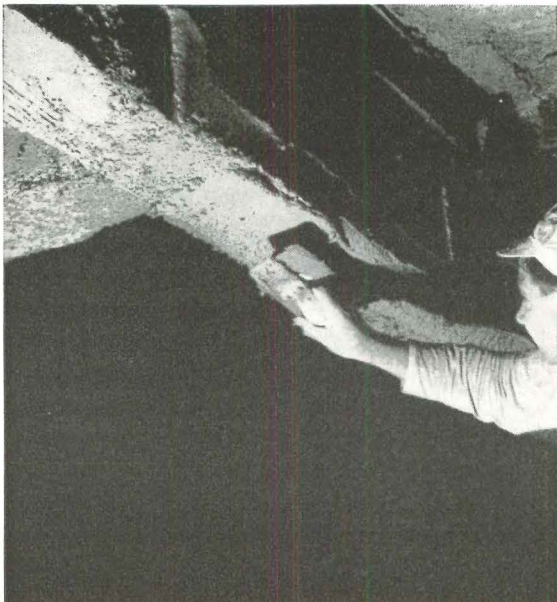
eliminating the need for a suspended sub-ceiling on which fireproofing is usually applied. Such a procedure is reported to reduce layout time for plumbers and electricians by one or more days apiece. Although a suspended ceiling was placed, it was solely for the purpose of masking the duct work for air conditioning and for lighting purposes. Six plasterers and eight laborers used 6500 bags of vermiculite to fireproof 100,000 sq ft of deck and beams. The sprayed plaster was troweled after application to compensate for any inaccuracy in the amount of plaster applied. A noise reduction co-efficient of .65 was achieved. This type of construction allows economies all along the line. Because of the comparatively reduced weight of the floors, lighter steel can be

used to carry the same weight normally assigned to heavier materials.

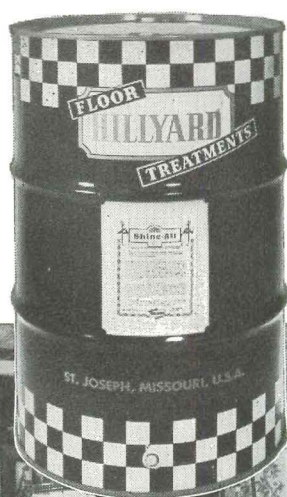
According to E. B. Carley, whose company was responsible for the plastering operations, "... using machine plastering we get the job done sooner. With this kind of construction, we work better with the electricians, the plumbers, and air conditioning people. It's a strong factor in smoothing out the job, cutting down time, and it lets us get to another job that much sooner."

Comments from others closely connected with the job are: "... not much of a problem with droppings . . . that saves time in 'touching up' the job and cleaning the floors when we finish"; "... we can maintain the 5/8 in. depth required by the fireproofing specs easily."

Photos: courtesy of Zonolite Co.







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Architect: Welton Beckett & Associates—Los Angeles, Calif.



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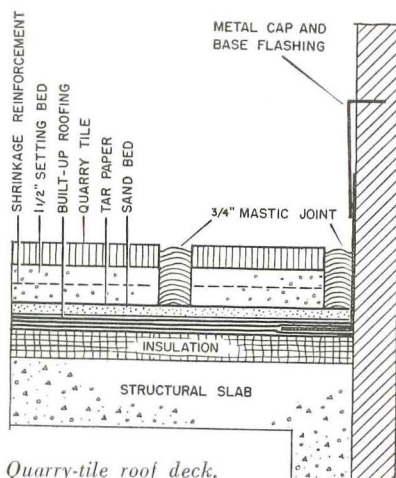
# Quarry-Tile Roof Decks

by Harold J. Rosen

Quarry-tile roof decks can be so designed and installed that they will be relatively trouble-free. Most failures occur when quarry-tile roofs are installed over insulation of low compressive strength and when adequate expansion joints are not provided at adjoining vertical surfaces and within the field of the quarry tile. Insulating materials of low compressive strength may cause uneven settlement of the quarry-tile deck through differential movement and result in the opening of joints and in the rupturing of the built-up membrane waterproofing. Inadequate expansion joints may lead to heaving of the quarry-tile deck and its ultimate failure.

The key features in making a good quarry-tile roof deck installation are: (1) firm bases; (2) use of roof insulating materials having high compressive strengths; (3) adequate expansion joints; (4) satisfactory built-up membrane roofing; (5) reinforced mortar setting beds; (6) tight mortar joints; and (7) proper curing of the joints.

The following detail represents a satisfactory solution which is hereinafter described.



Quarry-tile roof deck.

The base should be strong and firm with gradients pitched not less than  $\frac{1}{4}$  in. per ft nor more than one in. per ft to provide for proper drainage. An insulating material having a relatively high compressive strength and one which has proved satisfactory for installations of this type is "Foamglas," manufactured by the Pittsburgh Corning Corp. This insulation, of the required thickness, should be installed over the structural concrete slab or above a concrete fill which may be needed to provide the necessary gradients.

Over the insulation material, install a 5-ply built-up tar or asphalt membrane waterproofing, and then spread a sand-bed cushion over the membrane waterproofing. Cover the sand bed with a layer of tar paper lapped about 2 in.

The setting bed for the quarry tile should be about  $1\frac{1}{2}$  in. deep and should consist of one part gray waterproofed portland cement and five parts of clean graded sand. One-tenth part of hydrated lime may be added to the mix. Shrinkage mesh should be incorporated in the setting bed approximately at mid-point. The shrinkage mesh should be 2 in. galvanized wire mesh either hexagonal mesh at 1.5 lb per sq yd or square mesh at 1.17 lb per sq yd. The mortar for the setting bed should be placed on the deck, then troweled smooth, screeded, compacted, and sloped uniformly to the drains. Both the mortar setting bed and the shrinkage mesh within each square should be isolated from adjoining squares by expansion joints.

A thin continuous layer of neat portland cement should then be sprinkled over the setting bed surface while it is still plastic and then troweled to a uniform, damp consistency. The quarry tile should then be forced into complete and intimate contact with the mortar setting bed with joints approximately  $\frac{1}{2}$  in. wide.

Joints in quarry tile, other than ex-

pansion joints, should then be grouted with a good pointing mortar consisting of one part gray waterproofed portland cement, two parts finely screened sand, and one-fifth part hydrated lime. The mix should be of a stiff consistency, and the mixture should then be forcibly tooled or compressed into the joints. The Tile Council of America's Research Center stresses the importance of obtaining a good firm bond between the joint mortar and the setting bed mortar. They report that scientists have concluded that the very long life, 1700 years or more, of certain ancient cement installations was accounted for by the fact that cements had been carefully tamped or compacted during installation.

Expansion joints should be provided at abutting vertical surfaces and in the field joints. Field expansion joints should be used every 12 ft to separate the completed quarry-tile roof deck into squares or bays. Complete freedom for thermal expansion movement is essential and should be provided to prevent heaving of the deck. Expansion joints should be approximately  $\frac{3}{4}$  in. wide and should be full depth of quarry tile and setting bed, down to the tar paper. The joints should be filled to within  $\frac{1}{8}$  in. of the top surface with a hot-tar joint sealer and the surface then coated with a fine white talc powder or dry portland cement.

At abutting vertical surfaces, metal cap and base flashings should be provided, with the flashing woven into the built-up membrane waterproofing.

The quarry-tile roof deck upon completion should be cured. Proper curing insures the permanency of the mortar joints. This can be achieved by covering the roof deck with a moisture resistant paper for not less than 72 hours, with joints lapped and sealed with gummed tape. During this period, traffic should be kept off the deck.



# New dimensions



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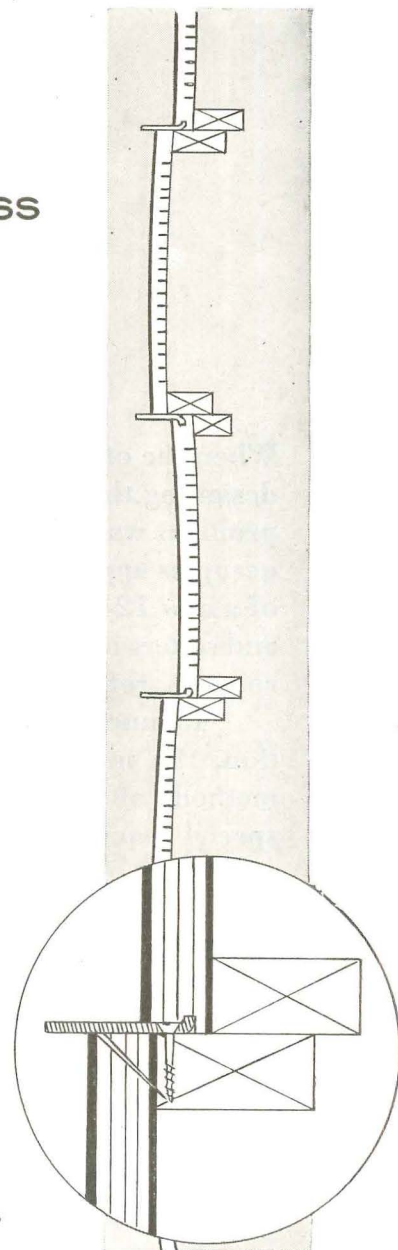
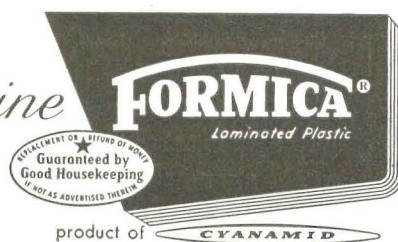
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Louise Sloane

## coffee & sugar exchange

When the office of New York Architect Edwin Harris, Jr. was given the assignment of designing the facilities for the 75-year-old New York Coffee and Sugar Exchange, the problem was as much one of communications as of interior design. The Exchange occupies approximately 10,000 square feet on the mezzanine, second, and third floors of a new 12-story structure; main facility is a Trading Floor where prospective buyers and sellers of coffee and sugar meet daily to transact business for growers, merchants, roasters, refiners, brokers, distributors, and manufacturers of finished products.

Planned for the efficient and economical functioning of a highly intricate operation, the integrated design is the result of considerable research into operational methods of other commodity exchanges throughout the country, as well as into the special requirements of the particular client. Incorporated into the over-all design are solutions to these basic needs: excellent acoustics; superior lighting; efficient intercom system and outside phone system; effective trading boards; functional arrangement of offices.

A cornerstone in the acoustical system is the dropped, curved ceiling, located above the two "trading rings" where noise activity is greatest. This ceiling, suspended approximately two feet below the building ceiling, is of acoustical plaster on metal lathe, its wavy design serving to absorb sound, reduce reverberations, and also to aid in the distribution of light. The specially designed phone booths, located for speed and convenience around the periphery of the Trading Floor, are equipped with acoustical metal panels for sound reduction as well as for privacy.

Fluorescent lighting behind diffusing glass panels runs the entire length of the dropped, curved ceiling. This arrangement, plus continuous lighting above the trading boards and phone booths, in addition to translucent draperies over the floor-to-ceiling windows, provides "brightness balance" between artificial and natural light.

Since instantaneous transmission of buying and selling transactions are vital to the Exchange, the intercom system permits orders to be transmitted at once to the "caller" (stationed in the rostrum) through a pneumatic tube system built into the "trading rings," and by the caller, through a public address system, to the clerks at the trading boards. For the outside phone system, booths are equipped with signal lights, accordion doors, shelves, cupboards, and tackboards, to meet traders' needs.

Materials and colors selected for the Trading Floor were chosen for function



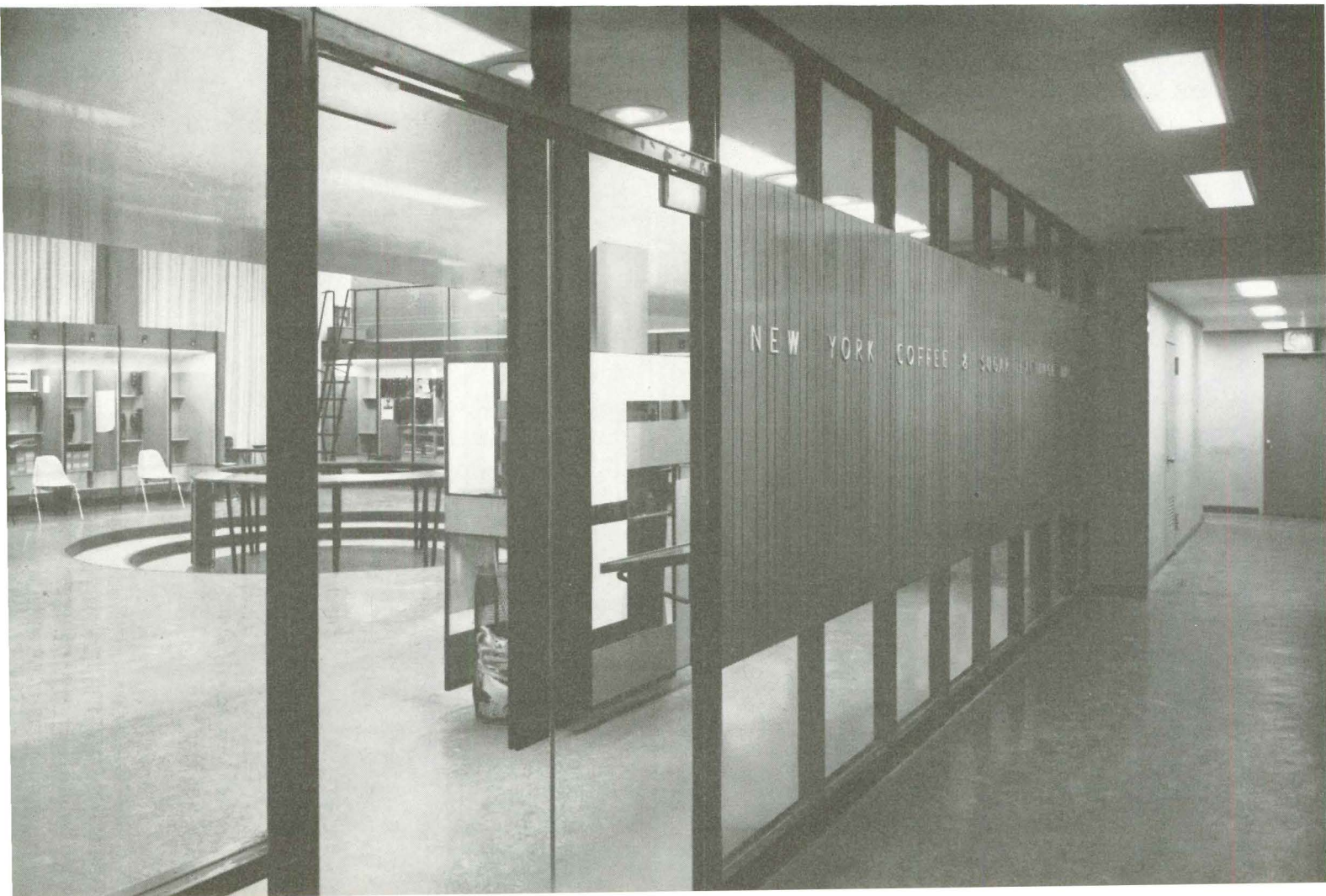
as well as esthetics. The color plan is a range of light, medium, and dark grays for ceiling, upper walls, trading boards, phone booths; coffee-brown for the vinyl tile floor, with light beige on steps into trading pits; deep reddish mahogany trim and foyer walls. Only brilliant color is the bright red-orange on phone-booth dividers, strengthened by the black of all metalwork. Ticker enclosure of perforated Masonite just inside the entrance incorporates in its abstract design the primary colors of the entire job—red-orange, lemon-yellow, blue-green, light gray. Rostrum and bulletin board are natural cork. “Trading rings” are solid mahogany, with legs of black metal. Textured sheer draperies are off-white.

Since meetings, both large and small, are a regular part of the Exchange activity, the Board of Managers Conference Room is divisible by an acoustical folding door into two conference areas. The two side walls repeat the curved wave treatment of the Trading Floor dropped ceiling, one wall covered with a photomural of coffee beans and representative scenes, the other holding a display board for photographs of past presidents. Color plan in this room is gray, white, and beige, with brilliant yellow print draperies at windows, deep-gold upholstery, walnut tables and paneling.

Brilliant colors accent the white, mahogany, and coffee-brown scheme of the Lunchroom-Lounge, adjacent to the Trading Floor. General offices, arranged for maximum lighting benefits, have iridescent brown metal furniture, beige asphalt tile floor. Executive Secretary's office is in grays and beiges, with deep-red print draperies.

client	New York Coffee and Sugar Exchange
location	New York, New York
architect	Edwin Harris, Jr.
project architects	Paul Grunberg, Henry Fournier

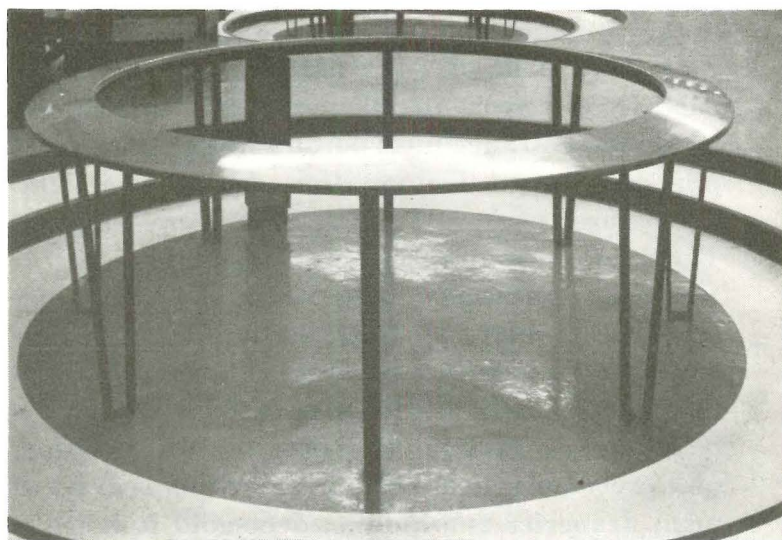
*Photos: Alexandre Georges*





p/a interior design data

## coffee & sugar exchange







*Trading Floor*



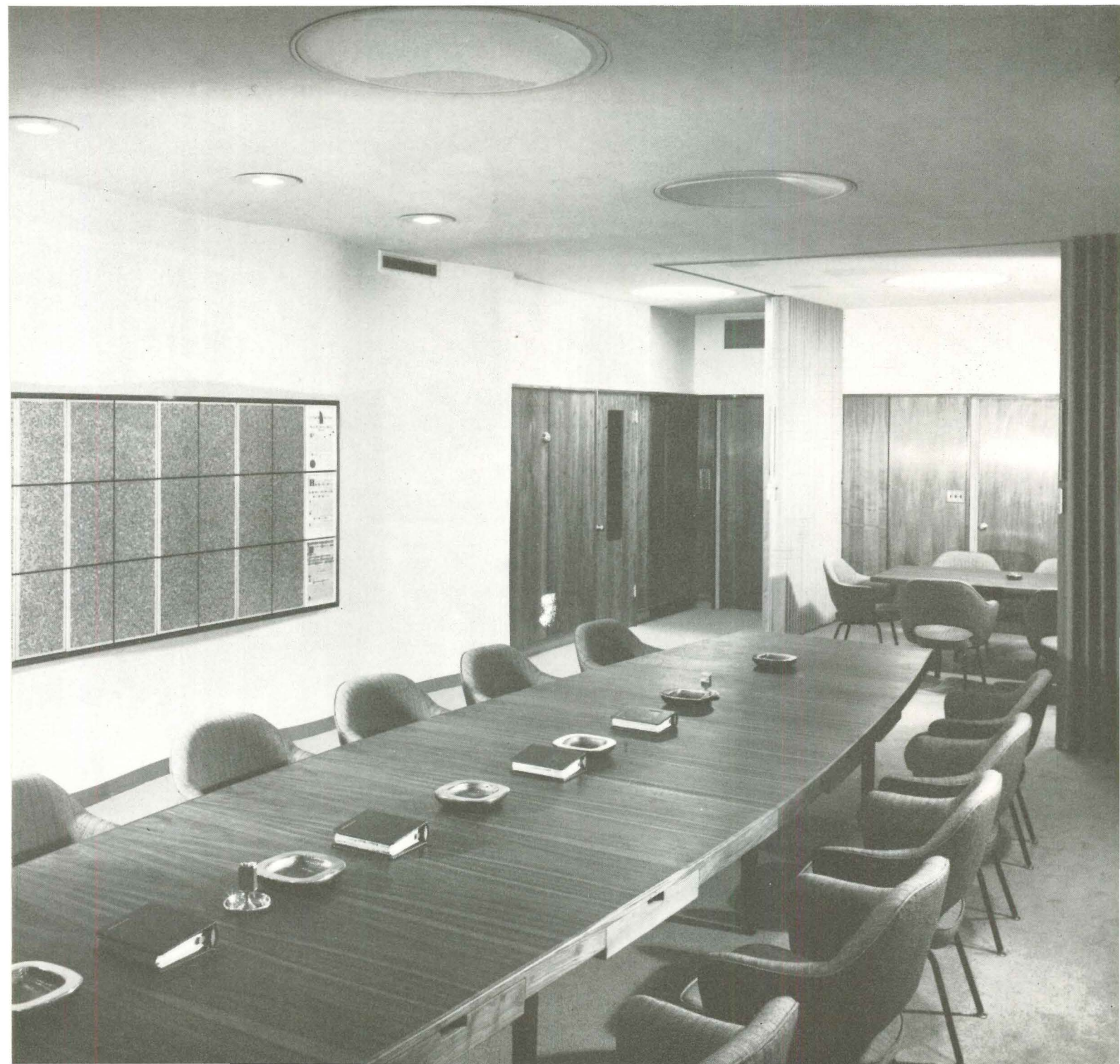


p/a interior design data

## coffee & sugar exchange



*Board of Managers Conference Room*







## data

### cabinetwork, doors, partitions

All Cabinetwork: architect-designed.

Woodwork: Charnin Builders, Inc., 208 E. 120 St., New York 35, N.Y.

Metalwork: Hudson Fixtures, Inc., 213 E. 38 St., New York, N.Y.

Glass Doors: "Tuf-flex"/Libbey-Owens-Ford Glass Co., 608 Madison Ave., Toledo 3, Ohio.

Board of Managers Conference Room, Trading Floor Telephone Booths: folding doors/Modernfold Door Co., Inc., 60 S. Terrace Ave., Mt. Vernon, N.Y.

Lunchroom-Lounge Screen: wood grid/"Polyhemp" plastic/Polyplastex United, Inc., 870 Springfield Rd., Union, N.J.

### equipment

Intercom System: Allen Communications, Inc., 1845 Broadway, New York 23, N.Y.

Pneumatic Tubes: Airmatic Systems, Inc., 376 Bergen Blvd., Fairview, N.J.

Telephones: N.Y. Telephone Co., 140 West St., New York, N.Y.

### furniture

Trading Floor: chairs/Herman Miller Furniture Co., Zeeland, Mich.

Board of Managers Conference Room: tables/Jens Risom Design, Inc., 49 E. 53 St., New York, N.Y.; chairs/Knoll Associates, Inc., 575 Madison Ave., New York, N.Y.

General Offices: metal chairs/Milwaukee Chair Co., 3022 W. Center St., Milwaukee, Wis.; metal desks, files/Columbia Steel Equipment Co., Ft. Washington, Pa.

Executive Secretary's Office: desk/Herman Miller Furniture Co.; chairs/Knoll Associates, Inc.

Lunchroom-Lounge: all/Herman Miller Furniture Co.

### fabrics

Trading Floor: draperies/Stroheim & Romann, 35 E. 53 St., New York, N.Y.

Board of Managers Conference Room, Executive Secretary's Office: draperies/Dan Cooper, Inc., 30 Rockefeller Plaza, New York, N.Y.

### lighting

All Fixtures: architect-designed/The Frink Corp., 27-01 Bridge Plaza N., Long Island City 1, N.Y.

Downlights: Century Lighting, Inc., 521 W. 43 St., New York, N.Y.

Lamps: Lightolier, Inc., 346 Claremont Ave., Jersey City, N.J.

### walls

Board of Managers Conference Room, Committee Room: acoustical plaster/U.S. Gypsum Co., 300 W. Adams St., Chicago 6, Ill.

Trading Floor Entrance, Foyer, Gallery: grooved, fireproofed, mahogany plywood/U.S. Plywood Corp., 55 W. 44 St., New York 36, N.Y.

Trading Floor Trading Boards: "Arm-orply"/U.S. Plywood Corp.

Trading Floor Telephone Booths: perforated acoustical metal panels/Cross Engineering Co., 166 Dundaff St., Carbondale, Pa.; insulation/Fiberglas Corp., 16 E. 53 St., New York 22, N.Y.

Trading Floor Trim: solid mahogany.

### ceilings

Trading Floor, Board of Managers Conference Room: acoustical plaster/U.S. Gypsum Co.

All Others: acoustical metal tile/Johns-Manville Corp., 22 E. 40 St., New York 16, N.Y.

### flooring

Board of Managers Conference Room, Committee Room: "Hardtwist" carpet/Templeton, Scotland.

Executive Secretary's Office: "Karaset" carpet/A. & M. Karagheusian, Inc., 295 Fifth Ave., New York, N.Y.

General Offices, Catwalk: asphalt tile/Armstrong Cork Co., Lancaster, Pa.

Corridors, Waiting Room: asphalt tile/Johns-Manville Corp.

Trading Floor, Lunchroom-Lounge, Elevator Lobby, Foyer: Robbins Floor Products, Inc., Tuscumbia, Ala.

All Installation: William Gold, Inc., 1270 Ave. of Americas, New York, N.Y.

### accessories

Ashtrays: Raymor, 225 Fifth Ave., New York, N.Y.; McDonald Products Corp., 225 Fifth Ave., New York, N.Y.

Board of Managers Conference Room: photomurals/Horbatuck Displays, Inc., 65-60 Austin St., Forest Hills, N.Y.; photographs/loaned by Pan-American Coffee Bureau, 120 Wall St., New York, N.Y.

Lunchroom-Lounge: photographs/loaned by Sugar Research Foundation, Inc., 52 Wall St., New York, N.Y.



Lunchroom-Lounge



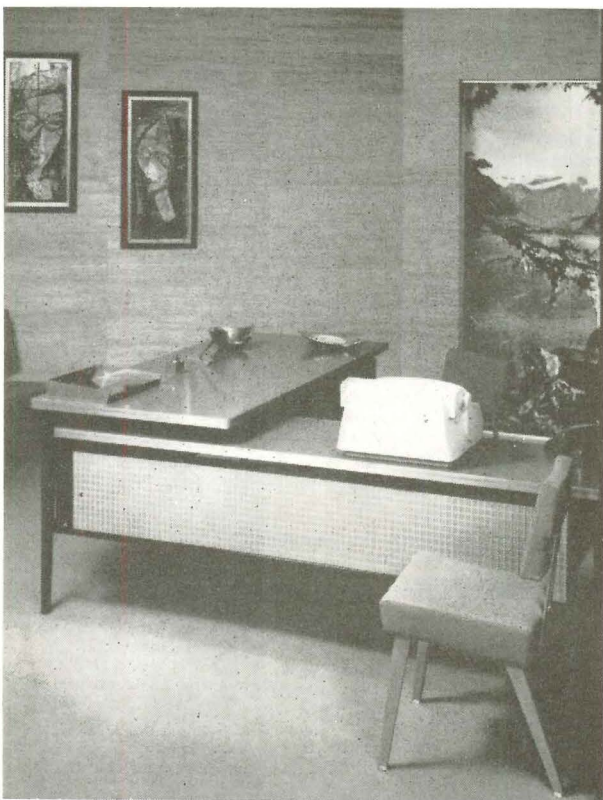
## p/a interior design products

### important furniture

Charles Eames' new Indoor-Outdoor Leisure Group marks another milestone in this designer's contribution to creative furniture design. The group includes a lounge chair (*right*), a reclining chair, a dining chair, an ottoman. Aluminum frames and Saran-covered cushions are weather-proof for outdoor use. Cushion construction and mounting system are designed for comfortable body support and minimum sag or tear. Lounge chair and reclining chair may be had with or without arms, both are mounted on swivel bases, and the reclining chair also has adjustable tilt. Cushions are blue, gray, or brown Saran or Charcoal Vinyl. *Retail: Lounge Chair, \$125-\$130. Herman Miller Furniture Co., Zeeland, Mich.*



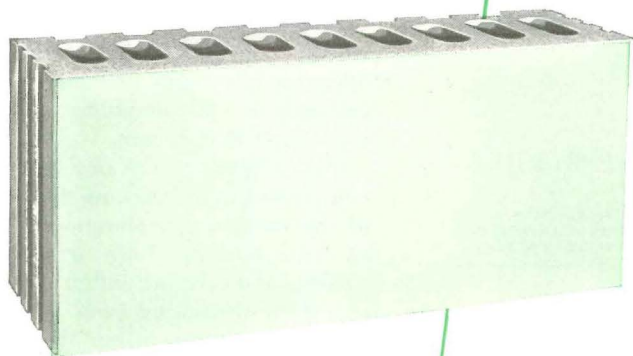
Research, technology, and co-operation between manufacturer and materials suppliers contributed significantly to the new "Italic Styling" collection of office furniture (*below*). Consisting of a broad assortment of desks and chairs, the collection combines aluminum, steel, and high laminate plastics, utilizes a diversity of anodized colors, as well as a variety of metal surface patterns. Resultant design is clean, functional, effective. Supplementing the furniture itself is an office interior design service, offering related furnishings. *The General Fireproofing Company, Youngstown, Ohio.*







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*University of Detroit Memorial Bldg.,  
Detroit, Michigan*

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Detroit 11, Michigan

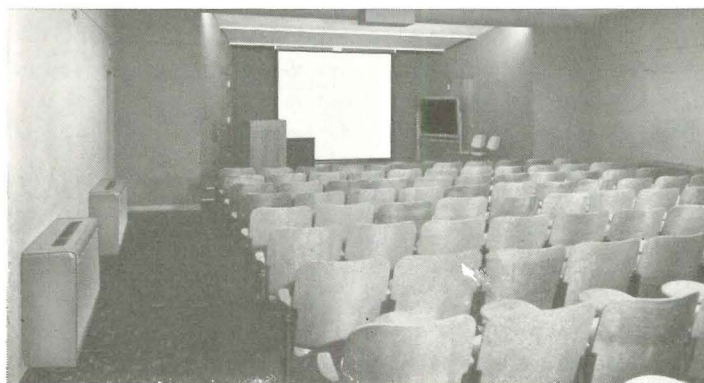
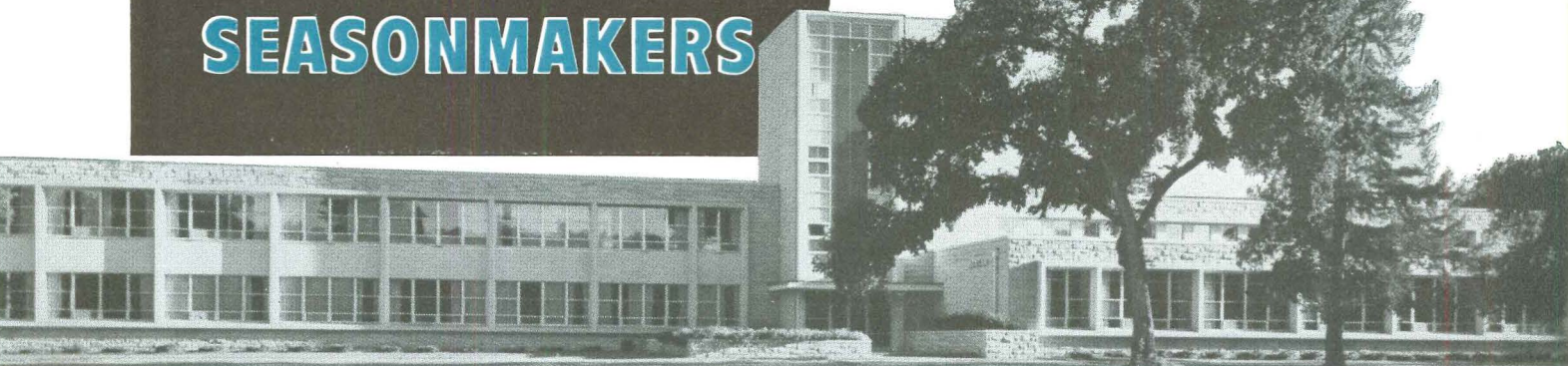


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Architects: Thos. W. Williamson and Victor H. Loebbeck & Assoc., Topeka  
General Contractor: M. W. Watson, Topeka; Plumbing and Heating: Sheahan and Degan, Topeka

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SEASONMAKER

HIDEAWAY TYPE  
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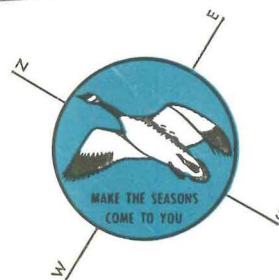
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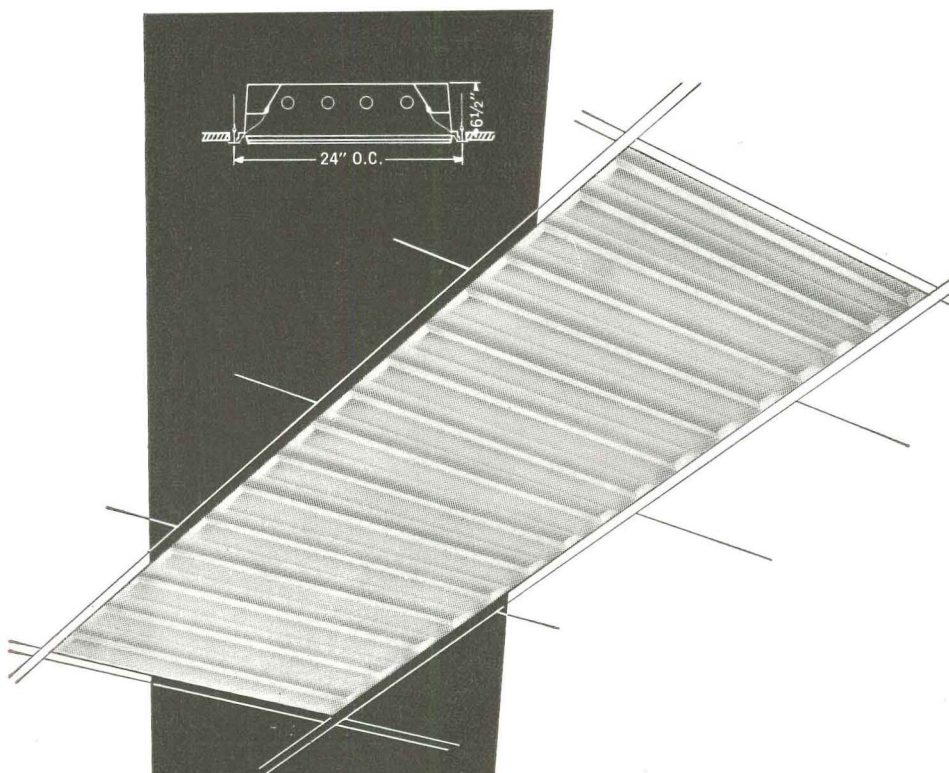


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†Pat. Pending



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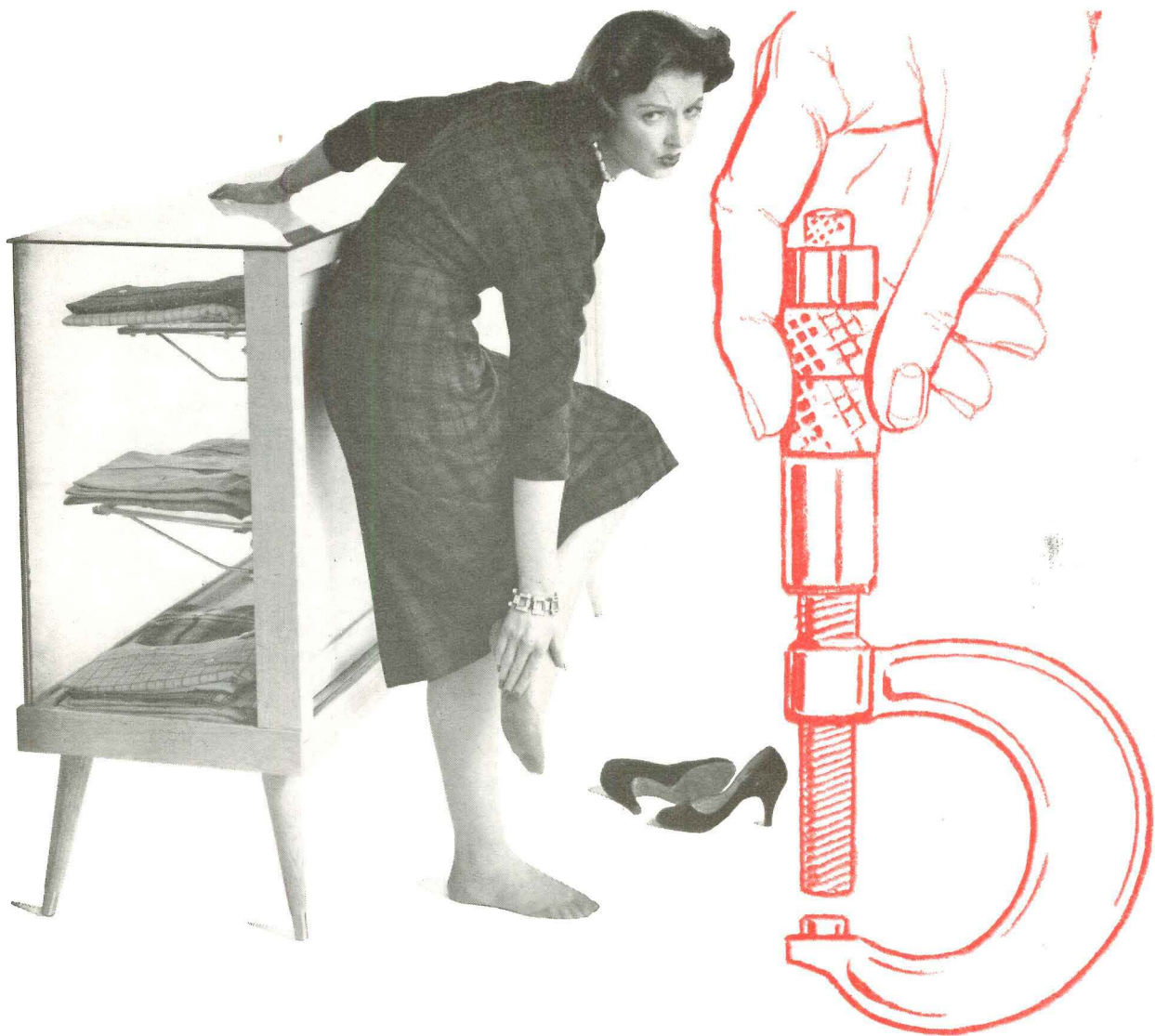
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*Omaha:* Electric Fix. & Sup. Co.  
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*Reno:* Western Elec. Dists. Co.  
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*Portsmouth:* Mass. Gas & Elec. Light Co.  
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*Camden:* Camden Elec. Fix. Co.  
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*Binghamton:* Freije Elec. Sup. Co.  
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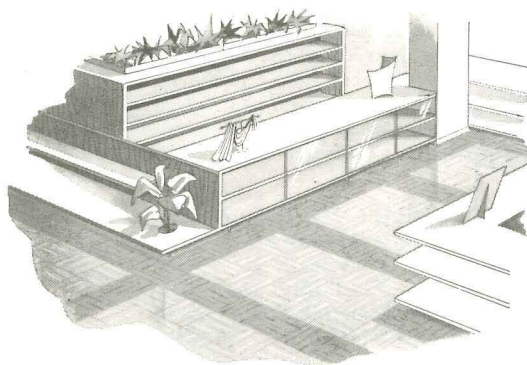
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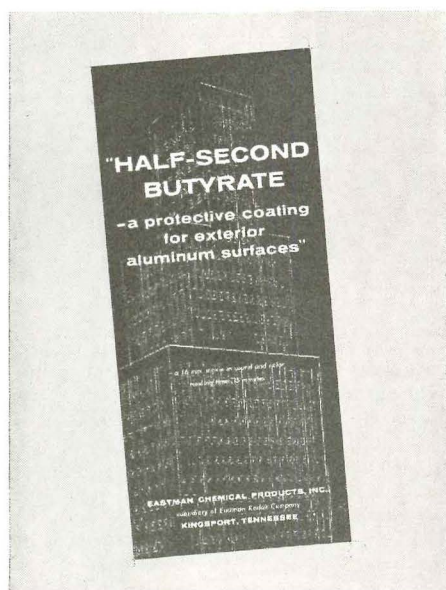


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"Half-Second Butyrate—A Protective Coating for Exterior Aluminum Surfaces," 15-min. full-color film prepared by Eastman Chemical Products, Inc., is devoted to a discussion of laboratory and field tests made to determine effectiveness of the above protector for aluminum building surfaces. Film illustrates resistance to weathering and increased beauty afforded by this specialized coating. Available from Eastman Chemical Products, Inc., 260 Madison Ave., New York 16, N. Y.

"Your Terrazzo or Oxychloride Floor," is a 12-min. full-color stripfilm released by Multi-Clean Products, Inc., describing properties and advantages of terrazzo and oxychloride flooring. Movie shows how terrazzo is made and depicts preparation for finishing, sealing, waxing and buffing processes. Outline for easy maintenance with special attention to refinishing operations is presented. Available from Multi-Clean Products, Inc., St. Paul 16, Minn.

E. C. D.

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

## air and temperature control

167. **Brick Size Vents**, AIA 14-U, 4-p. brochure depicts modular vents fabricated from cast aluminum and designed for neat stormproof venting of confined spaces. Available in seven sizes to correspond with standard or jumbo brick, units may be nested together where multiple units are needed. Advantages include economy—vents will not rust, stain, or crack. Design features are continuous drip lip across top, louvered face, aluminum screen to keep insects out, preformed screens, integral cast water-stop to prevent seepage. Various lacquers and protective finishes available. Construction Specialties, Inc.

168. **Mr. Architect, Mr. Engineer**, 4-p. folder points up advantages of staged cycle and closed reversing cycle air-conditioning systems. Flexibility, adaptability to temperature and humidity requirements stressed. Checklist form lists individual features of each type. Services available also given. A. I. McFarlan Co., Inc.

169. **Electric Blast Coil Heaters**, (E-97U), 20-p. catalog describes packaged units for following applications: prime heating with electricity; booster or supplementary heating; heating unattended buildings which house automatic equipment. Construction consists of coils of resistance wire, insulated by incorporating lava insulators in aluminized steel brackets. Open coil is directly exposed to air stream. Easy installation, sensitive controls, cleanliness and compactness fea-

tured; listed by Underwriters' Laboratories. Wiring diagrams, installation instructions, construction features shown. Industrial Engineering and Equipment Co.

170. **Acme Flow Mizer Cooling Towers**, 8-p. folder features line of cooling towers with capacities from 20 to 175 tons. All-steel modular housing, plastic pack, uniform spray distribution, drift eliminator, splash-proof air inlet, pump with integral motor are some design features. Photos illustrate properties. Specifications, capacity tables, water-pressure drop, tower performance graphs. Dimensions included. Acme Industries, Inc.

171. **Herman Nelson Heating, Ventilating, Air Conditioning Products**, 12-p. booklet features Roll-O-Vent automatic disposable filter section which can be adapted to numerous heating and air-conditioning units. Convactor radiators, finned radiation units, unit heaters, console heaters, propeller fans, unit blowers, industrial exhausters and centrifugal fans are described. Performance tables, capacities, dimension of units, motor ratings, given. Photos and drawings of arrangements shown. American Air Filter Co., Inc.

172. **Counter Flow Cooling Towers for Industry**, 16-p. publication includes cross-sectional drawings showing one or two fans per cell of the cooling tower, complete description of framework and basins. Framework material is California Heart Redwood. Fan deck and stack, filling design, drift eliminators, and distribution data given. Two types of louvers—for normal and special applications—are available. Mechanical features discussed. J. F. Pritchard & Co. of California.

★ 173. **Brown Sun Controls**, 24-p. 1958 catalog contains data and information on line of exterior vanes

which afford solar heat control, solar light and glare control, design possibilities. Basic types include vertical vanes, horizontal vanes, fixed fins, canopy and skylight vanes. Information given for selecting correct type for particular installations. Photos and drawings illustrate each type available. Detailed specifications suggested. Adjustability of fins for regulating amounts of air and light desired is main feature. Brown Manufacturing Co.

## construction

216. **Manual of Application Methods for Flat Asbestos-Cement Sheets**, 12-p. guide for application, cutting, handling, sorting of flat asbestos-cement sheets. Discussion includes general types available, accessory materials, necessary tools, care of material, job planning and preparation, application instructions. Detail drawings illustrate text; table specifying types of nails given. Asbestos-Cement Products Association.

217. **Thermal Expansion in Clay Masonry Structures** (from *Technical Notes on Brick and Tile Construction*, Vol. 9, No. 3), AIA 7-C, 4-p. file addition concerns revisions in recommendations for use of expansion joints in masonry walls. Failure of walls—cracks, etc.—may be due to cumulative expansion. Coefficients of expansion given by tabulated data. Recommendations include placement of expansion joints at offsets and junctions, placement for long walls, parapets, floor and roof slabs. Detail drawings illustrate points made. Structural Clay Products Institute.

218. **Rend-O-Lite**, 2-p. sheet discusses qualities and advantages of translucent, glass-fiber reinforced structural plastic



panels. Material offers design possibilities by utilizing patterns such as jute, burlap, Osnaburg. Properties include: thickness—1/16"; corrugation (if desired)—2 1/2"; depth of corrugation—9/16"; weight—8 oz/sq ft. Light transmission is variable, depending on pattern. Patterns and stock sizes listed as well as heat transmission, flammability, recommended support. Commodore Industries, Inc.

**219. Owens-Illinois Glass Block,**  
★ AIA 10-F, 20-p. 1958 catalog describes complete line of hollow units of water-clear glass. Light-directing, light-diffusing, solar-selecting, non-sun exposure types discussed. Each design presented with photo and data. Dimensions, curved panel laying radii tables, installation instructions, panel size and area outlined. Construction details for large and small panels, ribbon window installation, layout of opening widths shown. Specifications, illumination and brightness calculations, physical data included. Kimble Glass Co., subsidiary of Owens-Illinois.

**220. Essentials of Good Structural Clay Facing Tile Workmanship, Mortar and Layout,** AIA 10-B, 4-p. folder suggests mortar proportions for laying structural glazed facing tile units. Directions for application of nonstaining mortars are illustrated by photos, showing correct and incorrect methods. Cleaning instructions suggested. Facing Tile Institute.

**221. Aluminum Curtainwall Details,** 4-p. folder shows detail drawings for aluminum curtain walls in single and multi-story buildings. Hardware detail in half size is featured for single-story building; vertical expansion in multistory installation given. All units made from extruded aluminum alloy; depth of frame and vent is 2". Complete specifications. Modu-Wall, Inc.

**222. Structural Sealing with Elastomeric Type Sealants Based on Thiokol Liquid Polymers,** 12-p. manual is intended as reference for elastomeric sealants for building applications. Advantages of these numerous sealants are that they do not crack under excessive heat, maintain adhesion under contraction, vibration, or expansion. Mixing, proper handling, colors and application methods

are illustrated. Actual usage for flashings, etc., given. Thiokol Chemical Corp.

**223. Rilco Glued Laminated and Solid Wood Products,** AIA 19-B-3, 24-p. brochure discusses use of glued laminated wood structural members in construction of churches, schools, commercial, and residential buildings. Tangent arches are described by detail drawings of components, design load tables, physical data; radial arches, utility arches, laminated beams, purlins given full description including photo illustration. Deck information also included. Rilco Laminated Products, Inc.

**224. Miami Window Wonderwall,** AIA 16-E, 16-L, 17-A, 12-p. booklet includes numerous details of single-story and multi-story applications of the curtain-wall system. Joints and components shown. Multi-story unit is integrated with structural steel framing, but is independent of the structure. Units are formed of extruded aluminum. Mullions and subframes illustrated. Photos show finished installation. Miami Window Corp.

**225. Products for Construction,** 8-p. booklet contains descriptive data on 50 products useful in construction. Types of products include abrasives, adhesives, electrical products, roofing granules, sealers and coatings, signs and markings, tapes. Most products pictured. Brochure is divided into type of usage—architectural, electrical, mechanical—for ease in specification. Minnesota Mining & Mfg. Co.

### doors and windows

**343. Insulating Glass,** 4-p. folder describes factory-assembled insulating glass composed of 2 or more glass panes separated by metal channel. Dead air space of 1/2" or 1/4" provides insulation. Seal is modified synthetic resin-type. Manufacture is to desired specifications; some sizes and thickness ranges given. Required rabbet depths included. Glazing information and specifications. Ultra-pane, Inc.

**344. Curtis Wood Window Units,** AIA 16-L, 40-p. catalog gives complete description of all window units offered. Double-hung units claim easy operation, adaptability, weathertightness. Construction is detailed by data and drawings. Combination units available. Removable sash and removable double-hung units included.

Convertible (awning, casement, hopper, stationary) windows discussed. Features, specifications given. Curtis Companies Inc.

**345. All-Aluminum Sliding Glass Doors,** AIA 16-E, 16-p. 1958 catalog gives drawings, technical details of all sliding glass doors in line. Types featured are standard door, dual glazing adaptor door for 1" dual glazing, lower priced aluminum door. Features of each series pictured, described. Sizes, specifications included as well as application photos. Ador Sales, Inc.

### electrical equipment, lighting

**457. Modular Lighting for Modular Measure,** AIA 31-F-2, 16-p. publication describes Mobilex and troffer lines of recessed fluorescent lighting as designed for installation in modular, prefabricated ceilings and buildings. Six separate systems are included—for both plaster and acoustical ceilings. Systems included are those utilizing concealed mechanical suspension, exposed-grid suspension, exposed-panel suspension, tee-bar suspension, suspended plaster, exposed-runner suspension with flange, hook-on, snap-in, fixtures. Lighting co-ordinated with ceiling in function, appearance, assembly. Day-Brite Lighting, Inc.

**458. Eye Comfort Troffers,** AIA 31-F-2, 10-p. file on commercial, fluorescent recessed troffers. Three basic types available—flange, flush, lay-in; can have extruded-aluminum louver fins, flat aluminum louver fins, steel troffers, or no fins. Construction guide features drawings, description of best applications. Performance data, components, construction and installation details given for aluminum 2-lamp luminaires, steel 2-lamp luminaires, 2-lamp luminaires for inverted "T" grid systems. Curtis Lighting, Inc.

**459. Panelescent Lamp,** 4-p. brochure details construction and characteristics of new ceramic-on-metal panel lamp using electroluminescence principle—for low brightness surface lighting. Among applications suggested in photos are: radio-clock face, radio dial, thermometer, luminous house numbers, glowing switch plate, self-illuminating sign. Also illustrates ceiling panel for soft-interior lighting. Sylvania Electric Products Inc.

(Continued on page 168)

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# p/a manufacturers' literature

(Continued from page 167)

buildings. Describes how use of system facilitates office-building design. Gives sample structural design problem with drawings of typical floor, sections, and structural details; photos show full installation procedure. Also section on design of underfloor electrical distribution system: step-by-step procedure; typical distribution layouts; isometric wiring diagram. Additional data on floor openings, fire-proofing, suspended ceilings, floor finish-

ing. Structural and electrical specifications. The Flexicore Co., Inc.

461. **Weldirectory of Manual Electrodes**, 12-p. publication is guide for selecting most efficient electrodes for particular welding jobs. Each group of electrodes is described as to operating characteristics, properties, application information, and procedures. "Fast-Freeze" group deposits weld which solidifies rapidly; "Fill-

Freeze" type has different characteristics; "Fast Fill" deposits metal quickly. Data for hard-to-weld steels and slag-free welds also included. Master chart of electrodes and current ranges is helpful. The Lincoln Electric Co.

## finishers and protectors

553. **Epoxy Maintenance Finishes, Decorative Finishes**, 4-p. brochure describes physical and chemical properties of numerous epoxy finishes. Table gives data in easily-read form. Maintenance finishes are described; suggested uses given. Recommendations for decorative finishes also included. Types available listed; curing time and application data. Hauger-Beegle Associates, Inc.

554. **Vinyl Maintenance Coatings, Decorative Coatings**, 4-p. folder discusses coatings possessing superior film building, air drying properties. Maintenance films claim resistance to acids, alkali, moisture; also have maximum adhesion, are non-toxic and fire-retardant. Decorative coatings are modified vinyls featuring flexibility, toughness, durability, reduced sagging. Wash primer and vinyl prime coat described. Property tables and application data given. Numerous colors available. Hauger-Beegle Associates, Inc.

## insulation (thermal and acoustical)

659. **Scorboard**, 4-p. booklet concerns building insulation especially produced for perimeter and cavity-wall use. Material is expanded polystyrene board, fabricated in one size—2' x 8' x 1"—and prescored. Engineering data presented includes thermal properties, physical properties, water resistance. Drawings show horizontal perimeter, vertical perimeter, and perimeter heating installations. Specifications, photos. The Dow Chemical Co.

660. **Sound Conditioning for Schools and Colleges**, 12-p. manual points out advantages of sound conditioning in schools: reduction of noise from chairs, etc.; establishment of optimum reverberation time; limiting radiation of sound from source. Photos and descriptive data on acoustical ceiling are given for reducing noise in various parts of a school—corridors, classrooms, cafeteria, etc. Considerations in design, layout, site planning suggested. Translucent ceiling system offers acoustical treatment, lumination, design. Sound-conditioned tiles shown. The Celotex Corp.

## specialized equipment

**Laundry Areas**, C5.4, 8-p. booklet by Helen E. McCullough, Dept. of Home Economics, Univ. of Illinois, describes space requirements and locations for laundry areas in the home. Recommendations include space of 3'-8" wide and 3'-6" deep in front of washer or dryer, increase of about two ft if appliances are side-by-side. Importance of planning stressed. Equipment and arrangements illustrated, as well as discussion of nonautomatic

(Continued on page 172)

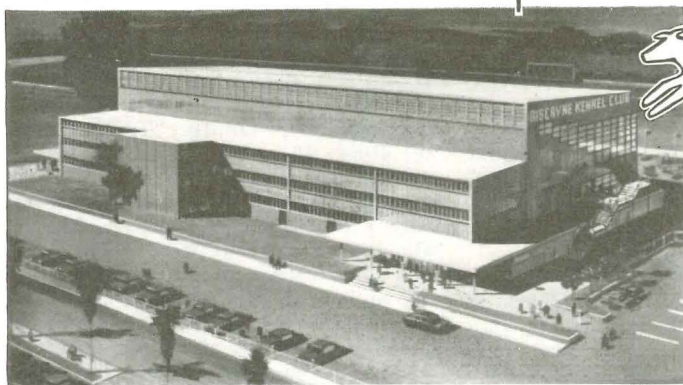
## In Miami it's Halsey Taylor

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Design Eng'rs & Arch'ts: Freeland & Bird, San Diego, Calif.

Gen'l Cont.: Edw. M. Fleming Co., Inc.

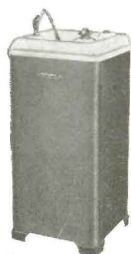
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Porcelain top coolers, shown, were specified



Architects:

Steward-Skinner Associates, Miami

Contractor:

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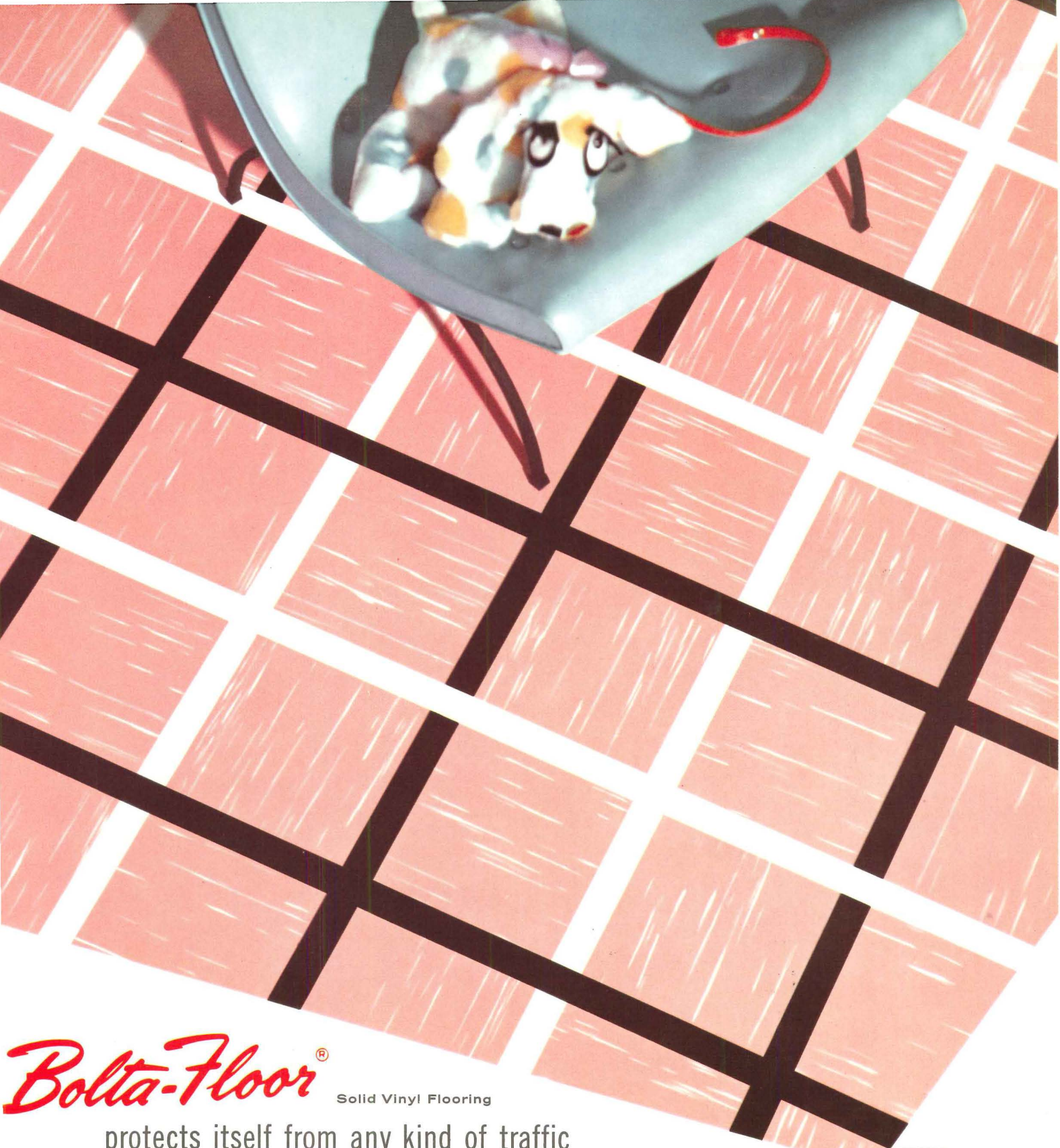
Here, in America's year-around playground, Halsey Taylor drinking-water fixtures are the popular favorites of architects, contractors and building owners. Not only is this true of the structures shown, but of many of the area's hotels, and in schools throughout the state.

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## p/a manufacturers' literature

(Continued from page 168)

equipment. Write direct: Small Homes Council, Mumford House, Univ. of Illinois, Urbana, Ill. \$.15

**821. Walkway Covers**, AIA 12-R, 4-p. brochure describes prefab walkway covers for schools, hospitals, office buildings, motels, civic centers. Framing is cold-formed heavy-gage steel; ribbed roof sheets; finish of fascia—galvanized or baked-on alkylid enamel. Specifications de-

tailed for standard parts available; load carrying table given. Special attention to Continental Carport line—photos of possible installations. Childers Mfg. Co.

**822. Foodveyor**, 4-p. booklet discusses features of variable-capacity cold and radiant-heated compartments in one conveyor, which can serve from 18 to 24 people. Unit remains at 49" height for easy serving. Fabricated of heavy-gage welded

stainless steel, unit has blower cooling system, eight drawers for hot foods, aluminum drawers and tray racks, sliding doors for refrigerated sections. Especially useful in hospitals. Specification data given. S. Blickman, Inc

**823. Designcraft**, 16-p. booklet concerns line of steel office furniture. Variety of basic units and component parts may be reassembled and rearranged as desired. Three series shown—Multi-Line, Credenza, Viking—each with slightly different design. Auxiliary units also available. All units available in gray, tan, green, with linoleum or formica tops. Designcraft Metal Manufacturing Corp.

**824. Parkmaster**, 24-p. brochure contains description of automated mechanical parking system. Structural-steel elevator platform and turntable is lifted by precision roller chains, hydraulic jacks. Double-gear pump driven by electric motor; feature of lifting mechanism is cross-chain equalizing system, tied by torque tubes from corner to corner for horizontal stability. Two shuttles on elevator platform receive, store cars—are self-propelling. Cars can be parked two deep by turning platform a half revolution—speed can be varied to meet operating time requirements. Safety tested, system can be installed for above- or below-ground operation. Photos of systems, safety features given; several layouts for possible installation. Parkmaster Systems, Inc.

**825. Architects Specification of Stage Equipment**, 60-p. publication contains specifications and drawings of all kinds of stage equipment and components. Including all elements from gridiron to footlights, booklet features full-page drawings of each component, plus complete specifications. Hubert Mitchell Industries, Inc.

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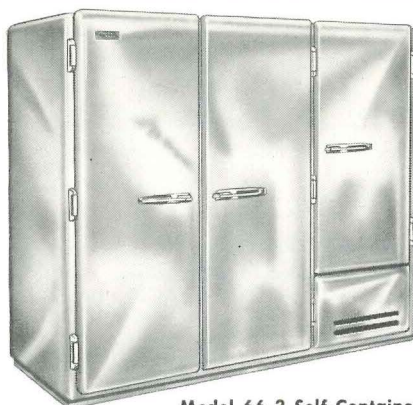


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- Heavy Duty Condensing Units pull-out for cleaning — all units tested 15 to 24 hours with operation chart.
- Optional Vap-O-Matic Drain requires no plumbing hook-up.
- Interchangeable Interior accessories include adjustable Shelves, Salad Tray Racks or Bun Pan Slides.
- Complete Sales and Field Service in every state.



Model 66-3 Self-Contained

UL Approved

Also AVAILABLE — A complete line of Reach-In, Pass Thru and Salad Refrigerators . . . Upright Storage Freezers . . . Baker's Freezers and Dough Retarders . . . Two-Temperature Refrigerators . . . 22 to 96 Cu. Ft. Capacities . . . Dry Beverage Coolers . . . and Walk-In Coolers and Freezers.

Write For Literature Or See Our File In Sweet's Catalog



**PUFFER-HUBBARD REFRIGERATOR CO.**  
GRAND HAVEN, MICHIGAN

EXPORT OFFICE — PUFFER-HUBBARD INTERNATIONAL  
440 Lafayette St., New York City — Cable "MANREFSUP"

### surfacing materials

**979. Ceramic Veneer**, AIA 9a (CV-57), 8-p. booklet concerning high-fired glazed clay facing material. Three main types—adhesion, anchored, mold-pressed—offer various effects. Drawings show applications of concrete, metal, or wood. Several colors and textures available. Panel wall construction shown by photos, construction drawings. Sectional drawings illustrate anchored type. Special decorative types depicted. Gladding, McBean & Co.

**980. Monorock—Monolithic Concrete Floor Surfacing**, 4-p. brochure describes surfacing for industrial, commercial, institutional floors. Consisting of surface mixture of aggregate, with controlled water content, material strengthens base concrete. Low water-cement ratio gives smooth, long-wearing finish. Surfacing becomes integral part of slab. Aggregate is graded, tested by rigid standards; emery, aluminum oxide, other abrasives added for non-skid flooring. Application process—including spreading, screeding, surfacing, leveling, troweling, finishing—illustrated by photos. Detailed specifications, application data given. Kalman Floor Company, Inc.





## Golden Grillwork of Alcoa Aluminum blends beauty of form with color and texture



**BUILDING:** Industrial National Bank,  
Miami, Florida  
**ARCHITECT:** Edwin T. Reeder & Associates,  
Miami, Florida  
**GENERAL CONTRACTOR:** Arkin Construction  
Company, Inc., Miami Beach, Florida  
**ALUMINUM FABRICATOR:** Metallic Engineering  
Company, Miami, Florida  
**FINISHING PROCESSOR:** Southern Aluminum  
Finishers, Atlanta, Georgia

All three elements of fine design—form, color and texture—are masterfully combined in this golden grillwork of Alcoa® Aluminum. Geometric patterns add depth and variety to the façade. The golden color is an integral part of the metal surface . . . for lasting brightness. The unusual texture is an everlasting invitation to the eye. Interiors and exteriors take on new splendor with the limitless form, color and texture possibilities of this new use for Alcoa Aluminum . . . the architect's metal.

Call your nearest Alcoa sales office for technical data and counsel. Or write Aluminum Company of America, 1890-F Alcoa Building, Pittsburgh 19, Pa.

**SOLAR SHADING.** Sun's rays are deflected, air-conditioning load lightened, by handsome aluminum golden grille.



Your Guide to the Best in Aluminum Value



**"ALCOA THEATRE"**  
Exciting Adventure, Alternate Monday Evenings



# 3 Buildings—3 Specifications

## ALL USE TECTUM ROOF DECKS



### **BILL ADOLPHSON'S BOWLING CENTER, GREENSBURG, PENNSYLVANIA**

Architect: Gordon C. Pierce, Greensburg, Pennsylvania  
General Contractor: L. P. Wineman, Greensburg, Pennsylvania

The roof deck of this bowling alley—as well as the sidewall material—become important assets to the success of this new building. The continual thunder of rolling balls and flying pins is considerably lessened with Tectum sound-absorbing roof decks and sidewall material. Tectum insulates, too, and is noncombustible, termite proof and workable as wood. Here's functional good looks at work—a single material responsibility for good construction, durability, appearance and effective noise reduction.



### **BEULAH PRESBYTERIAN CHURCH, PITTSBURGH, PENNSYLVANIA**

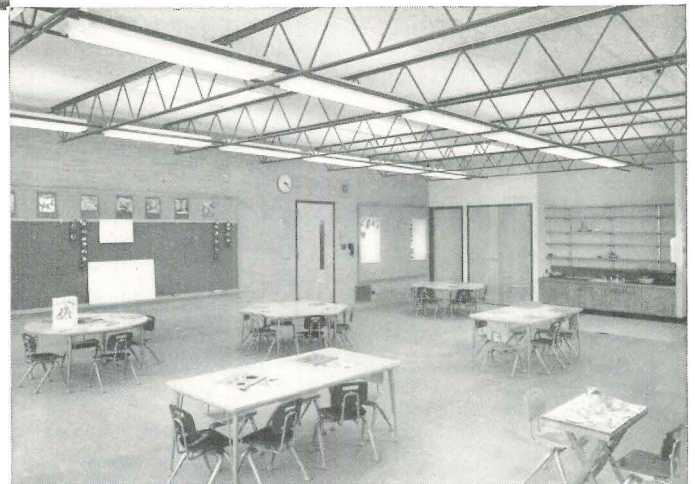
Architects: Hoffman & Crumpton, Pittsburgh, Pa.  
General Contractor: Ferraro Construction Co., Pittsburgh, Pa.

Good acoustics go hand in hand with good appearance in this modern house of worship. Tectum decks play an important part in holding costs to appropriated funds, as these economical panels are laid directly over secondary framing members without need for further insulation, acoustical treatment or sheathing. Textured Tectum decks are warm and inviting, and audience appreciation of the services is greatly improved.

### **FURNACE BROOK SCHOOL, QUINCY, MASS.**

Engineers: Anderson-Nichols & Company, Boston, Mass.  
Architect: Earl M. Harvey, A.I.A., Boston, Mass.  
General Contractor: L. C. Blake Construction Co., Boston, Mass.

Keeping costs in line to meet the needs of a growing school age population is a challenge met perfectly when Tectum decks are installed. Structural, noncombustible, insulating and acoustical panels go down fast. Deck and interior ceiling are completed in one operation. Costs are reduced when Tectum is laid over joist or beam. Hundreds of schools in all climates are utilizing this new concept with marked success. Write for complete information.

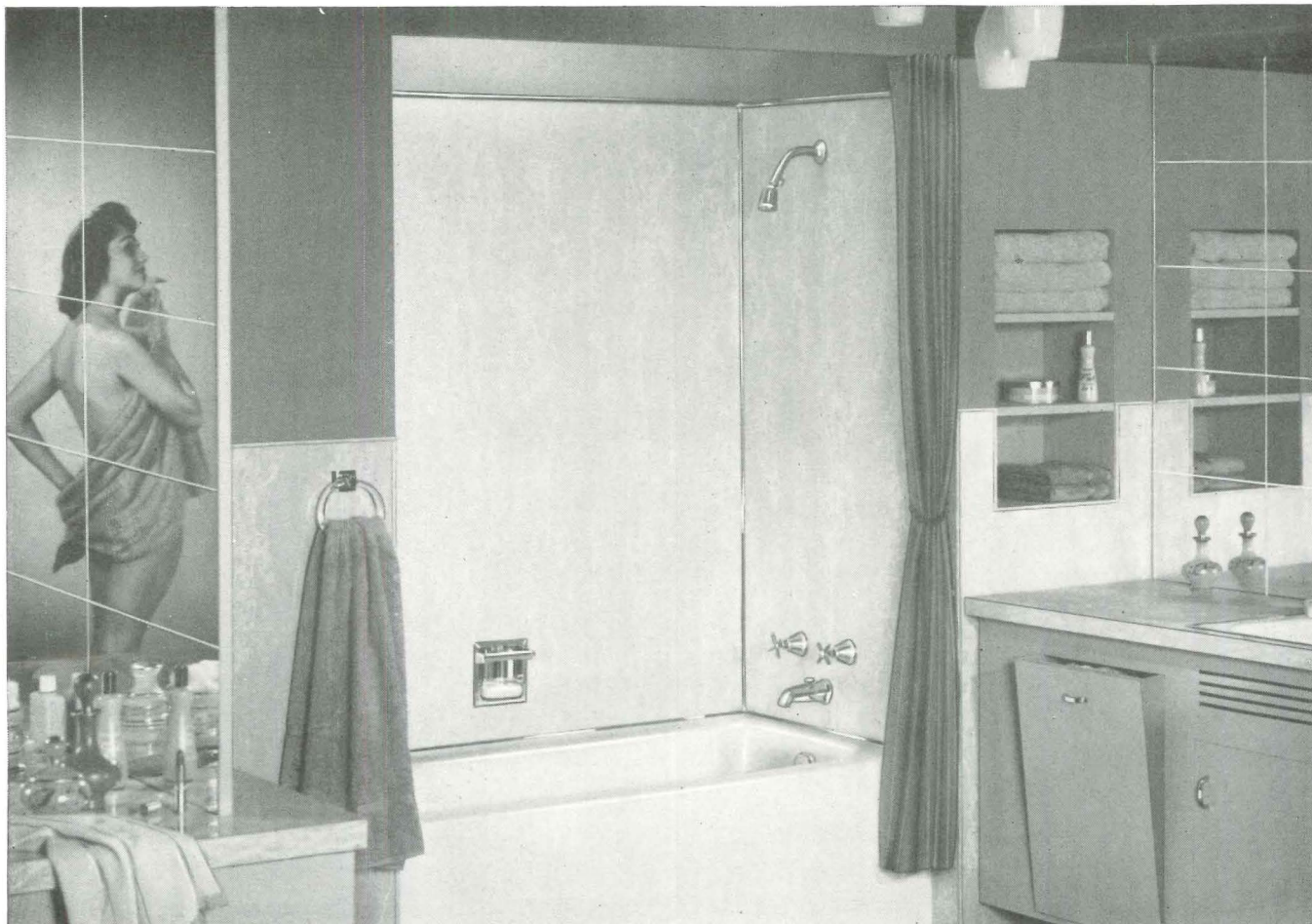


# **Tectum** CORPORATION

Newark, Ohio

Branch Offices in Philadelphia, Columbus, Atlanta, Dallas, Chicago, Beverly Hills, Seattle and Toronto, with distributors in all leading areas. Factories in Newark, Ohio, and Arkadelphia, Arkansas.





**Showerwall**, wainscoting and vanity in Beige Marble pattern Consoweld laminated plastic. Sheer luxury—at a moderate price!

## Design Prestige Bathrooms Like This, With Consoweld Bathtub Showerwall Package

Consoweld brings you the only package of its kind . . . a showerwall unit that adds modern bathroom beauty quickly, easily—and at low cost—to your project, individual home, or remodeling work.

### Rapid Installation

Consoweld's Showerwall Package fits any 5-foot tub alcove—reaches 5 feet above tub—well over shower spray level. Each individually packaged unit consists of pre-cut panels, mouldings and corner fittings, plus step-by-step instructions . . . everything needed except adhesive and caulking. You cut labor and fitting costs . . . speed up on-the-job time!

### Complete Selection

The Showerwall Package is available in eleven striking color choices—six luxurious Marble colors, five shower-bright colors in the new Twinkle pattern. All of them in durable Consoweld 10—1/10 of an inch thick!

### Consumer Acceptance

Consoweld is advertised in leading national magazines . . . Consoweld colors and patterns offer complete consumer choice. The line is *designed*

that way! Colors and patterns are "Color-Tuned" to consumer preferences and market-tested by research experts to assure eye-appealing (and *buy*-appealing) selections to please every taste.



### Write for full information

Use the coupon to get complete information on Consoweld's Showerwall Package line, as well as data on other Consoweld applications on counters and walls in homes, offices and institutional buildings.



**CONSOWELD CORP., Wisconsin Rapids, Wisc.**

PA-68

Please send me complete information on the Consoweld Bathtub Showerwall Package and other Consoweld applications in construction and remodeling.

Name \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ 64AR2

Please Check: ☐ Builder ☐ Architect ☐ Other









# Now you can specify **fissured** ceiling beauty in an incombustible lay-in unit

New Armstrong Fissured Minaboard gives you, for the first time, the traditional beauty of a fissured acoustical ceiling in a large, incombustible lay-in unit.

**Distinctive Fissured Surface.** Armstrong Fissured Minaboard provides a luxurious—yet subtle—ceiling effect.

**Eliminates Breathing.** Unlike lighter materials that are subject to air infiltration, Armstrong Minaboard resists movement of air through the board. Dust and dirt do not build up on its surface.

**Reduces Sound Transmission.** The special density and composition of Armstrong Minaboard provide excellent resistance to sound transmission—much more than that offered by low-density ceiling boards.

**Inexpensive, Incombustible Ceiling.** Armstrong Minaboard is rated Class A (Incombustible) under Federal Specifications SS-A-118b and carries the Underwriters' Label. Large units reduce installation costs.

**Cuts Maintenance Expenses.** Armstrong Fissured Minaboard can be easily cleaned with a vacuum cleaner or damp cloth. It can be repainted by conventional methods without loss of acoustical efficiency.

**Easy Accessibility.** Each 24" x 48" unit is removable for easy accessibility to pipes, ducts, and electrical fixtures.

For further information and complete specifications, contact your Armstrong acoustical contractor, your nearest Armstrong District Office, or write directly to the Armstrong Cork Company, 4206 Watson Street, Lancaster, Pennsylvania.

  
**ACOUSTICAL CEILINGS**  
Cushiontone   Travertone   Arrestone   Minatone  
Corkoustic   Crestone   Minaboard



# LEHIGH MORTAR CEMENT EXCELS AT FLORIDA STATE UNIVERSITY



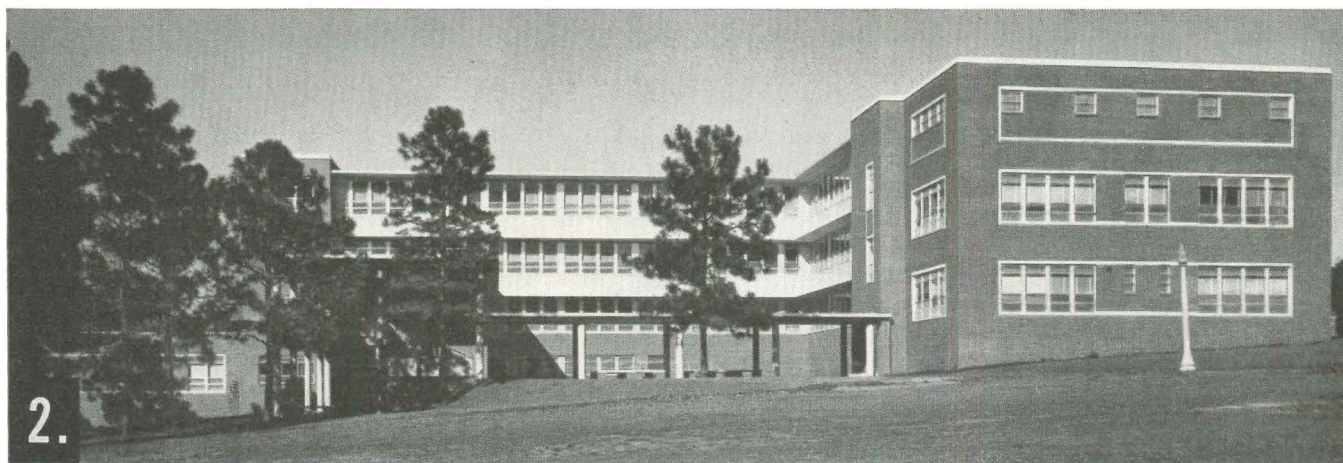
Contractors from all around the country continue to tell us of the excellent results they get with Lehigh Mortar Cement. This time the reports come from Tallahassee, where these new Florida State University buildings were recently completed.

Speaking of their work on the new men's gymnasium, Bear Construction Company said, "As on previous jobs, we were very well pleased with the way Lehigh Mortar Cement worked out. The yield was most satisfactory."

Lehigh Mortar Cement, used with brick, stone, block and tile, contributed to the excellent appearance of this new gymnasium.

*Contractor:*  
Bear Construction Co., Tallahassee, Florida

*Architect:*  
William B. Harvard, St. Petersburg, Florida, in association with Guy C. Fulton, Gainesville, Florida



And Winchester Construction Company, commenting on the construction of the home economics building said, "We are completely satisfied with Lehigh Mortar Cement's yield, workability, and appearance in the wall. We recommend it to anyone."

You can approve Lehigh Mortar Cement with the assurance that it exceeds the most rigid Federal and ASTM specifications.

In this new home economics building, Lehigh Mortar Cement was used with brick and block to produce top quality exterior walls.

*Contractor:*  
Winchester Construction Co., Tallahassee, Florida

*Architect:*  
Yonge, Look and Morrison, Pensacola, Fla., in association with Guy C. Fulton, Gainesville, Fla.

## LEHIGH PORTLAND CEMENT COMPANY

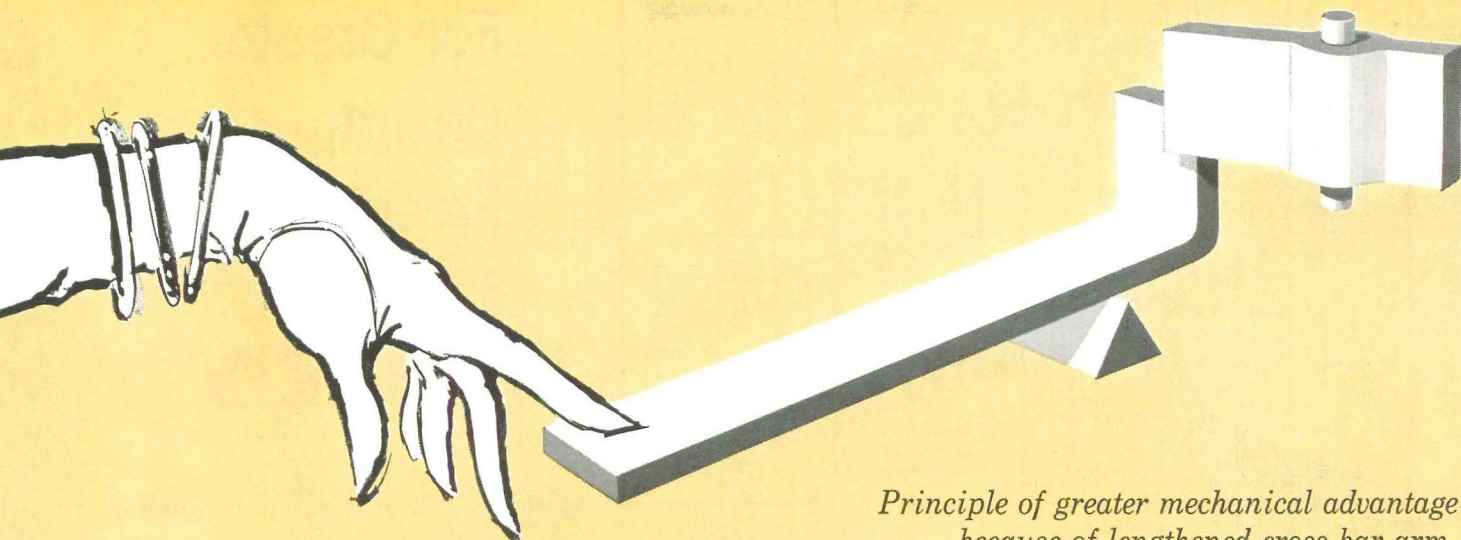
ALLENTOWN, PA.

• Lehigh Mortar Cement • Lehigh Portland Cement • Lehigh Early Strength Cement • Lehigh Air-Entraining Cement



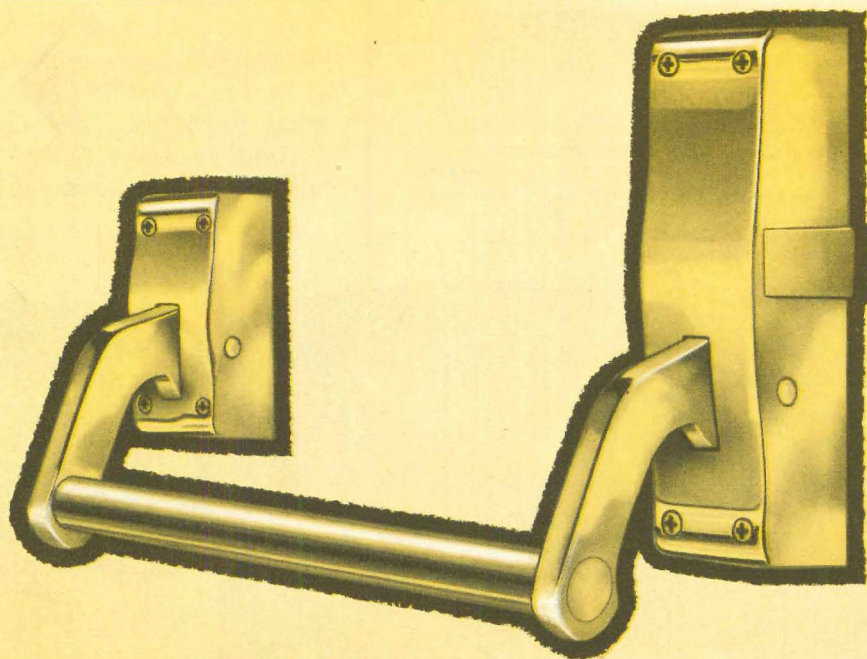


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*Principle of greater mechanical advantage  
because of lengthened cross bar arm.*

# NEW DESIGN!



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Extensive tests prove that the new Sargent Standard Exit Devices function more easily, safely.

Redesigned cross bar arm provides greater leverage . . . a mechanical advantage that insures flawless operation under emergency door loads . . . easier everyday operation for everyone.

Rugged, long-lasting construction . . . just two working parts of polished metal . . . assures smooth opening

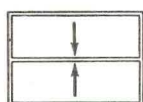
and closing . . . keeps maintenance costs low.

For safe, easy exit . . . you'll find exactly what you want in the complete Sargent Line. See your supplier . . . or write Sargent & Company, New Haven 9, Connecticut. Dept. 15-F.

## SARGENT



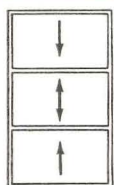
#### A PRIME WINDOWS



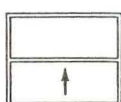
Vertical  
Balanced



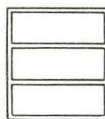
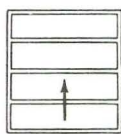
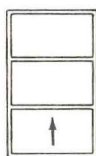
Hopper Vent



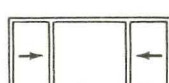
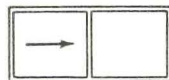
Fulvue Triple  
Ventilating



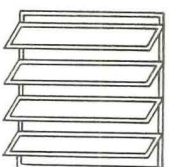
Vertical  
Slide



Fixed Lite  
or Picture  
Windows

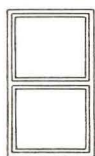


Horizontal  
Slide



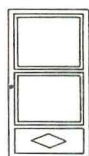
Awning  
Type

#### B COMBINATION WINDOWS



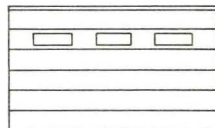
White Beauty,  
Deluxe, Ambassa-  
dor and Premier  
3 Channel Tilt . . .  
all self-storing.

#### C COMBINATION DOORS



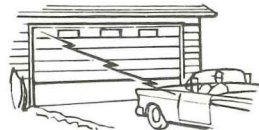
White Beauty and  
Deluxe self-stor-  
ing; Supreme and  
Ambassador in-  
terchangeable.

#### D OVERHEAD GARAGE DOORS



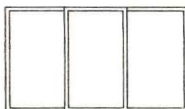
Deluxe and Standard in a  
wide range of stock sizes.

#### E ELECTRONIC OPERATORS



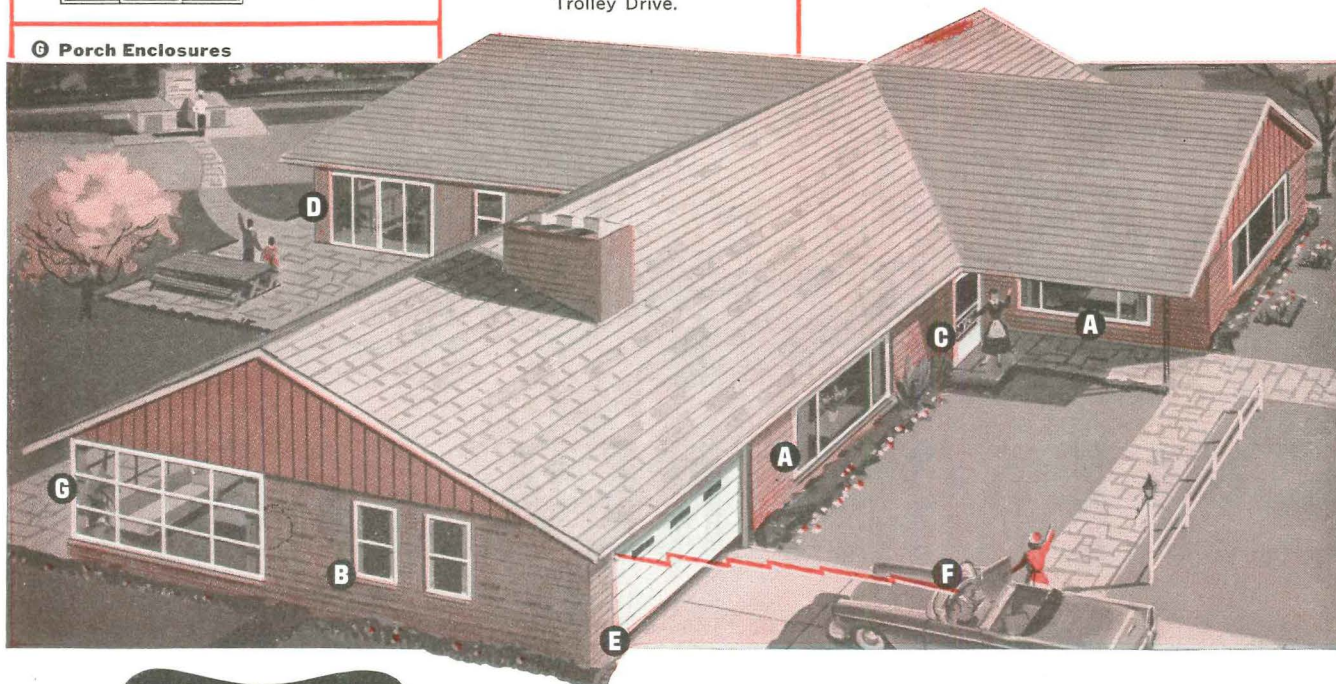
Three Models available. De-  
luxe Twin Track (requires no  
headroom). Center Pull Worm  
Drive and Center Pull  
Trolley Drive.

#### F SLIDING GLASS DOORS



Deluxe, Thermo  
Unit and Stand-  
ard in 2, 3, or  
4 panels.

#### G Porch Enclosures



For Greater  
Design  
Freedom . . .

Specify

**RUSCO**

Rusco's 6 full lines afford you unlimited design possibilities . . . a window and door in every style, size and price range . . . to meet every architectural requirement. Available in rugged hot-dipped galvanized tubular steel finish-painted with sparkling baked-on enamel, or satin smooth extruded aluminum. Rusco windows and doors give your clients the kind of quality that has already satisfied over 20,000,000 users . . . smooth trouble-free operation . . . weathertightness . . . easy maintenance . . . and clean design that lends spaciousness and beauty to any style of home.

"Always one step ahead  
of the weather" with

**RUSCO**

For complete information write to:

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Dept. 6-PA-58, Columbiana, Ohio. In Canada: Toronto 13, Ontario

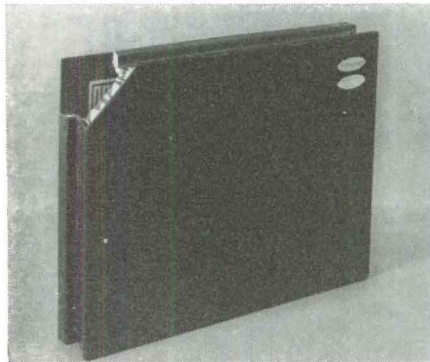
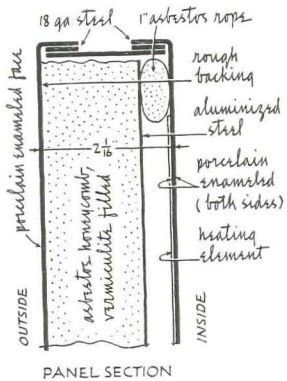
See our insert in Sweet's Architectural File





A luminous ceiling of Bakelite rigid-vinyl sheets (above) encloses Chrysler's styling showroom at Highland Park, Mich. Designed and manufactured by Wakefield, the ceiling follows a parabolic curve to the floor, eliminating shadows under mock-up cars and offering a simulated horizon to check automobile silhouettes. Maximum light averages 240 ft-c at working level. The Wakefield Co., Vermilion, Ohio.

Combined curtain-wall panel and electric-radiant heating unit (below)—for office buildings, apartment houses, hotels, schools, etc.—is now available. Savings of 25% in initial cost of construction are claimed. Operating costs can be low due to efficiency of system and elimination of maintenance. Actual savings depend on cost of local electric power vs. other sources. The Bettinger Corp., Waltham, Mass.



Transitube installation (below) transmits records, charts, etc., from any section of hospital to any other in a matter of seconds. Saves 200 manhours per week in one 88-bed hospital. Has no central station; entire patient service is performed without messenger service. The Grover Co., 25525 West Eight Mile Rd., Detroit 40, Mich.



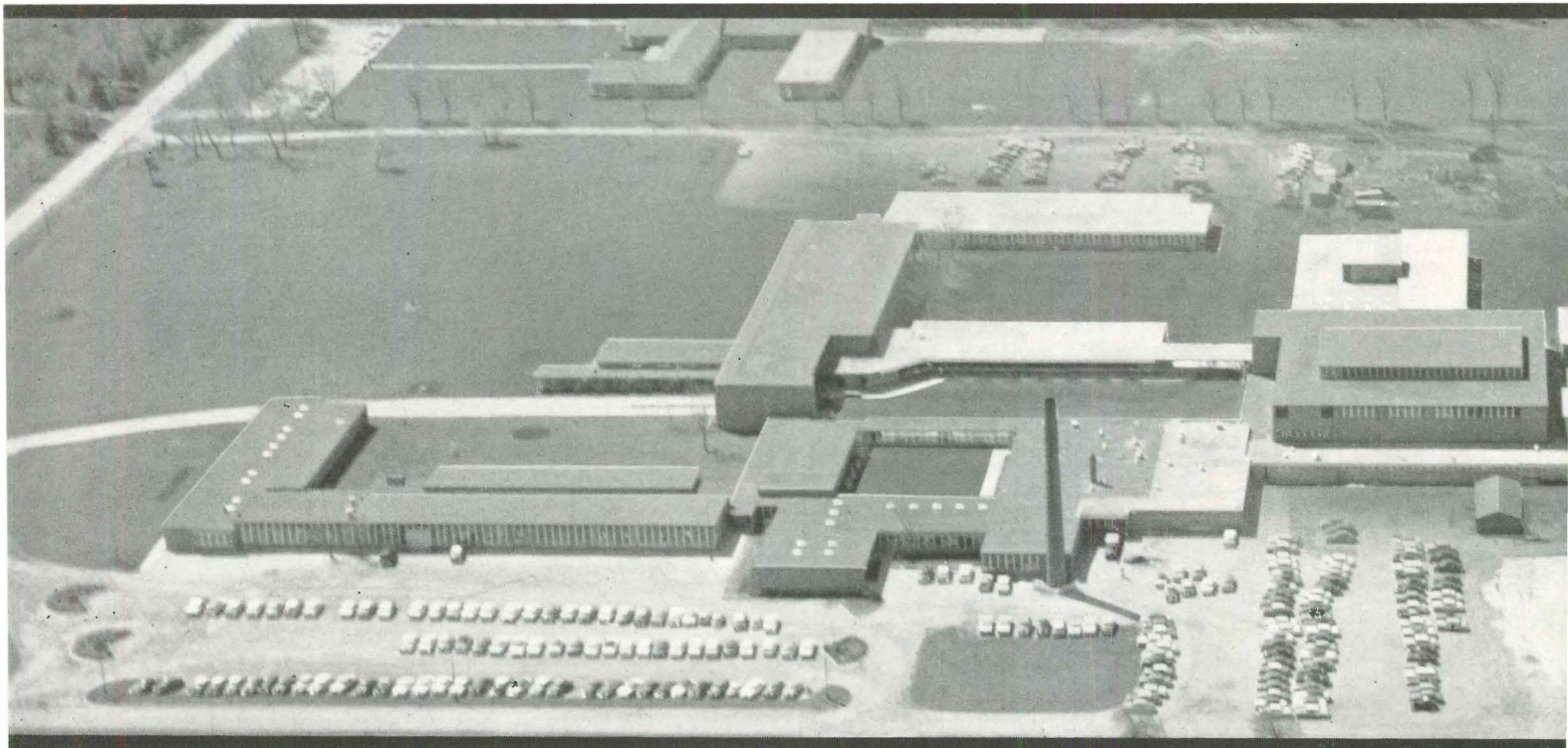


# Designing Schools?

## Here's why to specify

**For Maximum Incombustibility:** Fire-proofing is a critical requirement in school construction. Because Fesco Board is formed of all-mineral Perlite, processed at temperatures in excess of 1700° F, it provides the ultimate in incombustibility, exceeding the maximum code ratings. Even under extreme temperatures Fesco Board remains physically stable, contributing importantly to fire containment. Fesco Board carries the label of Underwriters' Laboratories, Inc.

**ARCHITECT—Perkins & Will**  
Chicago, Illinois



**JOB — GLENBROOK HIGH SCHOOL**  
Glenview, Illinois

**GENERAL CONTRACTOR —**  
JOSEPH J. DUFFY Co.  
Tinley Park, Illinois

**ROOFER — BROWN & KERR**  
Evanston, Illinois

**FOOTAGE — 114,325 sq. ft.**



Schundler  
**FESCO®**  
Trademark registered U.S. Pat. Off.

**insulation board**  
F. E. SCHUNDLER & CO., INC., JOLIET, ILLINOIS

**Underwriters' Laboratories, Inc.**  
INSPECTED  
BUILDING UNIT  
Not over 30 Sq. Ft. Issue No. 0000

FIRE HAZARD CLASSIFICATION (Based on 100 for untreated red oak)

FLAME SPREAD	20-25
FULL CONTRIBUTED	35-40
SMOKE DEVELOPED	0-5



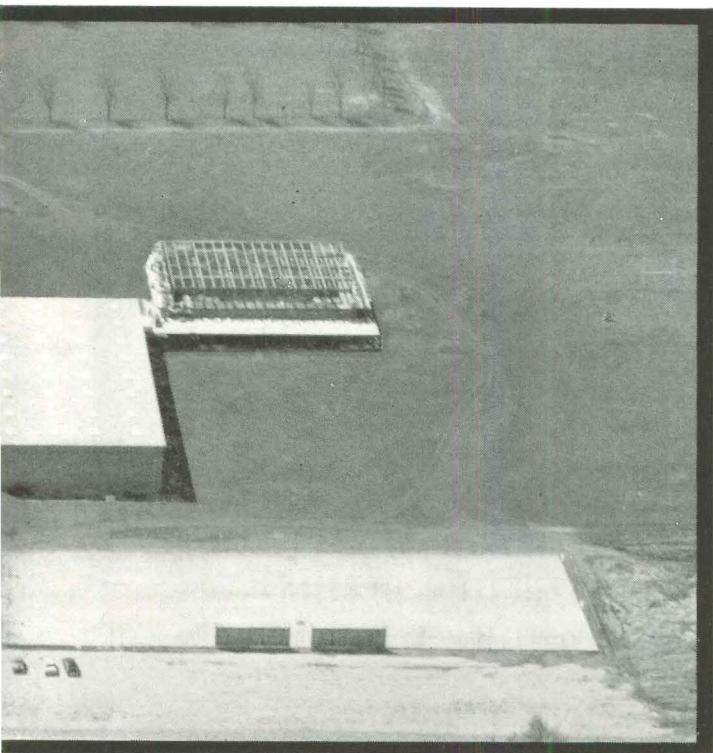
# FESCO<sup>®</sup> Roof Insulation

# BOARD

**For Maximum Moisture Resistance:** The varying loads of temperature and humidity, characteristic of school occupancy, impose extreme requirements on roof insulation. Fesco Board is designed specifically to meet these extremes in moisture load. Being formed principally of air-entrained beads of glass it has no capillary action. On total immersion for 2 hours Fesco Board absorbs only .06% water by volume. This is vitally important because as the moisture content of insulation rises its insulation value drops.

**For Maximum Adaptability:** Fesco Board can be applied over any structural membrane — wood, pre-cast slabs, gypsum, steel, etc. It is therefore suitable for all types of school construction in all price ranges.

**For Maximum Value:** Though Fesco Board has the highest overall performance rating of any roof insulation, it is not the most costly. Because of its permanence, and its speed of application, Fesco Board can be used on the lowest budget school.



## Heat Transmission (U) Values

Construction: Roof Deck Type and Thickness	Without Ceiling Underside of Roof Exposed	With Metal Lath & Gypsum Perlite Plaster Ceiling
	Insulated with Fesco Board	Insulated with Fesco Board
Fesco Thickness	2 1/2" 2" 1 1/2" 1" 3/4"	3/4" 1" 1 1/2" 2" 2 1/2"
4" Concrete	.11 .14 .17 .22 .27	.19 .17 .14 .11 .10
6" Concrete	.11 .13 .16 .22 .26	.19 .16 .13 .11 .10
1" Wood	.10 .12 .15 .19 .22	.16 .15 .12 .10 .09
2" Wood	.09 .11 .12 .15 .17	.14 .12 .11 .09 .08
3" Wood	.08 .09 .11 .13 .14	.12 .11 .09 .08 .07
2 1/2" Gypsum Fiber Concrete over 1/2" Gypsum Board	.10 .11 .13 .16 .19	.15 .13 .11 .10 .08
2 1/2" Gypsum Fiber Concrete over 1" Rigid Ins. Board	.08 .09 .10 .12 .13	.11 .10 .09 .08 .07
2" Perlite Concrete (1:6) on Steel form	.08 .10 .11 .13 .15	.12 .11 .10 .08 .07
6" Hollow Core Precast Slab	.11 .13 .16 .20 .24	.18 .16 .13 .11 .09
Steel	.12 .14 .18 .24 .29	.21 .18 .14 .12 .10

1. U values are expressed in BTU/SQ. Ft./Hr./Degrees F temperature differential, still air inside and 15 MPH wind velocity outside.

2. Coefficients and procedures used for determining U values are in accordance with current edition of A.S.H.V.E. Guide.

3. For suspended plaster ceiling section, air space between ceiling and deck assumed to be from 3/4" to 4".

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IN SWEET'S  
ARCHITECTURAL  
FILE  
OR WRITE FOR COPY

**F. E. Schundler & Company, Inc.**  
504 RAILROAD STREET • JOLIET, ILLINOIS

**RATED FIREPROOF MATERIALS, ACOUSTICAL & INSULATING**  
Developers and producers of incombustible mineral products including Ebbstone Acoustical Tile, Fesco Insulation Board, Coralux Acoustical Plaster, Coralux Perlite Aggregates, Micra Pellet Vermiculite, High Temperature Insulating Blocks and Insulating Cement.

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CONSTRUCTION  
FILE  
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(Continued from page 183)

Increased use of prefabricated interior walls in many areas of building construction has been prompted by the design flexibility and maintenance advantages offered by these systems.

A major factor in eliminating hospital maintenance costs is said to be prefabricated medical steel walls, such as installed in St. Alexis Hospital, Cleveland, Ohio, by E. F. Hauserman Company. In this first extensive hospital installation of prefabricated steel walls in the United States, estimated savings, from erection time over ten-year period—including initial cost, maintenance, changes in arrangement and utility lines normally expected—are claimed to be over \$150,000. This savings is due in large part to the elimination of repainting—usually required every three years for hospital interiors—made possible by the baked-on enamel finish which is easily washable and does not need painting.

In the St. Alexis Hospital, prefab walls are utilized for all walls, doors, and closet surfaces, as well as utility access panels, interior glazing, and accompanying hard-



ware. Photo (above) shows installation in a typical semi-private room.

Design features of the prefab steel wall system include 3" thick walls, fabricated from steel, glass, and rockwool, which provide an incombustible as well as attractive panel. Baked-on enamel finish is available in a variety of colors. Panel life expectancy is greater than normal plaster walls, and installation can be accomplished in much shorter time and fewer steps than conventional wall materials require. Panels can be rearranged or units expanded without major disruptions in hospital routines.

Another recent Hauserman development is a movable interior wall system which features (below) low initial cost while retaining many special elements usually

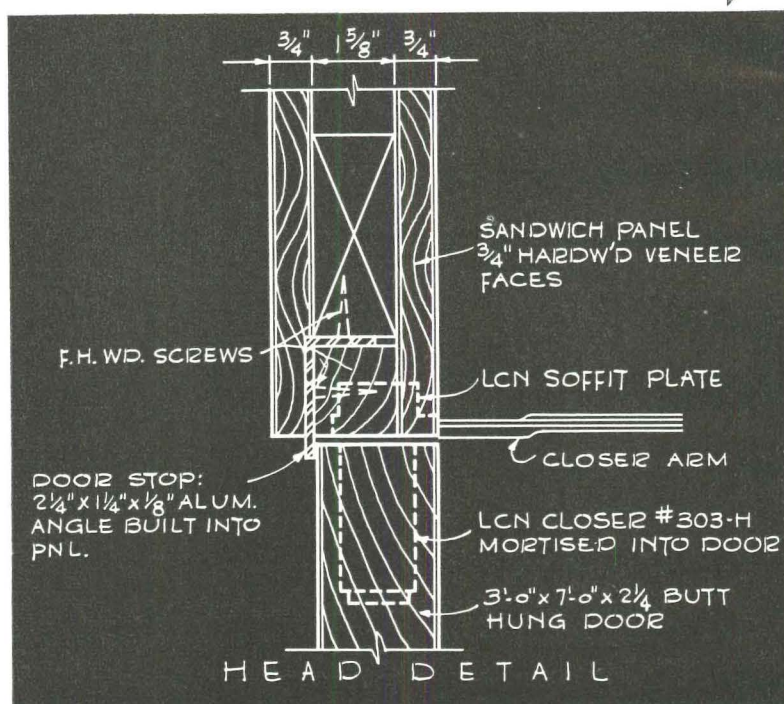


found in higher-priced systems. The Type HP system has full-flush panels with single-line joints, thereby eliminating exposed posts in final installation. Construction is of steel and glass, with 3" thick wall panels, rockwool insulated. This type of fabrication offers a desirable design that is both fireproof and resistant to sound.

An important advantage of this low-cost system is its flexibility. Panels are

completely reusable if design of wall is changed or relocation of partitions is desired. Ceiling trim and door frames are adjustable to aid installation where ceiling or floor levels vary. Four-in. high base allows use of concealed wiring. Baked enamel low-gloss finish offers maximum ease of maintenance. Stock sizes available include: heights—7'3" to 9'5/8"; widths—12" to 60". Base strips are 120".

(Continued on page 188)



## CONSTRUCTION DETAILS

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

*The LCN Series 302-303 Closer's Main Points:*

1. An ideal closer for many interior doors
2. Mechanism concealed within door; flat arm not prominent, and provides high closing power
3. Door is hung on regular butts
4. Closer is simple to install and to adjust
5. Hydraulic back-check protects walls, etc. on opening
6. Practically concealed control at little more than exposed closer cost

*Complete Catalog on Request—No Obligation  
or See Sweet's 1958, Sec. 18e/La*

**LCN CLOSERS, INC., PRINCETON, ILLINOIS**

Canada: Lift Lock Hardware Industries, Ltd., Peterborough, Ontario



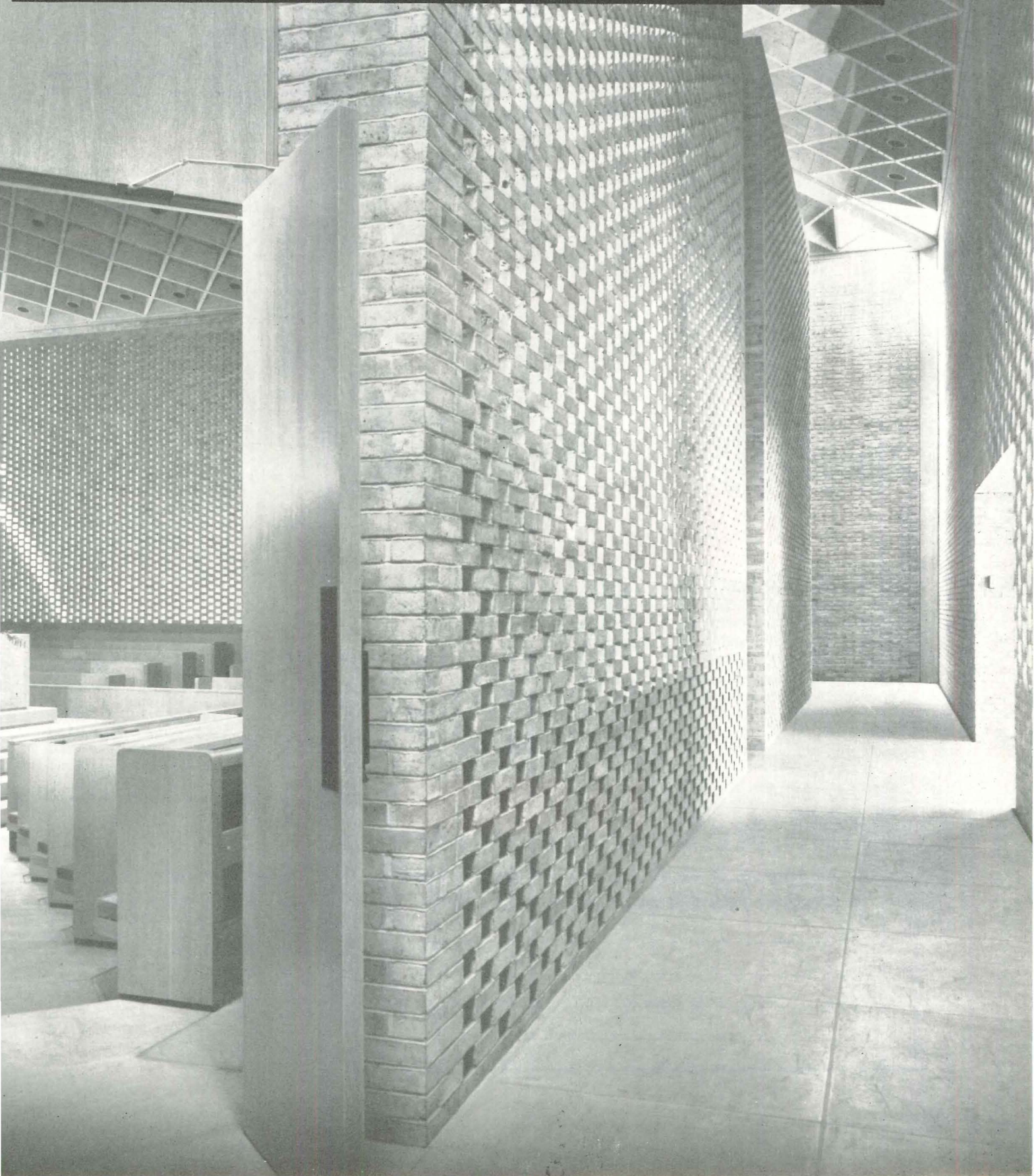
Eero Saarinen and Associates, Architects

# MODERN DOOR CONTROL BY *LCN* • CLOSERS CONCEALED IN DOOR

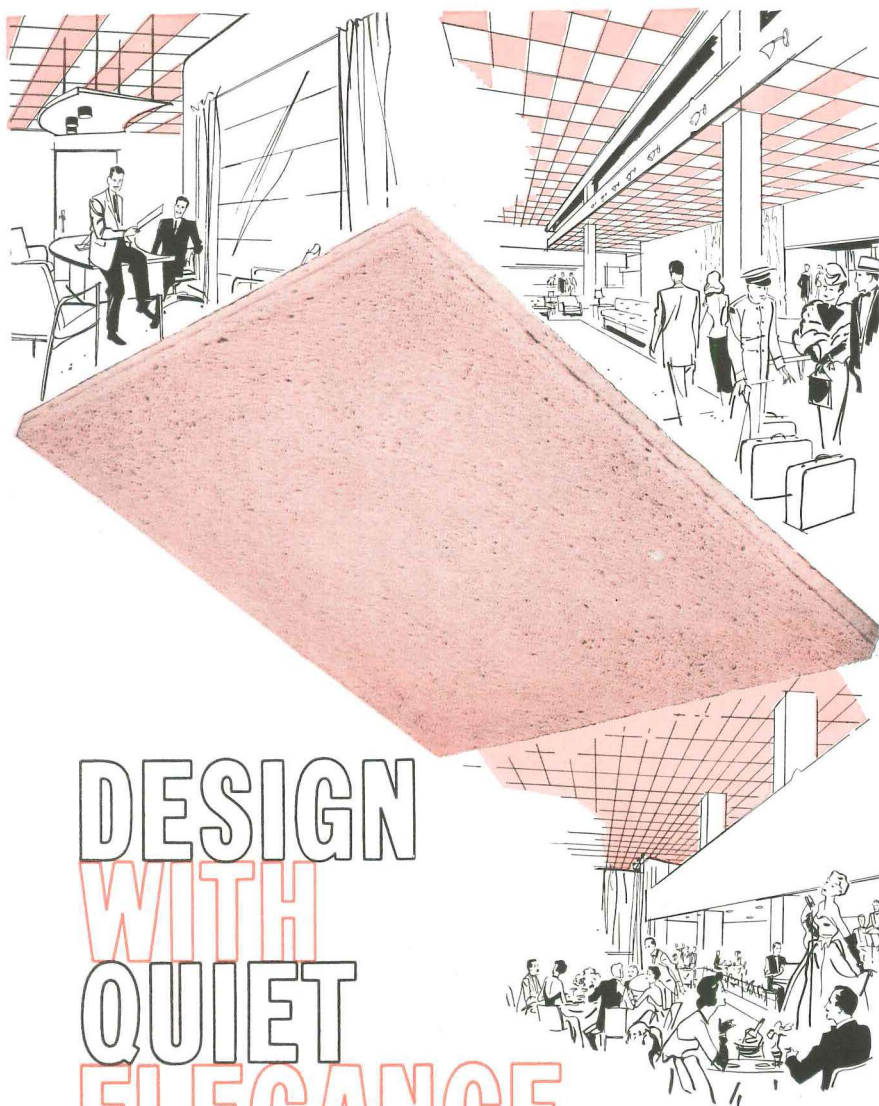
STEPHENS COLLEGE CHAPEL, COLUMBIA, MISSOURI

LCN CLOSERS, INC., PRINCETON, ILLINOIS

Construction Details on Opposite Page







## DESIGN WITH QUIET ELEGANCE

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(Continued from page 186)

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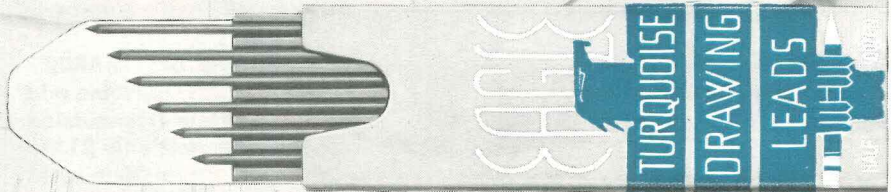
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books received

**Adventure in Architecture.** Whitney S. Stoddard and Marcel Breuer. Longmans, Green & Co., Inc., 55 Fifth Ave., New York, N. Y., 1958. 127 pp., illus. \$8.50

**Aluminum in Modern Architecture—**1958. Edited by John Peter. Reynolds Metals Company, Louisville, Ky., 1958. 118 pp., illus., paperbound. Distributed through Reynolds Sales Organization to registered architects at no charge.

**Chinese Art, Vols. I & II.** William Willetts. Penguin Books Inc., 3300 Clipper Mill Rd., Baltimore, Md., 1958. 802 pp., illus. \$3 per set, \$1.50 each (paper-bound)

**How to Estimate the Building Needs of a College or University.** William T. Middlebrook. University of Minnesota Press, Minneapolis 14, Minn., 1958. 169 pp. \$15

**The New School, Das Neue Schulhaus, La Nouvelle Ecole.** Alfred Roth. Frederick A. Praeger, Inc., 15 W. 47 St., New York, N. Y., 1958. 280 pp., illus., 3 languages. \$11.50

**Plant Engineering Practice.** The Editors of Plant Engineering. F. W. Dodge Corp., 119 W. 40 St., New York, N. Y., 1958. In co-operation with Technical Publishing Co. 704 pp., illus. \$18.50

**Reinforced Concrete in Architecture.** Aly Ahmed Raafat. Reinhold Publishing Corp., 430 Park Ave., New York, N. Y., 1958. 240 pp., illus. \$15

**The Structures of Eduardo Torroja.** Eduardo Torroja. F. W. Dodge Corp., 119 W. 40 St., New York, N. Y., 1958. 198 pp., illus. \$8.50

**Surveying.** 2nd Edition. Charles B. Breed. John Wiley & Sons, 440 Fourth Ave., New York, N. Y., 1957. 495 pp., illus. \$5.50

**Town-Building in History.** Frederick R. Hiorns. Criterion Books, Inc., 257 Fourth Ave., New York, N. Y., 1958. 443 pp., illus. \$15

enriches through creating

**Problems of Design.** George Nelson. Whitney Publications, Inc., 18 E. 50 St., New York, N. Y., 1957. 205 pp., illus. \$10

In an introduction, Arthur Drexler states that "George Nelson is unique. He is an industrial designer with a sense of humor." He goes on to imply, though it should have been stated outright, that George Nelson is also possessed of other qualities. First among these is a healthy curiosity. He is not one of those designers who believes that the aim of design is to present the consumer with a neater package. He refuses to labor mightily to produce the brilliant insignificant. He proceeds, instead, from the particular to the general; from the package, or door knob, or house, to the underlying general esthetic considerations—to the question of "Culture." He regards design as a means of communication. In his words, good design "... is a manifestation of the capacity of the human spirit to transcend its limitations. It enriches its maker through the experience of creating and it can enrich the viewer

(Continued on page 194)

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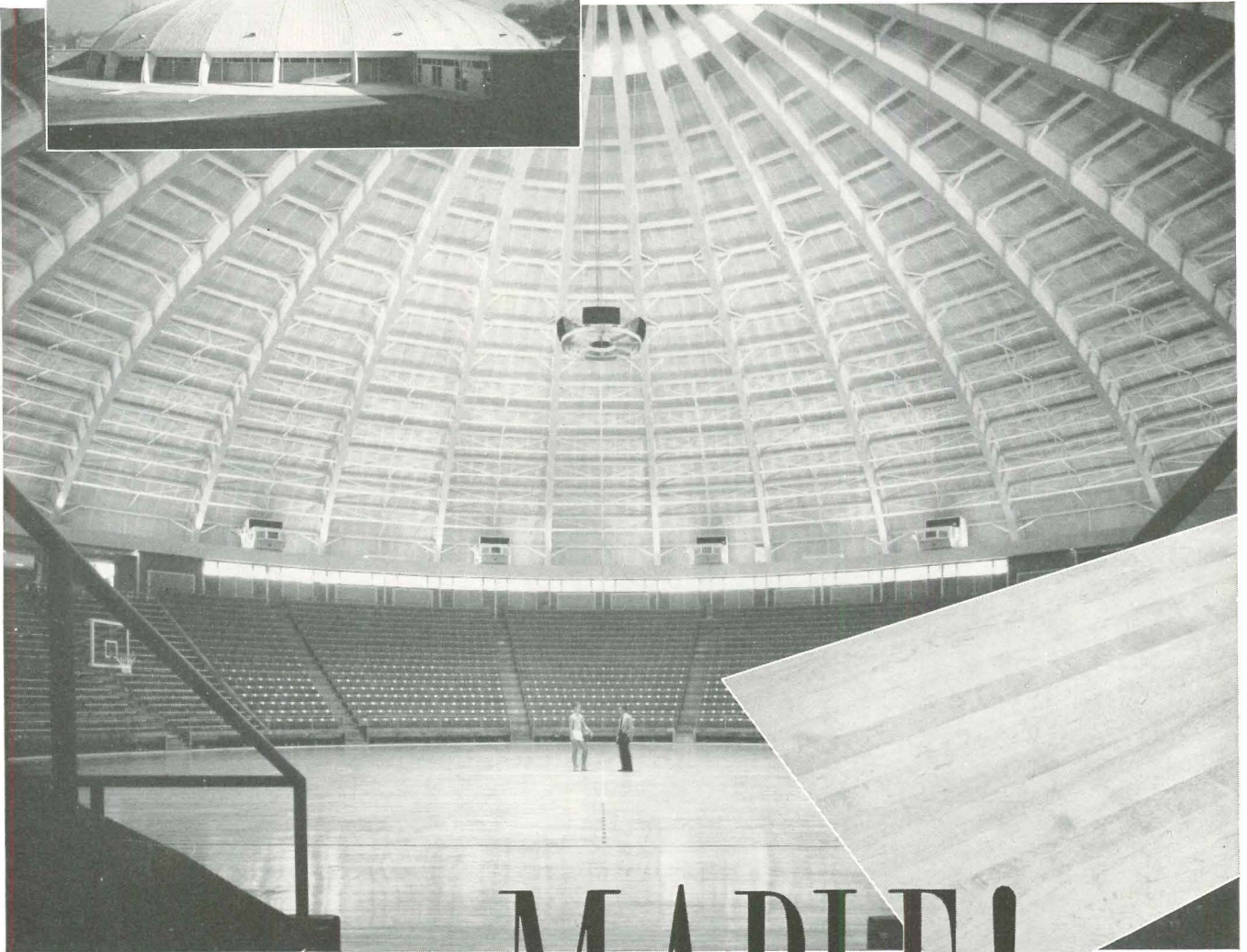
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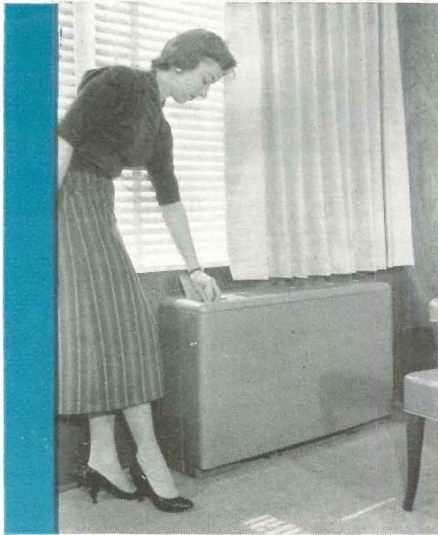
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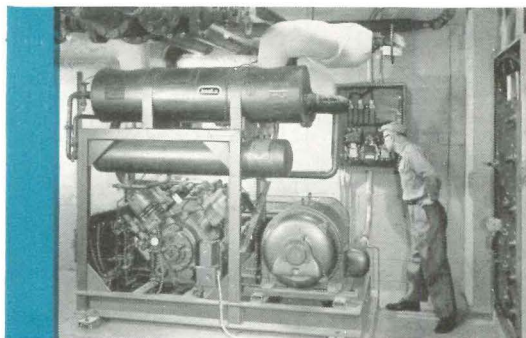
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## reviews

(Continued from page 190)

or user who can respond to what it has to say. . . . The purpose of good design is to ornament existence, not to substitute for it."

Starting with this broad definition, George Nelson explores a wide range of topics, touching such diverse items as education, the emotional and

esthetic appeal of certain paintings or the architecture of Wright and Le Corbusier. Above all, he takes his readers on a voyage of discovery through the thinking processes of a fascinating human—George Nelson.

There is really nothing new in this book. It is composed of 26

articles written over the last 10 years, all of which have been published before. The great advantage in this book is that it is now possible to have them in one convenient package. There is also more. The articles have been grouped under six major headings, such as "Problems of Design," "Architecture," and "Interiors." This grouping makes it possible to delve deeper into Nelson's thinking. It makes the ramification of his ideas clearer than if one were limited to one single article at a time.


It is virtually impossible to generalize about George Nelson's views as expressed in this book. Each article was originally a separate entity. They are linked by the author's general concept on design but in their detailed application, they cover a multitude of subjects. It is true that good design communicates an experience to the viewer or user, but that experience is not the same for Botticelli's "Birth of Venus," or for Le Corbusier's "Villa Savoye."

Nelson's aim is not so much to grind some particular axe, but to challenge his reader to think. It is perfectly possible to disagree with Nelson on any number of points. Design, even in Nelson's all-inclusive frame of reference, remains a matter of individual taste. No two human beings are identical in their creative abilities or in their responses to someone else's creation. George Nelson's responses may well strike a chord of sympathy not among a majority of his readers, but only among a small minority; yet he is achieving his aims, even if you disagree with him. His comments, whether relating to the problem of "obsolescence," the future of "Main Street," or the "Modern House" are a goad to the reader. In trying to repudiate or support Nelson's views, the reader will find himself clarifying his own thoughts. He will be confronted with problems which he had comfortably exiled to his mental attic. After George Nelson gets through with the problem, it is

(Continued on page 198)

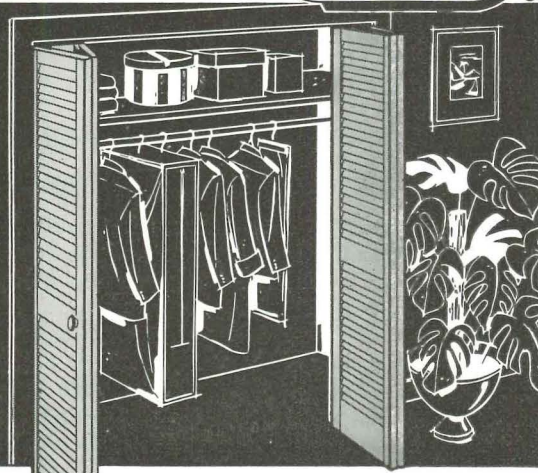
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in  
new

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
















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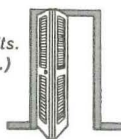
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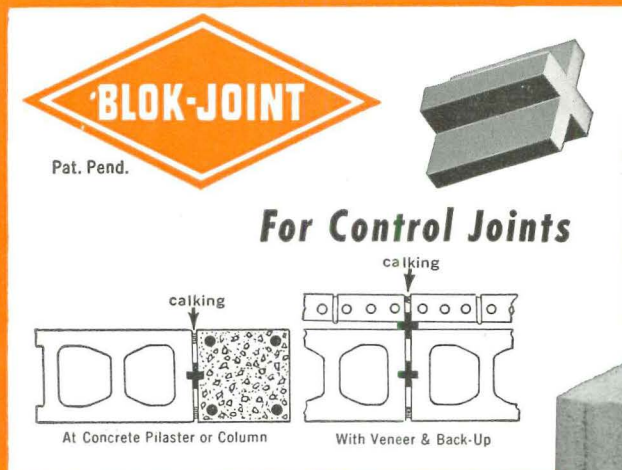
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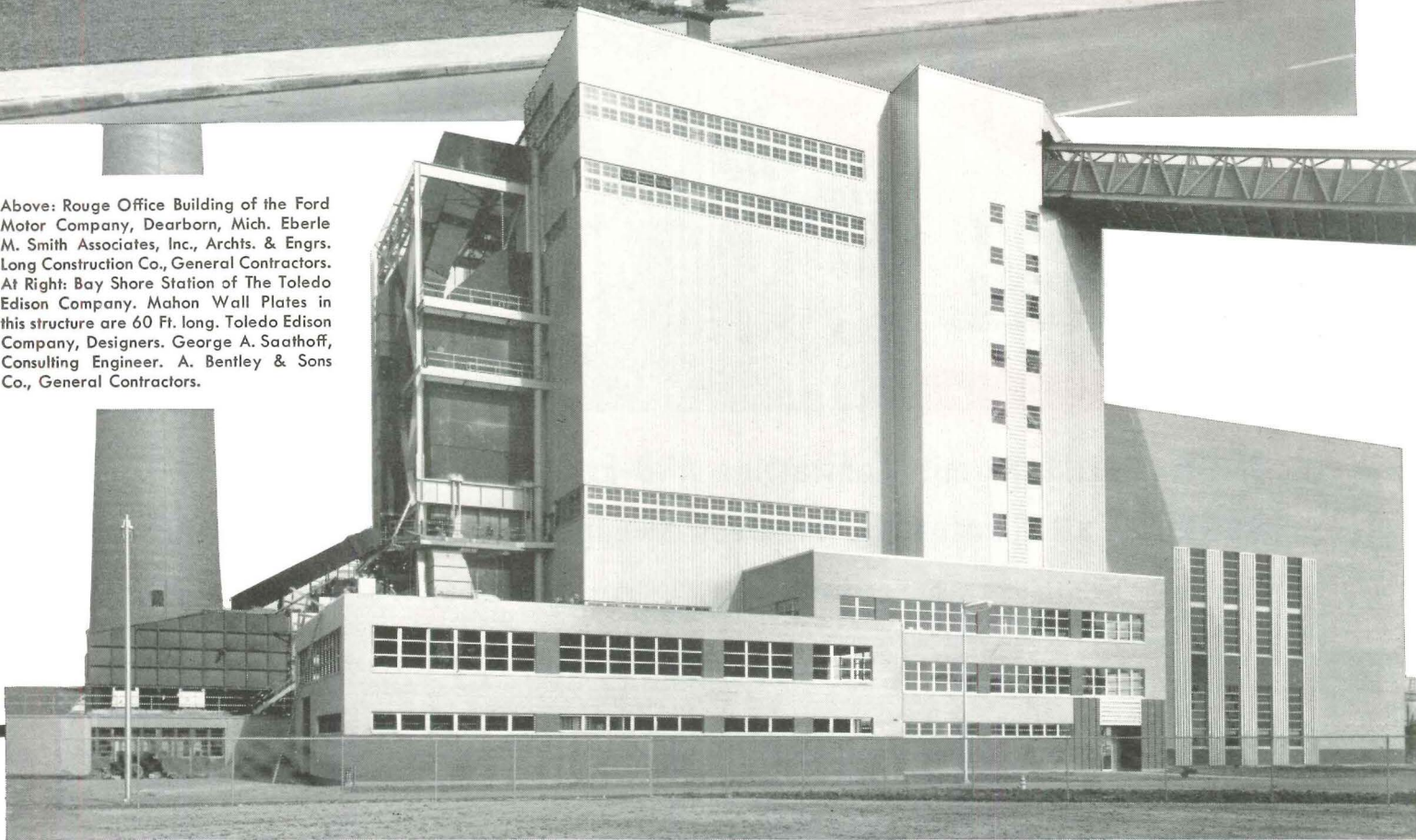
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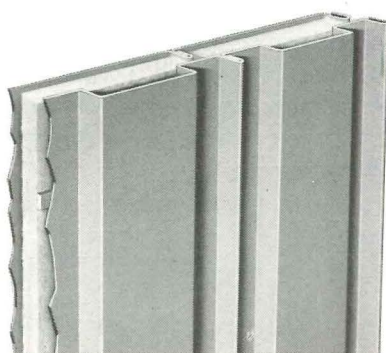
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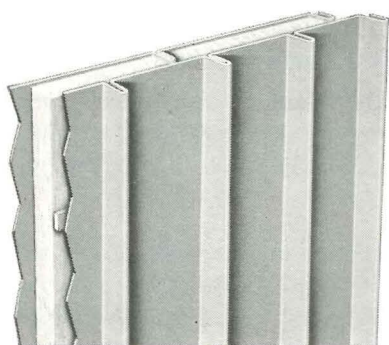
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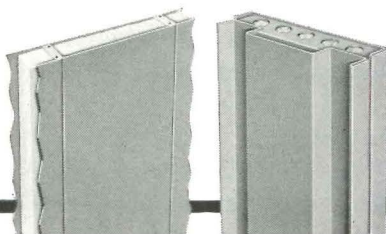
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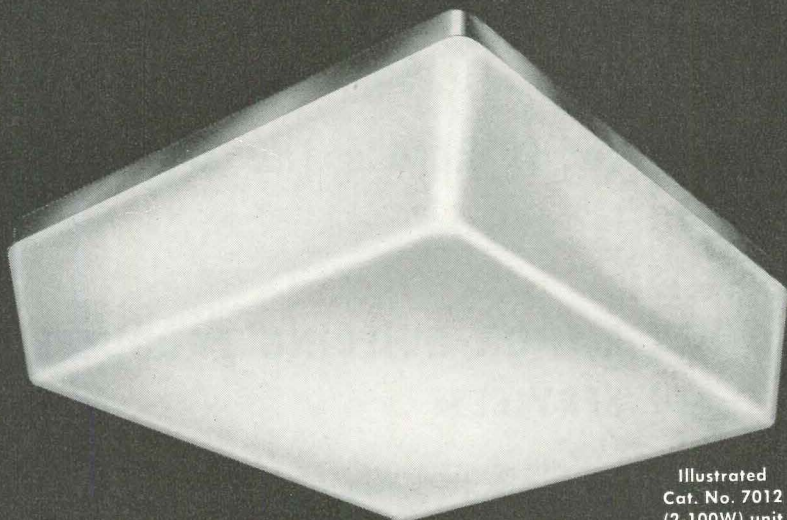
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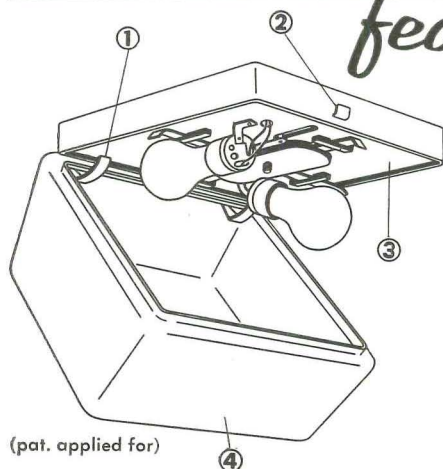
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## reviews

(Continued from page 194)

doubtful if his reader can keep on ignoring it. He will find himself with a mental itch.

The first step toward improving anything—whether it be cooking, esthetics, morals, technology, or design—is to recognize the existence of the problem. George Nelson has served up enough problems and enough challenging comments to keep his readers' thoughts occupied for considerable time. The broadness of his interest and the keenness of his perception should place this book high on the reading list of all individuals interested in design or in the esthetics of our society. If more is needed—it's also fun to read.

DR. FREDERICK HERMAN  
Department of Social Studies  
College of William and Mary  
Norfolk, Va.

### the human reasons

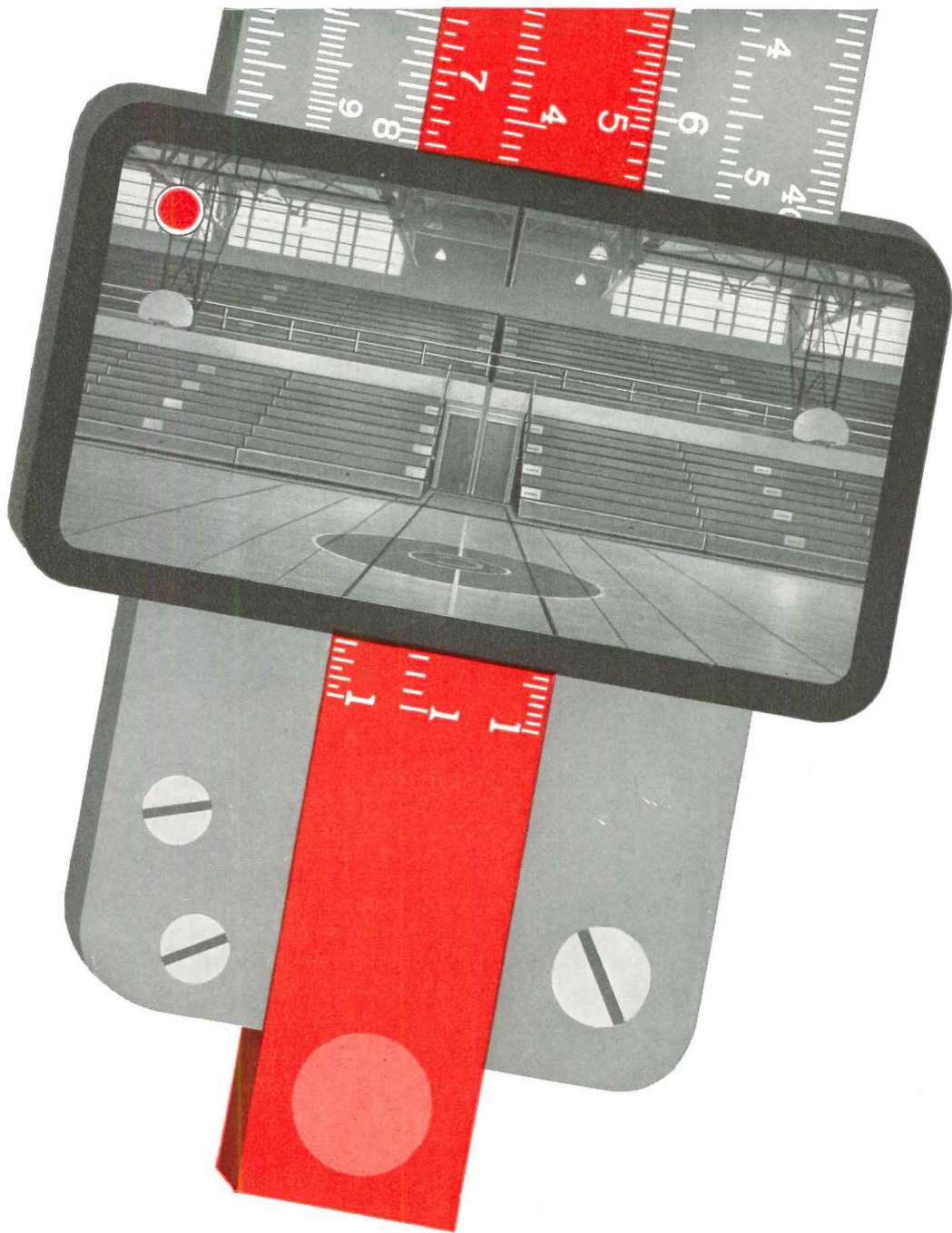
**Ralph Walker, Architect.** *Ralph Walker. Henahan House, 461 Fourth Ave., New York, N. Y., 1957. 259 pp., illus. \$25*

Too often one is confronted with architectural books that show the bricks and stones of construction but not the whys and wherefores, not the human reasons. Ralph Walker is a humanist and he depicts here the satisfaction that an architect can derive from serving society—and, indeed, the satisfaction that society can gain from being served by a competent, well rounded architect.

Winner of the Centennial Gold Medal of the AIA last May in Washington, Walker bubbles with comments on today's architectural scene, as, for example, his reflection on repetitive skin-and-bones construction: "If purity represents the qualities of monotony, then why not sin for a while?" And on office practice, he advises: "Never accept that unproved statement—it will cost more!

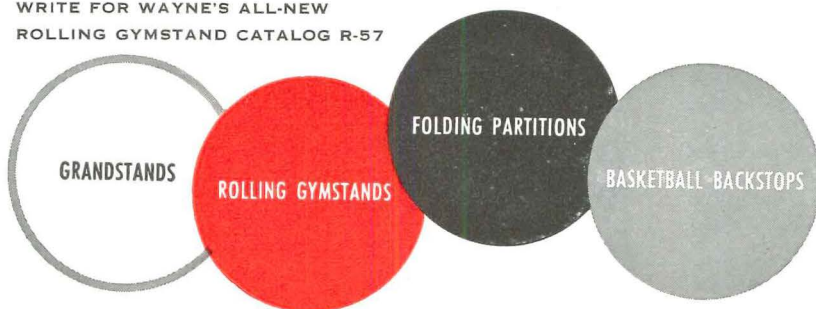
(Continued on page 204)





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WRITE FOR WAYNE'S ALL-NEW  
ROLLING GYMSTAND CATALOG R-57

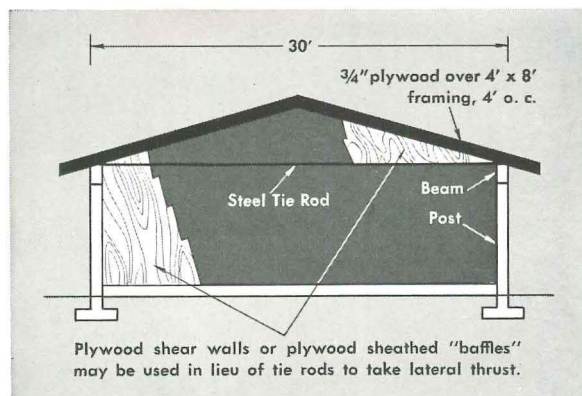


**WAYNE**

WAYNE IRON WORKS  
149 N. PEMBROKE AVENUE, WAYNE, PENNSYLVANIA



# new approaches to structural design with fir plywood



Tilted roof planes (each a rigid plywood diaphragm) provide mutual support at ridge, permit long, clear spans. Diaphragm action transfers horizontal thrust to steel ties or fir plywood end walls.

## FIR PLYWOOD

### TENT-SHAPED ROOF UNITS

#### ARCHITECTS AND ENGINEERS:

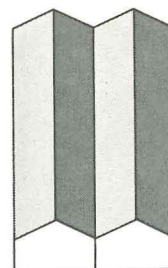
**John Lyon Reid & Partners, San Francisco, Calif.**

Partners in Charge: William A. Gillis, A. I. A.,  
and Dr. Alexander Tarics, Structural Engineer

THIS folded plate plywood roof system developed for an expandable community school offers a straightforward solution to the problem of obtaining a high degree of design flexibility at low cost.

The basic tent-shaped canopy units may be placed separately or combined in series or rows to cover any given area. With supports needed only at wide intervals, walls and partitions may be arranged or re-arranged as needed.

Structurally, the system relies on the outstanding diaphragm strength of the plywood sheathing. The roof planes—each a rigid plywood diaphragm—are inclined to form a giant inverted “V” beam, eliminating posts or trusses normally required for support under the ridge. Because the roof is self-supporting at the center, rafter spans can be nearly doubled, e.g., up to 50 feet with 4 x 14's on four foot centers. Diaphragm action also permits ties and supporting columns to be placed at wide intervals.

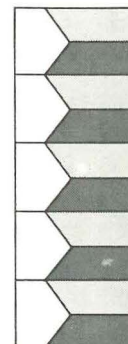
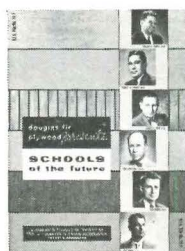


Basic units can be arranged  
in series or rows as needed

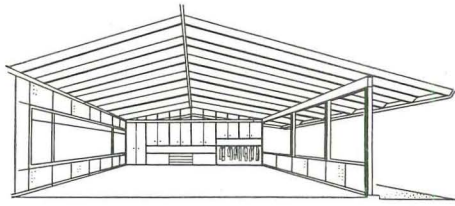
#### ONE OF A SERIES FROM “SCHOOLS OF THE FUTURE”

... a portfolio collection of outstanding designs by six leading architectural firms. Material includes details on folded plate roof system shown above. For free copy, write (USA only) Douglas Fir Plywood Association, Tacoma, Wash.

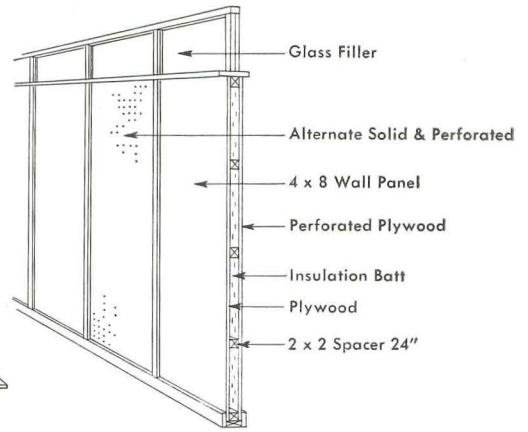
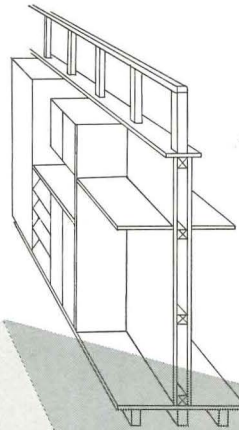
Also write for information about design and engineering consultation services.





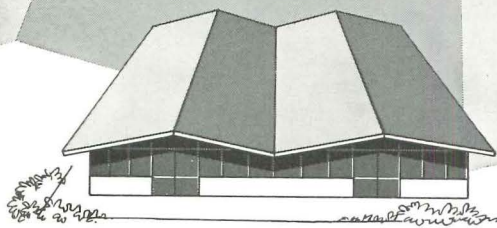


The interior may be left open for classroom uses  
... or divided into smaller areas by movable partitions

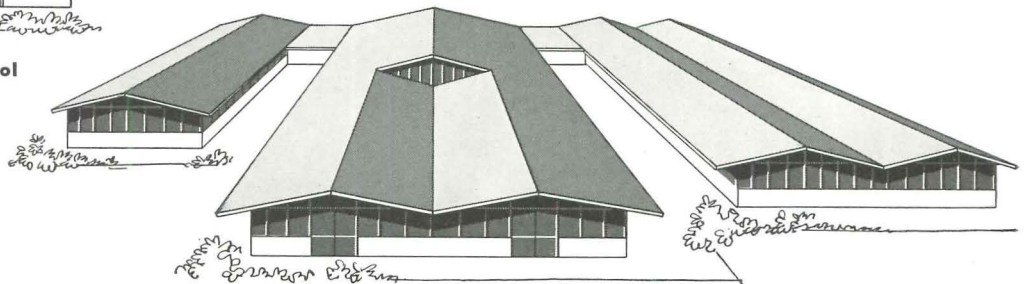


# FOLDED PLATE ROOF

PROVIDE MAXIMUM FLEXIBILITY FOR AN EXPANDABLE SCHOOL

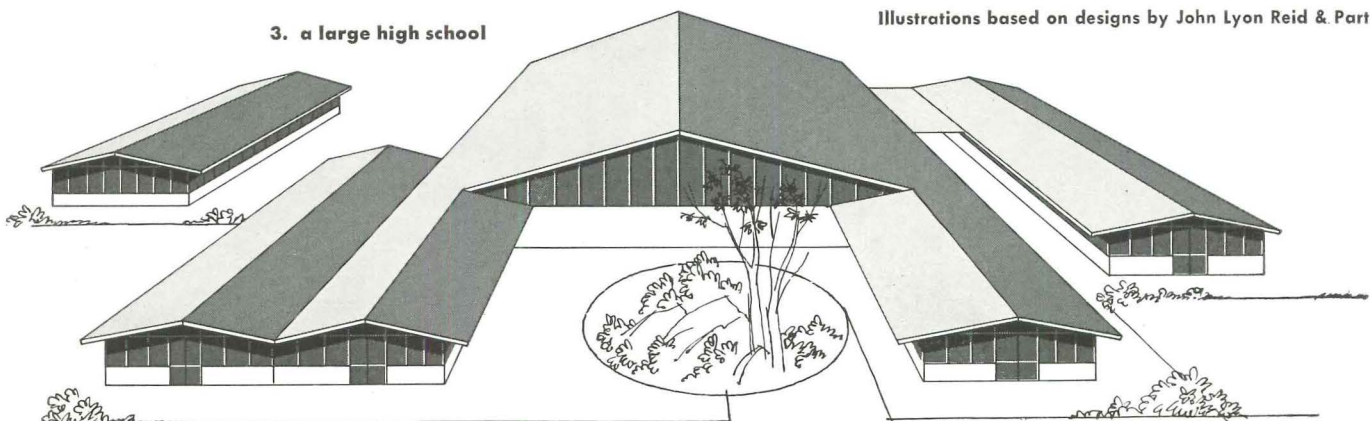


1. a small elementary school



Units can be added as needed

3. a large high school



Illustrations based on designs by John Lyon Reid & Partners



# NATION ENDORSES

## Pittsburgh Firm Announces New Metal Discovery

PITTSBURGH, Pa. — A. M. Byers Co. has put on the market today a new kind of wrought iron described as the most significant development in the history of the metal.

This description was given at a news conference yesterday by B. M. Byers, president of the Pittsburgh firm. It is the world's largest maker of wrought iron products.

The improved product, known as 4-D wrought iron, is at least 25 per cent more resistant to corrosion

## Firm Producing Corrosion-Proof Wrought Iron

A new 4-D wrought iron has been announced by the A. M. Byers Co., Pittsburgh, according to E. G. Sullivan, field service engineer here for the firm.

Byers, largest producer of wrought iron, claims the new iron has greatly superior resistance against many kinds of corrosive forces, including sea water.

## New Wrought Iron Produced

A new 4-D wrought iron with 25 per cent increased corrosion resistance has been brought out of the laboratory and into production by the A. M. Byers Co., William E. Weber of Seattle, Byers field service engineer, said Sunday.

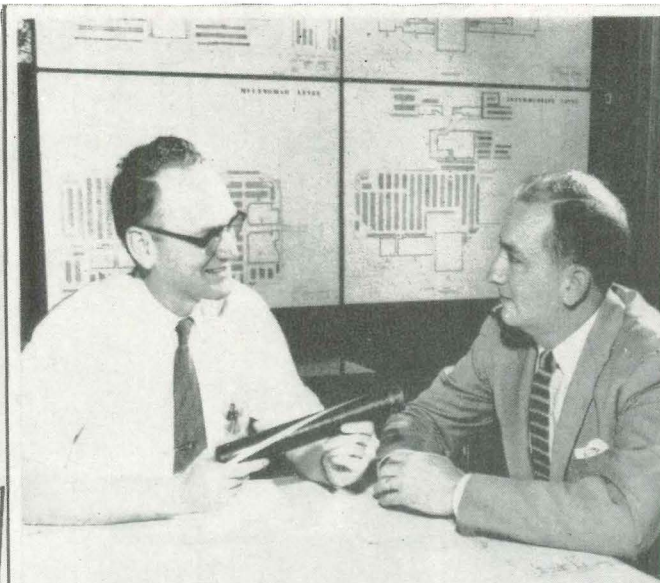
Weber said 4-D wrought iron is immediately available

## A. M. Byers Co. Develops New Wrought Iron

Dow-Jones Service  
PITTSBURGH, Pa., Feb. 13. — A. M. Byers Company, producer of wrought iron products, announced its metallurgists have come up with a new and improved version of standard wrought iron.

Called 4-D wrought iron, simply a marketing term used to distinguish it from the standard product, it is expected to aid substantially in reducing losses stemming from material failure caused by corrosion, B. M. Byers, president, stated.

A. S. Chalfant, vice president sales, said the new product will go on the market immediately. He added that the new product



4-D PIPE — R. R. Kirkwood (left), Chief Mechanical Engineer for John Graham & Company, Seattle, checks piece of 4-D Wrought Iron Pipe now being produced by A. M. Byers Co. Looking on is Byers' Seattle Field Service Engineer, W. E. Weber.

## A. M. Byers Announces Results Of Tests On New 4-D Wrought Iron

PITTSBURGH, Mar. 18. — Results of three tests new 4-D wrought iron have been announced by the metallurgical department of A. M. Byers Company, Pittsburgh. The test data documents the announcement made by A. S. Chalfant, vice president of sales, at a press conference in Pittsburgh in February.

At new 4-D wrought iron at least 25% more corrosion is characterized by agitation and plentiful oxygen."

Test Conditions

## A. M. Byers Claims Improved Wrought Iron Less Likely to Corrode

By a WALL STREET JOURNAL Staff Reporter

PITTSBURGH—A. M. Byers Co., a producer of wrought iron products, announced its metallurgists have come up with a new and improved version of standard wrought iron.

Called 4-D wrought iron, simply a marketing term used to distinguish it from the standard product, it is expected to "aid substantially" in reducing losses stemming from material failures caused by corrosion, B. M. Byers, president, stated.

He said that standard wrought iron is already "a bulwark in the fight against corrosion." Wrought iron pipe, for instance, is used in water, waste and drainage lines, locomotive and diesel engine piping and underground airplane fueling lines, while flat rolled products go into coal chutes, bridge decking, pier protection plates, structural members and process materials tanks.

A. S. Chalfant, vice president-sales, said the new product will go on the market immediately. He added that the new product will sell for the same prices as those for standard wrought iron.

## Byers Improves Its Wrought Iron

Special to World-Telegram and Sun.

PITTSBURGH, Feb. 13.—A. M. Byers Co., producers of wrought iron products, announced its metallurgists have found a new and improved version of standard wrought iron.

Called 4-D wrought iron, as a marketing term used to distinguish it from the standard product, it is expected to "aid substantially" in reducing losses stemming from

## Develop New Wrought Iron

PITTSBURGH, Feb. 13. — A. M. Byers Co., a producer of wrought iron products, announced today its metallurgists have come up with a new improved version of standard wrought iron.

Called 4-D wrought iron, simply a marketing term used to distinguish it from the standard product, it is expected to "aid substantially" in reducing losses stemming from

## Developed By Byers

## New Wrought Iron 25 Per Cent More Corrosion Resistant

250,000 Non-Rusting Fibers Per Square Inch In Product

By W. L. RUSSELL, Press Business Editor

Out of the laboratory and into production at A. M. Byers Co. has come a new type of wrought iron is credited with increasing corrosion resistance much as 25 per cent.

The new 4-D is a result of 17 years of research in addition to superior resistance to corrosion iron has greater uniformity and improved physical mechanical properties.

This is attained by substantially increasing the density of the base metal, stepping up its



Civil Engineer C. E. Drummond (left), examines 4-D Wrought Iron sponge ball with J. A. Cain, A. M. Byers Company southeastern division manager. Laboratory test results have shown the new metal to be much more corrosion resistant than standard wrought iron.



# 4-D WROUGHT IRON

## A. M. Byers Co. Markets New Kind of Wrought Iron

PITTSBURGH (AP)—A. M. Byers wrought iron, developed after 17 years of research, has greater uniformity and better physical and mechanical properties. The key to manufacture of 4-D wrought iron is removal of more oxygen from the base metal—highly refined iron to make it

### A. M. BYERS DEVELOPS NEW WROUGHT IRON

PITTSBURGH, Feb. 13—(DJ) A. M. Byers, Co., a producer of wrought iron products, announced its metallurgists have come up with a new and improved version of standard wrought iron.

Called 4-D wrought iron, simply a marketing term used to distinguish it from the standard product, it is expected to "aid substantially" in reducing losses stemming from material failures caused by corrosion.

### Corrosion Resistance Raised in Wrought Iron

PITTSBURGH, Feb. 15 (AP) The A. M. Byers Company has announced development of an improved type of wrought iron highly resistant to corrosion.

Known as 4-D wrought iron, the product is the result of seventeen years of research, the company said.

B. M. Byers, president of the new wrought iron company, said it was developed by removing impurities from the base metal and refining it to a purer state.

### 'New' Wrought Iron Developed

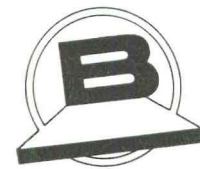
Production by A. M. Byers Company, Pittsburgh, Pa., of a new 4-D wrought iron with 25 per cent increase in corrosion resistance.

### A. M. BYERS DEVELOPS NEW WROUGHT IRON

A. M. Byers Co., a producer of wrought iron products, announced its metallurgists have come up with a new and improved version of standard wrought iron. Called 4-D wrought iron, simply a marketing term, it is expected to

### 4-D Wrought Iron Cuts Corrosion

Out of the laboratory and into production



Here is news. It's about one of the most significant metallurgical advances of modern times: the increased corrosion resistance of new 4-D Wrought Iron. This improved metal provides longer service life at lower cost per year. You can get further details from the Byers representative or by writing direct: A. M. Byers Company, Clark Building, Pittsburgh 22, Penna.



B. Rykoskey, General Superintendent of Motive Power, Baltimore & Ohio Railroad, gets a first hand report from R. G. Angell (left), A. M. Byers Co. Railroad Sales Manager, on the increased corrosion resistance of new 4-D Wrought Iron. Byers recently announced a significant improvement in wrought iron which makes the product at least 25% more corrosion resistant than standard wrought iron. Railroads are among the world's largest users of corrosion resistant wrought iron.

## A. M. Byers Making New Wrought Iron

The most significant development in the history of wrought iron metallurgy — new 4-D wrought iron — has just been announced by A. M. Byers Company. At a press conference Tuesday in Pittsburgh, B. M. Byers, president of the firm which is the world's largest producer of wrought iron products, told newsmen:

condensates. According to E. P. Best, Byers chief metallurgist, the improved 4-D wrought iron was achieved by substantially increasing the deoxidation of the base metal; increasing the phosphorous content in relation to the other material components; and using fibrous material.

### Placed

A. S. Chalfar, sales, stated that the new material is simply a marketing term used to distinguish it from standard wrought iron. It will be placed on the market immediately and would be the Byers Company's first product.

### WROUGHT IRON IMPROVEMENT IS REPORTED

Out of the laboratory and into production has come "new 4-D Wrought Iron" with 25% increased corrosion resistance, A. D. Sheere, A. M. Byers Co. Pacific Coast manager, announces.

Mr. Sheere, of San Francisco, recently returned from Pittsburgh where he was given a preview of the new material. He says 4-D Wrought Iron is immediately available—at no increase in price—will save millions of dollars in corrosion losses annually in the Pacific Coast territory.

According to Mr. Sheere, 4-D Wrought Iron was achieved by increasing the purity of the base metal, increasing its phosphorous content and using a more siliceous alloy. Wrought iron is a

### New Wrought Iron Is 25 Per Cent More Corrosion Resistant

A new type of wrought iron, developed in the laboratories of A. M. Byers Co., Pittsburgh, is now in production. It is credited with increasing corrosion resistance as much as 25 per cent. The new metal, known as "4-D," is the result of 17 years of research.

### Byers Improves Wrought Iron

Special to the Herald Tribune PITTSBURGH, Feb. 12.—A. M. Byers Co. announced today that it had developed a new kind of wrought iron, shown by tests to offer "greatly superior resistance" to corrosion.

Called "4-D," the improved wrought iron was achieved by substantially increasing the deoxidation of the base metal; increasing the phosphorous content in relation to other com-

### Wrought Iron More Resistant

A wrought iron whose corrosion resistance is increased 25% over standard wrought iron is available. Marketed under the name 4-D Wrought Iron, the product is the result of 17 years of research, laboratory and in-service tests. The improved wrought iron is made by increasing the extent of deoxidation

uniform distribution of fiber throughout the metal. Also because the metal is standard wrought iron, the 4-D wrought iron product offered at

### Byers Develops New Wrought Iron

PITTSBURGH, Feb. 13. — A. M. Byers Co., a producer of wrought iron products, states its metallurgists have come up with a new and improved version of standard wrought iron.

Called 4-D wrought iron, simply a marketing term used to distinguish it from the standard product, it is expected to "aid substantially" in reducing losses stemming from material failures caused by corrosion.





GREENFIELD'S RESTAURANT, Birmingham, Michigan  
Architect—Theodore Rogvov

## CUSTOM-BILT BY SOUTHERN

Food service equipment designed, engineered, fabricated and installed in any type operation, expertly fitted to available space. You can depend on thorough cooperation by your Southern Dealer, from initial analysis of your food service problems through complete installation and reliable maintenance for the years to come. Get expert help with your next kitchen equipment problem or layout—call your "Custom-Bilt by Southern" dealer, or write Southern Equipment Company, 4550 Gustine Ave., St. Louis 16, Mo.

**SOUTHERN**  
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84 National Award Winning Installations



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## reviews

(Continued from page 198)

Ask for an estimate." On the failings of architectural education, he cautions: "Today, the present, only, is considered to be of importance. Today's little economies, the narrow philosophies of a few teachers, are thought more important than to know the heights which man has achieved in architecture." And on architects as leaders, he advises the reader as follows: "No true individual is blindly imitative. He is naturally a skeptic and lives by his own enthusiasms. This does not mean he is antisocial. On the contrary, he understands, and is not afraid of the people who surround him, I believe an architect should be an individual because I believe he should be a leader; and one who does not wait for fashion to direct his work, or society to stop in order that he may catch up."

Walker is an individual and he is a leader. This is evidenced not by his words alone, but also by his record of official appointments and elections, and by his work in 50 years of architectural practice. The Barclay-Vesey Building, home of New York Telephone Company, and its pioneering use of the sidewalk arcade, as well as the Irving Trust Company at One Wall Street, where the ground site, despite its high value, was not exploited to the last square foot, evidence the sort of advances which Ralph Walker achieved 30 years ago and are only now popularly being acclaimed in some of the dramatic structures being currently erected by others on Park Avenue. For the Bell Telephone Laboratories in 1939, he thought of work spaces not as rooms but as *work modules*, a then revolutionary idea now adopted almost universally by research organizations. For the Petroleum Building at New York World's Fair he devised a system to project illustrations on a domed surface, which later was developed into the movie technique known today as Cinerama.

(Continued on page 208)



# U.S. Navy Solves Costly Maintenance Problem with Alodized Aluminum Roofs

*Installs more than 600,000 lb. of ACP ALODINE treated Kaiser Aluminum corrugated roofing and flashing sheet on roofs of two big humpbacked hangars at Moffett Field*



Engineering study at Lakehurst recommended industrial corrugated aluminum roofing for three reasons: it is comparatively inexpensive and provides a durable and permanent-type roofing; it requires lowest expenditure for maintenance; it can usually be installed without changes in the existing structural framework.

At Moffett Field, the Alodized Kaiser Aluminum industrial corrugated aluminum sheeting was attached to the asphalt covered wood sheathing of the hangars. It was applied by Dale Benz, Inc., under the supervision of the Navy's Bureau of Yards and Docks and Leo W. Ruth, consulting engineer and general partner of Water, Ruth and Going, with the technical assistance of Kaiser Aluminum & Chemical Corporation engineers.

The ACP ALODINE chemical conversion coating on the aluminum sheeting was recommended for the Moffett Field installation because it increased the already high corrosion resistance of the metal and because its green color materially reduced the reflectivity of the stucco embossed corrugated Alclad alloy aluminum.

Complete information about ACP ALODINE is available upon request. Write us at Ambler.

*ALODINE is a registered trademark of American Chemical Paint Company*



MORE THAN 600,000 lb. of industrial corrugated aluminum sheet was used to roof two huge hangars at Moffett Field. All were treated with ACP ALODINE.

## AMERICAN CHEMICAL PAINT COMPANY

Ambler 46, Pa.

Detroit, Mich.

• St. Joseph, Mo.

• Niles, Calif.

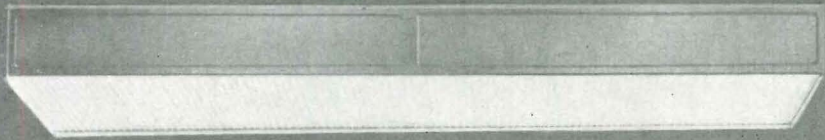
• Windsor, Ont.

*New Chemical Horizons for Industry and Agriculture*





*Extra value for your ballast dollar..*



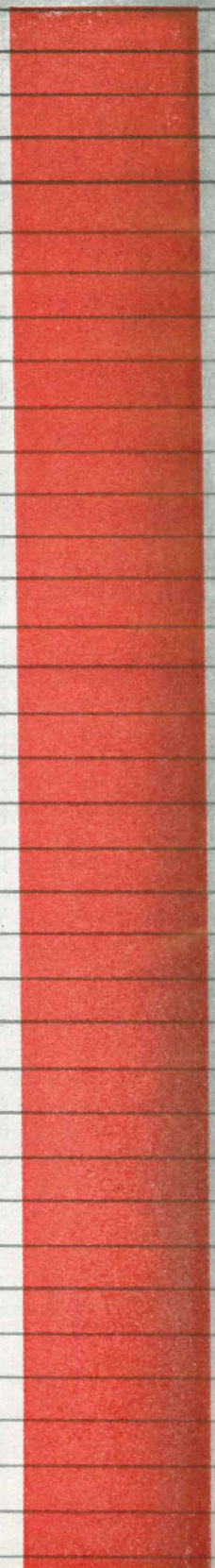
100

90

80

70

60





# New G-E Ballast operates at less than 90C\*

Announcing the new General Electric 6G1020 ballast for two 40 watt T12 rapid start lamps, the first in a line of ballasts that meet the demands of lighting progress.

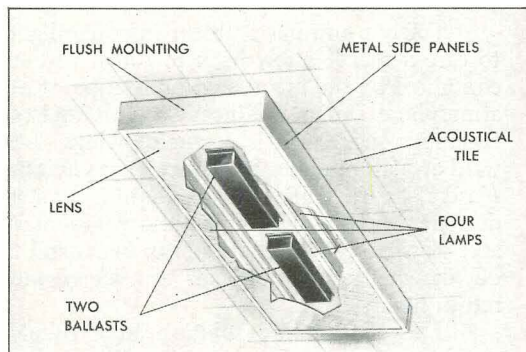
Now, with no sacrifice in light output, sound rating, size or weight, General Electric offers you a ballast that, under normal ambient conditions, will operate below 90 C on the hot spot in any modern surface mounted totally enclosed four-lamp fixture.

There's a lot of talk in the lighting industry about the problem of ballast heating. The problem has existed since the first ballast was energized and will exist as long as there is progress in architectural, fixture and lamp design.

Actually, today's standard tests do not adequately cover ballast heating. Ballast heat tests originally developed as representative of earlier lighting installations do not give a true indication or measurement of how the ballast will operate in today's modern installations. The demand for higher working foot-candles and more efficient, more eye-appealing factories, offices and homes is being met through the introduction of higher output lamps, modern fixtures and the utilization of modern design concepts such as lower ceilings and sound-absorbing materials. True, the demands are being met, but this lighting progress also has generated new heat problems for the ballast industry to solve.

The most important step in solving this problem has been the development of a realistic new approach and new facilities for accurately determining ballast operating temperatures. General Electric ballasts are now tested in a new ballast-fixture heat test room. In this way,

\*at room ambient of 25 C



Modern enclosed fixtures have increased light output but at the same time have contributed to today's ballast heating problem.

General Electric ballast heat measurements reflect actual operating conditions.

Each fluorescent lighting application is accepted as a separate challenge by General Electric engineers who know there is no one ballast that will act as a solution for all heating problems.

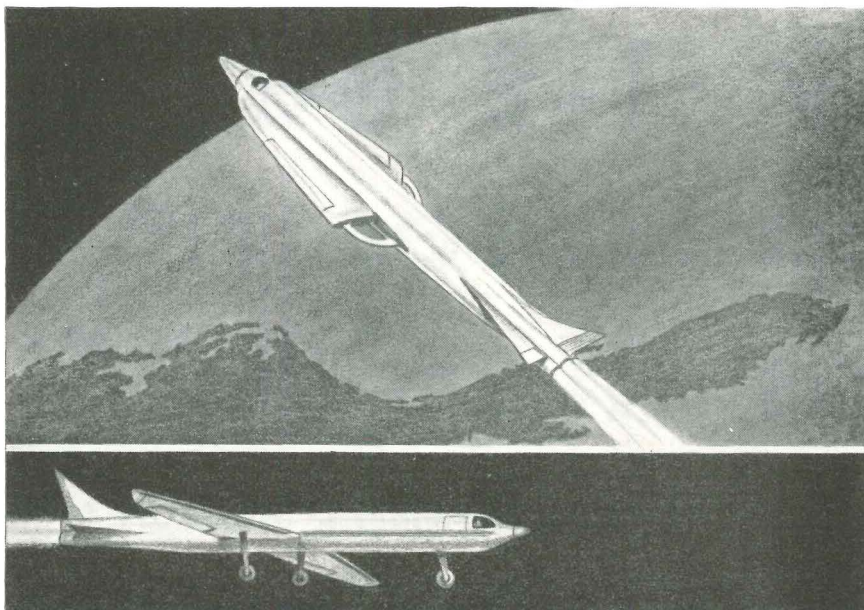
If fluorescent lighting progress is to continue, new low temperature ballasts must be developed. General Electric will continue to be a leader in ballast progress . . . another example of General Electric's OPERATION UP-TURN...extra value for your ballast dollar. Section 401-68, General Electric Company, Schenectady 5, N. Y.



GENERAL  ELECTRIC



## MARS outstanding design SERIES



### brings 'em back alive

Today's burning problem in space flight is how to ease a rocket safely back to earth, without being consumed by the metal-melting friction of our dense atmosphere. Design Engineer Carl J. Rauschenberger's ingenious suggestion is a pair of wings, locked forward at blast-off, later folded back into flying position (insert) by hydraulic cylinder controls for a slow, safe descent. Mr. Rauschenberger also envisions a retractable glass nose cone, heatproof to withstand the take-off, drawn back to admit air to a jet engine on the return flight.

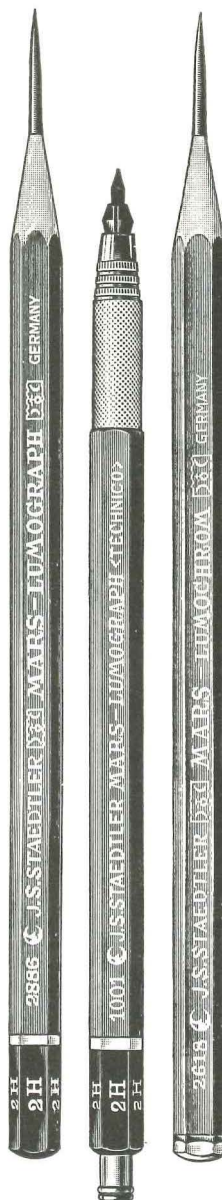
This outstanding solution to a timely design problem may already exist in working drawings on somebody's drafting board, or even in mock-up form. But whether a project is developed today, tomorrow or the year after next, it will always be important to shape ideas into realities with the best of drafting tools.

In pencils, of course, that means Mars, long the standard of professionals. Some outstanding new products have recently been added to the famous line of Mars-Technico push-button holders and leads, Lumograph pencils, and Tradition-Aquarell painting pencils. These include the Mars Pocket-Technico for field use; the efficient Mars lead sharpener and "Draftsman" pencil sharpener with the adjustable point-length feature; Mars Lumochrom, the color-drafting pencils and leads that make color-coding possible; the new Mars Non-Print pencils and leads that "drop out" your notes and sketches when drawings are reproduced.

The 2886 Mars-Lumograph drawing pencil, 19 degrees, EXEB to 9H. The 1001 Mars-Technico push-button lead holder. 1904 Mars-Lumograph imported leads, 18 degrees, EXB to 9H. Mars-Lumochrom color-drafting pencil, 24 colors.

**J.S. STAEDTLER, INC.**  
HACKENSACK, NEW JERSEY

at all good engineering and drawing material suppliers



## reviews

(Continued from page 204)

For the Borden Building, he presented Elsie the Borden Cow, that has become the dairy company's symbol.

Walker is at home with architectural problems of all scopes, whether in detail refinements in small-town libraries, or memorials, or buildings in the tropics, or the complexities of city planning (to which he devotes more pages than to any other topic). "The real job to be done in the near future," he warns, "is once again to attain a philosophical reason for modern urban living and one which leads to charm and repose."

Walker, like Whitman, encourages the reader to "debut upon a newer, mightier world, varied world." Whatever reaction one may have to his architecture, he is one of the leaders of our profession, and this book will take its place as one of the significant architectural volumes of recent years.

JEFFREY ELLIS ARONIN  
Woodmere, N. Y.

### fast developing field

**Shops & Stores. Revised Edition.** Morris Ketchum, Jr. Reinhold Publishing Corp., 430 Park Ave., New York, N. Y., 1957. 263 pp., illus. \$15

This book is one of the Progressive Architecture Library series, which covers most of the phases of architectural theory and practice. Like other books in the series, this one is a rich source of helpful architectural information and education. The information is comprehensive and well organized, and in a form both interesting and arresting.

Outstanding in the series, this work has also been a standard in the field of store design for ten years; it is now reissued in a revised edition. The progress and progressions in theory and practice in this fast developing field are reflected in its

(Continued on page 214)



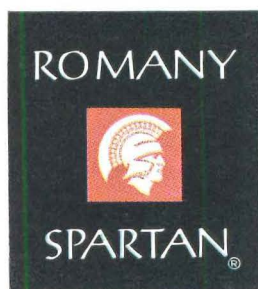


D. L. James Residence  
Carmel, California

WITH  
**Romany•Spartan** TILE  
THERE'S NO LIMITATION  
ON IMAGINATION

...because Romany•Spartan continually brings architects new colors and finishes that stimulate creativity. This bath is a typical example of the design possibilities of Romany•Spartan's new Decorator Tile. If you'd like more information or design assistance, contact your nearby Romany•Spartan representative... or write United States Ceramic Tile Company, Dept. P-22, Canton 2, Ohio.

United States Ceramic Tile Company

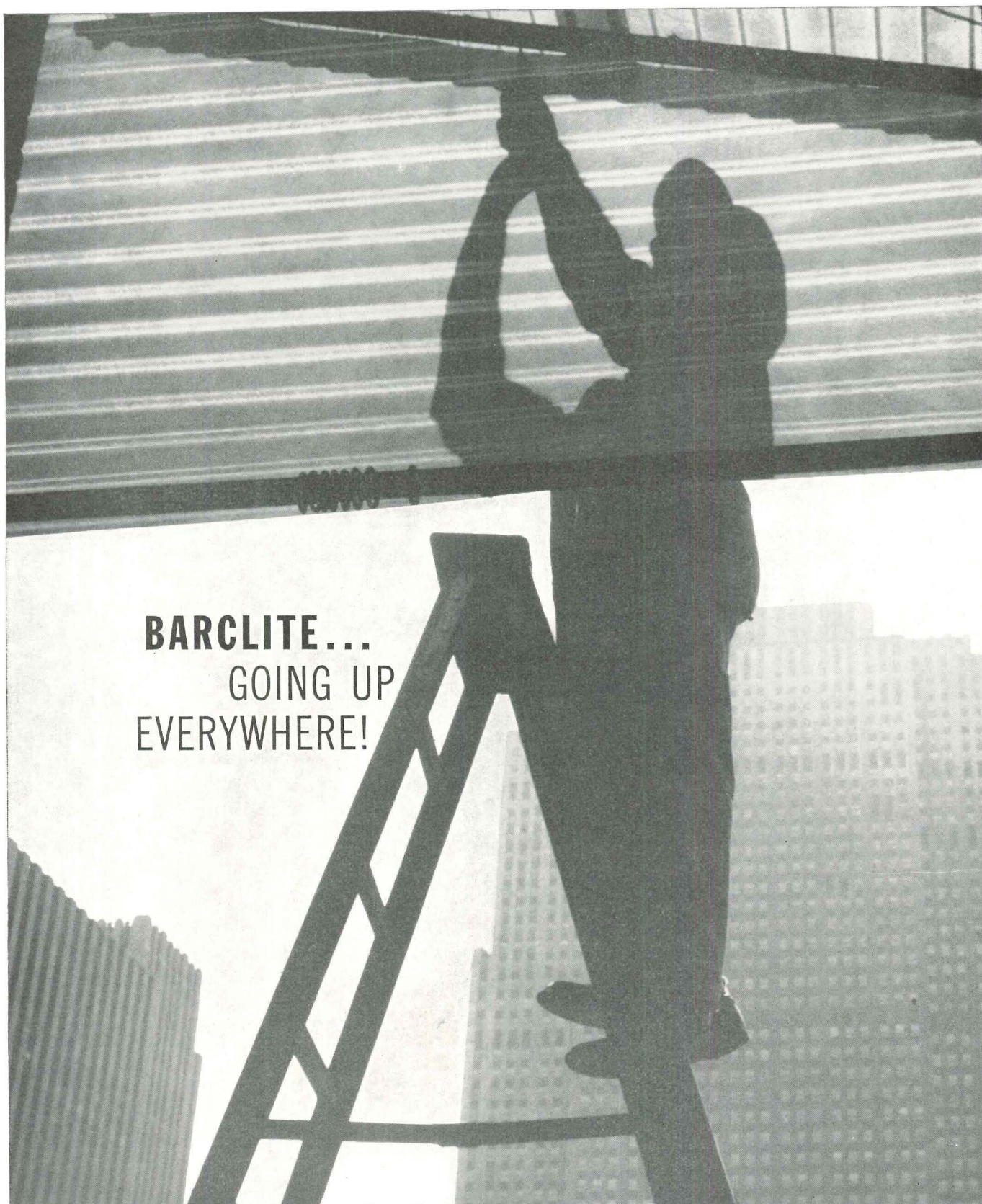


Genuine Clay Tile

The Sparta Ceramic Company

MEMBERS: TILE COUNCIL OF AMERICA AND THE PRODUCERS' COUNCIL, INC.





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Barclite reinforced fiber glass panels . . . designed with you in mind. **Versatile** . . . unlimited applications inside and out . . . in home, commercial and institutional use. **Economical** . . . easy to install, easy to maintain. **Beautiful** . . . 13 decorator colors . . . 2 textures . . . for any decor. **Shatterproof** . . . pound for pound stronger than steel. **Translucent** . . . keeps sun's glare out . . . diffuses light. Get the whole booming story on Barclite . . . it's the best buy in building! Write for samples and consultation services for your specific needs today!

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\*an affiliate of Barclay Manufacturing Company, Inc.

Dept. PA-6 Barclay Building, New York 51





"I always  
specify  
Hako  
floor tile"

**Hospital Director:** "About thirty thousand pounds to the square foot every day, Mr. Architect. That's supposing a patient weighs 150 pounds."

**Architect:** "That's pretty rough treatment."

**Hospital Director:** "What kind of a floor will take a beating like that?"

**Architect:** "HAKO vinyl-asbestos . . . every time. There's no contest here."

**Hospital Director:** "How about cost? Don't forget our budget. We're non-profit you know!"

**Architect:** "It's the most economical type of flooring you can use. HAKO is manufactured to rigid specifications . . . designed to do a job in hospitals."

**Hospital Director:** "Why HAKO—won't any brand do?"

**Architect:** "Certainly not. I like to keep my clients happy. I always specify HAKO. High in quality—and low in cost! And HAKO has a tile for every job—asphalt tile or vinyl-asbestos—in a fine selection of colors and patterns."



**HAKO BUILDING PRODUCTS**  
A DIVISION OF MASTIC TILE CORPORATION OF AMERICA  
Houston, Tex. • Joliet, Ill. • Long Beach, Calif. • Newburgh, N. Y.

Asphalt Tile  
Vinyl-Asbestos Tile  
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**HAKO**

HAKO Building Products, Dept. H9-6,  
Box 128, Vails Gate, New York

Please send me free samples and full information  
about HAKO Tile Flooring.

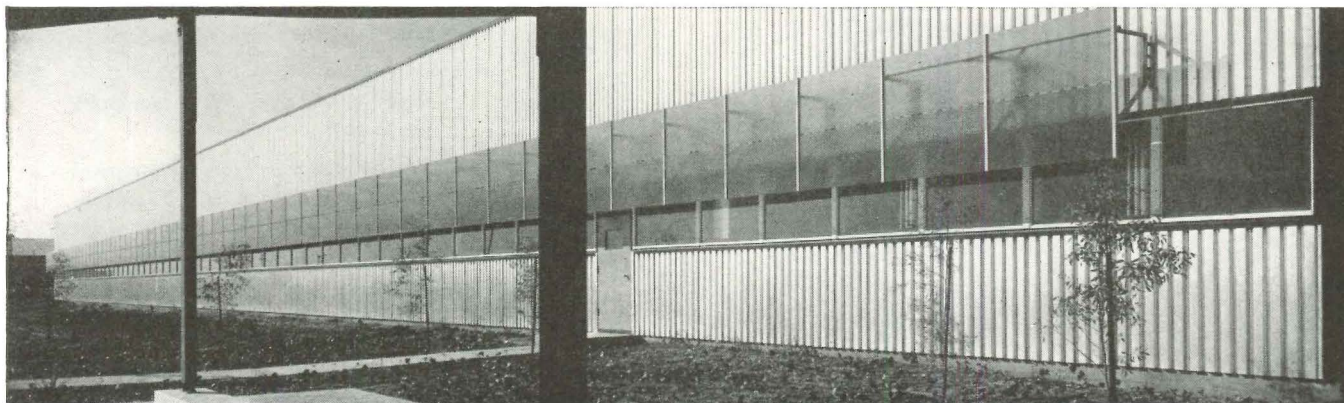
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ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ ZONE \_\_\_\_\_ STATE \_\_\_\_\_



## LIGHT DIFFUSING GLASS MAKES...

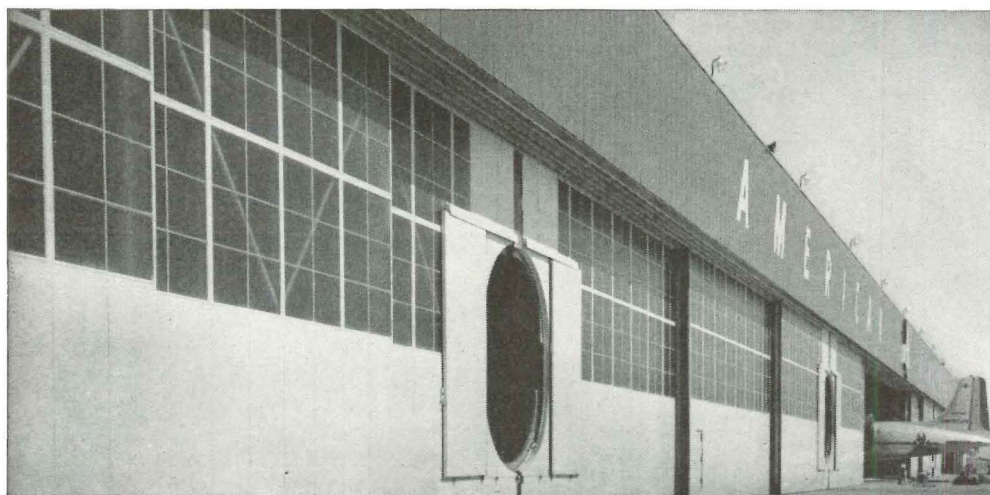
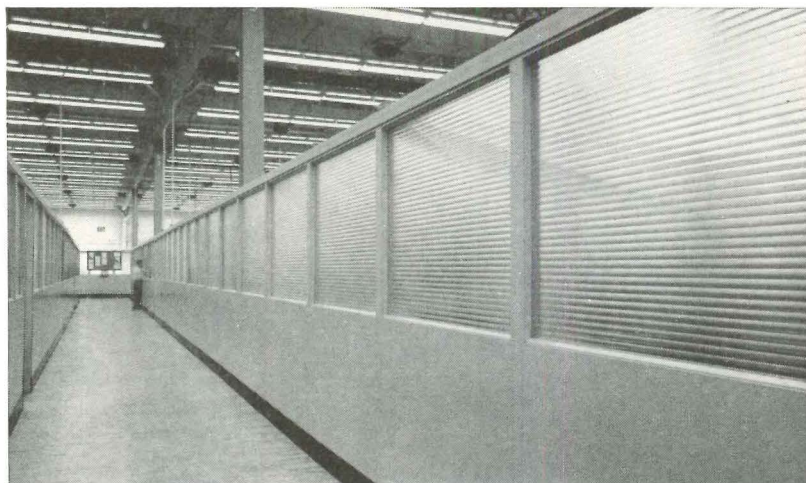


Architects: Marcel Breuer and Associates  
Supervision: Craig Ellwood

A point of special architectural interest in the new Torrington Manufacturing Co. plant at Van Nuys, California is the sunshade of Coolite heat absorbing wire glass that spans the western elevation.

Complementing the spectacular new IBM offices in San Jose, California are these Hauserman partitions, glazed with lustrous Mississippi Broadlite glass.

Architect: John S. Bolles, San Francisco, Calif.  
Partitions by: E. F. Hauserman Co., Cleveland, Ohio



1260 lights of 1/4" Coolite Wire Glass provide better daylight with protection, while absorbing excess solar heat in expansive American Airlines Hangar at Los Angeles International Airport.

Architect: Quinton Engineers Ltd., Los Angeles, California  
Glazing by: W. P. Fuller and Company, Los Angeles, California



# MISSISSIPPI

NEW YORK • CHICAGO • FULLERTON, CALIF.

WORLD'S LARGEST MANUFACTURER OF



# Daylighting and Dollars GO FARTHER

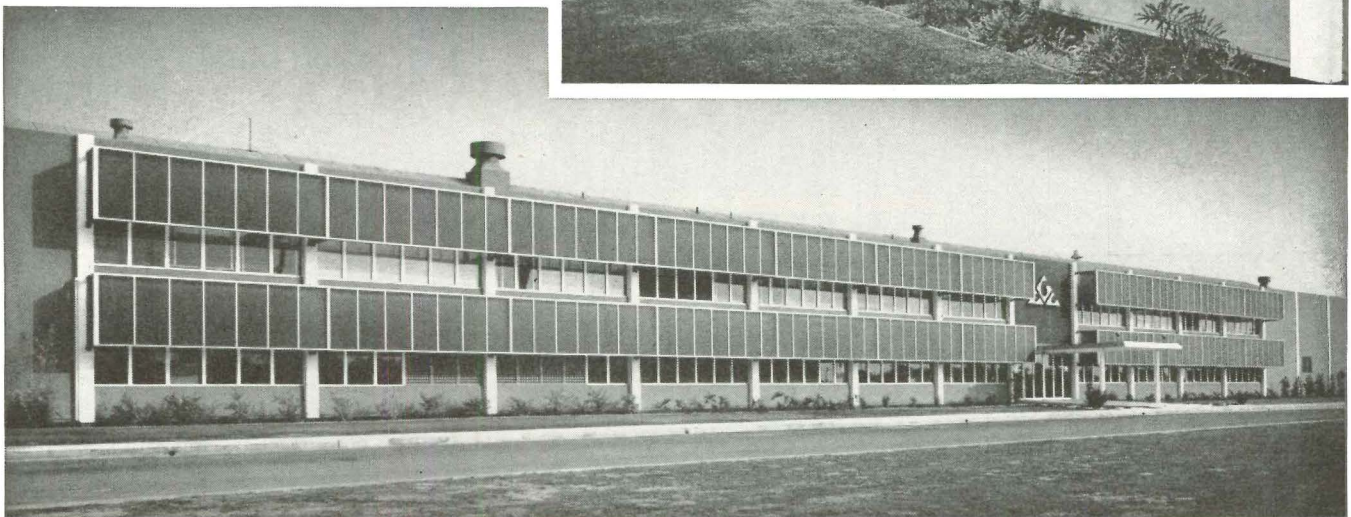
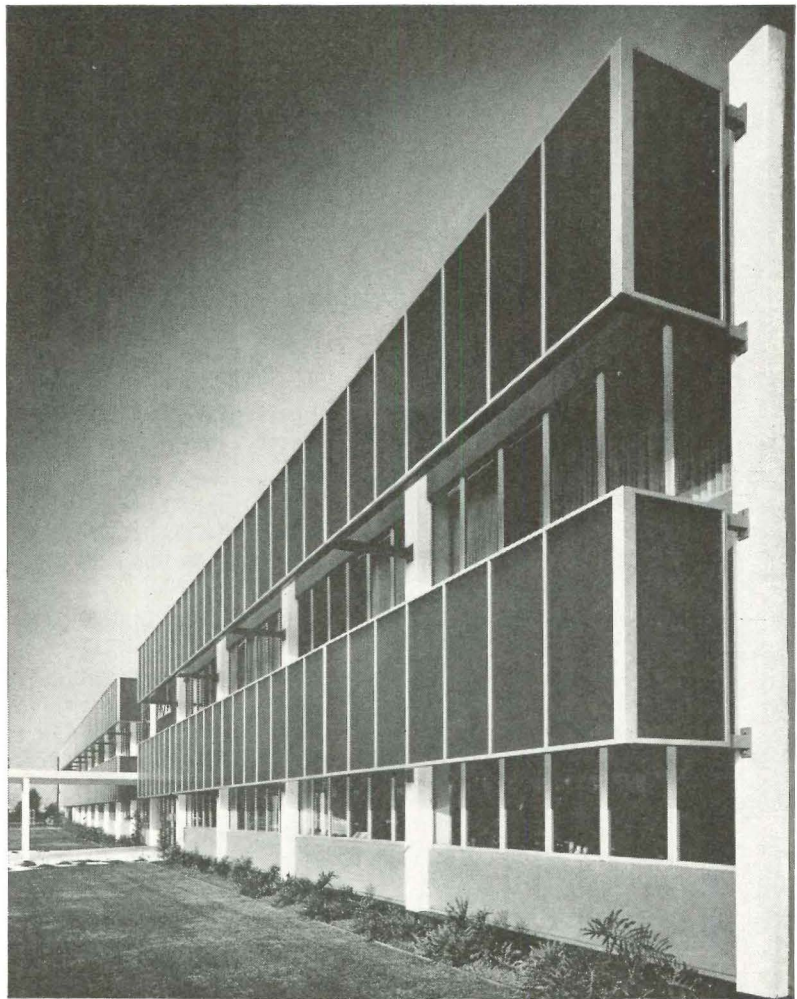
To make the most of daylight, use translucent, light diffusing glass by Mississippi. For utility, beauty and economy, unmatched by any other glazing medium, specify Mississippi Glass. Available in a wide variety of patterns, wired and unwired, at better distributors everywhere.

Write for new  
1958 Catalog.  
Address Department 8.



A place in the sun is especially desirable when heat absorbing blue-green Coolite Glass is there to help employees see better, feel better, work more comfortably. A brand new concept in "extended screen" glazing technique that combines beauty and utility.

Growers Container Corporation, Fullerton, Calif.  
Architect: Falk and Booth, San Francisco, Calif.



**G L A S S   C O M P A N Y**

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**R O L L E D ,   F I G U R E D   A N D   W I R E D   G L A S S**





# RIGID-*tex* Metal®

## comes to PARK AVE.

Permyron® Stainless  
RIGID-*tex* Metal® is selected  
for exterior panels of new  
53 story Union Carbide  
Building in New York City!

Two hundred thousand square feet of rich, black stainless RIGID-*tex* Metal towering skyward . . . selected because of its impressive appearance, its uniform light reflection and its superior strength.

The permanent black color is produced by a new process called PERMYRON® developed by the Electro Metallurgical Division of Union Carbide.

RIGID-*tex* Metal has many architectural applications. It is available in all metals, all finishes, all colors—solid or perforated. There are more than 48 patterns from which to choose.

Architects:  
Skidmore, Owings & Merrill  
Curtain Wall Fabrication:  
General Bronze Corporation

**BEAUTILITY®**

Pattern 5-WL

**RIGIDIZED METALS**  
CORPORATION

6886 OHIO STREET • BUFFALO, N. Y.  
WORLD-WIDE DISTRIBUTION

## reviews

(Continued from page 208)

pages. The author's practical, authoritative information garnered from many years of store design practice is eminently valuable.

The design of stores of various sizes and purposes is considered: from the small specialty shop through the department store to the shopping center. Delineated are the manifold facets of store merchandising, management, design, layout, finishes, equipment, fittings, lighting, mechanical systems, etc. A new chapter on color is included; the chapters on department stores and the outdoor shopping street have been rewritten.

The inclusion of generous commentary and collection of photographs, drawings, plans, and sketches conclusively exclude question as to the book's merit. It will continue to be important and valuable.

The author's enthusiasm and interest are contagious. The spirit which inspired the work may be summed up in the author's words: "Store design's long and tedious routine, endless detail, and frequent clashes of personalities and prejudices can only be balanced against its unique opportunities. Its stimulating realism, honesty of purpose, and integrity of design and construction are its real reward."

LAWRENCE E. MAWN  
Alhambra, Calif.

### contemporary design reference

**Furniture Forum. Volume Eight.**  
*Published by Furniture Forum, Inc.,  
P.O. Box 3791, Sarasota, Fla., 1958.  
166 pp., illus. \$5*

Contemporary designs by various manufacturers—photographs and descriptions—are cataloged here in four sections: furniture; lighting; fabrics, wallpapers, wall treatments; accessories.

B.J.M.

(Continued on page 218)



# got his steel doors & frames in 48 hours *the man says!*

*Robert H. Waters of the Robert H. Waters Company, Inc., general contractors, 120 Wall Street, New York, N.Y., reports as follows:*

“

On a recent job we completed for British Overseas Airways Corporation (BOAC) in the Seamen's Bank Building, 5th Avenue and 45th Street, New York, we ordered AETNAPAK doors and frames on February 5, 1958. The order was shipped February 6, 1958.

Delivery on custom-quality doors and frames has always been a problem, requiring, as a rule, anywhere from three weeks to three months. Being able to get 48-hour delivery on a custom-quality line that offers a variety of type-and-size combinations and a choice of hardware is certainly a great help in meeting our completion schedules.

”

*send for  
free  
catalog  
today!*

## AETNAPAK

**AETNA STEEL PRODUCTS CORPORATION**

730 Fifth Avenue, New York 19, N. Y. Dept. PA6

Please send free catalog of AETNAPAK custom-quality, always-in-stock Steel Doors, Frames and Hardware.

Your Name.....Title.....

Company Name.....

Address.....

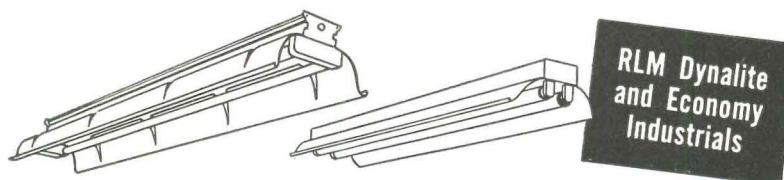
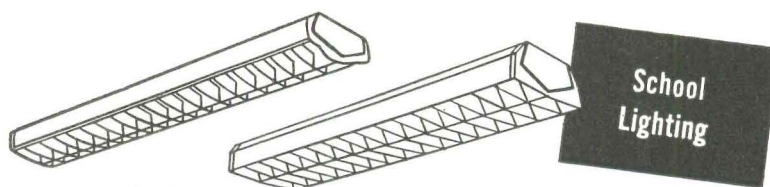
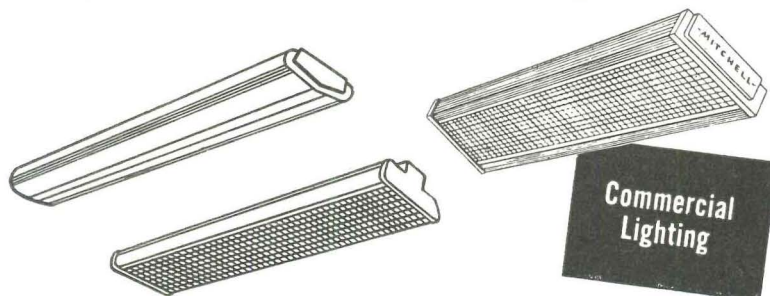
City.....State.....

Inventoried,  
custom-quality  
Steel Doors,  
Frames, Hardware  
at stock prices.  
Shipment within  
48 hours.

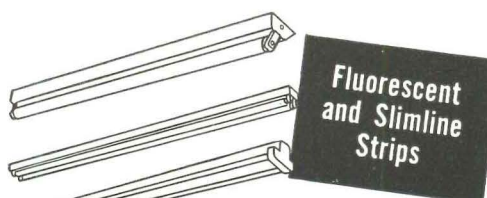
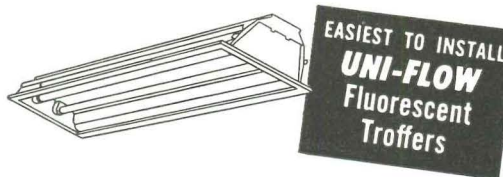


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**MITCHELL LIGHTING COMPANY**

DIVISION OF COMPCO CORPORATION

1802 North Spaulding Avenue • Chicago 47, Illinois • U.S.A.

## reviews

(Continued from page 214)

### direct and humorous

**Good Photography's Darkroom Guide.** Simon Nathan. Arco Publishing Co., Inc., 480 Lexington Ave., New York, N. Y., 1957. 139 pp., illus. \$2

Unlike many "how-to" books of photography, the *Darkroom Guide* does not present stereotyped and dull rules; rather, it states in a forthright manner the author's own current approach and technique. Starting off with detailed instructions on how to plan a darkroom and what essential equipment is needed, the book gradually leads the reader through the various stages of developing negatives, intensifying and reducing them, contact printing from them, into the fascinating subject of enlarging.

A 38-page section on special effects is particularly valuable, giving numerous examples of the specialized techniques and tricks-of-the-trade for making an outstanding print of what otherwise would be an ordinary one.

The author, a free-lance photographer with 20 years of darkroom experience, writes in a direct and humorous style, and his book carries a guarantee against boredom.

ELEANOR WOLFE  
Staff Photographer, *Reinhold News*

### an important journey

**Thermodynamics of Heat-Power Systems.** F. W. Hutchinson. Addison-Wesley Publishing Co., Inc., Reading, Mass. 1957. 490 pp. \$8.50

Prof. F. W. Hutchinson, of the University of California, has written another book on the subject of thermodynamics. The significance of Professor Hutchinson's work is that he not only understands his subject, he knows how to write.

(Continued on page 222)





*Call the man from Fenestra for*  
**Entrance doors at the lowest installed cost!**

They look like costly custom-made doors, but these are *stock* doors by Fenestra, specially engineered for public buildings.

These new Fenestra® Hollow Metal Doors swing open smoothly, close quietly. You save year after year on maintenance because Fenestra Doors can't warp, swell, stick or splinter. They last a lifetime! And in addition to durability, you get the lowest installed cost because:

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

2. Erection is fast—one man with a screw driver can install a door in minutes.

3. You have a complete selection of door types ( $1\frac{3}{8}$ " and  $1\frac{3}{4}$ " ) of distinctive designs and features—all *mass produced*. Custom quality at *stock* door prices!

Ask your Fenestra representative (listed in the Yellow Pages) to help you in your selection and specification of doors, frames and hardware and to schedule fast delivery from stock. Or, write to Fenestra Incorporated, Dept. PA-6, 3409 Griffin St., Detroit 11, Michigan.



*Let the man from Fenestra be your "door man"*

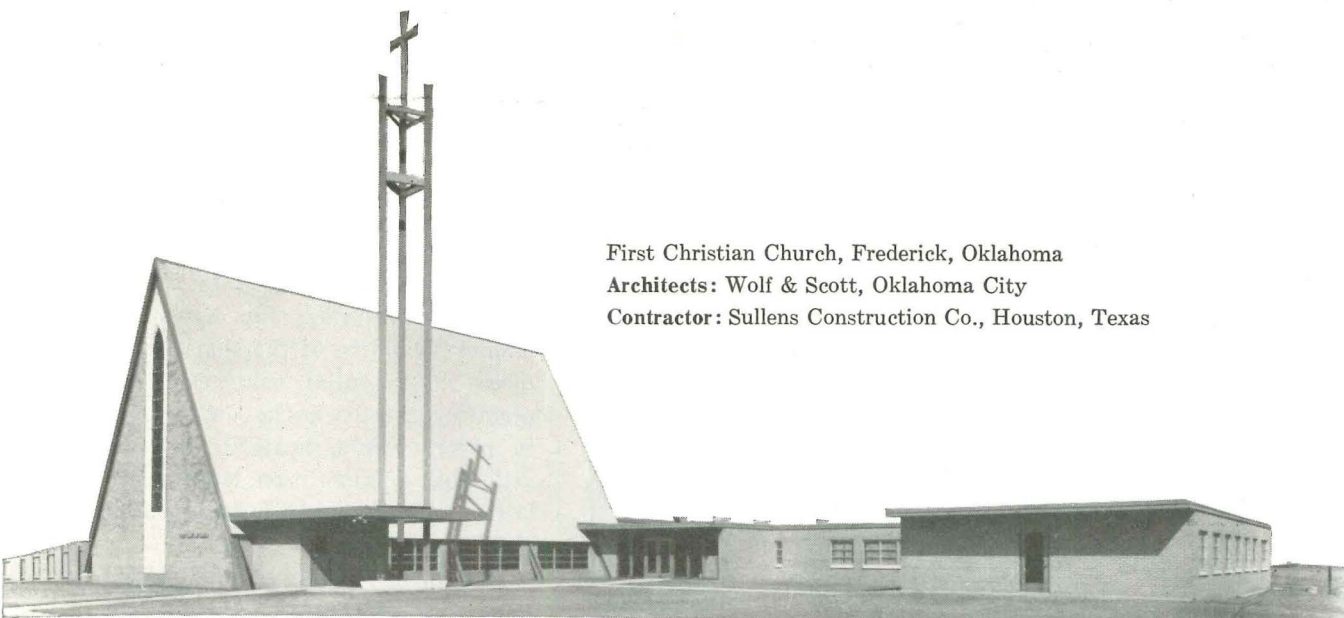
**Fenestra** HOLLOW METAL DOOR  
 FRAME • HARDWARE UNITS

YOUR SINGLE SOURCE OF SUPPLY FOR DOORS • WINDOWS • BUILDING PANELS • CURTAIN WALLS









First Christian Church, Frederick, Oklahoma

Architects: Wolf & Scott, Oklahoma City

Contractor: Sullens Construction Co., Houston, Texas

## CEILING DOES DOUBLE-DUTY TO STRETCH BUILDING DOLLARS

**it's a structural roof . . . it's an acoustical ceiling!**

Need aesthetic beauty and muted devotional atmosphere be sacrificed to a dollar sign? Must structural and enduring qualities be compromised for economical construction?

Not when you use Fenestra\* Acoustical "D" Building Panels to combine structural roof and finished interior ceiling in *one* compact, easy-to-handle package. They replace *five* different materials . . . are erected in *one* operation, by *one* trade.

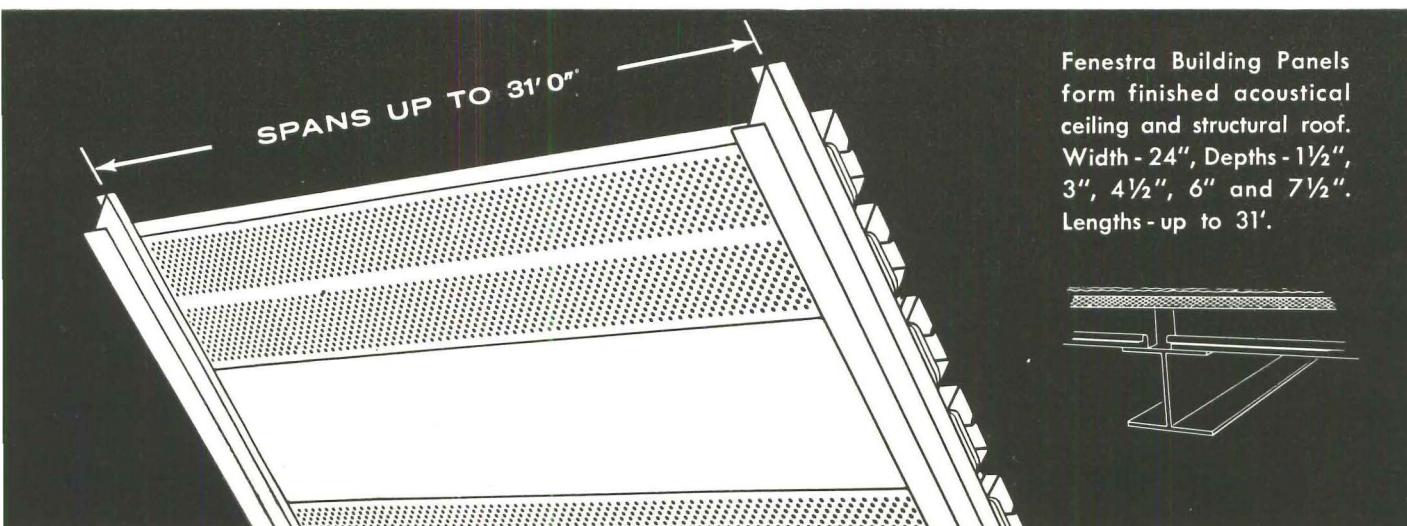
Under normal roof loads, these lightweight, high-strength, 24" wide steel panels span up to 31'. *Inside the panels*, just above the perforations, is a pre-formed, arched, sound-absorbing batt† which effects noise reduction coefficients up to 80%. The ceiling can be washed or painted without affecting acoustical qualities.

Get complete details. Write for FREE Fenestra Building Panel Catalog, or call your Fenestra representative. Fenestra Inc., Department PA-6, 3409 Griffin Street, Detroit 11, Michigan.

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INCORPORATED

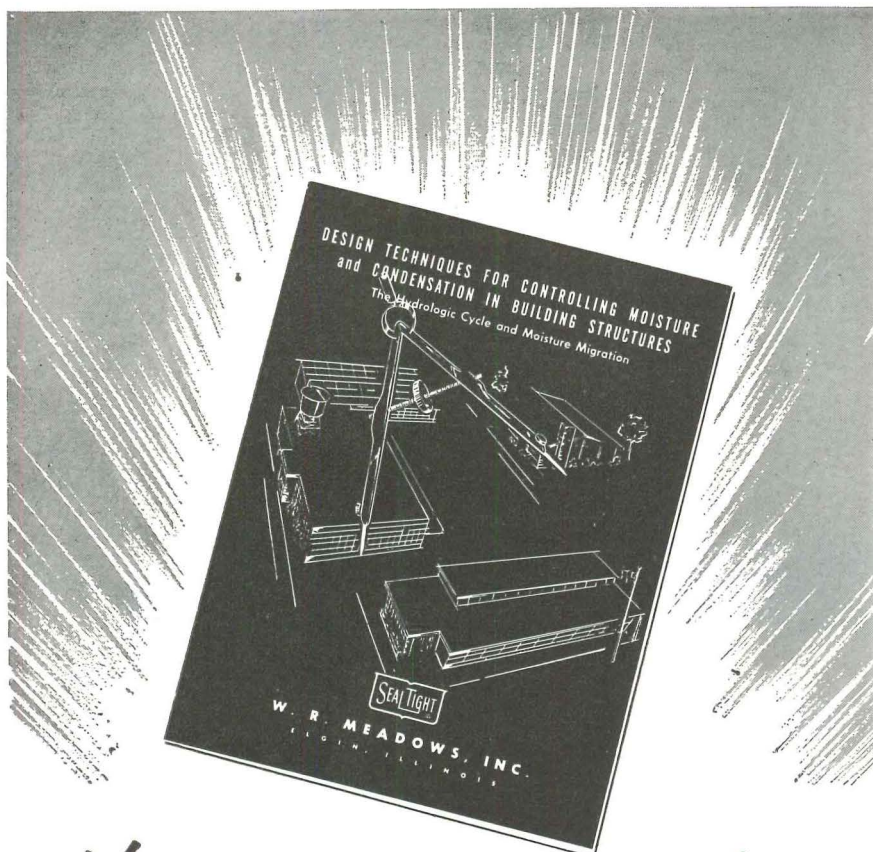
YOUR SINGLE SOURCE OF SUPPLY FOR  
BUILDING PANELS • CURTAIN WALLS  
DOORS • WINDOWS

\*Trademark  
†Patent Pending



Fenestra Building Panels form finished acoustical ceiling and structural roof. Width - 24", Depths - 1½", 3", 4½", 6" and 7½". Lengths - up to 31'.





*Now available free of charge*

## "DESIGN TECHNIQUES FOR CONTROLLING MOISTURE & CONDENSATION IN BUILDING STRUCTURES"

Modern developments in building construction, with trends toward a more monolithic structure, the increased use of insulating materials, and the use of glass and other impermeable materials in the shell area, have introduced new problems in the form of condensation and the uncontrolled migration of free water. Some of the more common types of damage resulting from condensation, are the blistering and peeling of paint, loosening of plaster, efflorescence of masonry, interior dirt patterns, mechanical destruction of structural elements, warping and rotting of floors and the incursion of termites.

Many past studies have treated vapor

problems symptomatically, attempting to deal with a manifest difficulty. Here is a technical manual, the first of its kind, explaining in the architect's and engineer's own language, moisture movement, condensation problems and modern control methods for moisture and vapor movements. The manual gives factual proof of the effectiveness of impermeable materials in restraining moisture migration.

This book, now available free of charge through the courtesy of W. R. Meadows, Inc., has been specifically prepared to assist architects and engineers in protecting structures from migration of water in its various forms. Write today for your copy.

## W. R. MEADOWS, Inc.

W. R. MEADOWS, INC., KIMBALL ST., ELGIN, ILLINOIS DEPT. 9  
Gentlemen,

☐ Please send, without obligation on my part, a copy of the "DESIGN TECHNIQUES" Manual.

NAME  FIRM

ADDRESS

CITY  STATE

## reviews

(Continued from page 218)

Thermodynamics is a subject that students traditionally call by another name, not at all flattering. Perhaps this new book will help to lift an undeserved stigma, for thermodynamics should be of the sharpest interest to potential engineers; and certainly those who go on to work in power plants, heating, air conditioning, refrigeration, even ventilation, live with thermodynamic problems every day.

Hutchinson looks at his subject from the standpoint of what the world gets out of it. This is theory translated into results. He sees heat and changes of state as energy, potential, controlled, on the loose. Energy may be expressed in British thermal units, kilowatts, horsepower, joules, calories—whatever term suits the occasion or the environment in which the energy exists. They are all names for the same thing.

Here is how Hutchinson has organized his presentation:

*Sources.* Energy is available to mankind through two sources, primary and secondary. The sun is our great primary source; it is an atomic fire, and the energy originating there ultimately performs useful work on earth by means of fuels, water, animal power, and wind. In direct impact, the earth receives more energy from the sun in 10 minutes than we produce by our use of natural resources in a full year.

*Storage.* All this energy that has been produced over the ages, and is still being produced, is either used immediately, or stored. This situation is expressed briefly by the statement long regarded as the first law of thermodynamics: "Energy is indestructible; hence the quantity of energy entering into any reaction must be exactly equal to the quantity to be accounted for on completion of the reaction."

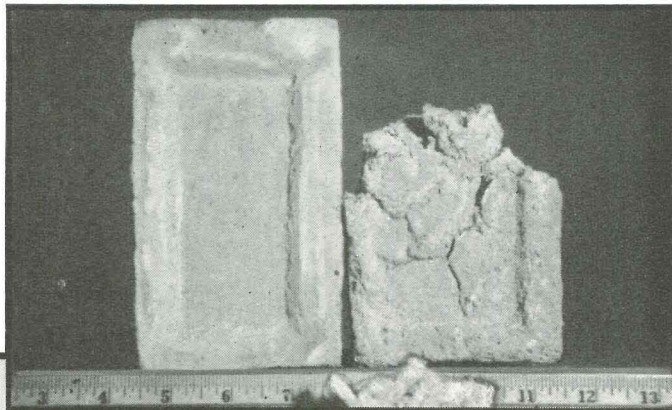
In application, this means that every pound of coal—for example—

(Continued on page 226)



# GUARD AGAINST ALL THIS . . .

Freeze-thaw  
damage

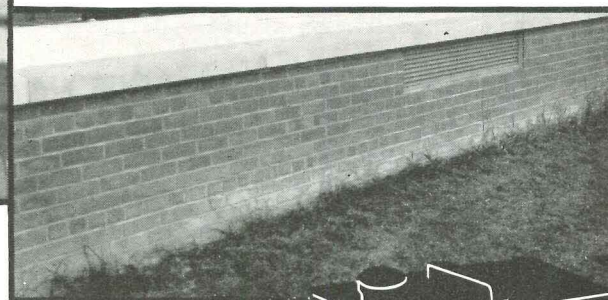


Peeling  
and flaking



Efflorescence

## with a masonry water repellent containing G-E SILICONES



Water-borne stains

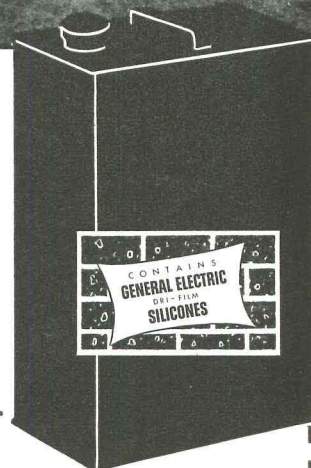
Masonry water repellents made with General Electric silicones penetrate *deep* into the capillary pores of masonry, forming an invisible water-repellent shield.

This silicone shield helps prevent surface salt deposits (efflorescence); retards chipping and cracking; minimizes water penetration and resulting freeze-thaw damage. It helps keep water *out*, yet permits masonry to breathe—thus protecting interior surfaces against peeling and flaking.

The cost? Surprisingly low when you compare it with the cost of many less effective materials. And this investment seems negligible when compared to costs of masonry repairs and interior decoration. Get the whole story by mailing the coupon below.

### LOOK FOR THIS LABEL!

General Electric does not make water repellents—it supplies silicones to formulators. This label is your assurance of a superior water repellent containing General Electric silicones.



Silicone Products Department, Section M3Q3  
General Electric Company, Waterford, N. Y.

Please send me the complete facts, including guide-form specifications for material and application, on masonry water repellents made with G-E silicones, together with a list of suppliers.

☐ For immediate application ☐ For reference only

Name \_\_\_\_\_ Position \_\_\_\_\_

Company \_\_\_\_\_

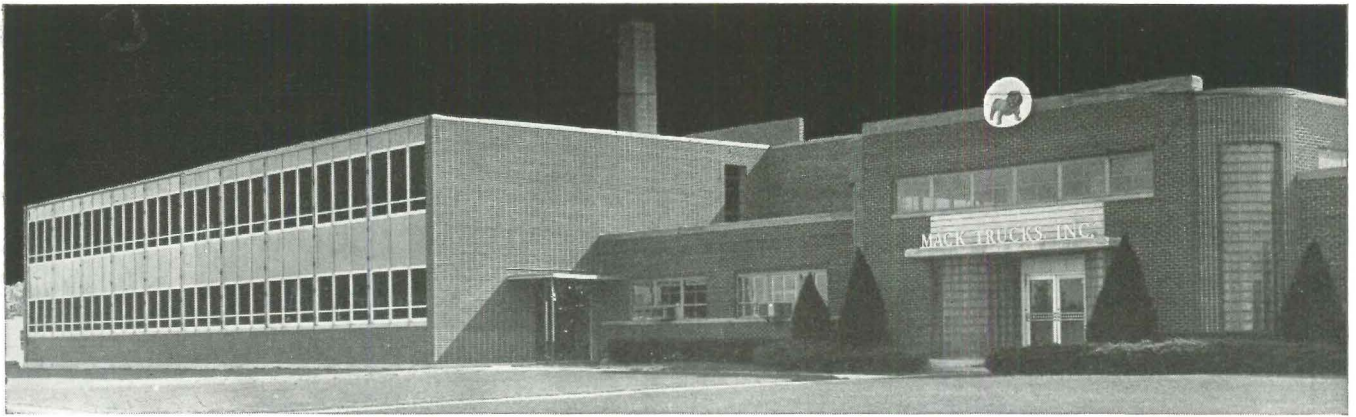
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In Canada, write to Canadian General Electric Company, Ltd., Toronto.





## 164,500 square foot addition to Mack Truck plant



**Steel Erection** — V-LOK is an exclusive Macomber interlocking framing system that requires no on-the-job bolting, riveting or welding.



**Under Roof** — V-LOK steel framing provides the ideal support for Macomber steel deck roofing. Workers were able to proceed with interior construction without delay.



**Completed Building** — Macomber V-LOK construction with V-LOK Girders and Purlins, provides large unobstructed bays for final truck assembly department.

## ...ALL **V-LOK** TRADE MARK REGISTERED CONSTRUCTION

The addition to the Mack Truck building in Sidney, Ohio, is another example of sound construction where Macomber V-LOK framing meant substantial savings in cost and time.

V-LOK framing was used exclusively on the new two-story engineering building with curtain wall construction and on other plant additions, totaling 164,500 square feet.

Contact your nearest Macomber representative or write us direct.



*V-LOK Design Manual is available.*

# MACOMBER

CANTON 1, OHIO



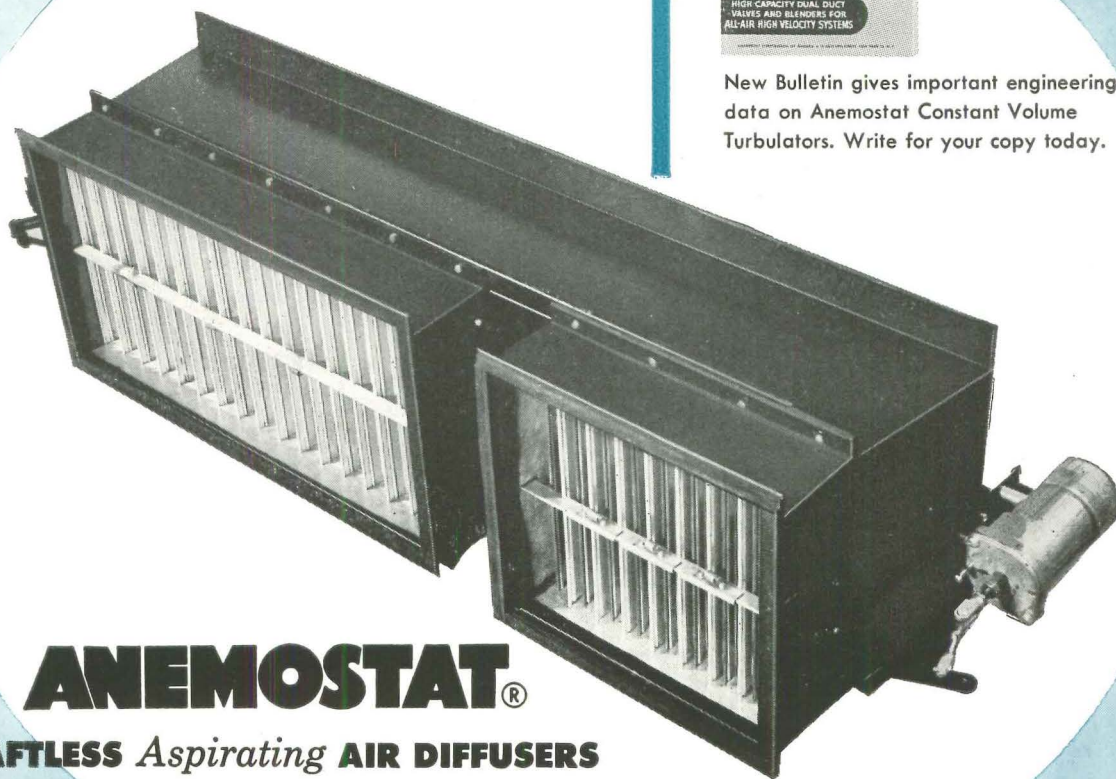
*Now*  
**ANEMOSTAT®**

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**Standardized  
Constant Volume**

# **TURBULATORS**

Anemostat Constant Volume Turbulators provide zoning up to 7000 CFM with one set of controls—save money by replacing coil reheat zone-control with all-air system.



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**ANEMOSTAT CORPORATION OF AMERICA**

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The Anemostat Constant Volume Turbulator is a standardized high capacity dual duct unit handling from 800 to 7000 CFM. It provides an economical solution to many air distribution problems in which a large volume of air at controlled volume or pressure, and temperature, is involved.

With the Anemostat system, all thermal functions—heating—cooling—ventilating—are accomplished with air. Coils and resultant coil lag are eliminated together with required piping. Pressure losses are low and so are noise levels. Quality-built Anemostat Turbulators function automatically. They are easy to install, simple to maintain.



New Bulletin gives important engineering data on Anemostat Constant Volume Turbulators. Write for your copy today.

AC1800



# modular masonry

Whitacre-Greer's Random Bond system makes modular masonry a practical reality. Its development was based on the construction industry's recognition of the need for dimensional flexibility in materials like ceramic tile, wood flooring and brick. In Random Bond, brick is considered a flexible material... is dimensioned within the 8" grid on a vertical basis only.\*

Our representative will be glad to visit your office or job site to demonstrate the practicality and economy of the Random Bond system at any time.



WHITACRE  
GREER

THE WHITACRE-GREER FIREPROOFING CO.  
Waynesburg, Ohio

\*from W-G's comprehensive "Random Bond Methods Manual" available free on request on your letterhead. Write for bulletin P-6.

## reviews

(Continued from page 222)

which goes into a furnace for burning, possesses a certain amount of stored energy. At the expiration of the burning, when the ashes are cold, some of that original energy exists in the ash, some has gone off to do useful work as heat in steam, and some is part of the vapors or clouds that people the wild blue yonder.

The energy stored in the coal is termed molecular energy, because the reaction changes the arrangement of the molecules in the end products. Two other major forms of energy storage are discussed—nuclear and mechanical. We all are aware of the awesome results possible when stored nuclear energy is released by atomic fission, but the mechanical energy that is stored in huge boulders high on a mountainside, can be equally cataclysmic to the village at the mountain's base, when this energy is turned loose by a landslide.

*Liberation.* Release of energy deals with the combustion of our various fuels. A hard concept for students to swallow is that the burning of a material destroys nothing, only changes its form. Here, another law of thermodynamics is helpful, since it explains what happens. This law states: "Mass is indestructible; the mass of materials entering into a reaction must be exactly equal to the mass of materials to be accounted for when the reaction has been completed."

All we need do is to remember that a pound of coal, when burned, is replaced by several ounces of ash, more ounces of various gases, a weight of water vapor; and all of these ounces, when added together, weigh exactly one pound. We have destroyed not a single ounce of mass; they are all there in one form or another.

*Transition.* This is Hutchinson's fourth step in the journey of energy, from its source to its ultimate objective of useful work. Energy in heat, as in a pound of steam for ex-

(Continued on page 230)





## NEPCODUCT

... THE UNDERFLOOR  
RACEWAY FOR ELECTRICAL  
FLEXIBILITY

# Anticipate electrical expansion ... Cut the cost of future changes now with NEPCODUCT

The time to plan for future alterations and expansion of electrical distribution is now—before the floors are in.

The system that assures these changes can be made conveniently and economically is Nepcoduct—the steel underfloor raceway that makes outlets available at the floor surface wherever and whenever the owner needs them.

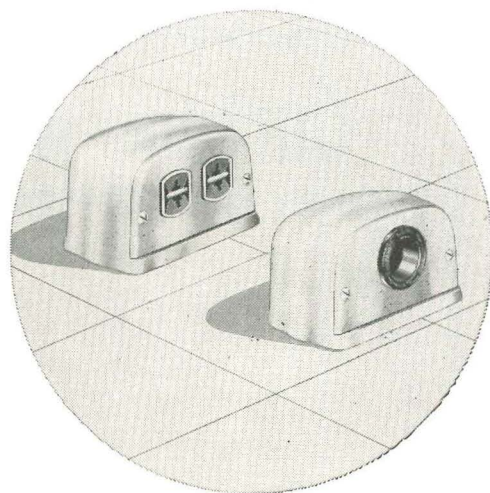
With Nepcoduct, future changes in electrical distribution can be made without routing concrete or cutting building structure—without interrupting business operations.

By specifying Nepcoduct, you assure quick, low cost installation in any type floor construction. Nepcoduct can be

used as a single, double or triple duct system to provide separate wiring facilities for light and power, inter-communication and telephone. To cut maintenance costs, electrical service is made easily accessible in one junction box through a common hand-hole opening.

To add to Nepcoduct convenience and economy, National Electric offers new service fittings that cut installation time with a simplified one-piece housing. Fittings are especially designed for distribution where modern desks and free-standing equipment restrict the height of service fittings.

Write today for information on Nepcoduct Electrical Raceway Systems.



*Listed by Underwriters' Laboratories, Inc.*

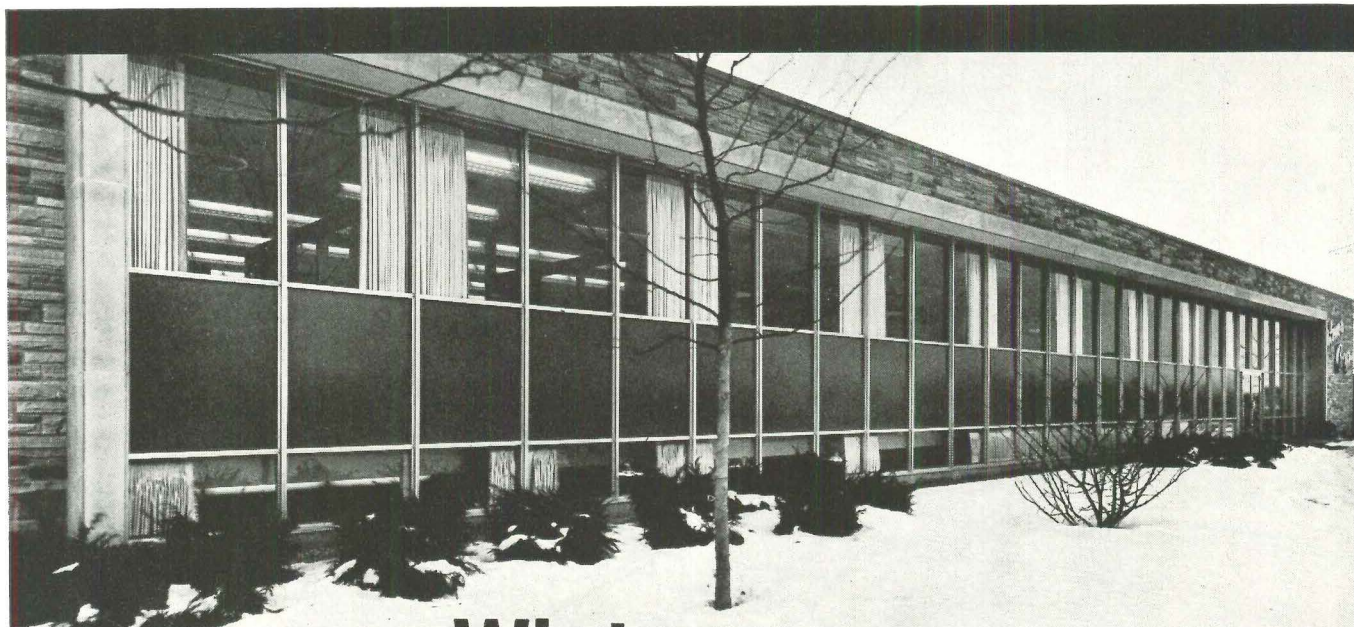
## National Electric Products

PITTSBURGH, PA.

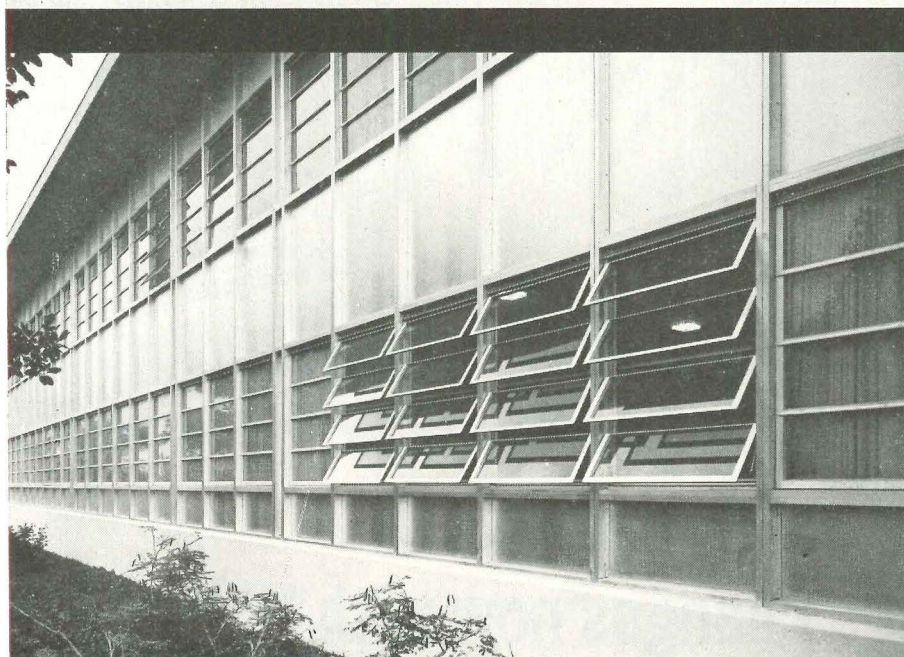
4 Plants • 12 Warehouses • 41 Sales Offices







Winter snows...



...or  
tropic  
heat?

WEATHERTIGHT

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ARE CUSTOM-DESIGNED TO MEET YOUR SPECIAL NEEDS

Weathertightness, simplified installation, and flexibility of application are key features of Ware curtain walls. Our experienced engineering department is ready to help you meet the most challenging requirements. Why not write for our New curtain wall Brochure, today? Address Dept. PA-6.



*Aluminum* **WARE** *Windows*

Ware Laboratories, Inc., 3700 N.W. 25th St., Miami, Florida



*Desirable*

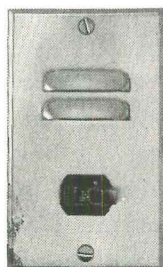
wherever  
Quiet or Light  
is *desirable*

New **ARROW** **AH** **HART**

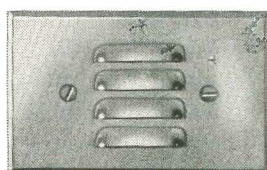
## *Quiet* **TAP ACTION SWITCHES and LOUVRE-PILOT LIGHT COMBINATIONS**



**No. 2891-I**  
Quiet Tap  
Action Switch



**No. 6416**  
Louvre Combination  
with Quiet Switch  
and Pilot Light



**No. 6413**  
horizontal Louvre  
Combination with  
Pilot Light

For any location requiring both light and quiet. A touch of fingertip, hand or elbow on button turns incandescent or fluorescent lights and appliances on or off. Costs no more than toggle-type switches. Lifetime service. In attractive brown or ivory. *Fits any standard toggle wall plate.* H&H Specification Grade. 15 and 20 amps., 120-277 volts, ac only.

For subdued illumination that will bring peace of mind by lighting the way to safety wherever darkness is dangerous. Each combination supplied with own switch or controlled from wall switch. Fits any standard wall box . . . ideal for re-modernizing. Line includes models available with attractive brush brass, stainless steel, brown or ivory plates, brown or ivory handles.

Write for free H&H Specification Grade, Architect's Specification Index to The Arrow-Hart & Hegeman Electric Company, Dept. PA, 103 Hawthorn Street, Hartford 6, Connecticut.

**ARROW** **AH** **HART**  
*Quality since 1890*

WIRING DEVICES • MOTOR CONTROLS • ENCLOSED SWITCHES • APPLIANCE SWITCHES



# SERVICISED SPECIAL PURPOSE PREMOLDED JOINT FILLERS

Here are three widely used special purpose joint fillers—each with specific advantages and characteristics which permit it to provide optimum performance and utility. Complete data and specifications on each type are available upon request.



## ---Sponge Rubber CEMENTONE®---

High quality blown sponge rubber, uniform in thickness and density. Neutral gray color blends well with concrete.

**advantages**

1. Blends with the color of concrete
2. Fully resilient

3. Non-extruding, with high recovery after compression.

*recommended uses...* For use in concrete structures where utmost resilience, non-extrusion and/or inconspicuous joints are desired. Ideal for use in tilt-up and bridge construction.

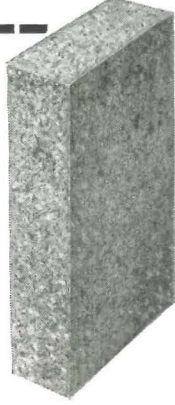
## ---SELF-EXPANDING CORK---

Similar in composition to Cork Joint, but is specially treated to enable it to expand as much as 50% beyond original thickness.

**advantages**

1. Fully compressible
2. Non-extruding
3. Will keep joint spaces filled under conditions which open joint to more than original size.

*recommended uses...*  
For use in canal linings and structures, outlet works, spillways, stilling basins of dams, sewage disposal plants and water filtration plants.



## ---CORK---


Composed of granulated cork and synthetic resin binder molded under heat and pressure to form a flexible, waterproof filler.

**advantages**

1. Light in color
2. Compresses without extrusion
3. Recovers approximately 95% of original thickness after compression.

*recommended uses...* Extensively used in flood walls, outlet works and spillways, sewage and water treatment plants, bridge construction.

Want more details on Servicised Joint Fillers? Write for new manual—"The Design and Use of Joints in Concrete Structures."





## SERVICISED PRODUCTS

CORPORATION

6051 WEST 65th STREET • CHICAGO 38, ILLINOIS

## reviews

(Continued from page 226)

ample, is considered to be energy in transition, since it represents an intermediate stage between the stored energy of the fuel and performance of useful work in a turbine or engine.

This is the area in which the heating and air-conditioning engineer pursues most of his activities. Heat transfer by conductance, convection, and radiation are given the full treatment. Heat sources and heat sinks—of special interest to heat pump people—are shown to be banks for energy which we can put in or take out, as needed.

*Transformation of Energy.* The fifth step in energy's progress also transforms the performance of energy into workable equations. Since an equation is simply a balance, a fundamental energy equation could be written as:

Energy in = Work out + energy  
leaks, losses, and unused.

Thermal efficiency naturally is discussed in this section. It is the summation of the leaks, losses, and unused energy that are not transformed into work.

*Energy Transportation.* This deals with the substances in which energy finds temporary storage, steam, water, mercury, liquid sodium, the chemical refrigerants, and so on. The characteristics of these substances, which Hutchinson aptly terms "energy wheelbarrows," are set forth in some detail, in tables and charts.

Particularly thorough treatment is given to the liquid-vapor and liquid-gas combinations, since these are employed in our most common procedures for harvesting useful work from stored energy. For example, water into steam in a boiler, then the performance of work in a turbine-generator, followed by steam into water again, in the condenser. For the most efficient operation of this cycle, and similar cycles, we must know all we can about the various

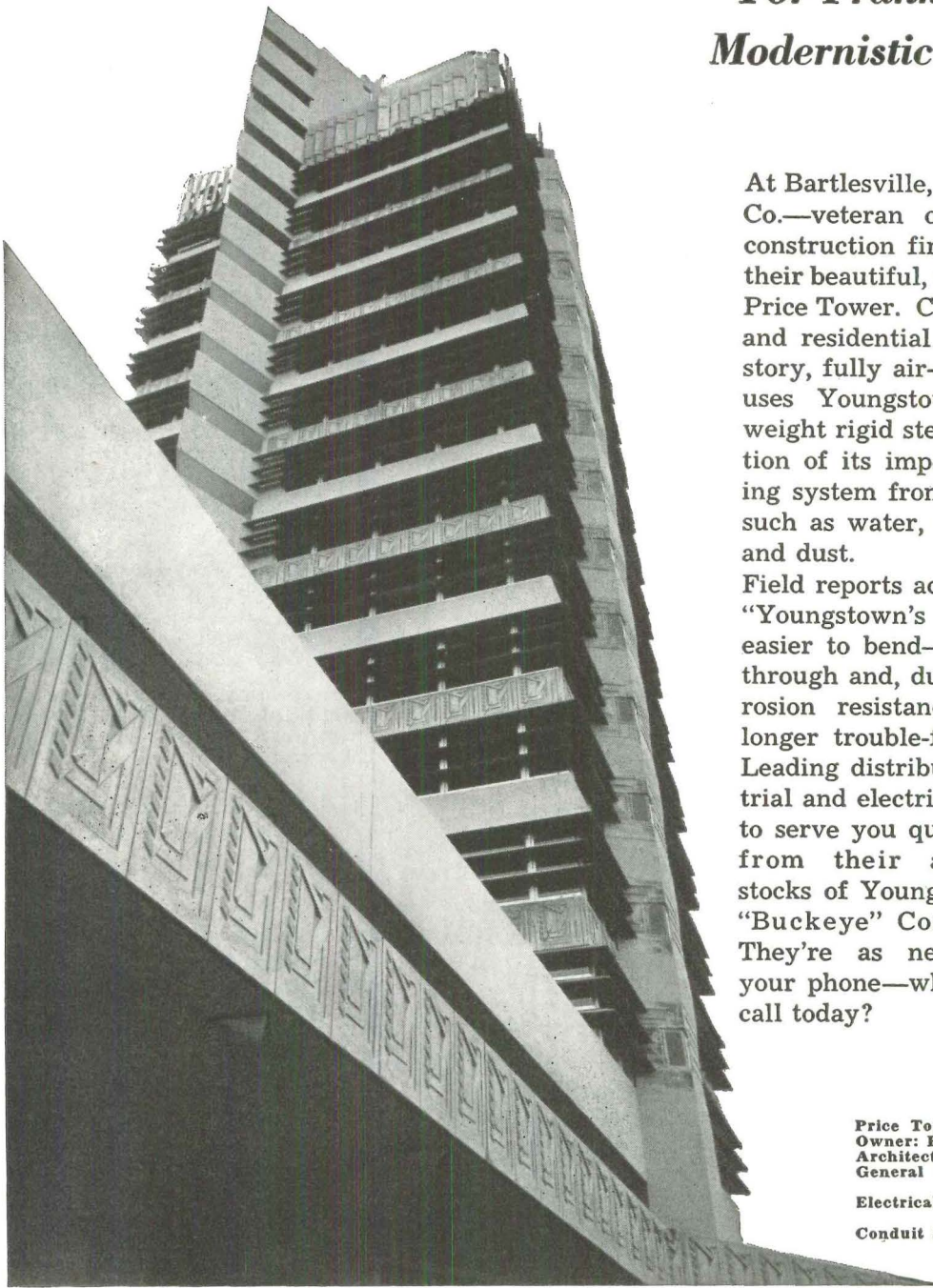
(Continued on page 232)



# YOUNGSTOWN "BUCKEYE" CONDUIT

*... Provides Lifetime Wiring Protection*

*For Frank Lloyd Wright's  
Modernistic Price Tower*



At Bartlesville, Okla., the H. C. Price Co.—veteran oil and gas pipeline construction firm—recently opened their beautiful, new cantilever-design Price Tower. Containing both offices and residential apartments, this 19-story, fully air-conditioned structure uses Youngstown "Buckeye" full-weight rigid steel conduit for protection of its important electrical wiring system from damaging elements such as water, moisture, vapor, dirt and dust.

Field reports across-the-nation state: "Youngstown's 'Buckeye' Conduit is easier to bend—easier to fish wires through and, due to its superior corrosion resistance, affords a much longer trouble-free service life."

Leading distributors in every industrial and electrical market are ready to serve you quickly and efficiently from their ample stocks of Youngstown "Buckeye" Conduit. They're as near as your phone—why not call today?



Price Tower, Bartlesville, Okla.  
Owner: H. C. Price Co.  
Architect: Frank Lloyd Wright  
General Contractor: Culwell Construction Co.,  
Oklahoma City, Okla.  
Electrical Contractor: Industrial Electric Co.,  
Oklahoma City, Okla.  
Conduit Supplier: Westinghouse Electric Supply  
Co., Oklahoma City, Okla.



Standard-threaded rigid steel conduit is the only wiring system approved today by the National Electrical Code as moisture-, vapor-, dust- and explosion-proof for use in hazardous locations and occupancies.

## THE YOUNGSTOWN SHEET AND TUBE COMPANY

*Manufacturers of Carbon, Alloy and Yaloy Steel*

General Offices - Youngstown 1, Ohio  
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## lasting protection



St. Paul's School, Seattle, Washington. Architects: Roger Gotteland & Associates, Seattle. Cabot's Clear Cement Waterproofing used.

for exterior walls  
above grade

## Cabot's CLEAR WATERPROOFINGS

### Cabot's Clear Brick Waterproofing

*For dark-colored Bricks and  
Masonry*

- fills pores, seals surface
- prevents efflorescence
- will not discolor red brick or dark stone
- protects against moisture for 20 years or more

### Cabot's Clear Cement Silicone Waterproofing

*For Cement, light-colored  
Bricks and Masonry*

- fills and seals all voids and pores
- offers protection for 20 years or more
- no darkening — no staining

Quality products from Cabot Laboratories  
...manufacturing chemists since 1877

*Samuel Cabot*

#### SAMUEL CABOT INC.

628 Oliver Bldg., Boston 9, Mass.

Please send catalog of Cabot's Waterproofings

## reviews

(Continued from page 230)

forms of the "wheelbarrow," how it acts in its liquid, vapor, and gaseous states.

*Utilization of Energy.* This is the seventh and final step in energy's path to accomplishment, as set forth by Hutchinson. All that has gone before is preparation in understanding for this applied section of the book. The steam turbine, the gas turbine, the Diesel engine, the compressor and condenser in the home refrigerator and deep-freeze, all are examples of the practical utilization of energy—energy that originally came from the atomic reactions of the sun countless ages ago, and was stored in the earth in coal, oil, and gas.

How well we utilize this energy can be measured by the applicable standards of efficiency, the Rankine cycle, the Diesel cycle (which is a variation of the Otto cycle), Sadi Carnot's theories—the laws that govern flow through pipes and nozzles.

The journey is now complete, from energy source to application. It has been an interesting journey for this reviewer, the kind that never will become stale or boring, so long as engineers walk the earth and devote themselves to improving the lot of mankind.

This book is recommended to all engineers who can enjoy and find profit in the occasional looking back over the way they have come. It is recommended to all architects who would like to have knowledge of why the machinery in their creations works as it does. It is recommended to students who have had, or will have, some difficulty in visualizing the abstractions of the subject; they will find it brings light into their dark places.

*Thermodynamics of Heat-Power Systems* has been well done, technically and readably, a notable achievement.

ROBERT H. EMERICK  
Consulting Mechanical Engineer  
North Charleston, S. C.

## Will "or equal" specifications add to your reputation?

You spend countless hours creating fresh, functional designs and carefully detailed plans. But what happens when your specifications are written? Are some items specified by habit, merely as "Whatzit, or equal"? When you do this, can you be sure that the contractor's idea of "or equal" will satisfy your client or do your reputation any good?



Caldwell HELIX sash balances were specified and used throughout the new TOLEDO HOSPITAL at Toledo, Ohio. ELLERBE & CO., Architects.

You know, just as we do, that all spiral sash balances are not the same. And, we sincerely believe that if you will take time to compare, you will be convinced that there is no complete equal to the Caldwell SPIREX and heavy-duty HELIX. Why not review the advantages of SPIREX and HELIX before writing your next window specifications.



Our representatives are always ready to give you a demonstration—and to help you with specific problems, too. See our catalog in Sweets (File No. 18a/Ca) or write to:

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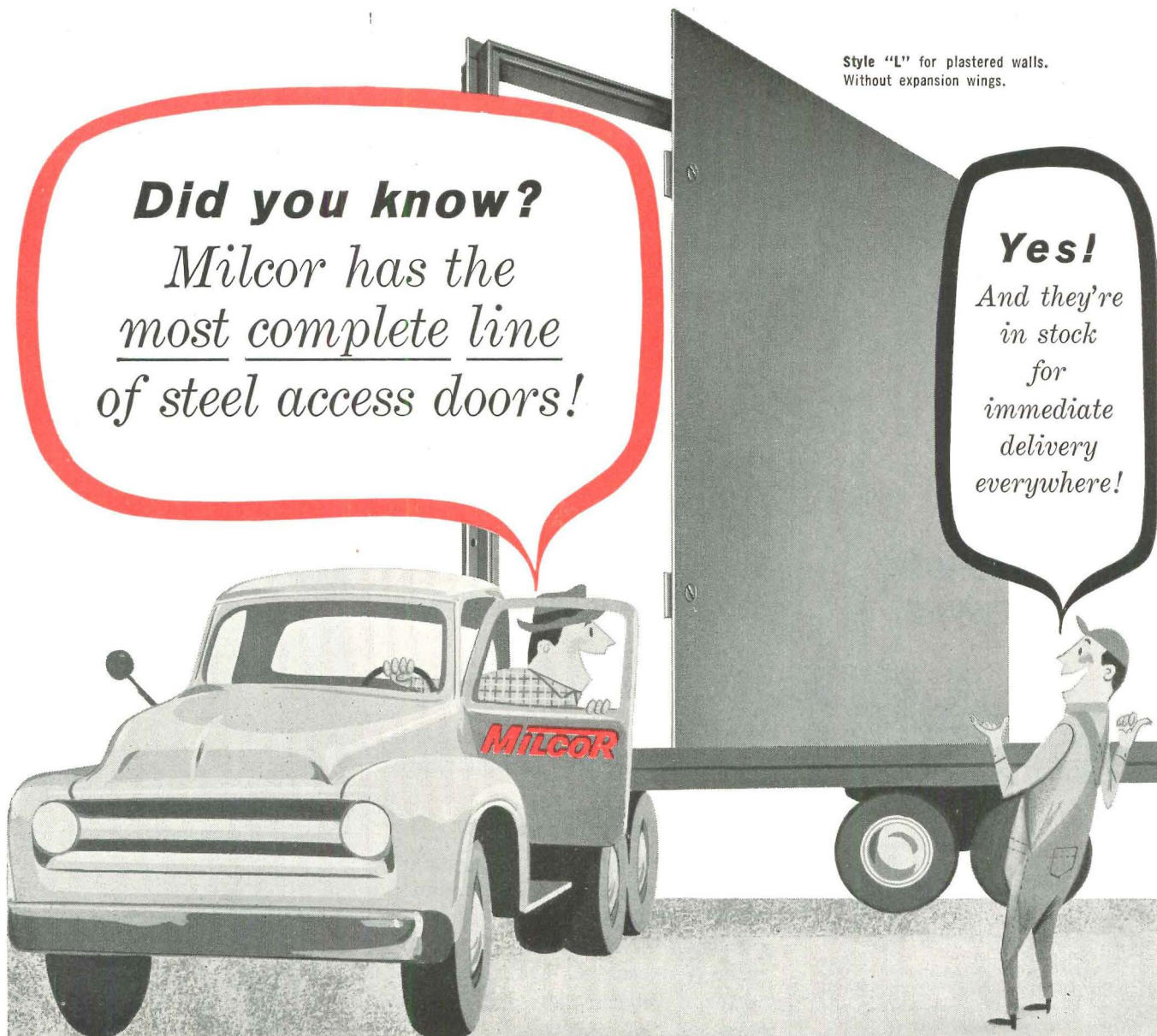
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*Milcor has the  
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 of steel access doors!*

Style "L" for plastered walls.  
 Without expansion wings.

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*And they're  
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 everywhere!*

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1. **Wide selection** of standard and special doors.
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4. **Flush installation** contributes to clean, modern design.
5. **Economy** — they cost no more than ordinary doors.

See the Milcor Catalog in Sweet's—Section 12a /In—  
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**NEW — Style "A"** for acoustical  
 tile up to one inch thick.



**Style "M"** for masonry, brick,  
 stone, tile, etc.



**Style "K"** for plastered walls.  
 With expansion wings.

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## notices

### new addresses

JOHNSON & WHITCOMB, Architects, 22 Palmer St., Cambridge, Mass.

GLACE & GLACE, INC., Consulting Engineers, 2771 Paxton St., Harrisburg, Pa.

J. THOMAS CAMLET, Architect-Engineer, 32 Outwater Lane, Garfield, N. J.

W. H. LEE, Architect, Room 934, 6 Penn Center Plaza, Philadelphia 3, Pa.

JACK A. EDSON, Architect, 44 N. Front, Medford, Ore.

ALTON L. CRAFT, Architect, 7 E. 47 St., New York 17, N. Y.

MALLALIEU & ROSS, Architects, 1149 Lincoln Way E., Massillon, Ohio.

MANSON CARVER ASSOCIATES, Architects, 520 Cherry St., Lansing, Mich.

### p/a congratulates . . .

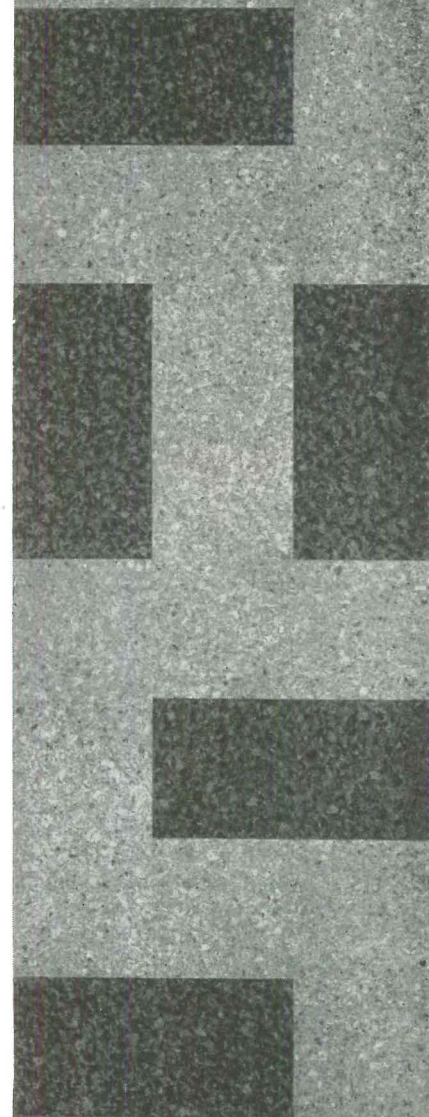
JOHN P. JANSSON, new Manager of Architectural Sales for Aluminum Division, OLIN MATHIESON CHEMICAL CORPORATION, New York, N.Y., announces GEORGE A. WATERMAN, Director of Product Sales and Engineering for the division.

FREDERICK J. CLOSE, new General Manager, Sales Development and Commercial Research Divisions, ALUMINUM COMPANY OF AMERICA, Pittsburgh, Pa.

JOHN CROUSE, new General Sales Manager to supervise regional and district managers; and L. W. HOWARD, new General Manager of Advertising and Sales Promotion for WHIRLPOOL CORPORATION, St. Joseph, Mich.

THE BALDUS COMPANY, INC., Fort Wayne, Ind., named Azrock Distributor, announces GEORGE H. BALDUS, President, and J. O. HEPPEL, Vice-President and General Manager, AZROCK PRODUCTS DIVISION, UVALDE ROCK ASPHALT COMPANY, San Antonio, Tex.

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Dodge specializes in genuine cork tile—in regular and exclusive specialty patterns: Pioneer Plank, Parquetry, Dalmatian and Vinylwood. Send for catalog or see it in Sweet's Architectural File, 13i/Do.

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CORK TILE





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*Designed for Specific Requirements*



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*When you specify . . .*

*write specifications that keep out failure . . .*

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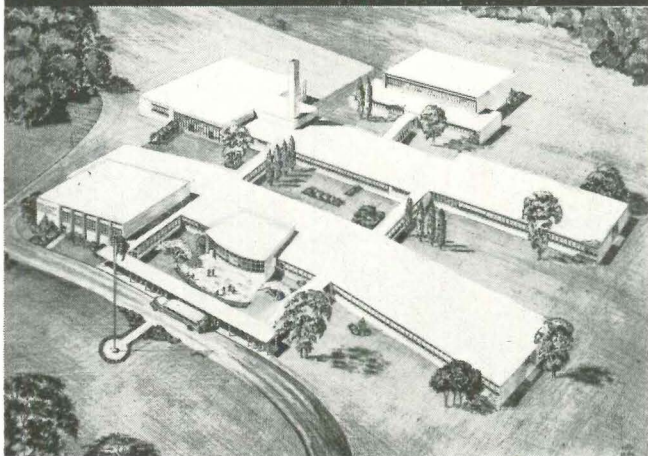
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# How Zonolite Provides 7 ROOF DECK BENEFITS

*for Prominent Architectural Firm*



West Morris Regional H. S., Morris County, N. J., one of fourteen prominent schools recently designed by Micklewright & Mountford, Architects & Engineers, Trenton, N. J. and Morrisville, Pa. Zonolite concrete roof decks used in all these schools.

## Expect These Cost-Cutting Benefits with **ZONOLITE®** Vermiculite Concrete Roof Decks

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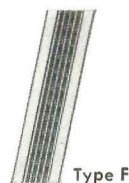
Mail for booklet giving various design data, section drawings, ratings, etc.

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STRIPLINE combines the best features of both slots and efficient air diffusers to provide equalized air flow throughout its entire length.

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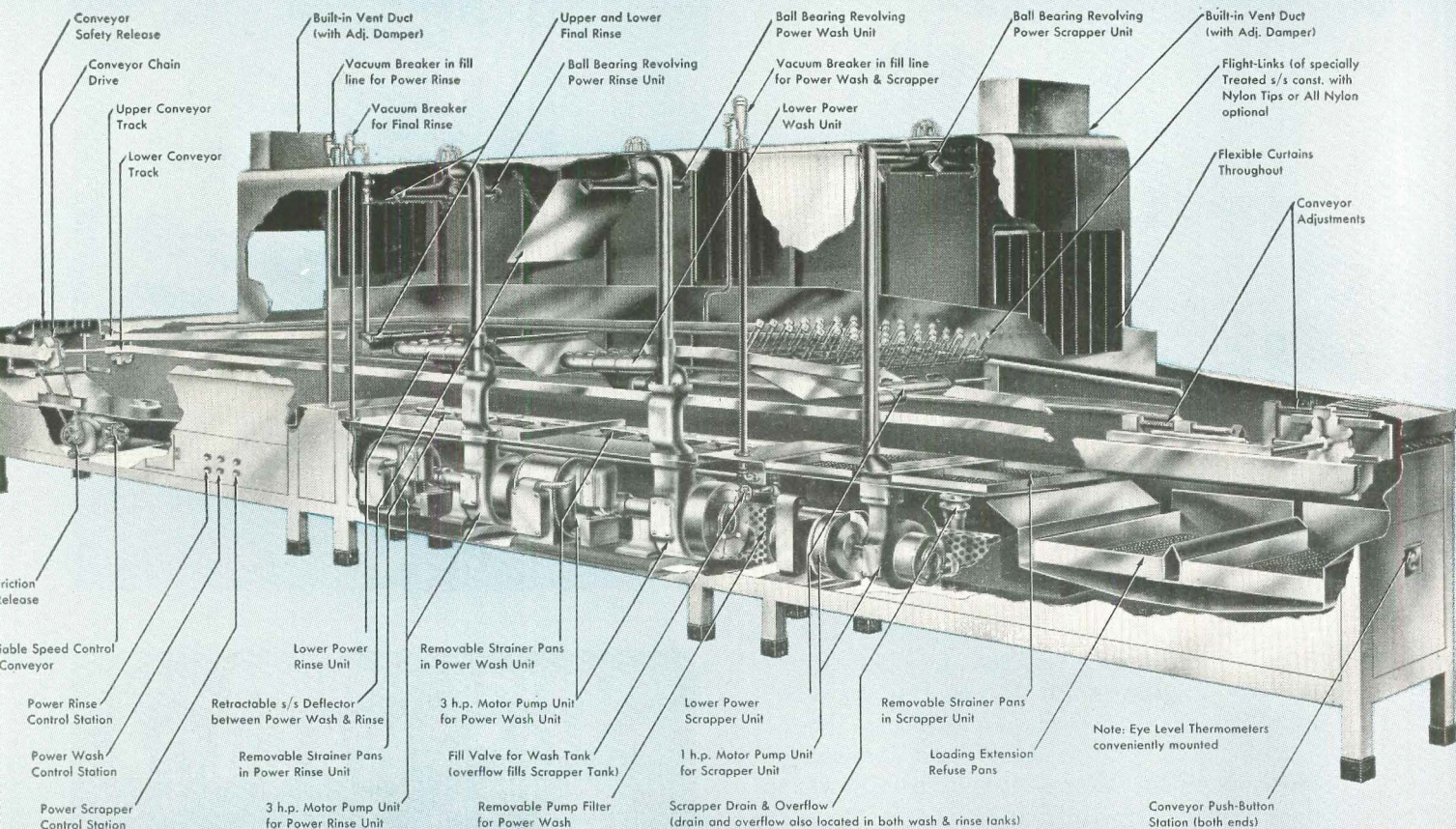
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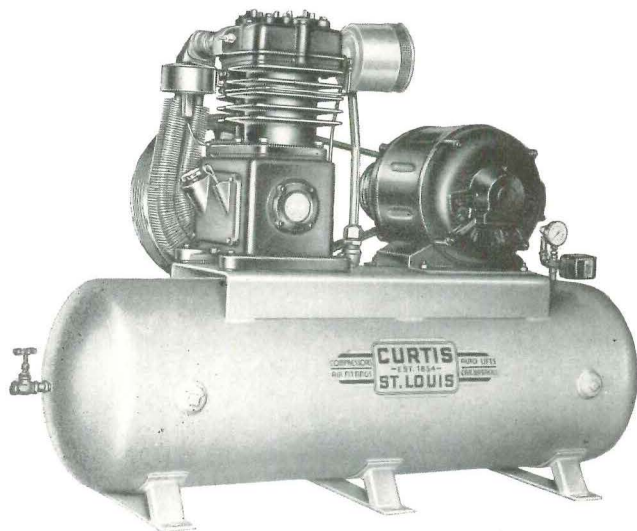
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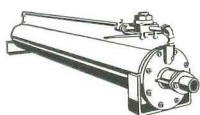
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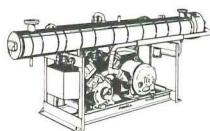
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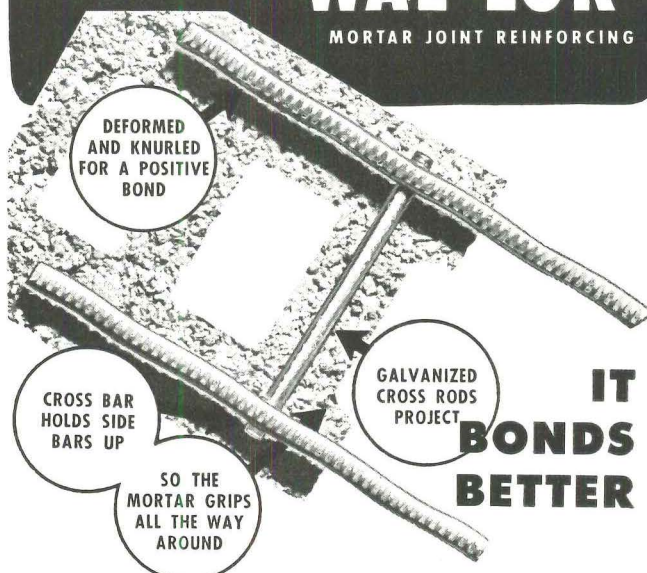
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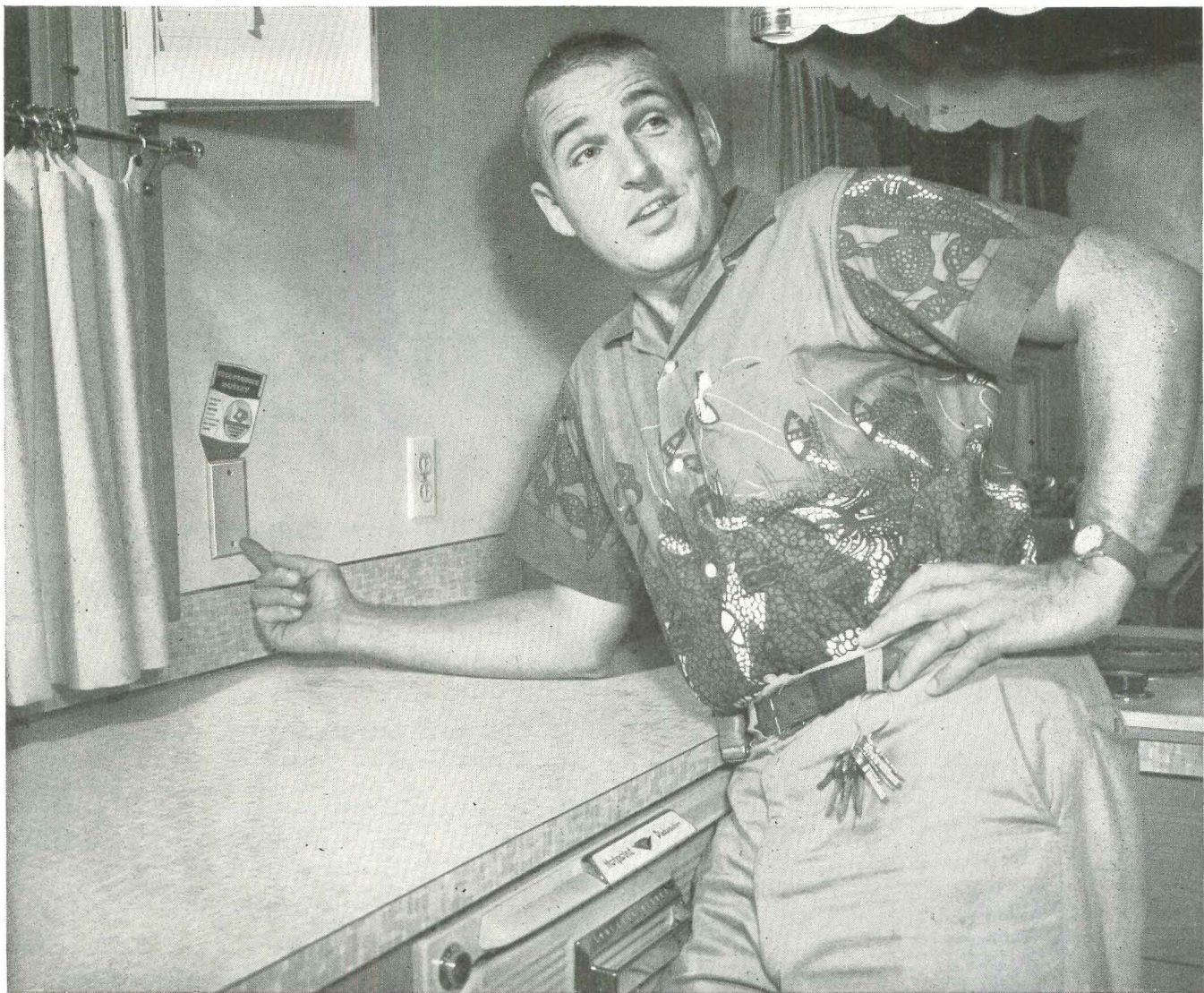


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Mr. Billman points to the kitchen telephone outlet in one of his new Wilshire Park homes in Minneapolis.

## **“Concealed telephone wiring tells people that your homes are better planned”**

— says Rodney W. Billman, Builder, of Minneapolis, Minnesota

“Not only are prospects looking for the big things about your house,” says Mr. Billman, “the layout of the rooms, the way it faces the street, but they’re looking for little things, too.

“Now, concealed telephone wiring is a little thing, perhaps. But if a prospect turns your house down because it doesn’t have a desirable, modern feature like concealed telephone wiring — well, a little thing suddenly becomes a big thing. Big enough to lose a sale.

“Concealed telephone wiring means convenience. And neat, attractive installations. It tells people that your homes are better planned. We put it in every house we build, and our salesmen show the outlets to every prospect.”

\* \* \*

Your local Bell Telephone business office will be glad to help you with concealed wiring plans. For details on home telephone wiring, see Sweet’s Light Construction File, 8i/Be. For commercial installations, Sweet’s Architectural File, 32a/Be.

**BELL TELEPHONE SYSTEM**





This photograph of a mock-up explains the principle of Gotham's new

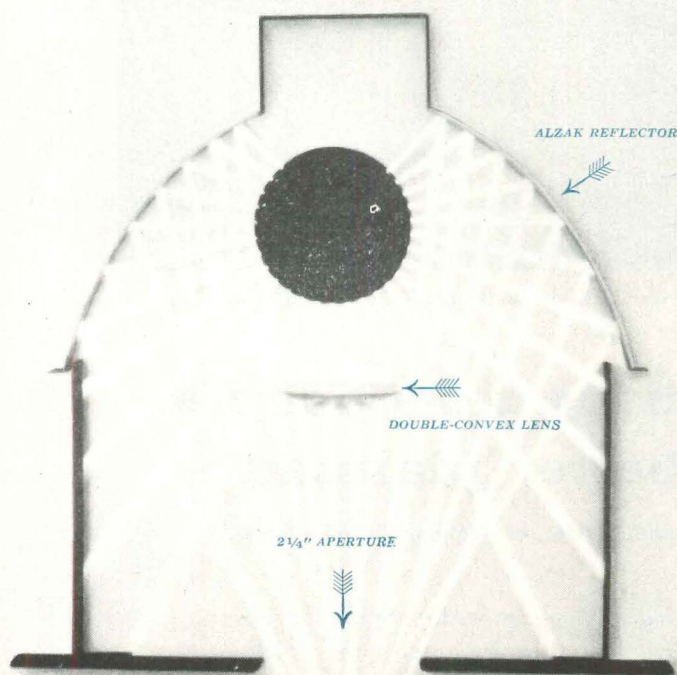
841/851 Recessed Pin-hole Downlites.\*

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resulting in a wide-angled cone of illumination, uniformly distributed.

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Here a world-acclaimed master of the medium shows you his own special ways of solving the problems of watercolor. He starts with the necessary tools, explains the use of suitable papers, the use of tape, sponges, and other accessories, and guides you through the effective uses of washes and strokes. He presents valuable step-by-step examples throughout the book with 24 full-color plates plus many black and white studies. 120 pages 9 x 12 125 illustrations \$10.00

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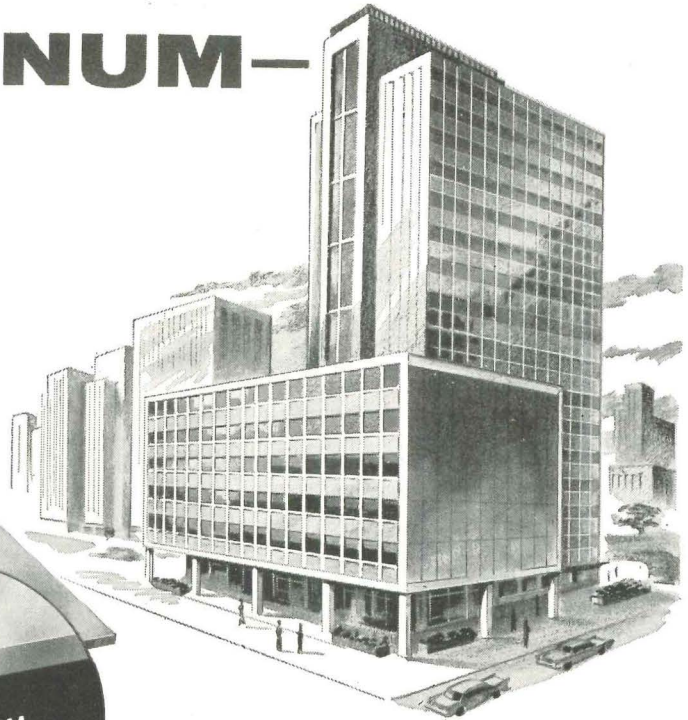
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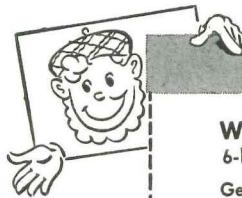


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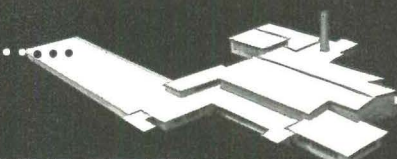
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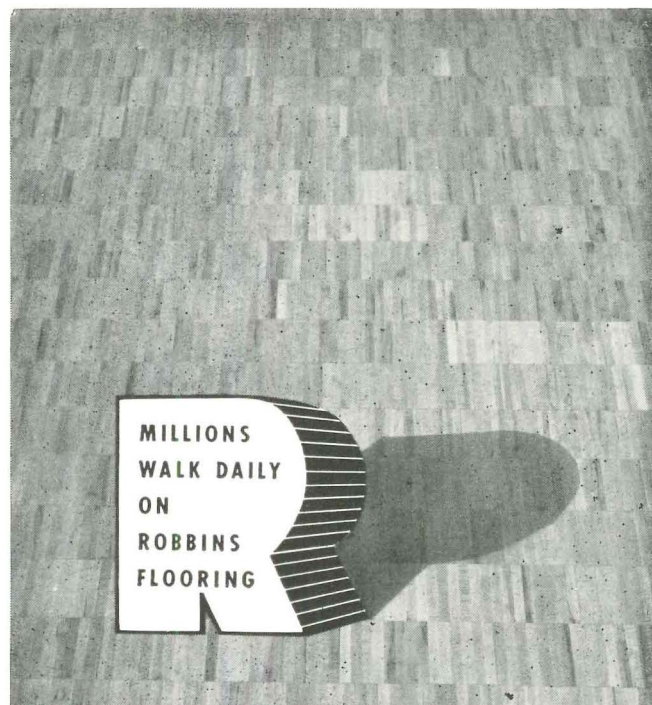
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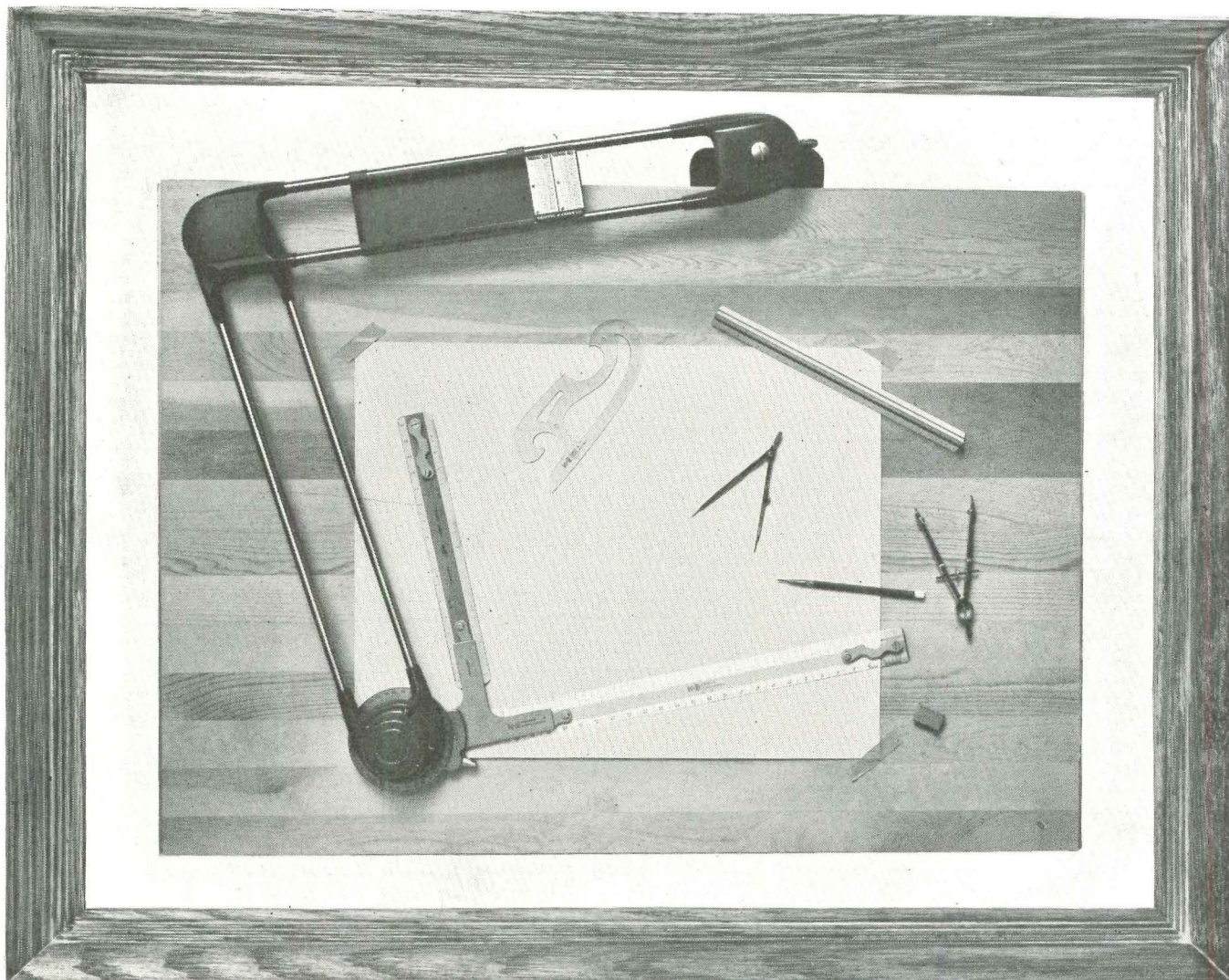
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(Continued from page 242)

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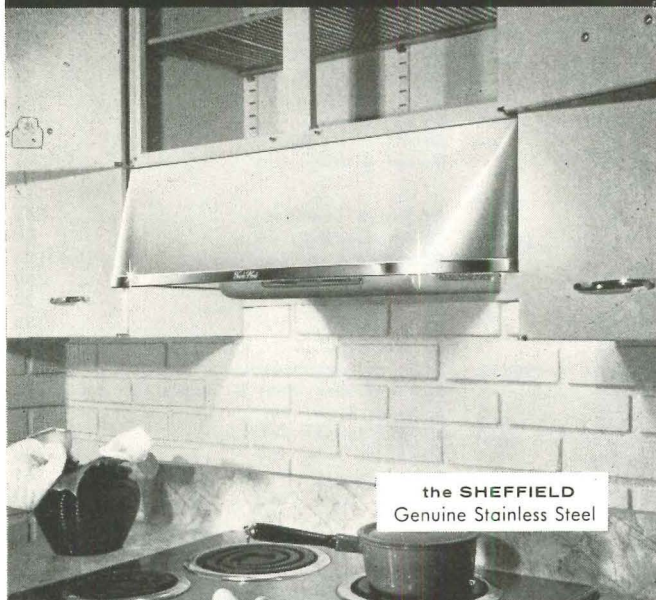
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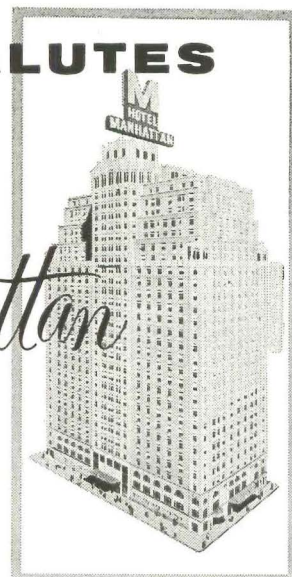
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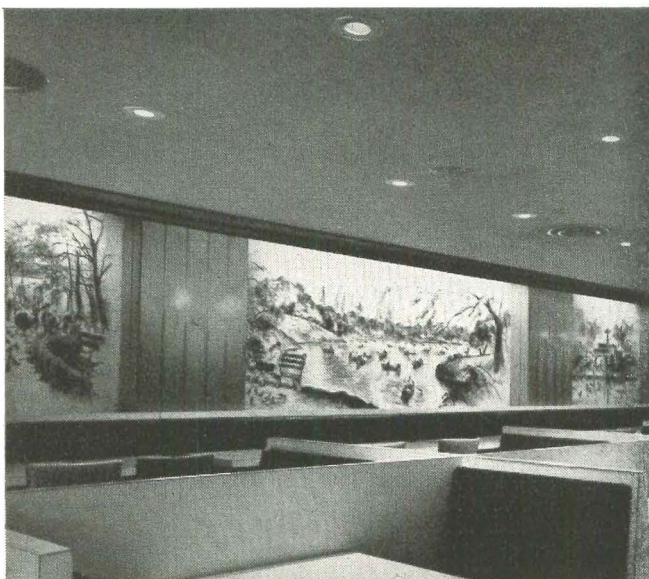
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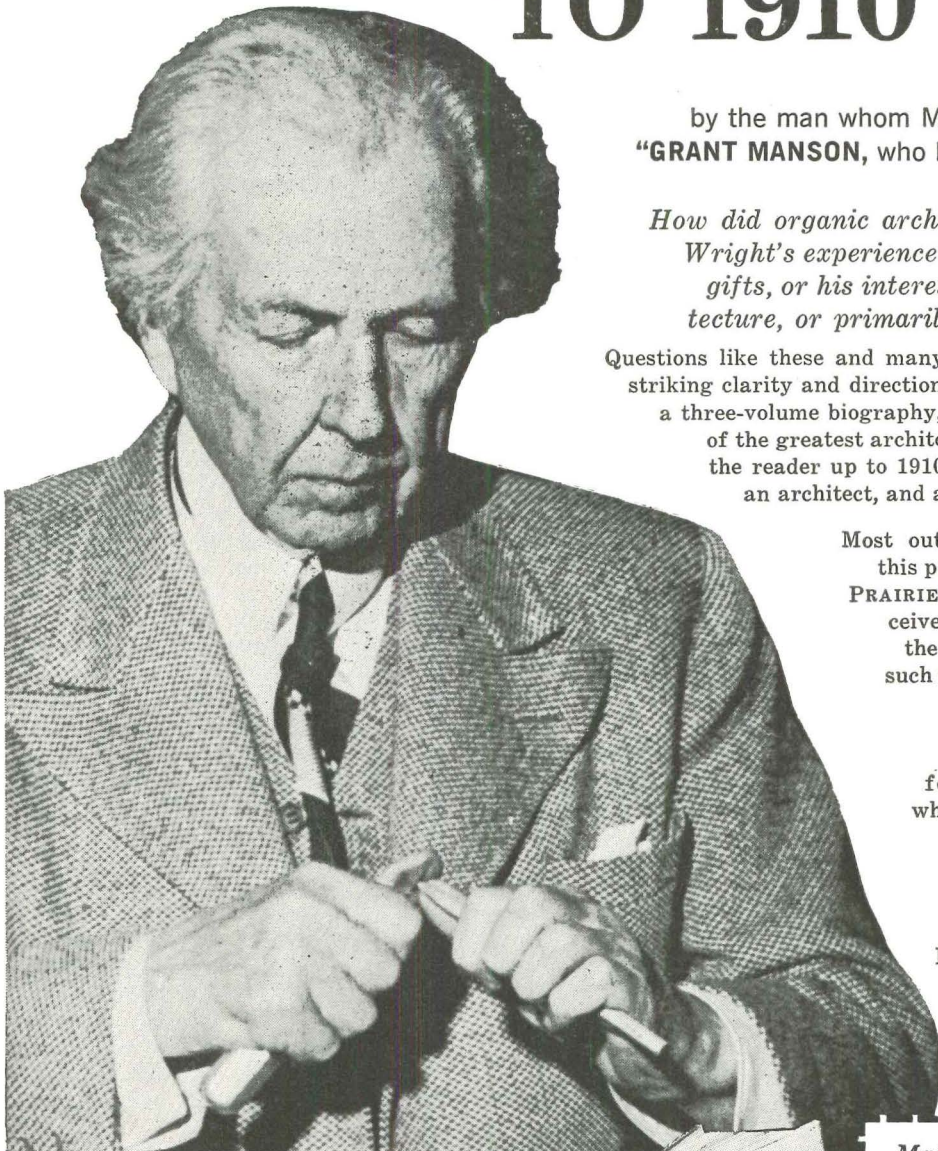
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## no architecture

The only time that I find a P.S. page difficult to write is when this monthly stint coincides with a vacation period. I've just come back from Puerto Rico and the Virgin Islands, and of course on a vacation I never think of architecture or architects. I will grant that in Puerto Rico we had pleasant visits with Osvaldo Toro and Miguel Ferrer, of that fine firm that has done and is doing so much important work in and around San Juan; we saw a good deal of Henry Klumb, a most interesting architect who has adopted Puerto Rico as his field for practice; we went to several delightful parties given for and by architects and designers; I dropped by a session at the University to hear Klumb speak on architecture, and found myself involved; and I spoke at a meeting of the Puerto Rican Society of Architects where we got into a fascinating discussion of the ends and aims of architectural education, but this was all just fun and pure rest. It is true that at the Caribe Hilton at various times we saw and visited with U.S. architects Edgar Tafel, Basil Yurchenko, and Helge Westerman, and their charming wives, but that was purely social. And it is true also that I poked around a number of under-construction or recently built jobs that we will or may publish, but that was simply sight-seeing.

My wife, Katherine, gets a bit annoyed at me sometimes because of this inability to break completely, on vacations, with the continuing interest in architecture. She's not serious, though, because the opportunity this gives us to meet wonderful people and have more-than-usual insight into ways of life wherever we may be, is something not to be regarded lightly. In any event, how could one avoid architectural contacts without going into the deepest jungle? After San Juan, we dropped down to St. John, in the U.S. Virgin Islands—the most inaccessible, undeveloped place one can imagine, where Laurance Rockefeller has bought almost the entire island and given it to the Government as a National Park—and stayed at a delightfully successful example of resort design by Bancel La Farge: Caneel Bay Plantation (AUGUST 1957 P/A). As we enjoyed its natural, relaxed, living-on-the-beach atmosphere how could we feel except very, very grateful for good architecture?

I had never met Henry Klumb before, and I was very glad to have a chance to talk with him. Of course the first question anyone asks him is his present opinion of Frank Lloyd Wright (it was the first question the students asked him at the

University session I attended) because he was with Wright from 1929 to 1933. Klumb, born in Cologne, Germany, had graduated from the School of Architecture there just before he came to the States and worked with Wright, and after that experience he went first to Los Angeles as Planning Architect for the Los Angeles City Planning Commission, and then, in 1944, to Puerto Rico, with Tugwell, as design consultant to the Puerto Rican Housing Authority. For some years, now, he has spent all his time on his own successful practice in architecture. His best known work, probably, is the San Martin de Porres church; his most interesting current activity is over-all planning and individual buildings for the University of Puerto Rico.

So I asked, "What do you think of FLW these days, Henry?" and he said, "Hmmm."

He thinks that the good days of Wright's influence were when he, Klumb, and other already-architecturally-educated, more mature people were working at Taliesin. The Fellowship began while Klumb was there, and this, to him, started a false sort of school, rather than a most exciting and productive architectural office in which learning was a part of the constructive work. I thought this an interesting point of view, which I hadn't heard expressed before.

"I will say, however," Klumb would say, "that I owe practically everything I know about architecture to Wright." And as for Wright's position in American architecture: "He is the only person who produces with each commission a fresh, nonstereotyped design which is always interesting."

The Klumbs (Henry's wife, Elsa, who came to the States with him, has been involved in each experience since, including Taliesin) live in a small jungle of their own in the suburb of Rio Piedras—a country town when they bought the property, a crowded urban area now—in what must be five or six acres of vegetation with a remodeled plantation house in its center. They have become experts in tropical exotica, and just the tour of the "estate" is an experience. The house raised on posts, hip-metal-roofed (in the local tradition) has had all its walls and partitions torn out, with a minimum of posts and screens left for support and basic privacy, so that it is one great comfortably furnished veranda, surrounded rather tightly by bamboos and thin palms as the only protection against the usually calm elements. Driving rains come in and are swept out: "Why not; what harm does it do?"

We enjoyed the place so much, and the

open, sheltering-veranda approach to design seemed so completely sensible there (I had already remarked to myself that the tightly closed, heavily stuccoed "modern" San Juan house seemed most illogical) that I asked Klumb why it hadn't been done—why, in fact, he hadn't done it—for clients other than himself. Sadly, he said, "I have never yet found a client for a house who would let me plan openly in Puerto Rico. Everyone likes *my* house and loves to visit here, but for themselves they want to close in against the heat and the rain instead of opening up to the breezes."

There is one obvious question about such a house, where there are no doors to lock, and I felt that I had better ask it: "How do you keep out intruders and even marauders?"

The answer is comfort to the anti-open-planners: "You can't. We can never leave the house without being sure that someone is here."

Klumb told me of a character who had practiced in Puerto Rico some years ago who sounds as though he might be a candidate for some serious historical research. I pass the tip on gratuitously; if anyone undertakes the study there's apparently some real digging to do. In the Teens and the Twenties of this century a man named Nicodomo (first name not certain), a Czech, practiced architecture in Puerto Rico in a Frank Lloyd Wright/Oak Park manner. He claimed, apparently, to have worked with Wright. The master, Klumb says, denies it (did Wright's memory lapse; did Nicodomo change his name?). From the evidence of his work which I saw—of a great volume I saw only a few things—I should say that either he was at Taliesin, or he had an early and unusually thorough access to what was then a skimpy amount of published Wright material; the mannerisms are most apparent and fairly well digested.

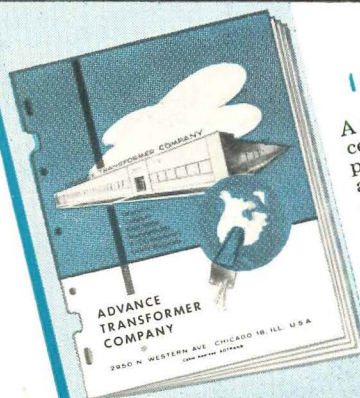
The man evidently died a violent death in an accident, and his family disintegrated tragically. Few documents remain (Klumb has some drawings) and his work—scattered all over the island, I was told—is disappearing or being altered. One great house on a Santurce hilltop, almost a small Taliesin, which the Klumbs once occupied, is now crumbling ruins, with design, craftsmanship, plan—and even clichés—in the early Wright mood.

Who wants to avoid architecture on a vacation when things like that turn up?

*Thomas H. Wright*

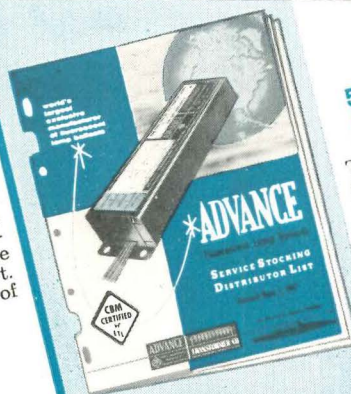


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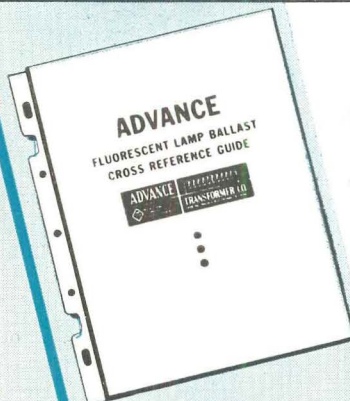
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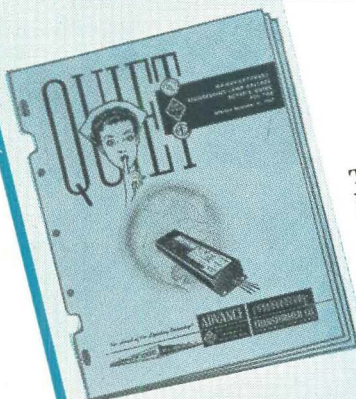
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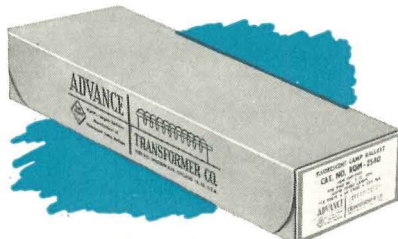
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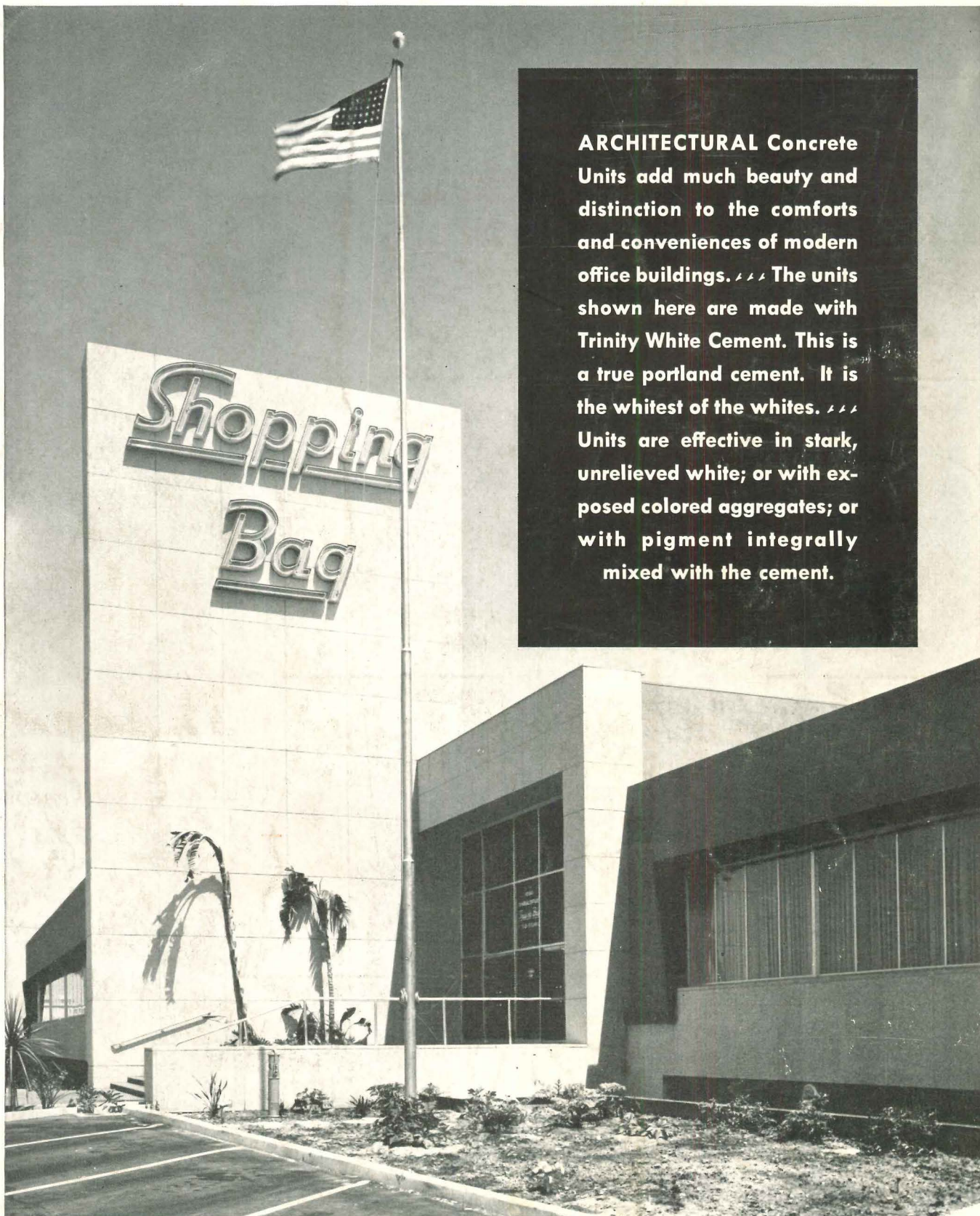
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