pa Progressive Architecture

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general practice

10

october 1955

"17 y M"—Reinforced concrete apartment building, Havana, Cuba. Designed to withstand hurricane-force winds. Architect: Ernesto Gomez Sampera and Martin Dominguez; Structural Engineer: Saenz-Cancio-Martin; In charge of Construction: Bartolome Bestard and Manuel Padron.

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* For a given set of materials and water-cement ratio, unit water content (water required per cubic yard of concrete) is the most important basic factor affecting the quality of concrete. A.C.I., Committee 613, 1944 Report, Page 655. Bureau of Reclamation Concrete Manual, 5th edition, Page 130.

This 39-story-high apartment house—one of the world's tallest reinforced concrete buildings—is another outstanding structure in which Pozzolith has enabled engineering to better control concrete quality.*

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*For complete story on this project see Engineering News-Record, July 28, 1955, Pages 34-37.

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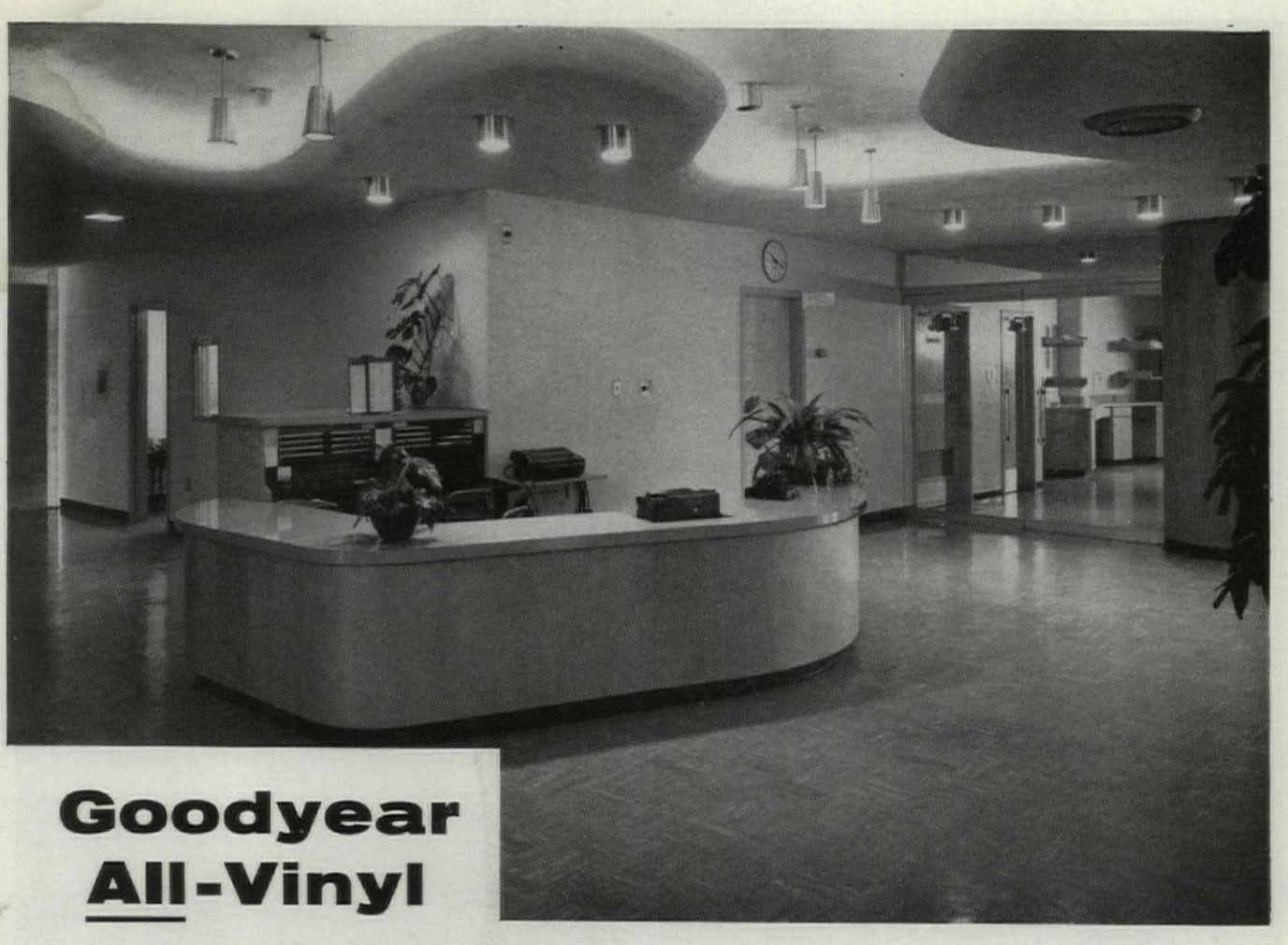

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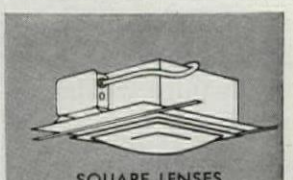
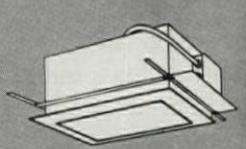
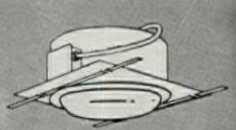


SQUARE LENSES



OBLONG LENSES



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PROGRESSIVE ARCHITECTURE

October 1955

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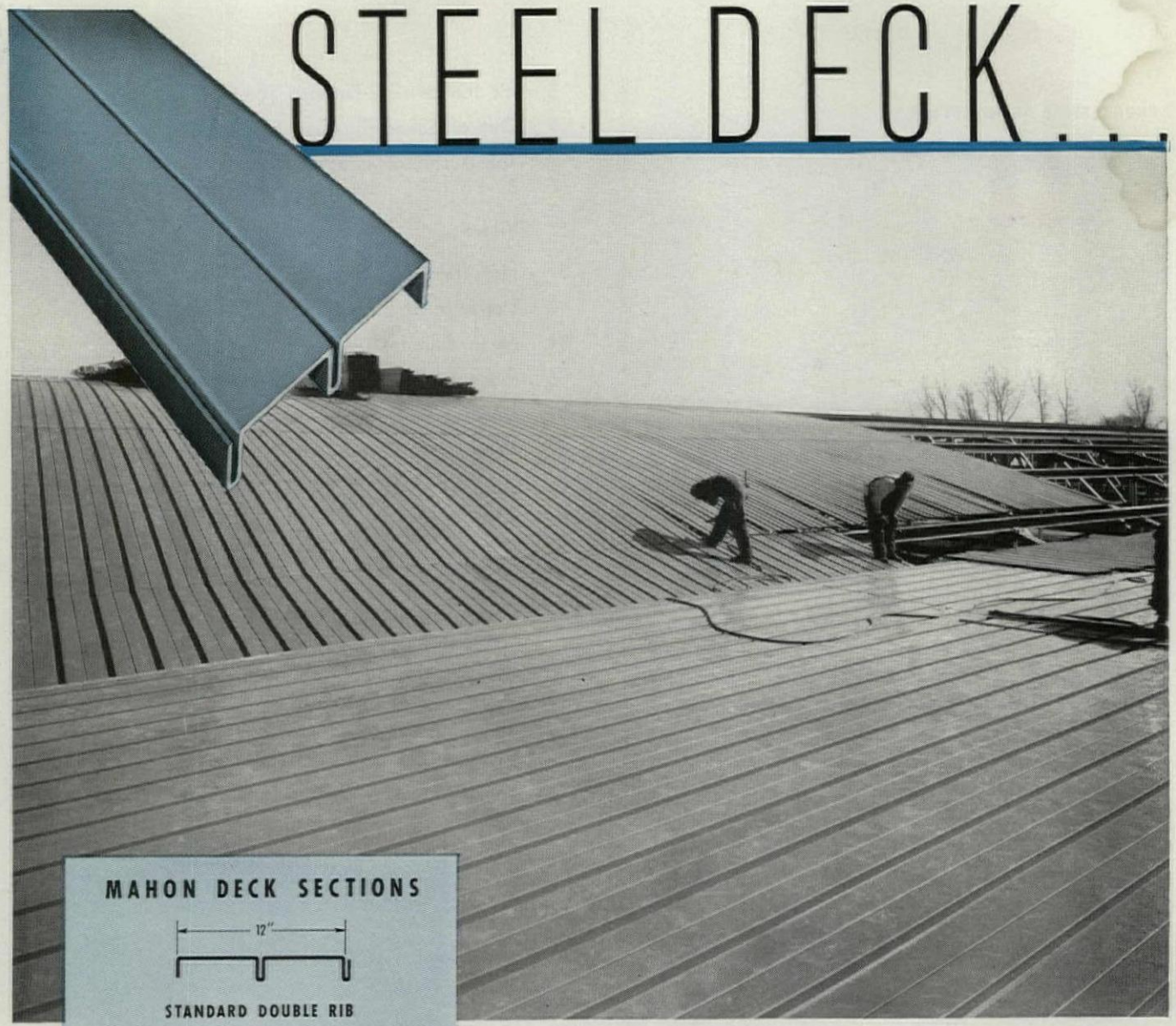
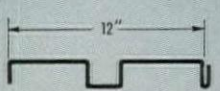
Volume XXXVI, No. 10

STEEL DECK...

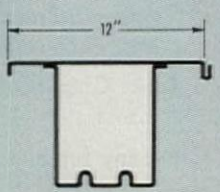


MAHON DECK SECTIONS

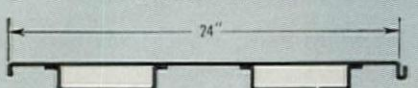
STANDARD DOUBLE RIB



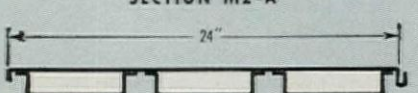
WIDE-FLANGE DOUBLE RIB



LONG SPAN M-DECK
SECTION M1-G



LONG SPAN M-DECK
SECTION M2-A



LONG SPAN M-DECK
SECTION M3-A

The illustration above shows Mahon Wide-flange Double Rib Steel Deck installed over bowstring trusses of a new roller skating rink. Year after year, Steel Deck roofs a greater percentage of new construction . . . and, it will continue to do so, because it weighs less and it costs less than any other type of permanent roof construction. Mahon Steel Deck is now available in the five Sections shown at left. The Long Span M-Deck Sections can be employed either with flat plate up or flat plate down . . . they span from beam to beam, eliminating roof purlins, and, when installed with flat plate up, they produce an attractive beamed ceiling effect. In either position, the bottom metal can be perforated and sound absorbing material inserted in the Cel-Beams to provide a highly effective acoustical ceiling. See Sweet's Files for information, or write for Mahon Catalogs D-56 and M-56.

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MAHON

It's the Law by Bernard Tomson

P/A Office Practice *column on the legal aspects of architecture and engineering. This month's column supplements Tomson's* Architectural & Engineering Law *(Reinhold, 1951) by reporting summaries of cases decided since publication of the book.*

PART IV. THE DECISION OR CERTIFICATE OF THE ARCHITECT OR ENGINEER

Chapter 16—Architect or Engineer Not Permitted to Construe Contract

California. *Stein* v. *Drake*, 254 P. 2d 613 (1953). A clause in a building contract which provided that "all questions as to the rights and obligations of the parties arising under the terms of the contract, the plans and specifications are subject to arbitration" was held to be sufficiently enforceable and was irrevocable to the extent defined under the California statute. However, the Court reversed the decision of a lower Court, confirming the arbitrator's award, on the ground that it invaded the defendant's right first to have determined by a Court that a valid and enforceable contract existed.

PART V. RIGHTS OF ARCHITECTS AND ENGINEERS: COMPENSATION

Chapter 20—Right to Compensation

Washington. *Jones* v. *Brisbin*, 247 P. 2d 891 (1952). In a suit for services rendered where the Architect offered advice, suggested changes, and furnished other services and the Owner failed to reject the offered services but took the benefit of them under circumstances which would lead a reasonable man to believe they were offered for compensation, an implied contract arises and the Architect is entitled to be compensated.

•

Ohio. *Burton, Inc.* v. *Durkee*, 106 N.E. 2d 313 (1951). The building contract was on a cost-plus-fee basis. Before the job was completed, a dispute arose as to the amount then due, and, because of the nonpayment of bills, the Contractor refused to proceed further and withdrew from the job. It was held that, if the Contractor's withdrawal was legally justified upon the facts, the Owner was liable for the actual cost incurred to the date of the termination of the agreement, together with the fee provided for in the contract, if that was a definite amount, provided the Contractor had not been guilty of malfeasance, extravagance, wastefulness, negligence, or laxity.

Chapter 21—Amount of Compensation

Nebraska. *Grothe* v. *Erickson*, 95 N.W. 2d 368 (1953). In an action to foreclose a mechanic's lien for the balance allegedly due under a cost plus contract to construct a dwelling, the Court held that the Contractor was not entitled to commission on the cost of lumber purchased by the Owner, for which the Contractor incurred no financial liability. The Court further held that the Contractor was not entitled to charge as costs upon which to calculate his commissions the cost of making a penciled plan of changes in floor plans furnished by the Owner, the cost of services of the Contractor's accountant in preparing statements to be submitted to the Owner, nor for wages plus ten percent thereof for time spent on the job, in addition to ten percent commissions under the cost plus contract.

•

Ohio. *Dougherty* v. *Iredale*, 108 N.E. 2d 754 (1952). In an action by the guardian of an incompetent against the Building Contractor, the Court held that where the construction contract called for work to be done on a time and materials basis, the Contractor was excluded from charging any overhead expenses and from adding any percentage of profits, as is customary in a cost plus contract.

•

Ohio. *Charles A. Burton, Inc.* v. *Durkee*, 109 N.E. 2d 650 (1952). A Contractor sued for the unpaid balance of a construction contract which he claimed was to be on a cost-plus-fee basis. The Owners claimed that compensation was to be on a fixed fee basis only. The Court held that the evidence indicated a cost plus a fixed fee basis and that the Owners were entitled to offset against such costs the damages suffered by them by reason of any malfeasance, extravagance, wastefulness, or negligence in the execution of the work.

•

Missouri. *Tatez* v. *Groff*, 253 S.W. 2d 824 (1953). In a suit based on a contract which provided that compensation would be based on a percentage of the building cost, the Court held that the many changes and additions which were made and which increased the final cost did not effect abandonment of the original contract on the part of the Owners. The Contractor had based his suit, not on the contract, but on the theory of recovering for the reasonable value of services rendered. The Court said that the Contractor's recovery could not exceed the contract price. Furthermore, where the Contractor obtained certain items at wholesale he was not entitled to a percentage above the reasonable market value of the items, but was restricted to the actual cost to him as the basis of computing his compensation.

•

Florida. *Ungaro* v. *West Palm Beach Biltmore Apartments*, 61 S. 2d 642 (1952). An Architect entered into a contract to draw plans and prepare specifications for a project and to secure a loan from the FHA as sponsor, and to make certain loans as working capital, if and when needed, for completion of the project. For these services he was to receive architectural fees and commissions. The Court found that, in the absence of a surplus remaining after completion of the project, the sums owed did not become due and payable under the contract until the net revenue from the project should permit.

Cincinnati Gas and Electric Co., Cincinnati, Ohio *Harry Hake & Harry Hake, Jr., Architects* *Frank Messer & Sons, Inc., Builders*

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Write for the informative 68-page Mills Movable Walls Catalog— or see it in Sweet's Architectural File.

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MILLS *Movable* **METAL WALLS**

Mechanical Engineering Critique by William J. McGuinness

William J. McGuinness, author of this new monthly column concerned with mechanical and electrical design and equipment, is well qualified for his assignment. McGuinness is entering his 15th year as Professor of Architecture at Pratt Institute in Brooklyn, has had wide experience with his own firm of McGuinness & Duncan, Engineers, and is co-author of the recent edition of* Mechanical and Electrical Equipment for Buildings *written by Gay, Fawcett, and McGuinness. He will also be remembered by many P/A readers as a frequent contributor over the past seven years.

HTHW Central Heating

Those of us who would like to know more about the actual working of high-temperature, hot-water central heating (known familiarly as HTHW) can learn much from studying a recent Air Force installation at McGuire Field, Wrightstown, New Jersey. HTHW is growing in popularity and this $4-millions system is one of the largest installed anywhere in the world. Seventy-five buildings are heated by this closed-circuit system from a 6000-hp central boiler plant which supplies water through three zones (one now a stand-by for future expansion).

Heat exchangers at the individual buildings operate low-temperature (200 F), low-pressure, forced-circulation hot-water systems. Thus, comparisons can be made, in studying this plant, with conventional high-pressure steam distribution and with low-pressure, forced hot-water systems that operate so well within the limits of a building.

Heating Plant: Four radiant-type boilers, with no baffles, produce the total required horsepower and the walls of these tall, box-like units are virtually lined with coiled water tubes. Water within the tubes is pumped upward, following the fire, and is heated more by the direct radiant effect of the fire than by the convective effect of flame travel. There is no steam chamber inside the boilers.

Thermal Reserve: Boiler water rises to two large reserve tanks—each having a cushioning volume of steam above a controlled level near the top—and by forced circulation travels continuously between the two tanks and the boilers. The water is pumped from the tanks through 40 miles of pipes and heat exchangers before returning to these tanks which provide the reserve supply. This reserve, together with other water in the system, is enough to heat the entire base for 24 hours without additional use of the boilers. Because of this large thermal backlog and unlike steam which has no storage possibility and must have boilers sized to supply the peak load, HTHW requires boilers only two-thirds the size of those needed for steam. These smaller boilers operate at low capacity during slack periods to build up the reserve.

Fuel and Combustion Control: A crushing plant on the site sizes bituminous coal so that a maximum dimension of 1¼" is not exceeded. Coal is charged into the furnace from a hopper and combustion takes place in the air; the ashes fall to a traveling grate. Beside the fact that coal is a dependable source in case oil becomes scarce, coal was chosen because of the proximity of supply and cheapness. (Oil has been chosen for other bases, however.) Stack temperature and a record of the combustion efficiency are automatically tabulated; drafts and other adjustments are regulated automatically from a mechanical examination of the flue gases.

Distribution mains: Water is circulated to all buildings at 400 F, 285-psi pressure, and under full-heating load it is returned at 200 F. The temperature drop in the full length of the supply main is 10 F and the line losses are about one-half of one percent. Losses in a comparable steam system, on the other hand, might be three or four percent and could occasionally run as high as 10 percent. Supply and return mains in water systems are the same size because all of the water returns. The size of main in a typical zone is 12 in.; a steam zone of equal capacity might require a 24-in. diameter main. Such small sizes were achieved by selecting a greater than normal water velocity.

Insulation and pipe expansion: To achieve such a transmission economy, all mains are imbedded in lightweight insulating concrete. A corrugated-paper slip joint between the pipes and the concrete accommodates pipe expansion. Both supply and return mains are accordian-like assemblies with alternating anchor points and expansion loops spaced about 100 ft apart. Except for a few small-size pipes in the boiler room, all piping is welded and tested for 500 psi; therefore, the only points of possible leakage are at valves, pumps, air vents, and drains.

Control, venting, and drainage: Following the route of supply-and-return pairs of pipe is a compressed-air main supplied with air from the main boiler house. This air is used to operate valves and other controls in the mains and at the buildings. A steam main must pitch uniformly in the direction of steam flow and be dripped by a trap wherever it rises to a higher level. Water mains, however, can follow the contour of the ground and, thus, save a lot of excavation. Manholes are provided at high points for air venting, at low points for drainage, and at locations of valved branches to future mains. Because steam is used as a cushion rather than air, the small amount of air trapped within the system actually is reduced with use. Check-up crews making monthly visits to air-vent points usually find little to do.

Secondary circuits within buildings: At points of demand, high-temperature water is taken from the supply main, passed through a heat exchanger, and circulated (cooler) to the return main. The branch pipes and heat exchangers are surprisingly small. For instance, an operations building and a maintenance building are served jointly by 1½-in. supply and return branches of primary, high-temperature water. The heat exchanger is four in. in diameter and three ft long to supply these buildings. The exchangers heat low-pressure hot water for heating within the buildings. A certain number of unit heaters are supplied directly by the high-temperature water; however, units must first be checked for their ability to withstand pressure of the primary water.

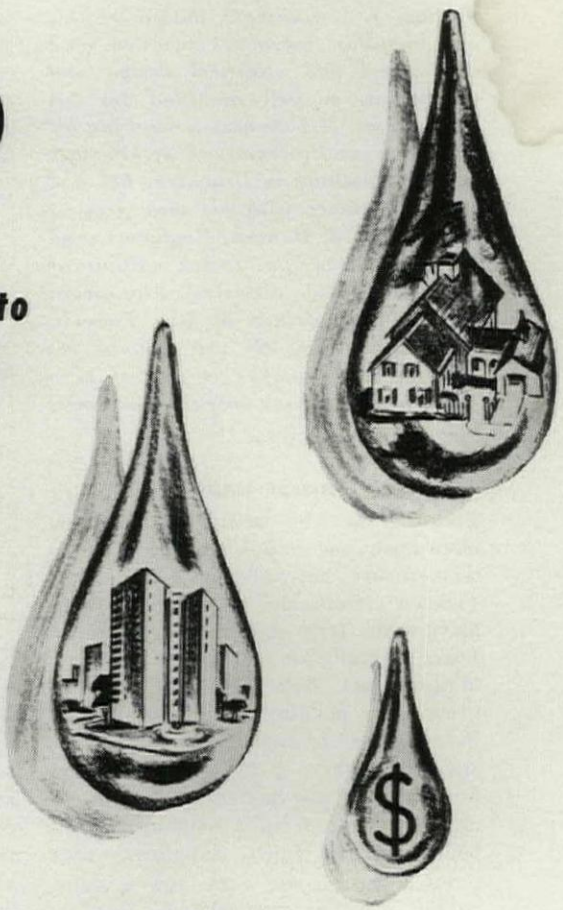
Maintenance and operation: Because of the continual reuse of water with little leakage, the corrosive action of the water is negligible and losses are made up from a small supply of treated water. One may use ordinary, schedule-40, black-iron pipe, such as that used in small steam systems for houses. The absence of pressure-reducing valves, steam traps, and other fittings common to steam systems makes the policing of pipe lines very easy. The efficiency of the automatic controls lightens operational problems and permits operation of the plant for long periods without the direct attention of a resident operating engineer.

Speed of installation: By detailing all parts in advance and prefabricating expansion joints and all other possible assemblies, the entire installation was completed in 13 months—proving that a HTHW system can be installed as fast as other types with which the mechanics are familiar through years of practice.

The system was designed by American Hydratherm Corporation in collaboration with the Army Corps of Engineers. Paul Geiringer, Chief Engineer for American Hydratherm, was in charge of design and Al Sage, Chief Engineer for Charles Simkin & Sons, Inc., was in charge of the installation. Architects for the job were Adache & Case.

Little Drops of Water (Condensation)

Ruined a Fine Home
Cost over a Million Dollars to an Apartment Development



The owners of a path-breaking apartment development had to pay a repair bill of over a MILLION DOLLARS for ripping out condensation-soaked insulation and replacing damaged plaster walls.

It was necessary to move a fine country home to a new site—the state highway was coming through. It could not be done. The sills of the house had rotted on account of condensation in the walls.

Today's tightly built, high-humidity houses create vapor problems. Vapor, which is a gas, has 1/205,000 the density of water at 32°F; about one millionth the density at 0°F. Sometimes there is excessive flow of vapor THROUGH walls and ceilings into cold building spaces. This enhances the formation of destructive condensation, especially where an adequate vapor barrier is lacking, or where there is one with too many breaks, or which while waterproof is not sufficiently vapor-proof.

METALS ARE THE BEST VAPOR BARRIERS

There is now a new*, multiple aluminum, which forms a *continuous*, edge-to-edge "blanket" of uniform depth between studs or joists, giving the entire area maximum protection against vapor-flow and condensation formation as well as against heat loss or intrusion.

The aluminum sheets, 375 ft. to 750 ft. long are almost impervious to water vapor. Infiltration under the flat stapled flanges is slight. Condensation formation, on or within this type of insulation is minimized because of the scientific construction of multiple layers of aluminum, fiber, and air spaces.

The surfaces of this aluminum have high heat ray reflectivity (97%); low absorptivity (3%); and low emissivity (3%). Conduction is slight because of preponderant air spaces of low density. Aluminum and fiber layers retard convection, outer and inner. It is available, prefabricated, as Infra Type 6 or Type 4.

*Patent applied for.

The U. S. NATIONAL BUREAU OF STANDARDS has published an informative booklet describing the destruction that condensation can cause and means of prevention. It is entitled "Moisture Condensation in Building Walls." Send us coupon for a FREE copy.

COST OF EDGE-TO-EDGE INFRA
Multiple Aluminum Insulation installed in new construction between wood joists, material and labor

Type 6-PS about 10¢ sq. ft. Type 4-PS about 8¢ sq. ft.

*Patent applied for.

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The Architect as a Government Contractor

by Robley D. Stevens

P/A Office Practice ***article on the payroll, record-keeping, and other requirements for architects on Federal Government contracts.***

Architectural firms doing work for agencies of the United States Government have an interest in the Walsh-Healey Public Contracts Act.

If you have a contract with the Atomic Energy Commission, with the Department of Defense—Army, Navy, or Air Force—or are doing work under a government contract with one of the other federal agencies, it is essential to know and understand the labor provisions resulting from this monumental labor law, in order to protect yourself against unwitting violations.

When this writer was a law-enforcement agent of the Wage-Hour & Public Contracts Divisions, U.S. Department of Labor, he checked several architectural organizations and in some instances found them to be in noncompliance. In any event, it will be good judgment on your part to consult with your own lawyer in order that he may give you the interpretation, guidance, and corrective action you may need.

The Walsh-Healey Public Contracts Act applies to "any contract made and entered into by any executive department, independent establishment, or other agency or instrumentality of the United States, for the manufacturing or furnishing of materials, supplies, articles, or equipment in any amount exceeding $10,000." The architectural (government) contractor should take care not to confuse the minimum wage and other provisions of the Walsh-Healey Act with the corresponding provisions of that other major federal labor law—the Fair Labor Standards Act—which applies to employes engaged in *interstate commerce* or in the production of goods for interstate commerce. However, practically all architectural organizations who must observe the Walsh-Healey Act's requirements also operate under the provisions of this other labor law.

Among the categories of employes held to be employes engaged in or connected with the performance of the Government contract (unless they meet the qualifications of executive, administrative, or professional workers as defined in *Section 13(a) (1)* of the Federal Wage-Hour Law) are the following: technical workers closely associated with the productive processes involved; laboratory technicians engaged in the testing of materials used in the productive processes, necessary to the products or services supplied to the government; draftsmen engaged in the preparation of drawings; operators of blueprint machines engaged in making blueprints, required to be supplied to the government; tool designers who actually design on paper the tools and instruments to be used in the performance of the government contract; time-study men who set the standard times and piece-work operations performed on the government contract; dispatchers and trouble shooters whose duties are to expedite parts and materials to the place and at the times needed for continuance of productive operations on the government contract. In other words, architectural organizations should observe that not all their employes are affected by the provisions of the Walsh-Healey Act.

minimum wages and overtime

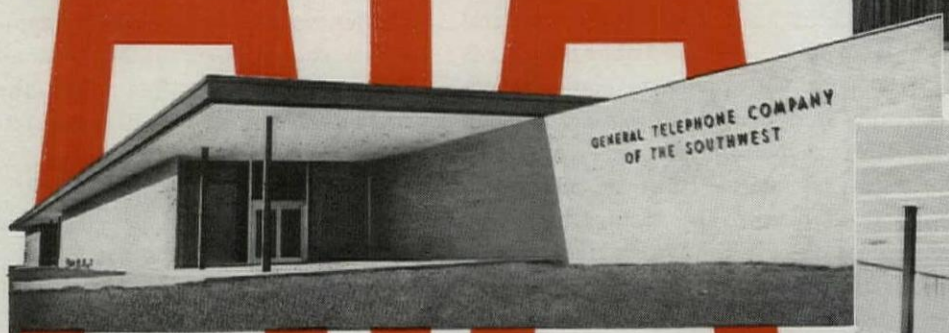
The minimum pay required under the Walsh-Healey Act is not fixed by statute itself; the Secretary of Labor is authorized to issue a minimum wage determination. But in the case of the Fair Labor Standards Amendments, Section 6 provides for a minimum wage rate at 75 cents per hour.

The Walsh-Healey Act sets no limit on the number of hours in which employes of your architectural firm may work by the day or week. However, the overtime pay requirements of this Act provide for the payment of not less than one and one-half times the employe's basic rate for all hours worked in excess of 8 hours in any one day or 40 in the week, whichever yields the greater amount to the worker.

Suppose several of the employes in your architectural firm covered by the Walsh-Healey Act work 10 hours a day for six days in a workweek. Their hours of work in excess of eight in a day would be twelve, for that week. But since they worked a total of 60 hours in the workweek, their hours of work in excess of 40 in the workweek would be 20. Thus they should be paid at the overtime

AIA

honor award building



kno-draft air diffusers

Architect: PACE Associates
General Contractor: Evans & Taylor
Mechanical Contractor: Bollinger & Sames

ONE of the five First Honor Awards in the American Institute of Architects' 7th Annual Competition for Outstanding American Architecture goes this year to the office building of the General Telephone Company of the Southwest, San Angelo, Texas.

Fittingly, the job of distributing air throughout the building has been entrusted to Kno-Draft Adjustable Air Diffusers.

In Kno-Draft you have true functional beauty—clean, simple lines in spun aluminum, handsome in its own right or when painted to blend into the ceiling—combined with a high diffusion efficiency that means ideal comfort.

And with Kno-Draft, the volume and pattern of air flow can be accurately adjusted *after* installation—assuring *uniform temperature without drafts* throughout the area and saving a lot of preliminary slide-rule figuring.

There are round, square and slot-type Kno-Draft Air Diffusers to meet all architectural requirements. For complete specifications, send for the Kno-Draft Data Book. Connor Engineering Corporation, Dept.N-105, Danbury, Connecticut.

CONNOR ENGINEERING CORPORATION

kno·draft®
adjustable air diffusers

The Architect as a Government Contractor

rate—time and one-half—for the 20 hours. On the other hand, suppose an employe in your architectural firm works nine hours a day for only three days per week while your architectural firm is a government contractor. In this case, the employe so covered would be entitled to overtime for each hour in excess of eight in the workday—or for three hours per week.

An increase in the rate of pay after the beginning of work on a government contract subject to the Walsh-Healey Act should not be considered as payment in lieu of overtime pay. In general, time worked during another day or week in order to make up for time lost on a holiday, or in anticipation thereof, should be included as hours worked in the day or week in which the work is actually performed, according to the rulings of the Wage-Hour & Public Contracts Divisions. Architectural firms will be able to avoid unintentional violations of the overtime-pay requirements of the Walsh-Healey Act if they will remember that these provisions apply to an employe in any workday or workweek during which he performs any work on a government contract, let subject to the Walsh-Healey Act.

requirements and enforcement

A government contract is a complex legal document containing many highly technical provisions. When an architect fails to read and understand them completely, the result may be misunderstanding, financial loss, or even court action. For instance, every government contract let under the Walsh-Healey Act contains a stipulation that the work must not be performed under conditions which are insanitary or dangerous for the employes.

In the case of one architectural-engineering firm *(Case No. PC-460, July 25, 1952)* the Court stated: "The respondents are charged in a complaint signed by the Secretary of Labor with failure to pay their required minimum and overtime performance of contracts subject to the Act. Respondents also are charged with requiring employes engaged in the performance of the contracts to work surrounding and under conditions which are insanitary, hazardous, and dangerous to the health and safety of said employees. Upon the entire record, it hereby is ordered that the respondent pay to the United States of America, the sum of $13,306.59, as shown by the attached schedule as liquidated damages resulting from the failure to pay the required minimum and overtime wages; and it is recommended that the Secretary of Labor take appropriate action to relieve respondents of the penalty provided by Section 3 of the Act, upon payment of the damages herein found to be due to the United States."

In addition to liquidated damages assessable as a result of contract violations, an architectural firm guilty of nonfulfilment of statutory requirements may find itself involved in a cancellation of the contract; it may be barred from further government contracts for three years from the date the Secretary of Labor determines such a breach to have occurred; or it may be subject to fines or costly suits by the government to recover unpaid minimum or overtime compensation from amounts due under the government contract.

records

Once your architectural firm accepts a Walsh-Healey Contract it will have to comply with the basic labor standards provided. Make sure that you know what architectural workers are covered, what workers must be paid overtime, and under what conditions. But further than that, be sure to audit your payroll records and the job performances of your employes, and tie both in with the requirements. These records must be available for inspection purposes. They should present no undue burden. No special form or order is prescribed. The usual record-keeping data should suffice if they contain the following information.

1. Name of employe working on Government contract.
2. Home address.
3. Occupation in which employed.
4. Date of birth if under 19 years of age.
5. Rate of pay.
6. Amount paid each pay period.
7. Hours worked each day and each week.
8. Period during which each employe was engaged on government contract.
9. Date of payment and period covered by payment.
10. All additions and deductions from wages paid.
11. Total wages paid each pay period.
12. Records of injury frequency rates.
13. Government contract number.

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REINHOLD

convention assessed

Dear Editor: Your reactions to the recent AIA Convention (P.S., *August 1955 P/A*) will parallel those of most thoughtful observers. Sometimes the AIA insists on behaving more like a trade association than a professional society, and the Friday session was one of those occasions. But the fault lies with the membership rather than the structure or function of the organization.

I was appalled by the large number of *younger* men who voted against the resolution on competitions for public work, despite the fact that younger men would have been the benefactors. When the fantastic resolution that AIA withdraw from UNESCO was brought forth, it was disposed of with adroit parliamentary maneuvering; but the convention did not take a forthright stand against this added piece of Legion-backed foolishness.

Whether or not the AIA should have entered into the controversy regarding the Air Academy was a moot question. There was very little discussion on the floor. Once the decision was made, however, the responsibility was abruptly shifted to the Executive Secretary.

It is not at all certain that we have heard the end of the problem which a wit in the *Journal* recently referred to as "The Face on the Drafting Room Floor."

The technical seminars were enlightening for those at the front who could hear, but too much of the sound and fury in the Junior Ball Room penetrated the velvet hangings of the Main Ball Room for studious appraisal. I thought the attendance on Friday was quite good, considering that it was the fifth day in town for most of the delegates. JAMES ARKIN

Chicago, Ill.

courses for architects

Dear Editor: Congratulations to Edmond A. Pachner for going on record so frankly (VIEWS, *August 1955 P/A*) to express a desire for something which too many need, but are afraid to admit. It is hoped Pachner's effort will arouse more support and demand for the further education of the practicing architect. I believe his suggestions as to method come very close to the bull's-eye. GEORGE F. PIERCE, JR.

Houston, Tex.

analysis (continued)

Dear Editor: Let me add a bit in reply to Kaestner's answer to my "critique" of the pleasant school building in Porterville, California (VIEWS, August 1955 P/A).

1. The AISC Specification which applies to the flange-less cantilever is Section 15 (a)—(3). In setting up $\frac{ld}{bt}$ in this case, should not "l" be doubled, because the outer end is not restrained against transverse rotation (the web, that is)? And who shall say what "d" and "t" shall be? If "t" is taken at 1½ in. then "f" for the 10 WF 33 of the upper overhand figures something like 5300 psi, and for the 10 WF 25-6500 psi, which is undoubtedly adequate for this roof with no threat of snow or high wind.

2. Having a flange added to the bottom edge of the upper projection would make an interrupted mullion necessary at the frame, but little light would be lost. Hav-

(Continued on page 14)

Editor's note: *"Anon," "Indignant Reader," and others with acid comments on the P/A editorial efforts have been sending us letters again! We regret that such letters are not signed by the readers so that they might be published in the magazine. It must be obvious to all who have followed the* VIEWS *section that the P/A Editors do not hesitate to report the brickbats as well as the kind words. Aside from the nature of the comments, we feel that there is something unfriendly about any furtive, unsigned letter.*

Too bad some lively ones have to go into the wastebasket! C. M.

(Continued from page 13)

ing the upper edge of the glass tight to the ceiling is an architectural matter.

3. If another section was used for the stunt at the column, perhaps it was kept clear of the wood deck.

4. & 5. Climate, environment, and the scale and shape of a building are important in its weathering. RALPH E. BRADDON
Cleveland, Ohio

respect the salesman

Dear Editor: As a subscriber to P/A and a persistent reader of SPEC SMALL TALK, and with a background of over 20 years in specification writing, purchasing, and subcontracting, I can vouch for the truth of some of John A. Boland's statements and sympathize with his plaint (SPEC SMALL TALK, *July 1955 P/A*). I am not familiar with his vapor barrier, but that is not germain to the major issue.

Every purchasing agent of experience has learned long ago that the qualified sales representative is *his best friend.* It is high time that the architect and engineer should begin regarding these gentlemen with equal respect. The specification writer *must*, if he expects to stay in business; and I think most of them do value their contacts with sales people who really know their products. Personally, I endeavor to afford time to see every sales representative whose materials or processes have any bearing on the work at hand, and others are given courteous hearing before being dismissed. These contacts have enabled me to initiate quite a few ideas which proved of value to the designing architects and engineers, making the little extra effort well worth while.

GEORGE CLARK
Bechtel Corporation
San Francisco, Calif.

service to community

Dear Editor: It is good to read about Cocke, Bowman & York (*June 1955 P/A*) of Harlingen, Texas, and to see the good, fresh, functional architecture designed by them. They are performing a real service for their community and deserve the gratitude of the profession as a whole. WILLIAM F. R. BALLARD
New York, N.Y.

welded construction

Dear Editor: In a current issue of a business weekly magazine, it is reported that constant flexing by traffic of the structure of the San Francisco Golden Gate Bridge has caused its rivets to work loose. One by one these rivets are being replaced with bolts.

Other bridges and riveted structures have had the same difficulty with loose rivets.

If these bridges had been built with welded construction, which is the simplest way to fabricate steel structures, this extremely expensive procedure of replacing rivets would never be necessary. Furthermore, leading structural authorities state that welded bridges can be and are built with at least 20 percent savings in the amount of steel used.

(Continued on page 16)

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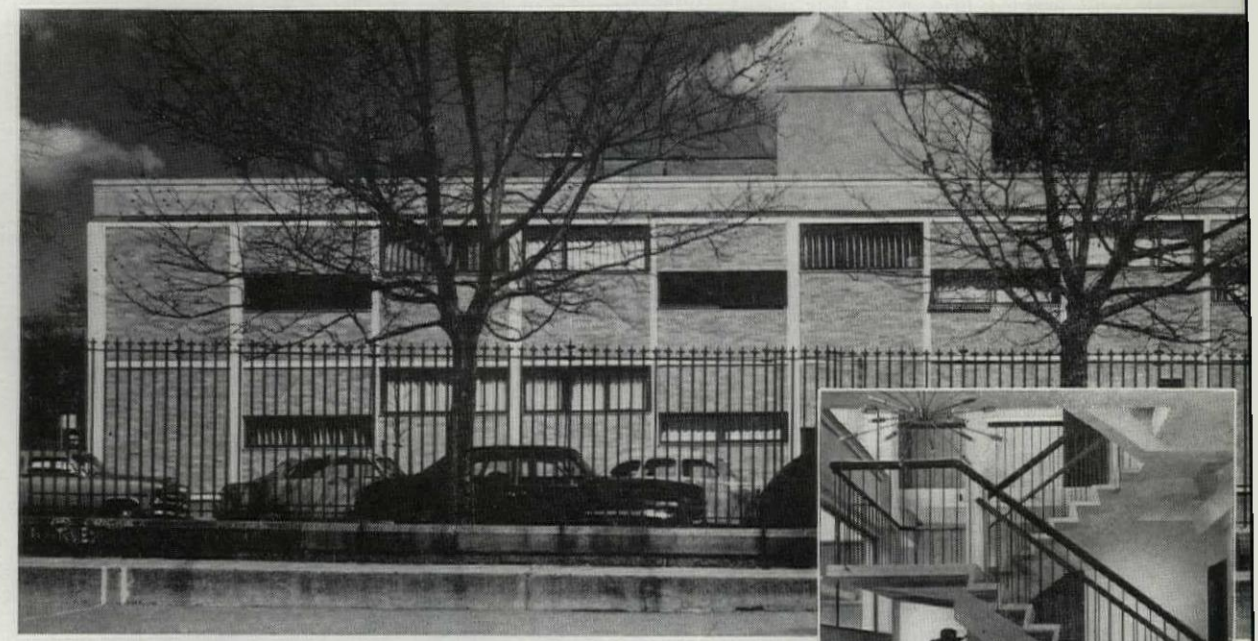

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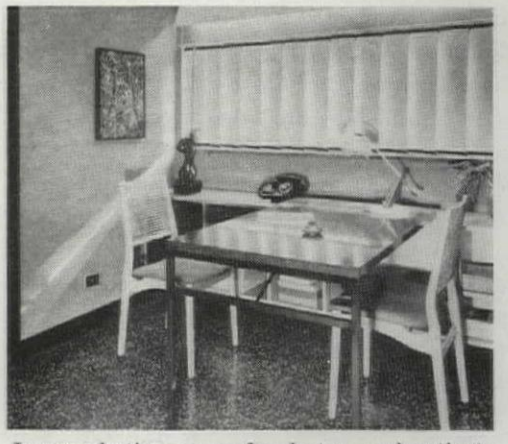

In consultation rooms for doctors and patients Confetti was specified also — this time in black with white mottle. (In addition, Confetti is also available in nine other color combinations).

Architects planned the pharmacy as a "display piece" near the Clinic's entrance, where it can be seen through a wall of glass. Here, too, Confetti in white with black mottle was specified.

In this intimate waiting room, the decor is one of colorful furnishings, restful lighting and more of MATICO'S airy, bright Confetti flooring.

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(Continued from page 14)

European countries have had a long, successful experience of saving steel with not only welded bridges of long spans but also all types of steel structures. For almost 20 years, highway and railroad bridges built in Sweden have been welded.

Why, with the evidence before us proving the advantages of welded construction, we in the United States are slow to take this step of progress is difficult to understand. Some states have adopted policies of using welded construction and others are presently considering it. Nevertheless, our educators, schools, highway officials, and the people who design and make bridges and other steel structures have a responsibility to make this progress as rapidly as possible.

The country is undertaking a gigantic road-building program which will entail the building of many bridges with public funds. Will these bridges be obsolete before they are built? CHARLES G. HERBRUCK

The Lincoln Electric Company
Cleveland, Ohio

one visitor approves

Dear Editor: On a recent trip to America, I was confined to the study of buildings recently erected in the Northeast of the country.

I was exceedingly impressed by much of the work which I saw, particularly in the field of preplanning and the organization of contract work.

I should also like to express my appreciation of the uniform friendliness and courtesy with which I was greeted and the help which I received from all ranks of the profession and the building industry.

I returned home stimulated and excited by my visit. JAMES F. MUNCE

Belfast, Northern Ireland

educational centers

Dear Editor: As a fairly recent subscriber to PROGRESSIVE ARCHITECTURE, I would like to let you know how much a complete amateur enjoys your magazine. Ever since the March 1955 issue published those fascinating plans for elementary schools, I have been caught in a thought-cycle from which some interesting (I believe) ideas have emerged.

In Detroit, we have been investigating and re-evaluating our educational methods, procedures, etc., and I have discovered that there seems to be a deep change occurring in our basic concepts of education. Because of this, I believe that the school building, as such, is about to undergo a great change in its role as a functional building.

I was curious to know whether some societally interested architect had felt this change and envisioned (as I have) a new "educational center" as the hub of the surounding residential area. The "center," laid out campus-wise or perhaps in

(Continued on page 19)

(Continued from page 16)

the style of our new shopping center, "Northland," might include housing facilities for community activities as well as public school activities. It seems possible that a district, the size of four present elementary school districts, would find these facilities within easy reach and thus the building of one large center would be perhaps more economical than the building of four additions to existing school buildings as well as needed recreation and community buildings. It would then result in release of space used for these activities in existing school buildings, which could be converted into additional classrooms.

It has long seemed a considerable waste of facilities and manpower for a community to support two separate groups of buildings and staffs, one for general community use and one exclusively for the public schools, neither of which would be used to capacity. With some degree of co-operation between commercially run and publically financed buildings, a satisfactory arrangement for the renting or allocating of space for private, public, and school activities should be possible.

The following are a few details as to what the center would include. I see it as a large building with adequate parking space surrounding it. Playgrounds and athletic fields would lie on all four sides. The ground floor of the "center" would house two small-to-medium auditoriums, one at either end of the building. Doors at the back of these would open into small music rooms, suitable for individual or small group instruction.

To the left and right of the auditoriums and groups of music rooms, along the outer walls, would be arranged small lounges which could be made available to the schools or general public for club meetings, special classrooms, or lounges. Separating these two complete units, a hall would run from one outer wall to the other, lined with show-cases so that this could be used as an exhibition hall for art, handicraft, and hobby shows. Since these three units would be complete and separate, three different groups presenting three different programs might be utilizing the ground floor at the same time. In the basement, would be found the gymnasiums, swimming pools, etc., while the second story would contain a cafeteria with adjoining rooms, in which home economics could be taught, as well as a library with small reading rooms. The third floor would provide a workshop, and many large rooms necessary for the enjoyment and teaching of many hobbies. It has become increasingly apparent that education is imparted through many and various media and teachers, and with some sort of community center where these facilities were available, I believe that a great deal of the tax load could be lightened.

I hope I have caught the fancy of some architect who will also enjoy playing with the idea for something new in public educational facilities.

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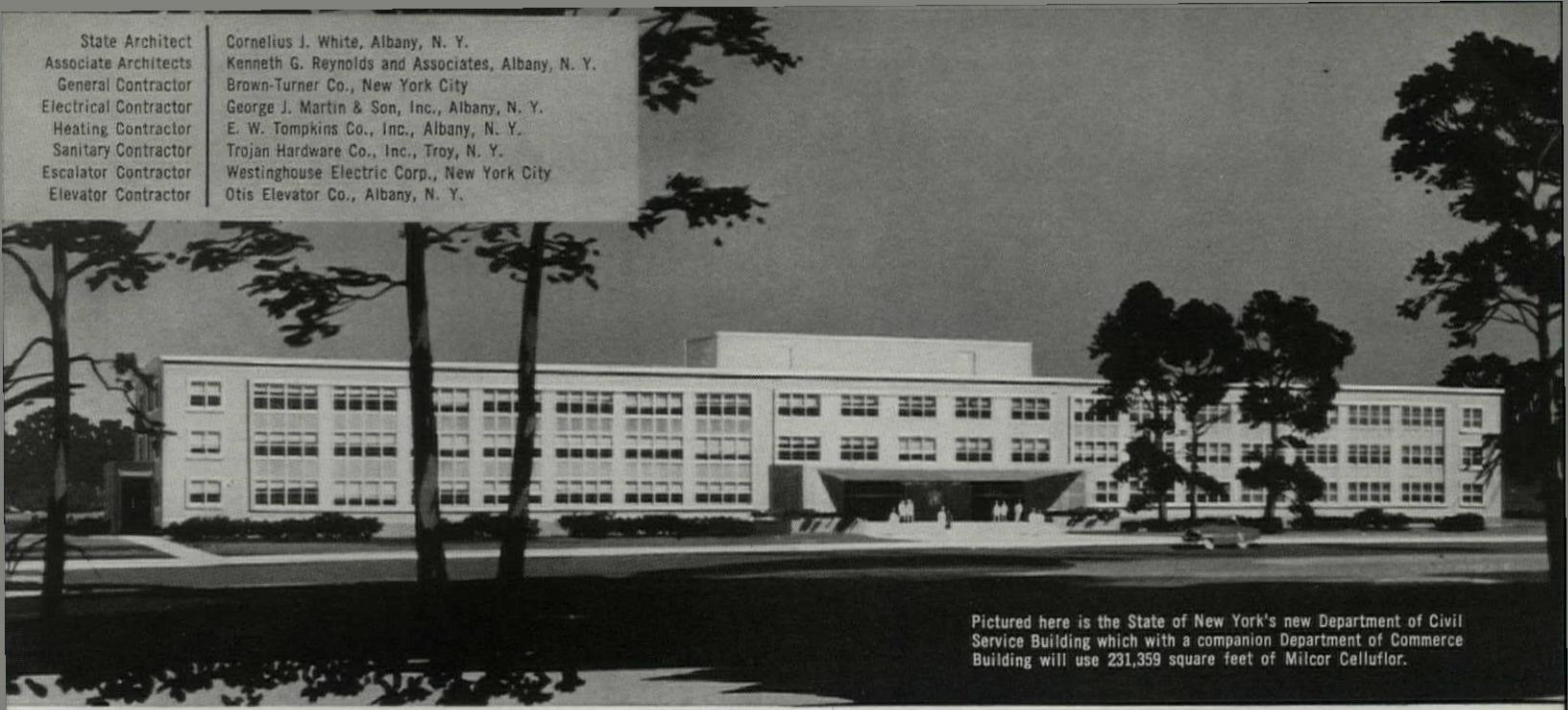

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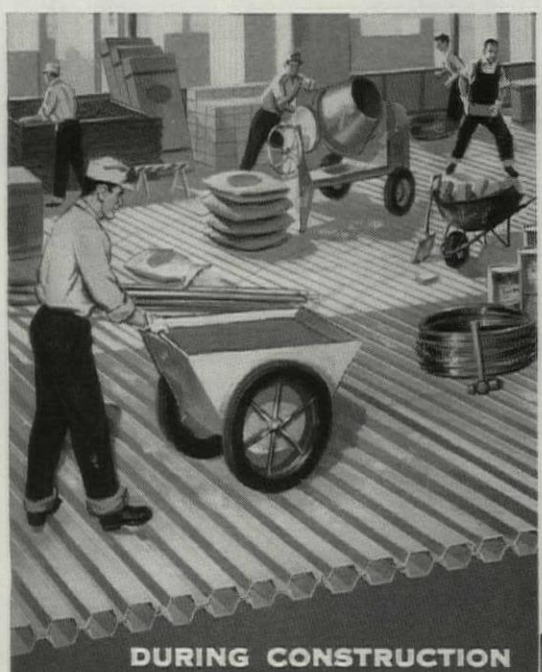

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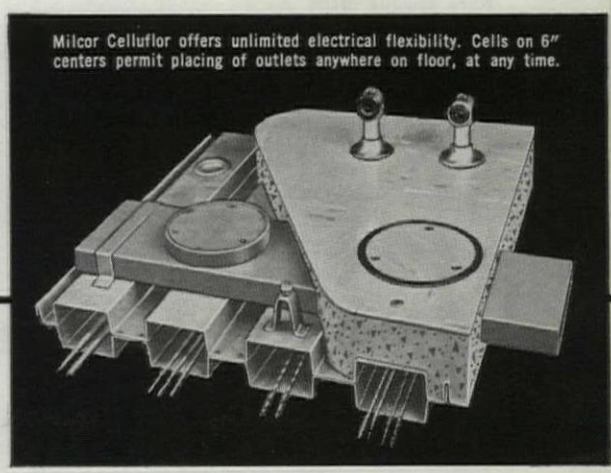

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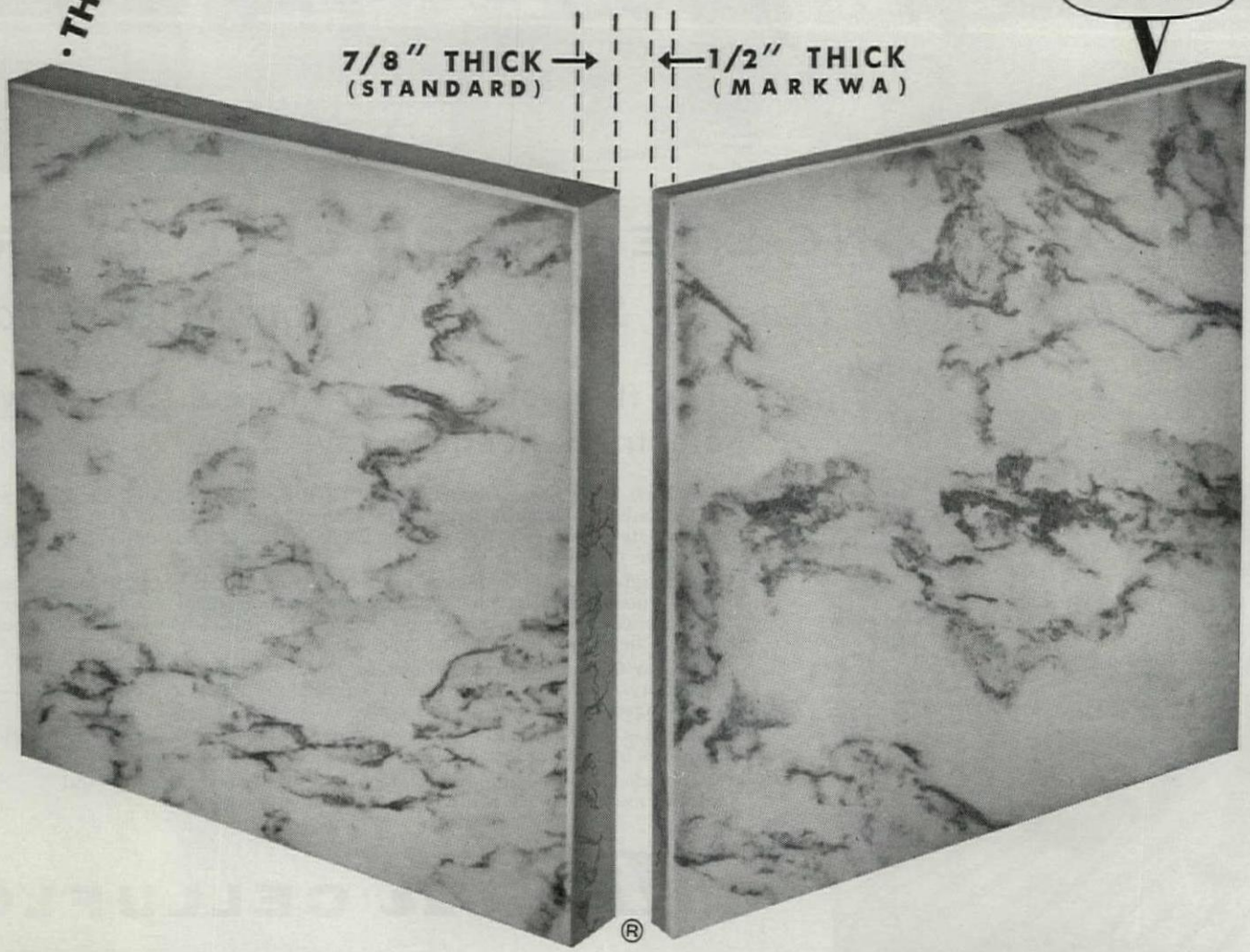

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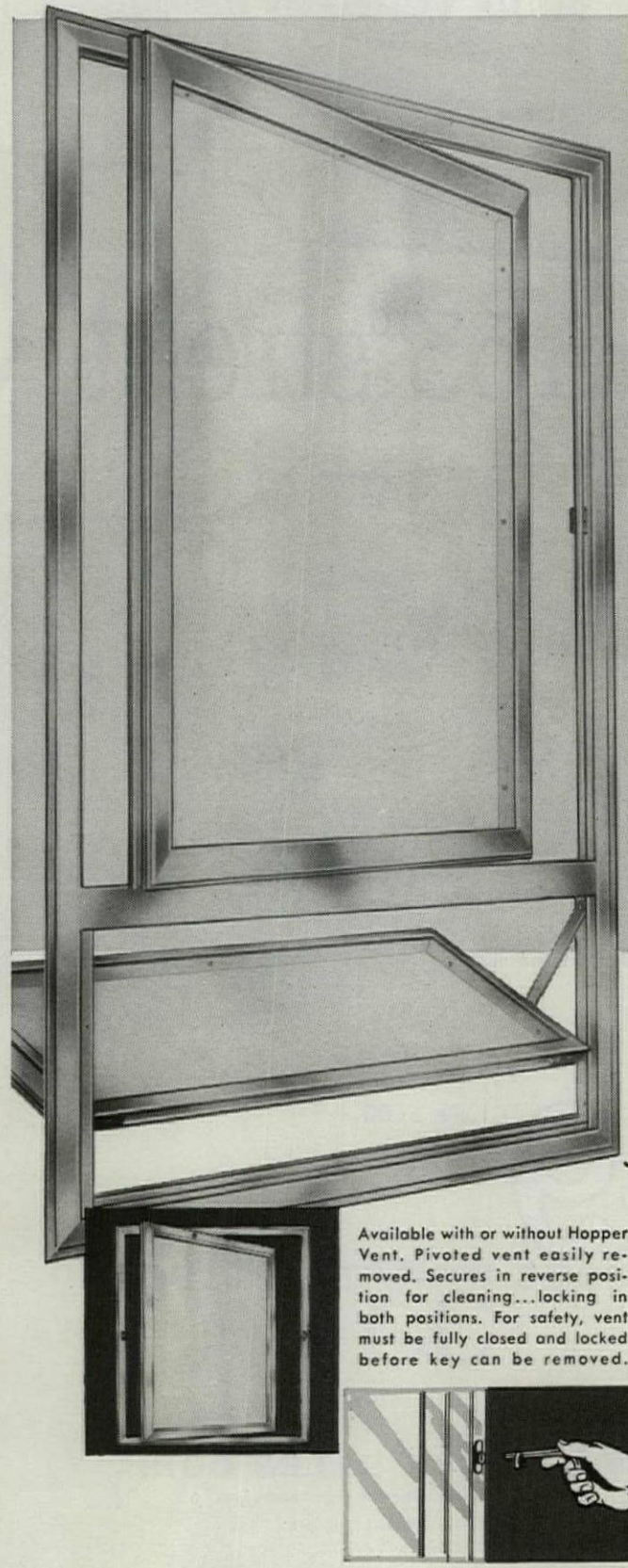

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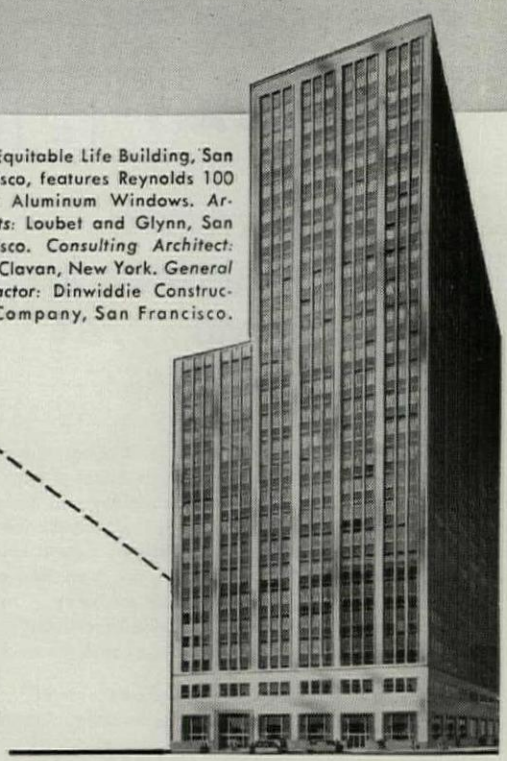


New Equitable Life Building, San Francisco, features Reynolds 100 Series Aluminum Windows. *Architects:* Loubet and Glynn, San Francisco. *Consulting Architect:* Irwin Clavan, New York. *General Contractor:* Dinwiddie Construction Company, San Francisco.

Available with or without Hopper Vent. Pivoted vent easily removed. Secures in reverse position for cleaning...locking in both positions. For safety, vent must be fully closed and locked before key can be removed.

REYNOLDS ALUMINUM

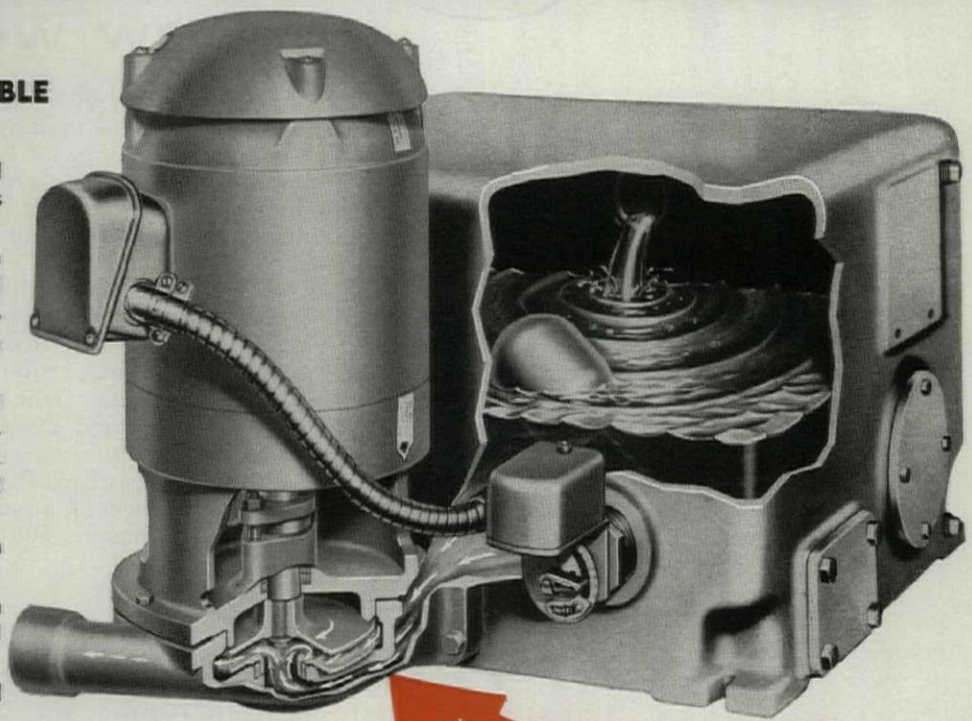
BUILDING PRODUCTS

See "FRONTIER," Reynolds new dramatic series, Sundays, NBC-TV Network.

HOFFMAN NEW AND IMPROVED CLOSE-COUPLED CONDENSATION PUMPS

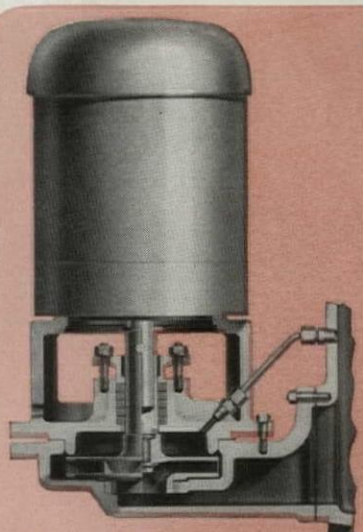
DESIGN FEATURES THAT ASSURE YOU THE MOST MODERN PUMP AVAILABLE

1. Bronze fitted throughout.
2. Enclosed, precision balanced bronze impeller that handles hot water effectively.
3. Stainless steel shaft extension accurately turned and ground with impeller securely locked.
4. Handy drain plug for draining impeller casing.
5. Ball bearing motor made and guaranteed by leading manufacturer 40° C. continuous duty, with ample overload capacity.
6. Heavy rust resisting cast iron receiver.
7. Heavy duty float control with seamless copper float and stainless steel rod.
8. No piping between pump and receiver.
9. Float switch is adjustable for various water levels in receiver.
10. Rigid motor support for quiet operation.



Type "HCS" Single Unit Hoffman Condensation Pump

WATER FLOWS DIRECTLY FROM CAST IRON RECEIVER INTO CENTRIFUGAL PUMP



ENCLOSED, PRECISION BALANCED BRONZE IMPELLER ON STAINLESS STEEL SHAFT. PUMP UNIT IS BOLTED DIRECTLY TO WATER TANK.

SINGLE AND DUPLEX UNITS—RATINGS THROUGH 150,000 SQ. FT. E. D. R.

A Compact Pump Combining Dependable Performance with Low Power Cost

The full benefits of rapid condensate removal at low operating cost are yours with this highly efficient, dependable Type "HC" unit. These new, improved pumps are designed to operate at a wide range of pressures without over-loading the motor and are especially adapted for operation at the extremely high temperatures encountered in condensation pump service. All cast iron and bronze construction, they are so designed that parts subject to wear can be easily renewed. All together, these HC Pumps are a typical Hoffman product of sound design and excellent workmanship.

For small systems: "Watchman No. WC-8-20" Pump for low pressure heating systems. Ratings: up to 8000 sq. ft. E.D.R. Pump Capacity: 12 gallons per min. Pressure: 20 lbs. per sq. in. at pump discharge. ⅓ HP standard NEMA motor.

Write today for your copy of this new Hoffman Condensation Pump Catalog.

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Makers of Valves, Traps, Hot Water Heating Systems, Vacuum and Condensation Pumps... Sold by Leading Wholesalers of Heating and Plumbing Equipment

so often glass is how we see

Here, at Libbey·Owens·Ford, experts have developed the most distortion-free plate glass ever made in America.

That's tremendously important when you consider these two things:

From inside, almost everything we see *outside*, is seen through glass. So the distortion-freedom of Parallel-O-Plate is vital in homes, schools and almost every kind of building.

From outside, almost everything we see *inside*, is seen through glass. So, Parallel-O-Plate is a "must" for any storefront. And every building we look *at* looks better when its windows are Parallel-O-Plate . . . because this glass is so distortion-free.

In most localities, this remarkable product costs no more than regular plate glass! So insist on it for *your* windows. If you plan on using double-pane insulating glass, be sure you get *Thermopane** made of Parallel-O-Plate. And make sure the mirrors you buy are made of it.

You can get Parallel-O-Plate from any Libbey·Owens·Ford Distributor or Dealer. You'll find his name under "Glass" in the yellow pages of most phone books. Or write to Dept. 83105, Libbey·Owens·Ford Glass Company, 608 Madison Avenue, Toledo 3, Ohio, for complete information. *®

L·O·F Parallel·O·Plate Glass

finest plate glass made in America . . . only by

LIBBEY·OWENS·FORD *a Great Name in Glass*

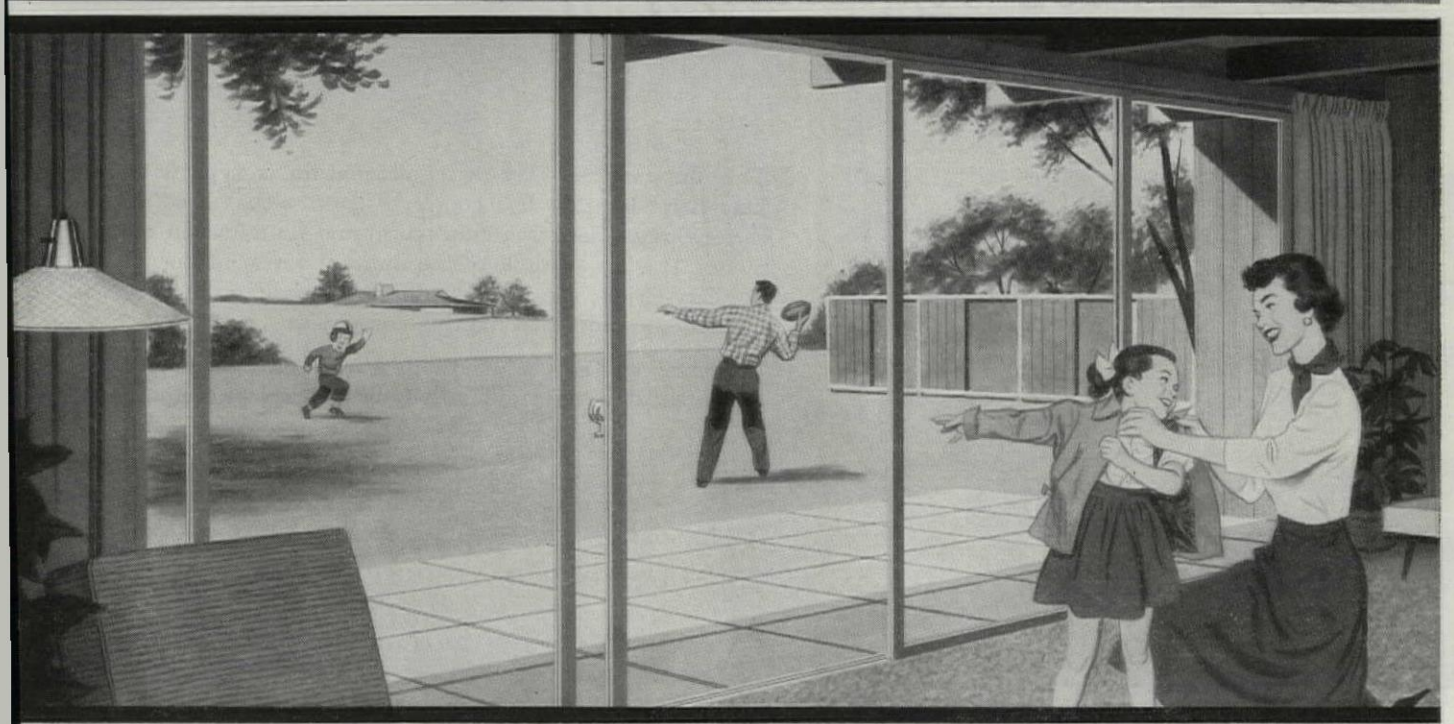
LOOKING IN through the Parallel-O-Plate Glass in a storefront, you hardly know the glass is there.

LOOKING AT windows of Parallel-O-Plate Glass, you see how much its truer reflections mean to exterior appearance.

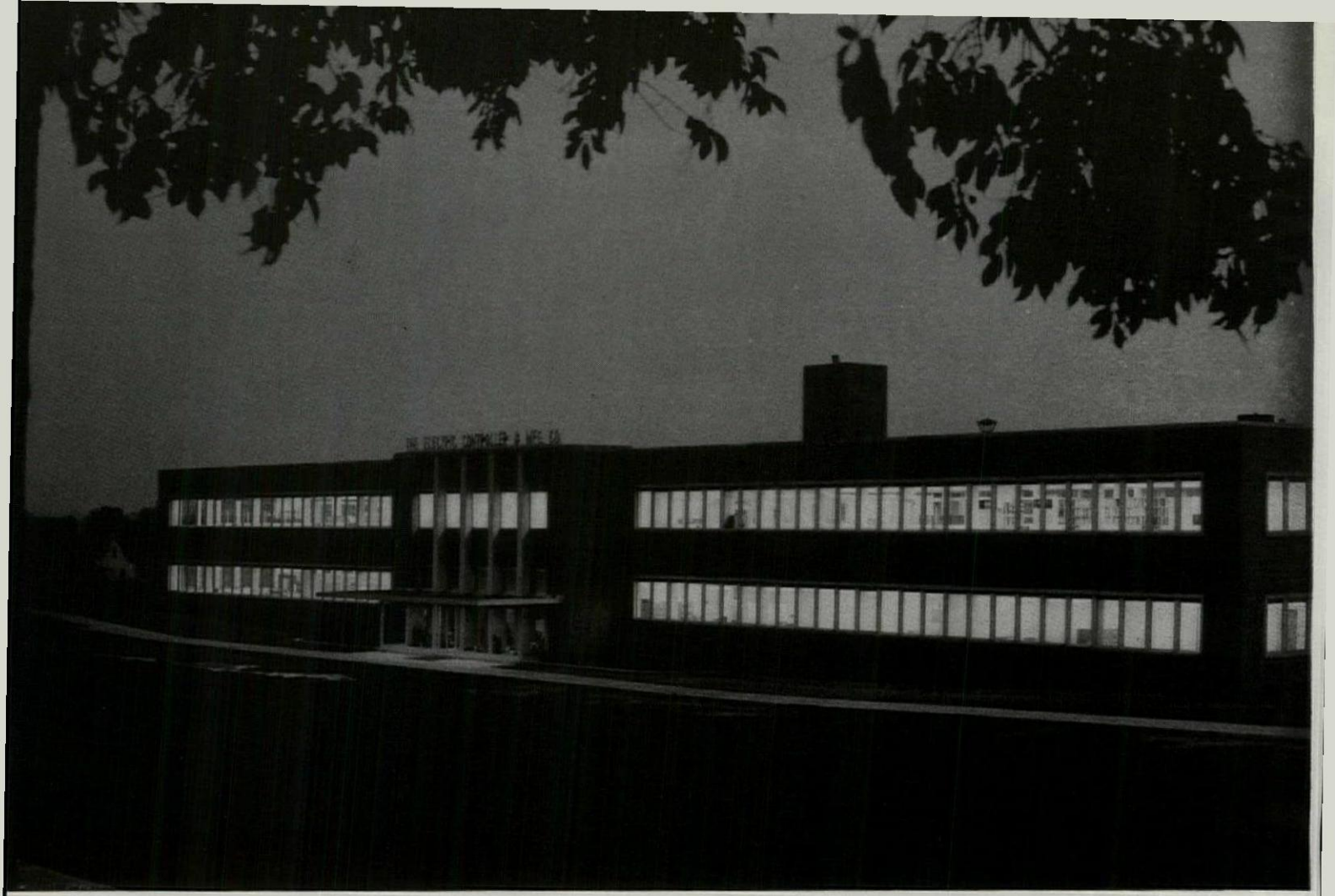
TWIN GROUND

L O F

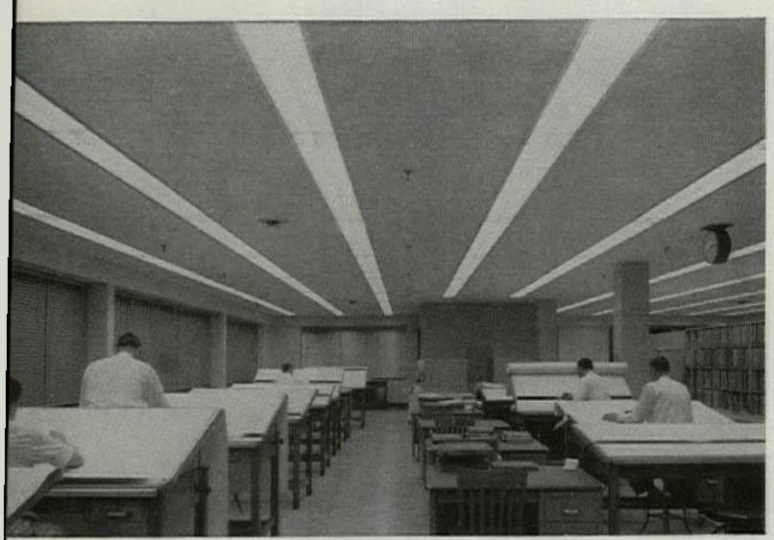
Polished PARALLEL-O-PLATE



LOOKING OUT of your sliding glass doors made of Parallel-O-Plate *Thermopane*, you see the scene as it *is*.



Day-Brite lighting, of course!



Plenty of intensity and comfort on drafting boards and desks, maintained by Day-Brite aluminum paralouver troffers, flush-mounted in acoustical ceilings.

This outstanding Day-Brite installation is typical of how Day-Brite lighting has complete "across-the-board" applications, regardless of architectural and illumination requirements. It is an example of the unusual versatility of fixtures by Day-Brite—the nation's largest manufacturer of commercial and industrial lighting equipment.

Whatever the nature of architectural and lighting requirements, they can be ideally met by Day-Brite, *the complete line!*

SEE, EXAMINE and COMPARE Day-Brite. Look at the fixtures, not just the pictures. You will easily see many reasons why the name Day-Brite rates priority in your specifications.

CONSULT YOUR DAY-BRITE REPRESENTATIVE.

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Day-Brite Lighting, Inc.

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In Canada: Amalgamated Electric Corp., Ltd., Toronto 6, Ontario

"DECIDEDLY BETTER"

DAY-BRITE®

Lighting Fixtures

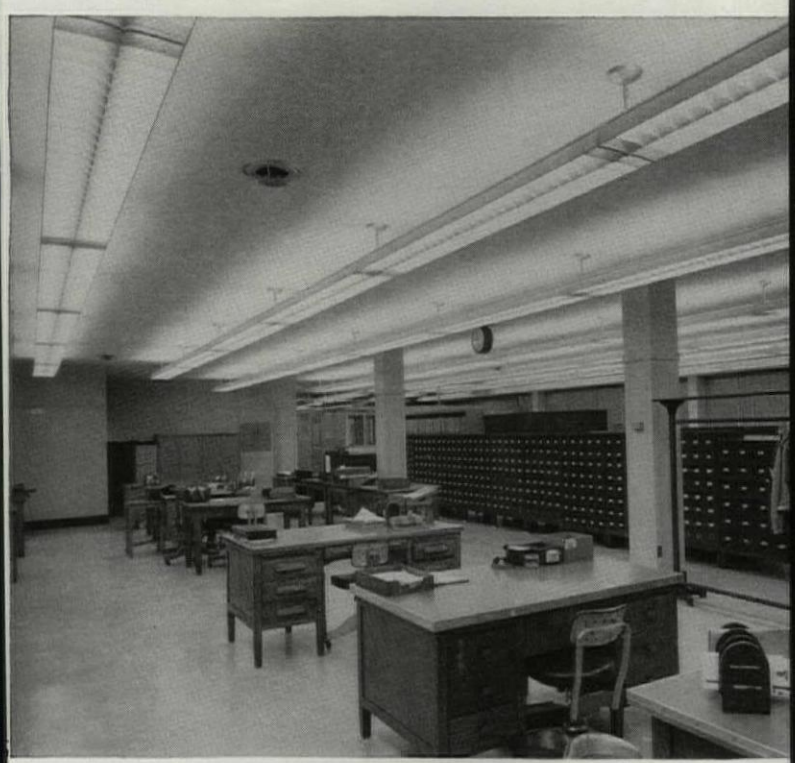
New 340,000 sq. ft. Electrical Controller & Manufacturing Company building, Cleveland, Ohio . . .

Architect: Arthur E. Rowe & Associates, Cleveland

General Contractor: Sam W. Emerson Company, Cleveland

Electrical Engineer: P. C. Mehnert & C. K. Reid, Cleveland

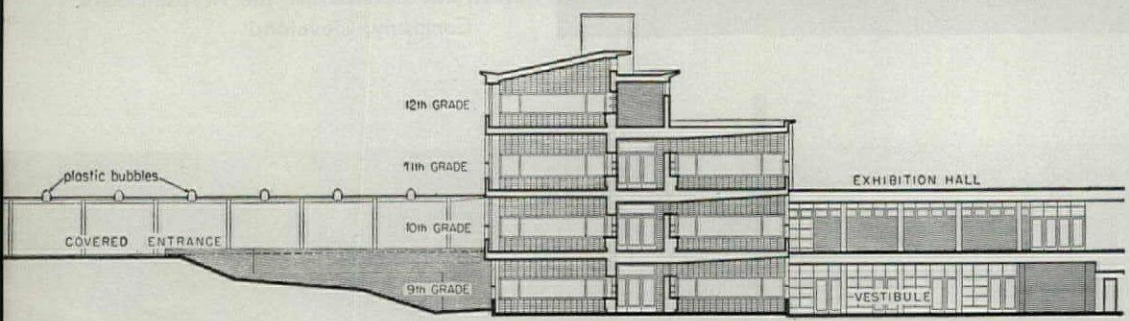
Electrical Contractor: The Herbst Electric Company, Cleveland



Day-Brite continuous Luvex® light this office area. Note straight-line runs and high desk-top visibility.

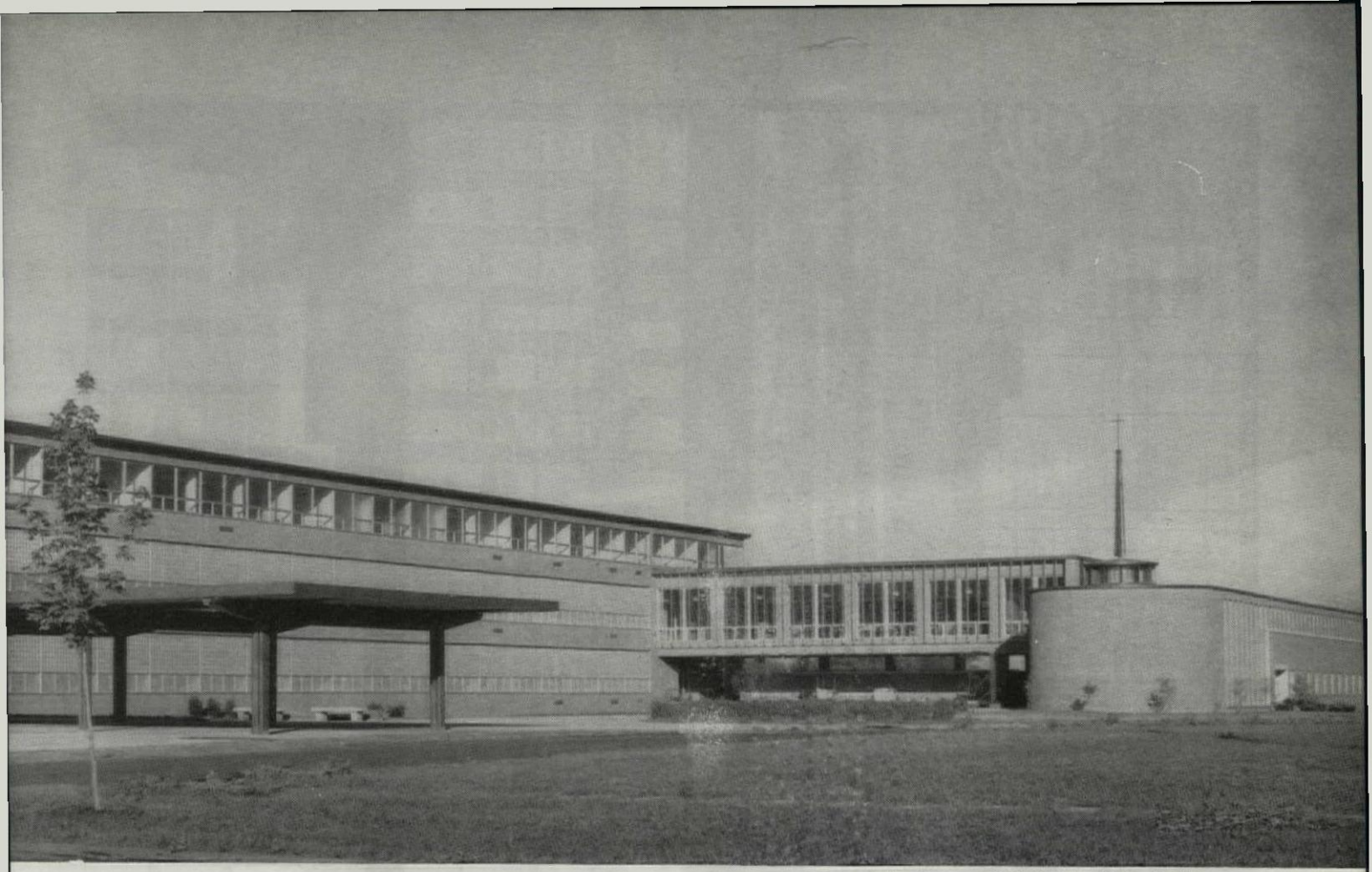
Day-Brite CFI-10 (Comfort For Industry) with 10% *upward* lighting. Ceiling contrasts are washed out and greater visual comfort assured.

In addition, the following Day-Brite fixtures were also installed: Plexoline,® Ranger,® Strip, Duo-Frame and Exits.



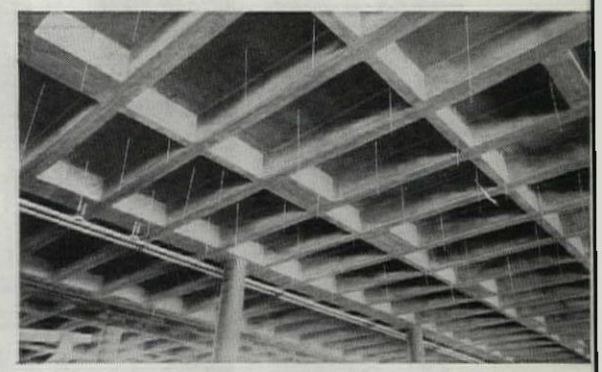
How a school was designed at savings of 31% in floor system costs

CECO STEEL

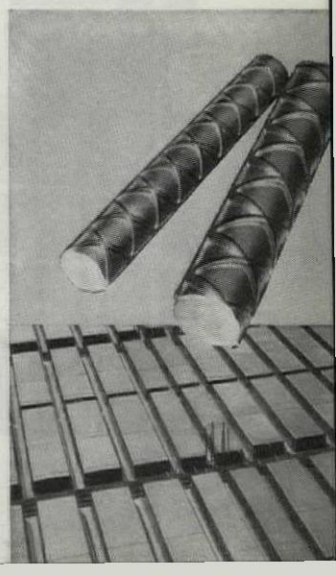


Bishop DuBourg High School—St. Louis, Missouri
Architects: Murphy & Mackey/Structural Engineer: Neal J. Campb
Contractor: C. Rallo Contracting Company, Inc.

Ceco-Meyer Removable Steelform Construction proves more economical than solid slab or tile filler in study made for Bishop DuBourg High School in St. Louis. When a school is designed around a program planned jointly by architects and educators, it is possible to cut costs and at the same time satisfy functional and psychological needs. So goes the story of Bishop DuBourg High School. Architects Murphy & Mackey asked the school administrators to outline physical requirements and spiritual essentials. On the basis of that data, they created a pupil-centered school with a warm, human atmosphere instead of an institutional feeling. The building is four stories high, with each floor a one-grade school in itself . . . classes stacked one above the other. Common facilities, including library, shop and gymnasium, are tied in so students can reach them without walking through corridors used by other grades. With layout settled, methods of construction then got a critical eye. Floor systems studied were (1) solid slab and (2) concrete joist construction formed with (A) tile filler and (B) removable steelforms. Ceco-Meyer Removable Steelforms were selected on the basis of 31% savings in cost over solid slab and 27% over tile filler. Reasons for savings: less forming lumber, concrete, steel and labor than solid slab; less material cost than tile filler. Also the Ceco method was deemed the most practical and fastest for rigid fire-safe construction. So on your next building project consult Ceco Engineers in the preplanning stage. Chances are they can help you on advance programing so savings can be made in time, material and labor.



Underside view of concrete joists formed with Ceco-Meyer Removable Flange-Type Steelforms, showing tie-wires for ceiling attachment.



Ceco Reinforcing Steel was fabricated in accordance with design drawings. Delivery was made to the job site as required by the contractor's construction schedule, thus saving double handling on the job.

●

View of Ceco-Meyer Steelforms in place, ready for placement of reinforcing steel.

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OFFICES, WAREHOUSES AND FABRICATING PLANTS IN PRINCIPAL CITIES

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GENERAL BRONZE CORPORATION

adds 2nd National Bank, Houston, Texas, to its

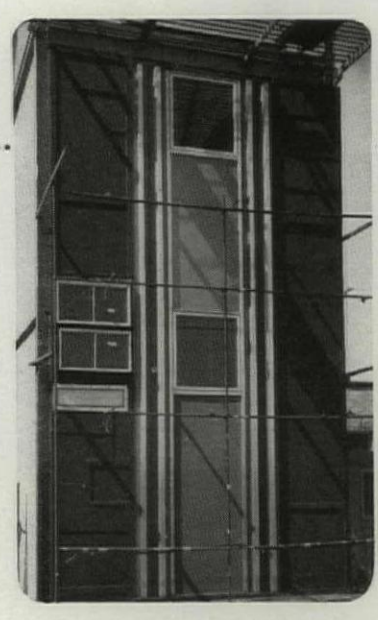
SKYLINE OF ALCOA ALUMINUM

2nd National Bank Building, Houston, Texas. *Architect:* Kenneth Franzheim, A.I.A., Houston, Texas; *Contractor:* W. S. Ballows Construction Co., Houston, Texas; *Aluminum:* General Bronze Corporation, New York, New York.

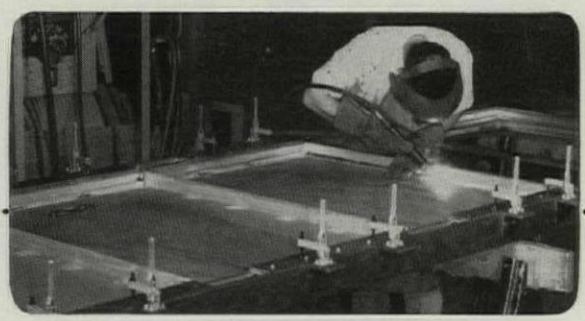
99 and 100 Park Avenue, 260 and 261 Madison Avenue, 60th and Madison Avenue, New York, New York; the Alcoa Building, Pittsburgh, Pennsylvania; Equitable Life Insurance Society Building, Milwaukee, Wisconsin. And now, the 2nd National Bank Building, Houston, Texas. These are a few of the many aluminum sheathed skyscrapers General Bronze Corporation has raised in five years. They form a sky line of which any city could be proud.

One of the oldest architectural metal fabricators in the country, General Bronze Corporation's services complement the architect's designs by performing the fabrication and installation. Working closely with Alcoa over many years, they have a fund of knowledge concerning aluminum sheathed buildings that makes these services invaluable to the architects and owners who employ them.

For full information on Alcoa® Aluminum clad buildings, their advantages and their fabricators, call your local Alcoa sales office. Or write ALUMINUM COMPANY OF AMERICA, 1890-K Alcoa Building, Pittsburgh 19, Pennsylvania.



General Bronze testing tower with panel from 2nd National Bank Building ready for air and watertightness test.



Welding curtain wall panel for 2nd National Bank Building at General Bronze Corporation's Garden City, Long Island, plant.

YOUR GUIDE TO ALUMINUM VALUE

ALCOA ALUMINUM

ALUMINUM COMPANY OF AMERICA

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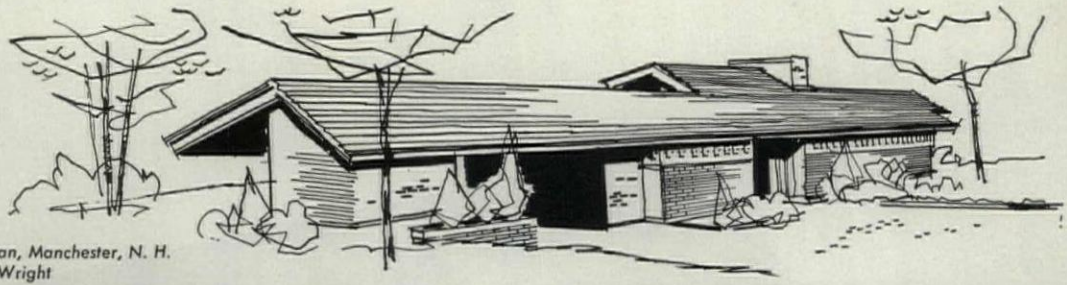
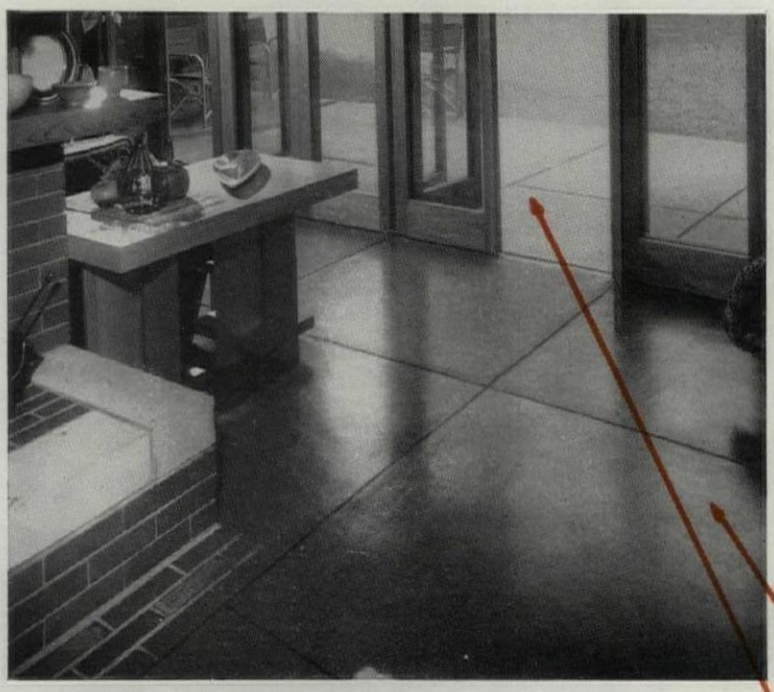
Will your clients enjoy the convenience and satisfaction of telephone outlets in all the right places with wires concealed? There's one way to be sure—specify telephone conduit.

Your Bell telephone company will be glad to help you work out economical conduit installations. Just call your nearest business office and ask for *Architects and Builders Service*. For details on home telephone wiring, see Sweet's Light Construction File, 8i/Be. For commercial installations, Sweet's Architectural File, 31a/Be. **BELL TELEPHONE SYSTEM**



Home of Mrs. I. Zimmerman, Manchester, N. H.
Designed by Frank Lloyd Wright



From the first rough sketches . . .

Frank Lloyd Wright specified Colorundum floors for their warmth of color and beauty."

Mrs. I. Zimmerman, Manchester, N. H.

"Look at these photographs of our exciting new home and you can see why we just wouldn't consider drab, colorless concrete. From the first rough sketches," writes Mrs. Zimmerman, "we planned attractive, luxurious Colorundum for the patio and the service areas . . . especially when we found out how little it cost!"

Colorundum is the ideal solution to the problem of exposed or uncarpeted areas of plain concrete. It provides colorful, wear-resistant floors at just a fraction of the cost of tile.

Colorundum is far more resistant to traffic than ordinary concrete floors. It is a balanced formulation of nonslip aggregate (next to the diamond in hardness), water-repellent compounds, and durable colors . . . contains no silica, quartz, metal or sand. It is easy to keep clean, and since it contains no metal, it will not rust or stain.

Colorundum is available in eleven decorator colors.

Fused color. Not a paint or coating! Colorundum is troweled into the concrete topping and becomes an integral part of the surface, producing beauty and durability.

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So Distinctive!
Pella Mahogany Folding Doors . . . at New Savings

PELLA WOOD FOLDING DOORS of beautiful, rich-grained Philippine mahogany are now available for your use . . . at savings up to 31%! New manufacturing methods, with increased production, make this price reduction possible on Pella Mahogany Doors.

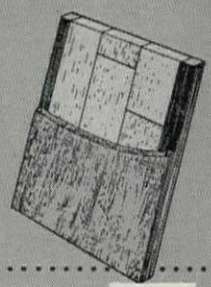
Specify PELLA WOOD FOLDING DOORS as folding partitions, closet closures and for regular openings in homes. Use them to create double-purpose rooms in schools, churches, hotels, clubs and other buildings. Pella Doors fold compactly against door jambs or walls. Every inch of floor and wall space can be used.

PELLA WOOD FOLDING DOORS are available in mahogany, pine, oak or birch . . . finished or unfinished. They are packaged, complete with all hardware and concealing track mould. No costly fitting on the job. Send for sample of laminated mahogany Pella Door Panel today. See our catalog in Sweet's or mail coupon below for FREE cut-a-way section of a Pella Door Panel.

ROLSCREEN COMPANY, Dept. G-12, PELLA, IOWA.

Pella®

WOOD FOLDING DOORS



CLIP AND MAIL TODAY!

ROLSCREEN COMPANY, Dept. G-12,
PELLA, IOWA

GENTLEMEN: Please send FREE sample of laminated mahogany Pella Door Panel and literature on Pella Wood Folding Doors.

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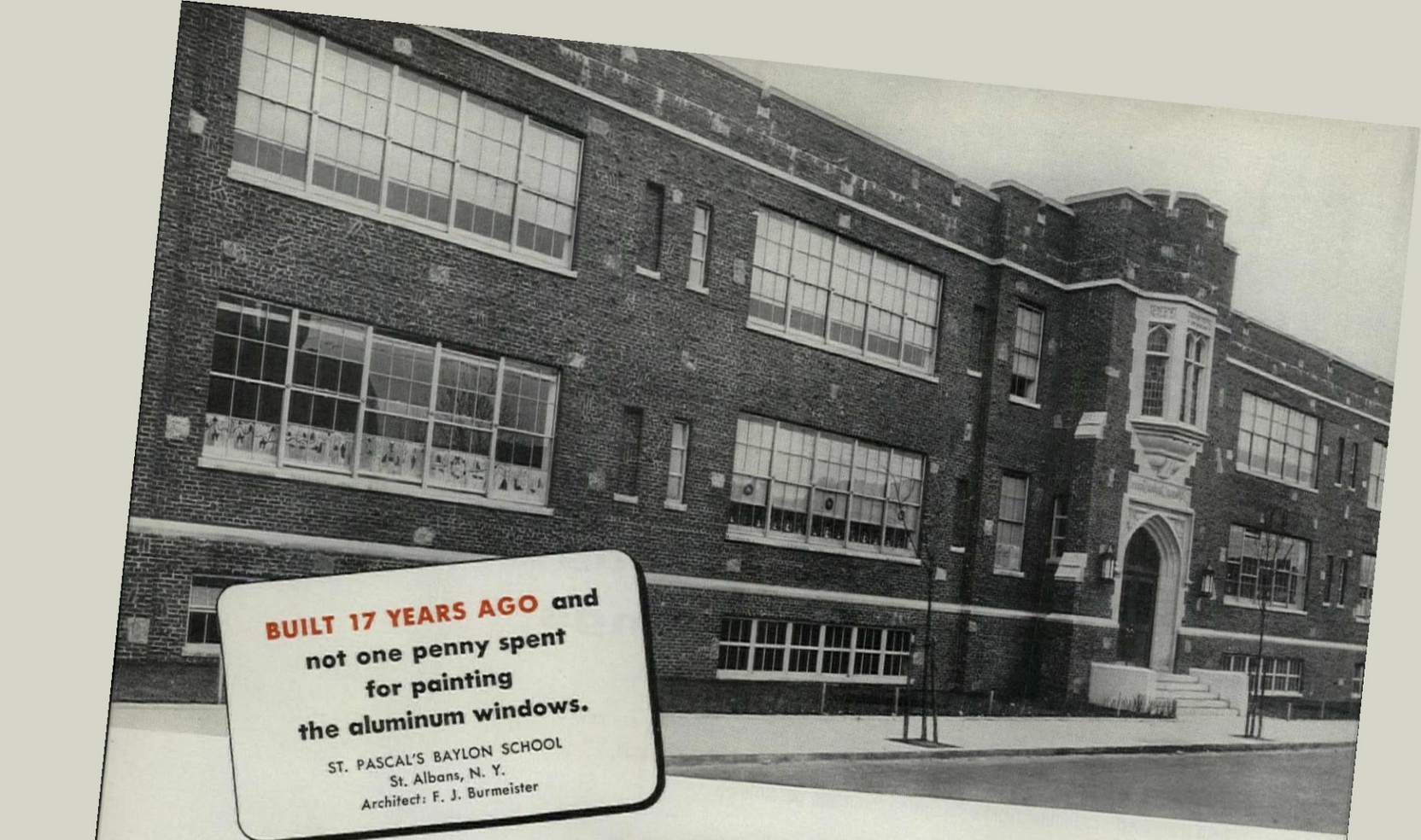


BUILT 17 YEARS AGO and
not one penny spent
for painting
the aluminum windows.

ST. PASCAL'S BAYLON SCHOOL
St. Albans, N. Y.
Architect: F. J. Burmeister

EXPERIENCE PROVES...

YOU CAN SAVE MONEY

WITH WINDOWS THAT

NEVER NEED PAINTING!

QUALITY APPROVED
(TYPE)
A.W.M.A. Quality Specifications—Materials, Construction, Strength of sections and Air infiltration requirements—confirmed by Pittsburgh Testing Laboratory.
MEMBER—ALUMINUM WINDOW MANUFACTURERS ASSOCIATION

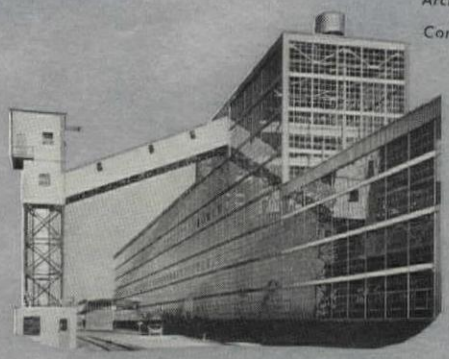
For schools, hospitals, apartments, commercial and industrial buildings, where maintenance expense is to be kept at a minimum, insist on

Quality Approved

ALUMINUM

HOSPITAL
Veterans Administration Hospital, Durham, N. C.
Architects: George Watts Carr
J. N. Pease & Company
Contractor: Thompson & Street

COMMERCIAL BUILDING
Oklahoma Farm Bureau, Oklahoma City, Okla.
Architect: Noftsger & Lawrence
Contractor: Charles M. Suttle Construction Company



INDUSTRIAL PLANT
Libby-Owens-Ford Glass Co., Toledo, Ohio
Engineers & Builders: A. Bentley & Son

SCHOOL
John Fitch Elementary School, Levittown, Pa.
Architect: H. L. Shay
Contractor: E. H. Keefer & Son

ALUMINUM WINDOWS REDUCE MAINTENANCE EXPENSE TO A MINIMUM

Today, more than ever before, school officials, hospital superintendents, building owners and mortgage bankers are *all* interested in keeping maintenance expense at a minimum.

Experience in hundreds of schools (like the one shown on opposite page,) in hospitals and other types of buildings erected 15 to 25 years ago shows that not one penny of expense was ever required for painting the aluminum windows.

Aluminum windows (whether they be double-hung, casement, awning or projected type) are the only practical, reasonably-priced windows that *never* require painting . . . that cannot rust or rot, warp or swell . . . that retain their trim, modern-looking appearance for the life of the building.

A WORD OF CAUTION—Remember, that only aluminum is rustproof through and through. Mere surface protection against rust is not enough. Wear, unintentional scratches in delivery or installation may nullify any protective surface coating and soon require painting.

"Quality-Approved" aluminum windows are available through many manufacturers in sizes and styles that fit any exterior design treatment. For your protection and full satisfaction, insist on the "Quality-Approved" Seal when you specify or OK specifications.

For a copy of our latest window specifications book and names of approved manufacturers, consult Sweet's Architectural Catalog (Section 16a/ALU) or write direct to Dept. PA-10.

Aluminum Window Manufacturers Association

75 West Street, New York 6, N. Y.

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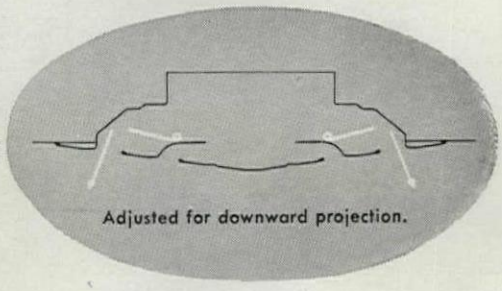
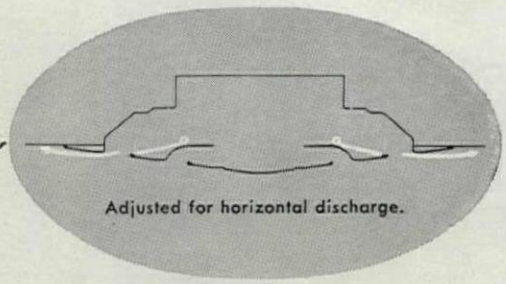
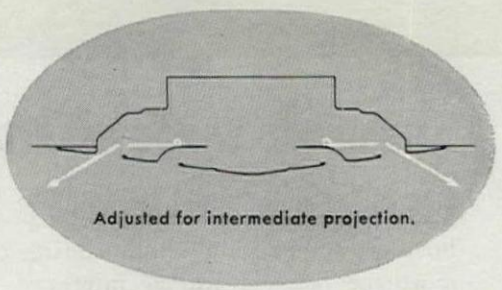
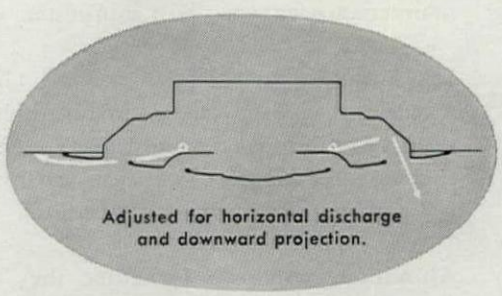
WINDOWS

Take a look at a TRULY ADJUSTABLE Diffuser









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TYPE "OA"

Here's a distinctively different diffuser with a radically new means of controlling air direction at four different angles of discharge simultaneously. ***Without changing the position of the spinnings,*** **AGITAIR "OA" diffusers can be adjusted to put the air where you want it in one, two, three or four directions . . .** ***after installation.*** **Result: Segmentized . . . positive adjustability with Finger-Tip Air Direction Control.**

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Air Diffusers • Filters • Exhausters

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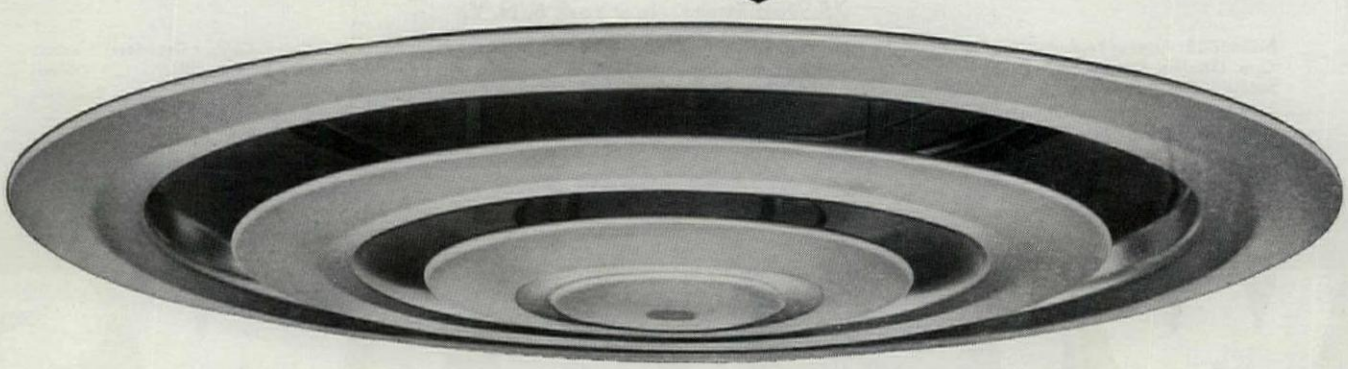
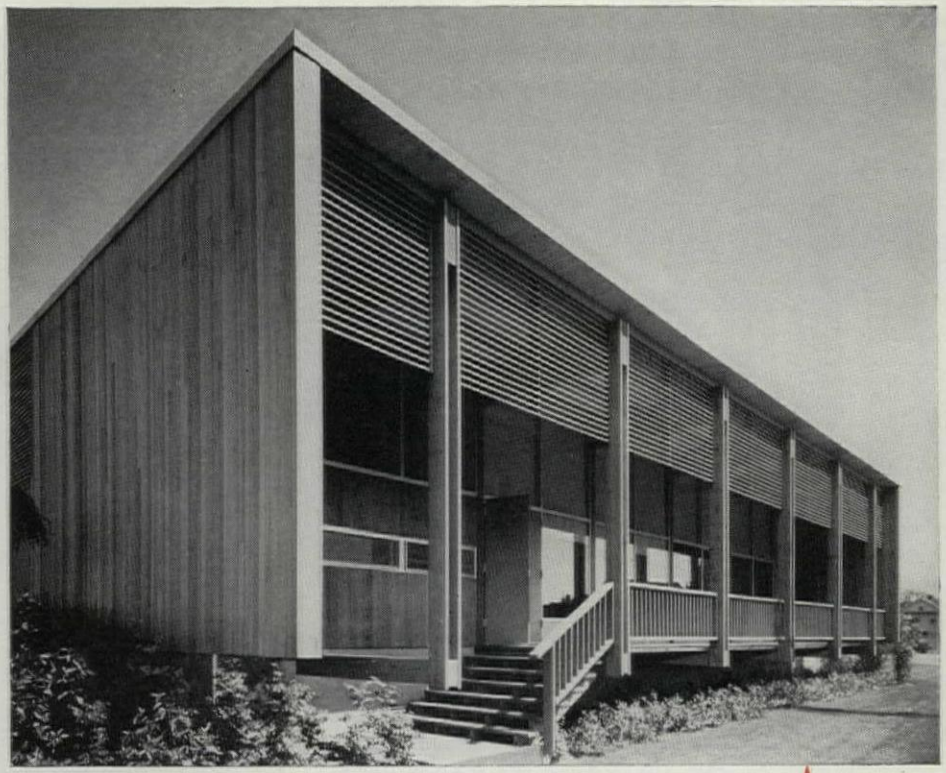


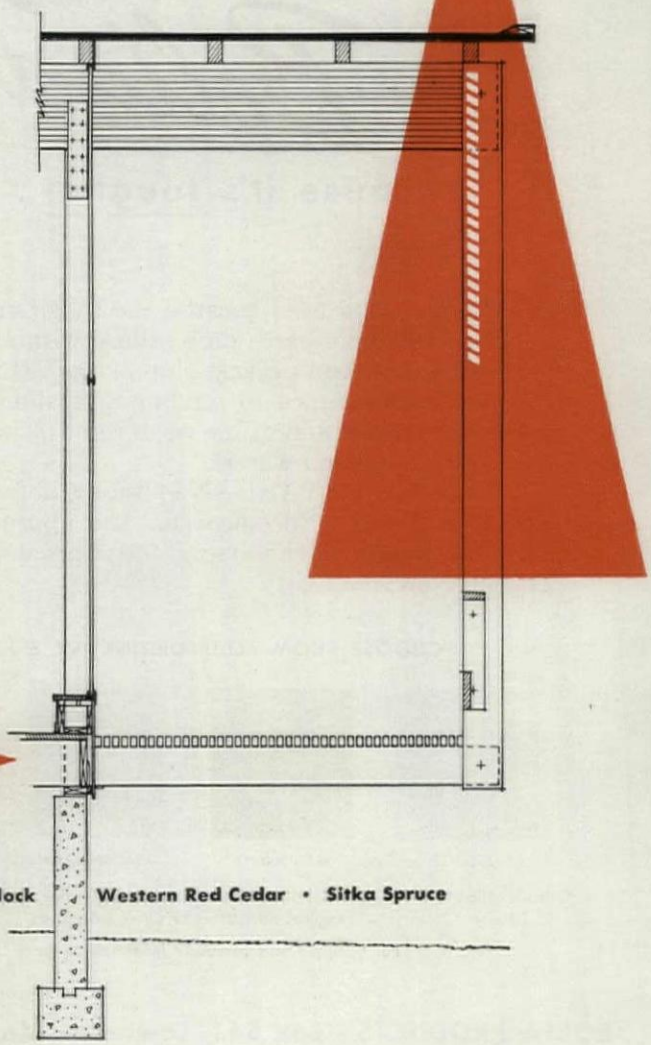


Tucker-Maxon Oral School designed by the office of Belluschi and Skidmore, Owings & Merrill. Another outstanding example of the use of wood in modern architectural designs produced by this firm.

THERE ARE ALWAYS NEW USES FOR WEST COAST LUMBER

Contrasts of vertical and horizontal patterns make this modern application of wood especially dramatic. The attractive and practical suspended porch takes advantage of cantilevered beams and joists. Louvres shield the building's interior from direct sun and add to the open feeling of a covered access area.

For freedom of expression, specify wood... the economical, ever-modern building material. Specify West Coast species by name... Douglas Fir, West Coast Hemlock, Western Red Cedar and Sitka Spruce.



WEST COAST LUMBER

Douglas Fir • West Coast Hemlock • Western Red Cedar • Sitka Spruce

Send for folder describing free literature available for your reference files.
West Coast Lumbermen's Assn., 1410 S. W. Morrison St., Portland 5, Ore.

it's *Bolta-Wall* vinyl wall covering

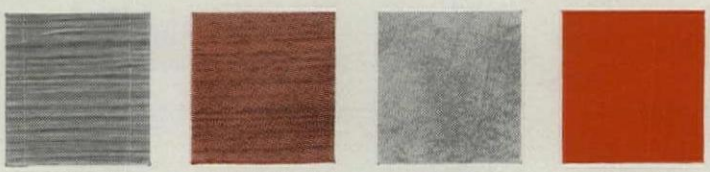
because it's tougher . . . and easier to clean!

Bolta-Wall was used because the tough vinyl surface will take hard, daily abuse without a sign of wear—won't crack, chip or peel. It has wonderful resistance to scuffing or staining—and dirt, grease and grime wash right off with just mild soap and water!

It's FIRE-RETARDANT, too! Conforms to U. S. Federal Specifications and approved by the Board of Standards and Appeals for use in New York City.

Above Bolta-Wall installation by Akron Floors, Inc., Akron, Ohio. Architects, Conrad & Simpson, Hanna Bldg., Cleveland, Ohio.

CHOOSE FROM FOUR DISTINCTIVE EFFECTS



BAMBOO* MAHOGANY* LEATHERGRAIN GEORAMA

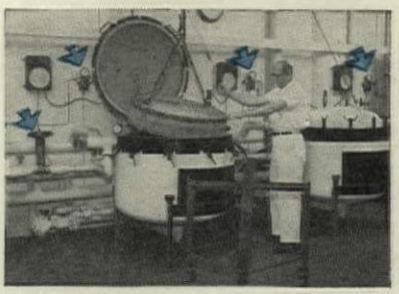
*Also available in *Pre-pasted* Bolta-Wall *tile* (8″ x 8″)—the revolutionary new tile that requires no pastes or other adhesives.

For samples and complete information, write . . .

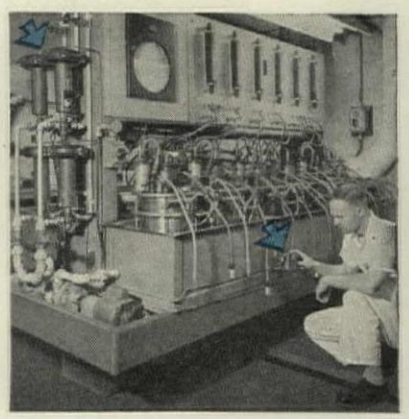
GENERAL PLASTICS
The General Tire & Rubber Company

BOLTA PRODUCTS • Box 541, Lawrence, Mass., Division of The General Tire & Rubber Company

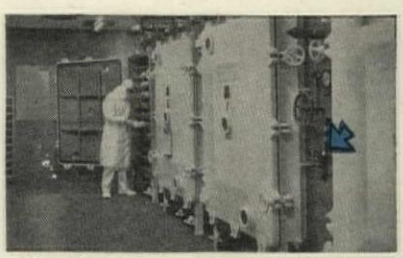
Shaker room and incubator in Fermentation Department. Powers Temperature Recording Controllers are used here.



Ampoule Sterilizers regulated by Powers No. 252 Pressure Regulators and Valves.



Fermentation process in research pilot plant controlled by Powers ACCRITEM Regulators and FLOWRITE Valves.



A few of the many vacuum dryers equipped with Powers Temperature Controllers.

Below: Air Conditioned Room for Board of Directors and executive conferences.

POWERS *AUTOMATIC* temperature, humidity and pressure control

.... helps Abbott Laboratories bring better health to millions

Heating and Air Conditioning in many of the above buildings are automatically regulated by Powers Temperature and Humidity Control Systems.

Research at Abbott's has paid off in an unbroken dividend record, numerous stock dividends and splits. Many of their famous products such as Nembutal, Pentothal, Erythrocin, Iberol, Vi-Daylin, Selsun and Sucaryl have been developed in laboratories equipped with Powers control.

Versatility of Powers control used at Abbott's is indicated by some of the applications shown here and in the following installations: Air conditioning control systems for auditorium with 900 seating capacity, executive offices and dining room, cafeteria and animal rooms; also controls for tablet machines, demineralized water heaters, autoclaves and many other applications.

When you need automatic control for temperature, humidity or pressure, call your nearest Powers office or write us direct. An experienced Powers engineer will gladly help you select the right type of control for your requirements.

(c42a)

THE POWERS REGULATOR COMPANY

SKOKIE, ILLINOIS | *Offices in chief cities in U.S.A., Canada and Mexico*

Over 60 years of Automatic Temperature and Humidity Control

Her Bathroom in Beautyware Sea Green - - - - His in Beautyware Sandstone

Two Bathrooms of BRIGGS BEAUTYWARE

New Pattern for Today's Living

NATIONAL HOUSING CENTER
WASHINGTON, D. C.

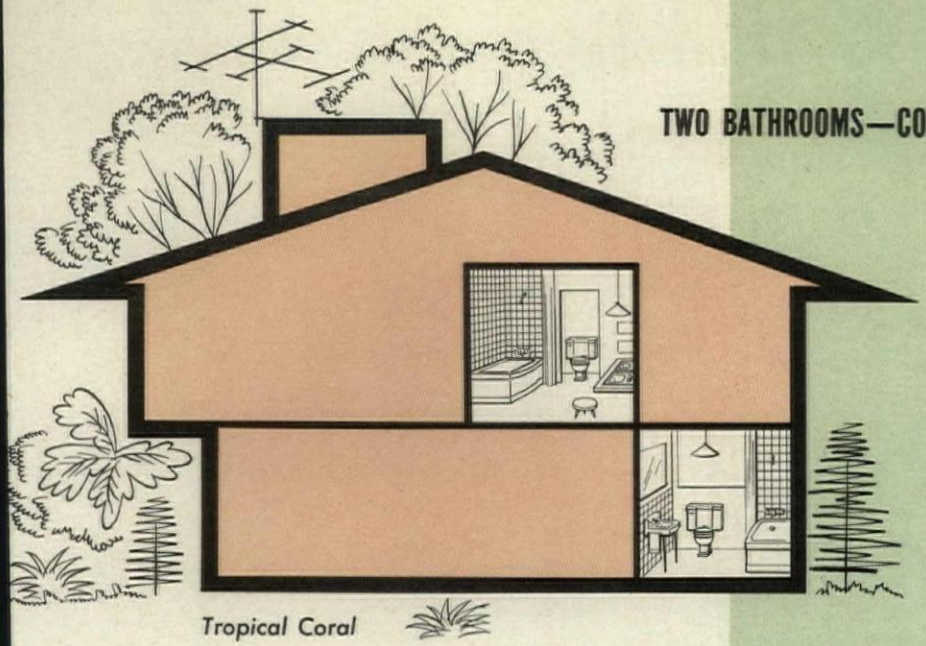
There is a new pattern for family living in America — more children, better health and hygiene, more personal grooming, greater luxury and convenience. All these add up to the need for *two bathrooms.*

Home designs can be made more desirable and livable with two bathrooms. Home sales can be made much more readily. And installation is so fast, easy and economical with modern, *engineered* fixtures.

Exceptionally pleasing pastel colors, surfaces hard as glass, exclusive safety and utility features, trouble-free fittings, time-saving installation, realistic prices — these are only a few of the many reasons why Briggs Beautyware is first choice for an ever increasing number of two-bathroom homes.

TWO BATHROOMS—COLONIAL STYLE

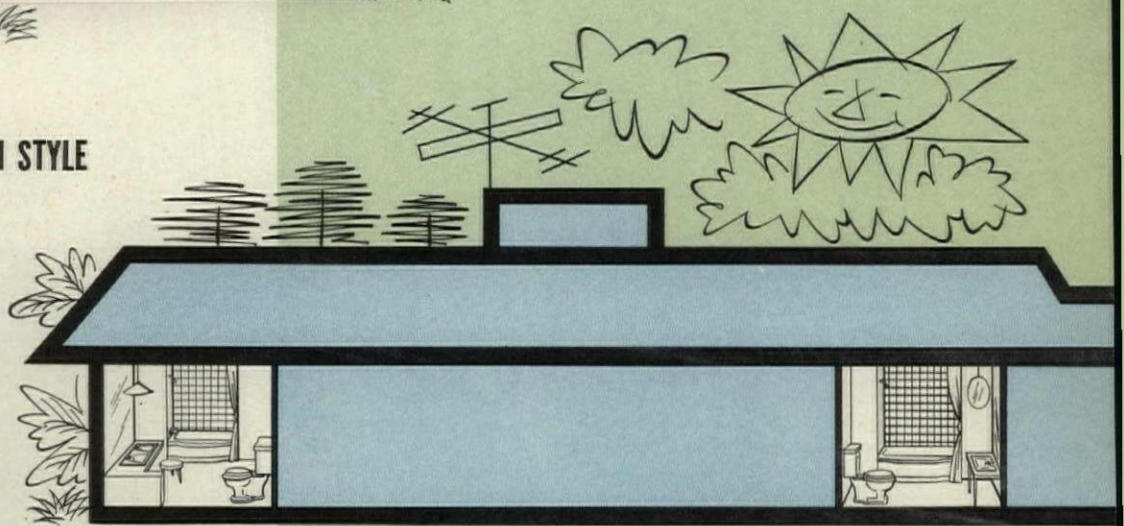
Today's living has created the need for two bathrooms, and Beautyware fixtures have made this plan practical in every home. In a colonial residence, you may prefer a bathroom on both floors. You can have them in your choice of five rich, glistening Beautyware colors, or white—in a wide variety of modern contour-styled models—and for much less cost than you may think.



Tropical Coral

TWO BATHROOMS—RANCH STYLE

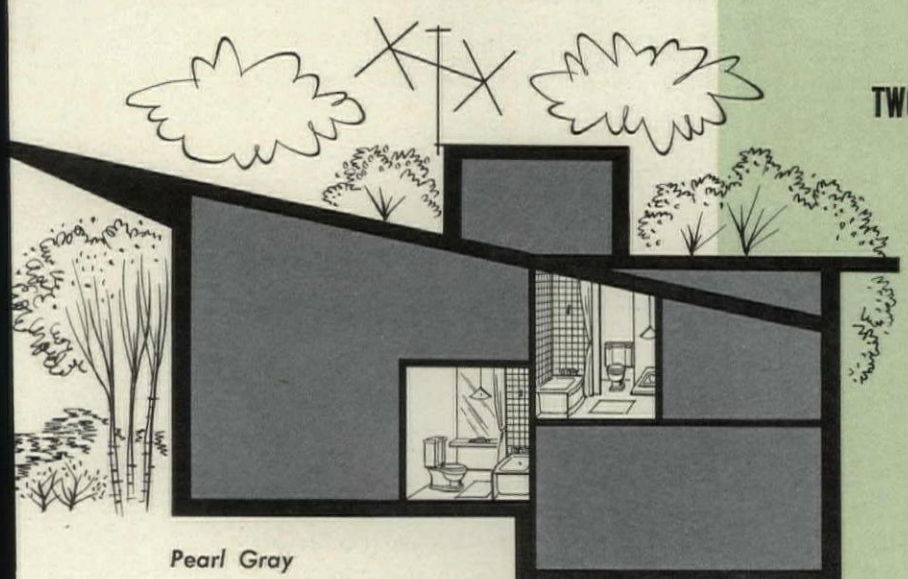
For your ranch home, you can have two widely separated bathrooms—each a blend of luxury and utility. For example, Beautyware surfaces are *hard as glass*, stain resistant, and so easy to keep clean. Beautyware tubs have an exclusive safety bottom. Closets are whisper-quiet. Lavatories are deep-contoured, handsome. In every detail, Beautyware fixtures are smart, durable and practical.



Sky Blue

TWO BATHROOMS—CONTEMPORARY STYLE

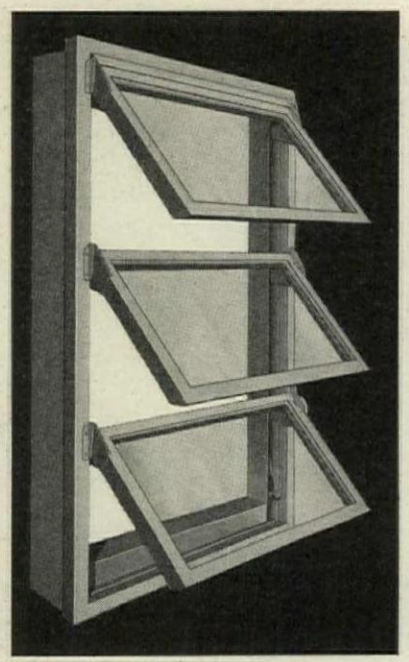
In a contemporary dwelling, you may prefer a split level floor plan with two adjacent Briggs Beautyware bathrooms. Like all Beautyware two-bathroom plans, this is extremely practical, for Beautyware's matchless quality actually costs less. Better homes everywhere are featuring the practical luxury and convenience of two Beautyware bathrooms for today's modern living.



Pearl Gray

SPECIFY BEAUTYWARE—TWICE; a product of BRIGGS Manufacturing Company, Detroit 26, Michigan

Gate City's New "Type H" Wood Awning Window contains Important *asked-for features!



*The development of the new "Type H" unit was based on day-to-day suggestions from architects, builders, dealers and home owners; and concluded by extensive study and research.

- **NEW SIZES**—New, more popular sizes—13 stock sizes—will be stocked for immediate shipment. (48 other sizes available on order.)
- **CARTON PACKAGING**—All stock units are carton packed, 2 per carton. Carton includes screens, extension jambs, cranks and escutcheons. Windows completely assembled and glazed.
- **ENCLOSED HARDWARE**—Redwood covers enclose hardware in jambs and sill. Offers proven advantages of Gate City's sturdy dual-action hardware PLUS beauty.
- **WOOD GLAZING BEAD**—Glass is bedded in putty with wood bead exterior glazing. Completely eliminates all putty problems.
- **REDWOOD EXPOSED PARTS**—All exposed parts are made of Redwood for superior durability and workability. Available in matched, heart Redwood at slight extra cost when specified.
- **REMOVABLE DOUBLE GLAZING**—Aluminum framed individual storm sash easily applied to each vent. Provides efficient double glazing when desired.
- **THERMOPANE RABBETING**—Standard sash rabbeting will take Thermopane glass, which can easily be installed with wood glass mold.
- **EXTENSION JAMB GROOVING**—Backside of window jambs are grooved to take extension jambs. Tongued extension jambs are furnished with each unit.

In addition to the above features, the new "Type H" window embodies all the qualities, all the advantages that have made Gate City the standard of the awning window industry—fixed hinge operation; simple, sturdy dual-action hardware, inside screens, Perma-Treated wood. With more than 40 years' experience as window craftsmen, it's easy to see why more architects, builders and contractors specify Gate City with confidence.

"Push-Button Ventilation" is here! Gate City's electrically-operated Aluminum Awning Window opens and closes with the flick of a switch.

There's nothing like it for clerestory or otherwise inaccessible installations, and for *all* openings in your better projects. This superior new Aluminum Awning Window is also available in crank-operated models.

Gate City AWNING WINDOWS

Perma-treated for Long Life

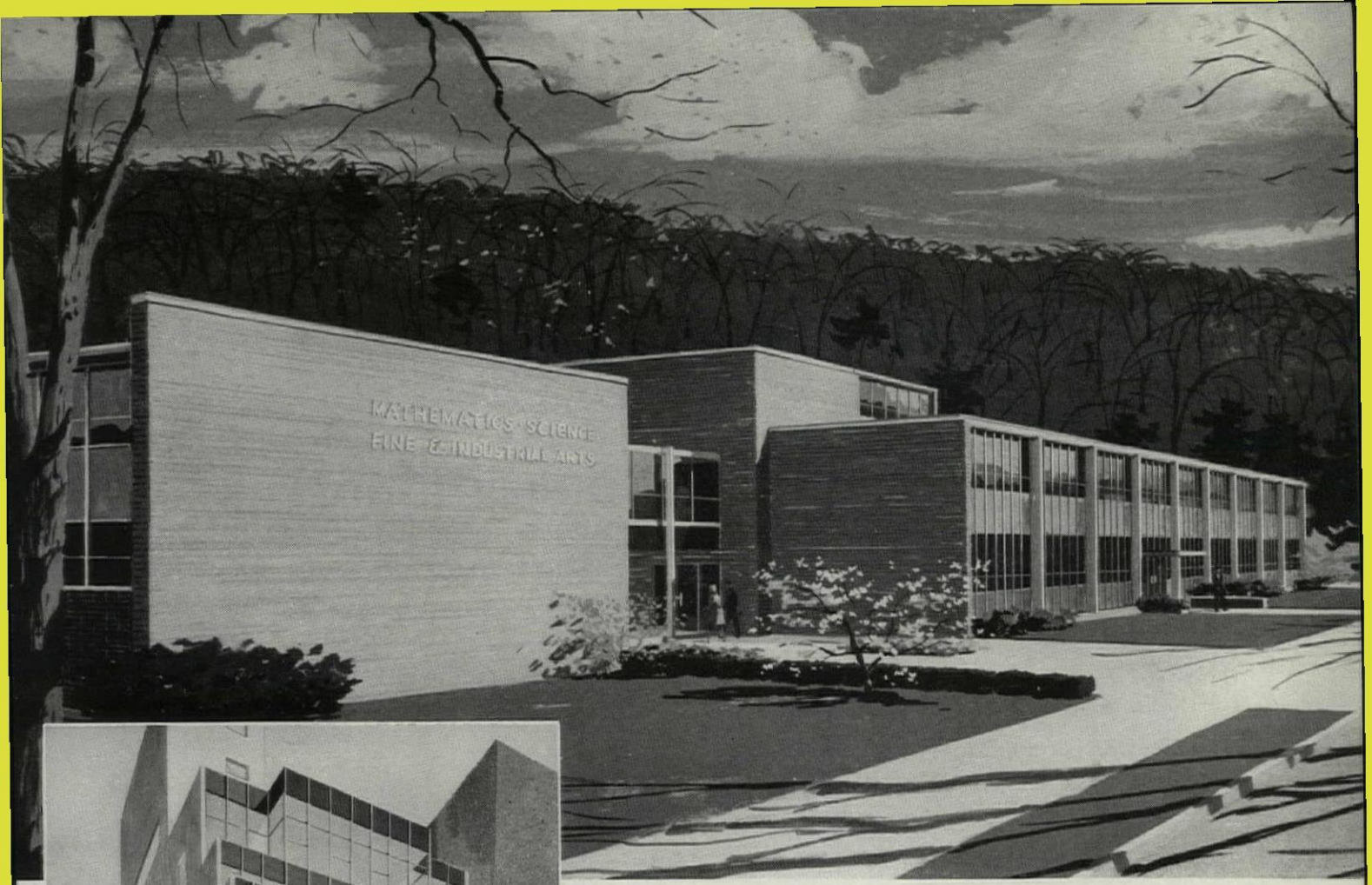
GATE CITY SASH & DOOR CO., DEPT. PA-10
P. O. Box 901, Fort Lauderdale, Florida

Gentlemen: I would like complete information on
☐ Gate City's New "Type H" **WOOD** Awning Window.
☐ The Gate City "Push-Button" **ALUMINUM** Awning Window.

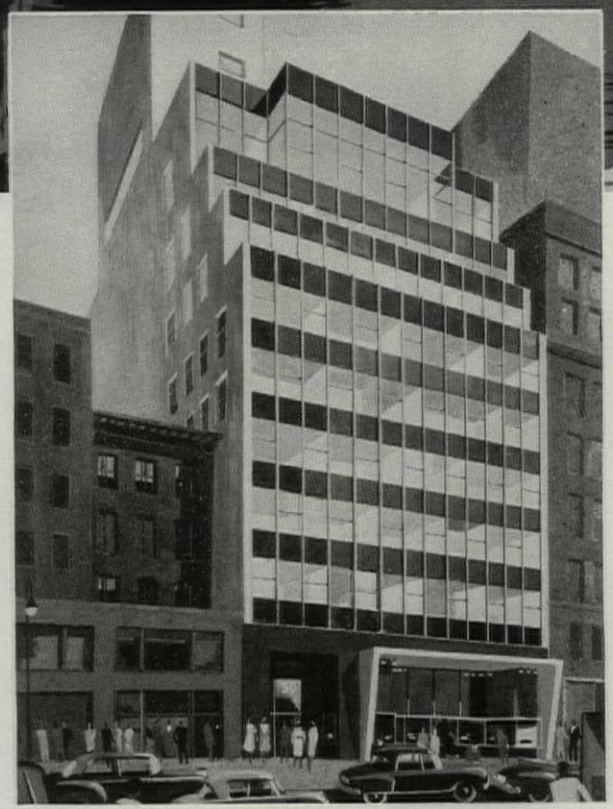
Name_____

Address_____

City_____ Zone____ State_____



NEW JERSEY STATE TEACHERS' COLLEGE, MONTCLAIR, N. J. (2 bldgs.) Architect: Emil Schmidlin. Contractor: Martin Infante Co., Inc., Lodi, N. J. Lupton Curtain-Wall System, Type H. Width modules 3'9" & 4'1". Fixed glass and projected-in ventilators. Opaque areas are ⅛" thick embossed, fluted aluminum, Alumilited. Special features: Heavy aluminum sub-frames and door frames.



FIFTH AVENUE DIAMOND CLUB, NEW YORK CITY. Architects: Sylvan Bien & Robert L. Bien. Contractors: Kayfield Construction Corp. Lupton Curtain-Wall System Type H. Width Modules: 3'7" and 3'4". Ventilators: Project out for window cleaning only. ¼ Plate Glass. Facing Material: ⅛" aluminum plate, Alumilited. 6" back up wall with air conditioning unit.

Build it Faster with a Lupton Curtain-Wall

With the new Lupton Simplified Curtain-Wall Systems, buildings can be completed much sooner than with conventional construction. The Lupton Curtain-Walls can be ready for installation even before the building framework is finished, and installed in days. There's no delay because of weather, either . . . installation is done from within the building.

The Lupton Simplified Curtain-Wall Systems offer many features —

unusual freedom in design . . . variations in panel sizes, material, texture and color —

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proven dependability . . . completed installations in buildings throughout the country, in all climates —

developed in collaboration with leading architects, backed by Lupton's fifty years' experience in manufacturing Lupton Metal Windows —

fewer problems for architects and owners . . . Lupton Curtain-Walls are fabricated *and* installed by experienced Lupton Craftsmen.

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Metal Windows and Curtain-Walls

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AMCOLENS®...

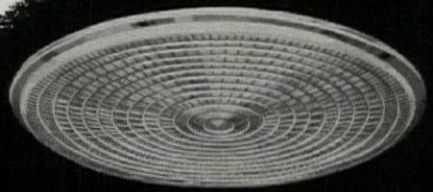
tomorrow's lens lighting TODAY!

AMCOLENS, an advanced concept in lighting, is the ultimate for the improved illumination of tomorrow.

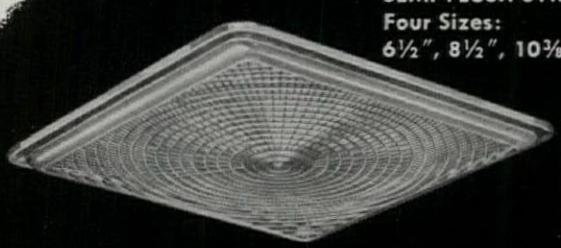
The precision engineering of AMCOLENS clear prismatic glass lens offers you the lighting of the future with all these unique advantages:

- **Crystal clarity**
- **Undiminished light transmission efficiency**
- **Unaltered white lamp light transmittance**
- **Precise light direction control**
- **Predetermined light distributions**
- **Minimum brightness in glare zone**
- **Edge-light on ceiling for contrast relief**

SEMI-FLUSH
Three Sizes:
8⅜", 10⅜", 13½" Dia.



SEMI-FLUSH SYMMETRIC
Four Sizes:
6½", 8½", 10⅜", 12" Sq.



This enlarged segment of Amcolens illustrates prism detail. AMCOLENS utilizes clear glass prisms, the most exact means known to science for controlling the direction of light.

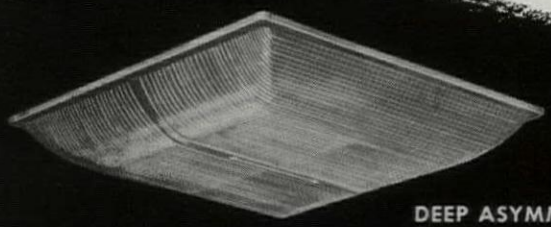
A cross section of a typical Amcolens shows control of light. Precision engineering achieves multiplied useful light utilization below 60° with minimized glare zone brightness.

AMCOLENSES are the result of original ART METAL lens research and are available only in ART METAL complete lighting equipments.

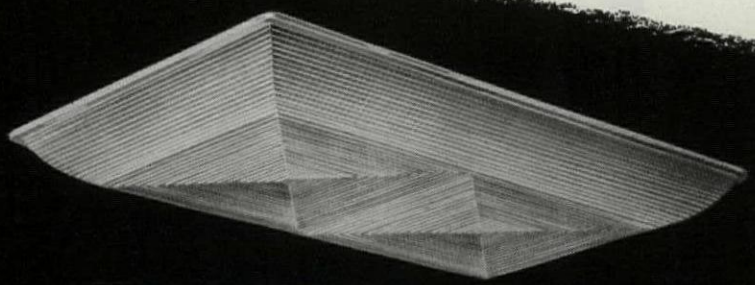
AMCOLENSES ARE ANOTHER *Lighting Research* DEVELOPMENT OF ART METAL

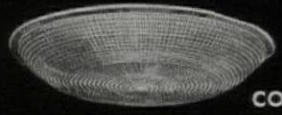
18 AMCOLENSES

are precision engineered
for specific lighting applications.



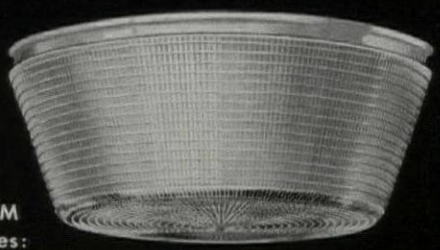
DEEP ASYMMETRIC
One Size:
10⅜" Sq.



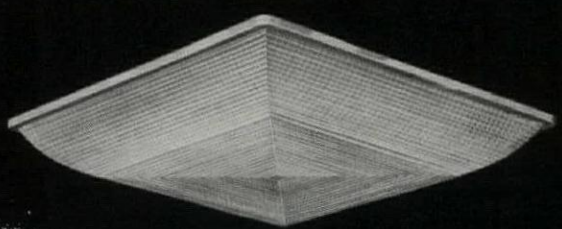


CONVEX
One Size:
7½" Dia.

TWO-LIGHT DEEP SYMMETRIC
One Size:
9½" x 16½"



LENSDRUM
Three Sizes:
9½", 11⅝", 13⅝" Dia.

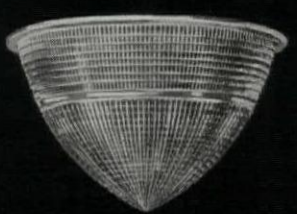


DEEP SYMMETRIC
Three Sizes:
8½", 10⅜", 12" Sq.

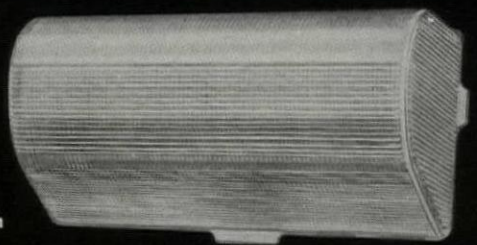
May we send the new catalog?

ART METAL Catalog 255, dedicated to the advancement of incandescent lighting through original research development, provides detailed information on Amcolens, plus factual data on all ART METAL lighting equipment with unbiased test data on lighting performance, evaluated by Electrical Testing Laboratories, Inc.

Write to:



AREALENS
One Size:
7½" Dia.

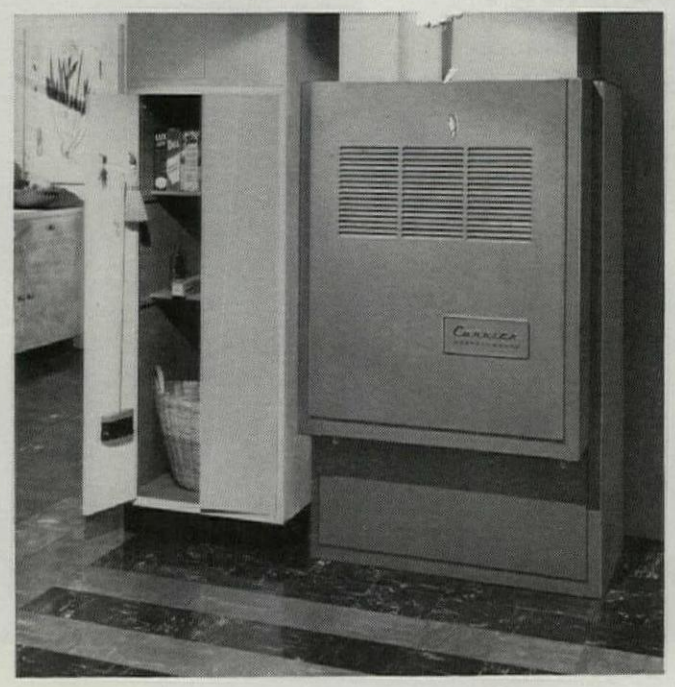


WALLENS
One Size:
11½" Length

The **ART METAL** *Company*

CLEVELAND 3, OHIO

Which is the best way to air condition a HOUSE?



WITH A HEATING AND COOLING UNIT ALL-IN-ONE? The Carrier Year-round Weathermaker fits in only 10 sq. ft. of floor space. It burns gas or oil, cools electrically. It is suitable for installation in attic, basement or closet. It is ideal for new homes. Or it may be used to replace an antiquated furnace in a home which is being modernized. Air-cooled models are available.

WITH COOLING ADDED TO A TOP-DELIVERY FURNACE? This Carrier Conversion Weathermaker adds on to the top of any standard warm air furnace. It's ideal for a basement installation like the one illustrated. The section on top of the furnace contains a cooling coil. Small refrigerant lines run from it to an air-cooled refrigeration section located anywhere outdoors.

WITH COOLING ADDED TO A COUNTER-FLOW FURNACE? This Carrier Conversion Weathermaker fits under any counter-flow furnace. Naturally, it's ideal for any warm air perimeter system . . . particularly when the ducts are in the floor slab itself. A separate, compact refrigeration section needs no water for cooling and it may be located in the yard, the garage or carport.

WITH COOLING ADDED TO A HORIZONTAL FURNACE? This Carrier Conversion Weathermaker pairs happily with any horizontal heater or will fit in a horizontal supply air duct. It may be installed in the crawl space, as shown, or in the basement or attic, as you prefer. With the air-cooled refrigeration section located outdoors, Conversion Weathermakers are notably quiet.

WITH COOLING ADDED TO WET OR RADIANT HEAT? The new Carrier Summer Weathermaker comes complete with its own fan and filter section. The package you see in the picture performs a complete summer air conditioning function. It is so compact it may be located centrally with a short run of duct . . . and with the air-cooled refrigeration section remotely located.

Carrier is the quickest way to the right answer

JUST 1–2 AND THE JOB IS THROUGH!

Carrier has *all* the ways to air condition *any* job—and all Carrier equipment is engineered to the same uniform standard. So short-cut hours of selection by (1) using the Carrier line as your shopping guide and then (2) comparing values.

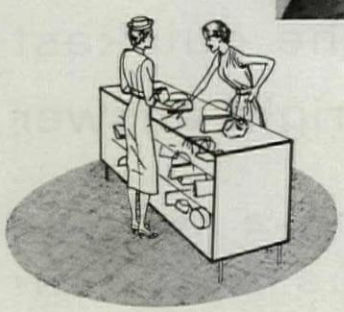
Get in touch with your Carrier dealer or distributor. He's listed in the Classified Telephone Directory. Or write to us directly. Carrier Corporation, Syracuse, New York.

Carrier

air conditioning • refrigeration • industrial heating

Vina-Lux floors..fashioned for fifth avenue

Sak's Fifth Avenue, White Plains, New York • Kahn & Jacobs, Architects, New York City, N. Y.



Upper bracket stores throughout the country are finding Vina-Lux Reinforced Vinyl Tile the perfect answer to their flooring problems. Its beauty of color, smooth, easy-to-clean surface, and foot-safe resilience qualify it without question as a superior sales back-drop for top-level merchandise.

Vina-Lux matches its own brilliant beauty with outstanding performance day-in and day-out. Regular cleaning and dry buffing enhance its lustrous built-in surface . . .without the use of costly waxes or floor finishes. Customers like its sure-footed comfort . . . and sales clerks find a welcome lessening of leg and foot fatigue at the end of the day's work.

Vina-Lux can help solve your clients' flooring problems. Why not ask us to have a qualified representative present the full story to you on America's leading vinyl-asbestos tile?

Vina-Lux®

REINFORCED VINYL TILE

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MAKERS OF VINA-LUX • AZROCK • DURACO • AZPHLEX

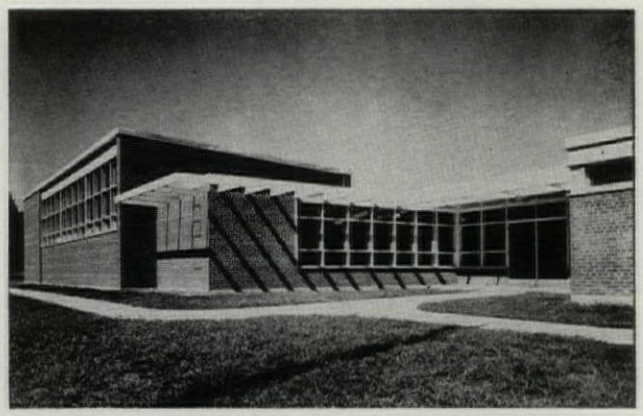
As Distinctive...

as a Fingerprint!

MEDUSA STONESET
White Masonry Cement

Experts say every fingerprint is different—and we say Medusa StoneseT Mortar Cement is as distinctive as fingerprints! It's the only white masonry cement made from world-famed Medusa White Portland Cement. As a result of this difference . . . this whiteness . . . wonderful things happen to masonry when you specify Medusa StoneseT White Masonry Cement. The unstained, uniformly white mortar joints give your masonry units a far more beautiful appearance. And Medusa StoneseT properly tinted makes mortar that harmonizes perfectly with the exact color of the face brick, stone, marble or glass block units you are using.

But the best part is, you can absolutely depend upon Medusa StoneseT . . . Thousands of buildings—some twenty to twenty-five years old—stand as living testimony of its dependability. For mortar work that is different, insist upon StoneseT.



North Oshawa Public School, Oshawa, Canada

MEDUSA Portland Cement Company

1000 Midland Building • Cleveland 15, Ohio

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WHITE TILE GROUT CEMENT

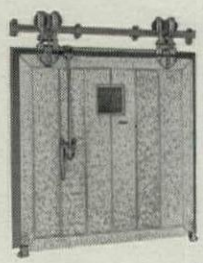
MAKERS OF AMERICA'S FINEST PORTLAND CEMENTS FOR OVER SIXTY YEARS

How much have you been missing

by not using JAMISON'S extra services?

You may already know of the efficient performance of Jamison Cold Storage Doors . . . their ease of opening . . . their low maintenance. But do you know that Jamison also offers four valuable services unmatched in the industry?

JAMISON DESIGNS AND BUILDS ALL KINDS OF SPECIAL DOORS

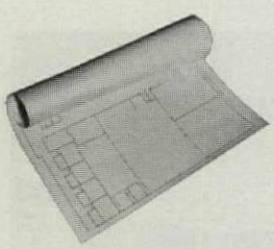


A full-time research and engineering staff enables Jamison to design and build doors for practically any special requirement. Many times, all that's needed is to modify a standard door. Whatever the need, Jamison is equipped and prepared to build any door to your order.

JAMISON HELPS CONTRACTORS TO QUOTE ON DOORS

Upon request, a Jamison representative will call upon the architect, and take off the door specifications the insulation contractor needs to quote on a job. He'll then help to interpret specifications and supply the contractor with quotations on the specified doors and any alternates that can be offered.

JAMISON ASSISTS ARCHITECTS IN PREPARING LAYOUTS



Jamison field representatives throughout the country are always available to work with architects in preparing layouts. They will help with the specifications to insure that the right door is used as well as the one most economical for the job.

JAMISON HELPS CONTRACTORS ON UNUSUAL SERVICE PROBLEMS

Jamison representatives work with contractors to provide the user the best possible service. Advice and suggestions on installing doors can frequently save service cost and trouble. Help is also available on unusual service problems.

You can depend on Jamison for both a quality product and technical service. Jamison Doors have been the standard of comparison for nearly 50 years. Jamison field service can save you time, money and worry. JAMISON COLD STORAGE DOOR COMPANY, HAGERSTOWN, MD., U.S.A.

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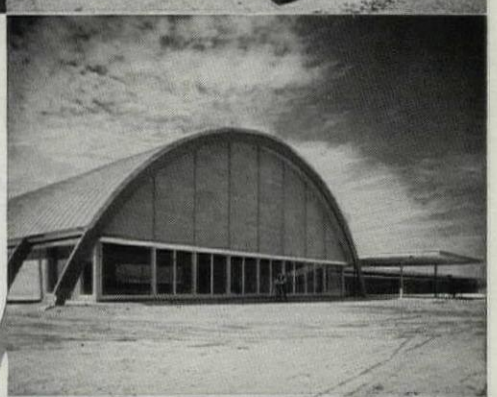
More JAMISON Doors are used by *more* people than any other Cold Storage Door in the world.

$10 Per Square Foot SCHOOL Uses RILCO ARCHES

modern, efficient design gains national attention

The Mirabeau B. Lamar Junior High School in Laredo, Texas, is unusual in several respects. It was built at the amazing low cost of only $10 per square foot. It incorporated several new design features which have attracted national attention. Using one of the most economical forms of Rilco Laminated Wood Arches, the architects have achieved an unusually interesting, attractive and practical result.



Architects Caudill, Rowlett, Scott & Associates, Bryan, Texas, and A. A. Leyendecker (Associate Architect, Laredo, Texas) are to be complimented on their fresh approach to the ever-present problem . . . low-cost building for maximum efficiency and attractiveness.

The Rilco Glued Laminated Wood Arches used in the construction of the combination auditorium and gymnasium of the school helped keep costs down because of: 1) low original cost; 2) ease of erection, pre-cut and drilled for connection hardware; 3) erected with local labor and equipment.

Rilco Arches are made of selected West Coast Douglas Fir. They are manufactured with modern precision equipment under rigid factory control, and wrapped in heavy water-resistant paper for shipping.

Rilco experienced engineers will be glad to consult with you about your requirements and give "on the job" cooperation. Write now for complete information on Rilco for your jobs.

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works wonders with wood

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District offices: Wilkes Barre, Pa., Ft. Wayne, Ind., Manhattan, Kan.

Maspeth, N. Y., building of Canada Dry Ginger Ale, Inc. *Architect:* Owner's Engineering Department and Andrew V. Bekay, N. Y. C. *General Contractor:* W. J. Barney Corp.; *Mechanical Engineer:* G. B. Tanis, both of New York.

LONGSPAN JOISTS PROVIDE PLENTY OF ELBOW ROOM IN NEW CANADA DRY BOTTLING PLANT

The new bottling plant of Canada Dry Ginger Ale, Inc., at Maspeth, Queens, New York City, is one of 260 such production units throughout the world. The Maspeth building houses a complete production area, extensive warehouse facilities, garage, water-treatment and boiler rooms and offices in a 201,000 sq ft area.

Over a framework of Bethlehem structural steel is a roof structure of Bethlehem Longspan Steel Joists, varying from 40 ft to 50 ft in length. Bethlehem Longspans were chosen because they allow plenty of column-free space below, besides providing non-warping, fire-resistant construction.

To the Canada Dry operation, column-free floor space is invaluable. Long conveyor-system bottle-washing and filling operations require uninterrupted space in the production area of the building. Stockpiles of soft-drink cases, 56 to the pallet, handled by fork-lift trucks, fill the warehouse. And a roomy garage houses the company's large fleet of delivery trucks serving the Manhattan and Long Island areas of the city.

In addition to their other advantages, Bethlehem Longspans were delivered to the job site ready for placing, with no delays to the production schedule. They required only field welding to secure them firmly, and to provide, with the structural steel framing, a rigid, permanent construction.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.
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BETHLEHEM LONGSPAN STEEL JOISTS

BETHLEHEM STEEL

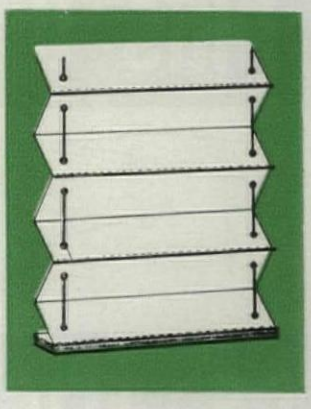
Canvas solves the sun problem in

House Beautiful's 1955 Pace Setter House

Shading walls from heat and glare of the summer sun can be more than a smart move to reduce capacity requirements and operating costs of cooling equipment. As the editors of House Beautiful discovered in their choice of canvas sunshades, it can be an exciting adventure in imaginative design.

The problem here was how to shade east walls under a roof overhang that provided little or no protection from the early morning sun. By 8 A.M., even in late summer, the outside of these walls was too hot to touch. Such a crucial source of heat intake can mean trouble for the occupants, with or without air conditioning. With custom-designed white canvas sunshades, the whole wall of wide glass areas is provided with complete protection and the ability to reflect away heat.

Because of its easy flexibility, its simplicity of fabrication, and its smart appearance, you'll find canvas the best solution to your sun problems. Talk over your design ideas with the canvas goods manufacturer in your locality. He'll gladly discuss specifications and costs without obligation. Look for him listed under "Awnings" in the yellow pages of your phone book.



Each lightweight panel has horizontally-stitched pleats that enables it to be drawn up into a neat package of four or five inches for integration under the overhang.

See our catalog 18f/Ca in Sweet's Architectural File or write for a free copy.
It contains original and practical ideas, plus helpful instructions for specifying canvas.

Canvas Awning Institute, Inc.

and National Cotton Council

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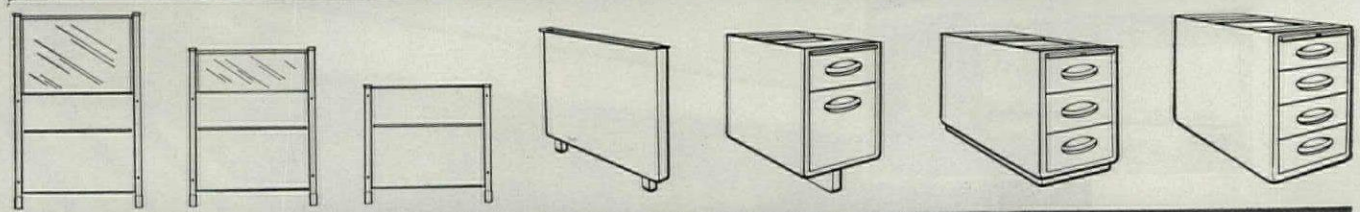
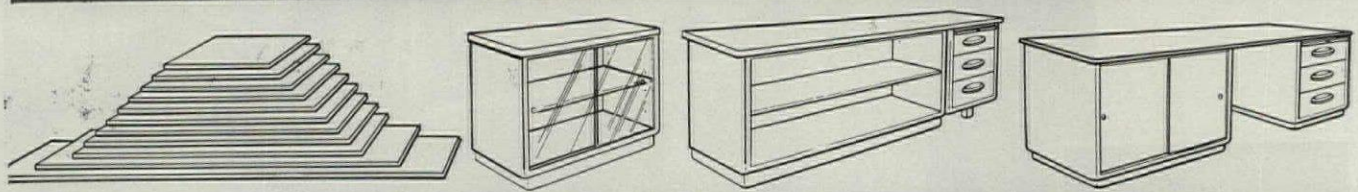


components of wood or steel wil



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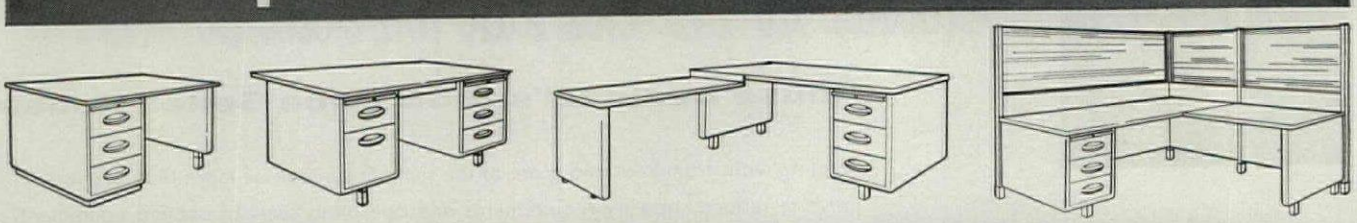
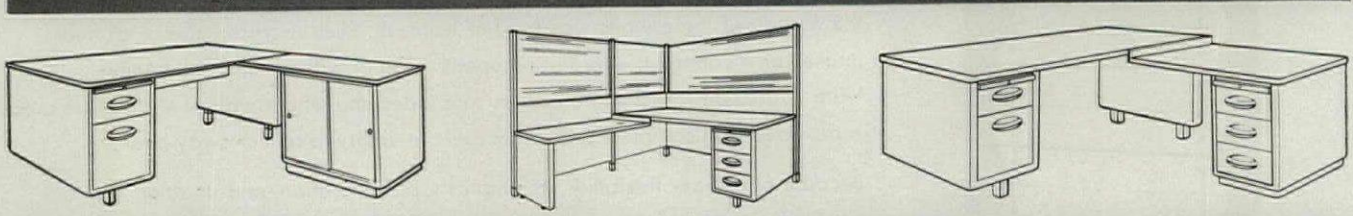
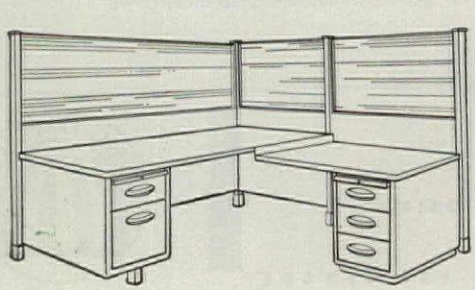


or space. Good design plus unli



mited flexibility do the trick

*Pat. Pending †Trade Mark
††Licensed under DuPont Patent



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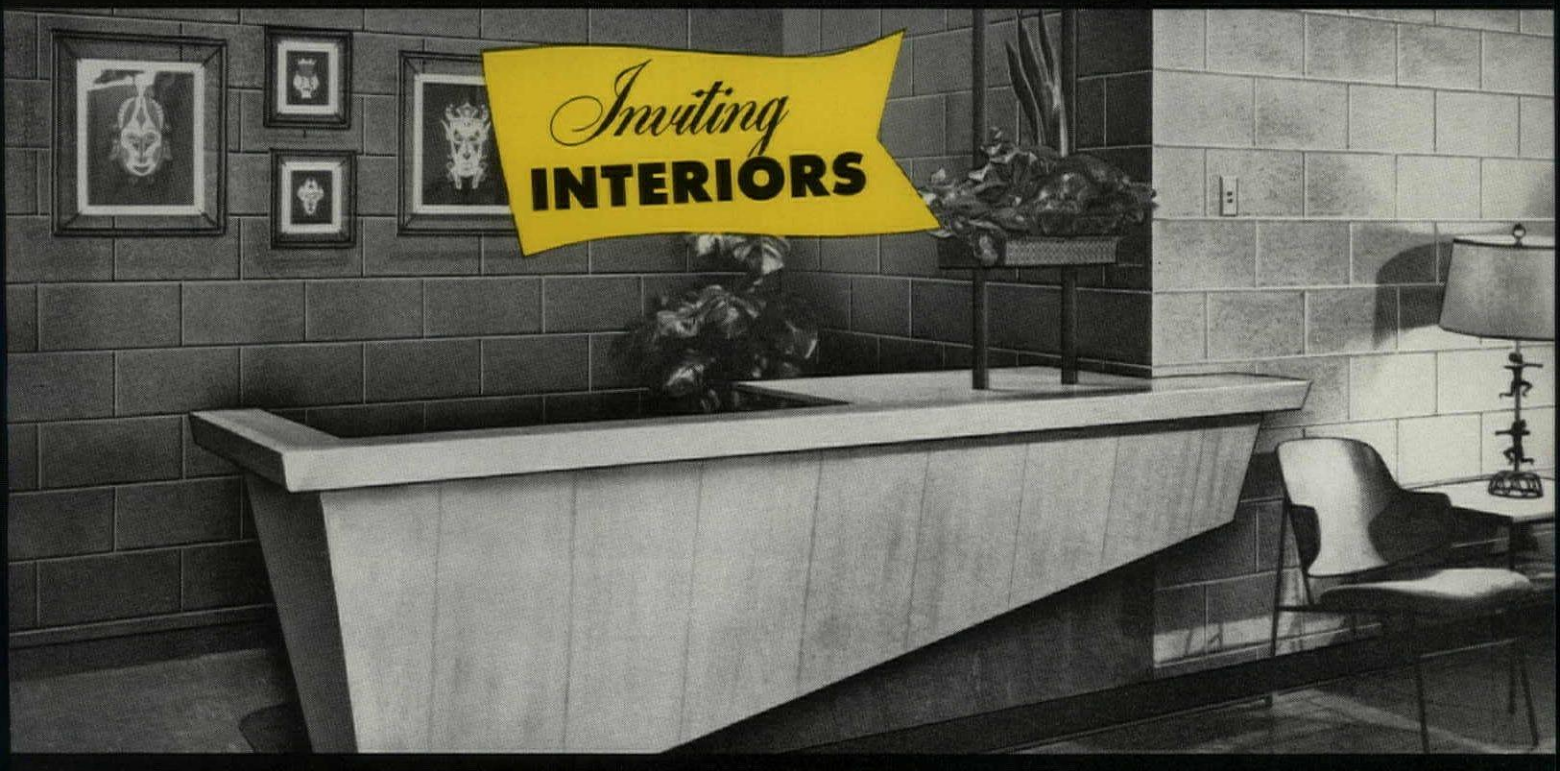

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Design Ideas —
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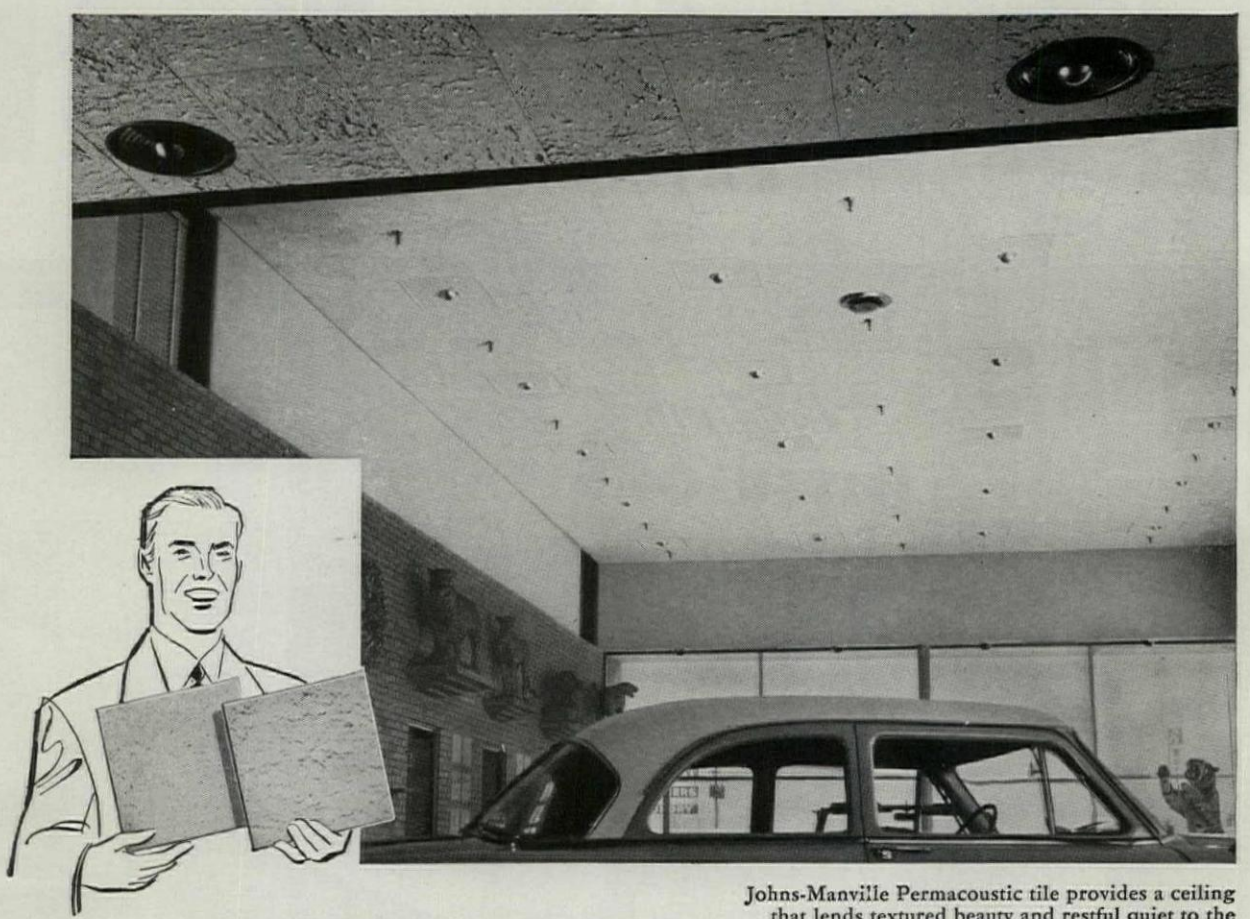

Johns-Manville Permacoustic tile provides a ceiling that lends textured beauty and restful quiet to the pleasant atmosphere of this automobile showroom.

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Sizes 12" x 12" 12" x 24"	Thickness ¾"*	Color: white
	ACOUSTICAL EFFICIENCY Test No. A55-88	Test No. A55-87
cycles per second	cemented to plaster board (mounting No. 1)	mechanically mounted on special metal supports (mounting No. 7)
125	.18	.56
250	.35	.64
500	.83	.77
1000	.86	.92
2000	.82	.99
4000	.77	.89
noise reduction coefficient	.70	.85
weight per sq. ft.	1.3	1.3

*Also available in ⅞" thickness

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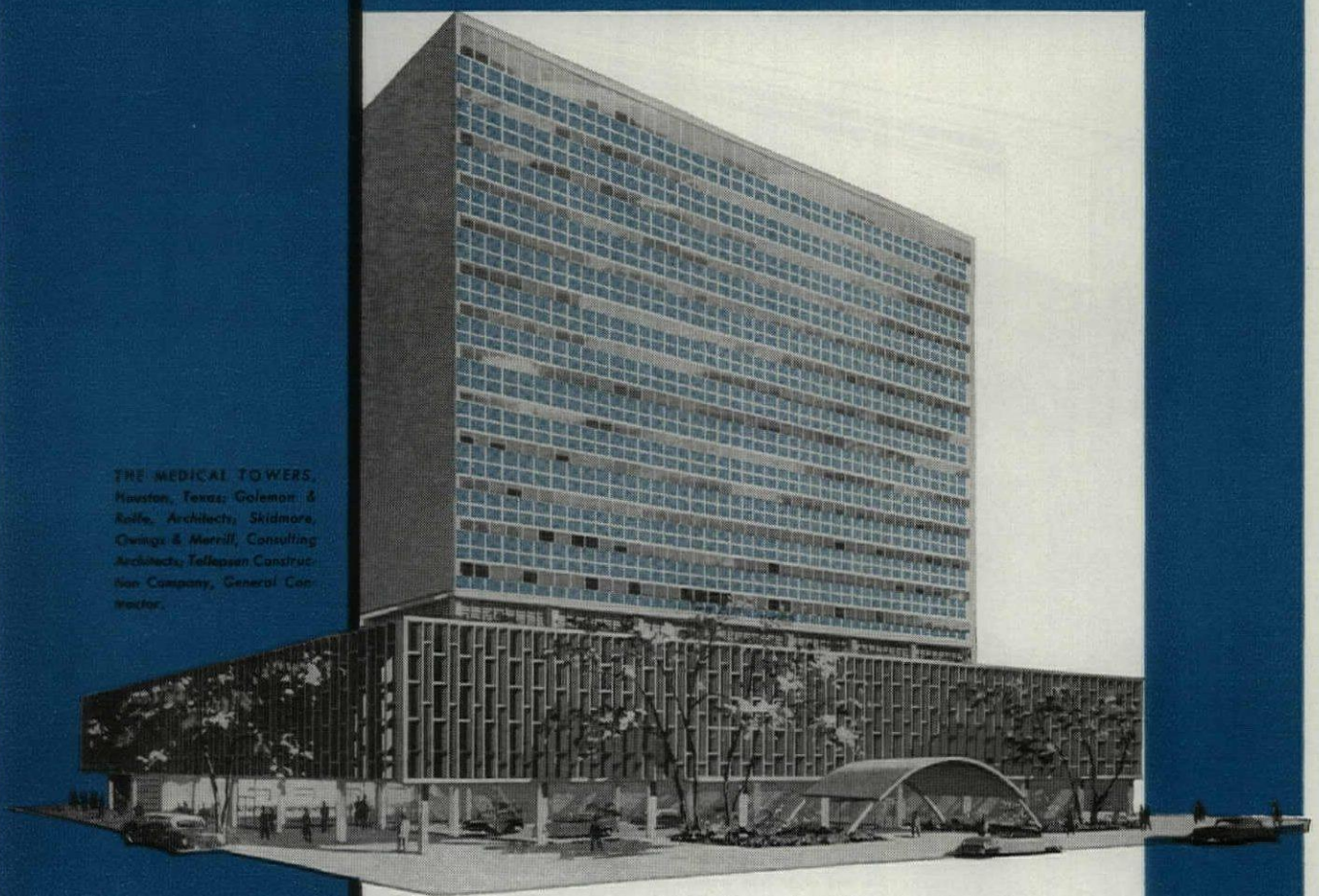

THE MEDICAL TOWERS, Houston, Texas; Golemon & Rolfe, Architects; Skidmore, Owings & Merrill, Consulting Architects; Tellepsen Construction Company, General Contractor.

A winner in "Progressive Architecture Design Program—1954," this pale blue panelled building combines inspired design with sound, economical construction.

High on the list of outstanding features are its Cupples aluminum curtain walls, composed of a series of horizontal and vertical tubular mullions and double weather-stripped projected windows which clean from the inside. Open aluminum grill work on lower level, also by Cupples. Entire grill and curtain wall in alumilite finish.

A pace-setter in the curtain wall field, Cupples also is one of the nation's largest manufacturers of commercial and residential aluminum windows, doors, and Alumi-Coustic grid systems for suspended ceilings. Cupples' products always meet or exceed the most rigid requirements without premium costs. Our catalogs are filed in Sweet's.

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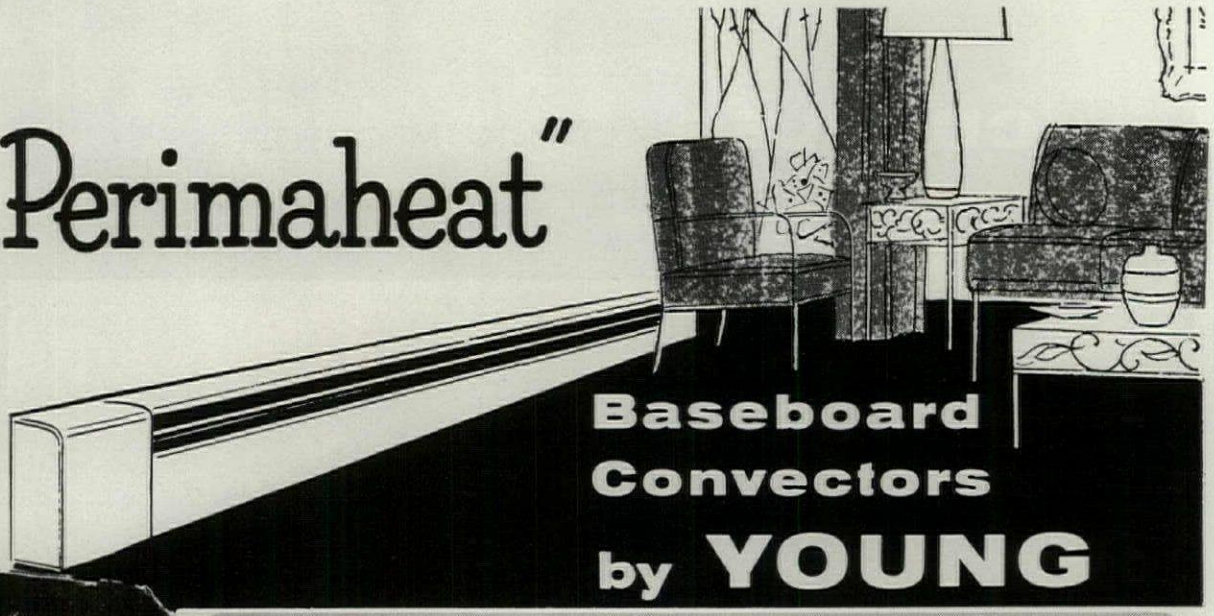
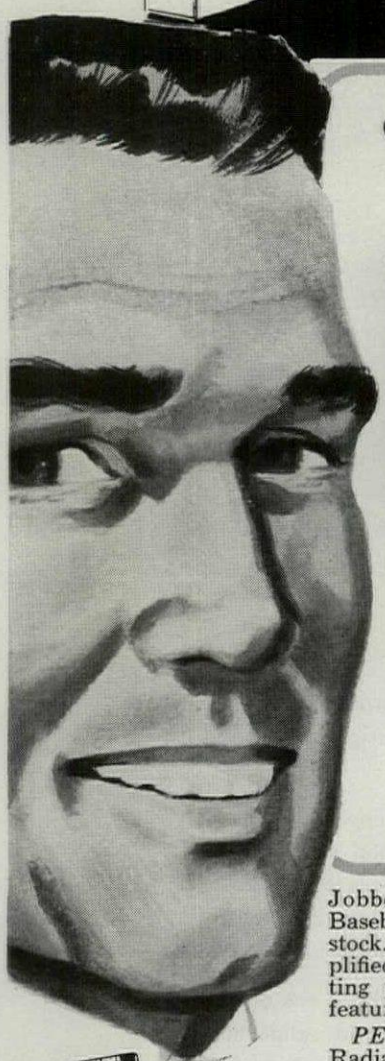
"Perimaheat"



Baseboard Convectors by YOUNG



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Just 2 Convenient Sizes To Stock—

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Place back to wall and nail to studs.

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Snap-on front cover, joint covers, corners and end caps.

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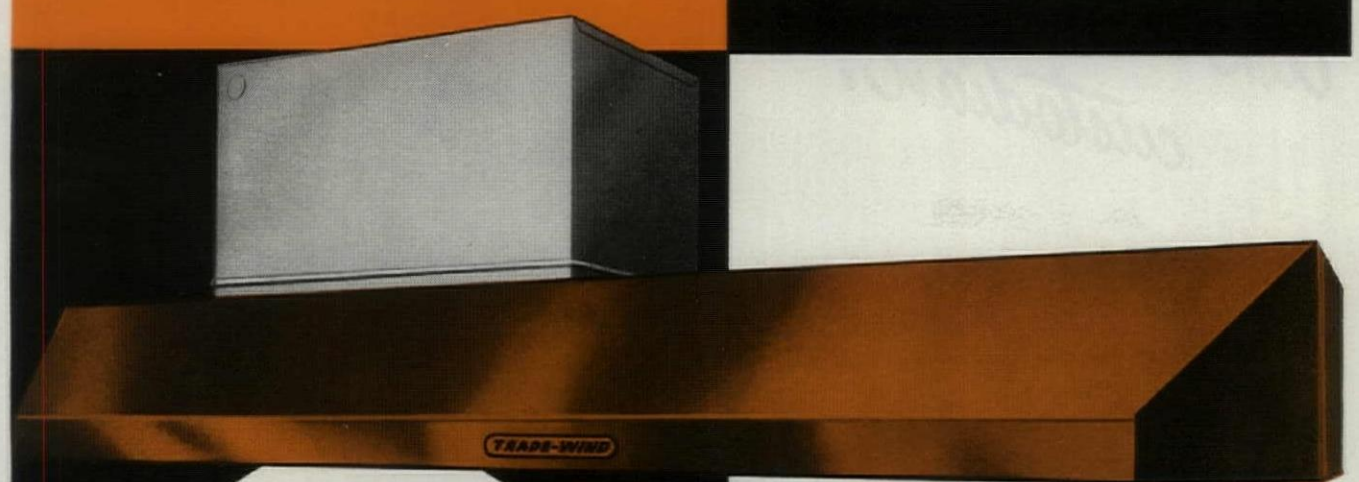

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TRADE-WIND'S SUPER CLIPPER WITH TWIN INLETS, BUILT-IN FILTERS AND 550 CFM IS STILL TOPS.

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The hood is available in 30", 36", 39", 42" or 48" lengths – at the same price.

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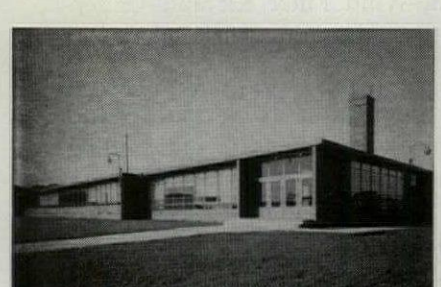
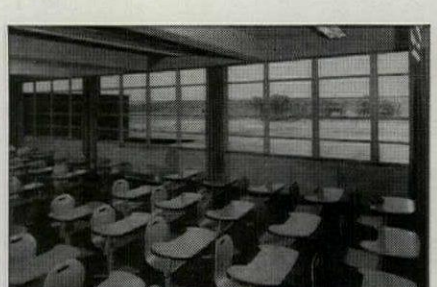
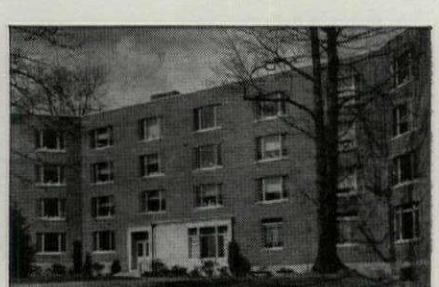


INDIANA. Orchard Park Elementary School, Highland, Indiana. *Architect:* Bachman & Bertram, Hammond, Indiana. *Contractor:* John F. Rahn, Inc., East Chicago, Indiana.



ILLINOIS. Lincoln Way High School, New Lenox, Illinois. *Architect:* Childs & Smith, Chicago, Illinois. *Contractor:* Robert G. Regan Co., Joliet, Illinois.



MASSACHUSETTS. LaSelle Junior College, Newton, Mass. *Architect:* J. Williams Beal Sons, Boston, Mass. *Contractor:* Park Construction Co., Inc., Boston, Mass.

Since the introduction of the Benjamin Porcenell Surface, it has become evident that here is a new concept in modern chalkboards. Teachers, principals, custodians, purchasing agents and architects alike want to know the full story behind the Better Visibility, Greater Damage Resistance and many other advancements in better seeing and instruction made possible by Porcenell. This new brochure is published to answer that demand.

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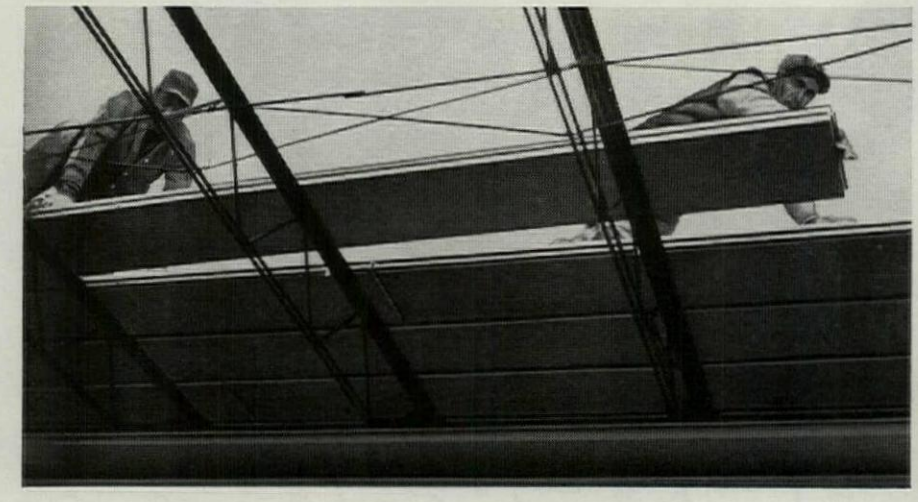
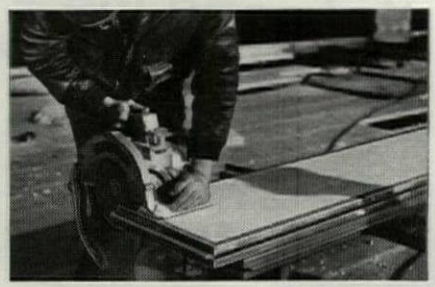
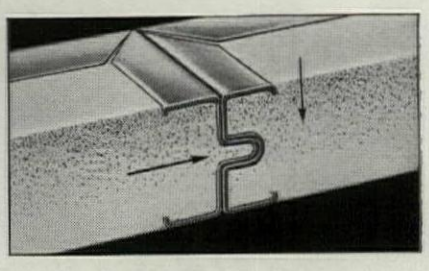
CERTAIN-TEED GYPSTEEL® PLANK ROOF DECK

CUTS CONSTRUCTION COSTS, MAINTENANCE COSTS, AND OFTEN INSURANCE COSTS AS WELL

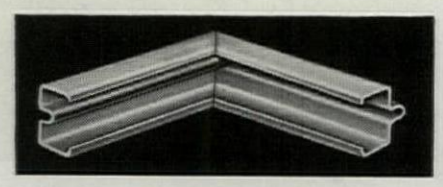




Gypsteel Plank can be sawed, nailed or drilled like lumber. A wide-set hacksaw will cut the metal edge. However, a power saw with a carborundum wheel is best. Actually, minimum cutting is required with Gypsteel Plank. Where a large number of openings in the deck are specified, plank is simply laid around openings, saving expensive labor.



Only Certain-teed Gypsteel Plank has this type of tongue and groove. When engaged, the steel bindings mesh to form an I-beam that permits joints to be safely broken between supports. (Arrows show forces.)



Note the unique way the steel binding is welded at the corners to form a one-piece frame. This gives more rigidity and greater strength.

CERTAIN-TEED GYPSTEEL PLANK is a pre-cast gypsum slab (2″ x 15″ x 10′0″) reinforced with steel wire mesh and poured in a galvanized steel frame electrically welded at the corners for maximum rigidity. It combines great strength, light weight, and high fire resistance. It offers important advantages—in faster, easier construction and reduced costs—over any other type roof decking you can use today.

CUTS CONSTRUCTION COSTS

Gypsteel Plank comes all ready to apply — no special equipment required. Planks are tongued and grooved—assembled quickly and cleanly—may be sawed, drilled or nailed like lumber. Their light weight reduces the dead load—permits an important saving in substructural steel.

CUTS MAINTENANCE COSTS

Gypsteel Plank needs no painting to prevent deterioration. Undersurface requires no decoration. It provides good light reflection, and there are no ribs or flanges to collect dust and dirt.

Gypsteel Plank is as permanent as the building it covers. It is not affected by normal changes in temperature or atmospheric conditions, and because gypsum is inert, expansion and contraction are never a problem, and the danger of a cracked roof covering is minimized.

OFTEN CUTS INSURANCE COSTS

Gypsum is rock—it can't burn or support combustion. Gypsteel Plank is rated as incombustible by insurance companies and under building codes —and therefore gives the lowest insurance rate possible. *This is a benefit your clients enjoy for the life of the building!*

See your Sweet's Catalog for detailed information and nearest district office. Your local Certain-teed Sales Engineer will be glad to be of assistance to you at any time.

TECHNICAL DATA

Gypsteel Plank can be used economically on almost any roof design—flat, sloping, sawtooth, and some curved or warped roofs (long radius). It's recommended for spans up to and including 7 ft. Weight: approx. 12 lb. per sq. ft. Safe load: 75 lb. per sq. ft., with safety factor of 4. Meets Federal Specification SS-S-439. Planks can be used over either steel or wood purlins. End joints need not come over purlin supports. Thermal insulation is very good. "U" Factors (air to air) including roof covering: no insulation, .528; ½″ Certain-teed Fiberglas Insulation, .26; 1″ Certain-teed Fiberglas Insulation, .17. Insulation value is equal to 9 to 10 in. of concrete or an 8 in. brick wall. Roof coverings may be nailed right onto Gypsteel Plank when necessary.

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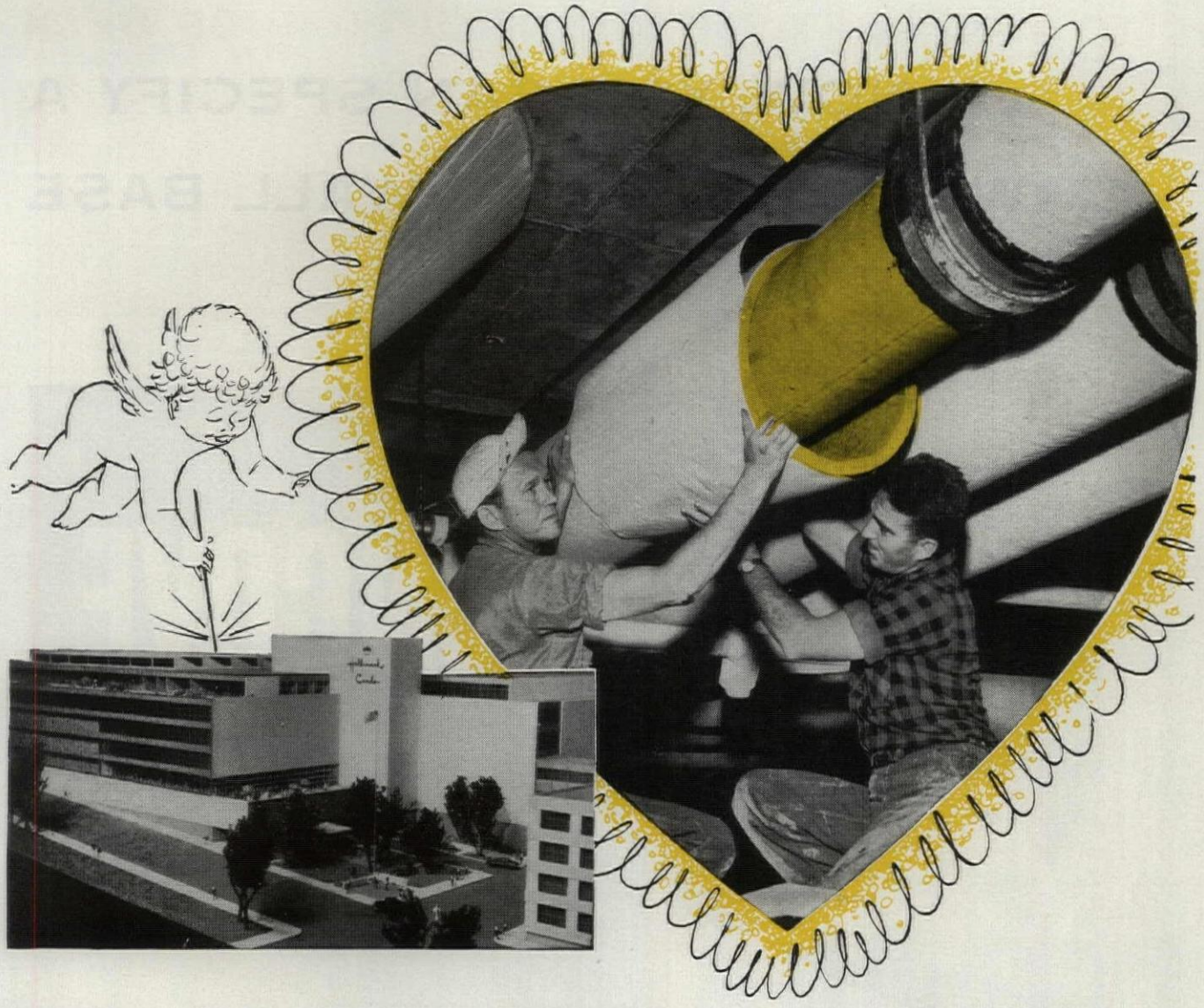

Hallmark Cards cared enough to put on the very best . . .

GUSTIN gb BACON SNAP*ON

One of the Midwest's outstanding buildings is the new Hallmark Cards building in Kansas City, Missouri, home of the famous manufacturer of greeting cards for those "who care enough to send the very best".

Inside this enormous structure, 50,000 feet of hot and cold lines are insulated with G-B Snap*On pipe insulation—the new one-piece molded pipe insulation of fine glass fibers. Thermally, it is superior to any comparable product. It is also far lighter in weight, far easier to handle, far more economical to apply. One-piece sections are available plain or with muslin for heated piping, or with vapor barrier jackets adhered for chilled lines. As the photo indicates, they go on the pipe as quickly as you can say "Snap*On"—and they will do their job indefinitely because they are as permanent as glass itself.

Modern plants of every type throughout the country are selecting Snap*On for chilled lines or heated piping where temperatures do not exceed 350° F. You, too, can put on "the very best" and *save money in the bargain!* Write this very day for samples and complete technical literature.

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NOW, YOU CAN SPECIFY A LOWER-COST VINYL WALL BASE

NEW 2½" KENCOVE Vinyl Wall Base costs less to install. Looks smarter, too—especially in modern, low-ceiling rooms.

NEW 2½" KENCOVE has all the advantage of 4" and 6" Kencove Base. It's greaseproof—alkali-proof—with a smooth, easy-to-maintain surface that never needs painting. And it molds easily around corners—will not break, chip, crack or bloom.

Tapered top and coved base assure perfect, dust-tight seal. Corrugated back grips tight over any smooth, dry clean wall not in contact with the earth. Choice of five smart colors:—black, brown, green, gray and sumac red.

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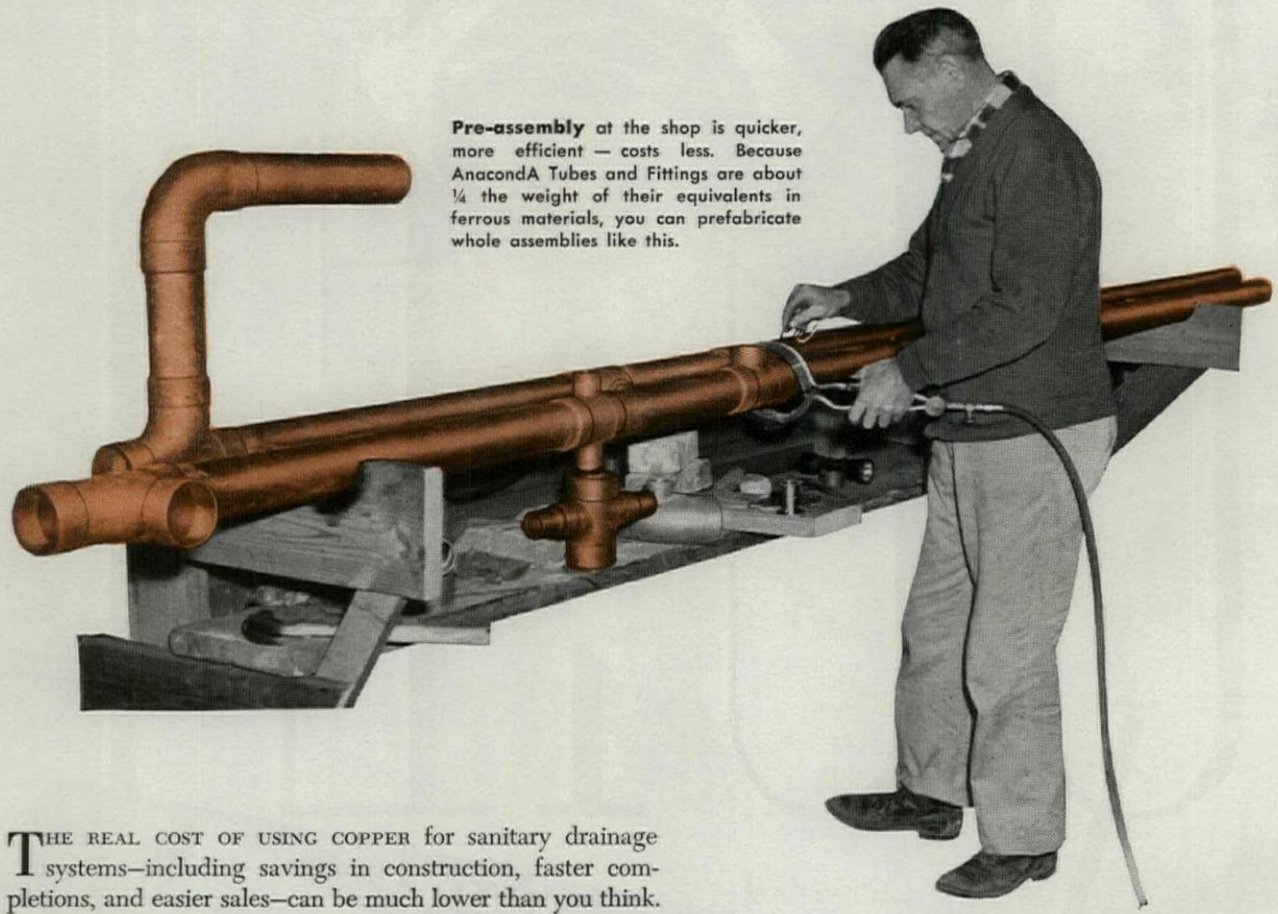
TRANSFORMER CO.

2950 N. WESTERN AVE., CHICAGO 18, ILL.

How COPPER drainage systems pay their own way—make money for you!



Pre-assembly at the shop is quicker, more efficient — costs less. Because AnacondA Tubes and Fittings are about ¼ the weight of their equivalents in ferrous materials, you can prefabricate whole assemblies like this.

THE REAL COST OF USING COPPER for sanitary drainage systems—including savings in construction, faster completions, and easier sales—can be much lower than you think.

The savings are there because of the unique advantages of ANACONDA Copper Tubes:

Pre-assembly at the shop. Lightweight and ease-of-handling copper tubes and fittings permit more pre-assembly at the shop—more efficient, faster work. This also minimizes time plumbers must be in the house—helps you schedule other work more efficiently—can mean faster completions.

Simplifies construction. No need to juggle design or build space-consuming plumbing walls because a 3″ copper tube stack with fittings can be installed within a standard 4″ partition. You can put the plumbing where you want it for most efficient construction.

Long lengths and light weight lower construction costs. On long runs, the standard 20′ lengths of ANACONDA Copper Tubes mean fewer joints, faster installation. A 20′ length of 3″ Type DWV copper tube weighs only 34 lb.

The bonus to you is that, with all these cost-saving advantages, you still offer a superior job, with *extra sales appeal.* To the prospective homeowner, an ANACONDA Copper Tube drainage system means quality, long life, high resale value.

For detailed information, write for a free copy of "Copper Tube Drainage Systems." Address: The American Brass Company, Waterbury 20, Conn. In Canada: Anaconda American Brass Ltd., New Toronto, Ontario. 5512

ANACONDA Copper Tubes are available in all standard wall thicknesses—Types K, L, M and the new lighter weight Type DWV, which offers additional savings in job costs. Types M and DWV are recommended for all lines of the sanitary drainage system above ground, and Types K and L for that part of the system buried underground.

Within the past few years, many state and local sanitary plumbing codes have been modernized to include approval of the use of copper tube and solder-type fittings. Others are in process of revision. The recently issued American Standard National Plumbing Code (ASA A40.8—1955), published by The American Society of Mechanical Engineers, lists copper tube as approved material for sanitary drainage systems.

ANACONDA®

COPPER TUBES

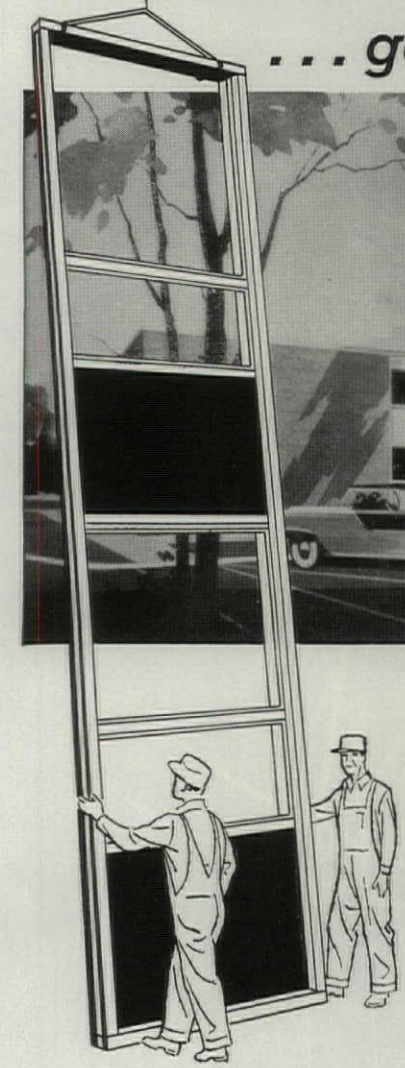
Available through plumbing wholesalers

KNAPP *MODULAR GRID SYSTEM*

UNIT WALL PANELS

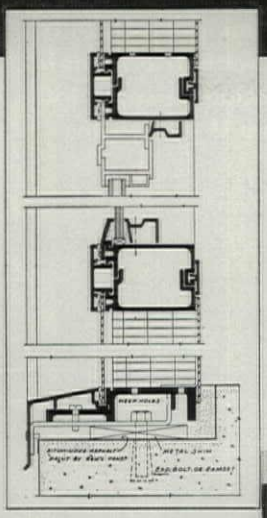
. . . go up in one section FAST

NURSES HOME AND SCHOOL
State Hospital, Jamestown, North Dakota
ARCHITECT: Kurke Associates, Fargo, North Dakota
CONTRACTOR: John W. Larson, Bismarck, North Dakota



Completely shop-fabricated —ready to install

One Manufacturer . . . one responsibility



- **FLEXIBILITY OF DESIGN**—Ventilators, fixed glass and insulated panels can be varied to meet individual job requirements.
- **ATTRACTIVE APPEARANCE**—The neat, trim, streamlined appearance adds to the beauty of today's modern buildings.
- **LIGHTWEIGHT**—Lightweight compared with masonry construction, effecting substantial savings in structural framing and footings.

- **COMPLETE FACADE CONSTRUCTION**—System includes framing to fit all door openings specified by architect . . . a complete wall system from one manufacturer with one responsibility.

Investigate today the Knapp Modular Grid System engineered and designed for fast, simple erection. Completely flexible, they consist of factory-assembled units in one, or two story sections that go up quickly at substantial savings over conventional wall construction.

Knapp Modular Grid System includes ventilators, fixed glass areas and insulated panels plus all other accessories that make a finished wall system . . . both inside and out. Available in steel or extruded aluminum.

Unit Wall Panels are firmly secured to the structural framing with a minimum of time and effort.

Let Knapp engineers suggest how our Modular Grid System will fit into your building plans.

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Please send me complete information on Knapp Modular Grid System.

Name.....

Company.....Title.....

Address.....

City.....Zone.....State.....

Knapp

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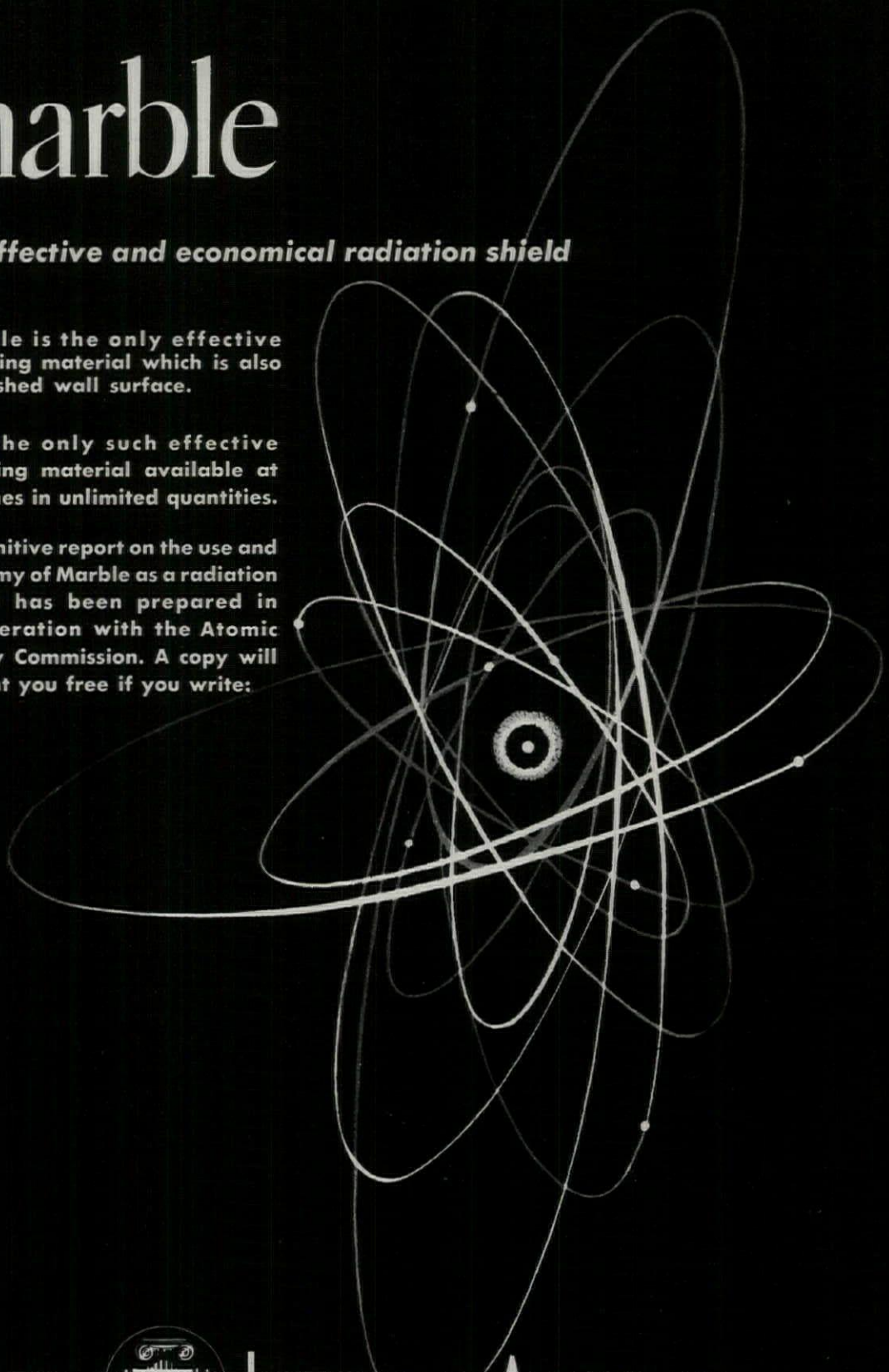
Marble is the only effective shielding material which is also a finished wall surface.

It is the only such effective shielding material available at all times in unlimited quantities.

A definitive report on the use and economy of Marble as a radiation shield has been prepared in co-operation with the Atomic Energy Commission. A copy will be sent you free if you write:



MARBLE MIA INSTITUTE OF AMERICA, INC.

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. . . because someone did NOT specify

CAST IRON SOIL PIPE

You know how strict the laws governing sanitary facilities in public places are. If they break down — the building's closed until they're repaired.

When it comes to the plumbing drainage system — *you can avoid such shutdowns, right in the soft-pencil stage.* Simply specify **Cast Iron Soil Pipe** for waste and vent stacks and sewage lines.

Here's why: With cast iron, the whole plumbing drainage sytem has the same life expectancy as the structure — Government depreciation tables give cast iron top rating (i.e. good for the life of the building). For cast iron makes a *really rugged* line — it's physically strong, and most important, its joints are as good as the pipe itself. They're packed tight with oakum and sealed for life with molten lead.

So make sure lifetime protection is *built into* your buildings. *Write in* the specification that keeps out failure — **Cast Iron Soil Pipe.**

PERMANENT
CAST IRON SOIL PIPE
has *all* these advantages:

- **Rugged metallic strength**
- **Zero moisture absorption**
- **Permanent tightness of joints, with flexibility**
- **The only pipe accepted in all codes for use from street to roof**

CAST IRON SOIL PIPE INSTITUTE
Dept. PA-10, 1627 K Street, N. W., Washington 6, D. C.

Send me _____ copies of your new 12-page booklet "Best in the Long Run" that shows, with actual photographs and authenticated captions, what can happen to lines that aren't Cast Iron.

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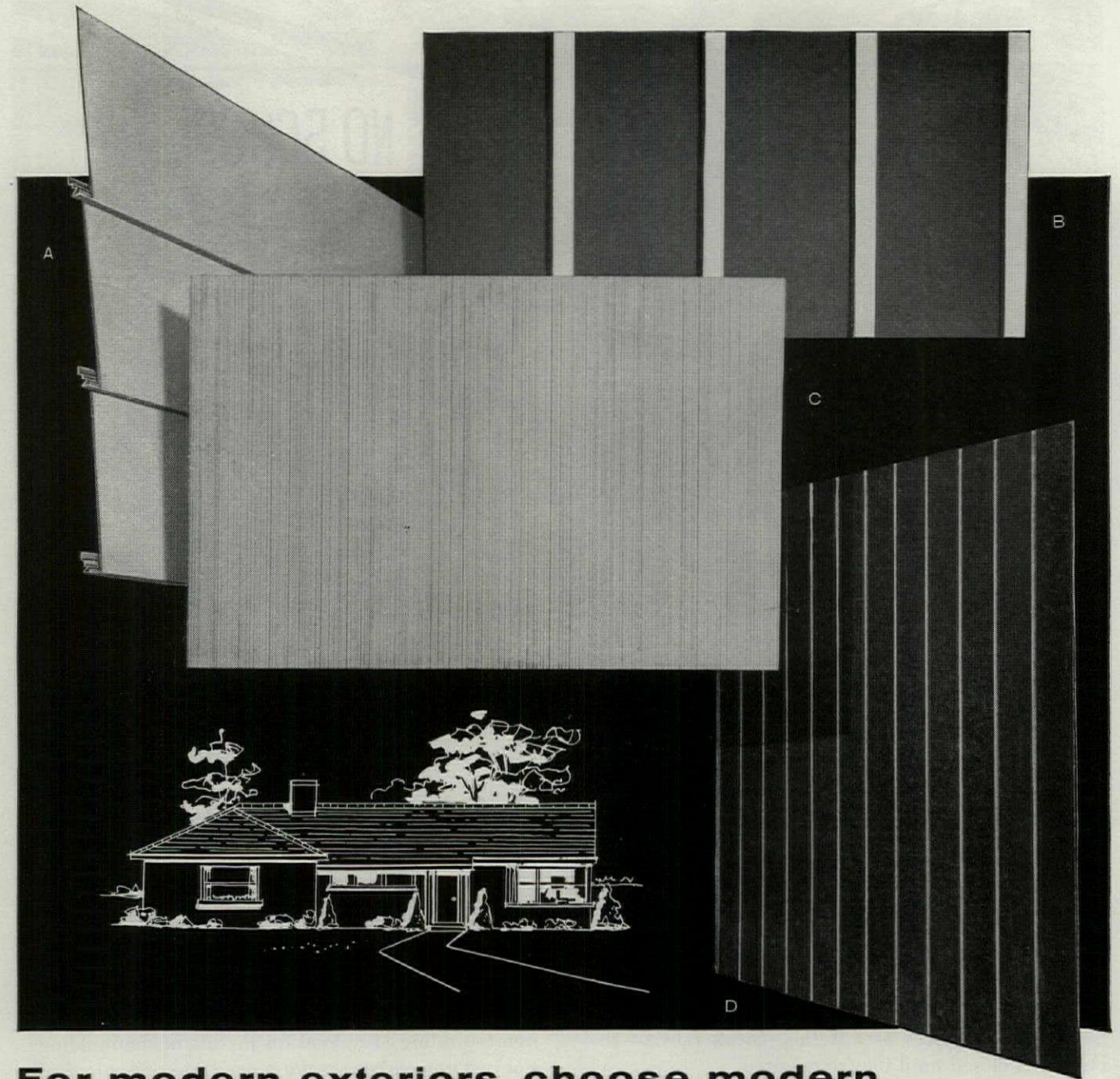


For modern exteriors, choose modern materials—Masonite Corporation offers four!

Now it's easier to get the eye-pleasing, modern effects you want. Choose one or more of these sturdy, grainless Presdwood® panel products.

They have all the rugged strength, weather-resistance and durability you demand, plus welcome economies in both application and painting.

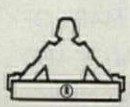
Masonite Shadowvent (A) is the improved lap siding with the revolutionary vented aluminum shadow strip that permits invisible nailing. Panels are primed; one additional coat covers.

Tempered Presdwood (B) panels with batten strips cover big areas fast, fit many architectural styles.

Masonite Ridgewood (C) presents a distinctive combed surface texture. Sizes for lap siding, panel siding or shingles.

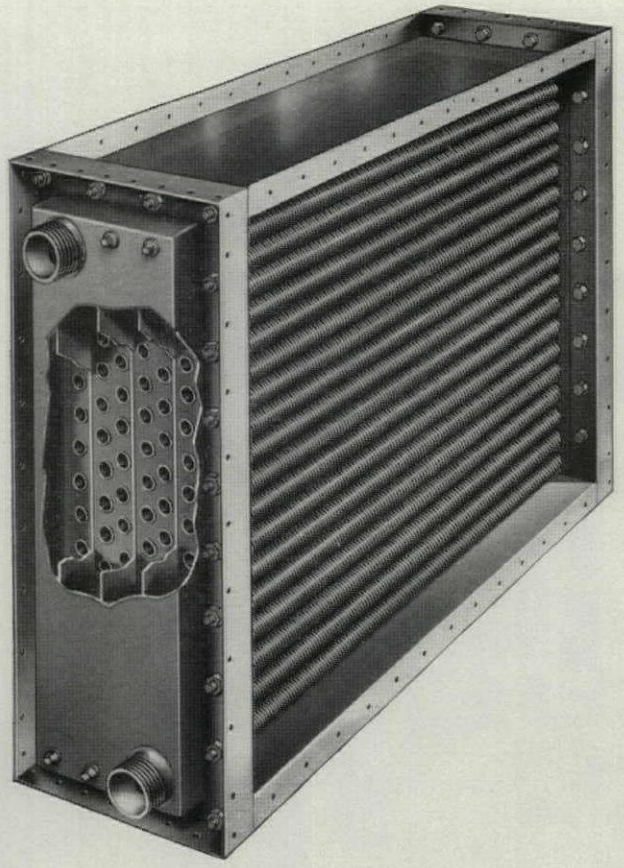
Masonite Panelgroove (D) is a brand new Tempered Presdwood product, $\frac{5}{16}$″ thick, with grooves every 4″. Continuous vertical design is completed with shiplapped edges. For gables, end walls, sill courses, and accent areas.

For complete specifications on these and other famous Presdwood products, write now to Masonite® Corporation, Dept. PA-10, Box 777, Chicago 90, Ill. In Canada, address Masonite Corporation, Gatineau, Que.

Look for this man  He makes the difference

MASONITE CORPORATION

MANUFACTURER OF PRESDWOOD PANEL PRODUCTS



AEROFIN TYPE R REMOVABLE-HEADER WATER COILS

• Complete Drainability
• Easily Cleaned
• High Heat Transfer

Completely drainable and easily cleaned, Aerofin Type "R" coils are specially designed for installations where frequent mechanical cleaning of the inside of the tubes is required.

The use of 5/8" O. D. tubes permits the coil to drain completely through the water and drain connections and, in installations where sediment is a problem, the coil can be pitched in either direction. The simple removal of a single gasketed plate at each end of the coil exposes every tube, and makes thorough cleaning possible from either end.

The finned tubes are staggered in the direction of air flow, resulting in maximum heat transfer. Casings are standardized for easy installation.

Write for Bulletin No. R-50.

AEROFIN CORPORATION

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Aerofin is sold only by manufacturers of fan system apparatus. List on request.

Simplified Open Expanse *design*

—key to neater, more sanitary rest rooms

With a minimum of simple maintenance, the room above will look just as neat and clean twenty or more years from now as you see it here. Its modern appearance is virtually *ageless!* For the durable, easy-to-keep-clean wall-type plumbing fixtures by American-Standard will retain their smooth, spotless good-looks many extra years. And the expansive fixture-free floor permits quick, easy cleaning of the room—from wall to wall.

But improved sanitation, lower maintenance, and an always up-to-date look are not the only advantages of using American-Standard wall-type plumbing fixtures. Especially when you specify that they be installed and supported on the Zurn System. This combination of superbly designed fixtures and rigid supporting fittings, which are engineered to relieve the wall of all the stress, also makes for easy, time-saving installation.

If you would like to know more about American-Standard wall-type plumbing fixtures and the Zurn System, we will be pleased to send you two booklets which contain interesting information on these essential products. Just ask for the American-Standard "Better Rest Room Guide" and the Zurn booklet, "You Can Build It For Less A New Way."

Plumbing and Heating Division
American Radiator & Standard Sanitary Corporation, Pittsburgh, Pa.
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AMERICAN-Standard

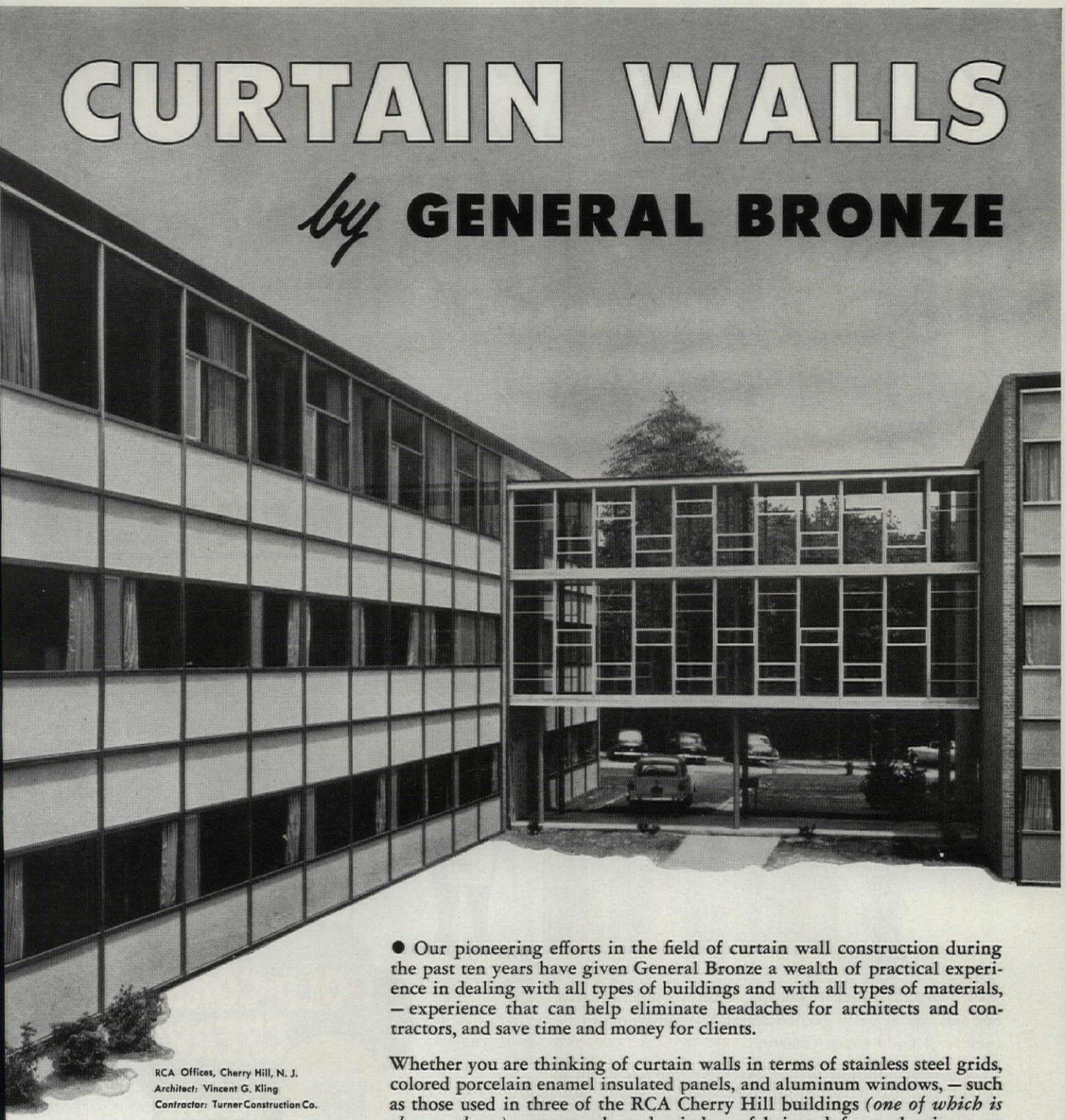
off-the-floor fixtures
installed with and supported by the

ZURN system®

give you these important benefits—

- ✓ **insured sanitation**
- ✓ **simplified maintenance**
- ✓ **modern appearance**

CURTAIN WALLS *by* GENERAL BRONZE



RCA Offices, Cherry Hill, N. J.
Architect: Vincent G. Kling
Contractor: Turner Construction Co.

● Our pioneering efforts in the field of curtain wall construction during the past ten years have given General Bronze a wealth of practical experience in dealing with all types of buildings and with all types of materials, – experience that can help eliminate headaches for architects and contractors, and save time and money for clients.

Whether you are thinking of curtain walls in terms of stainless steel grids, colored porcelain enamel insulated panels, and aluminum windows, – such as those used in three of the RCA Cherry Hill buildings *(one of which is shown above)*, – or panels and windows fabricated from aluminum or bronze, we offer you the benefit of our many years' experience in designing, engineering, fabricating and erection of curtain walls and windows.

As you plan new buildings, why not call in the General Bronze representative for consultation. He is anxious to be of service to you when your problems pertain to windows, spandrels, curtain walls and architectural metal work. Our catalogs are filed in Sweet's.

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A.W.M.A. Quality Specifications—Materials, Construction, Strength of sections and Air infiltration requirements—confirmed by Pittsburgh Testing Laboratory.
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GENERAL BRONZE CORPORATION • GARDEN CITY, N. Y.

PERMATITE DIVISION—Custom-built Windows, Architectural Metal Work and Revolving Doors. **ALWINTITE DIVISION**—Stock-size Aluminum Windows **BRACH MFG. CO. DIVISION**—Multel, T. V., Radio and Electronic Equipment. **STEEL WELDMENTS, INC. DIVISION**—Custom fabrication in steel and iron.

GOLD COAST CHERRY

Exciting... Exceptional... Exclusively MENGEL!

BUT *not* expensive — no, sir! Which is precisely why builders are actually excited about Mengel Doors in rotary-cut Gold Coast Cherry.

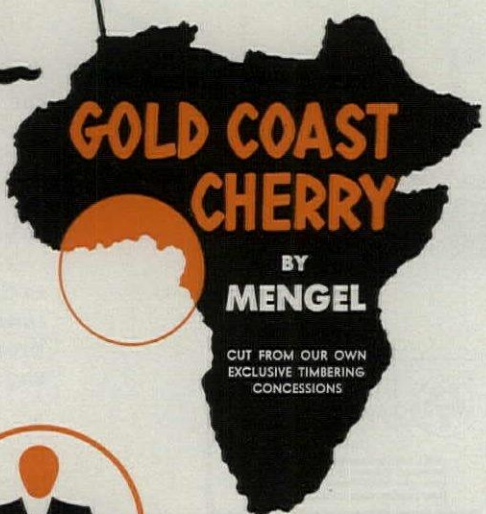
This newest addition to our extensive line has swept to exceptional popularity in but a few short months. Because with all its beauty, all its glamour — *it is actually priced lower than many domestic hardwoods!*

What's more, Mengel Doors of Gold Coast Cherry save you extra money in finishing. One finish coat on their satiny, close-textured surfaces is better than two coats on many other woods.

That's Mengel for you — better looks, better *value!* See for yourself: order an inspection lot from your distributor.

Door Department, THE MENGEL CO., *Louisville 1, Ky.*

World's Largest Manufacturer of Hardwood Products
(Mengel Permanized Furniture, Doors, Kitchen Cabinets, Wall Closets)



MENGEL *Flush* DOORS

Number 2

P/A NEWS SURVEY

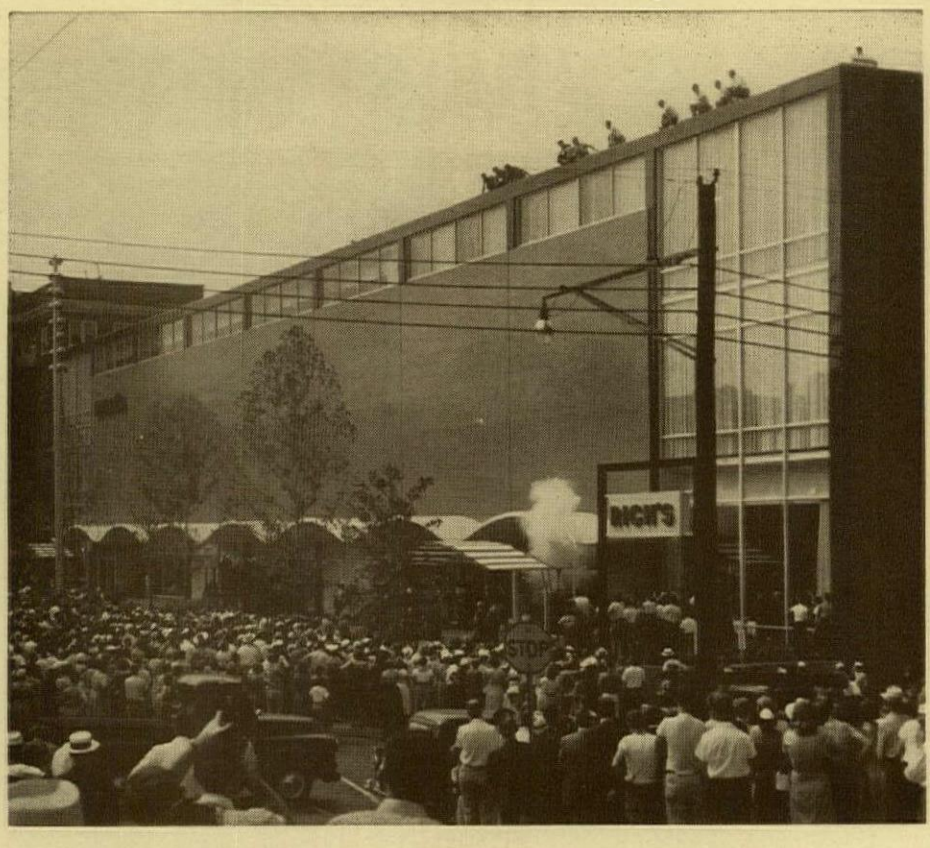
October 1955

PERU HOSPITAL SETS NEW STANDARDS

Photos: Eduardo von Breymann

LIMA, PERU, Aug. 30—Presently nearing completion here is the new hospital developed under the auspices of Gen. Manuel A. Odria, President of the Republic of Peru, and planned in co-operation with the US Public Health Service (Hospital Facilities Division). It will serve 75,000 white-collar members of this country's social security system. Complex requirements calling for a 500-bed general hospital as well as 350-bed maternity hospital, each with outpatient departments, have been smoothly and handsomely resolved by Architects Edward D. Stone (New York) and A. L. Aydelott (Memphis, Tenn.), associated on this project. Local Supervising Architect is Richard Malachowski. Maternity, medical, and surgical facilities have been combined in the tall structure (*above*)—chapel in foreground is yet unglazed. Nurses quarters occupy separate wing visible in background, right.

Rich's Knoxvillle Store Opens



KNOXVILLE, TENN., Sept. 2—This week a small capsule containing radioactive-controlled energy severed the ribbon and officially opened an $8-millions branch department store for Rich's Atlanta here. This fine piece of architecture, set into attractively landscaped gardens, will lend great impetus to the revitalization of the downtown district of this city. Stevens & Wilkinson, Atlanta, were architects for the colorful building, of which end walls are of bright-red enameled brick. Blue-green glass walls expose handsome stairs and spacious interiors designed by Raymond Loewy Associates. Parking facilities are provided in a new four-story garage directly across the street, linked to the store by underground passage.

P/A Design Awards Jury Meets

PROGRESSIVE ARCHITECTURE's third annual Design Awards Program reached the stage of Jury consideration on September 16. Jury Members (*left to right*) Paul Weidlinger, Engineer, New York and Washington; Robert Alexander, Los Angeles; William Lescaze, New York; Dean Pietro Belluschi, M.I.T., and Alfred L. Aydelott, Memphis, Tenn., spent long hours going over the more than 600 entries. Award and Citation winners have been notified; formal announcement and publication of the top designs will be in January 1956 P/A. The Jury commented: "It was a tough judgment. Quality of work submitted was very high. Architects should be proud of the measure of design ability demonstrated by the work."

Photos: Gene Heil

Johnson Designs Builder House

NEW CANAAN, CONN., Sept. 19—Architect Philip Johnson is well known for his many distinguished private residences, including the widely published house with all four walls of glass that he designed for himself. Now, for the first time, he has built a speculative house (*shown here*) for the Wiley Development Corporation of New Canaan. Emphasis is on large glass areas that face away from the street. To obtain living privacy—as well as providing usable outdoor extensions of the main living rooms—the architect incorporated fencing and wing-wall extensions in the design. Strategic planting further enhances indoor-outdoor relationships. Construction is primarily of wood. Windows from floor to ceiling are of the horizontal-sliding type. Heat is supplied by a warm-air system. Sales price of the house is $45,000.

Reynolds Gets New Offices

RICHMOND, VA., Sept. 7—Ground was broken here today for this new executive office building for the Reynolds Metals Company. Planned to accommodate 1000 employes, the building is designed around a landscaped court. Cost, including the 40-acre site and landscaping, will come to approximately $10 millions. Ebasco Services, Inc., will be responsible for the space planning, engineering design, and construction management of the project. Skidmore, Owings & Merrill, Architects.

Most notable design elements are the vari-colored, vertical aluminum louvers on the east and west walls of the building. These will open and shut automatically as the sun moves in its orbit. Further light control will derive from a 6-ft horizontal aluminum sunshade above the windows, at each floor level.

News Bulletins

• World Symposium on Applied Solar Energy is scheduled for November 1-5 in Phoenix, Arizona. In addition to discussions on residential uses of solar energy, conference will also include an exhibit of the latest in machines and equipment. . . . "Man, the Atom, and the Future," an exposition of the peacetime uses of atomic energy, will be held at Carnegie Endowment International Center, New York, October 20-November 3. . . . 42nd Annual Convention of the National Warm Air Heating and Air Conditioning Association will take place in New York City, November 30 and December 1. . . . Air Conditioning and Refrigeration Exposition will be held in Atlantic City, November 28-December 1.

• Society of Industrial Designers will now be known as American Society of Industrial Designers, announced Society's President, Peter Muller-Munk, at the Annual Meeting in Washington, October 6-8.

Beverly Hilton *Dallas Statler*

• Various units in the huge new building program of the combined Hilton-Statler hotel chain are being completed. Recently opened with Hollywood fanfare was the Beverly Hilton in Los Angeles, designed by Welton Becket & Associates. Nearing completion in Dallas, Texas, is the new Statler, for which William B. Tabler is Architect.

• New officers of American Society of Landscape Architects, elected for two-year term, are: President, Leon Zach; Vice-President, Arthur G. Barton; Secretary, Hubert B. Owens; and Treasurer, Norman T. Newton.

• AIA Committee on Advancement of the Profession met recently to elect Thomas H. Locraft as Permanent Chairman and Howard Eichenbaum, Vice-Chairman. Twelve-man group, representing each AIA region, will study and analyze: preparation for practice; architectural practice; organization of profession; and impact of profession on society and economy.

• First prize in competition to choose an architect for Civic Auditorium, Vancouver, B. C., was awarded to five-man team: D. Fred Lebensold, Guy Desbarats, Raymond T. Affleck, Jean Michaud, and Hazen Sise, from Montreal and Quebec.

• Volume of construction put in place during August set a new record for that month and contributed to peak record for first eight-months period. Construction outlays for August totaled $4 billions; expenditures since January soared to $27.1 billions, 13% above 1954 levels. Slight dip in private residential construction, off about 2% from July, was more than offset by unusually sharp increase in commercial building activity.

• Carl Milles, 80, died at his home in Sweden, September 19. Sculptor of many celebrated fountain commissions, including one to be soon installed in New York's Metropolitan Museum of Art, Milles served on the faculty of Cranbrook Academy.

Photo: The American Swedish News Exchange, Inc.

• American Academy in Rome is offering several fellowships for independent work in architecture, landscape architecture, and classical studies for year beginning October 1, 1956. Applications and submissions of work, in prescribed form, must be received before December 30, 1955, by Executive Secretary, American Academy in Rome, 101 Park Ave., New York 17. . . . Beaux-Arts competition program for 1955-56 school year has recently been announced. For complete information write: Beaux-Arts Institute of Design, 115 E. 40th St., New York 16. . . . International competition for design of Sanctuary of the Madonna delle Lacrime (Syracuse, Italy) and adjoining buildings is open to all registered architects. Closing date for competition, awarding first prize of approximately $12,600, is April 30, 1956. For details, address: Committee of Sanctuary of the Madonna delle Lacrime, Viale Cadorna 1, Syracuse, Italy.

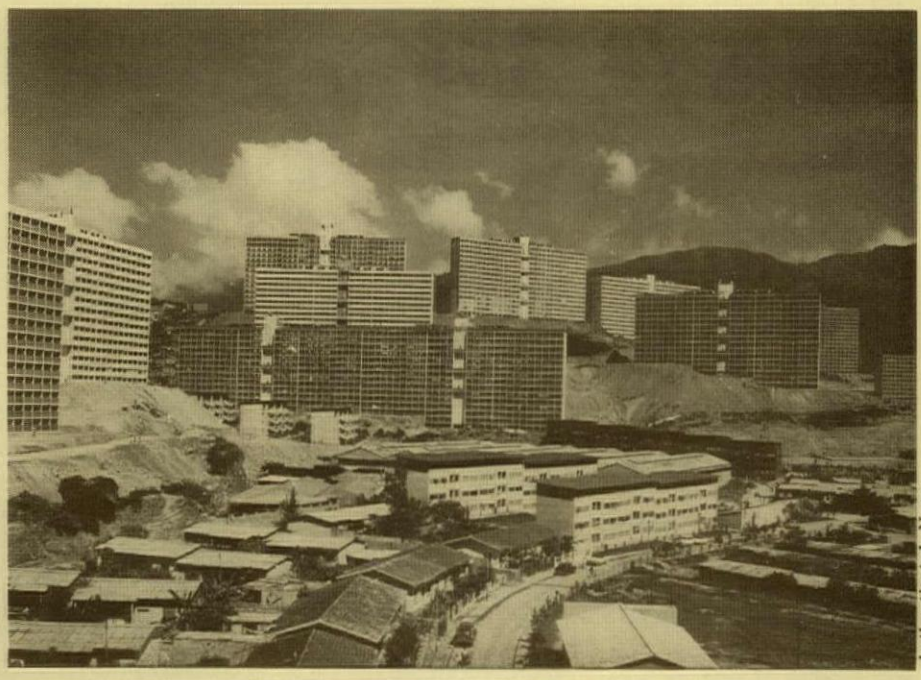
• Seven-man permanent design team has been appointed to produce site plan for Miami's $100-millions Inter-American Cultural and Trade Center. Group, composed entirely of Architects, includes: Chairman, Robert Fitch Smith, Maurice H. Connell, Russell T. Pancoast, Alfred Browning Parker, John Edwin Petersen, Edwin T. Reeder, and Robert Law Weed.

• James Herbert Gailey, partner in the firm of Bush-Brown, Gailey & Heffernan, has retired from the staff of Georgia Tech's School of Architecture after serving as a faculty member for 43 years.

• Fiberglas Fabrics Shop employs interesting techniques for display and sale of glass-fiber fabrics. Adjustable bars, hanging from ceiling, are for draping of materials; fabric-covered sliding frames show effect of front or rear lighting. Shop, located in street floor of Fiberglas Building, New York, was designed by Maria Bergson Associates.

Caracas Builds and Builds

CARACAS, VENEZUELA, Sept. 15—Symbols of the most rapidly expanding South American city are these multistory apartment houses which are helping to alleviate an acute housing shortage. Cerro Piloto slum clearance project (*right*), recently dedicated by Col. Marcos Pérez Jiménez, President of Venezuela (*below*), is only one of many similar new housing developments. Apartments in these buildings range from $9 to $25 monthly. Keeping pace with residential growth are hospitals, roads, etc.



Authenticated News

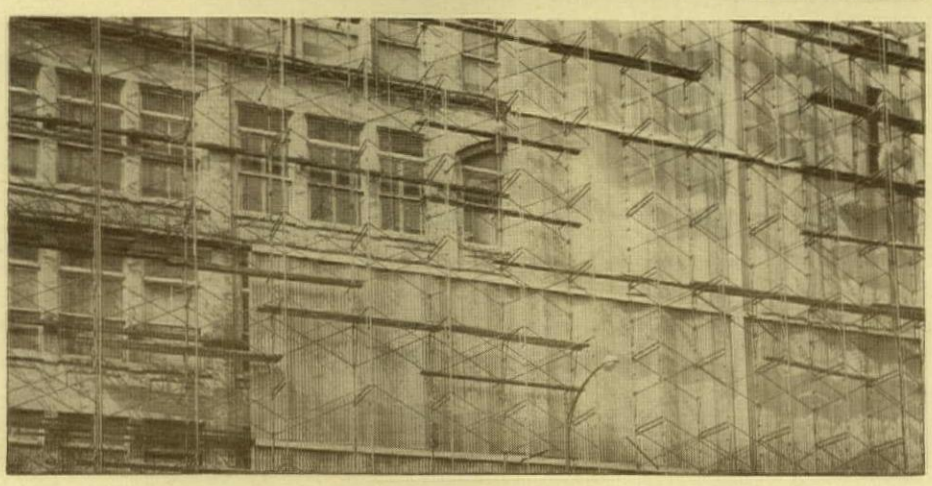
Old Building Quickly Sheathed

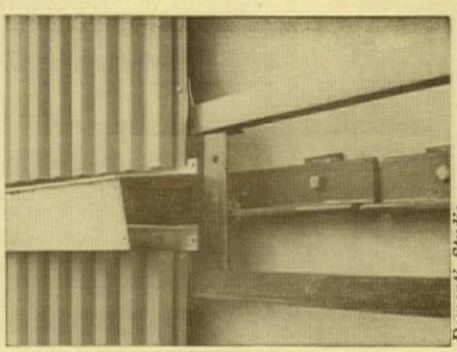
Colonial Studios

RICHMOND, VA., Sept. 15—Thalhimers department store, consisting of old and new buildings of various heights, has just been sheathed with aluminum so that it now appears to be a single structure of uniform height.

Aluminum's light weight made it possible for the designers to use a girt supporting system for the panels. The façade is made up of three-ft wide vertical, fluted, anodized-aluminum panels set at a 30-degree angle to each other in a saw-tooth pattern. Each fluted spandrel area is framed in a box-type grid, approximately 16 ft x 24 ft, made up of extruded sections with a natural aluminum finish.

Architects for this first aluminum-clad department store were Copeland, Novak & Associates; engineers and builders, The Austin Company. Reynolds Metals Company developed and supplied the special alloys used for the façade.





Dementi Studio

Financial News

by William Hurd Hillyer

Demand for good design through the medium of architectural services increases with sophisticated prosperity and with the growing complexity of modern living. Furthermore, design itself is profoundly influenced by a wheel-borne majority, as current news indicates. Jackson, Mississippi, for example, now claims to possess the world's only round bank. The recently completed Meadowbrook branch office of the Jackson-Hinds banking institution looks like a huge glass-sided drum. This unusual shape was chosen as providing best accommodation for the increasing proportion of drive-up and drive-in customers. Their cars can circle the building in a tight curve and thus eliminate parking areas.

With banks, as well as many commercial structures, reaching out into new suburban communities where car-riding customers are already cramped for space, the architect's ingenuity will doubtless breed many novel creations. In fact, the vast expansion of purchase-travel ability fostered by consumer credit, to say nothing of improved technology, is producing totally new design requirements.

Possibilities of home remodeling have been overlooked by the construction industry, declares Director Cyrus B. Sweet of FHA Home Improvement Division. He says that 700 out of 1000 new homeowners do some sort of work on their houses during the first year's occupancy. Exploring this area, construction men met in Washington recently to work out a "package" home remodeling plan, under which one prime contractor would be responsible for the entire remodeling job. He would hire all subcontractors and arrange the financing. Attending contractors hailed package remodeling as a prayer-answer for thousands of homeowners who want to modernize their dwellings but must "shift for themselves." Under such a plan, the integrating services of an architect seem to be peculiarly necessary.

The excess of newly started homes over newly formed families is much less than earlier official reports indicated. Comparison between the two totals, using Census figures just released, is made by First National City Bank of New York: 1.3 million homes for 844,000 new households during year ended April '55. This still leaves a 456-million-home excess —which, however, is narrowed by half when demolished, condemned, or otherwise eliminated units are taken into account. Informed observers interpret the effects of tighter mortgage money as squeezing out only marginal buyers and builders. Housing officials further note that the current small decrease in "nonfarm" home starts "probably reflects some voluntary adjustment of mortgage credit" due to a shrinking money supply.

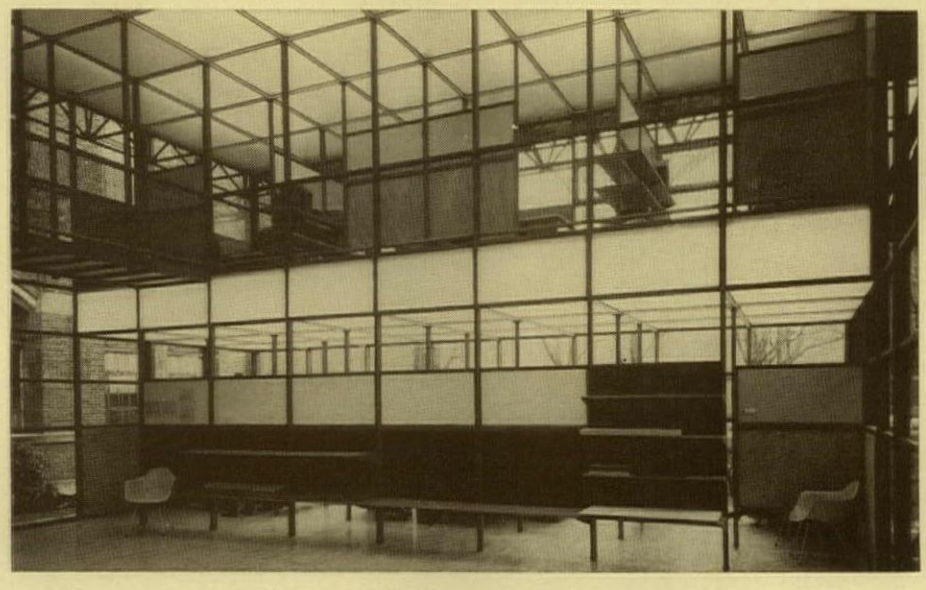
Monetary flow in general often portends changes that may affect planning and building. Significant, but not publicized, is New York City's bank check lag, as compared with the rest of the country. For years, the metropolis has had a larger checking volume than all the other Dun & Bradstreet reporting cities put together. Of late, the relative positions have been reversed. New York's total was $8.7 billions for the week ended August 31, while the outside cities were rolling up $9.3 billions. They gained 8.9% over last year's comparable week while New York went down 3.4%. This phenomenon, now standard behavior, reflects the increased decentralizing tempo that has marked recent months. Architectural practice and design, in turn, will be influenced.

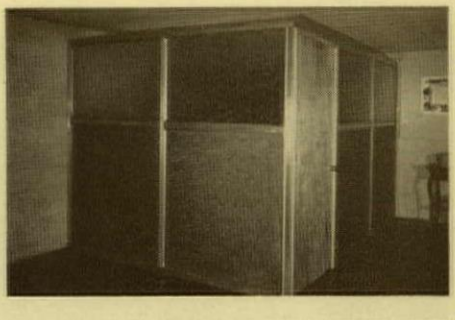
A pronounced trend toward home ownership is noted and evaluated by the Federal Reserve System in its current study of consumers' housing arrangements. The most striking upcurve in home-owning families is among those headed by persons 35 to 44 years old, many of whom were formerly unable to build or purchase, because of depression or war. This age group, though enjoying the greatest income rise during the subject period, at present trails behind those aged 45 and over, in percentage of home ownership, in number of rooms per person, and in proportion of mortgage paid off. Such a state of affairs augurs busy drafting boards, thumbtacked with plans of roomier houses for prosperous families. However, as Federal Reserve also reveals, the proportion of owner-occupied houses that are mortgaged has gone up from 45% to 54% and the median size of mortgage has grown from $3000 to $4700. Furthermore, "mortgages have increased in size more rapidly than have values," due chiefly to smaller down payments and slower real estate increment.

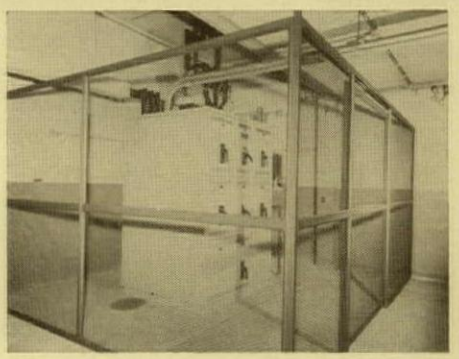
Federal Reserve Bank of Chicago reflects widespread optimism as the nation's business continues to gather strength. Upward pressure from both consumer and business is noted behind the momentum, reinforced with augmented production. Cited are automobiles, chemicals, paper products, metals ferrous and nonferrous, trucks, coal, apparel, electrical apparatus, furniture and fixtures, industrial and farm machinery as being produced in constantly mounting quantities since mid-'54 and as still climbing for fresh highs. Indicating even greater future production and expansion into new fields is the amount of research being done in established industries. A number of large producers are actually building new plants for research purposes; Pittsburgh Plate Glass Company, for example, recently announced plans for a multimillion dollar research center (acrosspage).

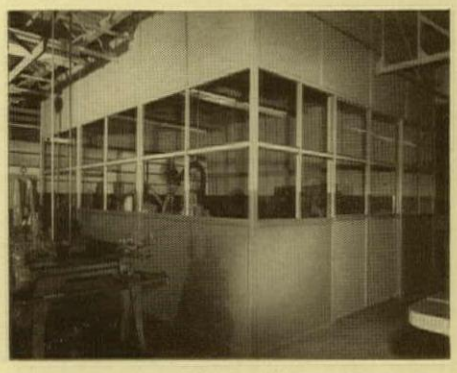
Some concern is felt, in official and unofficial quarters, over the dwindling money supply as compared with the swelling tide of mortgages and consumer debt generally. Particularly thought-provoking is the fact that private debt has increased from 77% of national income to 114% since 1945, as figured by Boston's First National Bank. That institution sees the $112 billion of consumer and home mortgage borrowings as the chief factor in such an imbalance. The Federal Reserve Banks have inched up their "rediscount" rates to 2¼% in an effort to discourage borrowing, but no appreciable business slowdown is currently reported. However, as this page goes to press it is heartening to hear New York's biggest national bank voicing no "apprehensions that money might not be available to finance autumn expansion."

Unistrut Develops Flexible Partition System





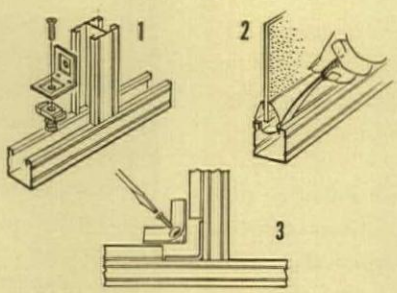




Newest use of Unistrut adjustable framing is for single-panel partitions. A fresh idea in space dividing—known as the Attwood system—these low-cost movable walls are not only simply and quickly erected but are also 100% reusable. The system is flexible enough to permit almost any arrangement or number of panel units—either horizontally or vertically.

All framing members are connected with the same kind of lock nut and bolt (*Detail* **1**). The patented nut has grooves with hard, sharp edges that bite into the inturned flanges of the steel channel. Once the nut is tightened, it cannot slip. The square depressed areas in the fitting adjust snugly in the channel and positively prevent rotation or loosening of the fitting. A cross connection for a window, door, or other panel can be made at any location along the channel slot without welding or drilling.

An easily attached molding strip grips the panel material and no fasteners, screws, or bolts are needed to hold it in place. The molding, made of flexible steel, slips over the edge of the panel and should come to within 1¾" of each corner. The panel-molding assembly is then easily snapped into the framing channel with the aid of a putty knife (*Detail* **2**). Panels may be plywood, hardboard, plastic, glass, expanded metal, or other material. Although a ⅜" thickness of paneling is recommended, the molding will accommodate any thickness from ⅛" to ½".

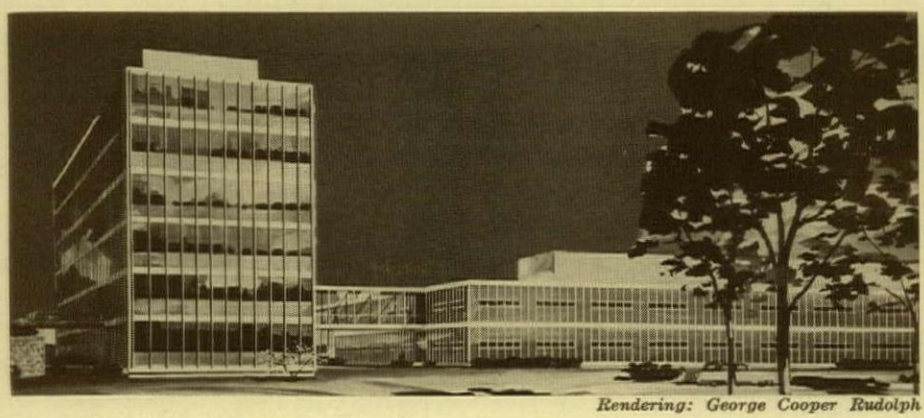


When the panels are in place, all that is required to finish the framing is to screw cover plates into the corners of the panel frames (*Detail* **3**). There are no exposed edges to catch dust or dirt.

Typical installations using these Unistrut space dividers are illustrated. Cubicle-type walls with shelf provisions were erected in the research building of the University of Michigan's Department of Architecture (*top left*). Single-panel partitions make good office enclosures. Frames containing a combination of glass and hardboard produce a temporary factory office (*above top*). When a new section of the plant is constructed, such an office can be easily removed to another location. Partitions containing expanded metal are useful in protecting workers from high-voltage electrical equipment (*above center*). Where it is necessary to screen out factory noise, floor to ceiling partitions are appropriate (*above*).

Pittsburgh Plate Glass Company Announces New Research Center

PITTSBURGH, PA., Sept. 19—Construction has commenced on Pittsburgh Plate Glass Company's Glass Research Center in Hamar Township near Pittsburgh. The Center, designed by Architects Skidmore, Owings & Merrill, will consist of two separate buildings. First to be constructed is the development and product-control building, a single-story structure covering an area 480′ x 260′. The basic research building to be erected later will be six stories high, covering 70,000 sq ft of floor space, and containing chemical, physical, and analytical laboratories plus administrative offices and library.



Rendering: George Cooper Rudolph

Washington Report

by Frederick Gutheim

The typical Washington building of the decade since the war is a labor union or a national association headquarters. These office buildings, usually generous in scale and faced with marble to emphasize their similarity to the buildings of Government itself, are conceived as symbols of their business or activity in the national capital. The seat of Government has long contained such representative groups. Castigated as lobbies or pressure groups, the public has difficulty in forming an impression of just what they do. Unluckily, a false monumentalism has obstructed the kind of understanding which architecture might have furthered if given a freer and more imaginative direction. Few of these new buildings invite the public in, show informative exhibits, or help explain why they exist and what they do. Instead they aspire to a dreary pomposity. To the extent that a quasi-public character is attempted in such buildings, there is a real danger that a bad precedent for future public architecture will be established if it is tuned to these false notes.

Dave Beck's Teamsters Union sets the pace for union headquarters buildings. Facing the Capitol and Senate Office Buildings, this recently occupied white marble structure houses the International Brotherhood of Teamsters, Chauffeurs, Warehousemen, and Helpers Union—if I may succumb at once to the irresistible pressure to give the Union its whole name. But if you didn't know, you might mistake the building housing it (designed by Holabird & Root & Burgee) for a Federal Reserve Bank. It cost about $5 millions and I am sure the teamsters don't regret a penny of it. Their publication commented, "Congressmen in the Capital and Senators in their offices will be able to look out their windows and admire its beauty shining beyond the dancing fountains on the Capitol grounds." This is sheer hyperbole, of course, but it illustrates the architectural motive. The connotations of permanence, continuity, great financial resources, organizational solidarity, and political orientation are all valid architectural elements. They are as valued by a union as by a bank. So, too, is the rather princely expression of the contemporary union leader, well represented by Beck, whose followers delight to know he can hob-nob and make deals on good terms with high Government officials as well as business leaders. The rank-and-file union member still cherishes a naive belief in big deals and sharp angles. He thinks in terms of the strong-arm and the fast buck. Hence the marble and bronze of the casket designer.

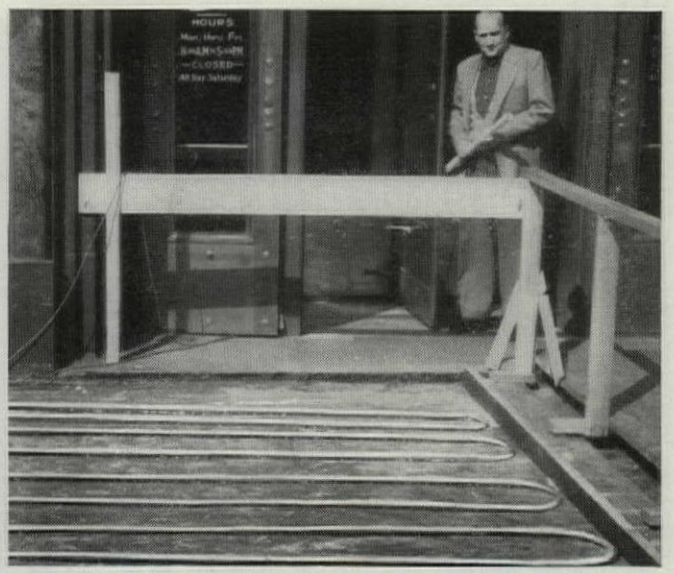
Other major Washington buildings are under construction for the American Federation of Labor, the International Union of Operating Engineers, the International Brotherhood of Electrical Workers, the International Association of Machinists; and sites have been acquired by the Bakers and Confectionery Workers Union and the United Steel Workers. These are by no means as lavish as the teamsters'. They are more apt to conform to office-building norms, with curtain-wall construction and flexible interiors. But the accent is the same, and the choice of a good address and the architectural emphasis reflect it.

Among the headquarters buildings for trade and professional associations, the outstanding one is the National Association of Home Builders, opened this summer, designed by Aubinoe, Edwards & Beery. It has a boldly chosen location in a shabby block on L street, midway between the Mayflower and Statler Hotels, but should trigger an upgrading of this strategic block. This project seems to have been conceived by Frank Cortright, NAHB's first executive director, and it has been tailored to fit that mushrooming organization's special needs and opportunities. It aspires to become a housing center of national and international importance; to fly the housing flag, so to speak, in the nation's Capitol. You don't see much evidence of this in the rather plain few feet of architecture that are veneered with red marble and face the street; but it is clear from the working elements of the building and from its program. The National Housing Center starts with a street-level housing display and three levels of exhibition space of frankly commercial products, a more specialized and smaller version of the Architects Samples Corporation showrooms at 101 Park Avenue. It contains what will become the largest private library of refence materials on housing, from which a stream of information will serve special needs of homebuilders throughout the country. And it houses, of course, the working staff of NAHB, occupying two entire floors of flexibly divided working space, with appropriate reception areas.

If the exterior is rather negative, except for a hospitable window display, the interior of this building is sternly functional. Continuous, prefabricated ceilings contain air conditioning, illumination, and acoustical treatment. Utilities are ranged along a single wall to provide maximum flexibility. Metal-and-glass partitions divide working spaces. Reception areas are specially planned and decorated.

The major significance of the NAHB building is organizational and economic. It has been built and is owned by a nonprofit subsidiary of NAHB, which receives rent from NAHB and other tenants, will charge for research and reference services it renders, and will plow any profits it makes back into housing research. NAHB has been wise to engage Neil Hardy, an imaginative and talented government housing executive, to direct its Housing Center, and the program he is developing will be watched closely not merely by building and housing groups but also by associations generally. Since these groups, in the aggregate, now comprise one of the largest economic activities in Washington, and were recently found to be the element in the city with the greatest developmental prospects, the influence of the Housing Center ought to be a broad one.

Leak-free joints made easily with torch and solder.



Section of system ready for paving.

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Blizzard snows and freezing rain don't stand a chance around 626 East Wisconsin, in Milwaukee! The Milwaukee Gas Light Company's sidewalks are always free of snow and ice—thanks to an efficient snow removal system of Chase copper tube!

The contractor, John S. Jung, used both Chase Type L copper tube and Chase copper solder-joint fittings in the installation. This combination is unsurpassed for easy, fast installation plus trouble-free performance over the years! You see, corrosion-resistant Chase copper tube comes in long lengths that are easily bent into position and require fewer joints. Tube and fittings are *made for each other,* so leakproof solder-joints are assured. They expand and contract *as one unit* with temperature changes!

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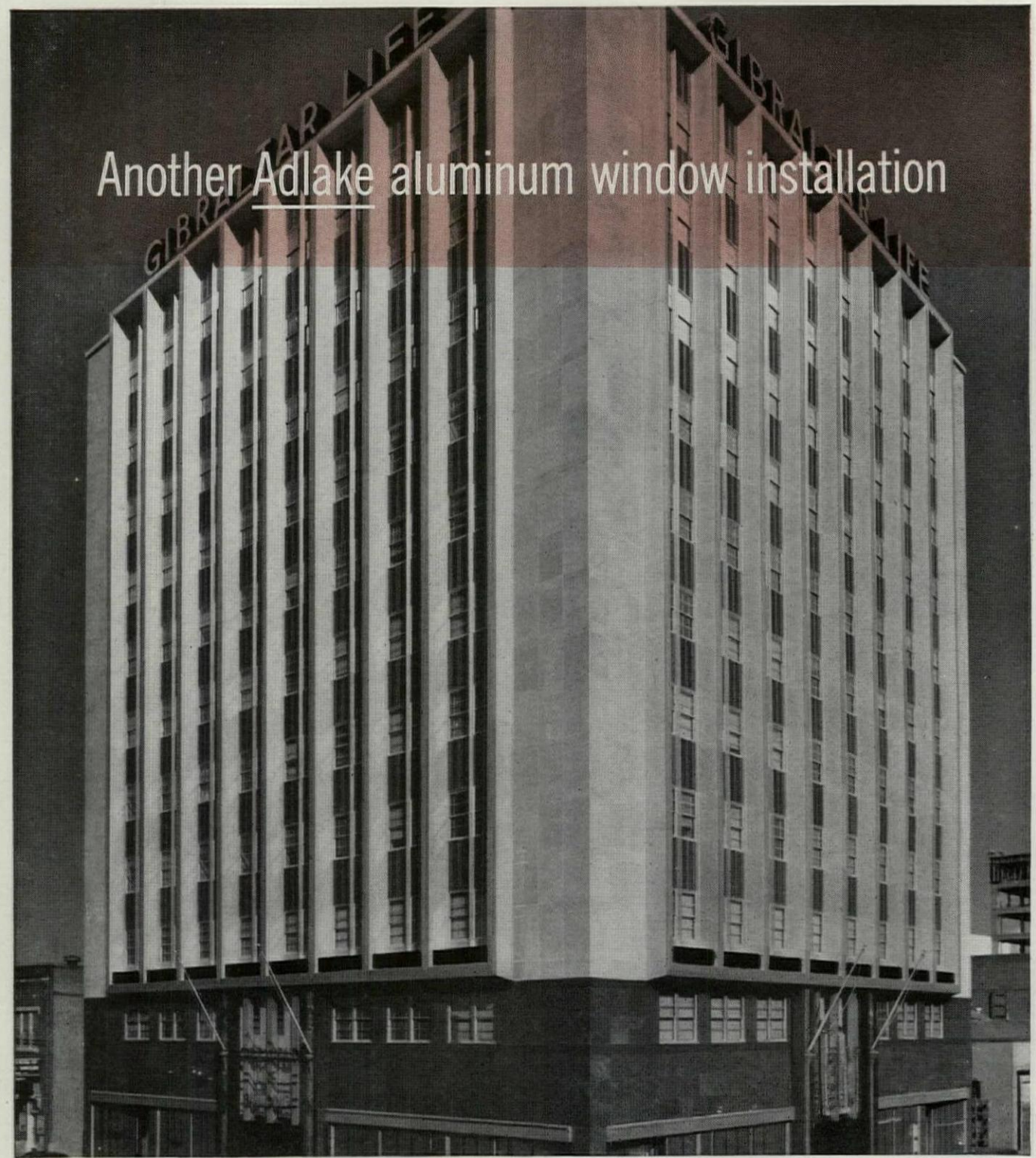

Another Adlake aluminum window installation

Gibraltar Life Insurance Company Building, Dallas, Texas. Architects: Thomas, Jameson & Merrill
General Contractor: J. W. Bateson Construction Co. Equipped with Adlake Double Hung Aluminum Window

Adlake
PROVEN QUALITY WINDOW
This window meets or exceeds all quality industry specifications for aluminum windows.
THE Adams & Westlake COMPANY Elkhart, Indiana

- Minimum air infiltration
- Finger-tip control
- No painting or maintenance
- No warp, rot, rattle, stick or swell
- Guaranteed non-metallic weatherstripping
  (*patented serrated guides on double hung windows*)

Adlake
98th year
of serving the transportation and building industries

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ELKHART, INDIANA • Chicago • New York • Established 1857

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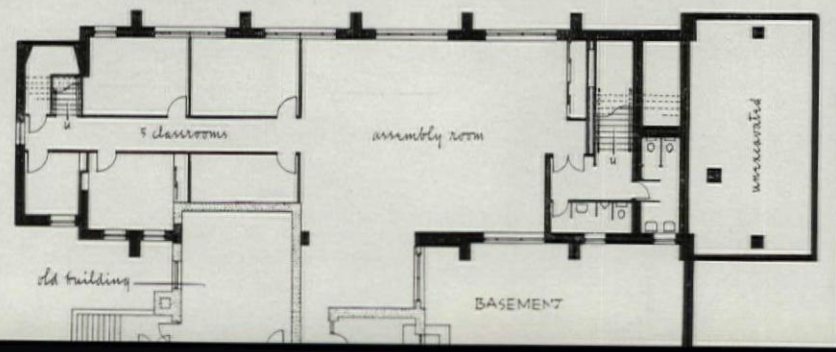
GENERAL PRACTICE

"...Most practitioners are concerned with every sort of building that needs designing in their communities, and with buildings of all sizes."

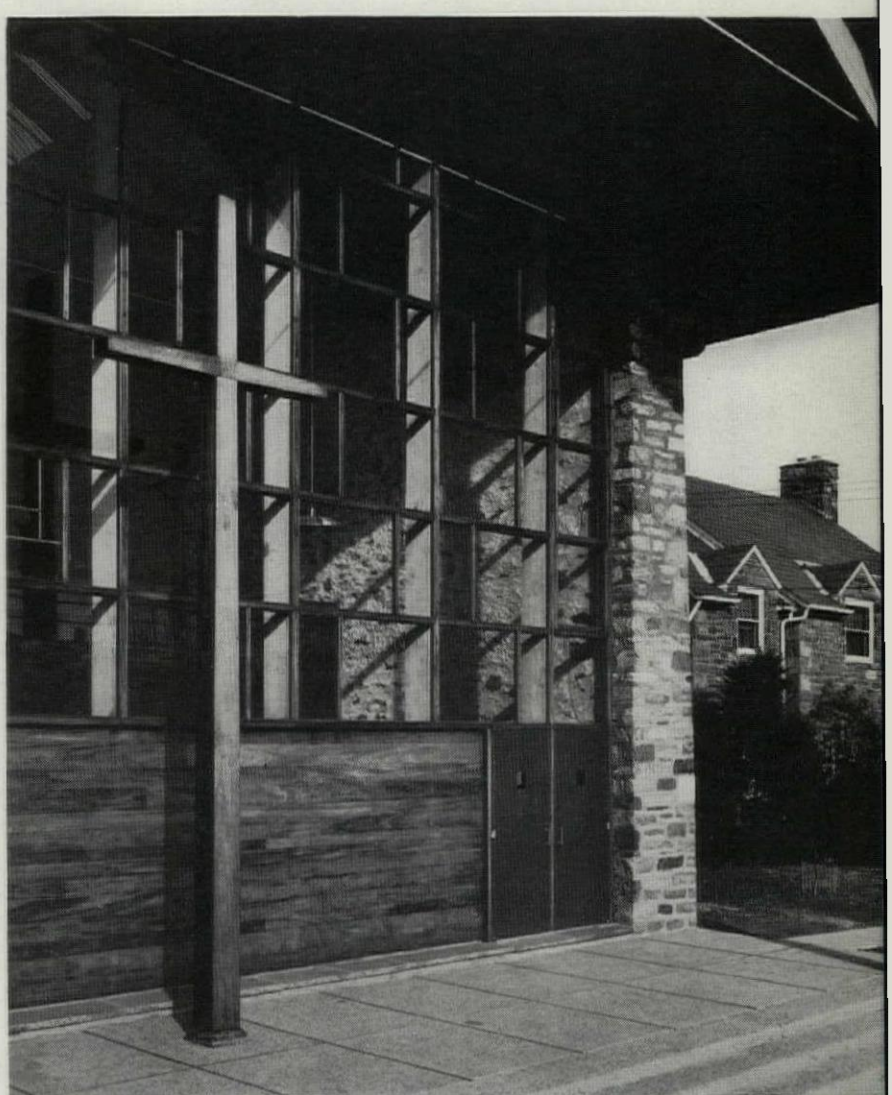
Church

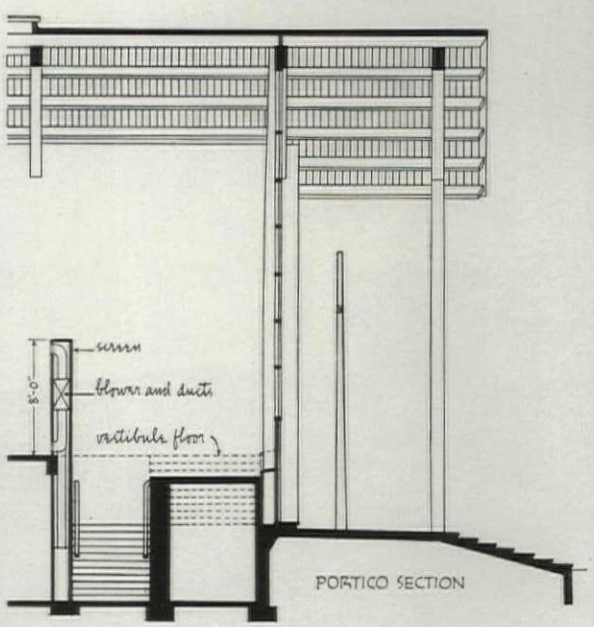
location	Linwood, Pennsylvania
architects	Carroll, Grisdale & Van Alen
architect-in-charge	Joseph C. Didinger

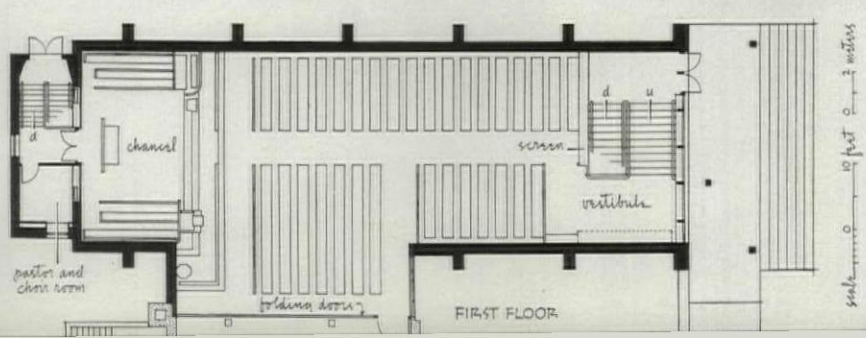
Church



This new place of worship, seating 250 persons, adjoins an earlier Sunday-school building to which direct access was desired. Hence the new sanctuary was brought to the level of the existing auditorium, and wood folding doors were installed at the juncture of the two structures. An imposing portico serves as entrance for the sanctuary as well as the Sunday school. Behind the finely proportioned façade of wood and glass, steps lead up to the level of the main sanctuary or down to an assembly room and additional Sunday school classrooms in the basement. Parts of the present clear glass, now employed at the entrance wall, will later be replaced by stained glass, which will make an even more dramatic foil for the free-standing mahogany cross. Sidewalls of rough stone were originally buttressed to support laminated roof arches. Later, for economy, laminated arches were replaced by 8″ x 18″ wood members, which made tie rods necessary. Roof is composed of planks, left exposed on the underside and surfaced on top with black slate. The main floor employs concrete beams and slabs. A. Ernest D'Ambly was Consulting Engineer; William H. Gill, Jr., General Contractor.



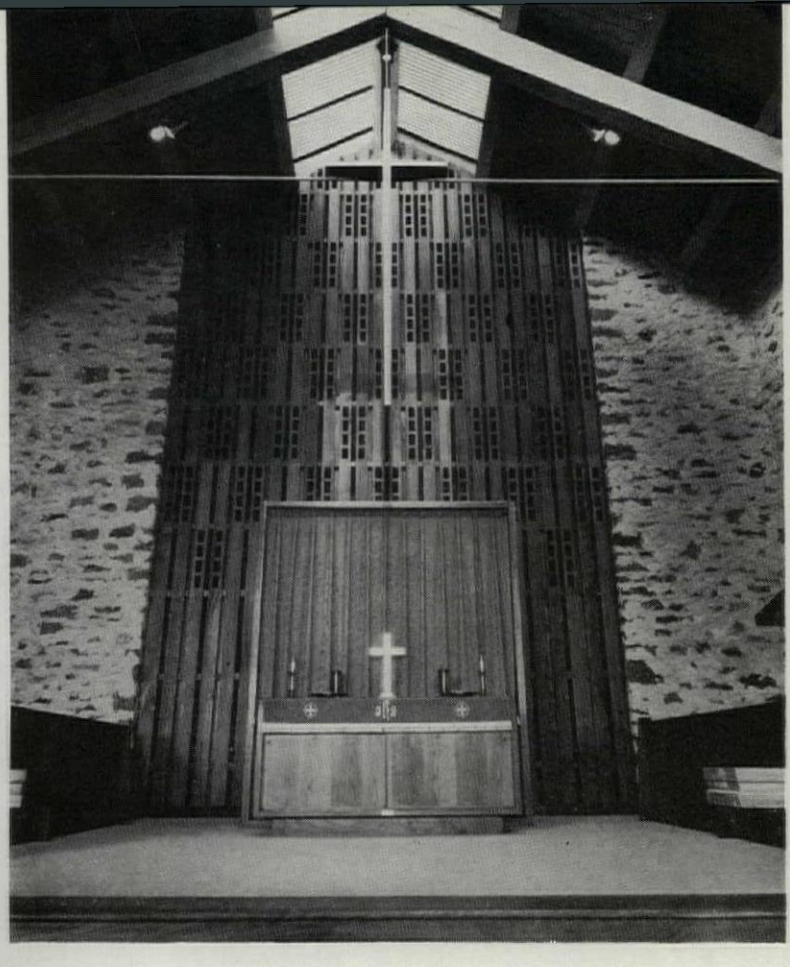


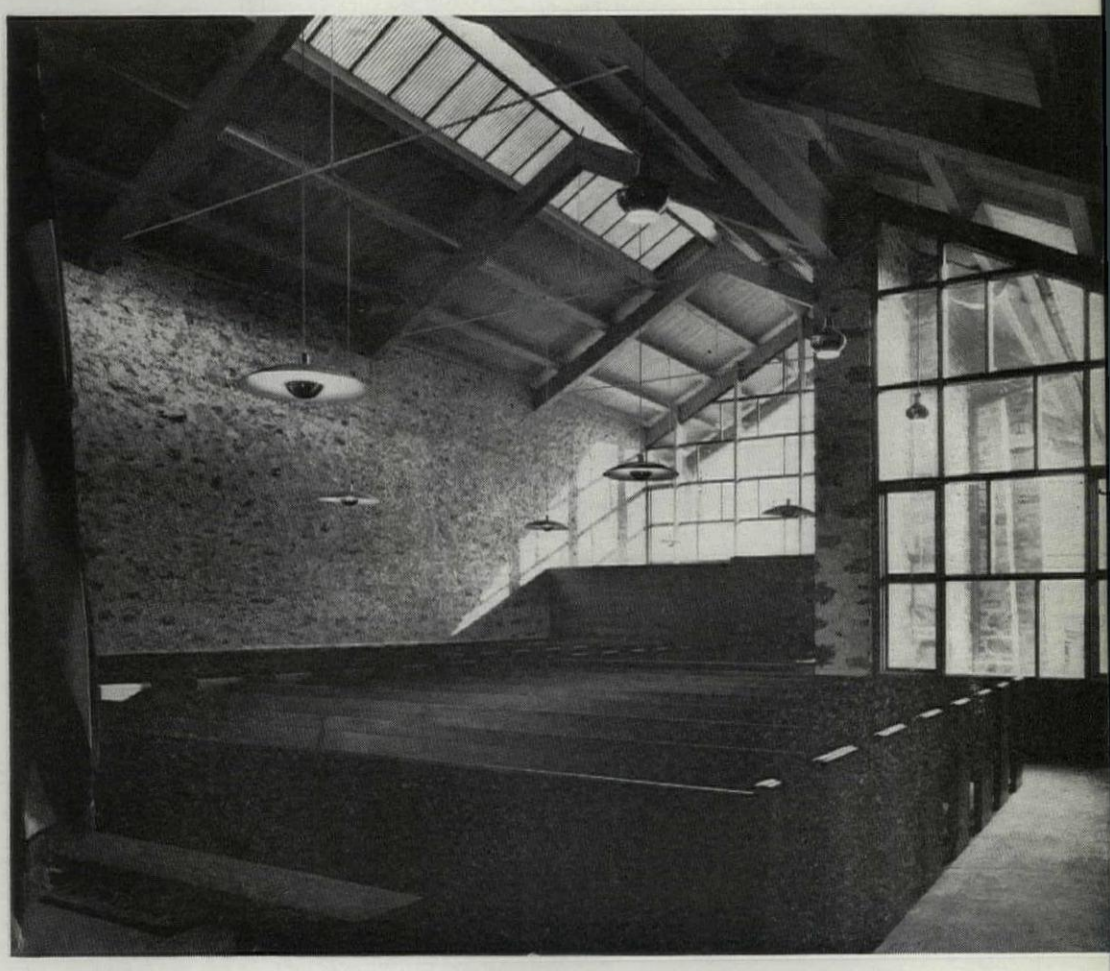


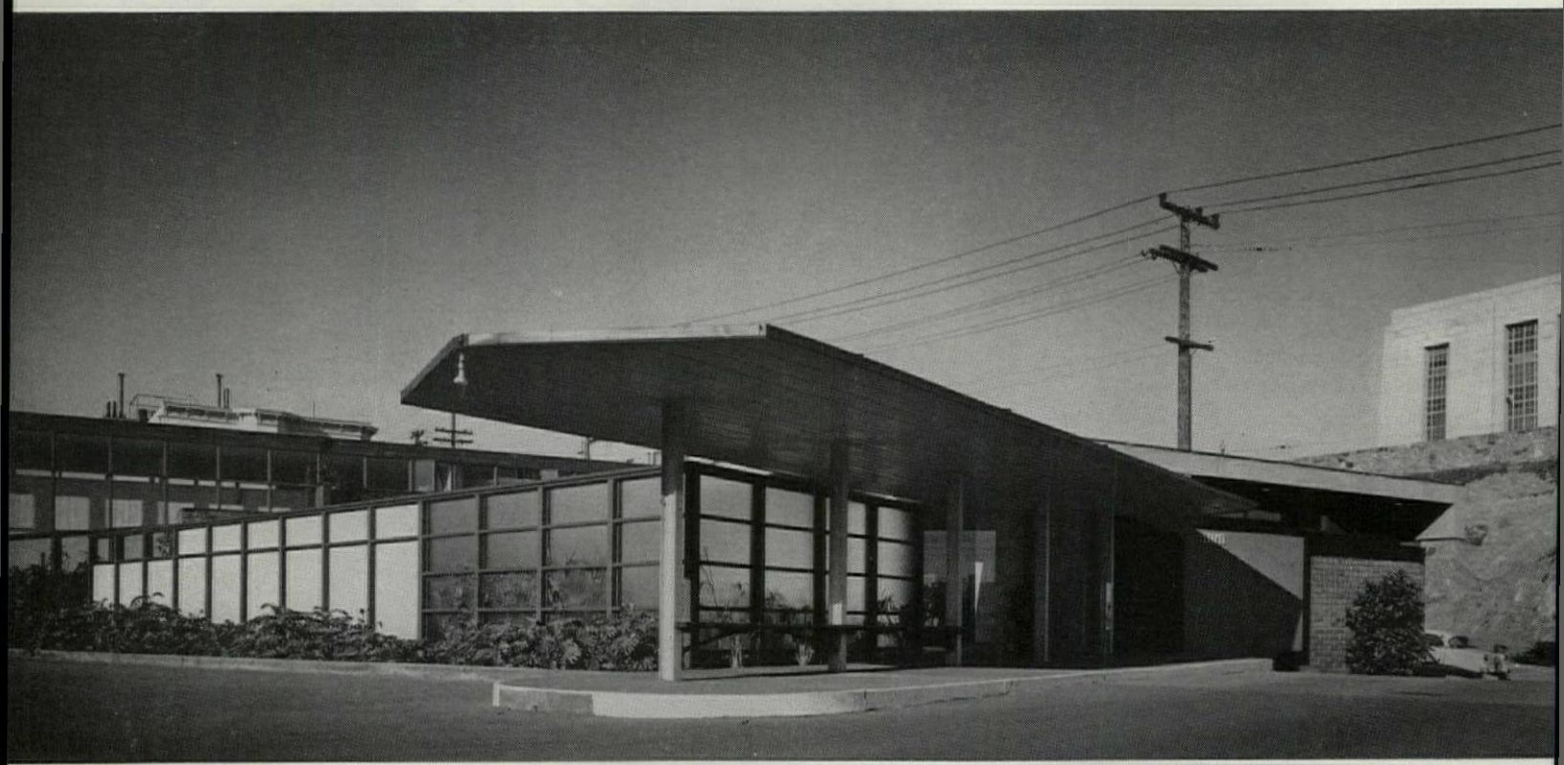
church

Wood baffle (below) *placed near the rear of the great nave* (bottom) *screens worshipers from the entrance. Focal point of the chancel wall* (right *and* acrosspage) *is floor to ceiling grill of mahogany* (see SELECTED DETAIL). *Organ and exhaust fans are located behind this pierced wall. Gold-leafed walnut cross, hung from truss above, is spotlighted at night. Ceiling-suspended, semi-indirect lighting fixtures of brushed brass provide night lighting for the sanctuary. Gold-tinted skylight, of corrugated actinic glass, supplies dramatic as well as effective natural light. All millwork is of African mahogany and pews are of black walnut.*

Photos: Lawrence S. Williams







MORTUARY

location	San Francisco, California
architects	A. Quincy Jones & Frederick E. Emmons
associate architect	Emiel Becsky
consulting architect	Harvey P. Clarkson
structural engineer	Edgardo Contini

The chapel (top) *seating 125 is a separate building, joined to the main building (left* of photo acrosspage) *by a covered passage. The future chapel will accommodate 250; and, for very large funerals, the two chapels may be joined by using the intermediate garden.*

The reception lobby (above) *has soft beige terrazzo floor, and both redwood and plaster are used for the wall surfaces.*

As in all public areas, the office wing (right) *has a garden area immediately adjoining.* Photos: Morley Baer

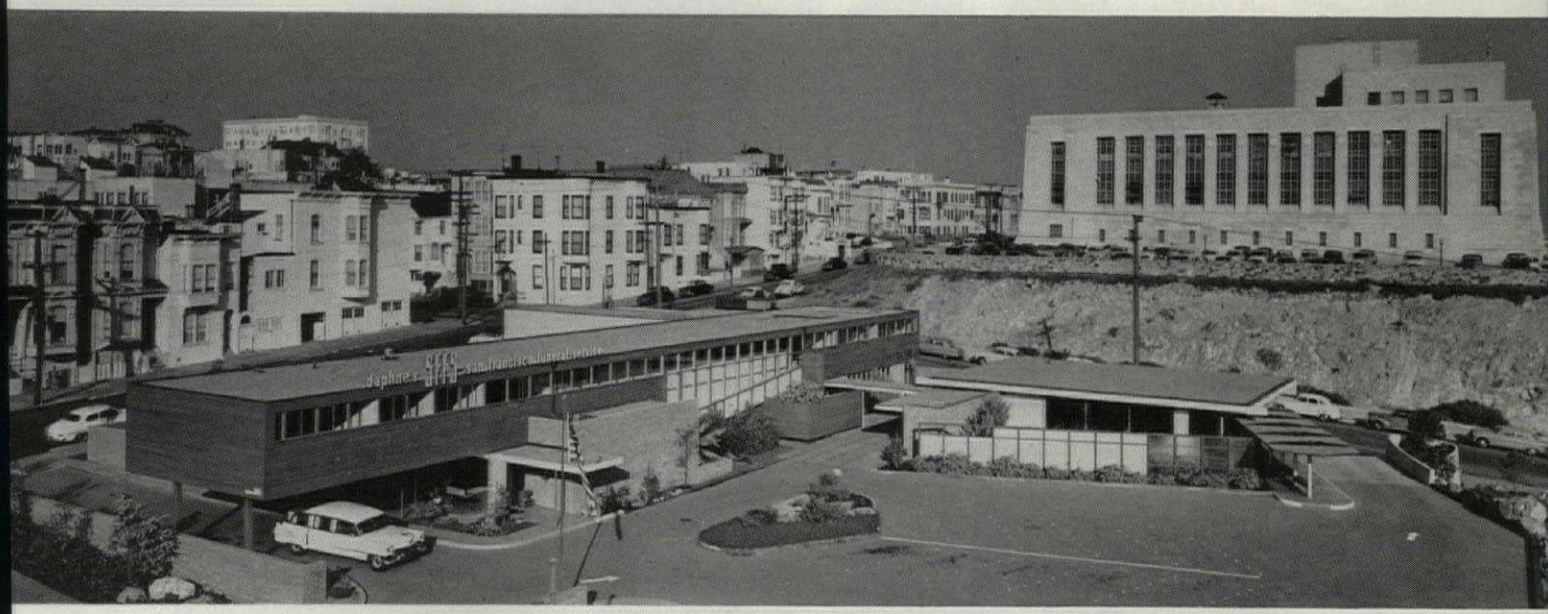
Few building types have received less architectural attention than the funeral home. As a rule, this activity is housed in some commodious old residence in a once-fashionable residential part of town.

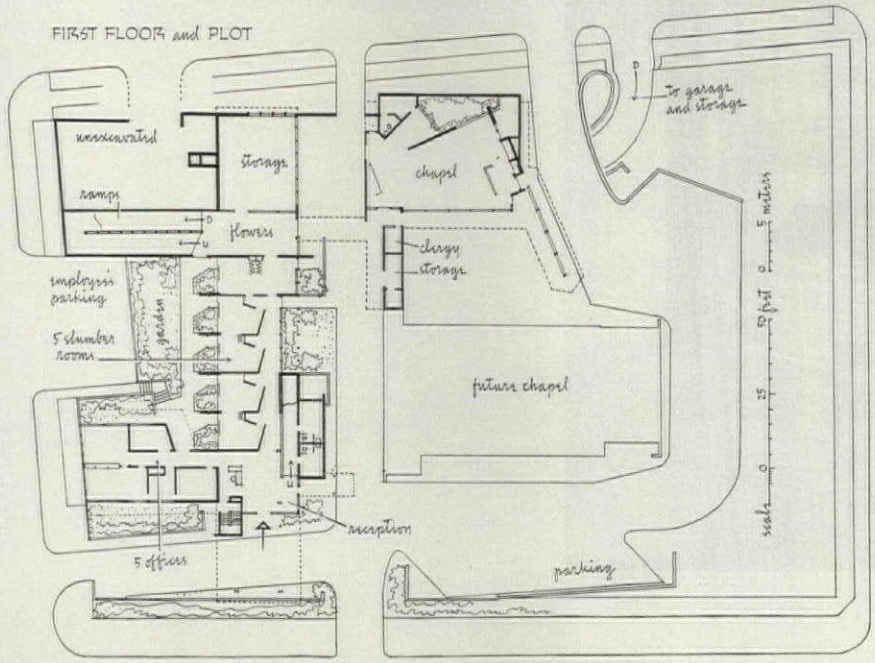
In the case of the San Francisco mortuary shown here, not only was the scheme developed from scratch, but the site is an entire city block in extent (180′ x 260′). Furthermore, it is a steeply sloping site, with a drop of 25 ft from north to south on the long sides of the property.

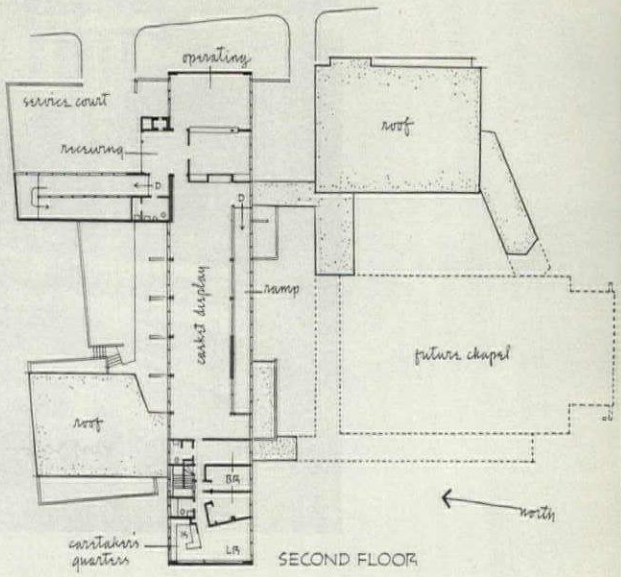
Requirements were for an integrated organization of three basic functions: the conducting of funeral arrangements; the preparation of the deceased for burial; and the conducting of the ceremony. Two conditioning factors were that the three functions should be as visually separated as possible, and the client's expressed wish for a "feeling of repose, without melancholy, and a general air of quiet efficiency."

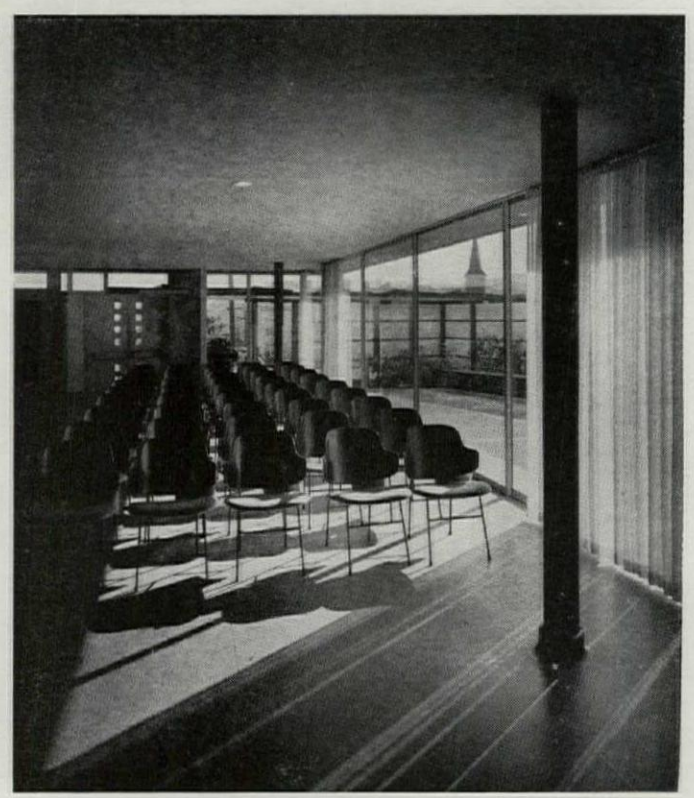
The plan solution, organized on three levels, exploits the site slope and provides access at grade to each level. Public areas all occur at the intermediate level, entered from a porte-cochere formed by the extension of the upper floor over the approach drive. On the upper floor are a casket-display room; mortuary work rooms; and quarters for a caretaker. A basement (not shown) containing a garage for 25 cars and storage and mechanical rooms is entered at grade from the lower end of the east side of the property. Service ramps connect the three floors.

The basement is reinforced concrete; the superstructure, steel frame with wood joists and rafters. Exterior materials are brick or redwood siding. Flooring includes asphalt tile, terrazzo, cork, and carpeting. Sash are steel, and the building is heated by a hot-water radiant system, with copper tubing in both floor and ceilings.



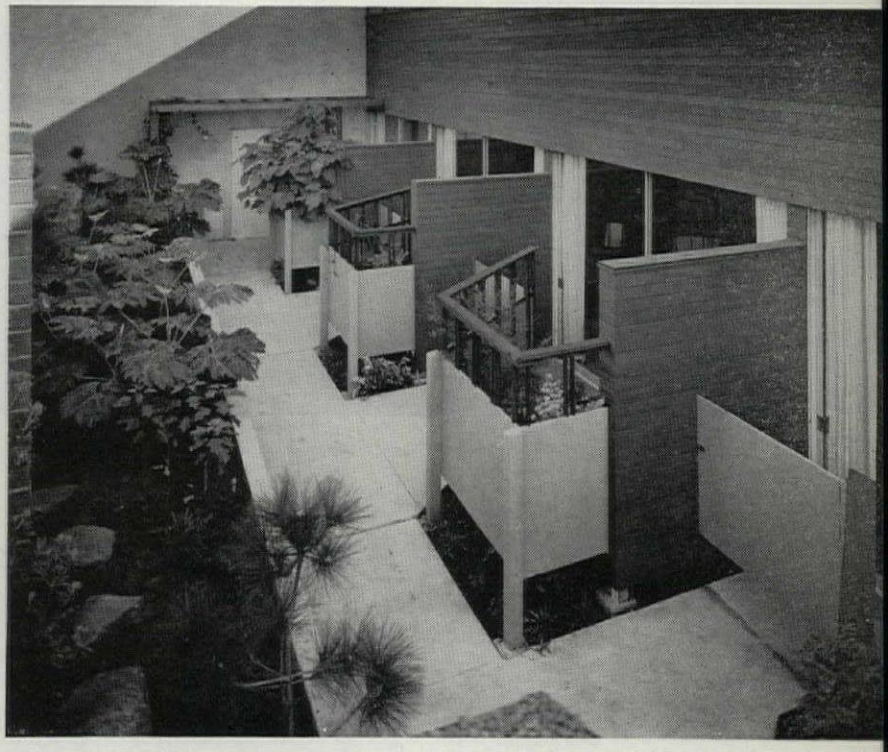


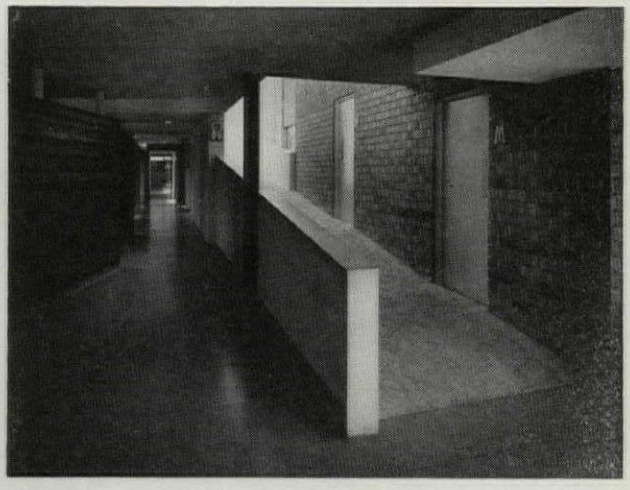




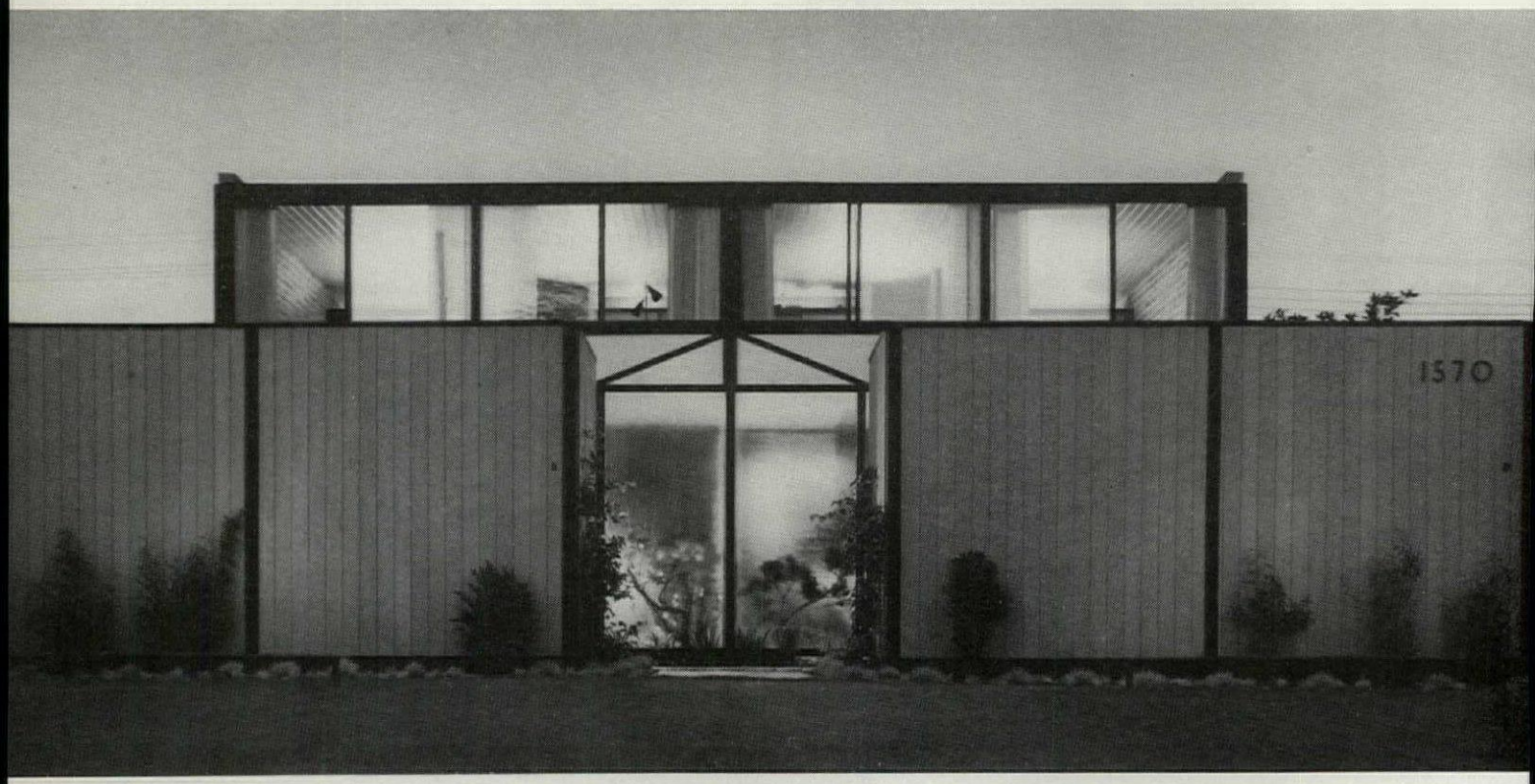
The present chapel (this page *and* acrosspage, bottom) *has one wall of glass overlooking the screened garden. Along the other wall, an indoor planting bed, under a skylight, further implements the design wish to include nature wherever possible.*

The slumber rooms (above) *are arranged in pairs that can be thrown together to form one large room. Outside the glass wall of each of the rooms is a peaceful private garden* (right).



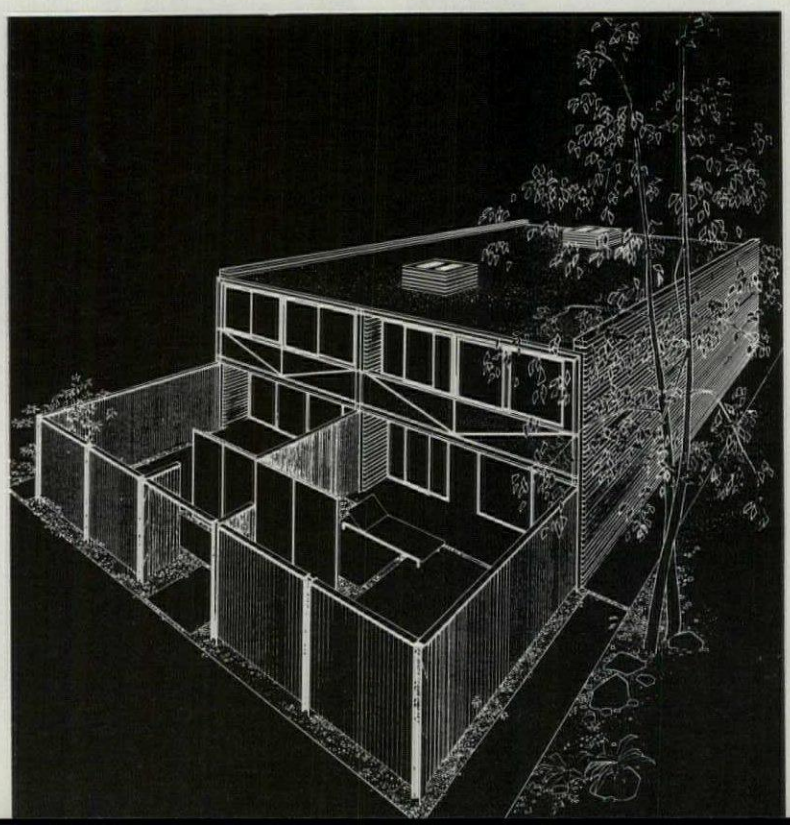


Vertical circulation is handled on ramps. Here is the ramp leading up from the main floor to the casket-display room on the upper floor.



4-unit apartment house

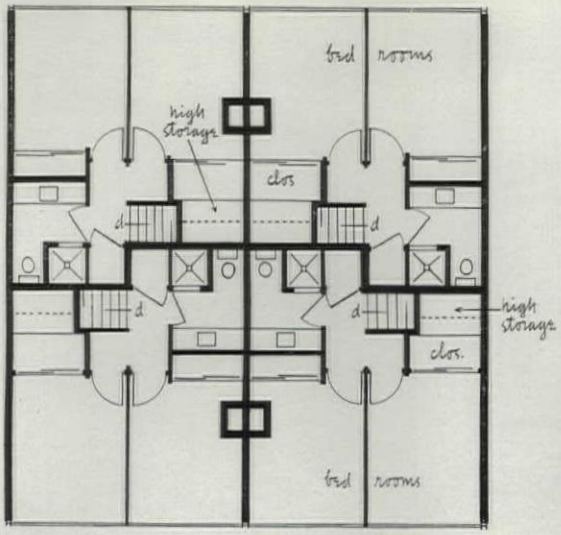
location | Los Angeles, California
designer | Craig Ellwood



An exceptionally adroit design, providing four duplex, 2-bedroom apartments on a typical 50′ x 110′ city lot, this residential unit received top award in the apartment-house category at the 1954 International Exposition of Architecture, at São Paulo, Brazil. The distinguished Jury particularly applauded the compactness of the solution; the handling of the entrance court, providing both privacy and a wind screen; and the fortunate interrelation of interior and exterior space. Contributing to the building's success were Mackintosh & Mackintosh, Consulting Engineers; Jocelyn Domela, Landscape Architect; and Henry Salzman, Contractor.

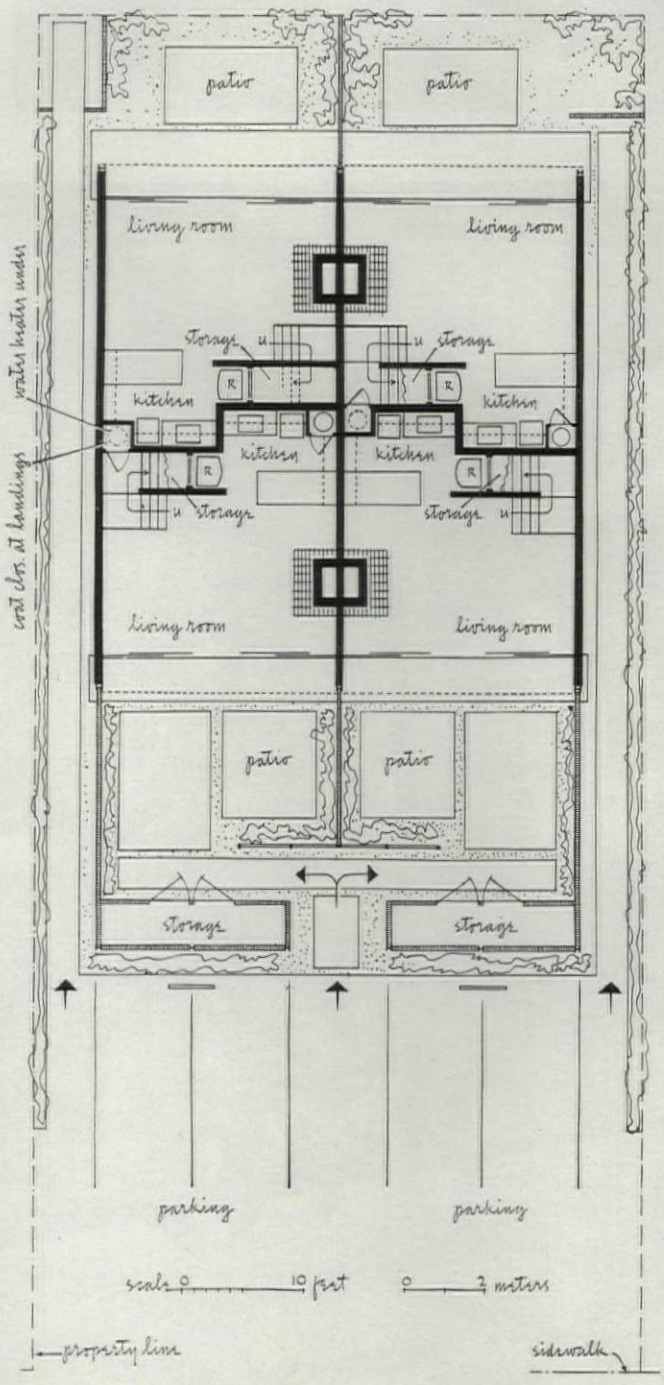
Essentially square in plan, the building is framed in steel with hollow clay block used for side walls and intermediate partition. Plumbing, duct work, and venting is economically centralized, and fireplaces are hung back to back on the central wall. The steel frames at each open end of the structure are left exposed as an important part of the design. Panels between truss members are asbestos-cement board. Each apartment has two, automatically controlled, gas unit heaters. The building was constructed within a budget of $10 per sq ft.

4-unit apartment house



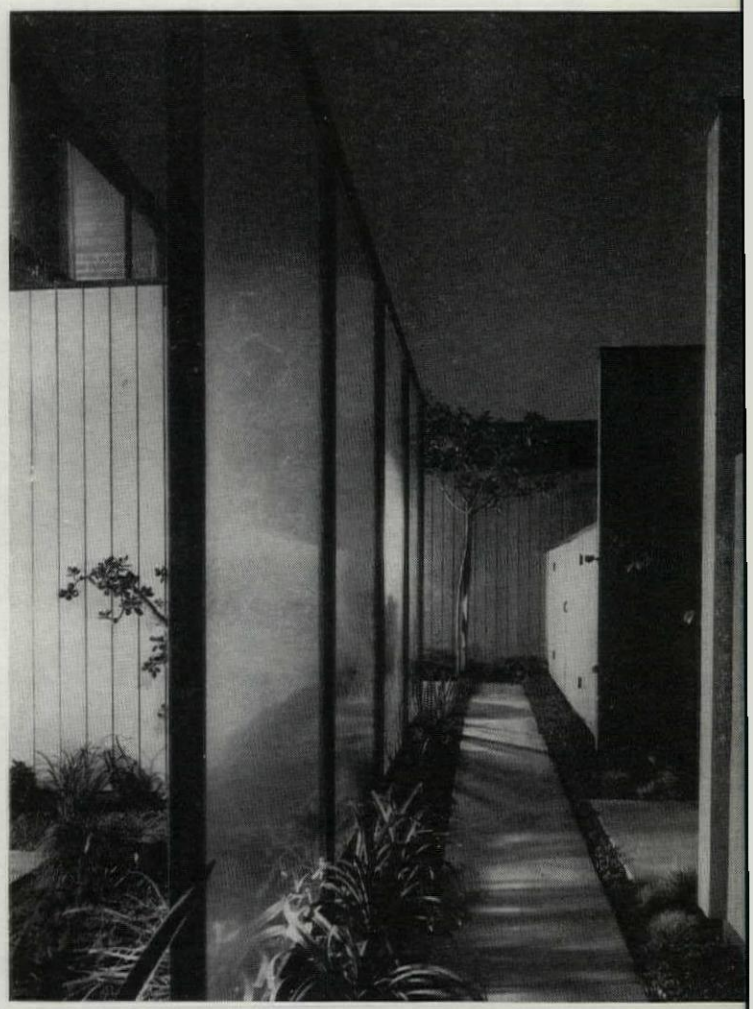
SECOND FLOOR

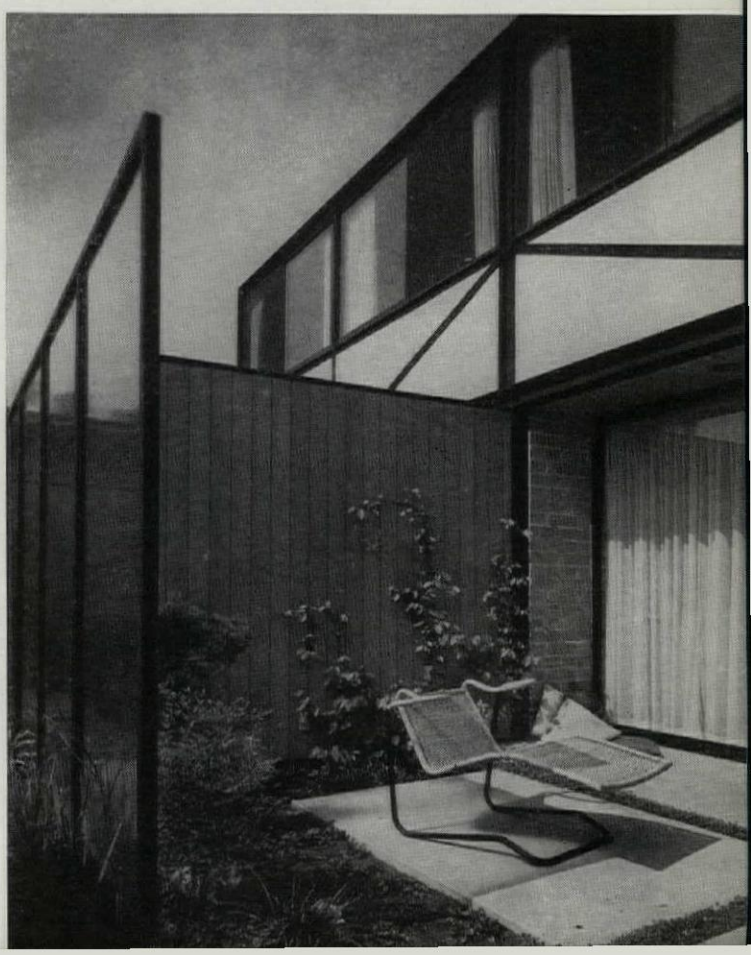
FIRST FLOOR and PLOT



One of the most ingenious elements of the design is the arrangement of fencing and translucent panels separating the common motor court, to the west, from the apartment patios and entrances.

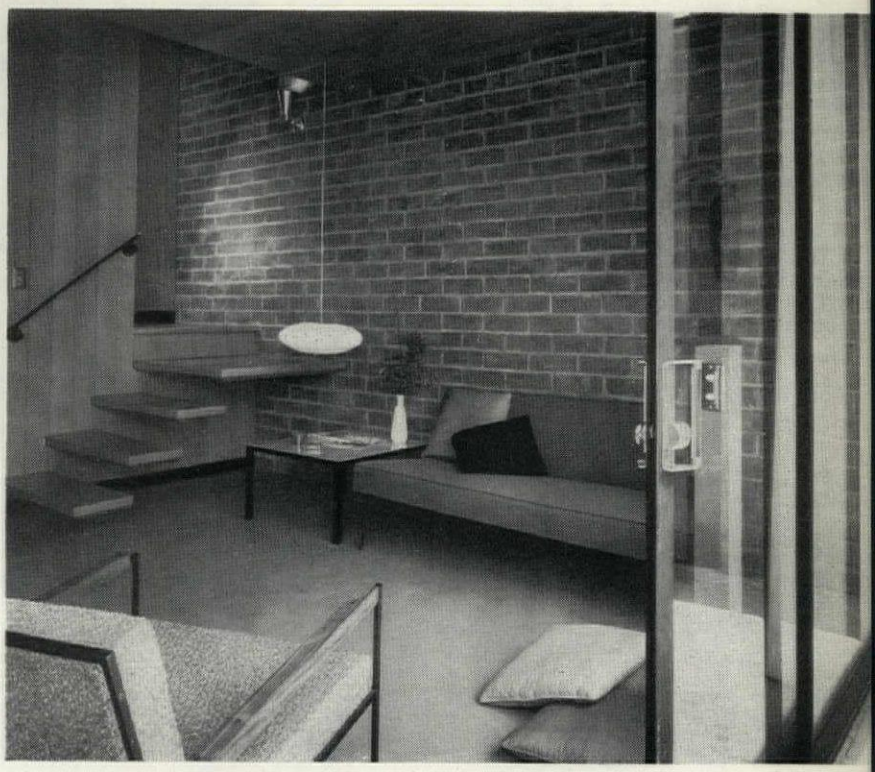
Photos: Marvin Rand





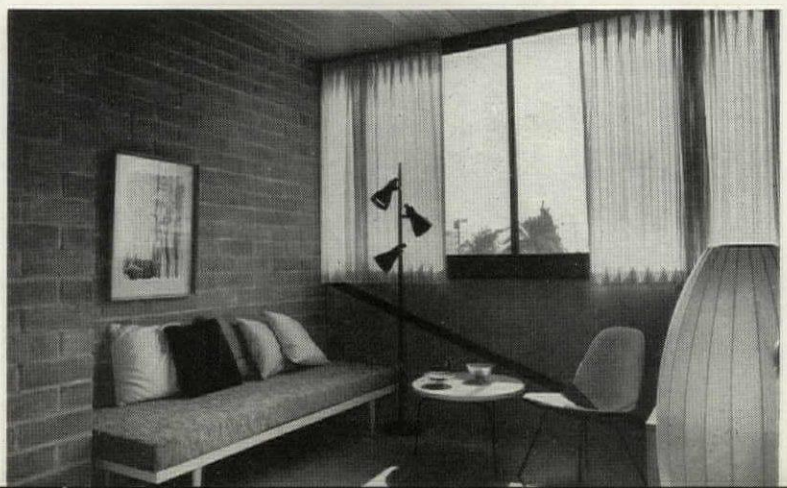
4-unit apartment house

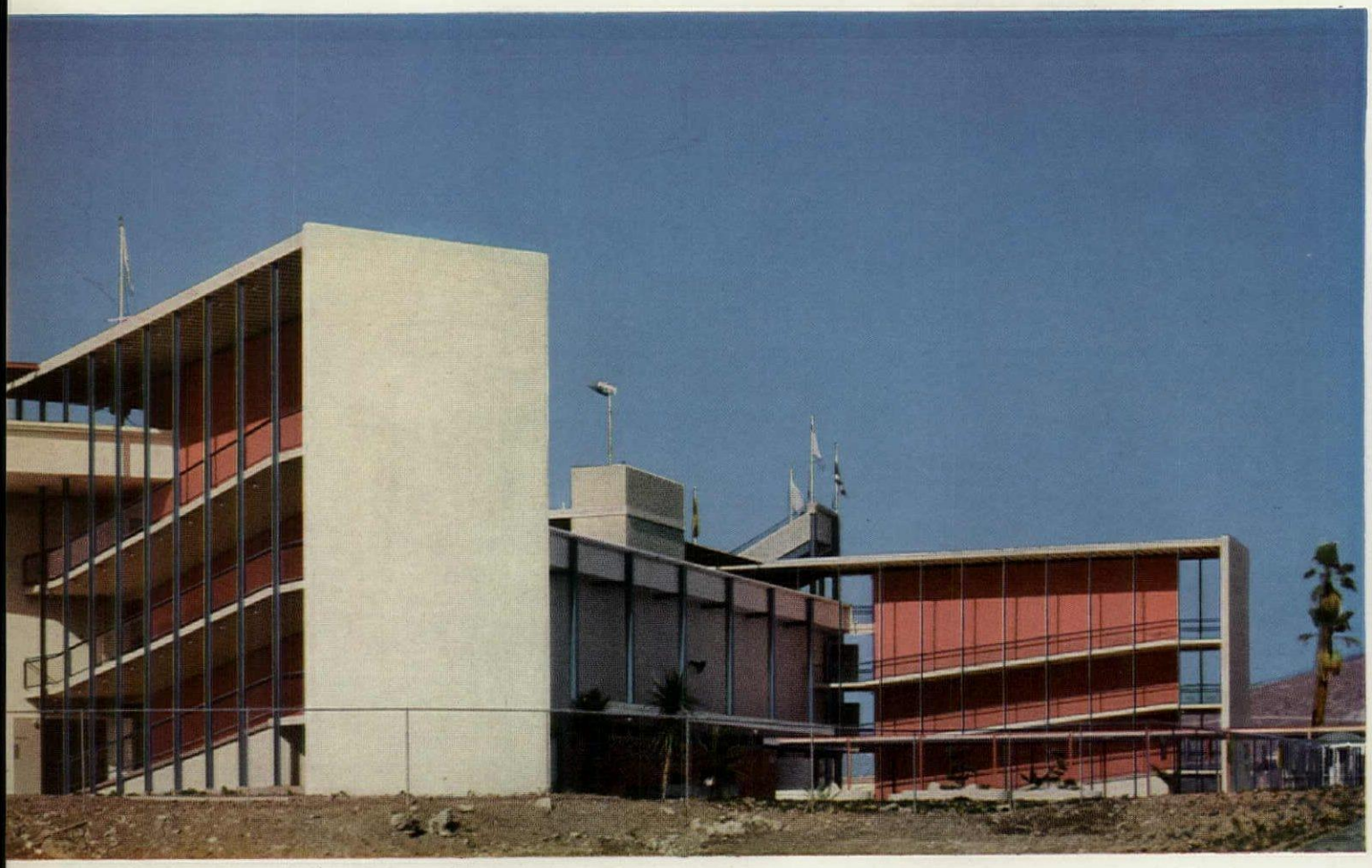
Continuation of the masonry walls beyond the wall of sliding glass panels, and use of room height for the patio fence and obscure-glazed panels contribute much to the integration of indoor and outdoor areas. Interior flooring throughout is gray asphalt tile.



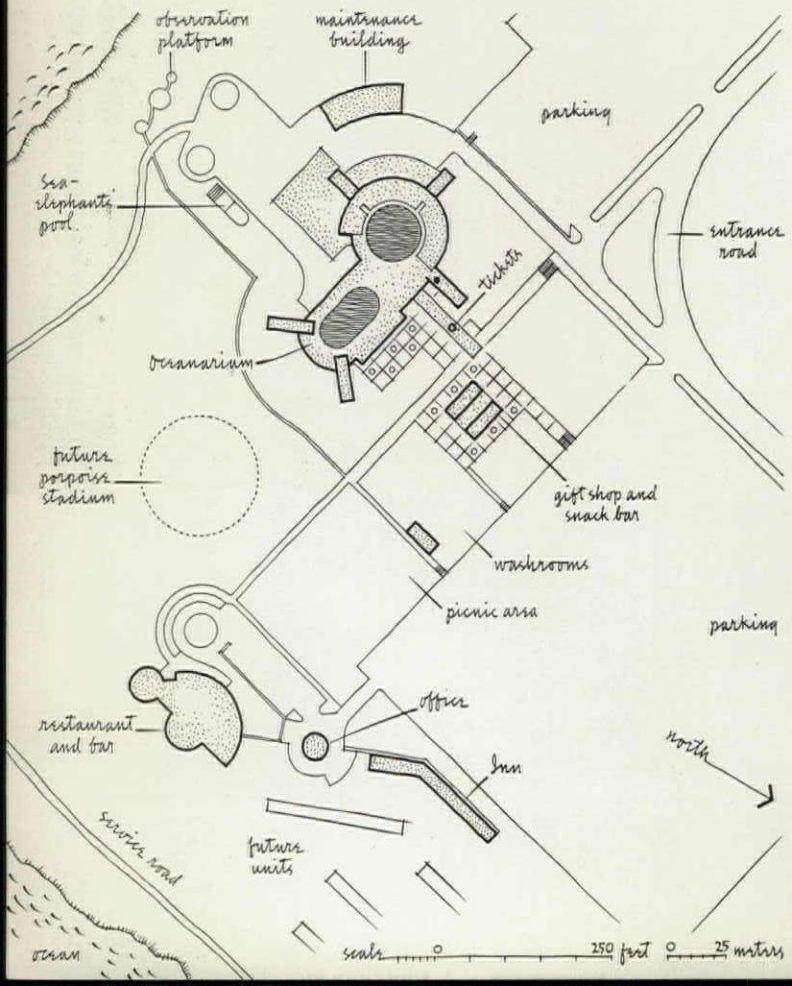
The natural clay color of the masonry side walls establishes a rich, textured background for each apartment. To assist the sense of space within so compact a plan, the lower stair treads and landing (right) *are designed as open cantilevers.*

The spandrel area beneath the windows of upstairs bedrooms (below) *consists of plywood finish broken by exposed, diagonal, steel-truss members.*

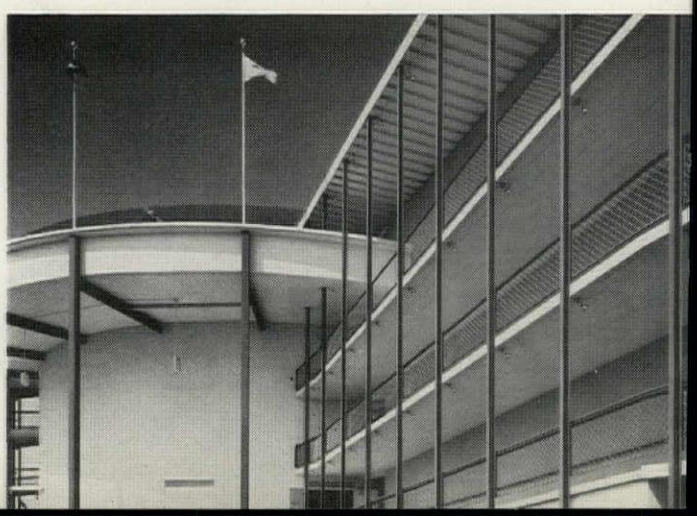


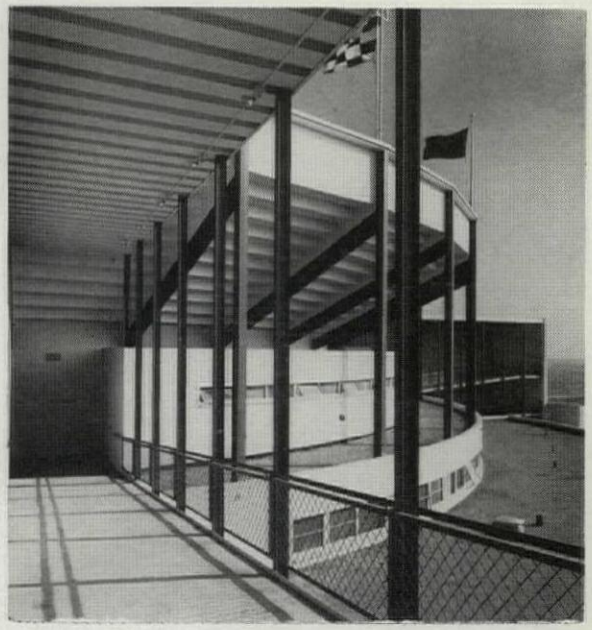


"marineland"



location	Palos Verdes, California
planners-architects-engineers	Pereira & Luckman





Structural frame of the Oceanarium is steel, with the two giant tanks resting on continuous mat foundations 4½ ft thick. Floors and roof are concrete, and filler walls, of concrete block. To resist horizontal loadings as well as impulses resulting from inertia forces of the tank water during earthquakes and the unequal hydrostatic forces at opposite sides of the tanks due to undulation of the water surface, the tank structures are surrounded by radial rigid bents, and a series of concrete ring girders is introduced that serve the dual purpose of providing concourse levels for the spectators and transmitting lateral forces to the shear-resisting rigid frames and, so, to the foundation structure.

Photos: Erwin Lang

This remarkable group—"Marineland of the Pacific"—is constructed on a lofty promontory overlooking the ocean. The three main elements are a zoo for fish and other marine creatures; a bar and restaurant; and an inn. Key unit is the fish zoo—or Oceanarium, as it is called.

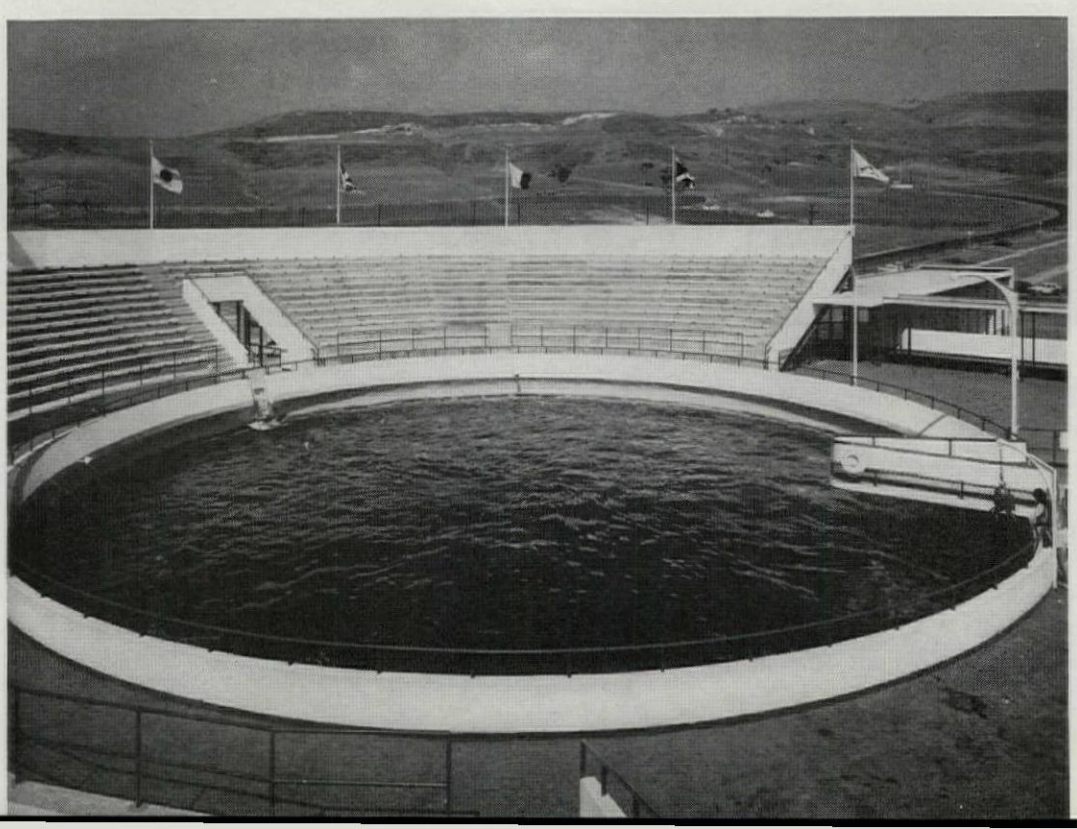
Basically, the Oceanarium consists of two huge steel salt-water tanks, one round (80′ in diameter), the other, oval (50′ x 100′). Continuous, double-glazed viewing windows of heat-tempered polished plate glass occur around the sides of the tanks at three levels of their 22-ft height. Visitors reach the various levels by any one of four exterior ramps that wind around wing partitions. This novel scheme, involving several trips in and out of doors, also allows great variety, depending on which ramp is used. Furthermore, at each turning point as the visitor rounds the ramp partition, a view of the spectacular surroundings bursts upon him from a fresh angle. On the rooftop, one looks down into the fish tanks, and a grandstand beside the round pool allows leisurely observation.

In addition to the two enormous tanks, there are numerous smaller aquaria or "jewel" tanks, at various locations, for specimens requiring special conditions. Even in the big tanks, different environmental conditions are provided. In the round tank that holds 600,000 gallons of sea water, drawn fresh from the ocean by pumps through a specially filtered source, the water temperature is left to fluctuate with the weather, to accommodate fish and marine life native to the region. In the oval tank (500,000 gallons) water will be maintained at 72° F at constant temperature by means of a hot water heat exchanger immersed in a supply tank adjacent to sand filters located at the rear of the building. Thus marine life of a migratory nature are made happy the year round. For octopi and fish accustomed to lower temperatures, special tanks are served by refrigerating equipment.

The sea water supply is obtained by means of a subterranean collecting drain. A perforated cement-asbestos pipe, buried in the beach below the tide level, empties into a sump where it is pumped up the hill to the tanks. The collection pipe is about 2500 ft from the Oceanarium building, and the water is lifted 125 ft by two, 100-hp pumps.

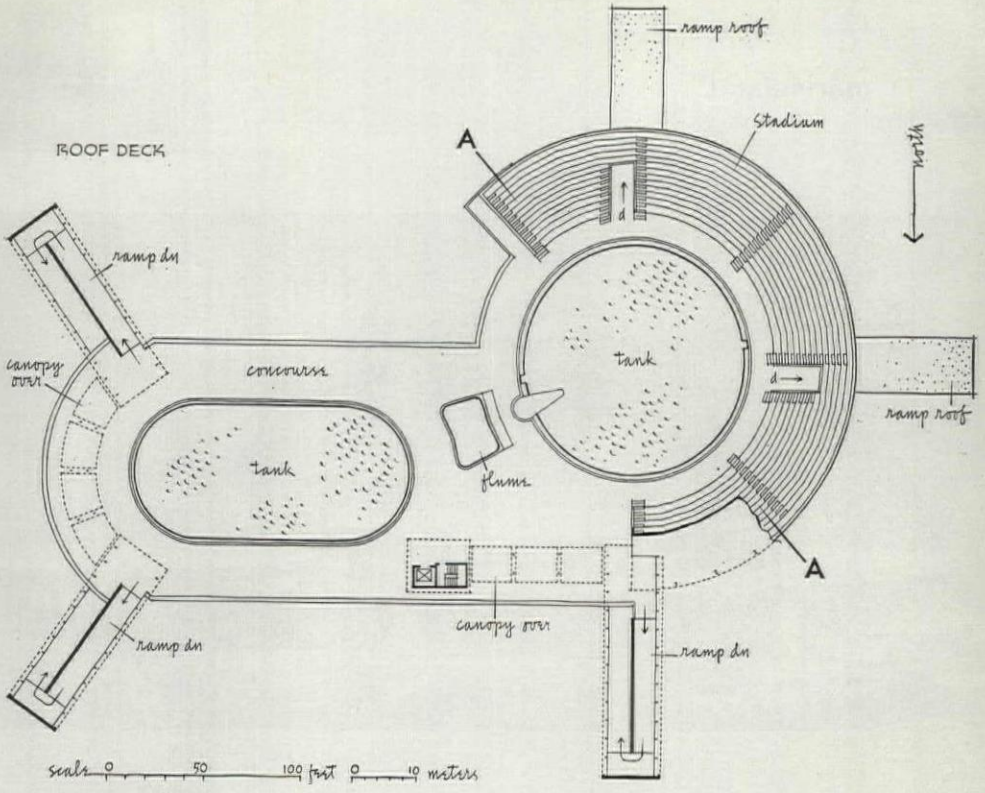
After the sand-filtering process and a chemical treatment to retard growth of algae and other plant life, the water is introduced into the large tanks at the bottom through four jets that cause the water to rotate in the tank at velocities adequate to provide self cleaning.

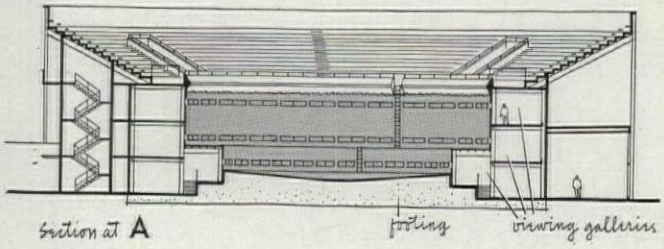
From the rooftop (left *and* below), *visitors not only can peer down at the marine life within the tanks but also enjoy the vast seascape, which, on clear days, includes a view of Catalina and the Santa Barbara Islands. Three of the five approach ramps terminate at the 1500-seat, semicircular stadium, where one may sit and watch some of the mammals, such as the porpoises, being fed and playing.*

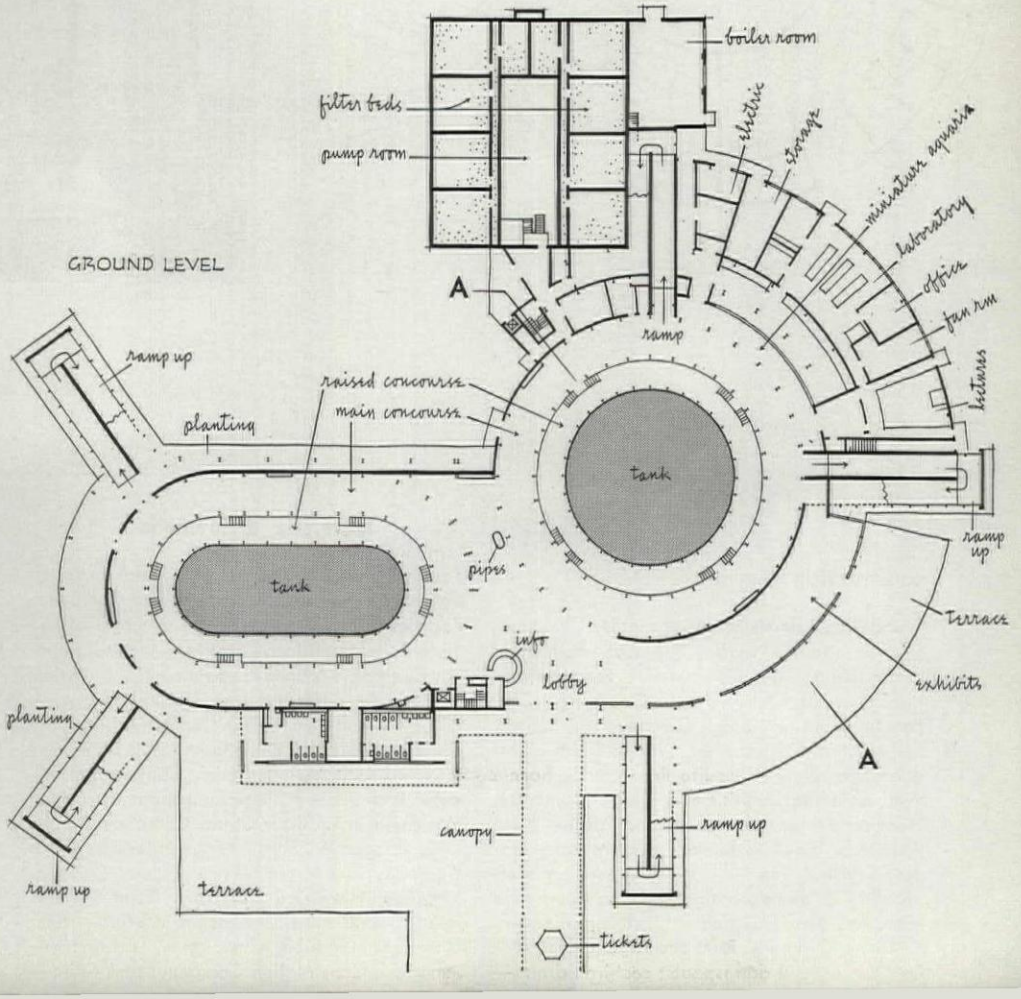


"Probably the most difficult task," report the architects, "was the selection of materials that would resist corrosion from the salt water and the corrosive soil. Cement-asbestos pipe was used for all fresh- and salt-water pipes buried in the ground. The large salt-water lines inside the building are plastic, and special metals were used in the valves, pumps, and heat exchangers."

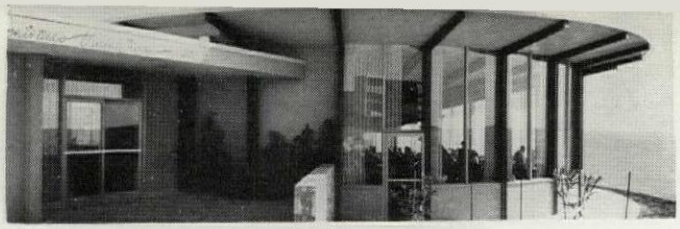
N. C. Ebaugh was Mechanical Consultant for the Oceanarium; George A. Fuller Company, the General Contractor.

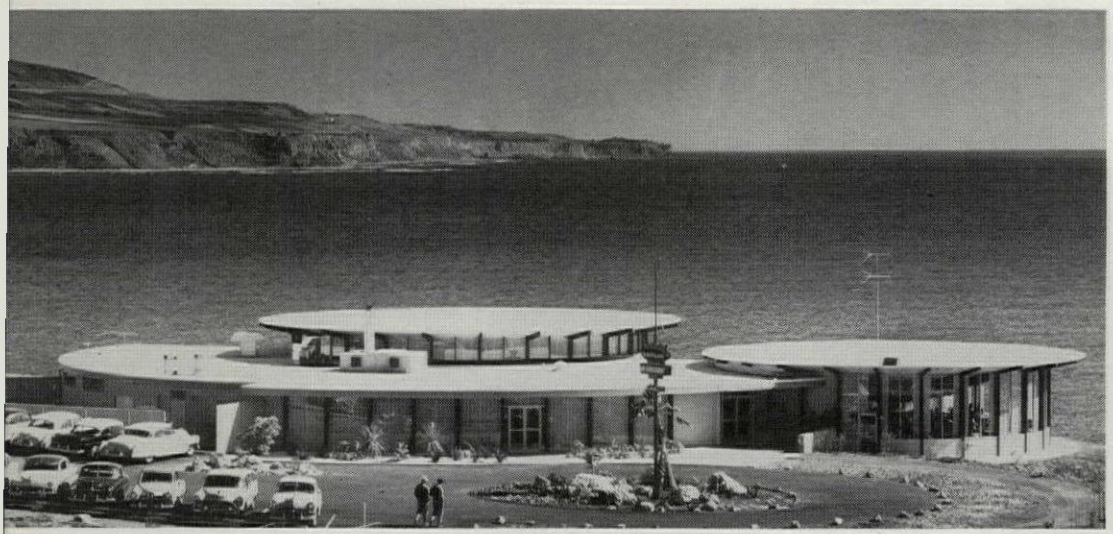




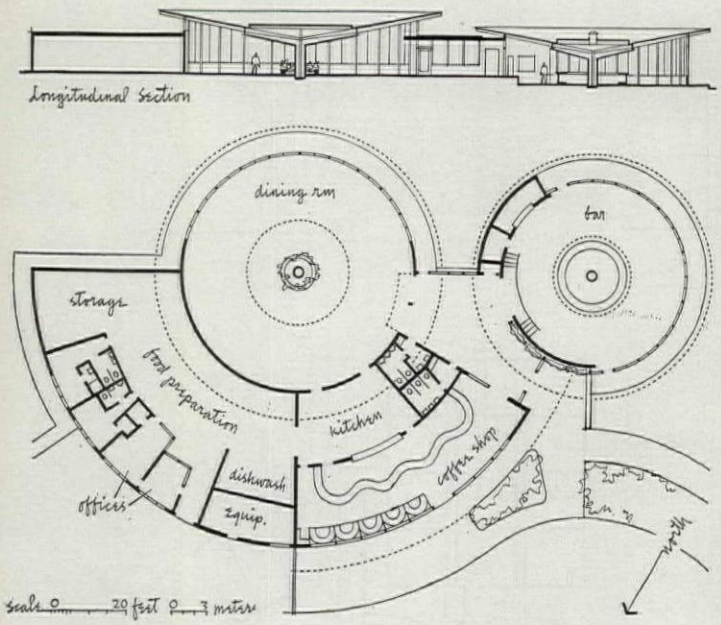


"marineland"





The restaurant and bar at Marineland crown one of the most dramatic headlands, with unhindered views of the Pacific and adjacent coastline. Basically, the plan consists of two separate circular buildings linked by a lobby and coffee shop. Within the radial framing stemming from central columns, are air-conditioning ducts, wiring, and roof-drainage piping. Webb Coleman was Interior Decorator.



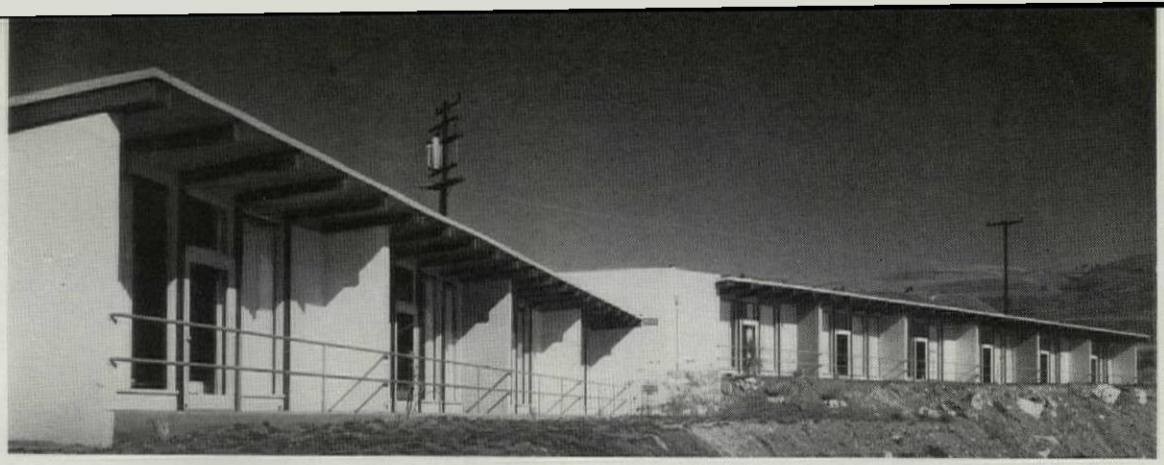
Materials & Methods

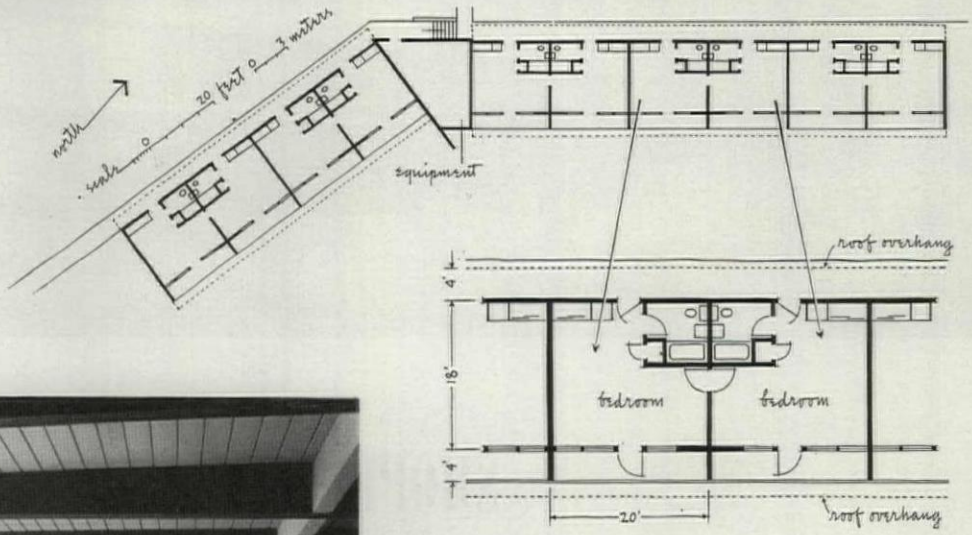
construction

Foundation, floors, roof: concrete: calcium-chloride additive; reinforcing steel—Bethlehem Pacific Coast Steel Corporation. **Frame:** structural steel—Bethlehem Pacific Coast Steel Corporation, Kaiser Steel Corporation, United States Steel Corporation. **Walls:** lightweight-aggregate block—Rocklite Products Company. **Wall surfacing:** interior and exterior: concrete. **Floor surfacing:** magnesium oxychloride—Diato Company. **Roof surfacing:** composition—Pioneer Division, The Flintkote Company. **Waterproofing & dampproofing:** corking compound—G. W. Kaull Company; waterproofing—F. K. Pullen Company. **Roof drainage:** galvanized-iron gutters and downspouts; cast-iron drains—Josam Manufacturing Company; floor and roof drains—Jay R. Smith Manufacturing Company. **Partitions:** interior: lightweight-concrete block; metal toilet partitions—Fiat Metal Manufacturing Company. **Windows:** aquarium observation windows: heat-tempered, polished-plate glass—Libbey-Owens-Ford Glass Company; mirrors—Thompson Glass & Paint Company. **Doors:** interior—Pacific Manufacturing Company. **Hardware:** lock sets—Schlage Lock Company; door closers—Norton Door Closer Company; hinges—C. Hager & Sons, Hinge Manufacturing Company; panic exit—Von Duprin Division, Vonnegut Hardware Company. **Paint & stain:** interior and exterior masonry coating—Ideal Chemical Products, Inc.; steel protector—American Construction Company; tank finish—Shannon Luminous Materials Company.

equipment

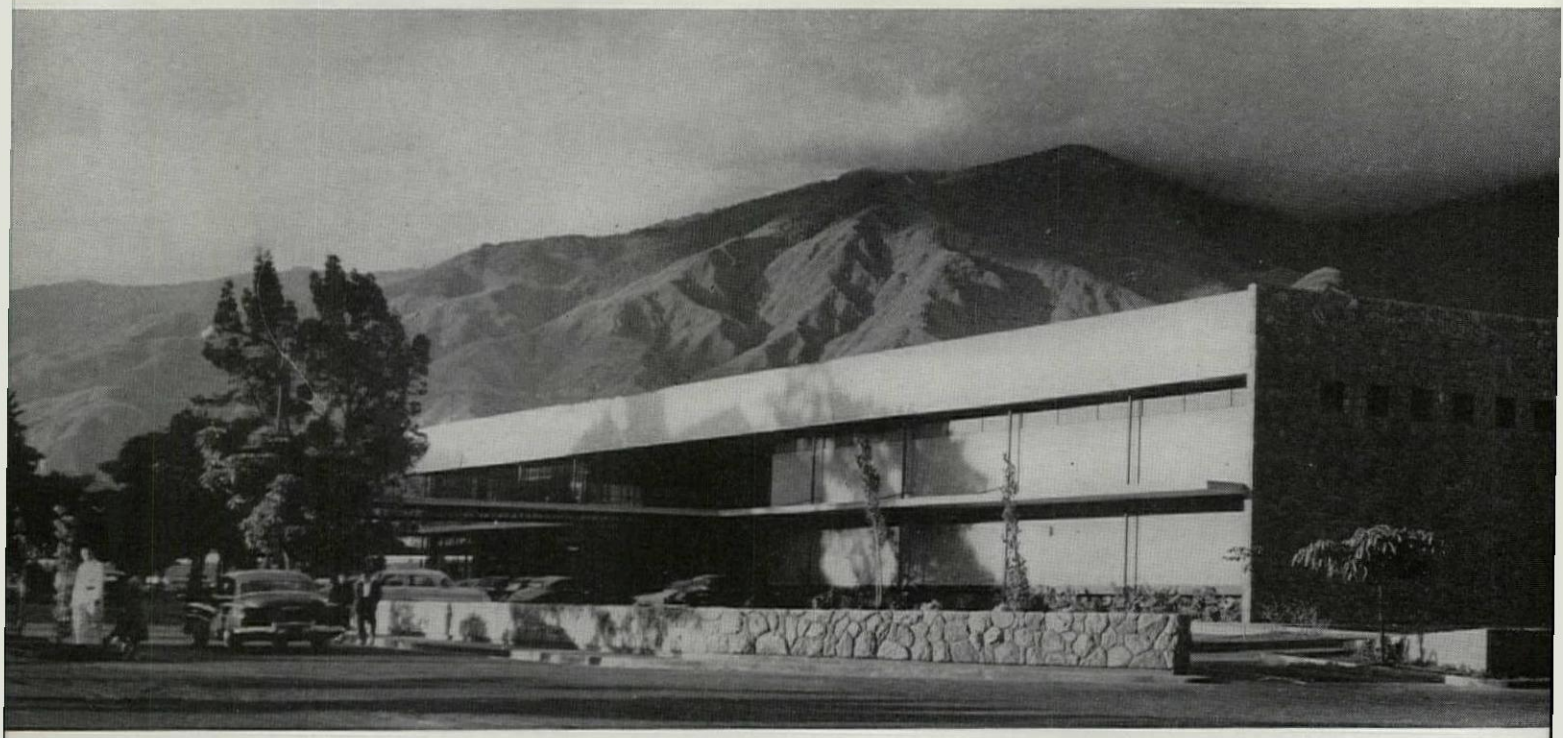
Specialized equipment: public-address system—Webster-Chicago Corporation; turnstiles—Perey Turnstile Company; aquarium equipment: filters, flow meters, and controls—Builders-Providence, Inc., temperature-recording equipment for salt water—Minneapolis-Honeywell Regulator Company, alarm system for water tanks—Sperti Faraday, Inc., pumping equipment—Bell & Gossett Company, nonmetallic pipe and expansion joints for salt water—Uskon Division of United States Rubber Company, salt-water valves—Chapman Valve Man-





The first unit of the Marineland Inn—which eventually will include several similar structures stepping down the contours of the cliff—adjoins the restaurant building and shares the spectacular view. Projecting wing walls provide private porches for each of the rental units.

ufacturing Company, insulated underground pipe trenches—The Ric-Wil Company, air compressors for divers' equipment—Ingersoll-Rand Company, black marble in tanks—James Cullo & Son Marble Company, Inc., refrigerators for octopus tank and fish food—York Corporation; kitchen equipment: heavy-duty ranges—Detroit Michigan Stove Company, deep-fat fryers—Hotpoint Company, ovens—G. S. Blodgett Company, Inc., pressure cookers—Cleveland Range Company, automatic self-leveling dispensers—Lowerator Division of American Machine & Foundry Company, custom-made stainless-steel units—Dohrmann Hotel Supply Company. **Lighting fixtures:** Century Lighting, Inc., Ruby-Philite Corporation, Steber Manufacturing Company, Lighting Division of Appleton Electric Company, The Lightrend Company; parking-area fixtures—Westinghouse Electric Corporation. **Electric distribution:** service-entrance switch, duct system, panelboards, multibreaker—Zinsco Electrical Products; wire and cable—Rome Cable Corporation; conduit—Triangle Conduit & Cable Company, Inc.; wiring devices—Harvey Hubbell, Inc., Sierra Company; transformers—Jeffries Transformer Company; emergency-generator plant—Hercules Electric & Manufacturing Company, Inc.; bulbs—General Electric Company. **Plumbing & sanitary:** water closets, tubs, lavatories, and controls—American Radiator & Standard Sanitary Corporation; toilet seats—C. F. Church Manufacturing Company; water heaters: Advance Tank & Manufacturing Company, A. O. Smith Corporation, storage—General Water Heater Corporation, electric—Norris-Thermador Corporation; valves—Sloan Valve Company, Walworth Company; fittings—Grinnell Company, Inc.; pipe: asbestos-cement — Johns-Manville, cast-iron — United States Pipe & Foundry Company, steel—Bethlehem Steel Company, Kaiser Steel Corporation; water-supply system: city mains. **Heating:** type: circulating hot water; boiler—Kewanee-Ross Corporation; furnace—Ray Oil Burner Company; fuel: oil; baseboard radiation—Vulcan Radiator Company. **Ventilating:** type: fresh-air supply; grills—Controlair Manufacturing Company; fans and blowers—Buffalo Forge Company; filters—Air Filter Corporation; hot-water coils—Aerofin Corporation.



SHOPPING CENTER

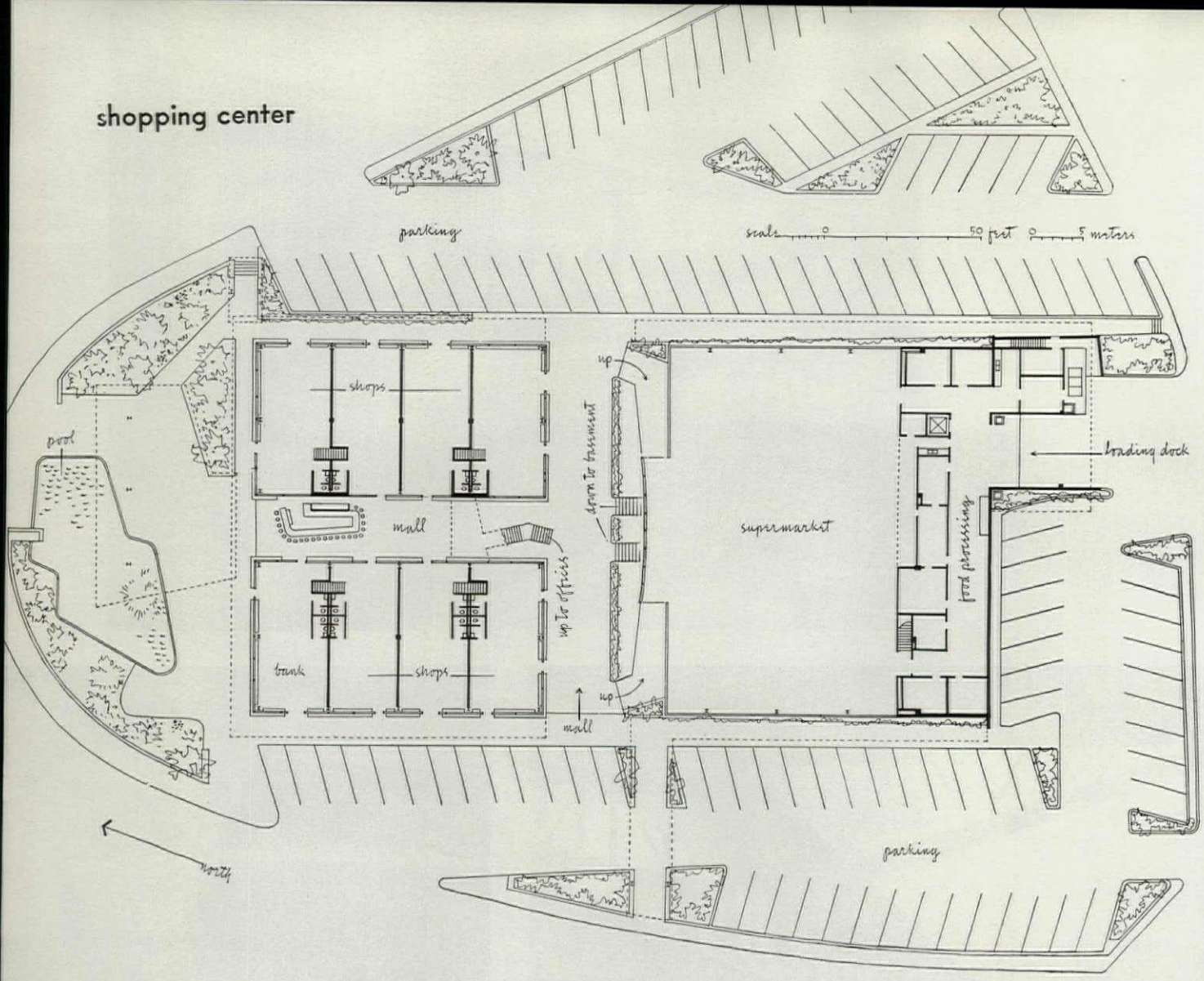
for International Basic Economy Corporation

location	Caracas, Venezuela
architects	Oficina Don Hatch
engineer	Claudio Creamer

In spite of a limited lot size, the shopping center offers diverse and pleasant vistas. Landscaping helps to create an atmosphere in harmony with the surrounding residential district. Colors of exterior wall surfaces are keyed to the natural setting—roof fascia is arctic white, steel store fronts and metal wall panels are lacquered Forest Green or chartreuse, and accents are orange-red.

Photos: Luis T. Laffer & Ina Bornhorst

shopping center



The need for one-stop shopping facilities is just as urgent in the rapidly expanding cities of South America as it is here in the U.S. While the development of such centers south of the Rio Grande has been impeded largely by lack of funds as well as tradition, money has become available in enough instances to prove the economic feasibility and popular acceptance of these facilities. A striking example is the center in Las Mercedes, a suburb east of Caracas. As in most North American cities, soaring land prices and outdated zoning restrictions have determined a limited site—in this case a triangular area measuring 85,000 sq ft and bounded on three sides by streets. However, in spite of the limited site, the all-under-one-roof shopping center provides all necessary facilities—a supermarket, a "bargain basement," bank, shops, and offices. Terraces, pool, and landscaping make for a pleasant and restful atmosphere in keeping with the surrounding residential section. Even the parking spaces for 130 cars are interspersed with small planted and night-lighted islands of flowers and trees. Planting also extends into two malls—one running east-west, bisecting the structure, and an arcade which connects directly with a terrace and pool at the north end of the building. Malls are covered to give shoppers protection from heavy rains and the hot sun. A 115′ x 115′ area within the 115′ x 245′ structure is devoted to a supermarket

Stair and balcony (right) *connect with offices on second floor, located directly above shops. North-south mall contains "North American style" soda fountain. Mall terminates at north end* (across-page) *in delightful outdoor terrace and reflecting pool beyond. This covered terrace provides shaded area for snacks and remains open at night for after-theater trade. Supermarket and shopping malls may be closed off at night by motor-operated aluminum doors which roll down from the ceiling.*

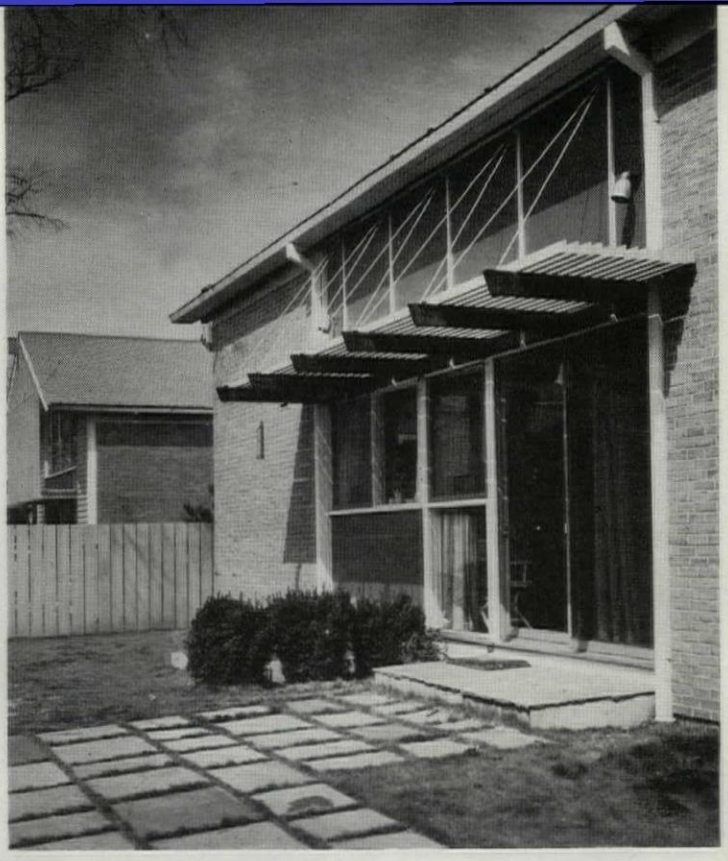
with cold-storage, meat- and fish-processing facilities. Two gradual ramps lead up to the market. Beneath, partially visible from the east-west mall, is a basement for the sale of household equipment and furnishings. At the opposite end of the ground floor, small shops and a bank line both sides of the north-south arcade. Offices above the shops have windows overlooking the arcade. To provide clear and uninterrupted space for the supermarket and the second floor offices, the roof framing is composed of 115′ steel trusses placed 23′ on centers. Insulated steel decking and built-up roofing is supported on steel joists spanning between trusses. For exterior walls insulated steel panels are welded to steel frame. Insulated steel panels, horizontally grooved, are also used to surface the wide fascia line. All steel panels and steel frames for store fronts are lacquered. Floors throughout are of terrazzo; shopping mall floors, ramps, and stair treads use a nonslip aggregate. A pattern of plastic-eggcrate lighting fixtures, ventilation diffusers, and acoustical plaster extends over supermarket, shopping malls, and second floor offices. The entire structure is mechanically ventilated. Shops on ground floor have provision for individual air-conditioning units, to be purchased and operated by the tenants.

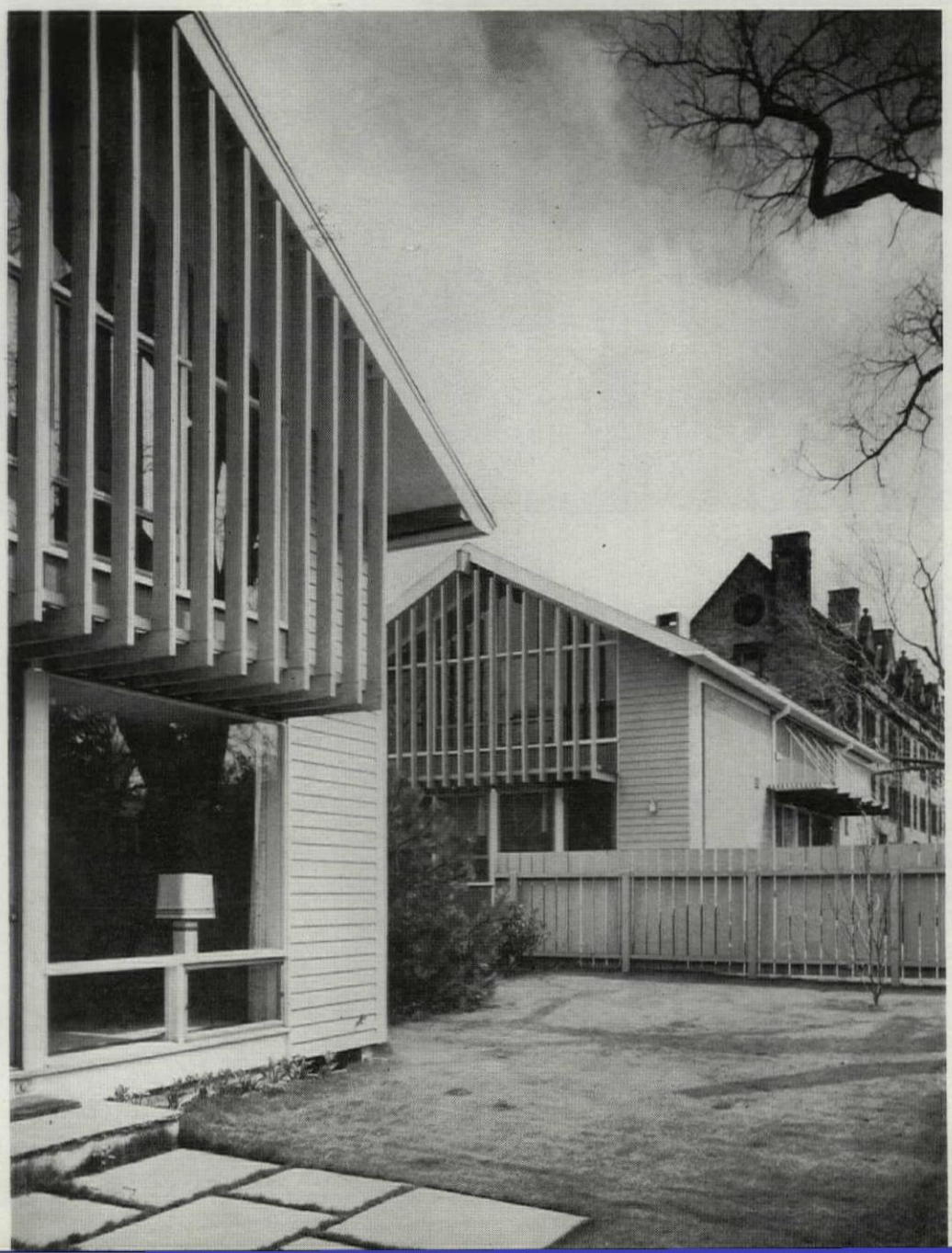
Exterior of supermarket (above) *is marked by almost windowless façade. Two six-percent ramps* (left *and* acrosspage) *provide access to the market from the wide center mall and give shoppers fine views over malls. Terrazzo floors of shops, supermarket, and shopping malls are a checkerboard of black and white with flecks of orange-red chips. One entire wall in the supermarket* (below) *is surfaced with locally manufactured tiles.*

Slope of ramps and wide stairwell opening permits view into basement where home-furnishings and household equipment are sold.

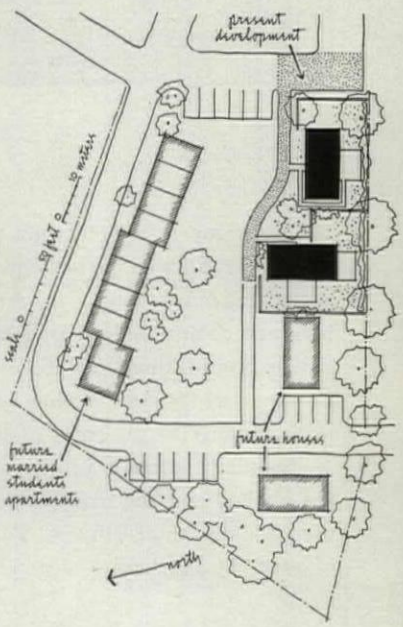
Faculty Houses

location | Cambridge, Massachusetts
architects | Hugh Stubbins Associates

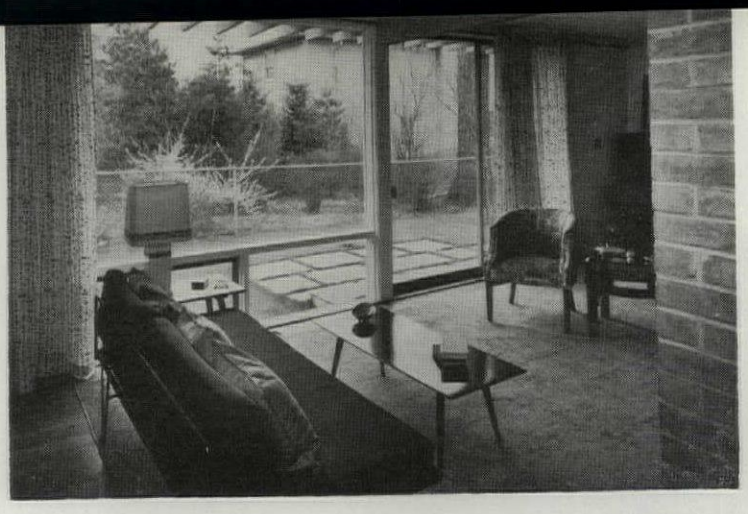




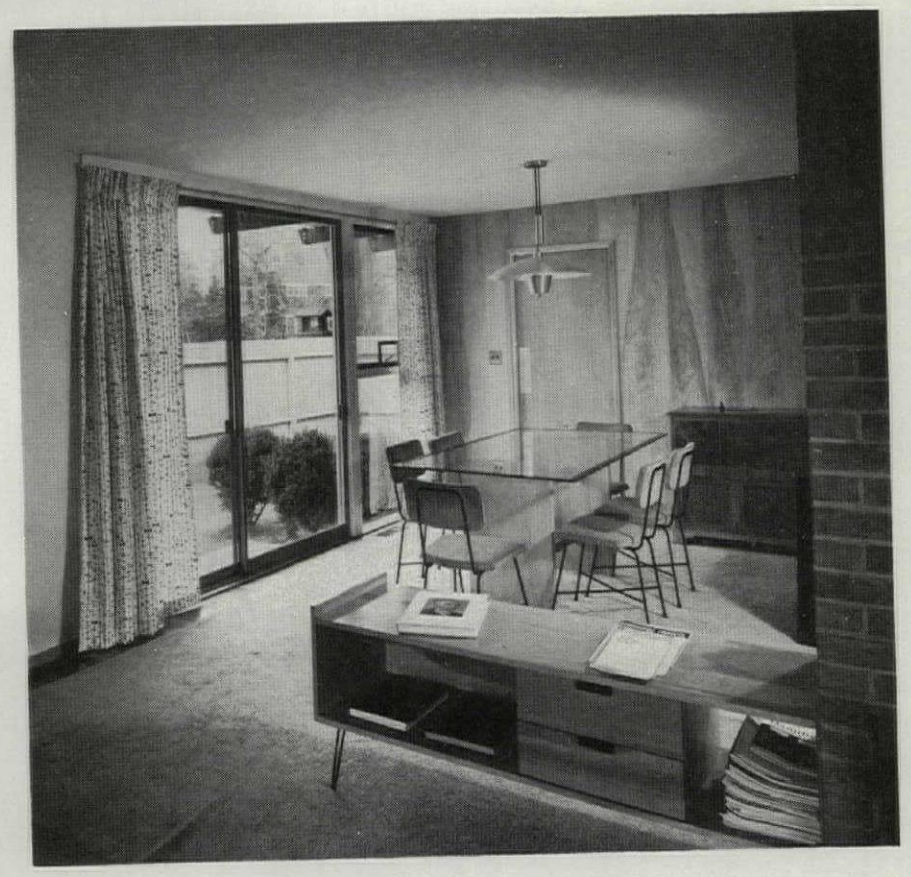
These new faculty houses are "at home" among their older neighbors—only an extensive garden separates them from the Craigie-Longfellow house (1759). Two additional faculty houses of the same design, also quarters for married students, will complete the composition. Photos: Gottscho-Schleisner

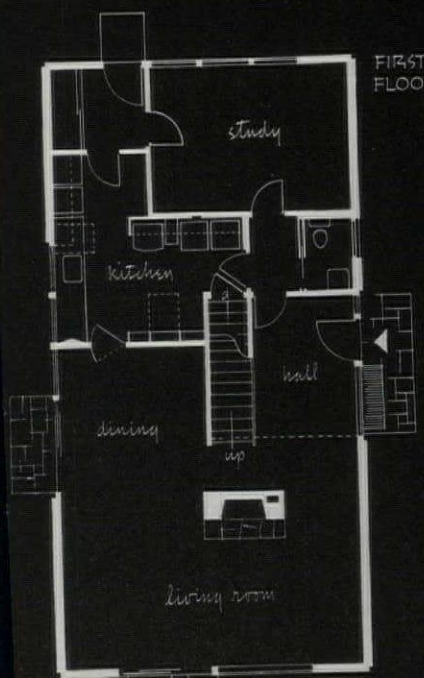


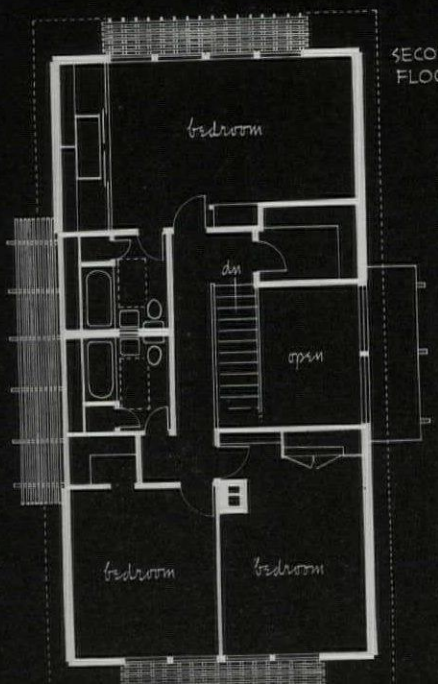
Despite stringent budget limitations, these houses for Episcopal Theological School provide adequate space for faculty members and their families, frequent official guests, and visiting students. A spacious two-story entry hall *(photo overpage)* leads directly to all parts of the house. A secondary entrance provides access to the kitchen and the study, which is also used for student seminars. For reasons of economy the houses were planned as compactly as possible, employing standard wood-frame construction, and a pitched roof with eaves lines close to the second-floor level, a feature which the architect had previously found practical and inexpensive. The pitched roofs also keep these houses in harmony with the surrounding older buildings of the characteristic New England landscape. Major exterior wall materials are: brick—clearly expressed as veneer—plywood, and cedar clapboards. Interior wall materials are plaster and hazelwood or walnut plywood paneling on wood studs. Floors in the living areas are of oak; linoleum was used in kitchen and baths. The houses are heated by forced warm air. A separate exhaust system located under the roof affords summer comfort. Chambers & Moriece are the Landscape Architects associated on this project; Custance Brothers, Inc., the General Contractor.

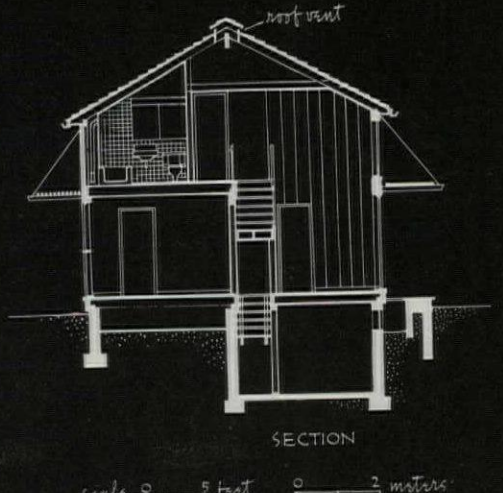


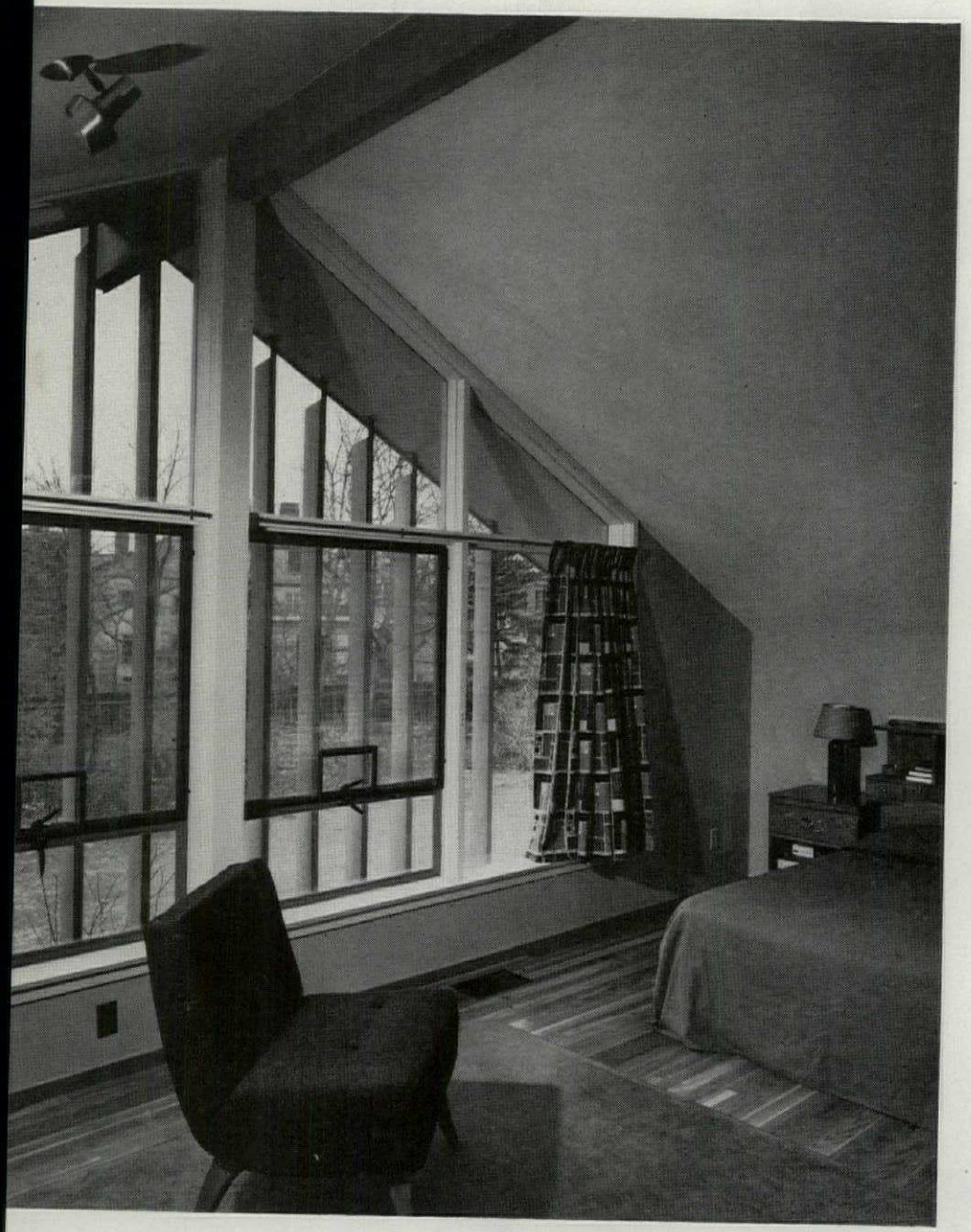
Sliding, steel-framed glass doors open onto terraces off both living room (left *and* acrosspage) *and dining room* (below). *For complete privacy, gardens are protected by high fences.*



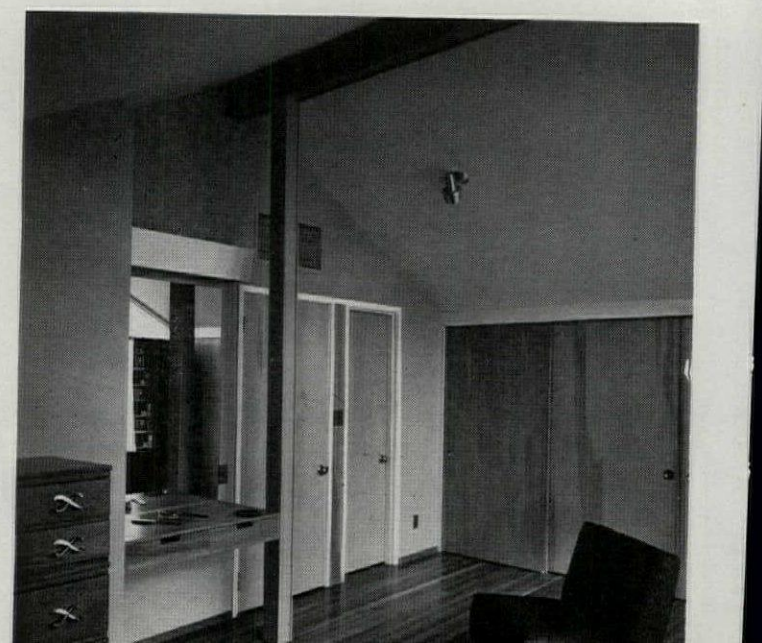








Window areas at both gable ends are protected by sunshades made of 2" x 6" wood members. Master bedroom (above *and* right) *is directly above study.*



air conditioning: industrial buildings, part I

by Tyler Hicks*

Today, one of the biggest problems faced during the initial design stages of an industrial plant is: Should this structure be air conditioned? If the answer is yes, a second problem immediately arises: How much of the structure should be air conditioned? An additional problem which often arises, usually during appropriation or budget discussions, is: A controlled atmosphere is needed in this structure, but can it be obtained at lower cost by mechanical ventilation? Or is complete air conditioning justified?

While many other questions can and do occur during planning, the three above encompass the major elements in almost every planning decision related to controlling atmosphere in an industrial structure. There are no quick and easy answers to these questions because each structure is a unique problem. But correct answers are of extreme importance to architects and engineers, today, because so many factors in plant operation are influenced by the decision to provide a controlled atmosphere—product quality, employe efficiency and health, labor-union relations, plant cleanliness, safety, labor supply, etc. While application of generalities to specific design problems can lead to errors, there is much to be gained by study of past experience in similar industries and structures. This article attempts, in the space allotted, to answer these three questions for architects and engineers engaged in industrial-plant design.

plant types

From the standpoint of controlling atmospheric conditions in industrial plants, at least two types of manufacturing operations must be considered: mass production and precision. While the first immediately brings to mind automobile- and aircraft-assembly lines, the general requirements of mass-production operations as related to air conditioning are of a comfort nature and have little effect on the properties of the product—except as they are influenced by employe efficiency. The air-conditioning system provides more comfortable working conditions, cleaner work areas, eliminates hot spots, dust, fumes, etc.

Precision operations, on the other hand, require air at a certain temperature or humidity, or both, to ensure a satisfactory product. Typical examples include precision machining and assembly as well as operations involving hygroscopic materials. In general, it is far easier to justify air conditioning for precision operations than it is for mass-production operations because the product quality of the former is a direct function of temperature or humidity or both.

mass-production operations

Every year sees more new and existing industrial structures turning to air conditioning to improve employe comfort during working hours. While dollars-and-cents proof of the effect of comfort air conditioning on plant output is difficult to assemble in a given industry, the American Management Association found that worker absenteeism was reduced by better than 25 percent in air-conditioned plants. Typical reductions include:

auto and related manufacturing	27%
soap and cosmetics	27%
newspaper publishing	30%
electric utility	29%

Estimates of the effect of heat and humidity on the reduction of productive efficiency in mass-production types of industries vary widely—from a low of 10 percent to a high of 30 percent. But engineers, physicians, and psychologists all agree on one point; there is a definite reduction in worker efficiency, where heavy physical tasks are involved, when the temperature and humidity of the work area exceed optimum levels. This is true in all areas of the U. S.—geographical location having little effect other than reducing the duration of the hot spells during which worker output is lower. The reduction is not quite so marked where little physical effort is involved or output is machine paced.

heat loads

An important fact often overlooked in general discussions of comfort air conditioning for the industrial plant is the increase in internal-heat loads resulting from newer concepts of architectural design and the greater mechanization of manufacturing operations. Extensive glass areas, greater use of concrete, higher lighting levels, and replacement of workers by machines having one or more motors, transformers, and other heat-producing devices are a few of the factors contributing to the sharp rise in the internal-heat load of industrial structures. Today, it is not uncommon to find 75 percent of the heat load on an industrial air-conditioning system originating within the building. The balance is from external sources—sun, air, etc.

Today, new plants often have lighting loads of three to five w per sq ft of floor area, compared with about one w per sq ft 30 years ago. Lights are commonly used throughout the day, regardless of how much natural illumination is available. Each industrial worker is now backed by over 16,000 kwhr of electric energy per year, a sharp rise from the 9780 kwhr per year per industrial worker of 1943. Today, each worker uses over seven kwhr of electricity per man-hour; in 1920 it was 1.2 kwhr per man-hour.

Windowless industrial structures, introduced during World War II, did not remain in vogue for long. The end of the war saw a complete turnabout to extensive glass areas, increasing the sun load on the building's air supply. While shades and special window designs can reduce the amount of heat resulting from the sun's rays, the modern, extensively glazed structure is likely to be warmer in summer than its predecessor having less glass and more wall.

cleanliness

Where only natural ventilation is available in an industrial plant, windows are opened at will in summer to provide whatever relief can be had. Dust, dirt, fumes, and other contamination may enter the work areas. Cleaning costs increase, machines may wear more rapidly, and the product may be damaged. Control of the atmosphere by this means is seldom satisfactory because sash is generally located on the basis of lighting and esthetic

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reasons—not for purely ventilating purposes.

Air-conditioned plants housing mass-production type operations usually have somewhat less glass area to reduce the sun load on the conditioning system. Thus, fewer and smaller skylights are generally used. With the internal atmosphere carefully controlled, there is no need or reason for opening windows in summer or winter. Less dirt, dust, and fumes enter the structure, making cleaning easier. Where high-cost, close-tolerance machinery is used as part of the mass-production process, the reduction in maintenance costs resulting from air conditioning may be enough to justify its use in new structures. With fewer windows to clean, as when less skylight area is used, building cleaning costs are reduced. In a typical industrial plant today, reglazing of broken windows and window washing cost about two cents per sq ft of floor area per year.

In metropolitan areas having heavy dust loads, maintenance of product cleanliness can be a costly item during the summer when windows are opened to ventilate the structure. One plant, manufacturing cosmetics, installed extensive vacuum-cleaning apparatus to remove dust and soot from packaged products before they left the shipping room. The vacuum cleaners were used only during the summer when dust and soot loads were heavy. Money spent for this equipment could have been invested in an air-conditioning system, improving employe comfort and reducing the manufacturing cost of the product.

employe fringe benefits

Besides increasing employe health, morale, efficiency, and productive capacity, air-conditioned work areas make it easier to attract and hold the more desirable type of personnel. Though records are not available, many plants report a reduction in labor turnover after air conditioning is installed. This cuts training and other associated costs. And in dealing with labor unions, the fact that work areas are air conditioned is often a strong bargaining point.

Comfort air conditioning, sometimes regarded by management as an additional unnecessary expense, has proved a money-making investment in hundreds of mass-production type plants. Just on the basis of eliminating poor workmanship and errors attributable to high temperatures and humidities, comfort air conditioning often pays for itself long before its useful life has ended. Typical rooms and areas in which comfort air conditioning is used in modern plants are itemized *(Table I)*.

hot spots

Certain industries, like steel, founding, etc., use processes in which radiant heat is given off. Radiant heat is transmitted as waves in accordance with Stefan's fourth-power law. It is unaffected by air motion. As a result, relief for workers must be supplied by means other than ventilation or air conditioning. The best means available at present is a shield placed between the heat source and the man. The shield either intercepts or impedes the radiant-heat rays, reducing the amount of heat reaching the man. Today, shields are commonly made of aluminum foil or corrugated sheets, though sheet iron, asbestos paper, and others are also used. Aluminum is generally conceded to be best because it closely approaches a perfect reflector and undergoes little temperature rise.

Hot spots occur in other industries, too, with or without radiant heat as the cause. When radiant heat is *not* the cause, local-exhaust ventilation applied either to the particular work area or the body of the worker, or both, is usually the most satisfactory solution. However, since such hot spots are generally limited in number in a given plant, they do not interfere with comfort air conditioning for mass-production areas in the building. Hoods, roof ventilators, man-cooling fans, air jets, and other units are typical devices used to provide localized relief in hot spots.

ventilation v. air conditioning

When budgets for new or modernized buildings are restricted, mechanical or natural ventilation is often proposed in place of comfort air conditioning. This is usually more the case in northern areas than in southern. While mechanical ventilation has its place in certain industries, as does natural ventilation, today there is a definite preference for full air conditioning in mass-production industries. In general, this preference grows out of the inherent advantages of comfort air conditioning, most of which were detailed earlier.

While comparative-cost data of a general nature are not too readily available, studies of typical industrial structures show that where the internal-heat load or gain exceeds five Btu per hr per sq ft of floor area (one ton per 2400 sq ft), the initial cost of a ventilation system having sufficient capacity to keep 75 percent of the employes in the ventilated area comfortable during 50 percent of summer, daylight, working hours exceeds the initial cost of an air-conditioning system which will keep more than 90 percent of the employes comfortable during all working hours. When heat loads rise to 20 Btu per hr per sq ft (one ton per 600 sq ft), savings in operating costs of the ventilating system over the air-conditioning system are only about six percent on the extra investment in ventilation. This means that about 16 years will be required for the extra investment in ventilating equipment to pay out. While some industries may be satisfied with this rate of return, it is more common to find management seeking a faster return, if possible. Also, it must be recognized that the values given are subject to some variation, depending on a number of factors. These can be determined only by a complete study of the conditions existing in a given plant or proposed structure.

This, in brief, is the case for comfort air conditioning of the modern industrial structure used for mass-production types of operation. Often a touch-and-go decision, many of the advantages of the investment for air-conditioning equipment are not too readily apparent. But wise study of the complete comfort-conditioning problem will usually show that air conditioning can be justified under most circumstances. Design conditions, type of equipment, initial costs, and operating costs are discussed later in this article.

precision manufacturing

In general, the problem of air conditioning in precision manufacturing or assembly involves close control of one or more of the following factors *in the raw material or product itself:* (1) tolerance or dimensional accuracy; (2) surface finish; (3) hygroscopic phenomena; and (4) dirt, dust, lint, etc. The desired control of the product is secured by maintaining suitable temperature, humidity, and cleanliness conditions within the structure or in the areas where precision manufacturing or assembly occurs. While at first glance the real need for careful control of one or more of these factors may not be seen, an example of a typical problem

met in one industry *(described below)* will help show the results achieved by well-designed air-conditioning systems in precision manufacturing. Typical precision operations in which air conditioning has proved helpful are listed *(Table II)*.

tolerances

In precision machining the question of tolerance always arises because the plant product value is measured by how many acceptable parts are turned out during a given period; the acceptability of a given part is measured by how closely it conforms to tolerances set up in the specifications for the part. Related problems involve dimensional accuracy, fits, allowances, gaging, and manufacturing limits.

Assume a plant is producing machined-bronze parts which are six in. long and are required to be within zero and 0.001 in. of the required length. During the summer, when room air temperature may rise from 65 to 100 F in a plant without air conditioning, this part would expand from an initial length of 6.00 in. at 65 F to a length of 6.0022 in. at 100 F. The part would have to be rejected because it does not come within the desired dimensional allowance when the temperature is 100 F. In an air-conditioned plant, the temperature could be held at one level at all times.

Also affected by air-temperature rise in summer are gages, jigs, fixtures, gage blocks, and other devices used to check the size of manufactured parts. Where the gage and part are made of the same material, the effect of expansion may not be of too much importance; where the two are of different materials, there may be serious errors in measurements. While it is possible to compute the effect of temperature rise on various parts, the amount of labor involved for such a task may be tremendous.

surface finish

Many manufactured items are extremely sensitive to humidity before, during, or after being worked on. One of the best examples of this occurs in the manufacture of ball bearings. Small amounts of moisture, either from the atmosphere or the hands of personnel working on the bearings, can attack the highly finished surfaces and start corrosion within a very short time. The same is true for certain polished or drawn raw materials like iron, steel, silver, and copper.

Before the introduction of air conditioning in precision manufacturing, it was common for manufacturers to coat ball-bearings parts with oil or grease at the end of the working period. The protective coating was left on the parts until the next shift began work. It had to be completely removed before actual production could resume. Today, in air-conditioned, ball-bearing factories, this procedure is no longer necessary because the correct humidity and temperature can be maintained at all times.

Where high-quality surface finishes are required in precision manufacturing, humidity and temperature control are prime factors in the success of operations. Close control of humidity and temperature can be secured only by properly designed air-conditioning systems. It also insures cleanliness at all times.

hygroscopic materials

Many materials used in producing finished products are hygroscopic, i.e., their moisture content is variable, depending on the humidity of the surrounding air. When ambient humidity is low, the material loses moisture and weight; when ambient humidity is high, the material absorbs moisture and gains weight. Besides affecting the weight, the moisture content may affect the appearance, strength, and quality of the material. All these may have a direct bearing on the production rate and quality of the finished product.

To achieve maximum production economy, the moisture content of a hygroscopic material must be maintained at a value giving ease of handling and working. Materials which may require careful control of humidity and temperature in the production areas include natural textile fibers, rayons, paper, leather, rubber, wood, soap, tobacco, foodstuffs, asbestos fiber, etc.

control of cleanliness

While industrial air-conditioning systems are seldom installed for the sole purpose of cleanliness control, there are many manufacturing operations where the possibility of better control of plant cleanliness is the deciding factor in the choice of air conditioning over ventilation or over no conditioning at all. Though not every precision-manufacturing operation requires extreme cleanliness, the usual plant can operate more efficiently and more economically when the atmosphere is free of dust, dirt, lint, and similar

Table I: Industrial Rooms and Areas Using Air Conditioning

Individual offices
Large office areas
Conference rooms
Rest rooms
First-aid stations
Control rooms
Assembly areas
Drafting rooms
Cafeterias
Dining rooms
Test rooms
Research laboratories
Reception rooms
Photo laboratories
Record vaults
Crane cabs
Telephone exchanges
Machine record rooms
Tabulating rooms
Classrooms
Blueprint rooms
Printing-press rooms
Paint shops
Engineering departments

Table II: Typical Precision Operations Using Air Conditioning

Precision machining and grinding
Tool and gage rooms
Aviation and automotive assembly
Abrasives manufacture
Electrical-equipment manufacture
Perishable-material storage
Food processing
Candy making
Citrus-fruit storage
Yeast manufacture
Tobacco
Pharmaceuticals
Baking
Chemical processing
Film manufacture and storage
Plastics
Optical manufacture and assembly
Laboratories
Printing and publishing
Synthetic-fiber processing
Textiles
Fur storage
Leather storage and manufacture

particles. In addition to contributing to better product quality, cleanliness, as mentioned earlier, can reduce plant-cleaning costs.

Besides the four factors discussed above, control of the rate of chemical or biological reactions are two more elements sometimes arising in precision manufacturing. Where they occur, air conditioning is usually the only suitable solution for accurate control of atmospheric conditions within the plant work areas.

atmospheric contaminants

In addition to air conditioning, control of atmospheric contaminants is often required in industrial plants. Three types of systems are commonly used for this service: dilution, local exhaust, or a combination of exhaust and dilution.

Dilution-type systems are generally used where contaminants originate at a number of different points throughout the working area. Outside air, introduced into the working area, dilutes the inside air to reduce the concentration of the contaminants to a safe level. It is essential in the design of any dilution-type system that the sources of contamination be accurately known, otherwise the air-supply equipment cannot be properly sized for maximum safety and economy. Undersize equipment can lead to dangerous atmospheric conditions while oversize units will prove uneconomical over a long period of time.

Local-exhaust systems are used for mists, dusts, fumes, gases, and vapors originating in relatively small areas within the plant. Hoods, booths, or canopies of various designs are used to "capture" the contaminant so that it can be drawn from the area and exhausted to a safe area outside the plant.

To reduce the cost of dilution-type systems, local exhaust is often used in combination with dilution. Fumes, vapors, gases, etc., are exhausted where they occur. The particular work area is then diluted with outdoor air to reduce the concentration of any other contaminants that may be in the plant atmosphere.

design conditions

Four categories are usually assigned to design conditions for industrial air-conditioning systems—employe comfort, storage of material prior to manufacture, manufacturing, and development and research.

Typical indoor-design conditions found suitable in a large number of industries are given *(Table III)*. While specific circumstances may require that these conditions be altered, they are satisfactory for the majority of industrial plants.

air-conditioning equipment

Two general types of air conditioning apparatus are available for industrial plants — central systems and unit systems. Both find use, depending on the specific requirements of a given plant.

Central systems usually serve several

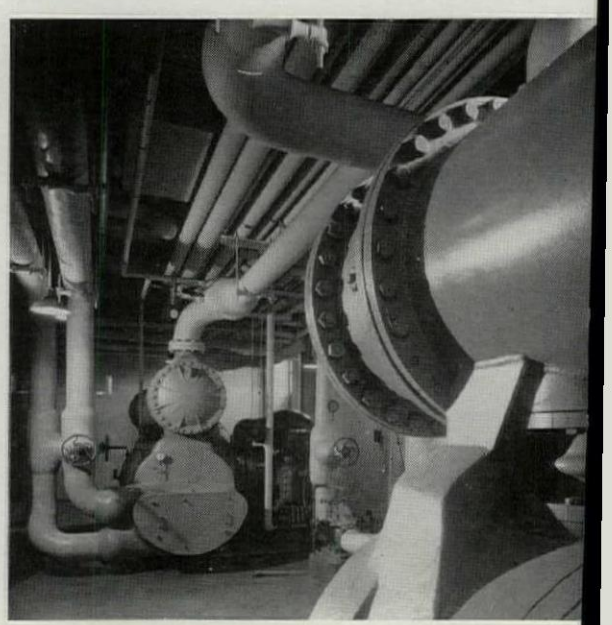
Table III: Typical Indoor Temperature and Humidity for Industrial Air-Conditioning Systems*

Classification	Materials, location, or process	Temperature F	Relative humidity %
Employe efficiency	General machine-shop work	78-80	50
	Drafting rooms	78-80	50
	Offices	78-80	50
Storage prior to manufacturing	Rough castings	80	50
	Ceramic materials	60-80	50
	Pharmaceutical powders	70-80	15-35
	Sugar	80	35
	Paper	75-80	35
	Electrical goods	60-80	35-50
	Flour	60-75	55-65
	Rubber	60-75	40-50
	Grains	60	30-45
	Hardened aluminum alloys	0 to −30	
Manufacturing process	Machine-tool oil cooling	70-90	
	Precision-parts honing machinery	75-80	40-55
	Ceramic molding	80	60
	Manufacturing of electrical wiring	60-80	35-50
	Assembly line	65-80	40-50
	Gage rooms	78	50
	Instrument calibration	68	50-55
	Match manufacturing	72-74	50
Research and development	Paper-testing laboratory	60-80	55-65
	Textile-testing laboratory	70	65
	Special process temperature boxes	−100 to +170	
	Chemical laboratories	78	50
	Fibers and plastics	70-75	50-65
	Drafting	78-80	45-50
	Temperature-shock tests	−80 to +150	

*From "Indoor Climate and Refrigeration for Post-War Industry," by E. K. Heglin, *Cleveland Engineering*, Vol. 40, No. 27.

Figure 1—Central-type industrial air-conditioning systems often have large centrifugal refrigeration units, like those shown (below).

Photo: courtesy Carrier Corp.



different rooms or areas—the fans, filters, heating and cooling coils, and casing being located outside the rooms or areas served. The investment cost for a central system is often lower than for a unit system when the cooling load is large enough to justify the central-type apparatus. Equipment for a central system can be located in the building basement, truss space, attic, or other area having little use for production or occupancy. Maintenance of equipment in a central system is generally easier because more space is available and access is simpler.

Unit systems generally serve one room or area or, at most, a relatively small number of rooms or areas. Self-contained, they are characterized by compactness, portability, and freedom from noise. Usually, they must be placed in the area served or very close to it. Central systems, on the other hand, may be far from the area served, if necessary. Maintenance of unit systems may sometimes be more expensive than central systems because access to various parts is more difficult.

initial and maintenance costs

The cost of air-conditioning equipment varies considerably with unit size, capacity, load served, degree of control required, and a large number of other factors. One ASHACE survey shows that refrigeration-equipment costs for a typical central system—complete with heating and cooling coils, controls, fan, ducts, etc. —were $250 per ton for a 25-ton installation but only $158 per ton for a $500-ton installation. Air-handling equipment for these same installations, including ducts, fan, coils, etc., costs $1.05 per cu ft of air per min and $0.82 per cu ft of air per min, respectively.

Operating costs vary considerably, depending on the duration of the operating period, type of equipment, geographical location, degree of control required, etc. In general, it is difficult to give values applicable to all classes of installations; the same is true of maintenance costs. However, various surveys show that the annual over-all operating costs for central-type systems, serving summer and winter loads, run between a low of 15 cents per sq ft of floor area served to a high of 50 cents per sq ft of floor area. These figures include routine maintenance of the equipment.

the future

The air-conditioned industrial plant is here to stay—of that there is no doubt. Architects and engineers designing today's and tomorrow's plants must be more ready than ever before to meet the requirements of industry for a controlled atmosphere in the majority of plants. The wide variations in requirements from one plant to the next prevent any simple rule-of-thumb solutions to design problems. Considered judgment, careful study, and thorough design provide the only sure means of satisfying industrial air-conditioning needs.

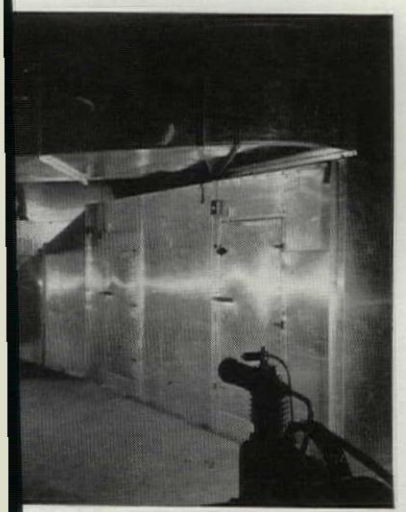


Figure 2—Central-type conditioning apparatus for maintaining desired temperature and humidity conditions (left).

Figure 3—Air distribution duct in test area has diffuser outlets to prevent uncomfortable drafts on room occupants (right).

Photos: Joseph W. Molitor

Figure 4—Exhaust hood for removal of fumes from a lead-melting pot (left). *This is one example of local exhaust ventilation in industry.*

Figure 5—Extreme low temperatures characterize industrial processing and research in some industries (below). *Temperature here is —65 F.*

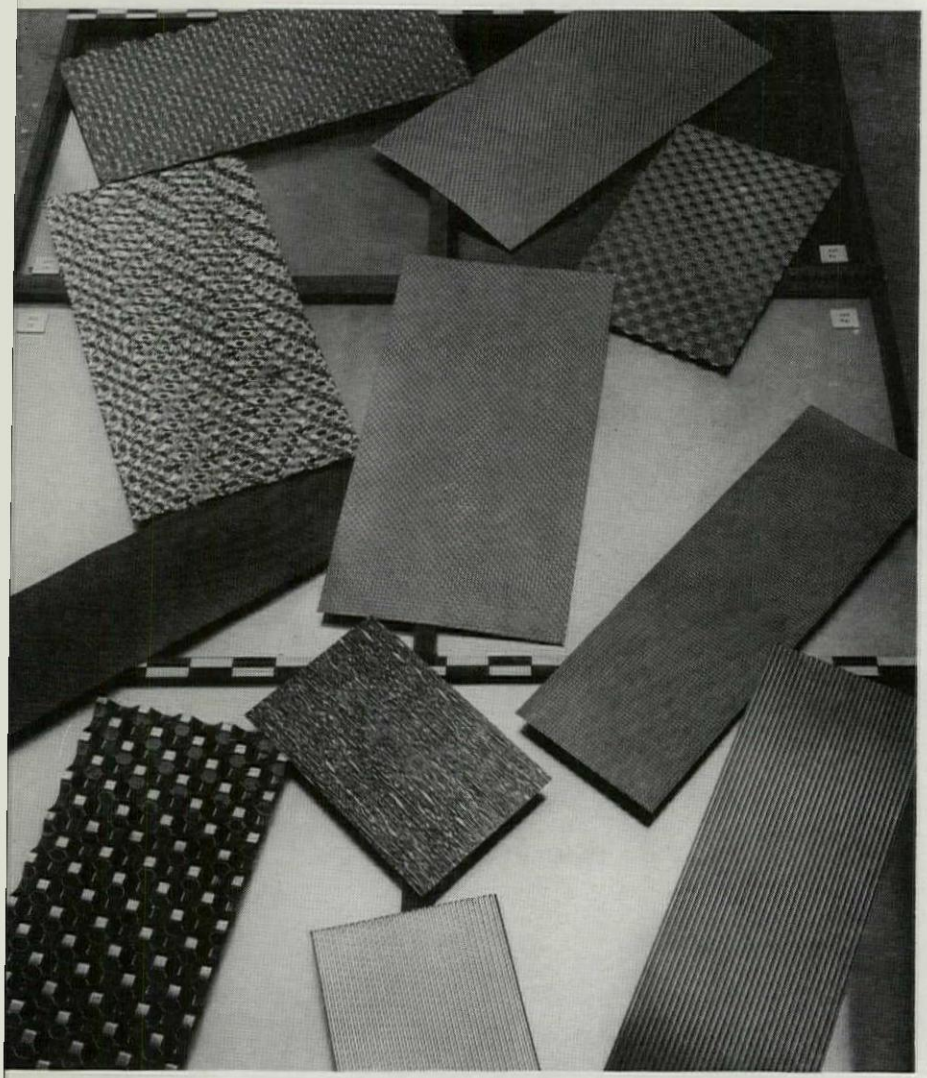


Figure 1—various exhibits of textured stainless-steel sheets. Although this metal has a distinctive color of its own, additional colors can be obtained by glazing. Translucent glaze permits quality of metal to show through.

curtain walls of stainless steel

Just completed is *Curtain Walls of Stainless Steel*—a study prepared by Princeton University's School of Architecture for the Committee of Stainless Steel Producers of American Iron and Steel Institute. Although the full report is now available[1] and must be considered an essential addition to the architectural library, the following discussion should highlight the contents sufficiently to indicate the character and value of the study as well as be of some immediate use.

[1] *Architects and engineers may obtain free copies by writing on firm letterhead and mailing request to Richard E. Paret, Committee of Stainless Steel Producers, AISI, 350 Fifth Avenue, New York, N. Y.*

At the outset, the project staff agreed for its own purposes that a curtain wall is one that is made up of thin-sheet materials in large panels. Actually, their study includes an extensive examination of *metal* curtain-wall construction — stainless steel, aluminum, porcelain-enameled steel, and carbon steel. Particular emphasis for this report, naturally, was placed on determining how stainless steel might be designed most effectively. Stainless steel combines two fundamental and highly desirable qualities: these are strength and durability. The metal, however, is expensive in that the cost per pound is high in relation to most other materials. It is obligatory, therefore, that the reduction of weight be exploited, through intelligent design, in order to render stainless steel competitive in cost with other materials —even those having shorter life or higher maintenance cost. As the researchers brought together the various aspects of their study there was no attempt to design prototype curtain walls, but rather an effort to help establish a foundation on which others can design and build.

This research is unusual in that it was conducted entirely by architects whose sole objective was to develop use-

ful information for the architectural designer. Contrary to the nature of "reports" which normally are not classified as "good reading," this study is critically written and the findings are presented in a manner that is attractive to the architect.

The project staff included the following members of Princeton's School of Architecture: John Hancock Callender, Henry A. Jandl, Robert W. McLaughlin (Director of the School), and James C. Ritchie. Technical assistants were: Leon Barth, Alfred E. De Vido, Theodore William Kleinsasser, Jr., William H. Roehl, and Arthur N. Tuttle, Jr. These men were assisted by consultants from other departments of the University, an advisory committee of distinguished practicing architects and engineers, and by an advisory committee of the AISI.

changing concepts of the wall

Today's walls should be able to exclude or admit, to keep out or let in, as desired, light, air, heat, cold, wind, vision, odors, sounds, and certain animals and people. Or as James M. Fitch observed[2] the modern wall should be thought of not as a barrier but rather as a filter. (*Table I lists characteristics of the ideal curtain wall.*) Such a wall obviously requires a new form of architectural expression. Walls of thin-sheet materials, even if backed up by masonry, should not look like masonry walls. Analysis of advanced structures both in the U. S. and abroad has revealed two basically different concepts: (1) the relatively smooth façade—characteristic of most work in this country; (2) façades with considerable depth resulting from the use of sun shades or balconies or both—more prevalent in Latin America. Within these broad groups, various subdivisions also exist. Such a rigid categorization of curtain walls might lead some critics to register a concern that the development of curtain walls will bring buildings that all look alike. The project staff for this report points out with candor that should such a situation arise, it will be from the architects' choice and

[2] American Building *(Boston: Houghton Mifflin Co., 1948).*

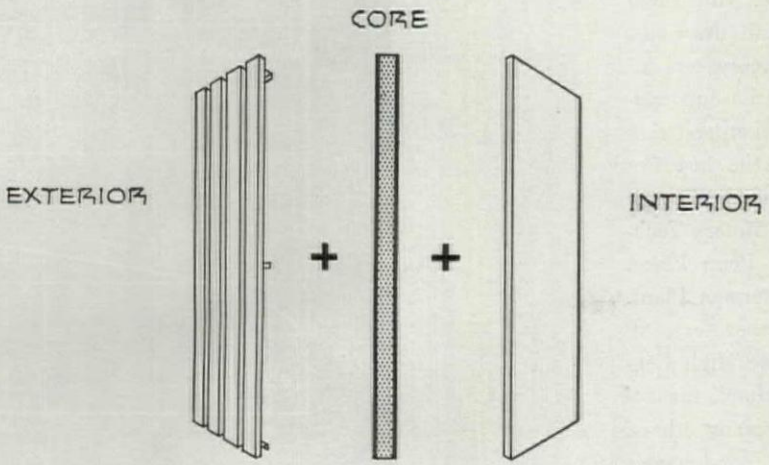


TABLE I—Characteristics of the Ideal Curtain Wall

Durability	Life 100 years (minimum 40)
Thickness	2" (maximum 5")
Weight	5 psf (maximum 15)
Insulation	U = 0.05 Btu (maximum 0.15)
Fire resistance	Incombustible (2 hr where required)
Strength	Resist 150 mph wind (minimum 100 mph)
Weatherproof	On outer face
Vapor proof	On inner face
Ventilated and drained	For control of internal moisture, whether from condensation or from wind-driven rain
Ventilated	For summer cooling
Flexible	Provide for expansion and contraction and building movement
Removable	Panels easily removable for repair or replacement
Sound transmission	Reduction 50 db (minimum 25)
Sound-deadened	Against impact of rain and wind
Size	Large units, 25 to 100 sq ft (minimum 10 sq ft)
Adaptable	To all types of building framing—steel or reinforced concrete, simple or cantilevered
Erection	Installed from inside the building—no outside scaffolding required
Attachment	To building simple and positive—adjustable in three dimensions
Handling	Easy, preferably by manpower only
Shipping	Easy, by standard transportation
Fabrication	Simple—can be done in any reasonably well equipped fabricating shop
Appearance	Attractive—no waviness, not too reflective, wide variety of textures and colors, weathers uniformly, self-cleaning
Maintenance	None required—no painting, calking or refinishing—cleaning not required for durability or appearance—cleaning easy if desired
Cost	Moderate—competitive with conventional construction—maximum $5 per sq ft in place

not from any technical necessity. Research has led the staff to predict that façades with depth will increase in importance in the U. S. during the coming decade. The report also reminds the reader that stainless steel has certain characteristics that make it particularly well suited to the fabrication of shading devices.

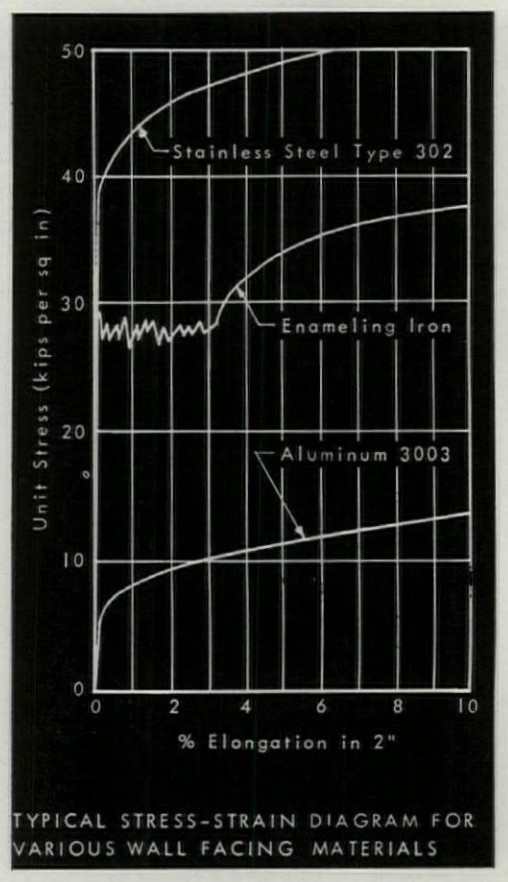
survey of buildings

More than two dozen metal curtain walls of all types were critically surveyed. Purpose of the survey was to appraise the over-all appearance of the building façade as an architectural expression of curtain-wall construction and to appraise specifically the design of the curtain wall employed in each case. Illustrated with text, photos, and detail drawings, this section of the study represents an excellent documentation of the outstanding metal curtain-wall structures that have been erected during the last five years. Included are: General Electric Turbine Building, General Motors Technical Center, 525 William Penn Place, Alcoa Building, E. F. Hauserman Plant, Westinghouse Research Laboratory, 99 Park Avenue Building, Mile High Center, Dallas Statler Hilton Hotel, the Socony Mobil Building, and many others. All commercially available metal panels are also shown in detail drawings.

design data

Chromium-nickel alloys are the best known, the most corrosion resistant, and are characterized by very high strengths (*Table II*). These alloys are heavier than carbon steel and, posing an additional consideration for the designer, they have a higher coefficient of thermal expansion. Significantly, however, they retain a remarkable amount of strength at high temperatures. Type 302 is the general-purpose stainless steel and the one most often used—especially for outdoor applications. Where exposure to salt spray poses a particular problem, Type 316 (containing 2-3 percent molybdenum) is to be recommended. Type

Figure 2.



TYPICAL STRESS-STRAIN DIAGRAM FOR VARIOUS WALL FACING MATERIALS

TABLE II—Typical Properties of Stainless Steel Alloys

Material	Chemical composition percent	Melting range F	Density lb/cu ft	Mean coef. of thermal expansion in/in/°F x 10^{-6} (32–212 F)	Yield strength psi (annealed)	Ultimate strength psi (annealed)	Elongation percent in 2"	Mod. of elasticity psi x 10^6
Type 301	Cr 16.0–18.0 Ni 6.0– 8.0	2550—2590	501	9.4	40,000	110,000	60	28.0
Type 302	Cr 17.0–19.0 Ni 8.0–10.0	2550—2590	501	9.6	40,000	90,000	50	28.0
Type 316	Cr 16.0–18.0 Ni 10.0–14.0 Mo 2.0– 3.0	2500—2550	501	8.9	40,000	90,000	50	28.0
Type 430	Cr 14.0–18.0	2600—2750	484	5.8	45,000	75,000	25	29.0
Type 442	Cr 18.0–23.0	2600—2750	484	5.7	45,000	80,000	25	29.0

430 (containing no nickel) is the straight-chromium stainless steel most used in building work. Nickel-bearing stainless steels differ from carbon steels, and some other metals, in having no clearly defined yield point (*Figure 2*). The yield point has been arbitrarily taken as the point at which the curve intersects a straight line parallel to the lower (straight) part of the curve and .2 percent offset from it.

Stainless steel is available from the mill in coil stock or in cut sheets. Maximum widths that are available vary with gage: the thinner the gage the narrower the sheet (*Table III*). Stainless sheet-steel can be roll-formed, pressed, bent, sheared, welded, and soldered. Tooling costs for rolls and dies are considerable and therefore these processes are economical for mass production only. For a single building or a group of buildings, brake forming is the most economical fabricating method. All types of welding can be performed on stainless steel. A welded joint develops the full strength of the joined material and is fully corrosion resistant. Welds can be ground down and the adjacent area refinished to make the joint invisible.

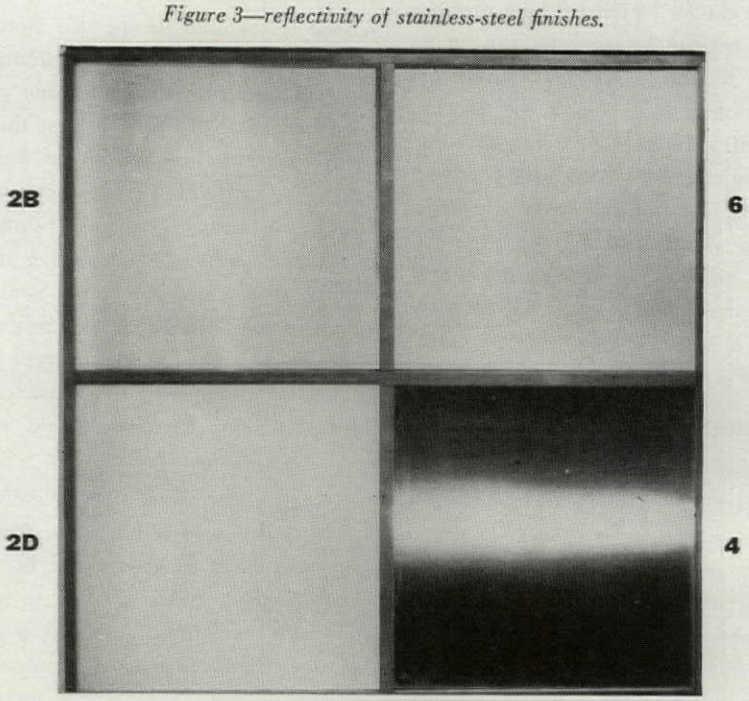
TABLE III—Maximum Widths for Gages

Gage	Width
14 (.078″)	72″
16 (.063″)	72″
18 (.050″)	72″
20 (.038″)	72″
22 (.031″)	66″
24 (.025″)	60″
26 (.019″)	49″
28 (.016″)	48″
30 (.013″)	38″
32 (.010″)	36″

TABLE IV—Standard Stainless Steel Finishes

No. 2D	(Dull cold rolled) suitable where a nonreflective effect is desired.
No. 2B	(Bright cold rolled) somewhat brighter than 2D but not as high a luster as a polished finish.
No. 4	(Polished) this is the finish most used for architectural trim. It can be matched in blending welds and covering fabrication markings. It is bright but not extremely reflective.
No. 6	(Polished and tampico brushed) this is a No. 4 finish brushed with tampico fiber. The finish is conservative, soft, and of low reflectivity.

Figure 3—reflectivity of stainless-steel finishes.



finishes

Finishes No. 2D and 2B are standard mill finishes available at no extra cost while finishes No. 4 and 6 cost from 20 to 59 percent more (*Table IV*). For curtain walls that are designed to cover an entire façade or a structure, luxury finishes are unnecessary and finishes 2D and 2B are reported to be entirely satisfactory. It is recommended that a 2D finish should be used for flat sheets and a 2B finish for textured sheets. Finish No. 4 exhibits a remarkable property of reflecting any light source, regardless of its shape, as a brilliant straight line (*Figure 3*). On a city building, surrounded by street lights, traffic lights, and moving auto lights, this reflective effect can be very disturbing.

texture

A wide range of textures is available to the designer of stainless-steel curtain walls. Textured sheets can be rolled with patterns ranging in depth from .005 to 1½″ and in width from ⅛″ to 8″. Patterns are of two general types—all-over and one-directional. The shallower patterns are referred to as embossed and the somewhat deeper ones are often called "rigidized"—also a trade name. "Textured" has been used in this report to designate both types. Patterns are available in sheets up to 36″ in width. It should be pointed out, however, that the designer must use caution with the deeper all-over patterns since they present joint problems—particularly vertical ones that are difficult to make tight.

One suggestion is to stop the pattern short of the edges of the sheet which remain flat; they then can be formed as desired. Or, the edges of the textured sheet can be reflattened and then formed.

One-directional patterns—usually referred to as "ribbed" or "fluted" and having rectangular, V-shaped, or curved sections—are widely used and are familiar to all. At least one reason for their popularity is that when used vertically (almost universal practice) they present no joint problems.

Textured sheets have special advantages in that they can be used to increase rigidity, to break up reflections, and to conceal unevenness and other minor defects in the wall. Further, texture not only lends visual interest and character to a wall but also helps to give scale to the building as a whole. For very important structures, the architect may elect to design and specify his own choice of texture.

color

Although stainless steel has a distinctive color of its own which can be varied by the use of different finishes and textures, naturally there are occasions when other or additional color may be desired. The most practical process for adding another color to stainless steel involves glazing. The project staff prefers to use the word glazing rather than enameling. This position has been taken because of the desirability of keeping in view as much of stainless steel's natural metallic quality as possible, rather than burying the metal under an opaque enamel. Stainless steel has certain advantages as a basis for vitreous finish: (1) A wall panel can be fabricated and glaze applied to those areas where color is desired, leaving the remainder in its natural state. This is not done with other metals because of the danger of deterioration in unprotected parts and possible induced enamel spalling. (2) Only the exterior face of exterior wall units need be glazed — leaving the backs in their natural state. No warpage has been observed in stainless steel fired at a temperature of 1000 F with glaze applied to one side only. (3) Stainless-steel sheets need not be glazed completely. This characteristic allows the stainless steel to show through intermittently, lending sparkle to the applied color glaze. (4) Only one coating is sufficient for stainless steel. (5) Small flaws, not considered objectionable on visual grounds, do not appear to be important in glaze on stainless steel, whereas they become focuses of corrosion and spalling on other metals.

Three desirable characteristics of glazes on stainless steel are: (1) The glaze is most effective when translucent rather than opaque, permitting the quality of the metal to show through. (2) On patterned stainless steel, high points can be left uncoated (*Figure 1*). The clean metal must be polished after firing since the metal surface changes to a brown color at firing temperatures. (3) On flat surfaces effective results can be obtained with spattered finishes using one or more colors and exposing substantial areas of metal. Discontinuous glazes minimize the problem of difference in coefficient of expansion between glaze and metal.

economy

As mentioned before, since stainless steel costs substantially more per pound than most other materials, it must be used economically if it is to compete with other materials. Obviously, stainless steel cannot be treated as a precious metal if it is to be used for the facing of entire buildings. For maximum economy, stainless steel should be used in thin sheets (26 gage or thinner), have No. 2 finish, and should be textured, ribbed, or continuously backed with a minimum of fabrication. Since texture, ribbing, and back-up all cost something, this expense must be balanced against a saving in the cost of the metal (*Table V*).

preventing waviness

When used in large flat panels, all sheet metals have a tendency toward waviness. This characteristic, when excessive, is generally considered very objectionable. Most important in the definition of visual flatness is not the height nor the number of waves in a sheet of metal, but the steepness of the slope. If a 1/16″ deviation were to occur in the center of a 4′ sheet with a gradual rise from each edge, the slope would be very slight (.0625 ÷ 24 = .0026) and the sheet would appear to be flat. From a survey conducted by the project staff, it was found that slopes of less than one percent were rarely visible and in no case considered objectionable, regardless of finish. Slopes of more than two percent were always visible and objectionable, except in the case of heavily-textured metal. Slopes as great as three percent were found to be acceptable in heavily and irregularly textured finishes. To prevent waviness, maximum slopes should not exceed one percent for No. 2B and No. 4 finishes, 1.25 percent for No. 2D and No. 6 finishes, and two percent for heavily-textured metal.

Causes of waviness were found to be: (1) minor production variations; (2) sheets not flat when shipped from the mill; (3) unequal stresses resulting from fabrication; (4) stresses resulting from erection; (5) expansion due to temperature rise; (6) shrinkage of backing; (7) movement of building frame.

In order to eliminate as much waviness as possible, the following recommendations should be followed: (1) Avoid the use of large flat panels. (2) Avoid the use of reflective finishes. (3) Specify stretcher-leveled sheets. (4) Use embossed or textured sheets. (5) Specify a system of attachment to the building that puts no strain on the panel and allows no movement. (6) Specify that the face of the panel as installed on the building shall be flat within limits prescribed. (7) Use continuous backing behind the metal skin, either by laminating it to a flat, board-like material or by pouring a cementitious material directly behind the metal face. (8) If the metal face is not backed continuously, the distance between stiffening members should not exceed those recommended.

Research developed that a lamination of thin stainless steel (.010″ to .020″) to asbestos-cement board, gypsum board, or calcium-silicate board appears to be feasible. Further study is needed, however, before the method can be recommended for general use. Adhesives of either the

synthetic rubber or the epoxy-resin type appear to be suitable for this purpose. The epoxy resin seems to be somewhat superior to the rubber type, but costs about twice as much. Laminating should be done at low pressures. Although it is feasible to back up panels with formed edges, it is obviously much simpler and less expensive to laminate panels with flat, unformed edges.

bond

Tests indicate that the natural bond between stainless steel and high-quality stone concrete is capable of resisting the forces of shrinkage in the concrete and the thermal expansion of the steel. Natural bond between stainless steel and lightweight-aggregate insulating concrete, however, can not be depended upon to resist the force of the shrinkage in concrete. Use of an adhesive on stainless steel improves its bond to lightweight-aggregate insulating concrete sufficiently to enable it to resist the forces of shrinkage and expansion. Sandwich panels with stainless-steel faces appear to be practical with any of the following core materials: fireproof, precast insulating concrete; incombustible, cement and excelsior board; combustible, fiber insulating board with asbestos-cement faces.

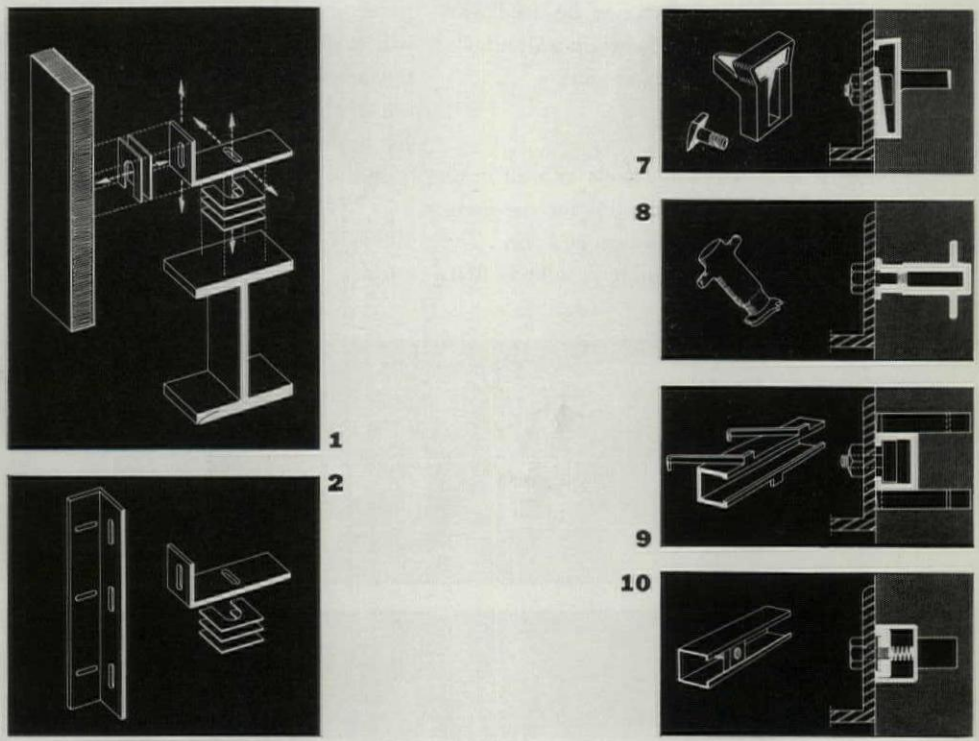
strength

Curtain walls are by definition nonstructural, but they do have to be strong enough to support themselves between floors and to resist the force of the wind as well as occasional impacts. Of these factors, wind is the most important. In most cases, a wall designed to resist wind load will have adequate strength for all other needs. The majority of codes specify wind loads of 20 to 30 psf and this agrees with the recommendations of leading authorities on the subject.

attachment

Unfortunately, there does not exist in steel-frame or reinforced-concrete construction the same dimensional precision in placement that is required for attachment of wall panels. It is necessary, therefore, that an intermediate element be introduced between the wall panel and the structural frame to provide the re-

Figure 4—attachments.



(1) Intermediate elements must be introduced between wall panel and structural frame for adjustments. (2) Most common components of attachment are steel angles or plates with slotted holes for alignment and adjustment. (3) A and B illustrate types of metal clips often used with pan-type wall units. C shows a continuous steel clip welded to back of wall panel. (4) Simple adjustment device: hook-bolt with lock nuts. (5) Metal shoes welded to frame make strong attachment devices. (6) Custom designed bearing plates provide positive fastening at point on wall unit where maximum support is required. (7) Peerless wedge insert permits shelf angle to be adjusted smoothly to exact position desired. (8) Threaded insert designed so that bond is developed to utilize full strength of bolt. (9) Continuous slotted insert insures positive bond to concrete. (10) Unistrut insert. Continuous slot in channel permits attachment anywhere along length of channel.

TABLE V—Index of Relative Costs/Sq Ft of Stainless Steel Sheets*

Gage	Thickness	Weight	Width		
No.	In.	psf	36″	48″	60″
14	.078	3.281	1.00	1.02	1.10
16	.063	2.625	.82	.84	.90
18	.050	2.100	.66	.68	.74
20	.038	1.575	.51	.53	.58
22	.031	1.313	.44	.46	
24	.025	1.050	.36	.39	
26	.019	.788	.29	.32	
28	.016	.656	.25	.29	
30	.013	.525	.24		
32	.010	.426	.22		

*Based on a unit of Type 302 No. 2D or 2B finish sheets in lengths of 60 to 120 in., paper wrapped, quantities of 10,000 lb. and over, as determined by one producer as of July 6, 1955.
Factor of 1.00 arbitrarily assigned.

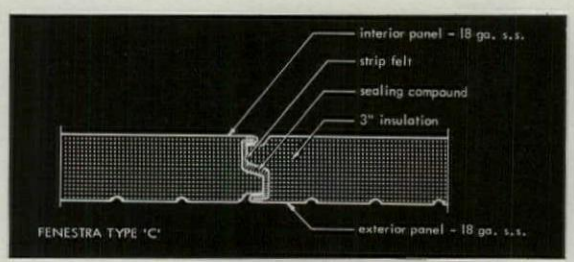
quired adjustment. Components of attachment devices that may be used with the various systems of curtain-wall attachment are shown (*Figure 4*).

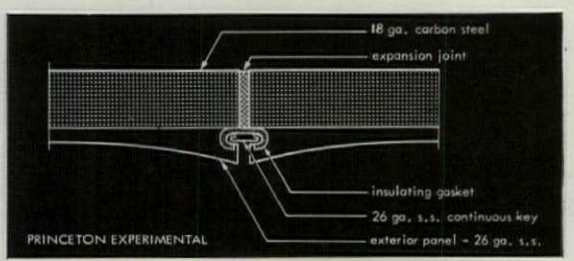
joints

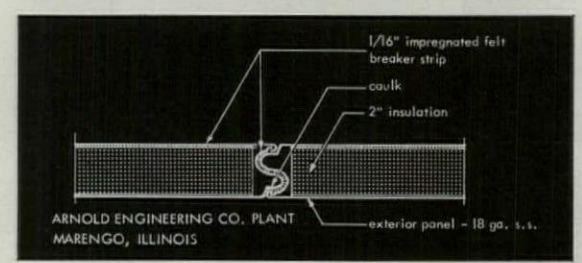
Every joint between panels or wall units is potentially a weak point for the eventual penetration of water and air. The best method of designing a joint is first, to make it as weathertight as humanly possible, and second, to assume that it will nevertheless leak and provide positive means for conducting the moisture out of the wall. A number of successful joint methods are illustrated (*Figure 5*).

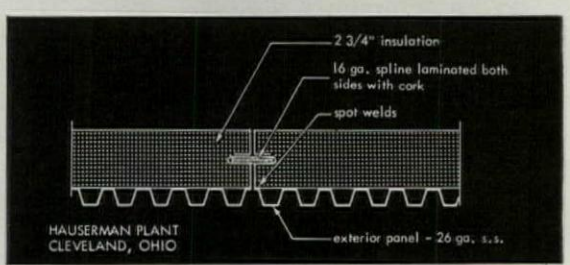
suggested designs

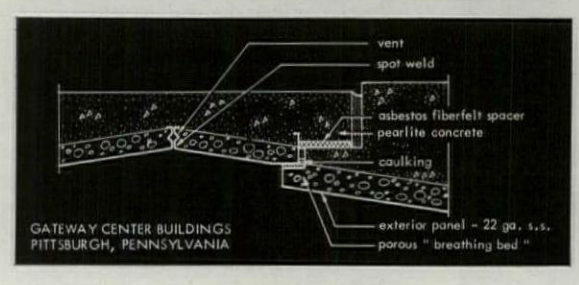
Three basic systems are suggested for curtain walls of stainless steel: *general purpose system*—primarily for one-, two-, or three-story buildings, such as schools, small office buildings, etc. (*Figure 6A*); *multi-story system*—essentially for elevator structures such as office buildings, apartment buildings, etc. (*Figure 6B*); *industrial system*—primarily for walls of buildings such as factories where large areas must be enclosed usually without openings (*Figure 6C*).

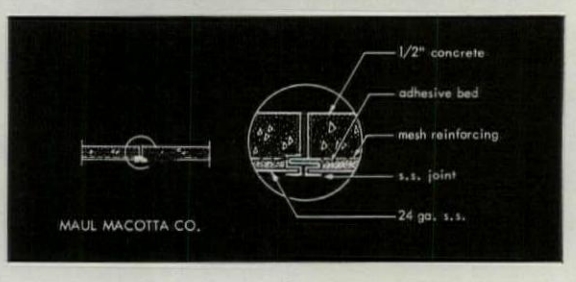






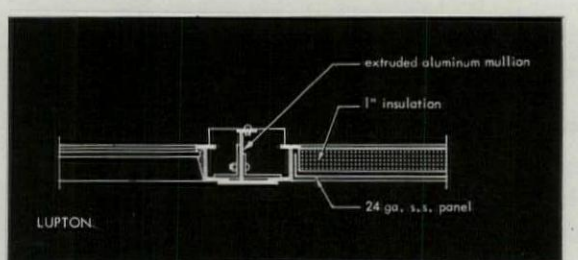






tongue and groove **spline**

mullion window-stop



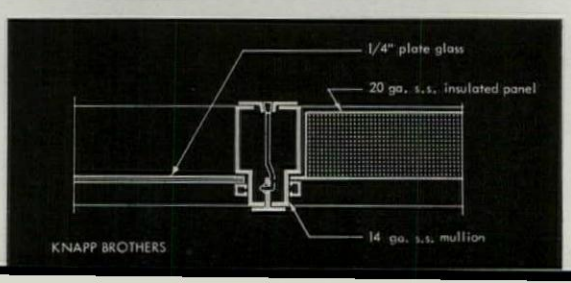
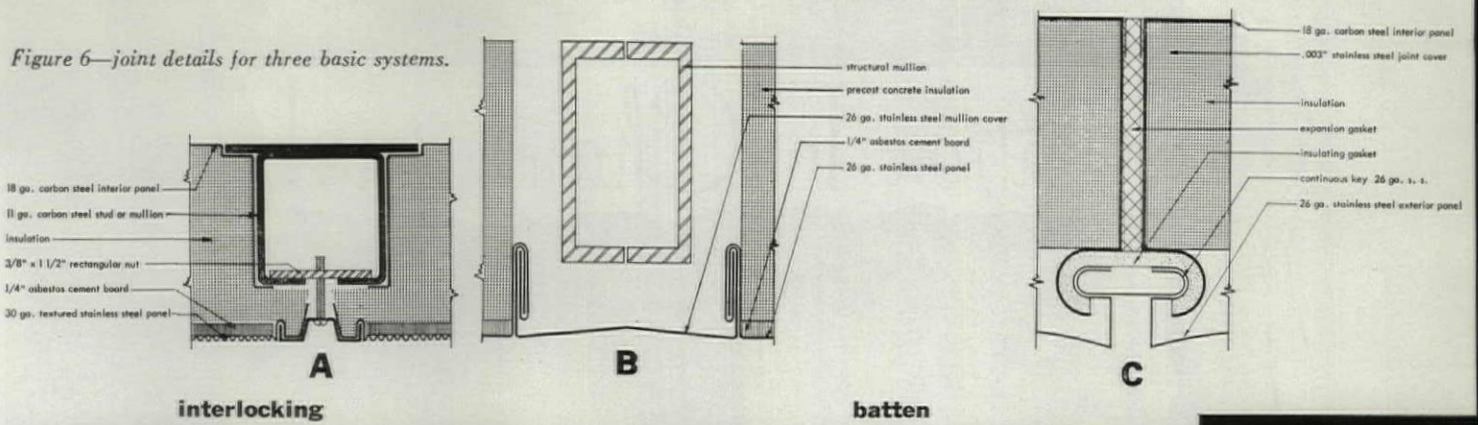
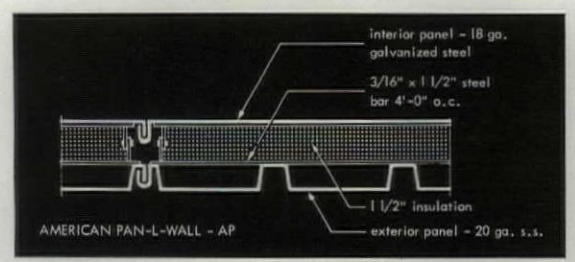


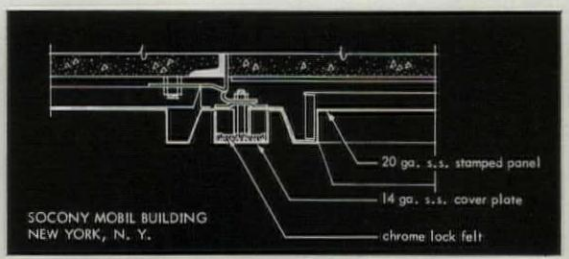
Figure 5—joints. Good joints must prevent air and water leakage, have flexibility, control moisture, and permit no through conductivity of metal. Tongue-and-groove *joints simplify erection and speed up installation.* Spline *joints allow flexibility for replacement, removal, and expansion.* Mullion window-stop *joints can be used without change for materials of various thicknesses. Easily assembled from store-front sections.* Interlocking *joints are widely used on large expanses of walls.* Batten *joints have flexibility and offer a wide variety of possibilities in design.*

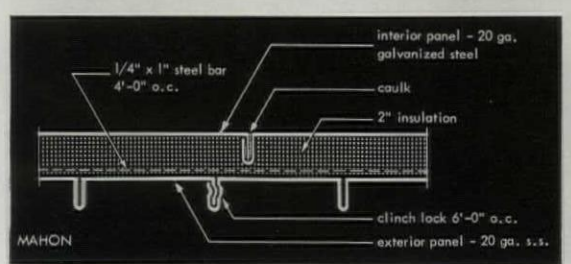
Figure 6—joint details for three basic systems.

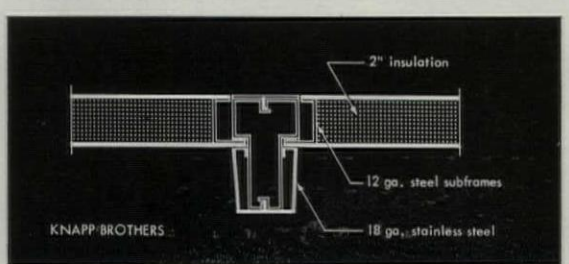


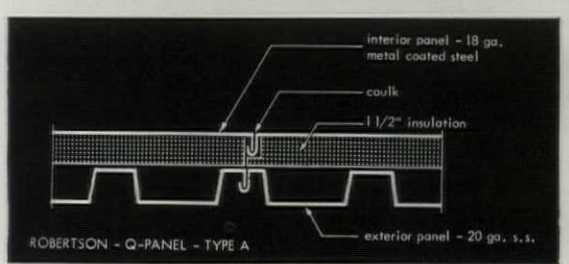
interlocking **batten**

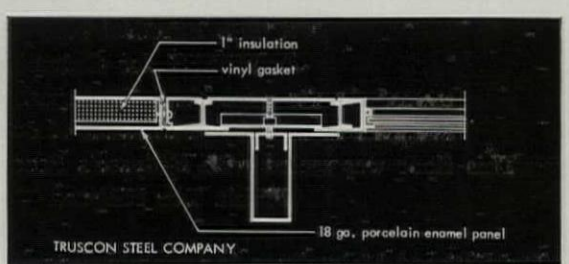


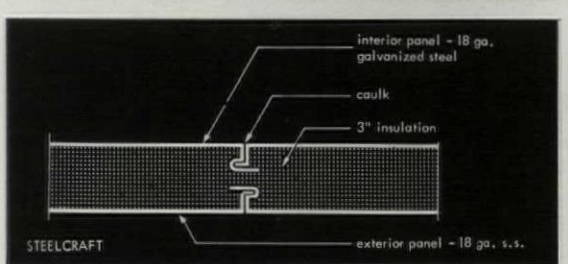


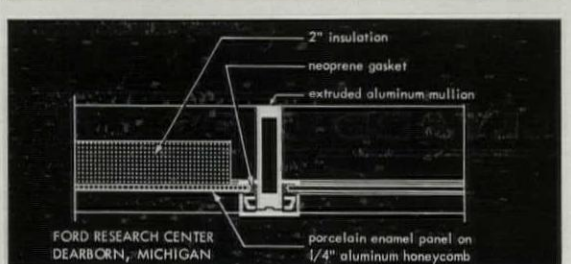


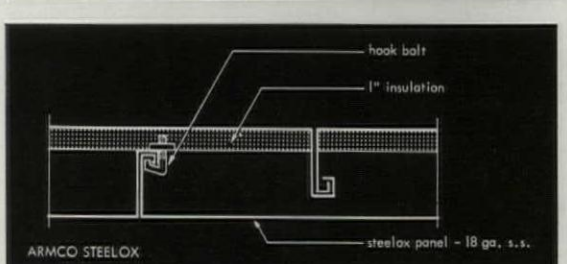


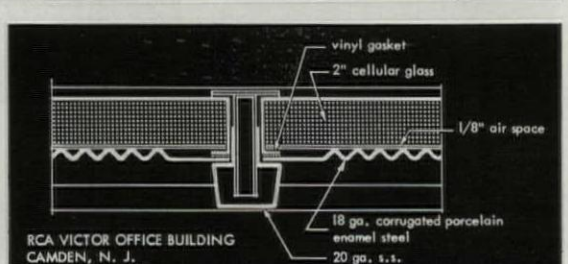


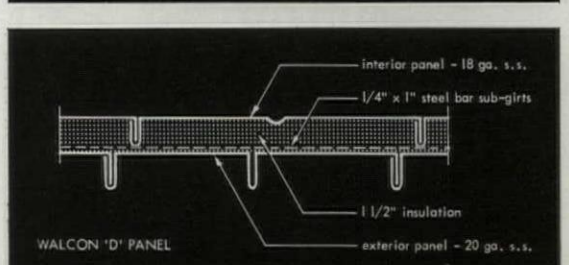


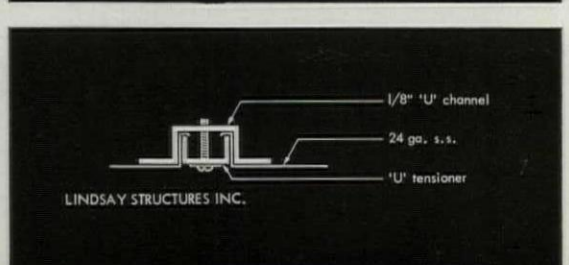


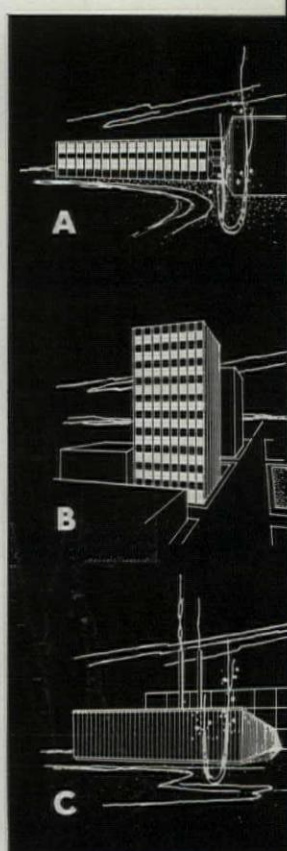






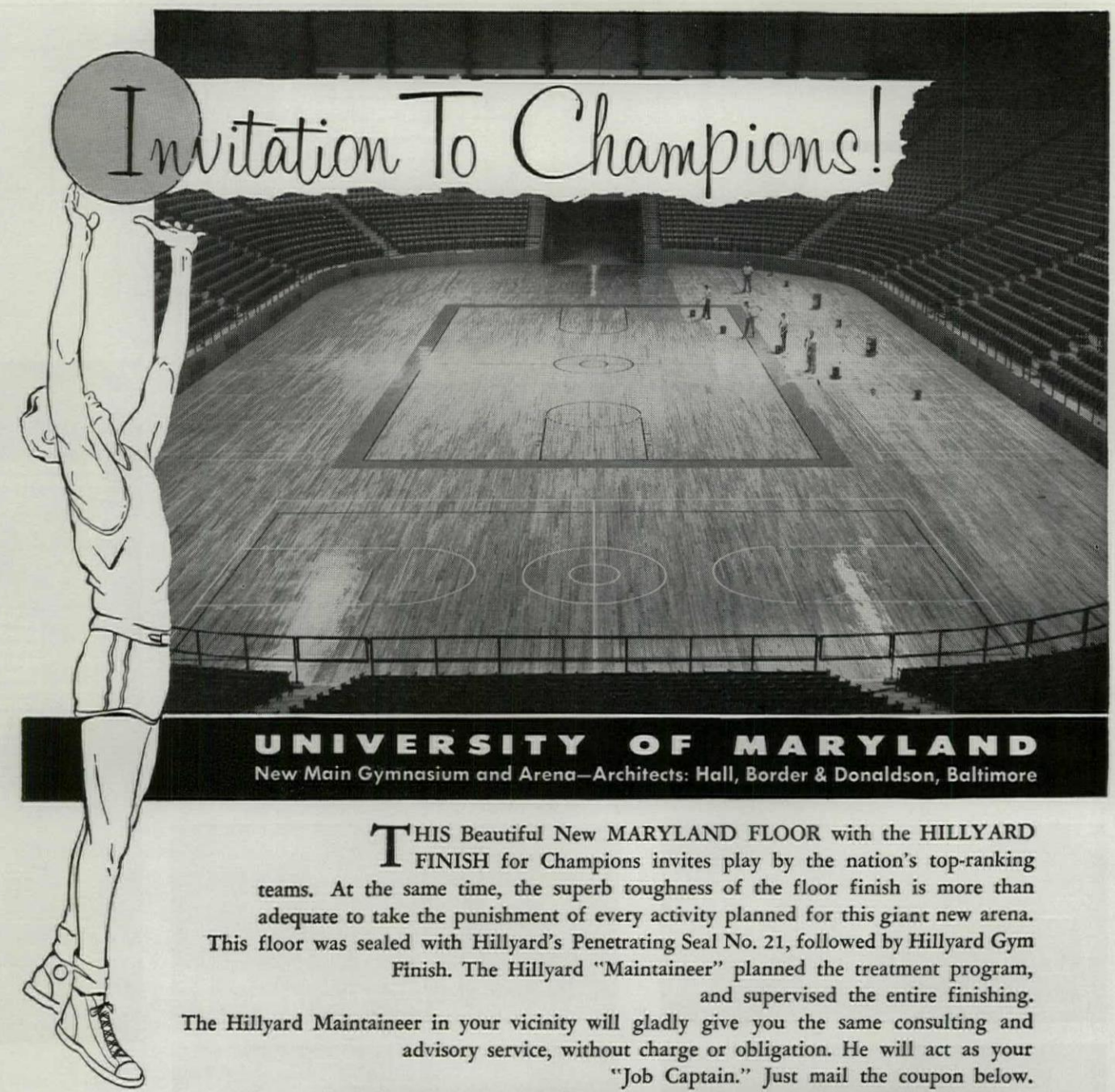






Sketches (above) *show three basic systems suggested for stainless-steel curtain-wall design:* A—*general purpose;* B—*multistory;* C—*industrial. Corresponding joint details are illustrated* (top of page).

Invitation To Champions!



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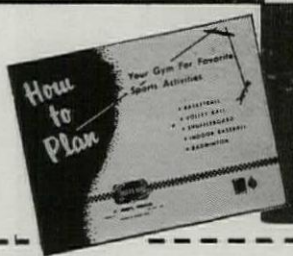

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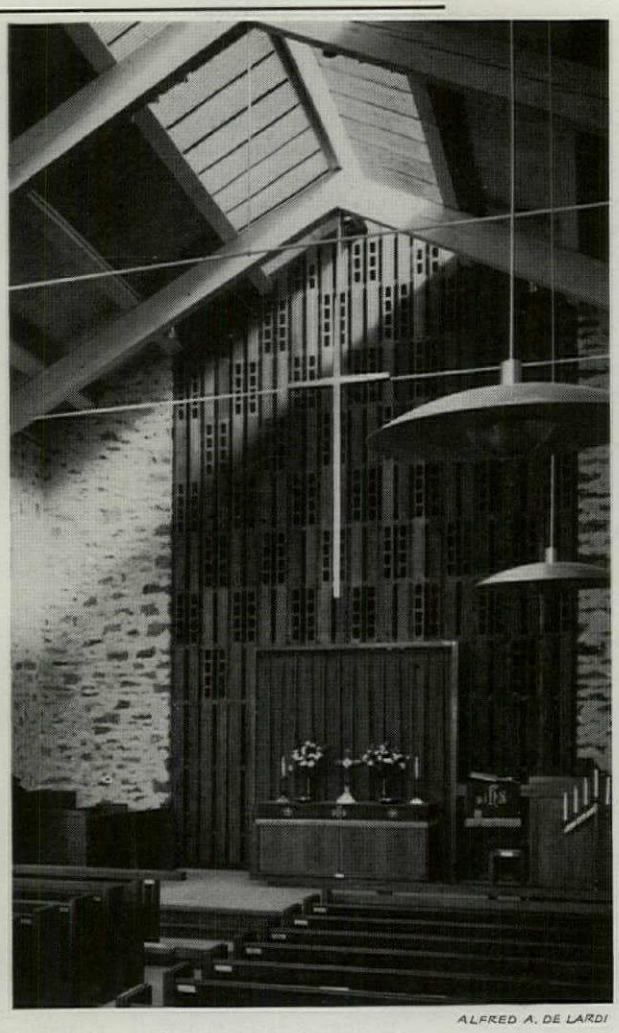
Love those lads over there at Kentile, Inc. It is perfectly swell of them to give a little thought to the practical problems of the specifier. Their new specifications sure have us ball-point pen pushers in mind. Tell you what they've done. They must have peered over the round shoulders of specifiers to learn that we like manufacturers to print their specifications on one side of expendable paper (so that we can cut and paste to our heart's content), to double space the copy (so that we can comfortably edit the stuff to suit the project), to provide as many copies as we wish (so that we do not feel we are destroying sacred and rare writings), to write comprehensively, clearly, and concisely (Lord love their streamlined little hearts). These guide specifications cover a full line of resilient flooring materials. For the Federal Specifications addicts there are appropriate numbers wherever applicable, but here is what makes these spex most unusual. In the "gutter space" to the left and right of the copy (which contains the usual parenthetic multiple choices), there are informal comments which make you feel there is an unobtrusive Kentile technician in the room advising you all the way. This unseen adviser kibitzes on composition, care, colors, costs, and what-all. Thank you, Kentile, for saving us much trouble and time. Ask 'em for a copy—what am I saying?—ten copies.

works clerks

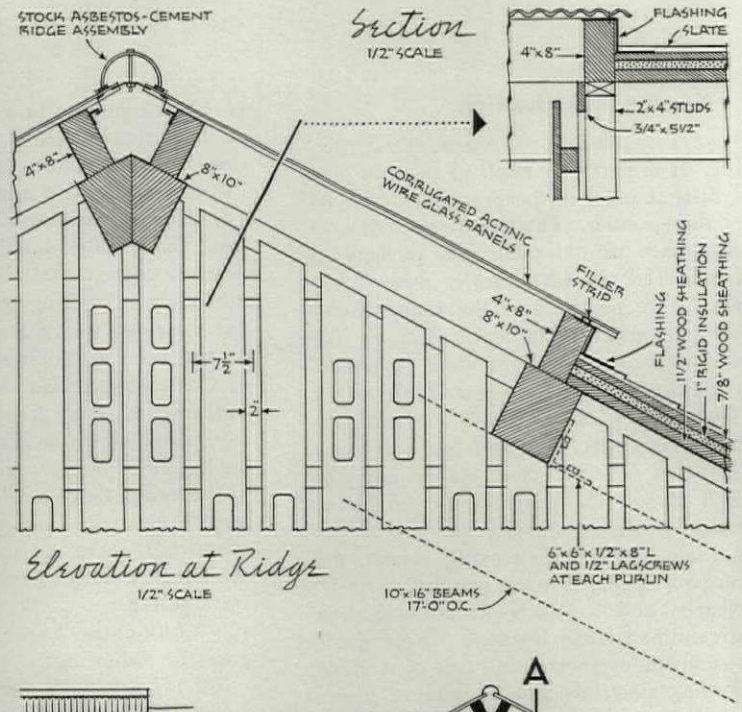
In the event some 2 o'clock in the afternoon Mr. I. Rate Client telephones to inquire what in blazes is a "Clerk-of-the-Works and since I'm paying for the bloke what does he do?" you up and say to him, "Hold the wire a minute please, I'll read it to you, or better still, I'll send Ben John Small's column in P/A which describes in nauseating detail the function of said gentleman." My office (LaPierre, Litchfield & Partners) uses it so there you are and here it is:

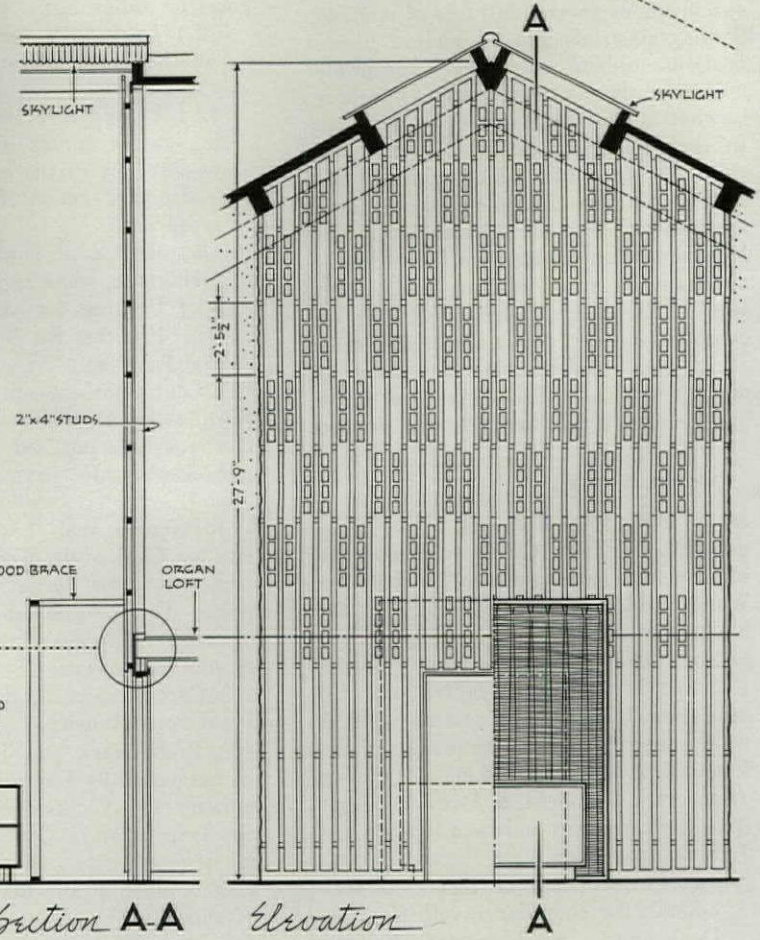
1. Field Inspection
   (a) Project shall be inspected periodically for compliance with Contract Documents. No deviations shall be permitted without permission of Architect and Owner. Such deviations, if approved, shall be subject to a written letter, Proceed Order, or Change Order signed by parties involved.
   (b) Disputes among separate Contractors shall be, if possible, resolved amicably in the field. If this cannot be done, Architect shall be requested to rule on dispute. Work of separate Contractors shall be co-ordinated to avoid conflicts and with view of early occupancy.
   (c) Work subject to a Change Order shall be checked carefully for quantities and compliance with terms of Proceed Order or Change Order.
   (d) Unapproved deviations from Contract Documents which Contractor refuses to correct shall be reported immediately in writing to Architect.
   (e) In cases where building, utilities or site work is endangered by action of Contractor or the elements, Clerk-of-the-Works shall give instructions to safeguard work; notify Architect immediately of instructions given.
   (f) Clerk-of-the-Works shall not interpret Contract Documents for Contractors. If there are any questions or conflicts, Architect shall be consulted for a ruling.
   (g) Clerk-of-the-Works shall keep field notes for following:
      (1.) Log book or diary with weather and narrative report of operations.
      (2.) Record and sketches regarding extras or credit of quantities where Unit Prices are involved or where cost cannot be determined in advance.
      (3.) Record of boulders or rock, giving size, when and where found.
      (4.) Progress for payments.
      (5.) Progress for Reports.
2. Partial Payment
   (a) Contractor's accepted cost breakdown and any necessary sub-breakdowns will be utilized in calculating partial monthly payments to Contractor.
   (b) Progress shall be noted on job site by Clerk-of-the-Works at end of each month for partial payment purposes. This progress shall tie in with Contractor's approved cost breakdown or sub-breakdowns.
   (c) Careful checking is imperative to avoid overpayments.
   (d) Preliminary pencil copies shall be prepared by Contractor and submitted to Clerk-of-the-Works for checking prior to Contractor preparing required typewritten forms. (This may be done at any time around first of month.)
   (e) Material delivered and stored on site may be certified for payment provided paid invoices are furnished by Contractor. Invoices shall be checked against partial payment request for correctness of quantity, price. Clerk-of-the-Works shall ascertain that materials are on job.
3. Proceed Orders and Change Orders
   (a) Changes in Work which involve increase or decrease in Contract Price shall be subject to a Proceed or Change Order in forms prescribed by Architect.
   (b) Change Orders shall be accompanied by signed itemized Proposal and other necessary data furnished by Contractor. Six copies of Change Orders are required.
   (c) Proceed Order is indicated when definite quantities cannot be ascertained such as in latent soil conditions. Proceed Orders shall be limited to specific sum for work to be done. If sum proves insufficient, additional Proceed Order shall be issued.
   (d) Basic principle of Proceed or Change Orders is that all parties involved are agreed that work is required and price is equitable before change in work is ordered, and Proceed or Change Order made up.
   (e) Proceed and Change Orders shall be checked carefully for quantities, prices, clarity.
4. "As Built" Drawings
   (a) "As Built" drawings when required by Specifications shall be prepared by Contractor. It is duty of Clerk-of-the-Works to see that the necessary measurements are taken before the work is covered up.
5. Job Meetings
   (a) Clerk-of-the-Works shall:
      (1.) Approve previous Job Meeting reports.
      (2.) Avoid possibility of delay due to shortages of materials or labor, or failure of Contractors to expedite work satisfactorily.
      (3.) See that shop drawings are submitted promptly. Request list of required shop drawings and dates to be submitted. See that shop drawings are checked promptly.
      (4.) Resolve Contractors' problems.
      (5.) Report for record Contractors' anticipated progress; obtain dates.
      (6.) See that the Progress Chart is kept up-to-date; report any failure to adhere to same.
6. General
   (a) Clerk-of-the-Works shall:
      (1.) Keep daily log. (Copy to Construction Division of Office.)
      (2.) Prepare weekly report, in duplicate, for Construction Division. (Copy to Clerk-of-the-Works.)
      (3.) Prepare pencil copy, for Supervisor, of Certificate of Payment. Check quantities for Certificate of Payment. (Files shall contain method used for checking.)
      (4.) Prepare Change orders for Supervisor's signature. (Files shall contain method used for checking, including breakdown.)
      (5.) Conduct Weekly Job Meetings in absence of Supervisor. Submit pencil draft covering meeting for editing, typing, distribution.

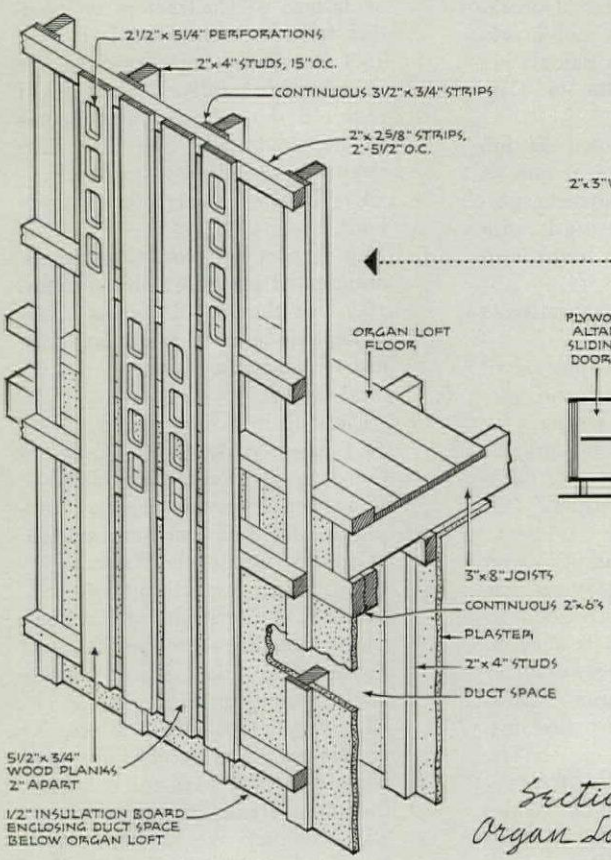
reredos



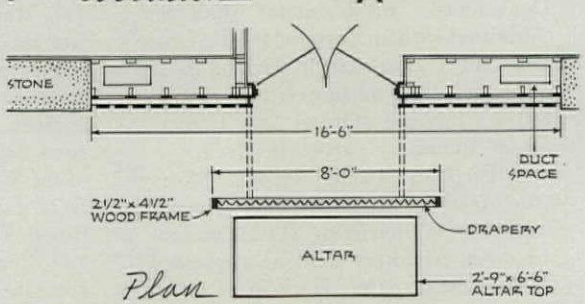
ALFRED A. DE LARDI







Section at Organ Loft Level

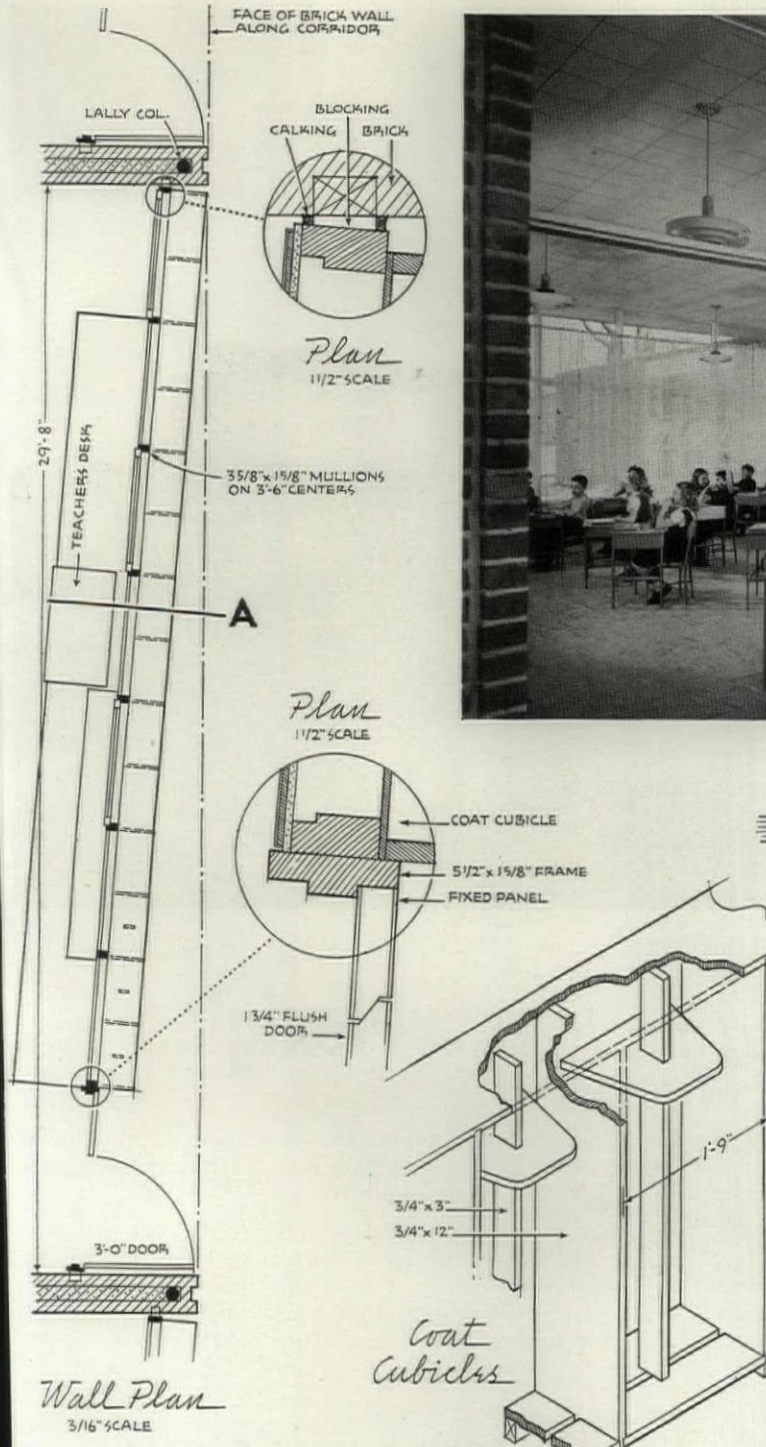


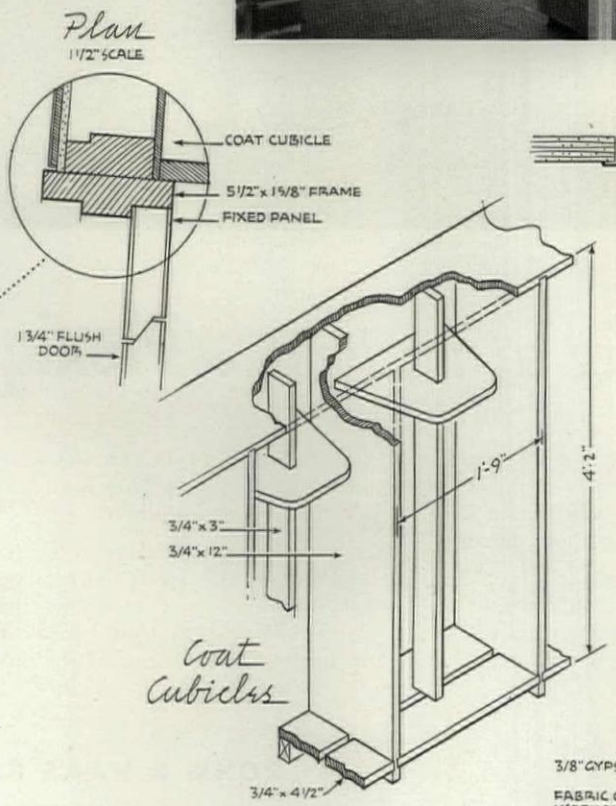
CHURCH, Linwood, Pa.

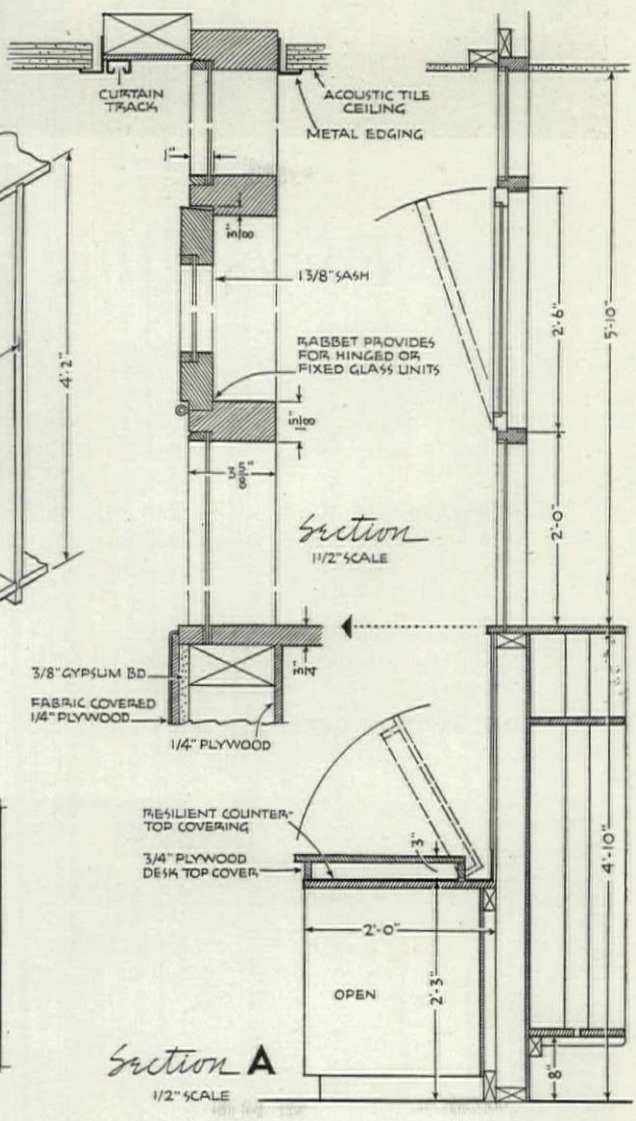
Carroll, Grisdale & Van Alen, Architects

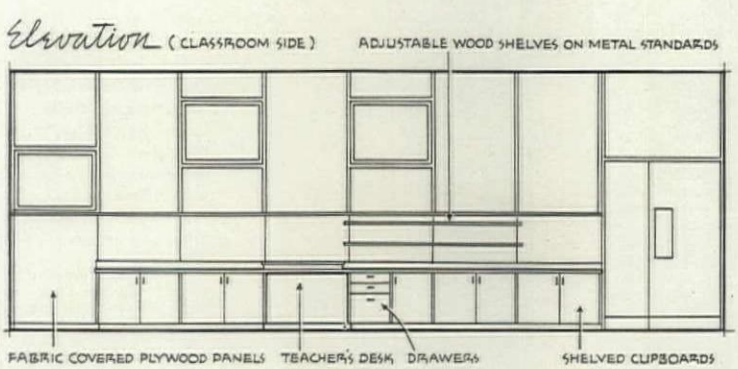
corridor storage wall

EZRA STOLLER

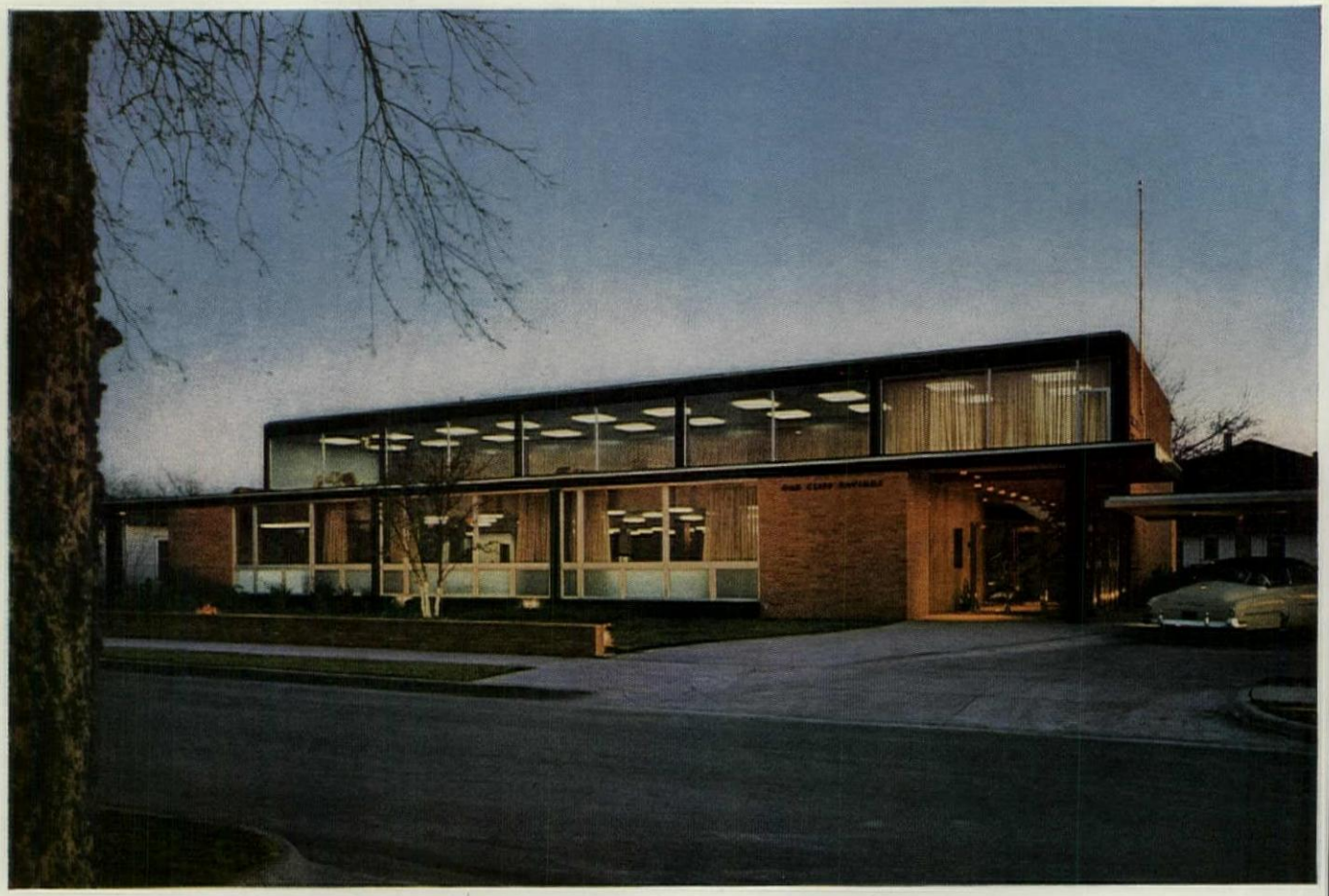








ELEMENTARY SCHOOL, Darien, Conn.
Ketchum, Giná & Sharp, Architects



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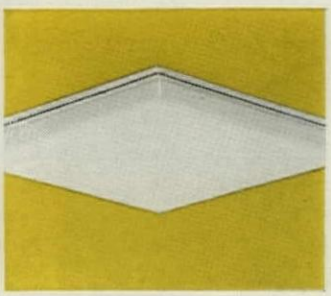


Oak Cliff Savings and Loan Building, Dallas, Texas. Lighted throughout by recessed fluorescent luminaires with diffusers of PLEXIGLAS. Architects: Prinz and Brooks.

Canadian distributor: Crystal Glass & Plastics, Ltd., 130 Queen's Quay at Jarvis Street, Toronto, Ontario, Canada.

Marshall Brooks

Working area of First Federal Savings & Loan Association, Denver, Colo./ W. C. Muchow, Architect. **Color Plan:** *golden brick/ steel painted black/ doors, countertops, desktops painted Swedish blue/ ceiling rust color/ floor black/ furniture and tellers' units bleached oak.* **Walls:** *brick masonry and glass/ Brick, Inc., Denver, Colo.;* **Floors:** *vinyl tile/ Robbins Bros., Inc., New York, N. Y.;* **Tellers' Counters, Desks:** *Design Products, Boulder, Colo.;* **Lighting:** *Gratelite ceiling/ Edwin F. Guth Co., 2615 Washington Blvd., St. Louis, Mo.*

Louise Sloane

banks

The architect's versatility, imagination, and professional knowledge—together with his personal sensitivity to the humanities—are newly called upon to meet the design needs of today's "friendly" banking policies. With the fairly recent realization on the part of bankers that they —the same as merchants, industrialists, and manufacturers—have something to sell, bank design or redesign has taken on a completely different character. Gone is the desire to awe, to overwhelm, to belittle the depositor or loan-seeker. In its place is now the "customer" concept, with a warm, friendly atmosphere, a feeling of intimacy, a strong sense of service, all blending to extend a welcoming invitation.

Branch banking, in or near residential and shopping centers, has of course been a factor in this new approach. The woman shopper becomes a new bank customer, and it is for her that a fear-free, homelike atmosphere is designed, as well as for the thousands whose fuller pay envelopes demand previously unneeded banking facilities.

In the six bank interiors that we show on the following pages, each architect has given distinctive expression to this new banking approach. Solidity and dependability are suggested through rich materials, skilfully applied in their natural beauty, rather than through an excess of "decoration." Customers are wooed to confidence by bankers who convey the up-to-dateness of their financial know-how via the modernity of their design taste. Vaults are displayed, not hidden. Tellers are screened, not caged. Openness is the keynote of the bank interior, with separate areas indicated only through color or texture contrasts. Lighting is not merely functional; it is brilliant, decorative, even gay—contributing most importantly to the invitational aspect.

That the new look is producing new business is underlined by Roy B. Blass, who says of his Western Savings & Loan Association (September 1955 P/A, page 110), "The alteration has been successful, since deposits increased approximately 100 percent in one year."

banks

client: Fulton Savings Bank

location: Brooklyn, New York

architects: deYoung, Moscowitz & Rosenberg

data

Design Theory: Use of rich, contrasting marble and limestone for texture, color, pattern. Walls from floor to ceiling are of imported Vaurion limestone from France. In contrast are six large matched panels of Rouge-Neuville (Belgian marble). The counter screen is in a brighter tone of Rosso Merlino marble. The mosaic floor is of the same marble as the wall panels.

cabinetwork

All Cabinetwork: Henry Tannhauser & Sons, 32-26 10 St., Long Island City, N. Y.

doors and windows

Doors: Pioneer Fireproof Door Co., 811 S. Fulton Ave., Mt. Vernon, N. Y.

Windows: Superb Bronze Co., 3064 Atlantic Ave., Brooklyn, N. Y.

equipment

Bank Equipment: Art Metal Co., 1814 E. 40 St., Cleveland 3, Ohio.

furniture and fabrics

Desks, Chairs: Jens Risom Design, Inc., 49 E. 53 St., New York 22, N. Y.

Drapery: Jack Lenor Larsen, Inc., 60 E. 58 St., New York, N. Y.

lighting

Fixtures: Gotham Lighting Co., 37-01 31 St., Long Island City, N. Y.

Photos: Lionel Freedman

data

Design Theory: To obtain a sense of monumentality in a small structure, simple building materials were used broadly: brick, inside and out; structural-steel framing members exposed; mosaic-tile floors; walnut fixtures and paneling; acoustical-plaster ceiling.

Color Plan: Background colors in bland, natural tones—beige brick, natural linen drapery, beige-and-gold textured fabric, gray carpeting, gray tile floor, natural-walnut paneling and tellers' cages. Strong accents are charcoal-gray structural members and white Formica desk and table tops. Further color accents are provided by paintings and accessories, with upholstery colors keyed to the paintings (charcoal gray, yellow-green).

doors and windows

Exterior Doors: Pittsburgh Plate Glass Co., 632 Duquesne Way, Pittsburgh 22, Pa.

Interior Walnut Doors: The Mengel Co., Fourth St. & Colorado Ave., Louisville, Ky.

Opening Sash: "Fenestra"/ Detroit Steel Products Co., 2250 E. Grand Blvd., Detroit 11, Mich.

Shades: "Lattishade"/ Columbia Mills, Inc., 120 W. Onondaga St., Syracuse 2, N. Y.

equipment

Banking Fixtures: Wade Mfg. Corp., Charlotte, N. C.

Check-Writing Counter: architect-designed/ Wade Mfg. Corp.

Vault Door: Herring-Hall-Marvin Safe Co., 1550 Grand Blvd., Hamilton, Ohio.

furniture and fabrics

Desks, Sofas, Chairs: Herman Miller Furniture Co., Zeeland, Mich.

End-Tables, Chairs, Conference Table: Knoll Associates, 575 Madison Ave., New York 22, N. Y.

Drapery at Window: Hill Brown Corp., 29 W. 30 St., New York, N. Y.

Drapery at Mezzanine: Kandell, Inc., 261 Fifth Ave., New York 16, N. Y.

lighting

Installed: Century Lighting, Inc., 521 W. 43 St., New York, N. Y.; Art Metal Co., 1814 E. 40 St., Cleveland 3, Ohio.

Portable: Blenko Glass Co., Inc., Milton, W. Va.

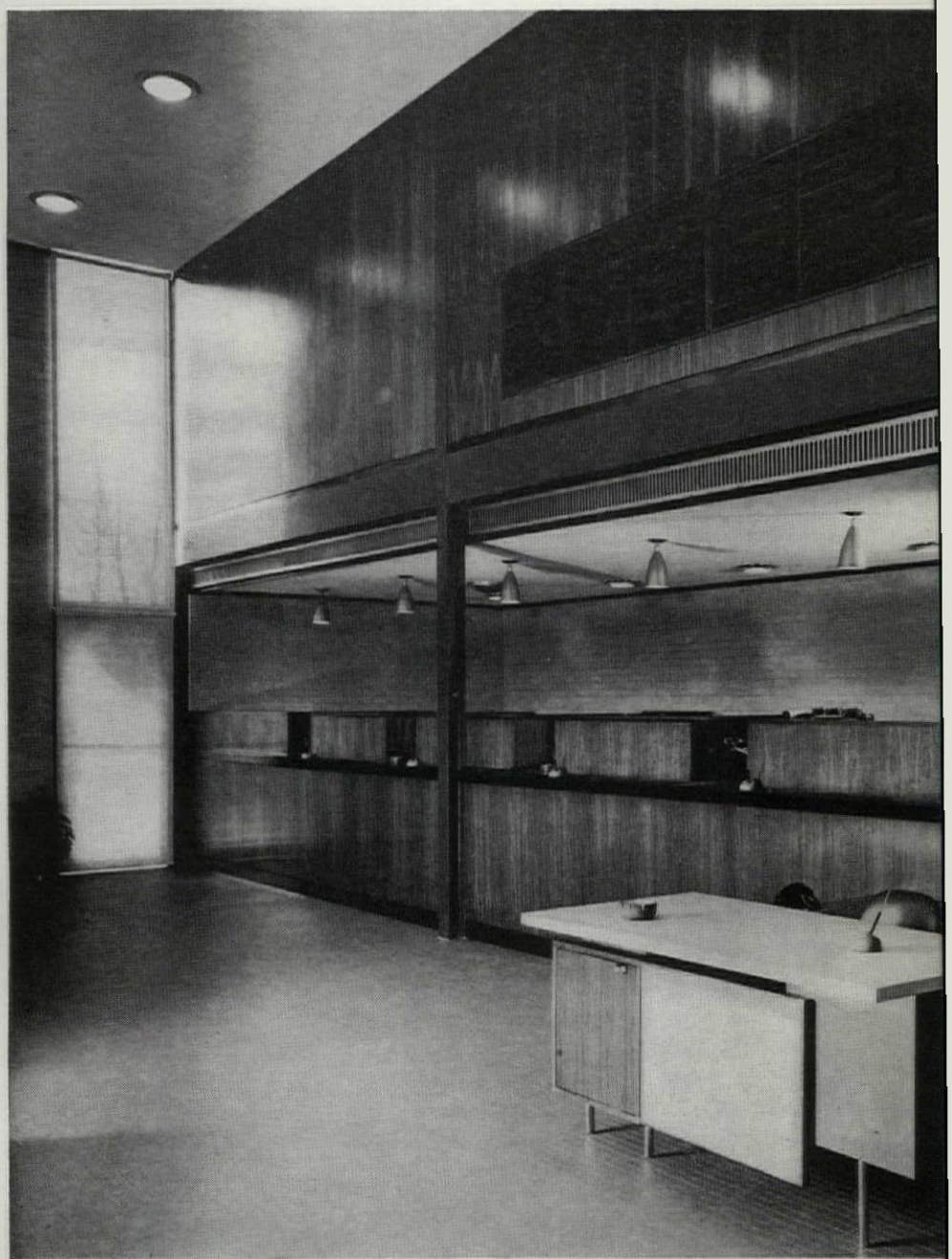
walls, ceiling, flooring

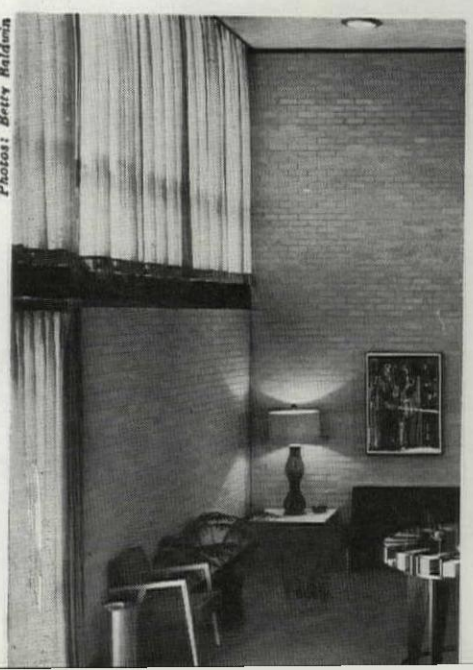
Walnut Panels: U. S. Plywood Corp., 55 W. 44 St., New York 36, N. Y.

Brick: Acme Brick Co., Perla, Ark.

Ceiling: acoustical plaster.

Lobby Floor: tile/2" gray square/ Mosaic Tile Co., Pershing Rd., Zanesville, Ohio.





Photos: Betty Baldwin

client	Union Bank & Trust Company Capitol Heights Branch
location	Montgomery, Alabama
architects	Sherlock, Smith & Adams
partner-in-charge	Charles M. Kelley
furnishings/equipment co-ordination	Mercantile Paper Co.

banks

client | National Boulevard Bank
location | Chicago, Illinois
architect | Harper Richards

data

Design Theory: The problem was the remodeling of the main banking floor, formerly rococo. The new design is basically a simplification of the existing structure, with emphasis placed on durable and beautiful materials selected to express the feeling of a forward-thinking organization. A complete study of the bank's working methods preceded the redesigning, resulting in certain area changes. In accordance with the bank's policy, there are now no closed areas or private offices. The L-shaped interior lends itself to natural area divisions. Concentration of wattage in working area and lower intensity over general public sections was accomplished by combined use of incandescent and R40 spots. (Interior was winner of National Hardwoods Association award, 1955.)

Color Plan: Basic color is walnut, with warm beige marble and warm earth colors. Accents brass, terra cotta.

cabinetwork

Tellers' Counters: custom-designed/ walnut, beige Carrara glass, beige Formica, brushed brass.

doors and windows

Entrance Door: Pittsburgh Plate Glass Co., 632 Duquesne Way, Pittsburgh 22, Pa.

Blind: vertical blind/ beige/ controls southwest sunlight/ emphasizes ceiling height/ Thru-Vu Vertical Blind Co., 986 Second Ave., New York, N. Y.

walls and flooring

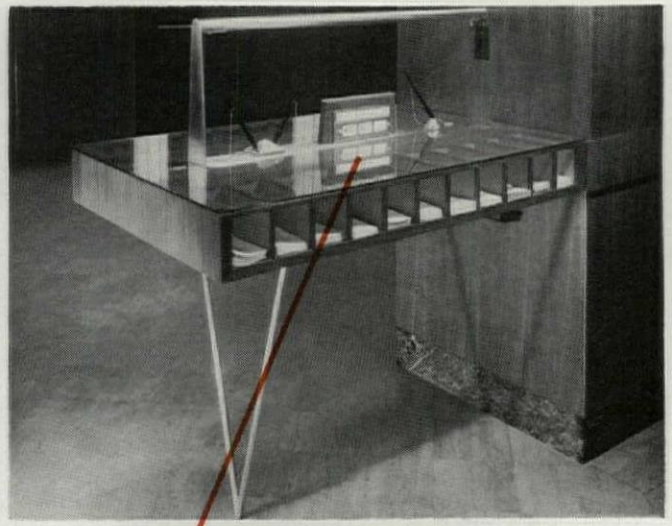
Walnut Paneling: United States Plywood Corp., 55 W. 44 St., New York, N. Y.

Wall Paint: Martin-Senour, 2520 S. Quarry, Chicago 8, Ill.

Public Area Flooring: marble.

Office Area Flooring: carpet/ Marshall Field & Co., Contract Div., 111 Cap. N. State, Chicago 90, Ill.

Work Counter Flooring: asphalt tile/ Armstrong Cork Co., Lancaster, Pa.



custom-designed check-writing desk

Photos: Carl Ullrich, Inc.

client | The Pennsylvania Company for Banking & Trusts, Germantown Branch

location | Philadelphia, Pennsylvania

architect | Robert Montgomery Brown

data

Design Theory: The problem was to create an open, spacious branch bank interior out of space formerly cut up into a store, restaurant, and kitchen. Interior was gutted to bare steel and masonry walls, and all new mechanical requisites were installed. Since there was no natural lighting except at entrance, lighting layout was a prime consideration.

Color Plan: Yellow terrazzo floor in public space. Brown rubber tile behind rails and counters. Ceilings, white acoustical tile. Walls, warm gray-buff. Woodwork, natural walnut. Metal, all stainless steel.

cabinetwork

Counters: John A. Yohn Co., 10 S. 18 St., Philadelphia, Pa.

lighting

Stock Fluorescents: Solarlite Mfg. Co., 1357 S. Jefferson St., Chicago, Ill.

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

Cove Lighting: custom-designed/ executed by KLemm Reflector Co., Philadelphia, Pa.

walls, ceiling, flooring

Walls: painted/ Pittsburgh Plate Glass Co., 632 Duquesne Way, Pittsburgh 22, Pa.

Ceiling: acoustical tile/ Johns-Manville, 22 E. 40 St., New York, N. Y.

Flooring: terrazzo/ Atlas Tile Co., Philadelphia, Pa.; rubber tile/ Hood Rubber Co.—Div. B. F. Goodrich Co., Watertown 72, Mass.

lighting plan a major consideration

acoustical tile ceiling

Photos: F. S. Lincoln

terrazzo floor

banks

client | Western Savings & Loan Association
location | Chicago, Illinois
architect | Roy B. Blass

data

Design Theory: Since this small institution is located in a neighborhood business section, directly adjoining a residential area, a homelike atmosphere was desired. Three small stores formerly occupied the quarters. Use of carpeting, soft colors and lighting scheme, residential character of design and materials, provided the desired atmosphere. Open type of tellers' cage permits personal contact with depositors. Currency exchange section in bullet-proof enclosure.

Color Plan: Carpeting in three shades of dusty rose. Ceiling, off-white acoustical tile. Walls, deep charcoal gray. Upper wall area, pastel dusty rose. Marble countertops, light tan. Cabinetwork, pickled oak. Counter front, railing panels, upholstery, folding partition are turquoise. Stone wall of tans, grays, and rose.

cabinetwork

Tellers' Cages, Counter Work, Check Desks, Railings: LaSalle Cabinet Co., 112 W. Superior, Chicago, Ill.

Currency Exchange Section: Chicago Bullet-Proof Co., 3312 S. Western, Chicago, Ill.

partitions

Folding Partition: Robert Arnold Co., 3420 W. Irving Pk., Chicago, Ill.

equipment

Fire-Proof Ledger Tube: Remington-Rand, Inc., 315 Fourth Ave., New York, N. Y.

furniture and fabrics

All Furniture: architect-designed/ executed by Weber, Hilmer & Johnson, 217 W. Monroe, Chicago, Ill.

Upholstery Materials: Gilford Leather Co., 515 Madison Ave., New York, N. Y.

lighting

Chandeliers, Wall Brackets: Gotham Lighting Corp., 37-01 31 St., Long Island City, N. Y.

Downlites: Curtis Lighting, Inc., 6135 W. 65 St., Chicago 38, Ill.

walls, ceiling, flooring

Private Office Walls: Gilford Leather Co.

Stone: Crab Orchard.

Permacoustic Ceiling Tile: Johns-Manville, 22 E. 40 St., New York, N. Y.

Carpet: "Bondsett"/ James Lees & Co., Bridgeport, Pa.

accessories

Calendar and Pen Sets: Marsh Bank Equipment Co., 4832 N. Lincoln, Chicago, Ill.

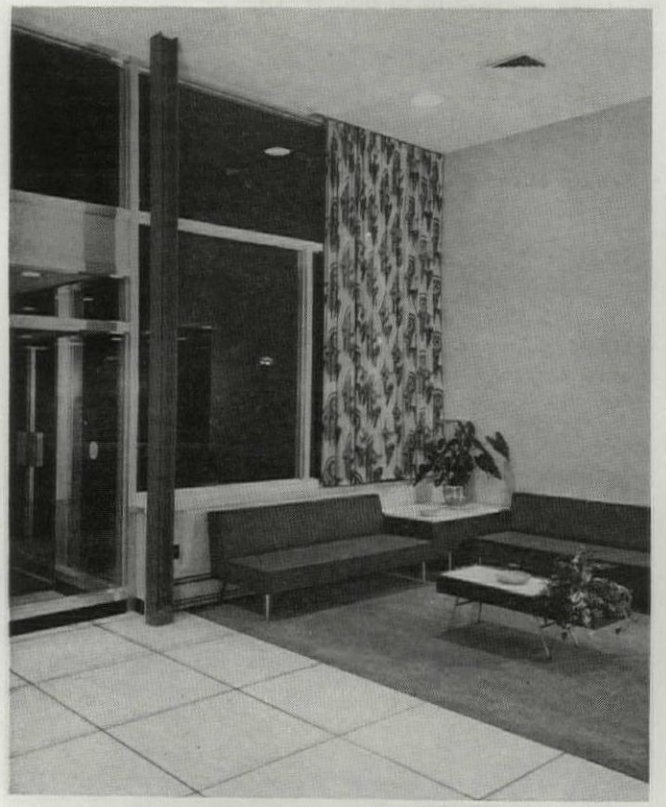
Photos: Hedrich-Blessing

client — Harmonia Savings Bank
Morris Avenue Office

location — Elizabeth, New Jersey

architect — George W. Clark

associates — Walter C. Pfeiffer and Hoggson Bros., Inc.



data

Design Theory: This bank, located on the fringe of a residential area, is a branch of a downtown bank. The entire front wall of glass invites customers to enter. Inside, a friendly, open effect is achieved by low counter screen before tellers, instead of cages. An informal waiting area is separated from main banking area by change of floor from terrazzo to carpet. The vault, separated by only a glass partition, is accented by contrasting color. Office areas provide pleasant, restful atmosphere through efficient layouts, careful lighting, attractive furnishings.

Color Plan: Predominating color is medium warm-yellow, with contrasting areas of gray-green, dark blue, and dark red on front of vault and on exposed steel columns. Counterscreen is cherry with dark-green ledge. Terrazzo floor blends tan and brown; carpet, dusky brown.

cabinetwork

Counterscreen: John Langenbacher Co., Inc., 550 Barry St., New York 59, N. Y.

Locker Units: Steel Equipment Corp., Aurora, Ill.

doors, partitions, windows

Wood: John Langenbacher Co., Inc.; U. S. Plywood Corp., 55 W. 44 St., New York 36, N. Y.; Roddis Plywood Corp., Marshfield, Wis.

Kalamein: Empire Door Co., 431 Southern Blvd., New York 55, N. Y.

Glass: Schacht Associates, Inc., 1175 E. 156 St., New York 59, N. Y.; Kawneer Co., 1105 N. Front St., Niles, Mich.

Partitions: wood and glass/ John Langenbacher Co., Inc.

Windows: Kawneer Co.

equipment

Vault Equipment: The Mosler Safe Co., 320 Fifth Ave., New York 1, N. Y.

Robe Lockers: Steel Equipment Corp.

Clocks: International Business Machines Corp., 510 N. Broad St., Elizabeth, N. J.; Howard Miller Clock Co., Zeeland, Mich.

lighting

Fixtures: Lightolier, Inc., 11 E. 36 St., New York, N. Y.; Artcraft Lighting Co., Inc., Brooklyn, N. Y.

furniture and fabrics

Furniture: Herman Miller Furniture Co., Zeeland, Mich.; Knoll Associates, 575 Madison Ave., New York 22, N. Y.; Creative Playthings, Inc., 5 University Pl., New York 3, N. Y.; Desks, Inc., 71 Fifth Ave., New York 3, N. Y.

Drapery: Ben Rose, 235 E. 58 St., New York, N. Y.

Upholstery: Herman Miller Furniture Co.

walls, ceiling, flooring

Plaster: E. B. Carley & Co., 73-14 37 Rd., Jackson Heights, N. Y.

Paint: Colonial Art Decorators, Inc., 15 E. 40 St., New York, N. Y.

Ceiling: acoustical tile/ Armstrong Cork Co., Lancaster, Pa.

Flooring: terrazzo/ Del Turco Bros., Inc., 25 Verona Ave., Newark N. J.

Carpet: Thomas L. Leedom Co., 295 Fifth Ave., New York, N. Y.

Rubber Tile: The B. F. Goodrich Co., 36 Nichols Ave., Watertown 72, Mass.

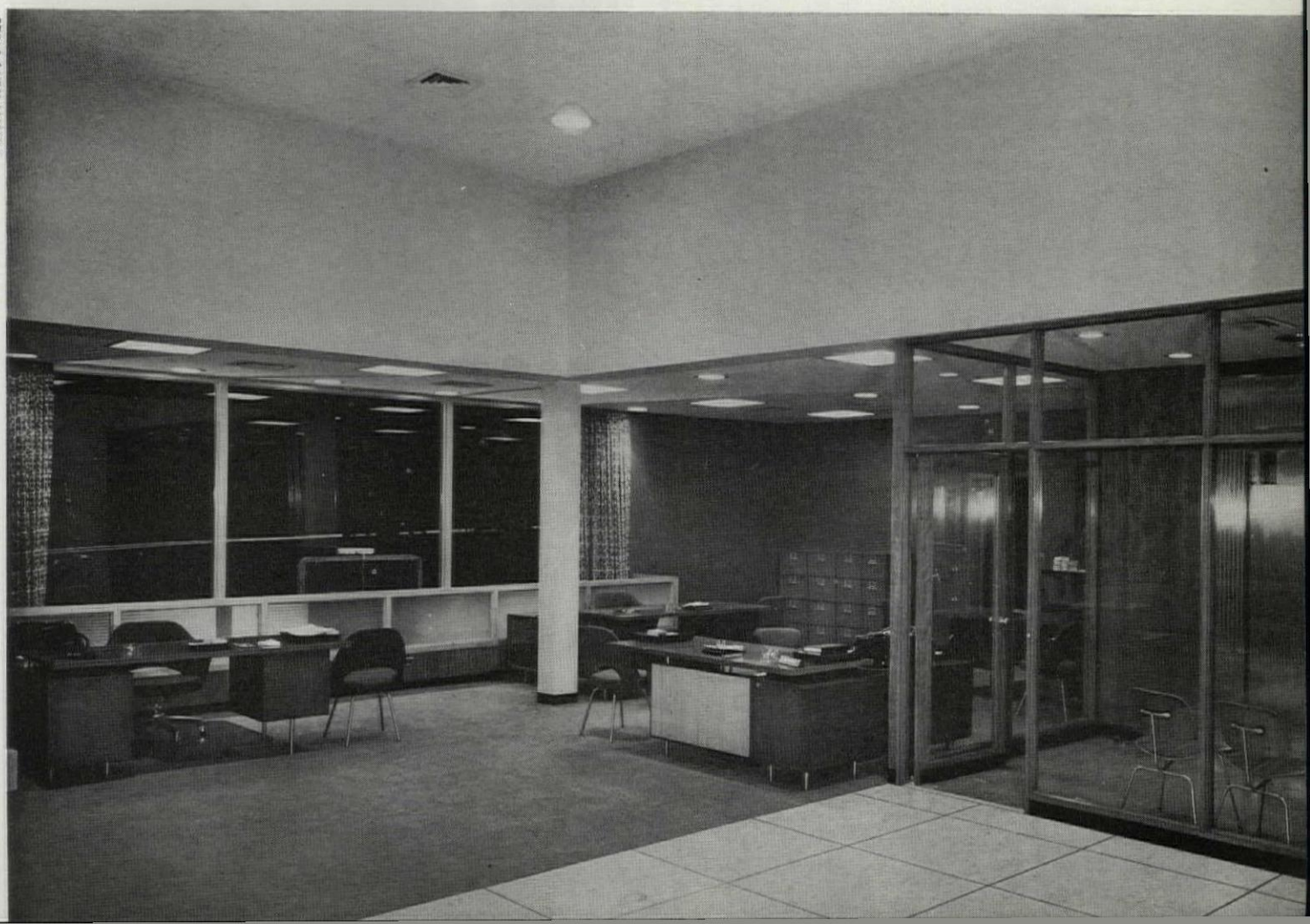
Asphalt Tile: Kentile, Inc., 58 Second Ave., Brooklyn 15, N. Y.

Linoleum: Armstrong Cork Co., Lancaster, Pa.

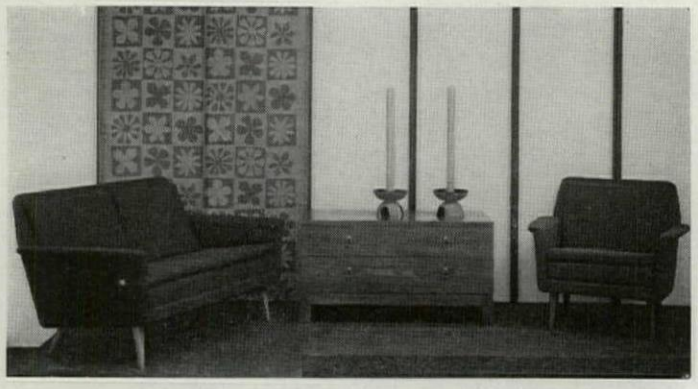
accessories

Desks, Inc., 71 Fifth Ave., New York, N. Y.; Winters Stamp Co., 71 W. Jersey St., Elizabeth, N. J.

Photos: Harry Trede



"California Designed" exhibit at M. H. de Young Memorial Museum, San Francisco, showed more than 250 jury-selected examples of furnishings new on the market this year. Products were displayed in settings designed by Campbell & Wong. Deep-blue-stained floors, dark green wall panels, set off vivid contrasting colors in the new furnishings. Oriental, Mexican, Scandinavian influences contributed to the "soft, warm" look, a growing design trend.

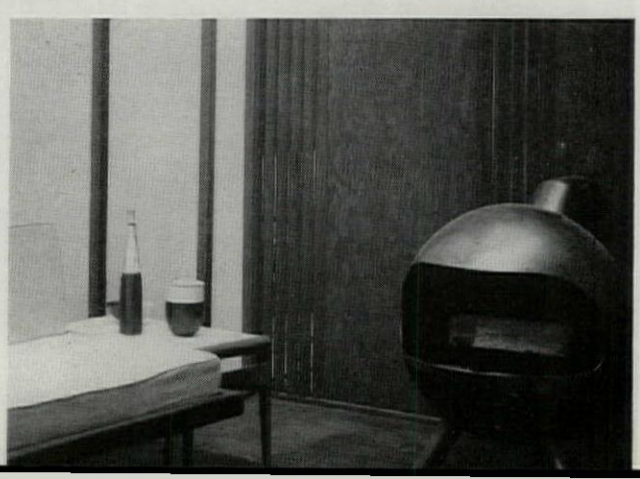


Setting Above: Upholstered Furniture: designed by Folke Ohlsson; **Dux, Inc., 390 Ninth St., San Francisco/** Two-Drawer Chest: designed by Pacifica Designs; **A. Brandt & Co., P. O. Box 391, Fort Worth 1, Tex./** Terra-Cotta Candle-Holders: **Mary Erckenbrack, 1310½ Montgomery, San Francisco/** Cotton-Orlon Casement Cloth: **John Dunn, 5445 Sylvia, Tarzana, Calif.**

Setting Below: Chairs: designed by Dewey Hodgdon; **Amthor & Co., 1138 Sutter, San Francisco/** Rug: **Trude Guermonprez, 810 Clipper, San Francisco/** Table: designed by Albert E. Clarke; **Lorac Co., 25470 Purissima, Los Altos, Calif./** Sheer Drapery: designed by Michael Belangie; **Menlo Textiles, Menlo Park, Calif./** Wall Hanging: **Ida Dean Grae, 1644 Diamond, San Francisco/** Ceramics: **Jerome and Evelyn Ackerman, 2207 Federal, Los Angeles.**

Setting Above: Table: designed by Jay Heumann; **Metropolitan Furniture Co., S. San Francisco/** Chairs: designed by Van Keppel-Greene; **Holly, Holland, Mich./** Rug: **Leo J. Mahsoud, 37 Clementina, San Francisco/** Drapery: **Bernard Kester, 1407 N. Willow, Compton, Calif./** Dinnerware: **Heath Ceramics, 791 Bridgeway, Sausalito, Calif./** Salad Set: **Bob Stocksdale, 2145 Oregon, Berkeley, Calif.**

Setting Below: Fireplace: **George Kosmak, 45 Castle, San Francisco/** Daybed: **Carlos Fonseca, 2257 Market, San Francisco/** Rug: designed by Everett Brown and Mark Adams; **Karastan Rug Mills, 295 Fifth Ave., New York 16, N. Y./** Stoneware: **Jerome and Evelyn Ackerman, Los Angeles.**



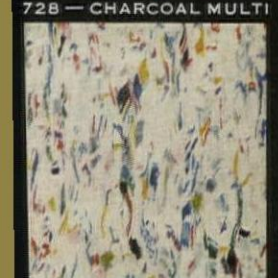
T729 — GREY MULTI

T724 — SKY BLUE

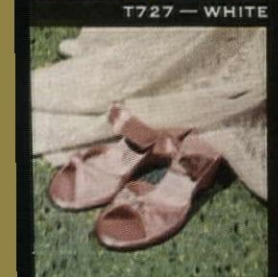
T718 — YELLOW

T720 — PINK

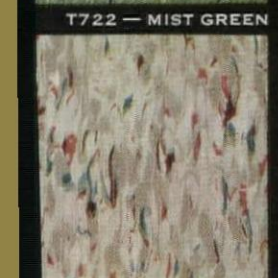
728 — CHARCOAL MULTI



T727 — WHITE



T722 — MIST GREEN



T730 — BEIGE MULTI

Here's Inlaid Linoleum at its beautiful best—

GOLD SEAL "SEQUIN"

Gold Seal Sequin® is fast becoming America's favorite Inlaid Linoleum . . . thanks to its distinctive beauty and to mass promotions in Life, Better Homes & Gardens, and Sunset.

The trend to basic, smooth-surface, virtually seamless flooring throughout the house is unmistakable. Here are just a few reasons why you are so safe in specifying Gold Seal "Sequin" Inlaid Linoleum.

Ease of maintenance . . . resists dirt, grime and dulling film. Cuts cleaning time and costs to a minimum.

Resilient . . . deadens floor noise. Resists permanent indentation from furniture.

Quiet and comfortable . . . eliminates noisy clatter common with hard floors.

Beautiful . . . suggest hundreds of smart, special designs . . . wide range of colors to harmonize with any decorative scheme.

Stays beautiful . . . colors are inlaid for long-lasting beauty.

Economical . . . initial costs can be amortized over a long period of time. Lasts longer than lower-cost floors.

Guaranteed . . . Gold Seal Inlaid Linoleum gives you the famous Gold Seal guarantee . . . satisfaction or your money back.

Specifications: 16 patterns. Standard gauge. 6 ft. wide by-the-yard. Install over suspended concrete or wood subfloors. Exclusive SuperFlex* backing allows direct application . . . needs no extra lining felt. For details write: Architects Service Department.

*Trade-Mark

FOR HOME OR BUSINESS YOU GET THE FINEST CHOICE OF ALL IN . . .

Inlaid Linoleum • Ranchtile® Linoleum • Resilient Tiles • Congoleum® & Congowall® Enamel-Surface Coverings • Vinylflor • Vinyltop

GOLD SEAL
FLOORS AND WALLS
CONGOLEUM-NAIRN INC., KEARNY, N. J.

GREAT NEWS!

now you can specify

folding doors for <u>every</u> need

from <u>one</u> complete line

of recognized quality

HOLCOMB & HOKE
FOLDOOR
THE SMARTEST THING IN DOORS ®

Only fabric-covered door with "Multi-V" construction for lifetime ease of operation—without "air bellows." Types and sizes to solve every space problem—large or small. Motor-driven or manual, providing maximum space-saving flexibility in any design. Widest choice of colors and vinyl-fabric textures. Track always concealed—with or without cornice. See Sweet's File or your FOLDOOR distributor for details.

NEW
FOLDOOR *Beautyline*

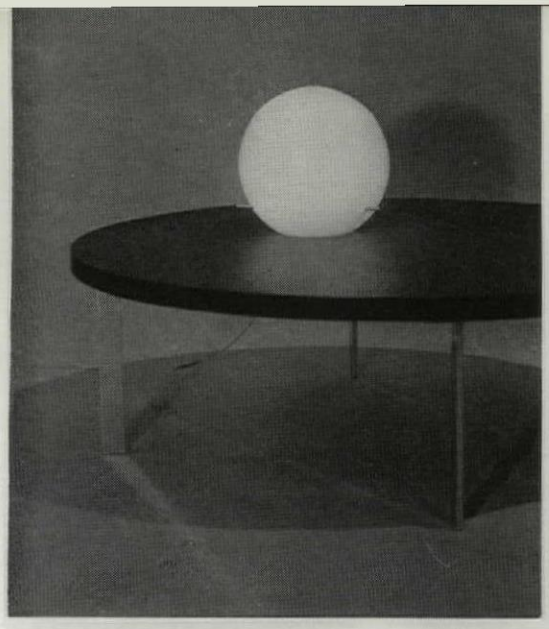
First in the moderate-cost field with:Truss-embossed hinges top and bottom; rigid "Multi-V" construction assures pantograph action throughout. Cornice, nylon trolley wheels, metal hardware, textured vinyl fabric. Specify for homes, institutions, hotels, apartments, schools, industrial or commercial projects. Eleven sizes: five widths, 2′-0″ to 4′-0″; three heights, 6′6″, 6′8½″ and 8′0″. See distributor or write.

HOLCOMB & HOKE
Fol-Bak
FOLDING DOOR

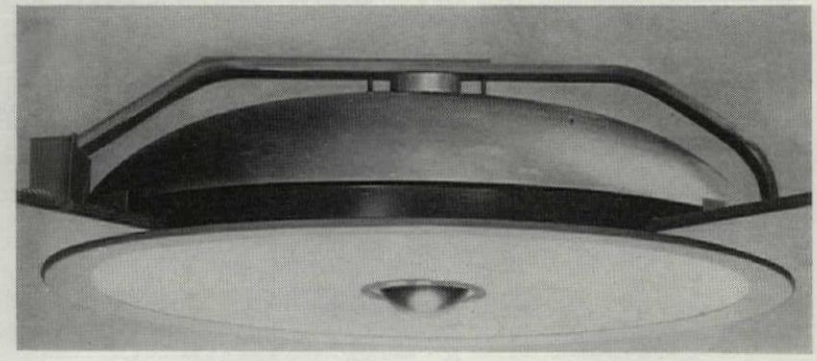
Quality leader in the economy field. Approved and favored by leading home builders. Three widths, 2′8″, 3′0″, 4′0″, and two heights, 6′6″, 6′8½″. Vinyl fabric in three decorator colors. See your FOLDOOR-FOL-BAK distributor.

Holcomb & Hoke Manufacturing Company
1545 Van Buren Street, Indianapolis, Indiana • In CANADA: FOLDOOR of Canada, Montreal 26, Quebec

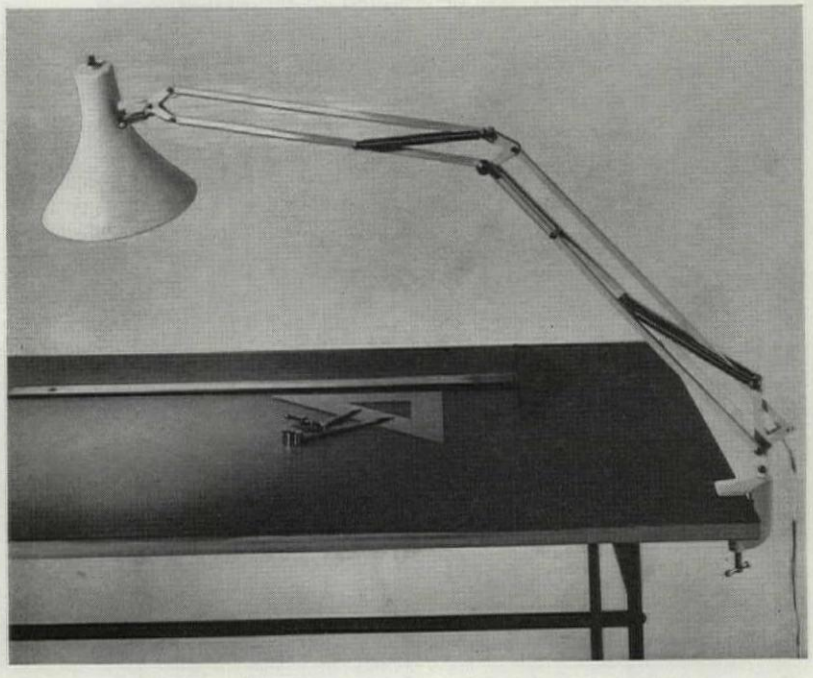
INSTALLING DISTRIBUTORS IN ALL PRINCIPAL CITIES



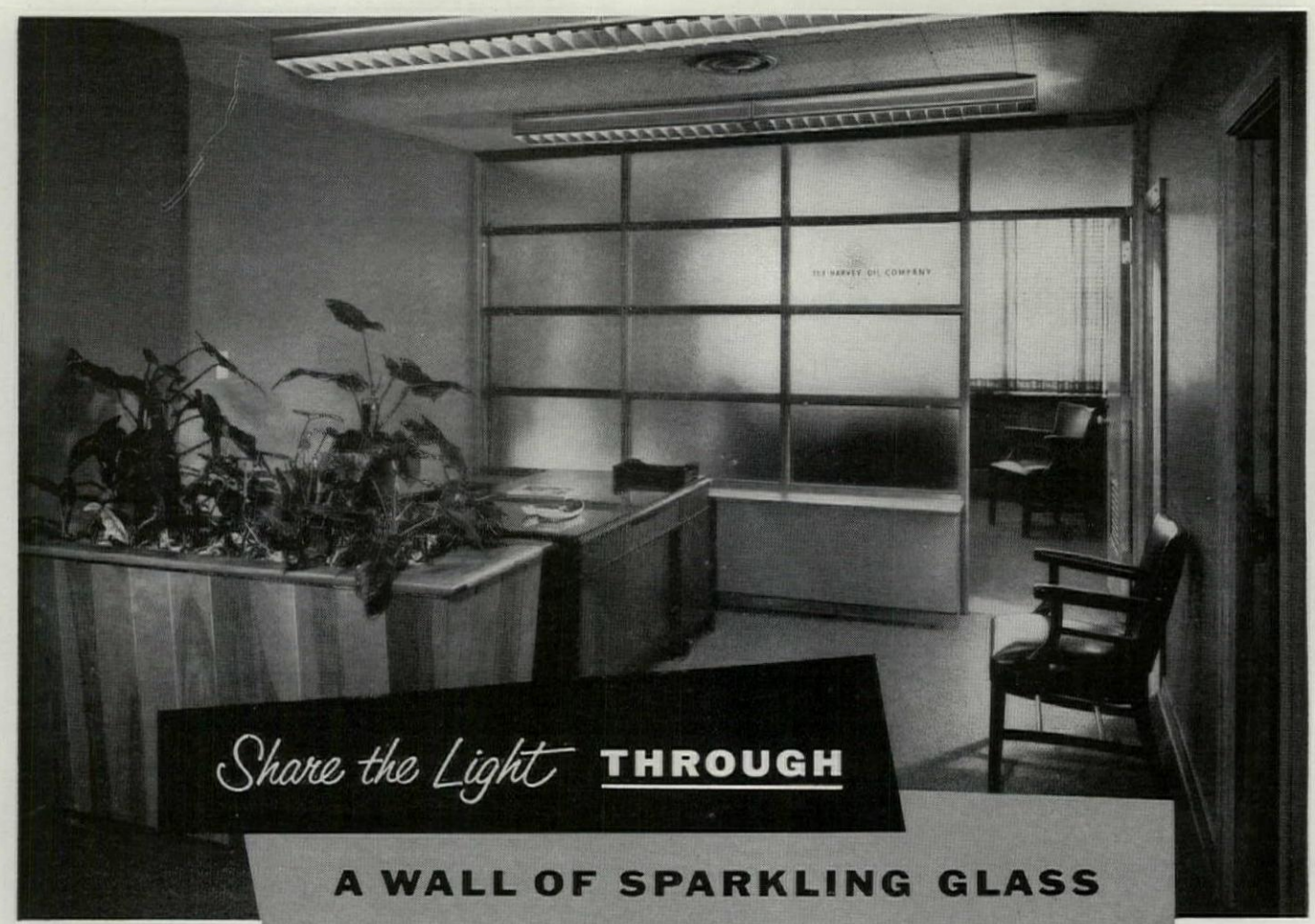
Global Lamps: (above) #1010G Table Lamp/ opal glass, chrome or brass prongs/ 10" diameter/ **retail:** $24; Table #T-4141/ solid walnut top, oil finish, brass legs/ 41" diameter, 13" high/ **retail:** $200; (right) #10TT Table Lamp/ opal glass, chrome base/ 10" diameter, 21½" high/ **retail:** $35/ designed by Paul Mayen/ **Habitat Associates, 235 E. 58 St., New York 22, N. Y.**



Recessed Dome: circular light source to relieve ceiling and wall rectangular lines/ light-weight plastic diffusing panel with 87 degree light transmission, very low brightness/ detachable yoke construction reduces installation time/ separate plaster ring, built-in splice box for simplified wiring/ #63353, 24½" diameter/ #63354, 31½" diameter/ designed around the lighting characteristics of the silver-bowl lamp for glare-free illumination/ **Kurt Versen Lamps, Inc., 4 Slocum Ave., Englewood, N. J.**



Desk Lamp: "Ledu" lamp/ imported from Sweden, special reflector design/ engineered for movement in any direction/ bracket "A" clamps to any surface/ 8½" diameter reflector/ bracket "B" for wall fastening/ in oyster white, black, terra cotta/ **retail:** 40", $24/ 32", $23.50/ **Nessen Studio, Inc., 5 University Pl., New York 3, N. Y.**



Partition of *Muralex* Pattern is located in the offices of Tex-Harvey Oil Company, Denver, Colorado.

Horizontal panels of *Patterned Glass* add a distinctive treatment to this office, make an interesting wall for the reception room, and provide privacy for the adjoining executive office. There is a feeling of openness that only glass can lend to a comparatively small area.

Similar panels may be adapted for use in homes, stores and institutions to lighten a stairway . . . flank a door for an inviting entrance . . . or create other unusual effects. Give your imagination full play and then choose from the variety of patterns by Blue Ridge. You'll be pleased at the number of situations where *Patterned Glass* can be used dramatically and for practical purposes, too.

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Ideas for design

Our 16-page book illustrates many ways leading architects and designers have used this versatile glass for striking effects in homes. Mail the coupon.

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Please send me my copy of the Blue Ridge book of ideas on decorating with patterned glass.

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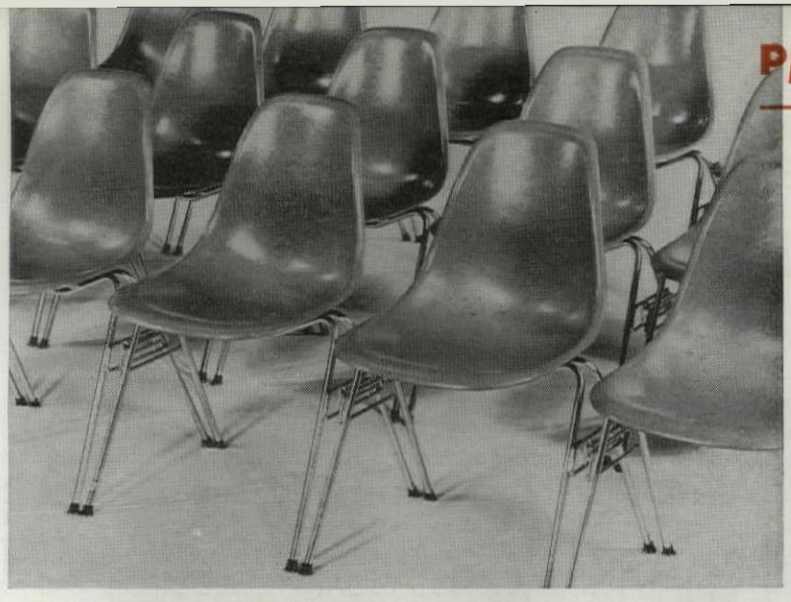

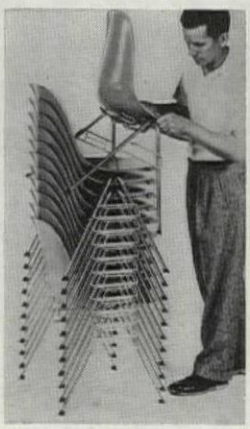

Stacking Base Chair: new tubular steel base for Eames molded plastic chairs permits ceiling-high stacking without top-heaviness/ patented side hook permits chairs to be joined in long rows for audience use/ seating shell is weather-resistant/ metal-tipped self-leveling domes on legs compensate for ground or floor unevenness/ **Herman Miller Furniture Co., Zeeland, Mich.**

Fiberglas School Furniture: (above) desk top, seat back of molded Fiberglas-reinforced plastic/ tubular steel base/ colors include green, gray, buff, pink, brown, black/ material provides resiliency, low light reflection, easy cleanability/ designed by William James Bargen/ **General School Equipment Co., St. Paul, Ill.**

Hospital Furniture: of wood, for warmer, more homelike look/ tops surfaced in Formica for protection in use/ woods finished to match in natural maple, walnut, gray, black/ legs of laminated wood or plastic-coated steel/ line includes bed, over-bed table, bedside cabinet, beside chair, dresser, table desk, easy chair/ **Thonet Industries, Inc., 1 Park Ave., New York 16, N. Y.**

Arms for Folding Chairs: (left) Model #60 with folding armrests that fold automatically when seat is folded/ deep-upholstered, spring-arch seat construction; (right) Model #53, with folding tablet arm of plywood, finished in natural birch/ tablet arm folds independently of chair permitting comfortable ingress and egress/ all-steel folding arms now optional on all of this company's folding chairs/ **American Seating Co., 901 Broadway N. W., Grand Rapids 4, Mich.**

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BY MACOMBER FOR EACH LOAD AND SPAN TO 96'

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gives you not only the six standard types of parallel and sloping chord Longspans in underslung and square end designs but ADAPTABILITY to all framing conditions.

You may want top chords extended for an eave overhang or bottom chord extended for ceiling attachment, square ends punched or fitted with bearing plates. Look to Macomber for a more economical solution . . . Longspans completely flexible to the designer's needs.

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NAILABLE STEEL JOISTS • LONGSPANS • BOWSTRING ROOF TRUSSES • METAL DECK • V-LOK STEEL FRAMING • STRUCTURALS

New Laminate Colors: two new colors added to "Textolite" wall and counter surfacing/ True White, #TX-1400, a white White resulting from advances in laminating technique/ Flame, #TX-1422, a red developed as a result of consumer research indicating demand/ surfacing material resists heat, stains, scratches, detergents, alkalis, cigarette burns/ available in more than 70 patterns and colors/ **Laminated and Insulating Products Department, General Electric Company, Coschocton, Ohio.**

Lighting Fixture with Concealed Reel: pull-down fixture lowers to 53" from ceiling, reels up 33" to serve as ceiling light/ 18" circular hood, finished in brass, copper, pink, white, black, is decorated with perforations that also dissipate heat/ three 60-watt lamps are shielded by a frosted glass diffuser/ reel is concealed in canopy instead of in a globe midway on cord/ coiled black cord obscures thin cable/ **John C. Virden Co., 6103 Longfellow Ave., Cleveland, Ohio.**

Color-Planning Guide: kit contains complete room color plans by Elizabeth Burris-Meyer, as well as samples of new line of colors and finishes/ enamels and stains in Chive Blossom, Rosemary, Tansy, Anise, Cinnamon, Mint, Spice Pink, Peppermint, Citron, Curry, Basil/ natural finishes in honey, driftwood, ginger, nutmeg, blond birch, knotty pine, limed oak/ **Wood-Metal Industries, Inc., Lancaster, Pa.**

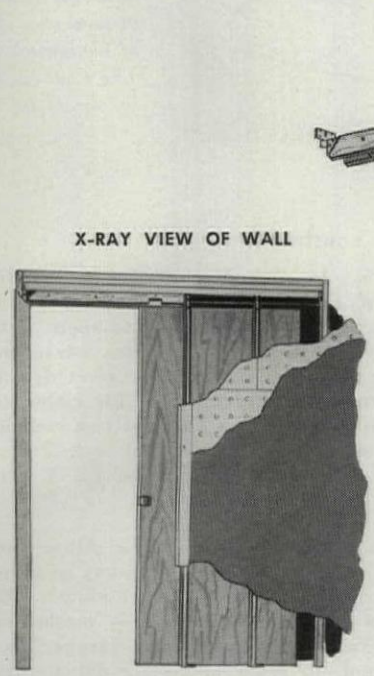
Exterior Masonry Paint: "Durasite Acrylic," flexible plastic emulsion paint/ new formulation for color retention, flow, and leveling qualities, providing uniform non-glossy finish/ flexibility aids resistance to cracking and aging on concrete, stucco, asbestos, brick, aggregate block surfaces/ fast-drying/ all-weather/ in ready-mixed colors and pastel tint base for use with 40 tube colors/ **Wesco Water-Paint Co., division of National Gypsum Co., 742 Grayson St., Berkeley 10, Calif.**

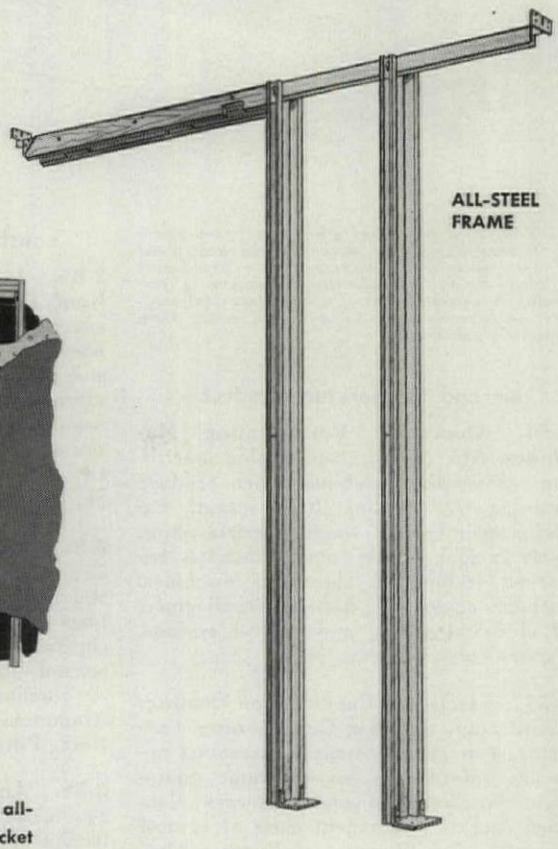
Concrete Finishes: "Kwik-Color Seal" and "Kwik-Color Wax"/ formulated from an emulsified plastic resin/ odorless, noninflammable Seal/ dries hard to touch in 20 minutes/ develops water resistance in 14-20 days after application/ during "curing" interval, Wax is applied for protection/ Wax contains colored emulsified plastic resin, gives high gloss finish, is waterproof/ both available in tile red, light gray/ Seal covers approximately 800 sq ft per gal/ Wax covers approximately 1000 sq ft per gal/ **Multi-Clean Products, Inc. 2277 Ford Pky., St. Paul, Minn.**

Built-In Wall Safe: "Secure-All"/ fits in standard 4" wall, old or new construction/ heavy gage steel with thick high-temperature thermal insulation on all sides/ flush pin tumbler locking mechanism/ easily concealed/ projects less than ½" from wall/ designed to mount between standard studs centered 16" apart/ 16 7/16" wide, 17⅜" high, 4⅜" deep/ shipping wt. 40 lb/ full door length covered hinge, and double interlocking edges/ **Kwikset Locks, Inc., Anaheim, Calif.**

Combination Home Bar: "Scotsman Super-Bar"/ manufactures ice cubes, provides dry, cold storage for beverages, dehumidifies room air, stores liquor in locked compartment/ cube freezer makes 108 ice cubes every two hours/ stainless steel storage compartment cools four cases of bottled drinks/ locked liquor storage drawer holds 1½ cases of fifth-size bottles, also bar accessories/ in two models, with or without dehumidifier/ with or without casters/ requires 6 ft of floor space/ coppertone finish, stainless steel and chrome trim/ **American Gas Machine Co., Div. Queen Stove Works, Inc., Albert Lea, Minn.**

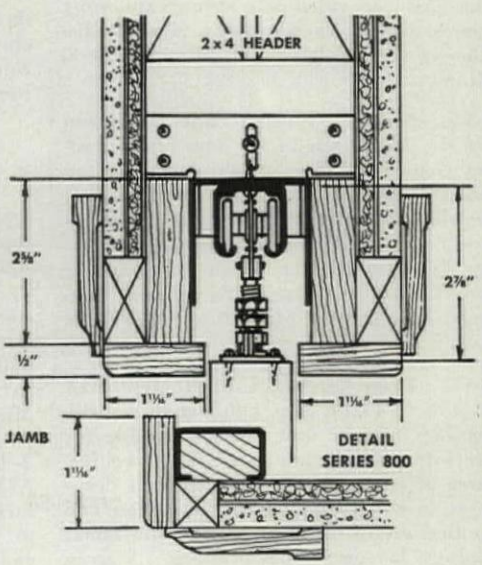
Plastic Laminate File: four-color information file on "Lamin-Art"/ "Catalina" pattern in 8 colors/ "Coronado" pattern in 4 colors/ file contains samples; information on sizes, colors, specifications, availability in standard and full form coving stock/ **Fabricon Products, Whittier, Calif.**





Kennaframe is the warp-proof, all-steel frame for sliding door pocket installations/ now you can specify with confidence a frame that will hold up under continuous use/ adjustable three ways, fits all 2 x 4 walls, wet or dry finish/ it takes any type of trim/ accommodates any standard 1⅜—1¾ in. door/ each prefabricated Kennaframe comes with track and adjustable hangers installed/ all the required nuts, bolts and installation details are included.

The Kennatrack "Architectural Portfolio" gives you full information for detailing this complete line of sliding door hardware/ its scaled detail drawings save you valuable time/ send today for your free "Portfolio"/ Kennatrack Corporation, Elkhart, Ind.



p/a manufacturers' literature

Creative ideas for the use of tile in the kitchen and bathroom are presented in "Inventive Design," a color, sound-slide film prepared by the Tile Council of America. In this film, six actual installations, especially designed by six well-known architects, also suggest the wide variety of colors and textures possible with tile. Three kitchens—planned by Richard Neutra, George Nemeny, and George Nelson—emphasize informal, but organized, family living by integrating living, dining, and play areas with the kitchen work space. Nemeny's design features a combination fireplace-dining table (left) *on which food can be kept warm throughout the meal. Three bathrooms—by Edward Stone, Marcel Breuer, and Pietro Belluschi—stress relaxed, comfortable living, including sunken plunges, adjoining patios, a skylight, and built-in lavatories and storage. The 21-minute film will be shown free of charge to AIA chapters and building-industry groups by the Tile Council of America, 10 E. 40 St., New York 16, N. Y., or by one of its member companies.* L. C.

★ *Editors' Note: Items starred are particularly notworthy, 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

1-54. Absorption Refrigerating Machines, AIA 30-F-22, 36-p. catalog describing refrigerating machines which produce large-capacity cooling from steam. Explains operation of complex refrigeration cycle in four simple steps; illustrates important features of absorption machines. Includes engineering-data tables; diagrams of electrical wiring and control systems. Carrier Corp., Syracuse, N. Y.

1-55. Electronic Controls for Heating, Ventilating, and Air Conditioning (SA-2418), 46-p. reference guide presenting up-to-date information on electronic equipment for architects and engineers. Contains data on component parts of control systems; gives diagrams of 17 typical layouts. Also provides data sheets explaining control panels; specifications. Minneapolis-Honeywell Regulator Co., Minneapolis 8, Minn.

1-56. Sarcofin Finned-Tube Radiation (1650), 32-p. bulletin on finned-tube heating elements. Tables give information on ratings, dimensions, and specifications; drawings show installation with top-louvered, sloping-top, or expanded-metal covers. Provides data for design with steam or forced hot-water systems. Sarcotherm Controls, Inc., Empire State Bldg., New York 1, N. Y.

1-57. Propeller-Fan Unit Heaters, AIA 30-D-11 (B-1720), 24-p. publication describing new line of unit heaters suitable for use with steam or hot water. Illustrates features of construction with exploded drawings; gives instructions for selection and application of heaters. Wiring diagrams; piping layouts; specifications. Warren Webster & Co., Camden 5, N. J.

construction

2-84. In the Market for a Quality Roof Deck (1102-A), 8-p. pamphlet answering questions most asked about wood-fiber roof deck. Explains uses, advantages, and properties of material; gives data on strength, moisture resistance, fire rating, and insulating qualities. Includes cost comparison with other types of roof deck. Tectum Div., The Alliance Mfg. Co., 105 S. Sixth St., Newark, Ohio.

2-85. Finishes for Alcoa Aluminum, 52-p. booklet illustrating variety of colors and textures available in aluminum. Outlines finishing methods — mechanical, chemical, electrochemical, lacquer, and enamel—in order to explain potentialities of aluminum as well as its limitations. Aluminum Co. of America, 1501 Alcoa Bldg., Pittsburgh 19, Pa.

2-86. American Cellular Subflooring, 4-p. folder containing information for selection of floor-panel sections. Gives tables of safe loads and section properties for three types of steel flooring; also includes erection details and welding specifications. Building Products Div., American Steel Band Co., P. O. Box 565, Pittsburgh 30, Pa.

★ **2-87. Architectural Woodwork: Cabinet Construction Data,** AIA 19-E (6), most recent booklet in series on architectural woodwork. Features outstanding group of details of custom-designed cabinets and casework chosen from P/A SELECTED DETAILS; shows classroom storage units, office furniture, residential storage walls, and kitchen cabinets. Also outlines advantages of custom woodwork. Architectural Woodwork Inst., 332 S. Michigan Ave., Chicago 4, Ill.

2-88. Extruded-Aluminum Louvers, AIA 14-B-4, 12-p. pamphlet containing information on aluminum louvers designed to shed water even under extreme wind conditions. Provides details and specifications for stationary or adjustable louvers; illustrates several types of motor-driven and chain-and-fusible-link operators for louvers. Also describes louvered sun shades as well as prefab, louvered penthouses for air intake or exhaust. Construction Specialties, Inc., 261 Jelliff Ave., Newark 8, N. J.

2-89. Erie Porcelain-Enamel Color Selector, AIA 17-A, 4-p. color chart for porcelain enamel. Contains actual color chips of 50 standard colors and stippled combinations to suggest 900 various finishes obtainable. Describes weather-resistant properties of porcelain enamel in addition to color-memory system which permits rematching of any shade. The Erie Enameling Co., 1498 W. 20 St., Erie, Pa.

2-90. Klemp Metal Grating, AIA 14-P, 16-p. data and specification manual covering steel grating, stair treads, and decking. Shows welded and riveted grating patterns; outlines methods of fabrication. Also contains data on standard or heavy-duty floor armors and stair treads. Drawings; tables of safe loads and dimensions. Klemp Metal Grating Corp., 6601 S. Melvina Ave., Chicago 38, Ill.

2-91. V-Lok Steel-Framing Design Details (55-V), 40-p. reference manual for architects and engineers containing typical details for interlocking, steel structural members. Photos and drawings illustrate several recent projects; framing plans show typical layouts for industrial buildings and schools. Macomber Inc., Canton, Ohio.

2-92. National Design Specifications for Stress-Grade Lumber and Its Fastenings, AIA 19-B-1, 72-p. guide to assist in design of more efficient, economical structures. Gives general specifications for stress-grade lumber in addition to detailed requirements on allowable unit stresses, design loads, recommended construction practices, and connections. Also contains information on glue-laminated structural members. Timber Engineering Co., 1319 18 St., N.W., Washington 6, D. C.

2-93. Unistrut Metal Framing, AIA 14-G (700), 78-p. catalog describing metal-framing system. Outlines procedure for design of beams and columns; illustrates standard channel sections and special connectors. Drawings show use of framing for pipe supports, lighting-fixture hangers, and shelving; tables give electrical and piping symbols as well as pipe sizes. Unistrut Products Co., 1013 Washington Blvd., Chicago 7, Ill.

★ **2-94. Design Manual for High-Strength Steels** (ADVL-215), 94-p. handbook of technical information available to architects and engineers (by enclosing business letterhead with P/A coupon). Presents essential principles of structural design; develops formulas, charts, and tables for use of high-strength, low-alloy steels. Discusses reactions of sections under tension, compression, and shear; includes chapter on designing against corrosion. United States Steel Corp., 525 William Penn Pl., Pittsburgh 30, Pa.

2-95. Welded-Wire Fabric Design Manual, AIA 4-E-2 (BC-50), 48-p. manual covering use of welded-wire fabric in reinforced-concrete construction. Explains design procedure for short-span construction; discusses use of wire fabric in poured-in-place, lightweight-steel, or tilt-up construction. Also contains data on fireproofing, temperature reinforcement, and cement-gun work. Design tables; photos; specifications. Wire Reinforcement Inst., Inc., National Press Bldg., Washington 4, D. C.

2-96. Manual and Details of Woodwork, AIA 19-E, 178-p. loose-leaf notebook prepared as guide to sound and practical methods of millwork production. Chapters containing technical information and production standards suggest species, grades, and finishes of wood for typical uses; comprehensive section on detailing covers recommended practice for frames, sash, doors, and casework. Also gives guide for preparing millwork specifications. Price of manual is $10.† Woodwork Inst. of California, 681 Market St., San Francisco, Calif.

doors and windows

3-53. Fenestra Architectural Products (AR-1), 40-p. catalog of steel windows for schools, hospitals, offices, and public buildings. Shows several types of projected, casement, and special-purpose windows; describes hardware for each window. Includes data on psychiatric and detention window guards. Detroit Steel Products Co., 2250 E. Grand Blvd., Detroit 11, Mich.

3-54. Houze Lo-Tran (12.5) Glass, 8-p. brochure describing neutral-colored window glass. Graphs show how glass reduces transmission of ultraviolet and infrared rays while allowing undistorted transmission of visible-color spectrum; diagrams illustrate results of brightness survey in schoolrooms using low-transmission and ordinary glass. Photos of recent schoolhouse installations. Houze Glass Corp., Point Marion, Pa.

3-55. W-2 Reversible Aluminum Windows, AIA 16-E, 4-p. file folder illustrating vertical-pivot windows designed for ease of cleaning. Gives details showing use in masonry or metal-wall construction; contains specifications. Also includes description of weatherstripping and pivot construction. A. F. Jorss Iron Works, Inc., 300 Tenth St., S., Arlington, Va.

3-56. Kawneer Sun-Control Products, AIA 35-P-2 8-p. brochure giving information on devices for sun-control. Drawings illustrate aluminum louvers for vertical or horizontal installation; photos show w-section canopys and awnings. Specifications, dimensions. The Kawneer Co., Niles, Mich.

3-57. Thermopane Manual, AIA 26-A (TP-25), 28-p. technical manual on insulating glass revised to include data on glazing of air-conditioned buildings. Compares effectiveness of single, double, and triple glazing in retarding winter-heat loss and summer-heat gain; outlines formula for calculating solar-heat gains. Shows proper method of glazing as well as suggested framing; lists standard sizes of glass and sash to fit; specifications. Libbey-Owens-Ford Glass Co., 608 Madison Ave., Toledo 3, Ohio.

3-58. Marcolite Skylight, AIA 12-J, 8-p. bulletin on aluminum-frame glass-fiber skylights. Outlines features of construction; provides design data and details. Also contains information on special shades for use in visual-aids classrooms. Specifications. The Marco Co., 45 Greenwood Ave., E. Orange, N. J.

3-59. Hardware for Hospitals, AIA 27, 20-p. booklet containing up-to-date recommendations on hardware for hospitals of all types. Outlines basic requirements for hardware; gives hardware schedules for general purpose areas in addition to labs, radiographic suite, nursing unit, psychiatric ward, operating suite, and nursery. National Builders' Hardware Assn., 515 Madison Ave., New York 22, N. Y.

3-60. Norton Door Closers, AIA 27-B, 20-p. catalog describing door-closing devices. Explains features of construction of surface-mounted, door-concealed, lintel-concealed, and screen-door closers; gives suggestions for selection of proper model. Drawings and details; dimensions; specifications. Norton Door Closer Co., Berrien Springs, Mich.

3-61. Steel Doors and Frames, AIA 16-A, 8-p. publication containing information on steel doors. Gives advantages of steel for interior and sliding closet doors; presents typical details of both swinging and sliding doors. Photos, specifications. The Steel Door Inst., 2130 Keith Bldg., Cleveland 15, Ohio.

electrical equipment, lighting

★ **4-39. Panel-Glo Systems** (43), 32-p. engineering report on modular luminous-ceiling system. Discusses special construction of vinyl panel which diffuses conditioned air; gives complete description of light-transmission factors, acoustical qualities, and vinyl-plastic properties. Presents recommendations for design of suspension system and air conditioning where luminous ceiling is used; contains comprehensive data on installation of lighting fixtures. Benjamin Electric Mfg. Co., Des Plaines, Ill.

4-40. Outdoor Lighting for Family Living (LS-171), 28-p. booklet of suggestions for exterior residential lighting. Photos and sketches illustrate ideas for many aspects of outdoor living—terraces, gardens, pools, entrances, and walkways. Includes description of types of lighting fixtures and wiring for exterior use. Large Lamp Dept., General Electric Co., Nela Park, Cleveland 12, Ohio.

4-41. Central-Control Systems (53-6518), 20-p. brochure explaining electronic remote-control systems for actuating on-off operations. Discusses design and functions of major components of system; contains data on use of automatic-control systems for remote control of air conditioning, lighting, and pumps. Drawings. International Business Machines Corp., 590 Madison Ave., New York 22, N. Y.

(Continued on page 161)

PROGRESSIVE ARCHITECTURE, 430 Park Avenue, New York 22, N. Y. I should like a copy of each piece of Manufacturers' Literature circled. We request students to send their inquiries directly to the manufacturers.

1-54	2-90	3-56	4-43	8-16
1-55	2-91	3-57	4-44	8-17
1-56	2-92	3-58	4-45	8-18
1-57	2-93	3-59	5-4	10-6
2-84	2-94	3-60	5-5	11-12
2-85	2-95	3-61	6-18	11-13
2-86	2-96	4-39	7-19	11-14
2-87	3-53	4-40	7-20	11-15
2-88	3-54	4-41	8-14	11-16
2-89	3-55	4-42	8-15	

please print

Name _____

Position _____

Firm _____

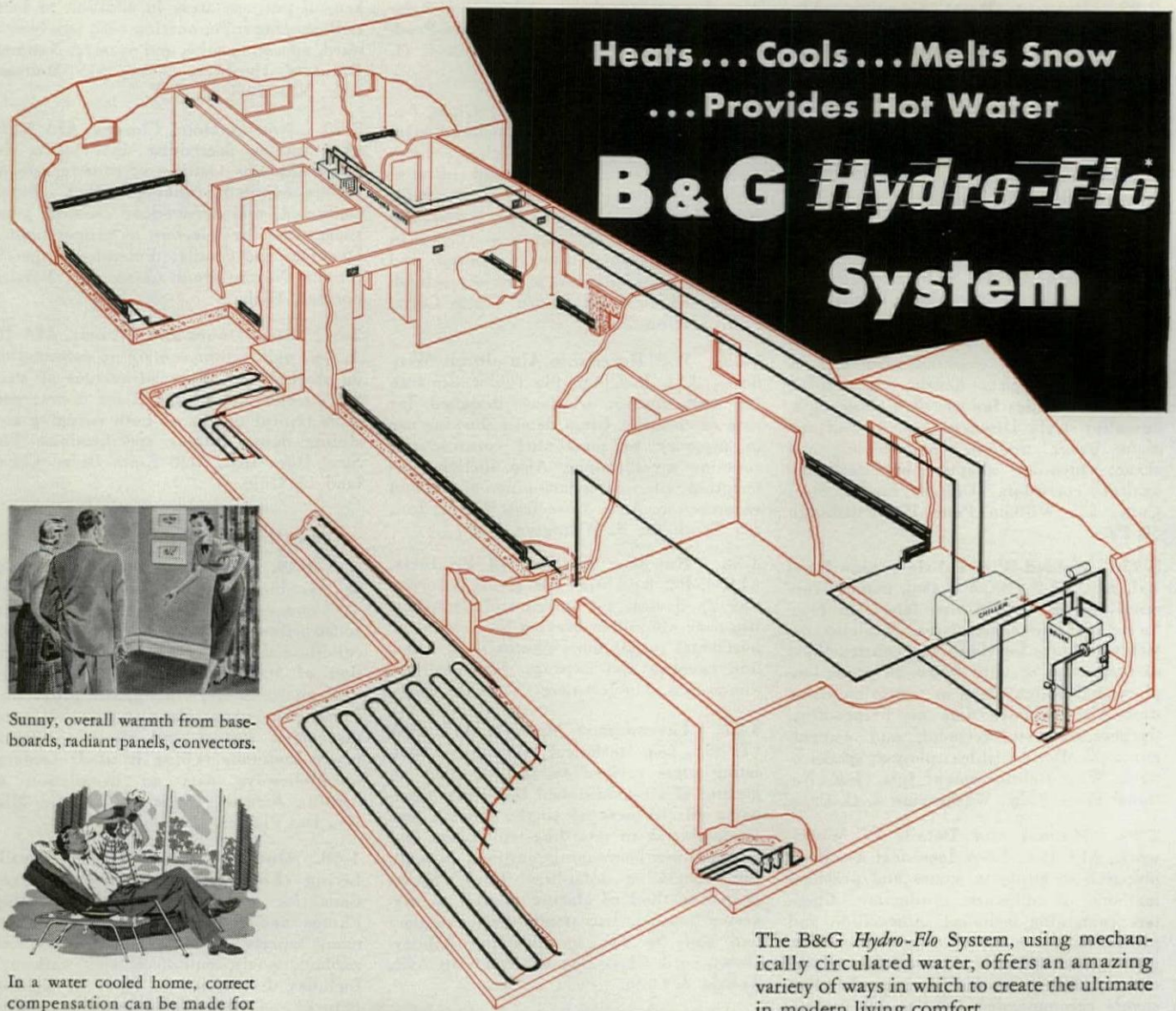
Mailing Address _____ ☐ *Business* ☐ *Home*

City _____ *State* _____

† Payment must accompany request for priced literature. Coupon must be used by 12/1/55.

Heats . . . Cools . . . Melts Snow . . . Provides Hot Water

B&G *Hydro-Flo** System



Sunny, overall warmth from baseboards, radiant panels, convectors.

In a water cooled home, correct compensation can be made for summer heat gain.

A virtually limitless supply of hot water for kitchen, laundry and bath.

Snow melting for relief from shoveling—safe driveways and sidewalks.

B & G BOOSTER

Noiselessly circulates water for heating and cooling the house and for snow melting panels. Known everywhere for quiet, dependable, long-lived operation.

The B&G *Hydro-Flo* System, using mechanically circulated water, offers an amazing variety of ways in which to create the ultimate in modern living comfort.

The sketch above illustrates the complete versatility of a water system. The heating in this home is with modern, inconspicuous baseboard panels. Cooling is achieved by circulating chilled water to a fan coil unit installed in a plenum formed by a dropped ceiling in the hall. Cool, de-humidified air is distributed through high grilles into the various rooms.

Snow melting coils under the sidewalk and driveway are circulated with an anti-freeze solution heated in an exchanger connected to the boiler. For domestic hot water, an indirect heater supplies the ample volumes demanded by modern labor-saving devices.

For the last word in year 'round comfort, convenience and health protection, backed by long-lived, trouble-free equipment, get the facts on the B&G *Hydro-Flo* System.

"Water is the most efficient and economical medium for conveying a BTU"

*Reg. U.S. Pat. Off.

BELL & GOSSETT
COMPANY

Dept. EB-37 Morton Grove, Illinois

Canadian Licensee: S. A. Armstrong Ltd., 1400 O'Connor Drive, West Toronto

(Continued from page 157)

4-42. Kliegl Architectural Lighting (A-11), 36-p. catalog on lighting fixtures suitable for commercial or residential installations. Illustrates recessed and suspended aluminum fixtures; contains information on pin-hole down lights, accent lighting, and dimmers. Drawings, dimensions, engineering data. Architectural Div., Kliegl Bros., 321 W. 50 St., New York 19, N. Y.

4-43. Laubert Artificial Skylight, AIA 31-F-23, 16-p. booklet on luminous ceilings designed particularly for public areas and museums. Describes system, where it is used, and type of lamps used; provides data on installation of lighting fixtures. Diagrams; tables on cost comparisons and utilization factors. Laubert Lighting Inc., 205 E. 43 St., New York 17, N. Y.

4-44. RLM Standard Specifications, AIA 31-F-233 (55), 48-p. manual containing revised standards for incandescent and fluorescent industrial-lighting units. Explains increased requirements of reflection factors, light output, shielding angles, and lamp spacing. Gives specifications for individual fixtures as well as for testing procedures. Drawings, performance charts. RLM Standards Inst., Inc., 326 W. Madison St., Chicago 6, Ill.

4-45. Home-Wiring Handbook (4th Ed.), 148-p. manual on home wiring revised to conform with recent changes in electrical codes. Describes component parts of residential wiring systems in detail; also includes data on household appliances as well as heat pumps and air conditioners. Drawings and wiring diagrams. Consumer Service Dept., Westinghouse Electric Appliance Div., Mansfield, Ohio. $1.†

finishers, protectors

5-4. Customized Color Center, 12-p. catalog prepared for architects and interior designers. Over 250 actual color chips illustrate wide selection of colors obtainable in eight finishes—flat, satin-gloss, enamel, floor, house, masonry and shake paints as well as wood stains. Martin-Senour Co. 2520 S. Quarry St., Chicago, Ill.

5-5. Wurdack's Manual, AIA 7 (6), 34-p. reference booklet on application of silicone masonry protection. Outlines conditions to check before specifying silicone treatment—number of applications, cost, treatment of various materials, and condensation. Contains pertinent information on mortar-joint protection, capillary action, and efflorescence. Specifications. Wurdack Chemical Co., 4977 Fyler Ave., St. Louis 9, Mo.

insulation (thermal, acoustical)

6-18. Insulation Design for the Air-Conditioned Home, AIA 37-C (BL6.A3), 20-p. publication on designing for maximum heat control in summer and winter. Discusses orientation of building, insulation of structure, and protection at windows; explains how insulation increases effectiveness of air-conditioning systems. Also contains performance data on glass-fiber insulating materials. Drawings, tables. Owens-Corning Fiberglas Corp., Toledo 1, Ohio.

sanitation, plumbing, water supply

7-19. Wrought-Iron Pipe Catalog, 52-p. manual covering technical information most often requested by architects and engineers. Contains general notes on wrought iron including specifications, mill standards, and ordering instructions. Tables list properties of piping; charts give data on decimal equivalents, gages, water flow, and conversion factors. Also provides material on heat-exchanger and condenser tubes. Engineering Service Dept., A. M. Byers Co., Pittsburgh, Pa.

7-20. Stainless-Steel Globe Valves (55A), 4-p. folder illustrating stainless-steel alloy valves. Dimensioned drawings show outside-screw-and-yoke valves and inside-screw-rising-stem types; outline gives factors to consider in designing piping system. Table of alloy designations. Cooper Alloy Corp., Hillside, N. J.

(Continued on page 162)

p/a manufacturers' literature

(Continued from page 161)

specialized equipment

8-14. Lowerator Dispensers, 24-p. booklet illustrating automatic, self-leveling dispensers for institutional use. Photos show both heated and unheated types of dish, cup and saucer, and glass dispensers. Dimensions and specifications. Lowerator Div., American Machine & Foundry Co., AMF Bldg., 261 Madison Ave., New York 16, N. Y.

8-15. Garden Ideas from California, 24-p. brochure on use of redwood for garden structures. Photos show many different types of garden houses, trellises, fences, and planting boxes; sketches illustrate ideas for wood decks and paving blocks. Construction details; data on specification of redwood and finishes. California Redwood Assn., 576 Sacramento St., San Francisco 11, Calif.

8-16. Rite-Hite Adjustable Loading Ramp (953), 8-p. publication describing adjustable loading ramps. Describes features of construction of platform which adjusts horizontally as well as vertically; gives details of special balanced hinge and counter-weight balance. Photos; dimensions; table of load-carrying capacity. Rite-Hite Div., Loomis Machine Co., Clare, Mich.

8-17. Commercial Refrigerators, 106-p. catalog of coolers, freezers, and refrigerators for commercial and institutional installations. Describes standard models as well as special walk-in refrigerators; outlines features of each model. Drawings, dimensions. Puffer-Hubbard Refrigerator Co., Grand Haven, Mich.

8-18. Food-Serving Equipment for Hospitals, 32-p. booklet illustrating institutional kitchens. Describes problems encountered in eight actual installations; presents photos and floor plans to show solutions. Also gives data on construction of stainless-steel equipment. Southern Equipment Co., 5017 S. 38 St., St. Louis 16, Mo.

vertical transportation

10-6. Peelle Elevator Products, 12-p. pamphlet illustrating elevator and dumbwaiter doors. Explains operation of motorized, freight-elevator, and dumbwaiter doors; gives detail drawings and photos of each. Specifications, dimensions. The Peelle Co., 47 Stewart Ave., Brooklyn 37, N. Y.

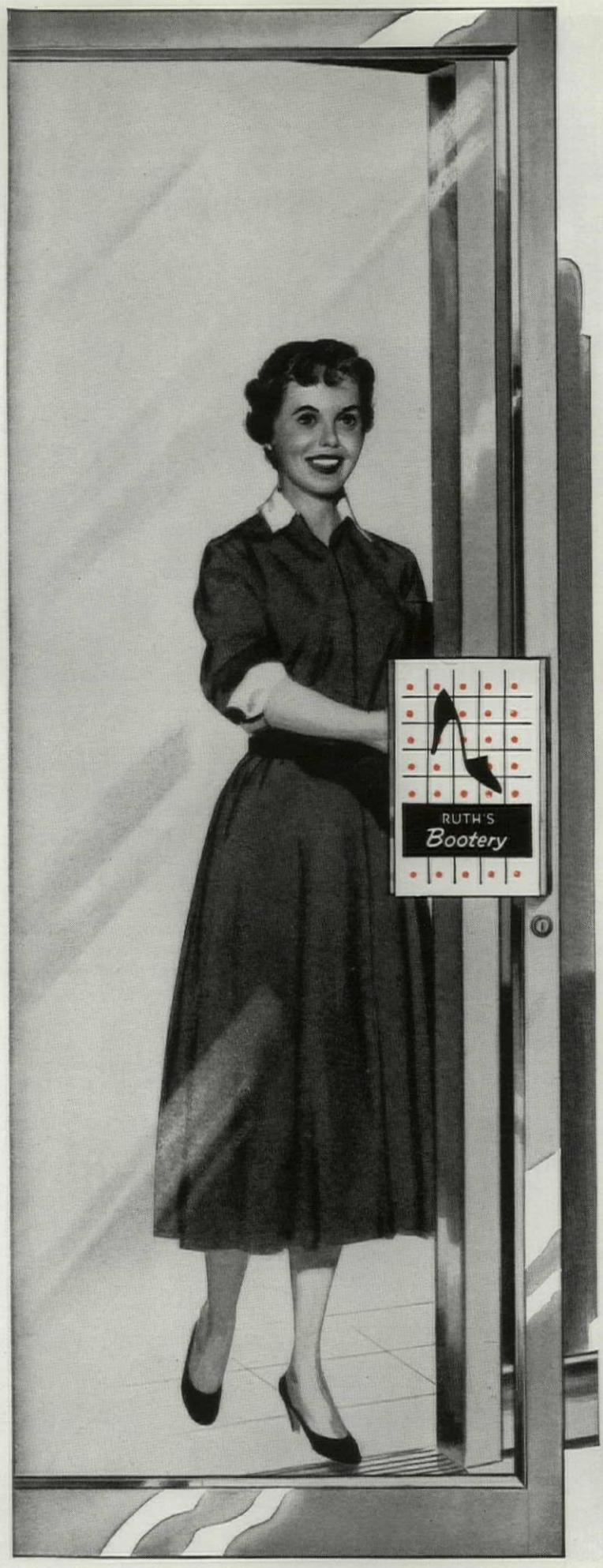
interior furnishings

11-12. American Seating School Furniture (6074G), 24-p. brochure showing line of schoolroom furniture. Gives data on several styles of classroom units; also describes folding chairs, church pews, and auditorium seating. Drawings, dimensions. American Seating Co., Ninth and Broadway, Grand Rapids 2, Mich.

11-13. Aalto Design Collection for Modern Living, 28-p. catalog of home and office furnishings designed by Finnish architect Alvar Aalto. Photos show wide variety of chairs and tables; also illustrates several desks, wall shelves, sideboards, and bookcases. Gives description of upholstery fabrics and dimensions. Finsven Inc., 508 E. 74 St., New York 21, N. Y.

11-14. Weber Equipment for Homemaking Education, 22-p.
11-15. Modulart Hardware, 28-p.
11-16. Weberwall Movable-Partitions Systems (W-155), 44-p.

Three booklets showing cabinet and partiton units. First brochure illustrates cabinets, desks, and chalkboard units designed for homemaking classes; includes several layouts for home-economics classrooms. Second booklet details hardware and accessories for retailing; gives specifications as well as photos. Third one shows movable wood or steel partitions; provides specifications. Weber Showcase & Fixture Co., Inc., 5700 Avalon Blvd., Los Angeles, Calif.



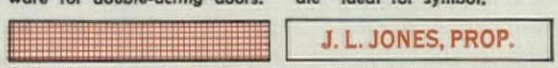
The first new...all-new "Custom" door at standard prices

An outstanding example of the "Kawneer Touch" . . . the new all-welded aluminum door can be "customized" to your needs. Now you can specify a door that is 10% stronger than similar doors, provides a clean, seamless, eye-appealing appearance, and features interchangeable hardware . . . yet the cost compares with other standard doors. Here is the only stock door that can be styled to any type of store. Learn all about it now. See your Kawneer dealer or write Kawneer, Niles, Michigan.

Now! —identification hardware "individually designed"

Style "M": Cosmopolitan hardware for *double-acting* doors.

Style "B": Coronet "Pull Handle" ideal for symbol.



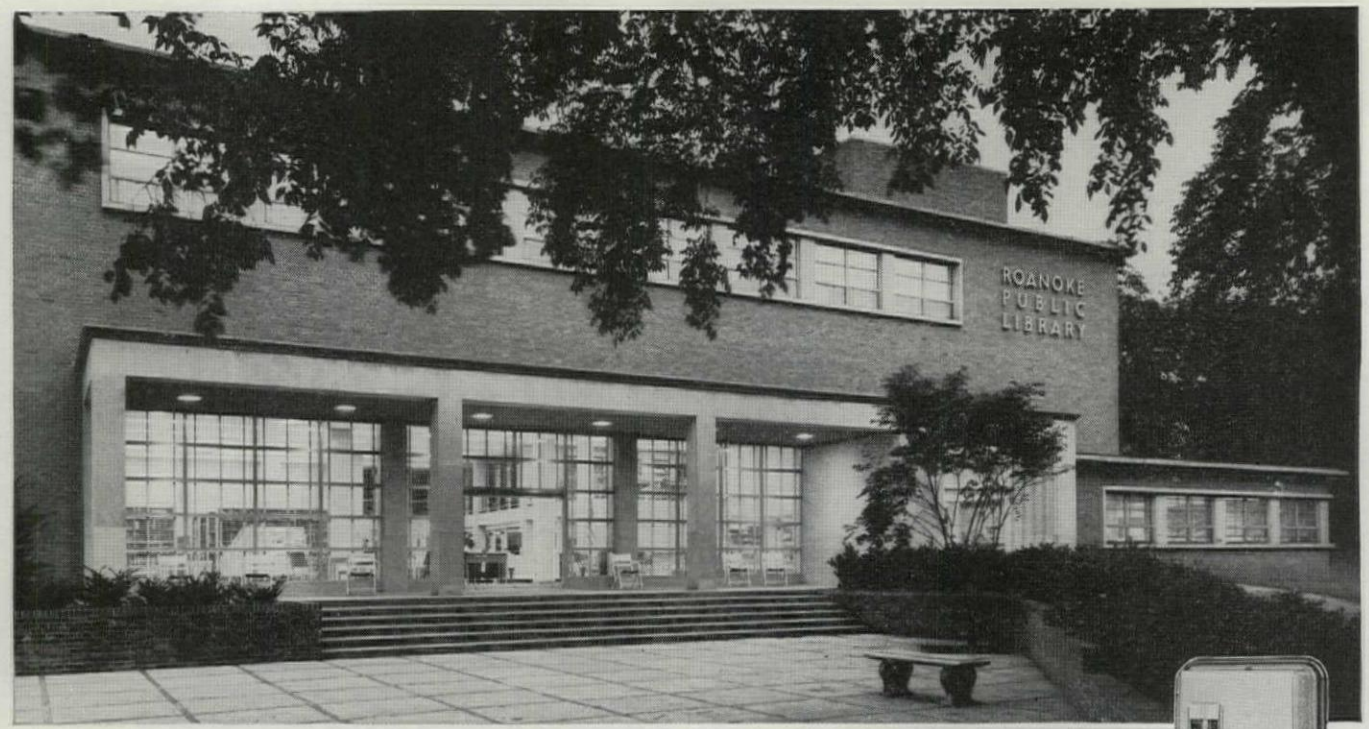
Style "B": Coronet "Push Bar" provides length for full name.

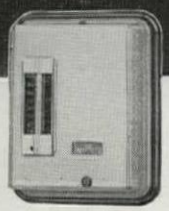
Kawneer offers a choice of four different styles of hardware. The two styles shown have interchangeable face plates. If you wish a face plate to identify any type of business or name, all you do is have artwork prepared. Kawneer will laminate it in plastic, etch it on aluminum, or produce it on any material you desire and in any color. The cross-hatch plate is then merely replaced right on the job with the new design.

Completely welded construction for greater strength—lower cost

- 10% stronger than most doors
- New "deep-weld" penetrates metal 100%
- Hairline joints and unblemished finish for attractive appearance
- No exposed, unsightly screws
- Seamless tubular frame construction
- Long lasting beautiful alumilite finish

Kawneer
General Offices
NILES, MICHIGAN
ARCHITECTURAL PRODUCTS DIVISION





JOHNSON-CONTROLLED HEAT PUMP

Insures Ideal Comfort, Cuts Heating and Cooling Costs

Year 'round air conditioning for the award-winning Roanoke Public Library* is accomplished by an application of the reverse cycle heat pump, utilizing two 40-ton refrigeration compressors. The installation is one of the first of its kind in a library building.

Precision control of this modern air conditioning system is provided by a specially engineered system of Johnson Automatic Temperature Control. Strategically located Johnson Heating-Cooling Thermostats maintain refreshing, even temperatures throughout each of the nine zones into which the building is divided. Behind the scenes, other Johnson Thermostats, Valves and related apparatus constantly keep the system in balance with outdoor temperatures.

Whether it's the spacious main reading room, a filled-to-capacity auditorium or one of the many smaller special activity rooms, there is constant comfort to satisfy the occupants. Control is so perfect that occupants never feel the need for more or less heating or cooling.

Operation of the system is completely automatic, including all heating and cooling, defrosting and indexing of the room thermostats. Added to the comfort and convenience features of Johnson Control are equally important economy advantages. The efficient control of this heat pump installation results in virtually waste-free heating and cooling performance!

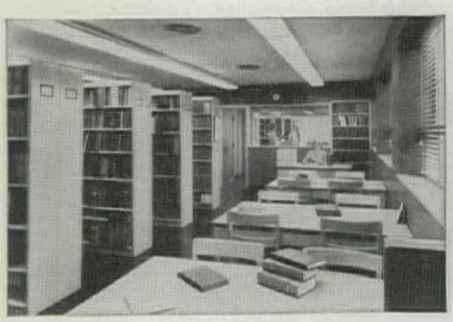
Whatever your control problem—whether it involves a new or existing building, a simple or intricate system—it can be solved best by Johnson. Why don't you take advantage of the more than 70 years' experience of the nationwide Johnson organization? An engineer from a nearby Johnson branch will gladly make recommendations without obligation. JOHNSON SERVICE COMPANY, Milwaukee 2, Wisconsin. Direct Branch Offices in Principal Cities.

*Roanoke Public Library, Roanoke, Virginia. Frantz & Addkison, architects, Roanoke; Wiley & Wilson, mechanical engineers, Lynchburg, Virginia; R. H. Lowe, air conditioning contractor, Roanoke.

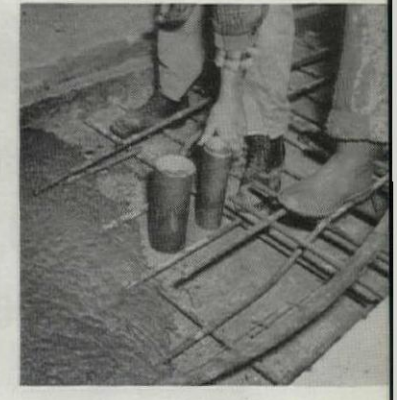
JOHNSON CONTROL

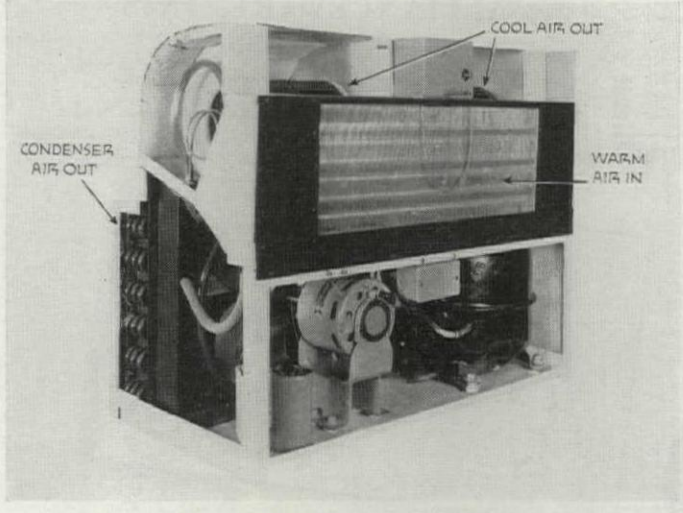
TEMPERATURE ⇅ AIR CONDITIONING

PLANNING • MANUFACTURING • INSTALLING • SINCE 1885



"Carton Forms," inverted fiberboard boxes with cross-sectional stiffeners, are used as forms for waffle-type concrete floor slabs (left). *Constructed from water-resistant materials, the carton forms hold their shape long after concrete has set and need not be removed. Holes for plumbing and electrical conduits can easily be cut with a knife and, if desired, ceiling lath can be installed before the expendable forms are placed. After pouring and hardening of concrete, centering boards and shoring are removed leaving lath bonded to the bottom of the joists ready for plaster. Fibre Box Association, c/o Westheimer & Block, 212 North Kingshighway, St. Louis 8, Mo.*

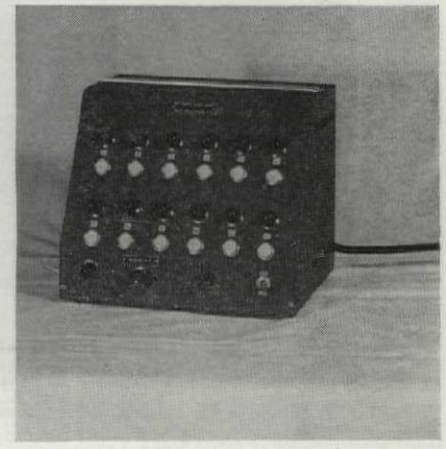




Fiber tubes used as pipe sleeves easily withstand pressure of poured concrete. Tubes are used with two metal ends to keep from filling. One metal closure is nailed to form (above left); *after being cut to required length, tube sleeve is slipped over the nailed-in-place closure* (above); *other end closure is inserted in top of sleeve before pour* (above right). *Sonoco Products Co., Hartsville, S.C.*

Special features of decentralized built-in-wall individual units (left) *for air conditioning apartment buildings, office buildings, hotels, etc., are: (a) true perimeter cooling of rooms; (b) individual control by tenants; (c) permanent installation; (d) less than one-third cost of central installation. Has especially silent operation through quiet, shock-mounted nonvibrating installation and extra-quiet fans. Amic Manufacturing Corp., 21-25 44 Ave., Long Island City 1, N.Y.*

To eliminate pilferage through emergency exits that (by law) must remain unlocked on the inside at all times, a new Fire Exit Lock has been developed (right) *for commercial buildings, hotels, factories, etc. In the event of fire, one simply strikes the lock and the exit door immediately opens. At the same instant a loud sounding bell is activated to warn that an emergency exists—or that someone is attempting a theft. Authorized personnel to whom special keys have been issued, however, can unlock the exit without sounding the alarm. Lock has Underwriters' Laboratories approval and is legally recognized in all major cities. Over-all dimensions are 4¾" x 11" x 2 and a good maintenance man can install the lock in 15 to 20 minutes. Installation cost is $53 per unit and under normal operating conditions lock has life-time guarantee. Six, 12, and 20 station control panels that monitor exit locks are optional* (far right). *Exit Lock Company, 171 Main St., Port Washington, N.Y.*



More than 3,000 AllianceWare Fixtures

in Color

are installed in these $30,000–$40,000 homes of Greenfield Village

Greenfield Village Homes are all equipped with these AllianceWare Fixtures.

When Lang Brothers Company of Cincinnati, Ohio, planned the Greenfield Village development in a most desirable residential area, they determined that quality construction throughout would be the first consideration. The results of their insistence on quality are evidenced in the photographs below.

The entire Greenfield Village development comprises 550 homes. Of these, 389 have two baths and the remainder one and one-half baths. All bathroom fixtures—bathtubs, lavatories and closets—are AllianceWare—*in color.*

Discriminating builders recognize that there is only one quality to AllianceWare—the very best we know how to produce. So AllianceWare goes into the finest homes, apartments and hotels. Added to high quality are AllianceWare design advantages that assure customer satisfaction. Every AllianceWare tub has a patented "grab-rail" construction for safety in entering or leaving the bath. AllianceWare's exclusive wall-hung method of installation keeps tubs from shifting or settling, while the AllianceWare wall-guard tiling flange prevents leaks between tub and wall.

The features of AllianceWare in modern styling, high quality and lighter weight with a choice of white and five colors are appreciated by builders and home-owners alike.

See our products in the NATIONAL HOUSING CENTER WASHINGTON, D.C.

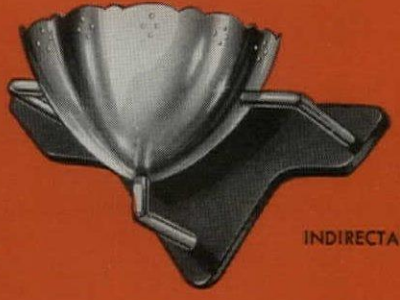
ALLIANCEWARE, INC.
Alliance, Ohio
Plants in Alliance, Ohio and Colton, California
Bathtubs • Lavatories • Closets • Sinks

Greenfield Village — Cincinnati, Ohio; *Builder:* Lang Brothers, Inc.; *Plumbing Contractor:* Jones Plumbing and Heating Co., Inc.; *Plumbing Wholesaler:* Main Supply Co.; All of Cincinnati, Ohio

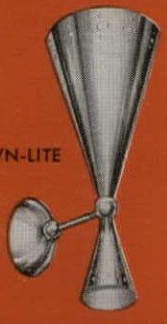
BRIGHTEN DARK CORNERS AND NEAR-WALL AREAS WITH

INCANDESCENT

SWIVEL-SHADE Bracket



INDIRECTABRAC



UPorDOWN-LITE Bracket

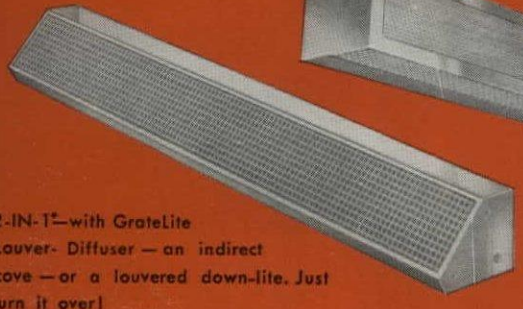
BED-LIGHT Bracket

GUTH BRACKETS

(YOU NAME IT . . . WE MAKE IT!)

FLUORESCENT

20 WATT HALF-PEERLITE * with GrateLite** Louver-Diffuser — center reflector — up and down light



2-IN-1*—with GrateLite Louver- Diffuser — an indirect cove — or a louvered down-lite. Just turn it over!

HALF-PEERLITE*— one or two lights

DOWN-LITE-BRAC with GrateLite

ANGLED-GLASS BED LITE — 2-20W — up and down light

APPLICATIONS GALORE!

. . . in barber shops; fitting rooms; over hospital beds, chalk boards, mirrors; for desks near walls; along ceiling beams . . . and many other spots that are difficult to light efficiently with conventional fixtures.

Guth

TRUSTED
NAME IN LIGHTING
SINCE 1902

WRITE ON YOUR LETTERHEAD FOR BULLETIN 929-BB TODAY.

THE EDWIN F. GUTH CO. • ST. LOUIS 3, MO.

*Trademark Registered

**Trademark Registered U. S. & Can. Pats. Pend.

p/a products

(Continued from page 165)

air and temperature control

Roomette Air Conditioner: new room air-conditioning unit, resembling end table, need not be built into wall or window. Basic engineering difference is that air for refrigerant condensing is drawn from bottom instead of back of unit; 13″ x 15″ opening is cut in floor over ventilated basement. Equipped with thermostat as well as filters, unit cools, dehumidifies, cleans, and circulates air; controls and grills for flow of conditioned air are located on front panel. Unit, 27″ high x 15″ wide x 28″ deep, is finished in driftwood beige; ¾-hp model uses standard 115-v current. Carrier Corp., Syracuse, N. Y.

Winkler Boiler: oil-fired, steel boiler features six heating surfaces. Two sets of double economizers provide four extra heating surfaces; unusually large water content of boiler insures constant supply of domestic hot water. Boiler comes completely packaged with hot-water specialties, tankless water heater, and thermal valve which prevents boiler water from leaving unit below 180 F. Stack temperatures are extremely low and draft loss through boiler is claimed to be so slight that no chimney is required. U. S. Machine Div., Stewart-Warner Corp., Lebanon, Ind.

Radiant Radiator: cast-iron radiator for steam or hot-water heating systems, provides blending of both convected and radiant heat. Recessed unit, 5″ deep by 20″ high, is especially suited for location under low kitchen windows or in bathrooms where space is limited. Radiator, available with matching outlet grills, can be painted to harmonize with walls; simplified piping hook-ups are designed for economical installation in new or existing homes. Utica Radiator Corp., Utica, N. Y.

Electric Baseboard Heaters: new baseboard heaters are designed to give economical operation and maintenance in any climate. Two-ft units, installed in place of baseboards, provide both radiant and convective heat; individual controls for each room permit conservation of heat. Maximum surface temperature of heater 7″ high by 2⅝″ deep is 100 F; requires 240-v, a-c current. Westinghouse Electric Corp., Box 2099, Pittsburgh 30, Pa.

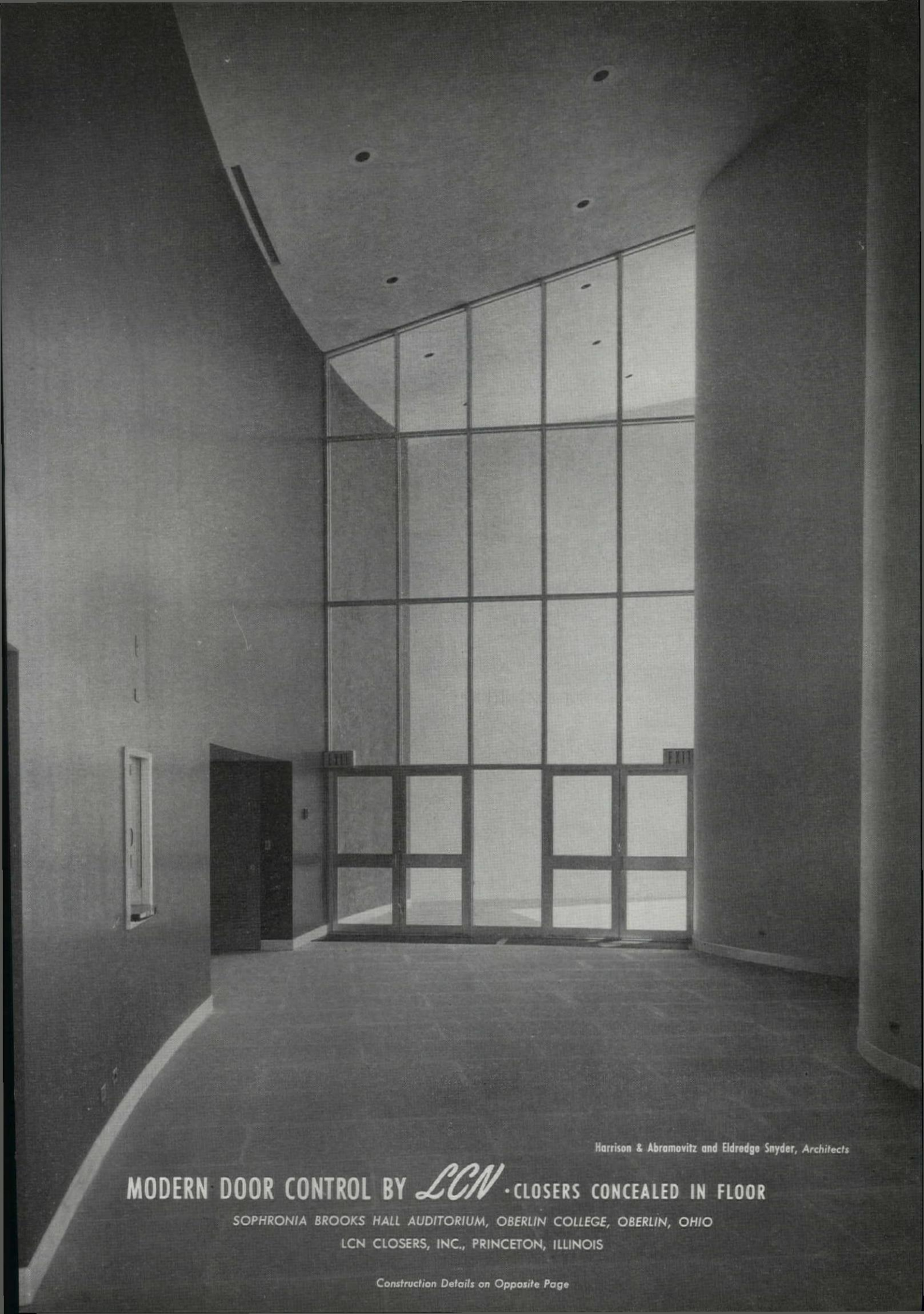
construction

Sanlime Finish Applied By E-Z-Tex Spraying Machine: colored, sand-textured finish for walls is inexpensively produced by applying prepared lime material with portable spraying machine. Lime mixture, requiring addition of water only to obtain proper consistency, is first trowelled onto base coat to fill depressions; when finish coat is sprayed on, all marks are concealed. Use of spraying machine is said to reduce dusting substantially; two men can cover 500 yd per day with machine. Ohio Lime Co., Ohio Hydrate Bldg., Woodville, Ohio; E-Z-On Corp., 1725 W. Pershing, Chicago, Ill.

Pocket-Door T-Frame: new warp-proof pocket for interior sliding doors, is designed for use with any type of wall material. Steel header, head jambs, and upright jambs are finished in rust-proof baked enamel; frame package also includes aluminum track and door guide, wrought-steel hangers, nylon rollers, rubber bumper, and mounting screws. Frame will accommodate 1⅜″ doors, single or in pairs (for biparting installations). Sterling Hardware Mfg. Co., 2345 W. Nelson St., Chicago 18, Ill.

Steel-X Bridging: 20-gage, galvanized-steel bridging is engineered with structural ribbing for maximum strength. Feature of bridging is that it is installed after plumber, electrician, and heating contractor have finished work—eliminating alterations in braces. Bridging, braced between joists, is pulled down into position; anchor prongs lock firmly in place. One size is quickly adjustable to 2 x 10's, 2 x 8's, and 2 x 6's. Taber Bushnell Co., Minneapolis 2, Minn.

(Continued on page 172)



Harrison & Abramovitz and Eldredge Snyder, *Architects*

MODERN DOOR CONTROL BY *LCN* · CLOSERS CONCEALED IN FLOOR

SOPHRONIA BROOKS HALL AUDITORIUM, OBERLIN COLLEGE, OBERLIN, OHIO

LCN CLOSERS, INC., PRINCETON, ILLINOIS

Construction Details on Opposite Page

ANNOUNCING...

Marston's
San Diego, California

LUMICEL

A 24" x 24" white translucent single panel. The basic material is vinyl plastic, providing an effective balance between the transmission and diffusion of light emanating from a totally separate lighting fixture.

ACOUSTI-LUX

A 24" x 24" white translucent double panel fabricated of two formed units of the basic material, secured together around perimeter. A specific volume of air is contained between the two faces; diaphragmatic damping provides the sound absorption value.

Edgewater Beach Hotel
Chicago, Illinois

New Acousti-Celotex *lumicel* and *acousti-lux*

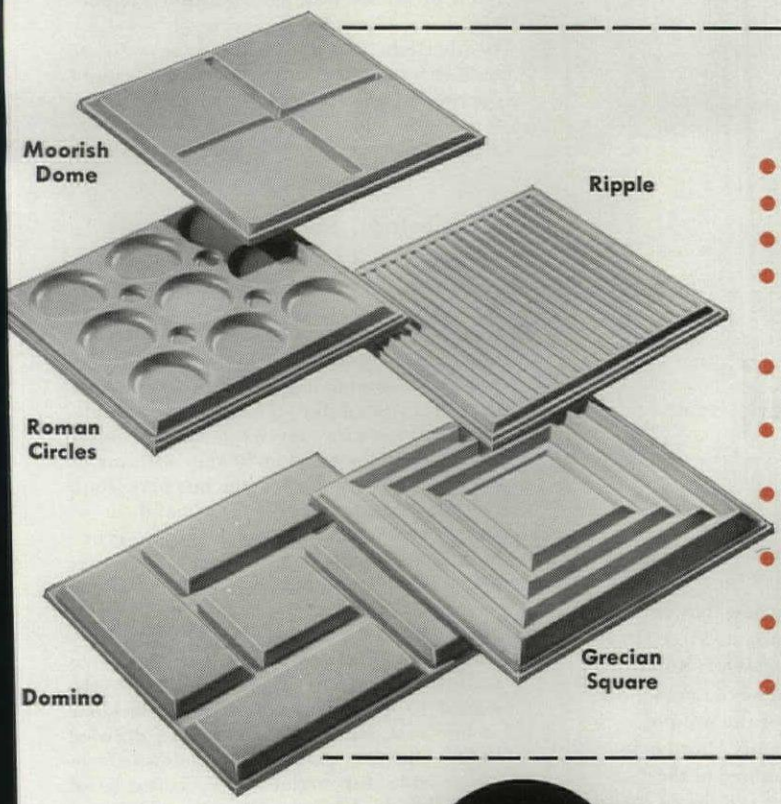
TRADE MARK TRADE MARK

panels for translucent ceilings

Two new, highly decorative answers to today's high-level illumination demands: Acousti-Celotex LUMICEL and ACOUSTI-LUX (Patents No. 2218992, 2710335)... for scientifically correct balance between peak light transmission and uniform light diffusion.

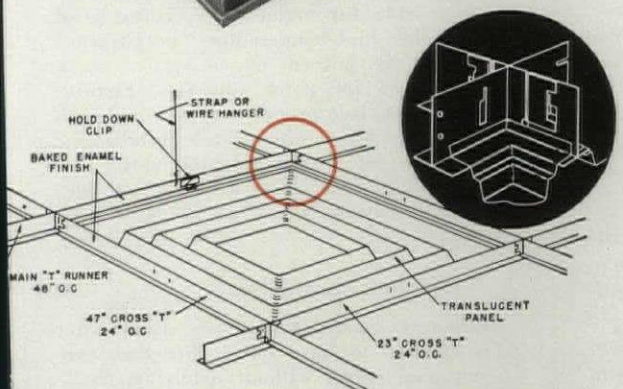
Installed on Alumitee metal suspension system, directly from the base ceiling, completely independent of light fixtures. May be used in combination with choice of attractive Acousti-Celotex sound conditioning tile in translucent ceiling designs, depending upon lighting, acoustical, and decorative requirements.

LUMICEL and ACOUSTI-LUX panels are now available at your Acousti-Celotex Distributor. Contact him now. See sample panels—get installation details!



DESIGNED TO HELP SOLVE Today's Illumination Problems with . . .

- complete uniform light diffusion—"shadowfree lighting"
- low brightness—no glare
- light sources from totally independent concealed fixtures
- will not support combustion; rated as "self-extinguishing" ceiling surface by the standard method Test for Flammability of Plastics as defined by ASTM D568-43
- long-lasting, durable panels with color and dimensional stability essential for translucent ceilings
- a ceiling system where acoustical tile and translucent panels are combined in a layout keyed to the needs of the areas below
- a single panel (Acousti-Lux) which combines light diffusion and sound absorption
- unusual versatility; unlimited custom designs and surface-painted color patterns available
- easy maintenance; convenient size for washing, instant removal for access to light fixtures
- an uninterrupted, level ceiling plane of soft, diffused light



l showing installation of Lumicel and Acousti-Lux trans- t panels on Alumitee metal suspension system. System sts of rigid 24″ x 24″ suspended modular, interlocking grid ated of extruded aluminum. 1″ exposed flanges of "T's" ed in white baked-on enamel. Mechanical hold-down deasily disengaged for panel removal, keeps translucent panels ly fitted in grid.

FOR FULL DETAILS on Acousti-Celotex LUMICEL and ACOUSTI-LUX, write to The Celotex Corporation, Dept. C-105, 120 S. La Salle St., Chicago 3, Illinois.

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p/a products

(Continued from page 168)

doors and windows

Infropake Coating: new coating for interior surface of windows, doors, and skylights reduces harmful effects of sun. Highly transparent protector is claimed to eliminate 99 percent of ultraviolet light which fades fabrics; in addition, coating is said to absorb glare, cut down reflections, and reduce radiant-heat influx. Applicator is provided for windows up to 30″ x 30″; for larger glass areas, coating is sprayed on. Infropake Corp., of America, Whitestone, Long Island, N. Y.

Stanley Garage Doors: three new roll-up doors feature inclined track and adjustable lock strike. Two-in., heavy-gage inclined track insures free action of door; lock strike can be adjusted for unevenness of floor or to fit locking conditions. Doors also have adjustable top corner bracket for weathertight fit when closed as well as ballbearing roller hinges for smooth, quiet operation. Available in 8′ or 9′ heights, 6′ 6″ to 8′ wide. The Stanley Works, New Britain, Conn.

electrical equipment, lighting

Meter-Socket Load-Center Combinations: residential service-entrance devices combining meter socket and circuit-breaker load center in one unit, facilitate wiring economies. Six branch-circuit model has 50-amp, two-pole common-trip main breaker wired in and is rated for 120/240-v, a-c, single-phase, three-wire service; similar eight-circuit model is rated at 70 amp with meter wired directly to load-center bus bars. Both types are manufactured in semi-flush or surface-type rain-tight enclosures. Trumbull Components Dept., General Electric Co., Plainville, Conn.

Scott-Line Fixtures: new fixture design features one-piece, all-plastic louvers. Designed to meet demands of high efficiency at low cost, lamp emits luminous, diffused light. Louver, which swings down from either side for maintenance, is made of molded, high-temperature polystyrene; channel is formed of cold-rolled steel, bonderized for paint adhesion. Fixtures may be surface or pendant mounted with provisions for continuous-row installation; available for both rapid and instant-start lamps. Sylvania Electric Products Inc., 1740 Broadway, New York 19, N. Y.

finishers, protectors

Gelvatex Coatings: vinyl-emulsion paint is claimed to have longer life than conventional paints without oxidizing, chalking, or fading. Features of plastic-base paints are washability, imperviousness to chemicals, and absence of inflammable solvents. Coatings, applied by brush, spray, or roller, are available for wide variety

of interior and exterior surfacing materials. The Gelvatex Coatings Corp., 1250 Wilshire Blvd., Los Angeles 17, Calif.

insulation (thermal)

Armaflex Pipe Insulation: foamed-plastic pipe insulation for use on dual-temperature lines to air-conditioning units can be slipped over pipes or tubing during installation. Closed-cell foam material, highly resistant to passage of air or vapor, has thermal conductivity of .28 at 75 F and will withstand dual temperatures from 32 F to 200 F. Insulation is also self-extinguishing, odorless, and nonstaining; made in 6′ lengths in ⅝″, ⅞″, 1⅛″, or 1⅜″ diameters. Armstrong Cork Co., Lancaster, Pa.

sanitation

Stationary Vacuum-Cleaning System: small-sized budget-priced, vacuum-cleaning system is designed for installation in homes or small commercial buildings. Available in either bag or centrifugal type, unit can be placed in utility room, garage, or cellar; lightweight tubing runs from unit to conveniently located wall outlets. In addition to dry cleaning, unit will draw in as much as four gal of water. The Spencer Turbine Co., 484 New Park Ave., Hartford 6, Conn.

specialized equipment

C-O-Two Predetector System: automatic, radioactive system detects fire in its earliest stages without depending on visible smoke or heat for actuation. Predetector heads, containing radioactive element, are spaced on centers up to 60′ apart and connected to fire-indicating cabinet; when combustion gases or smoke are present, relays in fire-indicating cabinet function to sound alarms, close fire doors, or activate fire-extinguishing systems. As many heads as necessary can be connected together in single two-wire circuit to cabinet. C-O-Two Fire Equipment Co., Newark 1, N. J.

surfacing materials

Laticrete Coating: industrial flooring material is combination of liquid rubber and special cement powder. For use as surface coating in repair work or new installations, material adheres to concrete, steel, brick, or tile. Materials are mixed on job and handled like concrete; after hardening, surface will take heavy loads without cracking over wide temperature range. Will take compressive loads of 2500 psi; adhesion to concrete is about 300 psi. Naugatuck Chemical Div., U. S. Rubber Co., 1230 Ave. of the Americas, New York 20, N. Y.

New magnetic chalkboard puts a gleam in a school board's eye!

Unique Weldwood Chalkboard is guaranteed for the life of the school — never needs refinishing — is glare-free and easy to read. It is a combination chalkboard, magnetic visual aid board and bulletin board — yet its low installed cost makes it a natural for today's squeezed budgets. And its versatility makes it a school designer's dream . . . and perfect for industrial applications, too.

Weldwood Chalkboard consists of a 3-coat porcelain-on-steel* face permanently bonded to exterior grade plywood and backed with an aluminum sheet. It won't shatter, buckle, warp or break under impact, stress or temperature changes.

Its velvety-green glare-free surface defies scratching and chipping. Easy on young eyes, it's easy on the budget, too, because it needs no fixed grounds, and can be mounted with Weldwood Aluminum Chalkboard trim for easy, economical installation.

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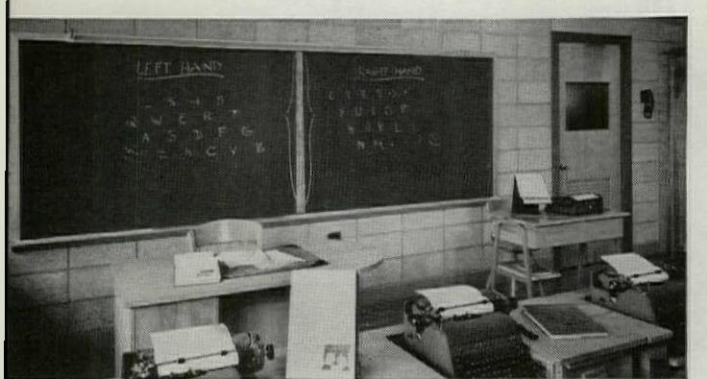
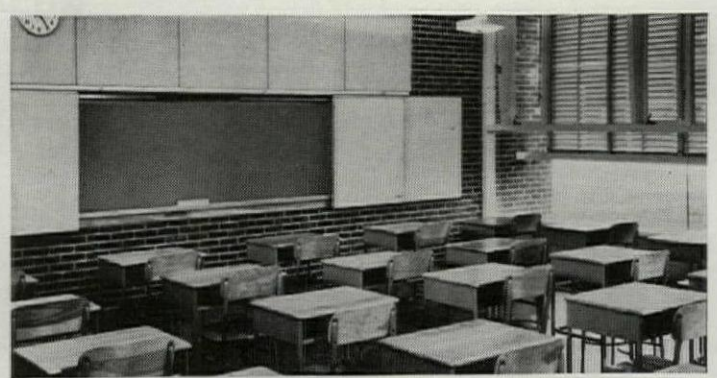
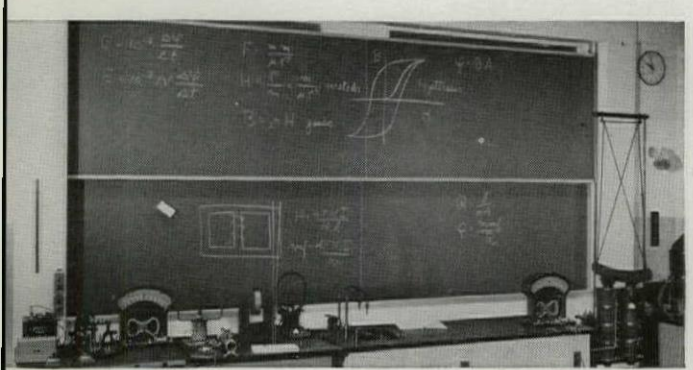
*PORCELAIN FACES BY THE BETTINGER CORP.



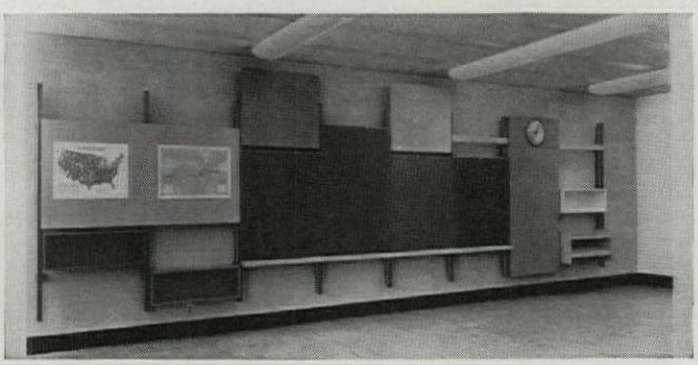
Chalk doesn't "squeal" on Weldwood Chalkboard's special porcelain surface that's easy to write on, easy to erase, easy to keep clean. Valhalla Junior High School, Valhalla, N. Y. Arch: Robert A. Green.



Built-in Weldwood Chalkboard is covered by sliding panels, allowing one section at a time to be uncovered for quizzes. Darien Junior High School, Darien, Conn. Arch: Ketchum, Gina & Sharp.



Electrically operated double Chalkboard moves on tracks in physics laboratory at University of Pennsylvania. Problems started on one board can be finished on the other. Arch: James R. Edmunds, Jr.



"Live Wall" of Weldwood Chalkboard allows adjustment of board height to height of child in three schools in Mineola School District, N. Y. Chalkboard needs no fixed grounds for installation. Arch: Ketchum, Gina & Sharp.

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p/a reviews

books received

Italy's Architecture Today. Carlo Pagani. Ulrico Hoepli, Corso Matteotti 12, Milan, Italy, 1955. 293 pp., illus., L.5.500

American Skyline. Christopher Tunnard and Henry Hope Reed. Houghton Mifflin Co., 2 Park St., Boston, Mass., 1955. 302 pp., illus., $5

Storage. Interiors Library No. 4. Edited by George Nelson. Whitney Publications, Inc., 18 E. 50 St., New York 22, N.Y., 1954. 175 pp., illus., $12.50

Architectural Drafting. Second Edition. William J. Hornung. Prentice-Hall, Inc., 70 Fifth Ave., New York 11, N. Y., 1955. $4.50 Trade List; $3.60 Text List

Garden Design Illustrated. John A. and Carol L. Grant. University of Washington Press, Seattle 5, Washington, 1954. Illus., $5.75

rare architecture

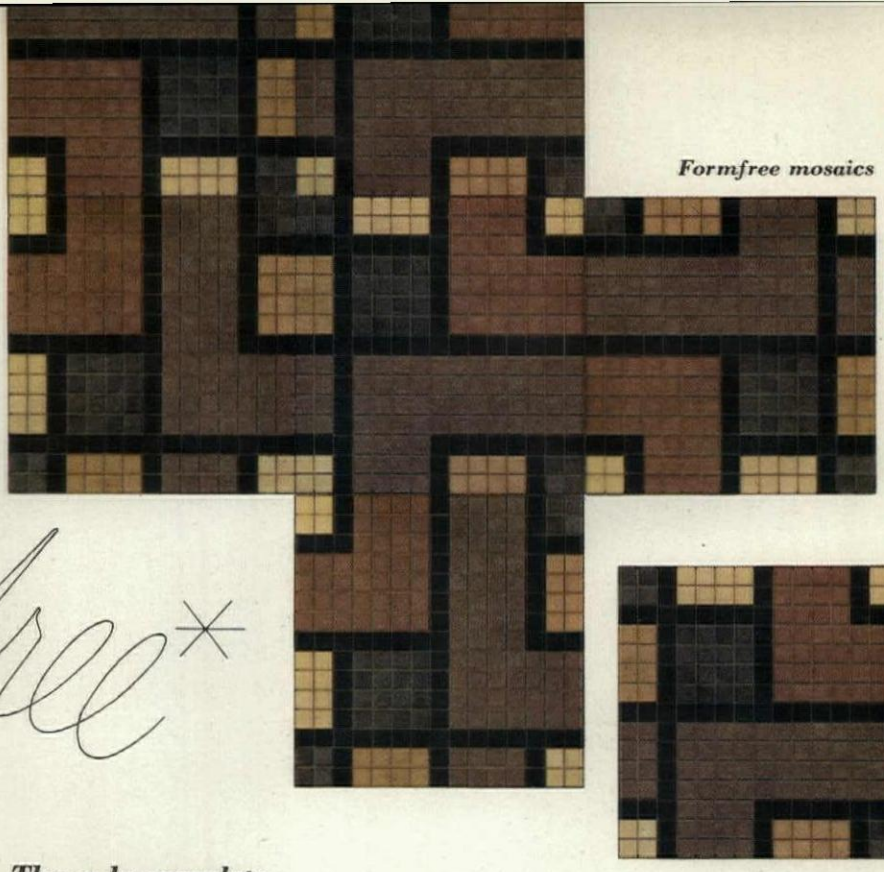
Finnish Architecture and Alvar Aalto. *Ed. and Cl. Neuenschwander. Frederick A. Praeger, 105 W. 40 St., New York 18, N.Y., 1954. 192 pp., illus., $9*

The greater part of this volume is devoted to Alvar Aalto's work in 1950-51. In these years his firm has been actively engaged in the design of industrial communities in Finland, their site plans, factory buildings, residences, and community centers; but time has also been found to plan the extensive complex of the Finnish Technical High School and an elegant glass and metal pavilion in Helsinki.

The introductory section, which presents the background of contemporary Finnish architecture, from simple log farm buildings to Saarinen's Helsinki Station, provokes a number of speculations as to the proper influence of a distinctive region on architecture, the dangers of provincial isolation, and the strength with which an integrated society may meet adversity. To this reader, Aalto's industrial communities provide tangible examples to quiet all verbal argument. This is rare architecture in our time, generously fulfilling its obligations to the community by the use of the land, by the useful arrangement of space, practical construction, and the poetry of high art.

HEATH LICKLIDER

(Continued on page 180)



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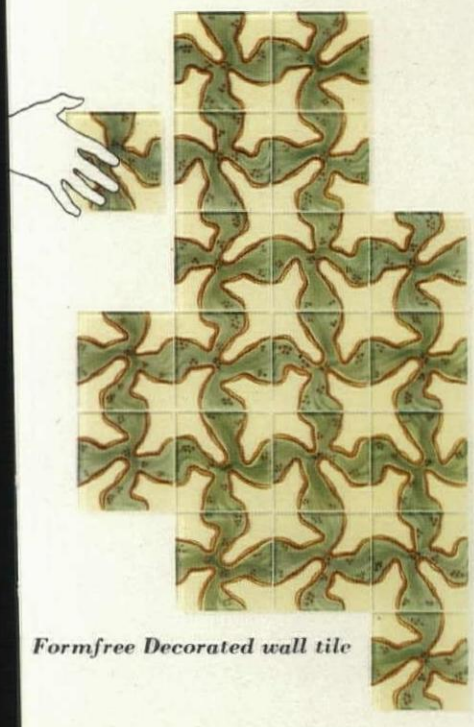

Formfree Decorated wall tile

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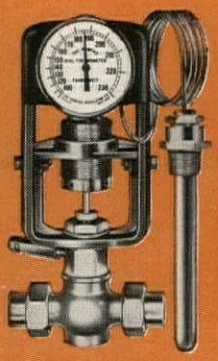

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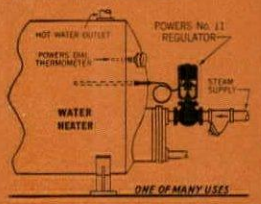

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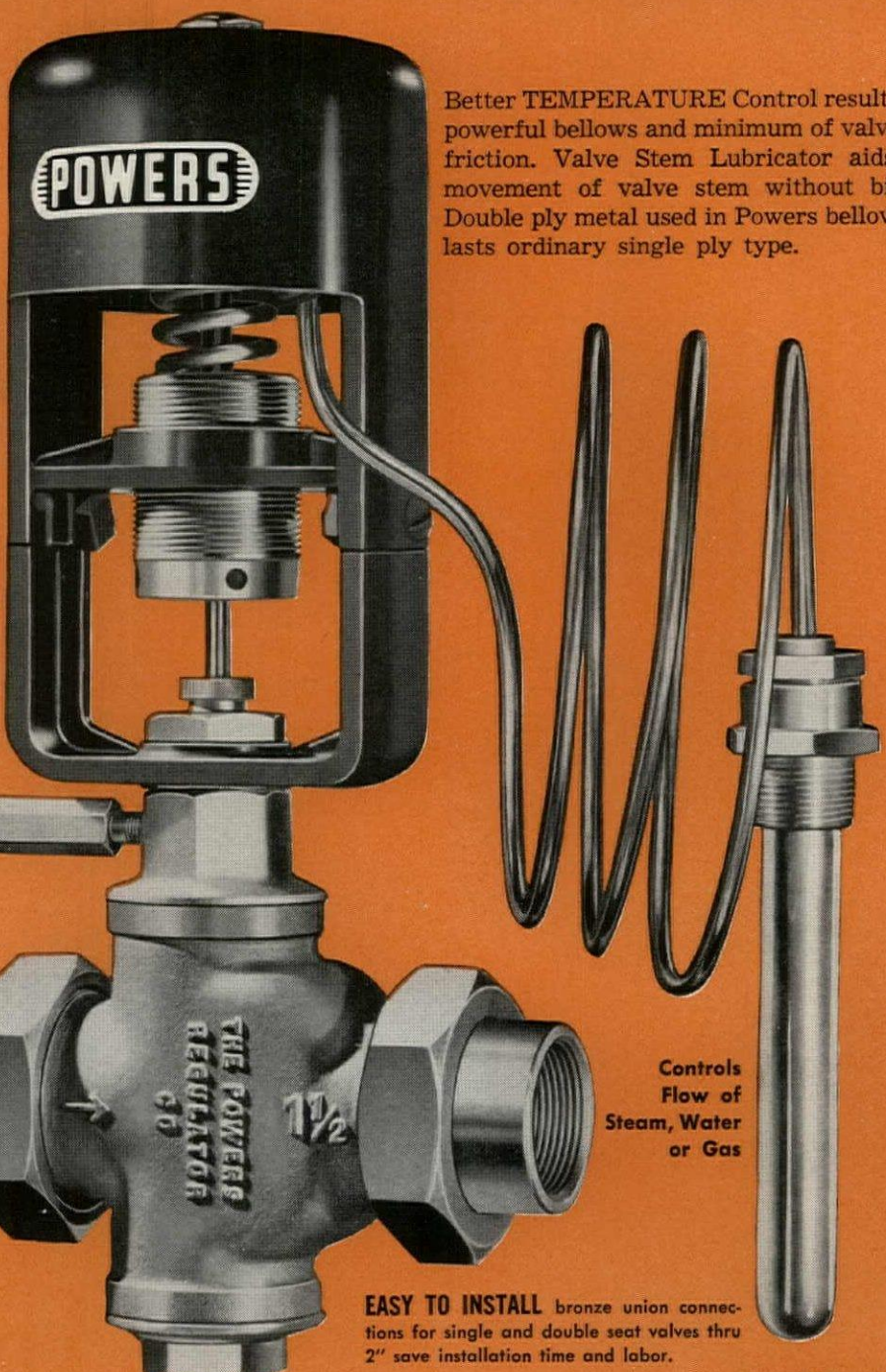

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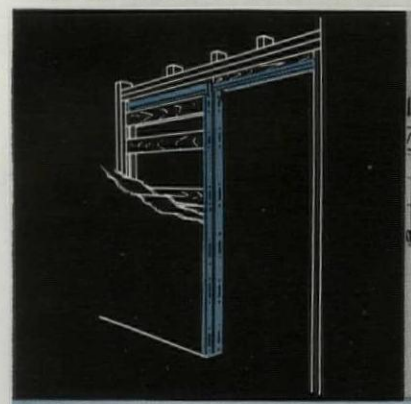

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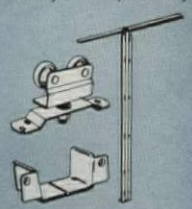

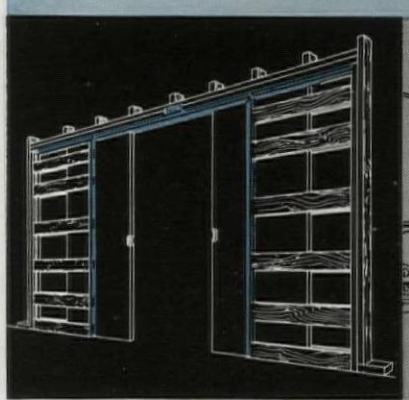

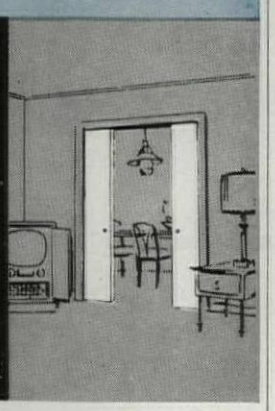

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reviews

(Continued from page 176)

not by formulas alone

Strutture di Calcestruzzo Armato e di Calcestruzzo Precompresso. Reinforced Concrete and Prestressed Concrete Structures. *Riccardo Morandi. Libreria Dedalo Editrice, Via Barberini 75, Rome, Italy, 1954. 141 pp., illus., L. 4.600*

To the layman, the development of modern architecture might appear to consist of a series of false starts. Each of these episodes is distinct in character, each has been accompanied by considerable intellectual fanfare, each has made its contribution to the total modern movement, and each, individually, has led to its own dead end. Art Nouveau, in the early 1900s, briefly replaced Victorian decorative clichés with a flowering naturalism, leaving us a few masterworks of sinuous grace and a jungle of writhing horrors. De Stijl followed, dedicated to an equally intense worship of the straight line and the right angle, with some temporarily disastrous effects on objects directly related to the human form. The machine esthetic and the International Style, hailed in the '20s and '30s as the true design expression of the century, produced the coolly calculated perfections of Le Corbusier and Mies—and the cold sterilities of many of their followers. The '40s developed a softened and more decorative tendency, praised by some as a New Humanism and derided by others as the Cottage Style.

Only now, after the middle of the century, do we begin to see all of these phases in their proper historical perspective. In spite of valid experiments with style, we now realize that the basis of true architectural form is structure and that the most significant innovators in the 20th Century (as they were in the 19th) are the engineers. The 19th Century engineering in iron and steel led to the skeleton frame, the curtain wall, the skyscraper, and entirely new concepts of interior space. Today's remarkable and unprecedented structures in reinforced and prestressed concrete may prove to be equally great determinants of contemporary form and style.

(Continued on page 184)

swimming pool details by *Suntile*

Suntile offers you all the time-proved advantages of ceramic tile for swimming pools—*plus* fresh design quality.

You'll find that Suntile's wide range of colors, textures and sizes provides unusual latitude in creating patterns, murals and other decorative effects in tile.

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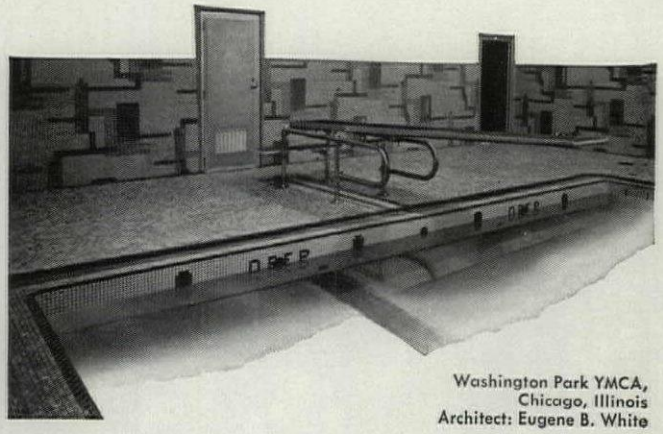
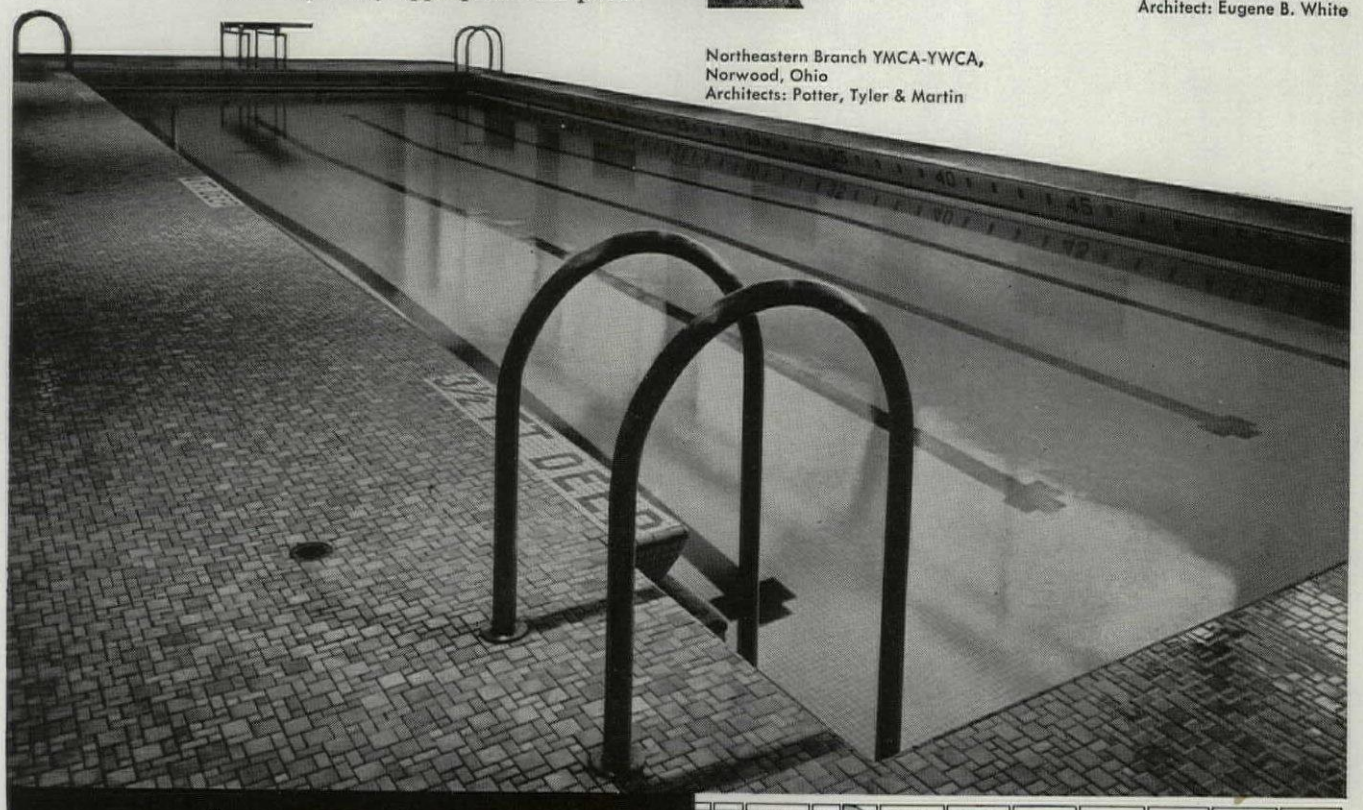


Washington Park YMCA,
Chicago, Illinois
Architect: Eugene B. White

Northeastern Branch YMCA-YWCA,
Norwood, Ohio
Architects: Potter, Tyler & Martin



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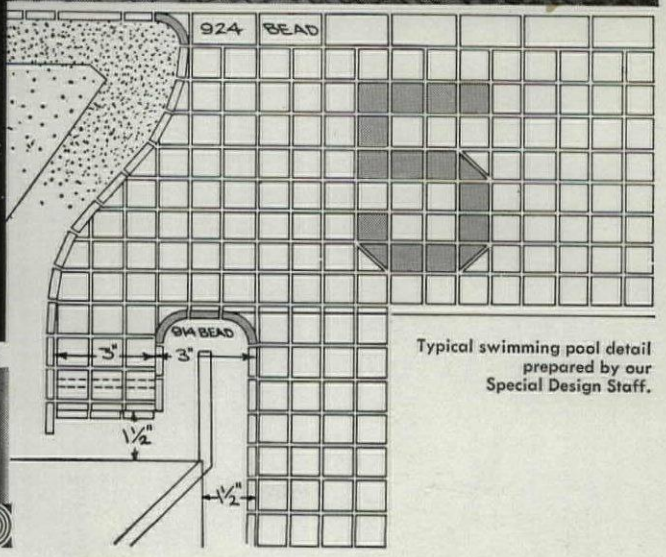

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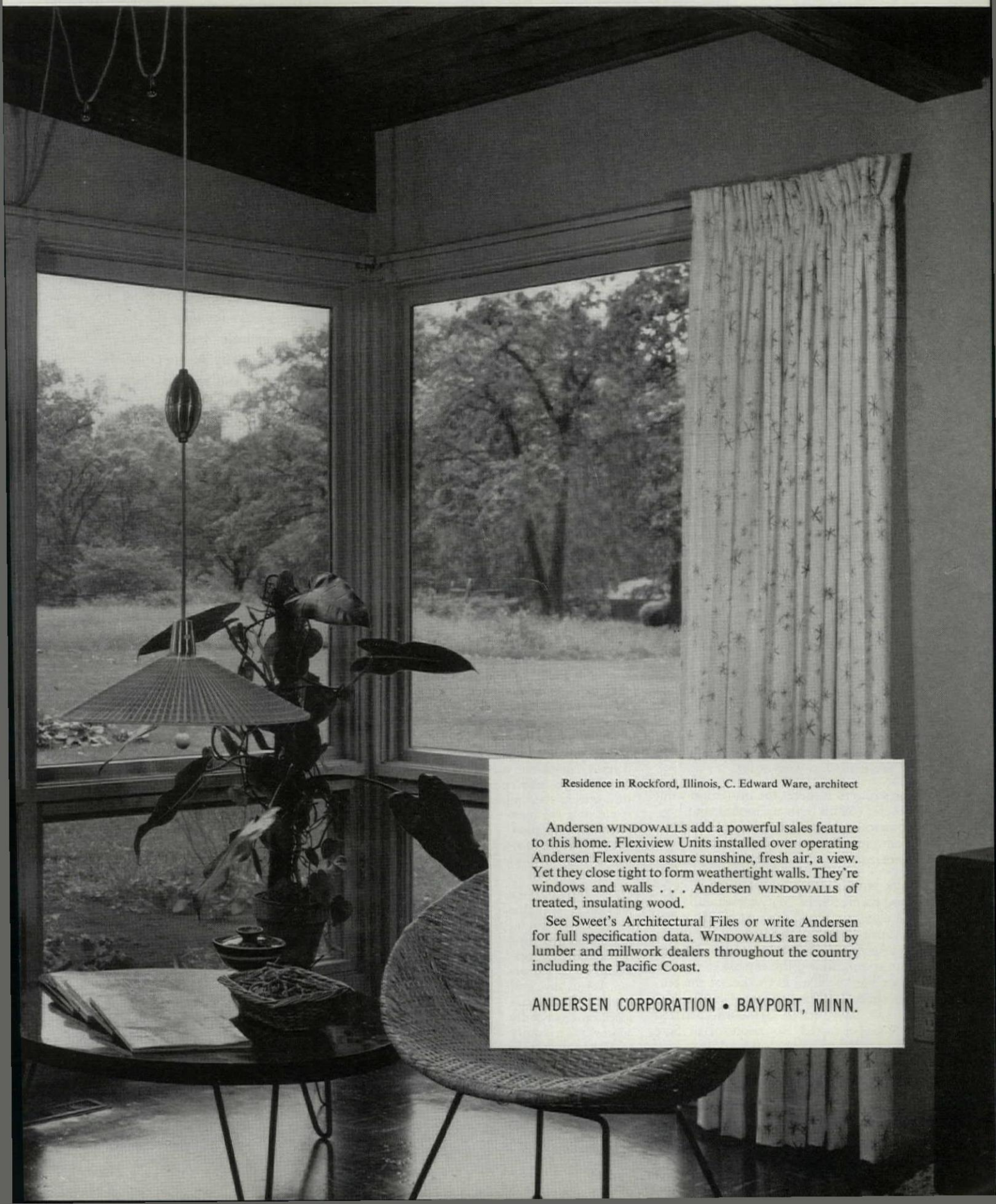

Residence in Rockford, Illinois, C. Edward Ware, architect

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reviews

(Continued from page 180)

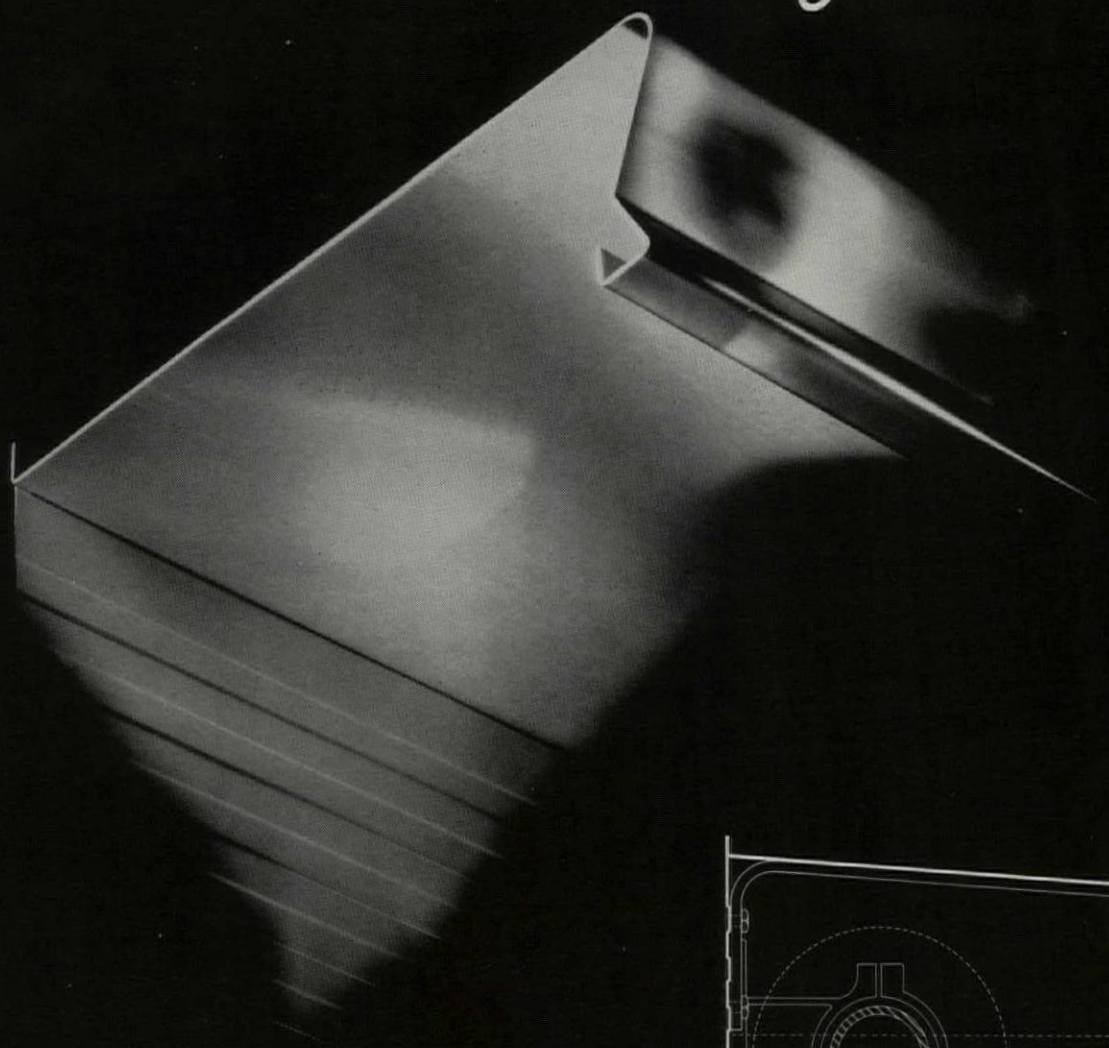
A recently published book on the work of Italian architect and engineer Riccardo Morandi (text in English and Italian) shows the contributions that one man has made to this branch of modern building over a 20-year period. Comparisons with others working in the same field are inevitable. The remarkable bridges of Robert Maillart have yet to be surpassed; certain aspects of the work of Pier Luigi Nervi—a fellow Italian—are still to be equalled.

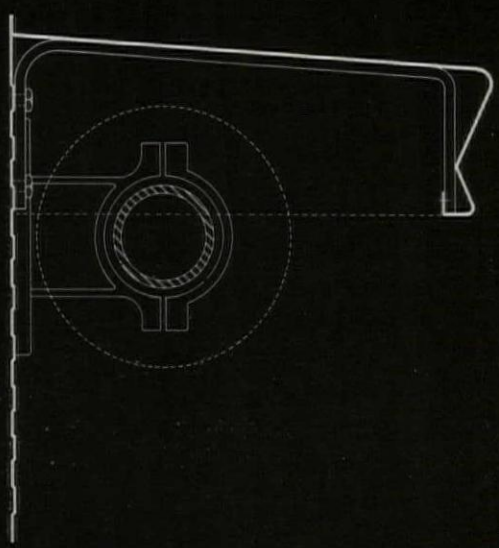
Morandi's work includes theaters, warehouses, factories, power plants, hangars, and bridges. The section on bridges is the most interesting part of the book. These spans—crossing rivers and torrents with romantic Italian names—show a clear sensitivity to the special economy of material and grace of form made possible by concrete construction. The frank statement of dramatically simple shapes in tension and compression is the basis of the vitality and poetry of the modern bridge. The Italians in particular, with their highly developed sense of beauty and drama, would not hesitate to apply the word "poetica" to this phase of engineering design.

The introduction to the book places repeated emphasis on the fact that engineering design cannot be calculated by formulas alone. To quote, in a slightly simplified version of the picturesque English translation, "The works included in this collection were selected from many to show how the solution of each problem led, after various attempts, to the expression of an architectural idea, or a new stylistic expression." That a new phase of modern architecture, based on new space-shapes, is in development is undeniable. Although reinforced-concrete construction is applied to the most utilitarian kind of buildings, the experimental approach and a sure esthetic taste have placed some of these structures among the most interesting and important monuments of our time. Nervi's lamella vaults and reticulated ceilings in Italy, the work of Eduardo Torroja in Spain, the executed and the unfinished designs of the late Matthew Nowicki, are all space struc-

(Continued on page 186)

New Pittco NO. 84 Awning Hood





This new hood gives complete protection to the awning and awning fixtures. The outer face, modern and unusual in design, creates a smart and pleasing accent at the head of the opening. It is beautifully finished like all Pittco mouldings. For complete details, see your Pittco Store Front Metal Representative.

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reviews

(Continued from page 184)

tures of extraordinary ingenuity, significance, and beauty.

Since the author insists on the consideration of esthetic criteria, it is only fair that the work be submitted to architectural criticism. In the desire to translate structure into architectural language, it would seem that, with the exception of the bridges, a little too much "style" has been forced upon some of the buildings. While we admire Morandi's inventive engineering, his understanding of material, and his willingness to play with bold forms, we maintain reservations about certain arbitrarily decorative effects, most of which were produced in collaboration with architects: a disturbingly heavy marble facing ostentatiously applied to the overhang of an auditorium project for Rome, a theater in Rome that has been dressed up with a "sharp" exterior (although not nearly so flamboyant as most Italian movie houses). There is a subtle suggestion that even engineers may be influenced by that growing group of Italian architects who have developed a neurotic distaste for the direct and simple solution. It is extremely probable that Morandi, alone, might not have forced his structures into these decorative vulgarities. His more severe work—the Tecnicum building at Colleferro (1953), the match factory near Trieste (1950)—is surprisingly reminiscent, in the proportioning of rectangular volumes and fenestration, of the work of the "Comacini," the group that pioneered modern architecture in North Italy around the lake of Como in the 1930's. It is in the freer plastic elements, stairs in particular, that Morandi is able to show his own personal taste and virtuosity and to indulge his obvious pleasure in the esthetic potentialities of the material.

ADA LOUISE HUXTABLE

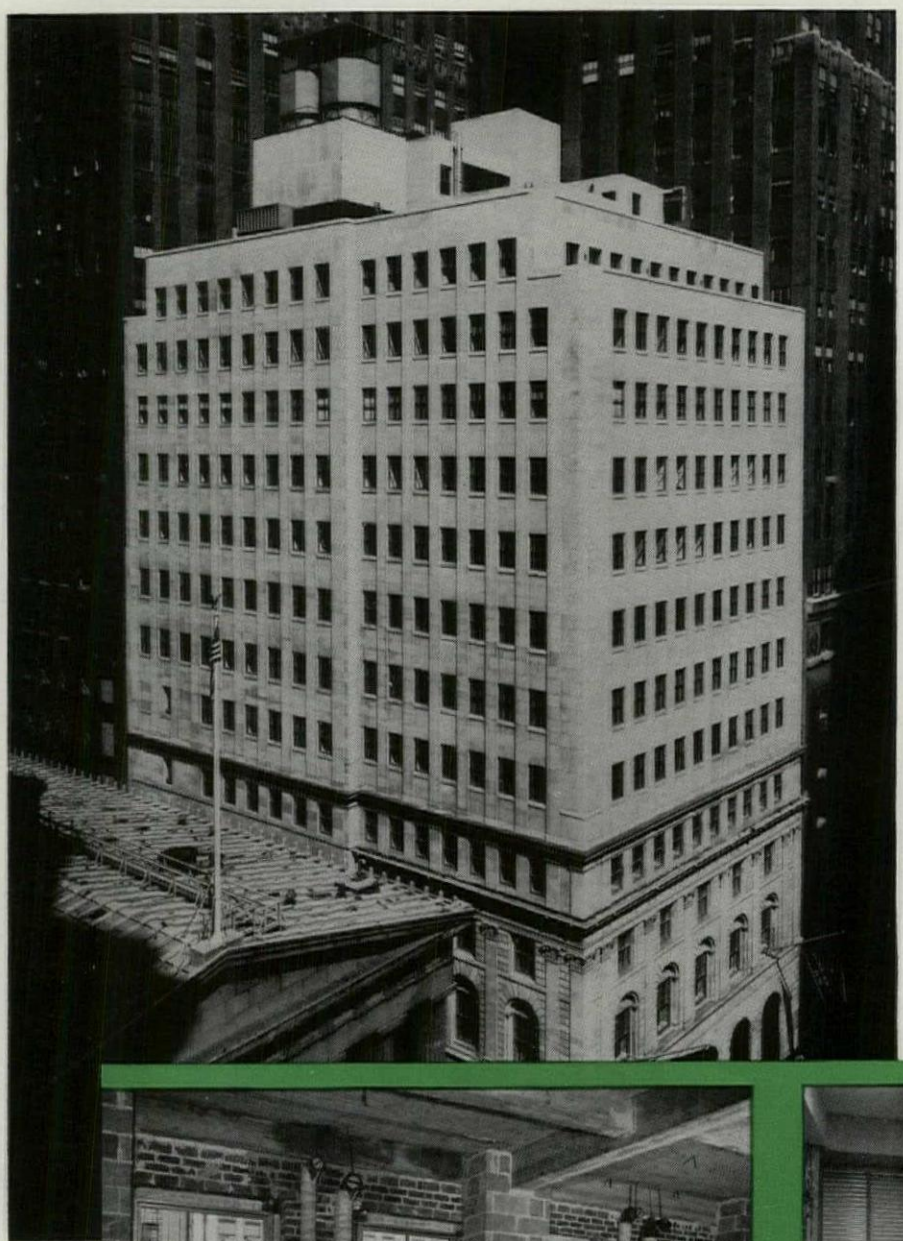
variety of houses

A Treasury of Contemporary Houses. *Editors of* Architectural Record. Architectural Record, *119 W. 40 St., New York 18, N.Y., 1954. 215 pp., illus., $5.95*

The files of an architectural magazine

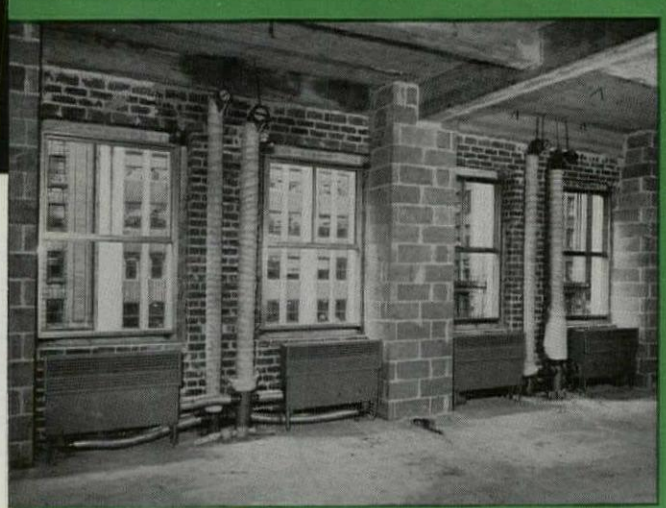
(Continued on page 190)

TUTTLE High

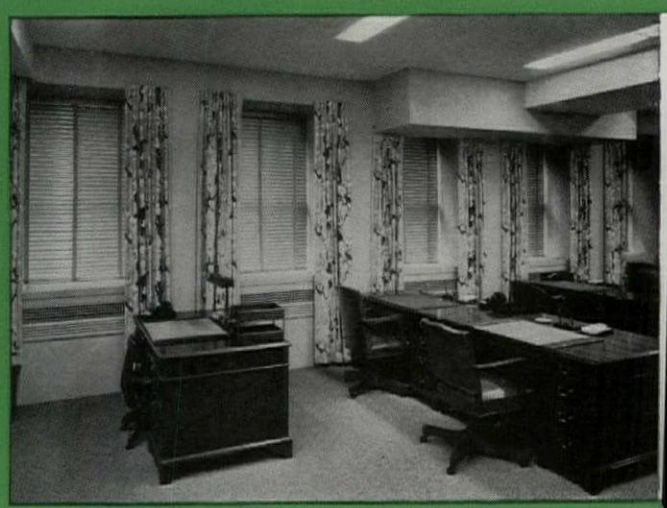


Seaman's Bank for Savings . . . First entire building in New York City to use *double duct mixing plenum high pressure system* features complete flexibility of heating/cooling zone control.

Architects: *Halsey, McCormack & Helmer*
Consulting Engineer: *Edward E. Ashley*
General Contractor: *William L. Crow Construction Co.*
Air Conditioning Contractor: *Alvord & Swift*



Photograph taken during construction of Seaman's Bank for Savings showing installation of Tuttle & Bailey Type MPW Double Duct Mixing Plenum Wall Units.



Typical view of a general office area in Seaman's Bank for Savings showing how Tuttle & Bailey Type MPW Units blend with modern architectural design and decorative scheme.

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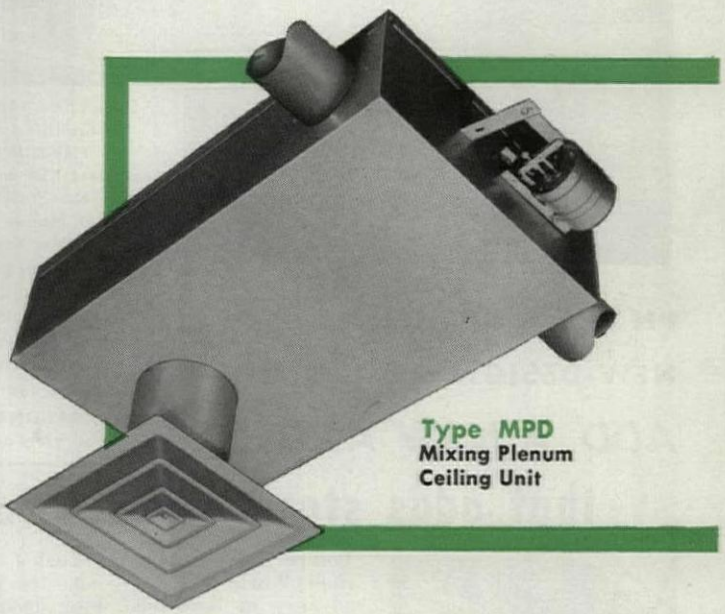

Type MPD
Mixing Plenum
Ceiling Unit

Type MPW
Mixing Plenum
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Savings in overall building and installation costs were effected by the use of conduit risers and branches which reduced floor-to-floor dimensions . . . a single primary equipment room resulted in more useable space . . . and the need for supplementary equipment required for the operation of other types of systems was eliminated. In addition, utilization of 100% outside air for cooling when temperature permits will save the cost of operating compressors, pumps, and cooling tower during such periods.

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VENTILATING AND HEATING

TUTTLE & BAILEY INC

NEW BRITAIN, CONN.

reviews

(Continued from page 186)

present a valuable opportunity for the publication of anthologies of recent architecture. This handsome picture book presents more than 50 houses in the United States, widely distributed as to location and architect. The houses have been grouped into descriptive categories and provided with captions which draw attention to interesting characteristics. Plan and detail drawings and several interior and exterior photographs provide a reasonably complete description of each example. The family contemplating construction or purchase of a "modern" house will find this book both instructive and enjoyable. HEATH LICKLIDER

beauty of simplicity

This is Japan 1955. *Number Two. Asahi Shimbun Newspaper Publishing Corp., Tokyo, Japan, 1954. 316 pp., illus.*

Perspective of Japan: An Atlantic Monthly Supplement. *Intercultural Publications, Inc., 477 Madison Ave., New York 22, N. Y., 1954. 78 pp., illus., 35¢*

The Lesson of Japanese Architecture. *Jiro Harada. Charles T. Branford Co., 551 Boylston St., Boston 16, Mass., Revised Edition, 1954. 192 pp., illus., $6.50*

Three recent publications depict, with a high degree of excellence in form and language, the present remarkable stage of development—cultural, scientific, commercial, and industrial—in Japan. The extent of such development, since the 1853 visit of Commodore Perry to open the country to outsiders, is spectacular. The results of that opening to Western trade and ideas could not have been foreseen; both sides of the relationship have been deeply affected in the resulting interplay; its two-directional effects have been extremely far-reaching in all fields; both sides have gained and both have possibly lost something in the interchange.

The country, closed to contacts with the outside since the early 1600s until a century ago, has risen with incredible rapidity to a foremost place among the nations. Japan has become many things: inter-

(Continued on page 194)

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reviews

(Continued from page 190)

preter and adapter of Western techniques, fabricator of Western materials for the East and of Eastern materials for the West, supplier, and customer. Consequently, she has become the most highly industrialized Asian nation; has gained mastery of industrial technology; has developed commercial managerial expertness; possesses a vast store of skilled manpower.

Background detail to assist toward appreciation of Japan's position in the world of ideas and techniques is offered in the publication, *This is Japan.* This large, outsized volume (number two of an annual series) is a disjointed publication; and is of the kind that a Chamber of Commerce might sponsor in an ambitious effort to present compendious information on multiple phases of activity — government, defense, culture, art, architecture, religions, dress, foods, science, agriculture, manufacture, industry, commerce, transportation, shipping, travel, resorts, hotels.

In this encyclopedic publication the amount of information on such diverse subjects is of staggering proportions. Of interest to architects will be the section titled "Towards a New Architecture." Several recent notable designs in an advanced Western manner are pictured. Among others are the Maruei Department Store and Hotel in Nagoya, by Togo Murano; glass-fronted hospitals in Tokyo and Osaka, by Mamoru Yamada; the Ehime Prefecture Public Hall, Matsuyama, and Children's Library in Hiroshima, by Kenzo Tange. The Public Hall is very striking—its round shape and general features bear marked resemblance to those of the Dome of Discovery of the 1951 Festival of Britain. The other advanced work is manifestly derivative; in Japan the lack of original designers is evident no less than in Western countries.

The second of the publications, *Perspective of Japan,* has been issued to assist "Westerners in general" and "Americans in particular" in overcoming the special problems that make difficult an understanding of the culture of Japan: lack of knowledge of its past; lack of

(Continued on page 198)

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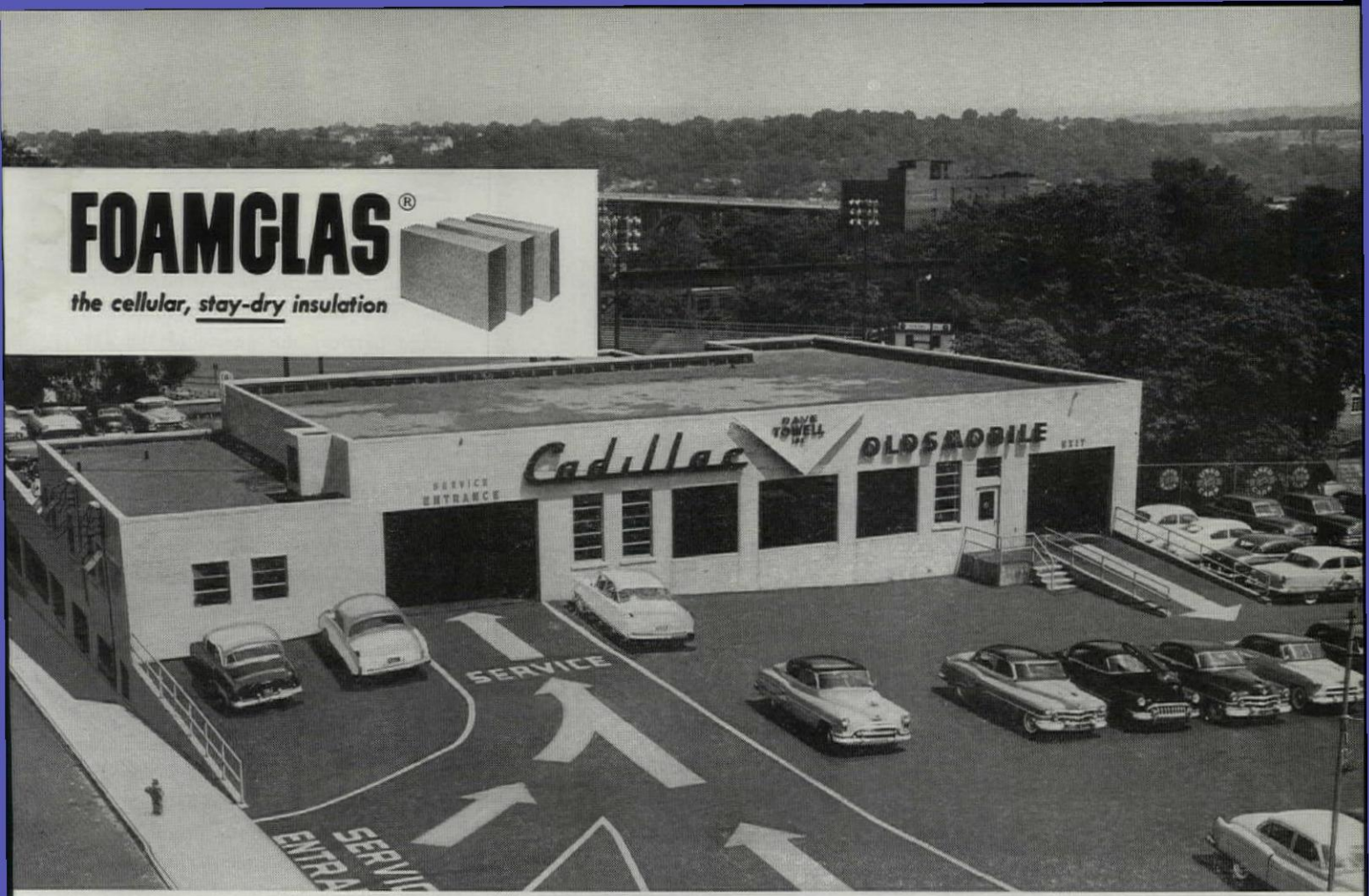

"Strong, stay-dry FOAMGLAS roof insulation makes rooftop parking practical"

reports Dave Towell Cadillac—Oldsmobile Agency, Akron, Ohio

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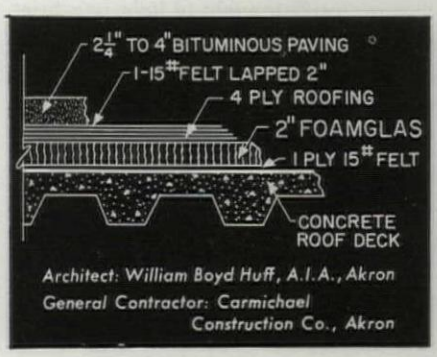

Architect: William Boyd Huff, A.I.A., Akron
General Contractor: Carmichael Construction Co., Akron

Heavy power roller smooths out bituminous paving on roof deck. FOAMGLAS insulation underneath supports weight without crushing. ▶

reviews

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cultural ties linking this country to the East, as it is linked to Europe; the language barrier; the nature of the Japanese, which tends to make them avid students of the West rather than aggressive teachers of their own culture and habits.

Japan in its past history has been a catch-all of various Asian civilizations. The process of assimilation has made the country, in a sense, the essential component of Asia and affords to the West a means of understanding Asia. To provide, in brief form, knowledge necessary to proper understanding of Japan without visiting and seeing "its narrow village streets bright in the evening after rain, its tiny, steep, green mountains wrapped in their sudden mists, and its charming, tireless, brilliant and erratic people" is the purpose of *Perspective of Japan.* This is the third of a series of anthologies of artistic and literary work published in co-operation with *The Atlantic Monthly* (the others were concerned with India, and Holland and Belgium combined). The selected subjects—current economics, politics, art, architecture, literature, poetry, theater, etc.—highlight various facets of modern Japan which are of interest to the West.

The pages devoted to Japanese architecture illustrate Japan's good fortune in having missed the various revival and eclectic periods of the West. She has passed easily from the antiquity-rooted traditional domestic and religious architecture into the contemporary. Surprising to some may be the fact that many of the basic modern architectural principles have for centuries been applied by Japanese to even the humblest residences. This is clearly brought to light in a brief, concise discussion of architecture in two articles in *Perspective of Japan:* one by Mosuke Morita and another by Yoshiro Taniguchi, both Japanese architectural professors. The elements of the beauty of Japanese traditional residential architecture are shown to be the basic elements of modern architecture — "simplicity, functionalism, straightforward expression of materials and construction, geometric composition devoid of superficial orna-

mentation, standardization of parts, unity of house and garden."

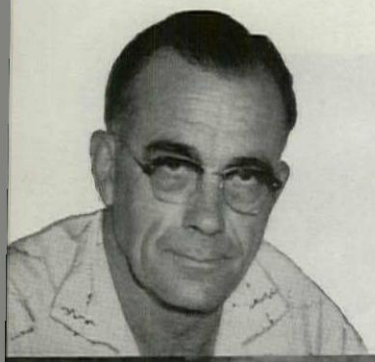
The authors also discuss some outstanding examples of nonresidential traditional (palaces, temples, and shrines) and modern architecture. They emphasize, as worthy of careful notice, the characteristic traditional features: skeleton construction of the post-and-beam type rather than bearing walls, spareness of ornamentation, openness of spaces, organic unity of interior and exterior.

The recent widely publicized construction of a typical Japanese residence on the grounds of the Museum of Modern Art in New York has focalized and fostered a wide, increasing interest in Japanese domestic architecture. The average American may picture Japanese homes as weak, bare structures of paper and wood. For a true picture, the third book is recommended, *The Lesson of Japanese Architecture.*

This book, a reprinting in revised, up-to-date form of a work originally published in 1936, portrays further the delicate, subtle, exquisite beauty of the country's domestic architecture; it shows its development from origins in the early centuries of the Christian era to its present high degree of refinement and distinctive richness. This development has centered around the universal, social-cultural custom of the Tea Ceremony and its elaborate techniques. The size, layout, and furnishings of the house are based on the size and number of *Tatami* (floor mats of wadded rice straw, covered with reed matting), used for sitting and sleeping. *Tatami* are approximately three feet by six feet in size; from their use developed an age-old modular system based on the *Tatami* unit.

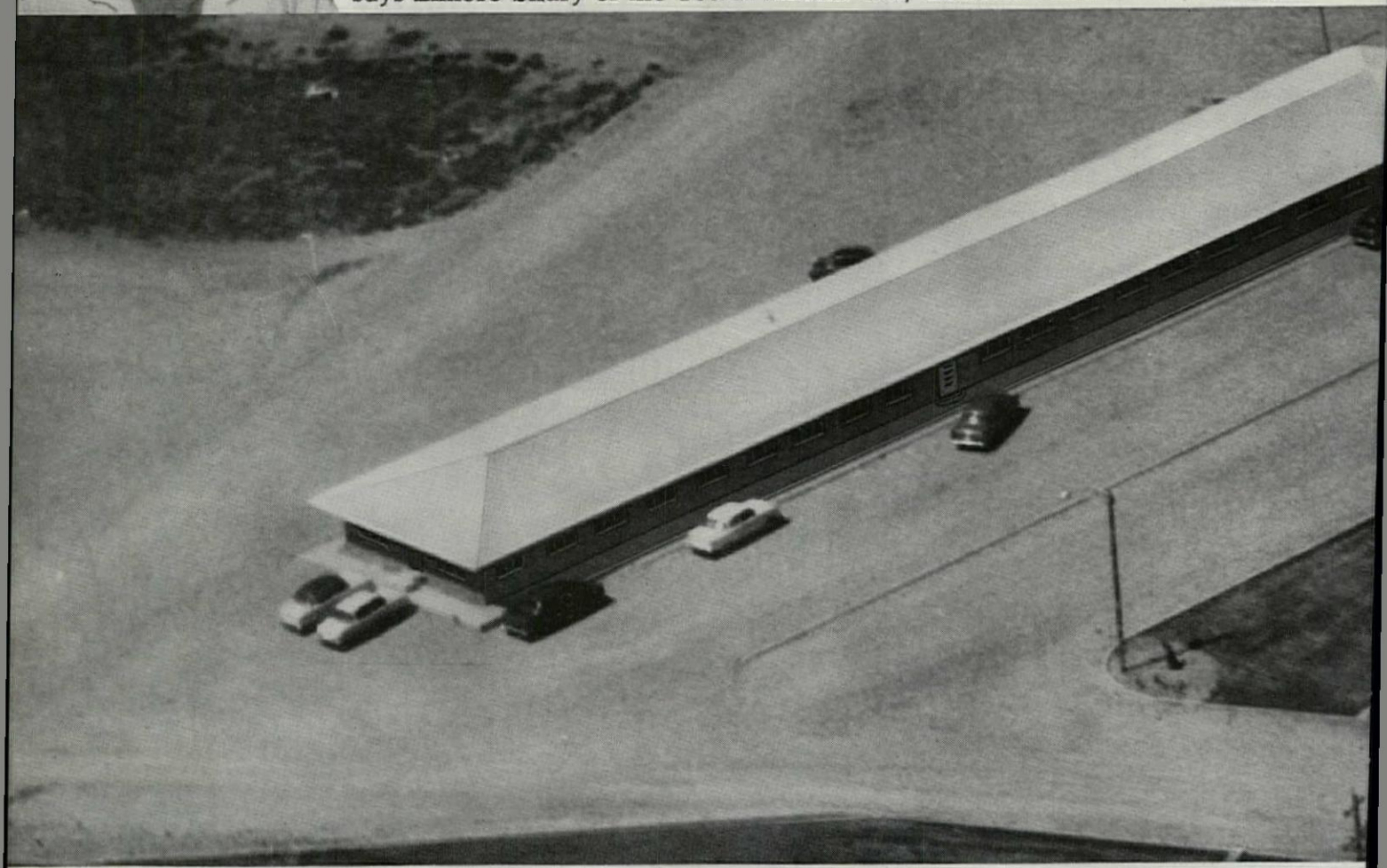
After a reading of this book, the principles of Japanese domestic architecture may be summed up as standardization, variety in unity, functionalism, simplicity of form and proportion, organic integration with nature, economy of materials and space, natural use of wood and stone, modular planning based on the unit of the mat, and deliberate irregularities to avoid monotony. The whole is a code of

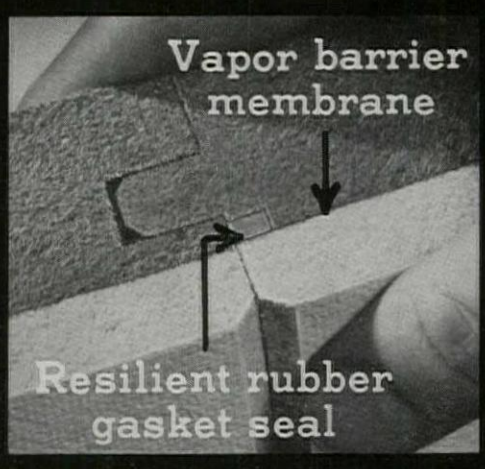
(Continued on page 202)



"Roofed 30,000 sq. ft. $3,675 with

says Elmore Snary of the Ted F. Merrill Co., General Contractors, Brush, Colo.





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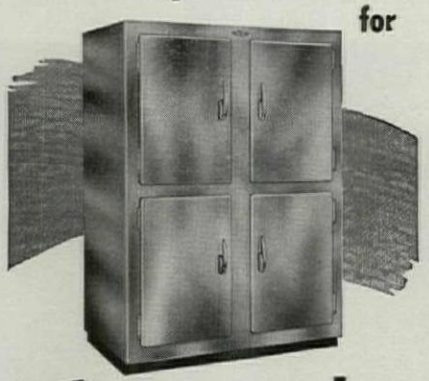

reviews

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art characterized by quiet taste, subtle beauty, simplicity without severity, and—above all—restraint. In addition to domestic architecture, religious architecture is also discussed. The general appearance of these temples and shrines is well known: the stable balancing of the strong verticals and horizontals, the rich color, the large scale, the dramatic effect.

These three publications prove that the lessons to be learned from a study of Japanese culture — especially Japanese domestic architecture — are well worth the time and effort required.

LAWRENCE E. MAWN

architectural lures

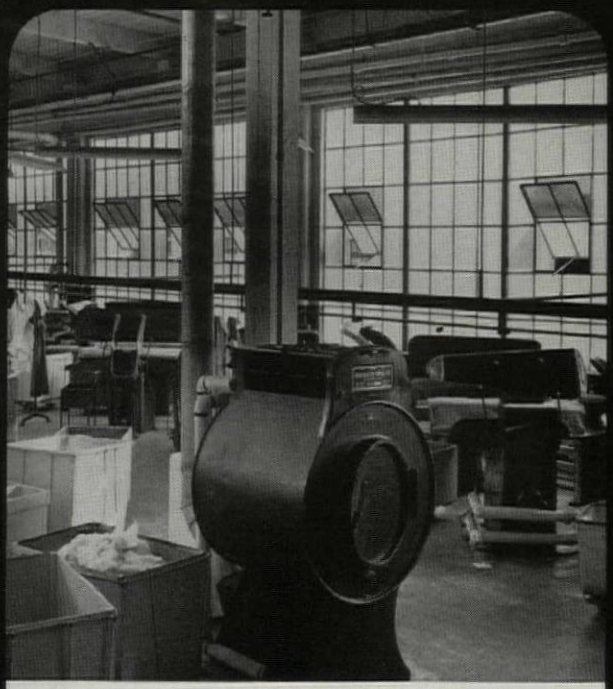
The Specialty Shop. *Edited by Jose A. Fernandez. Architectural Book Publishing Company, Inc., 112 W. 46 St., New York 36, N.Y., 1955. illus., $12.50*

This useful guide for store owners and designers has been revised, and a number of new examples substituted to represent recent work. Short articles offering advice on the recurring problems of shop design are sandwiched between generous sections of illustrations with the author's running commentary. A brief history of shop design is provided and a 35-page supplement is devoted to scale drawings of store furnishing details. Most shops are represented by several photographs; most are examples of work in the United States; and the largest selection is from the author's own designs.

As a cross-section of superior shop designs, this book provides an interesting commentary on the influence of the special circumstances of retail trade on current trends in architecture. The conspicuous triumph of the open-front shop, joining interior and exterior space to suck the shopper from the streets, and the expert integration of artificial illumination, furniture and over-all plan toward a common goal of merchandise display, indicate a happy marriage of good design and good business. But the appallingly low level of architectural lettering displayed in signs seems to spell out incompatibility! HEATH LICKLIDER

(Continued on page 206)

Glare, shadows and dark corners disappear when daylight is diffused with translucent reinforced plastic panels.



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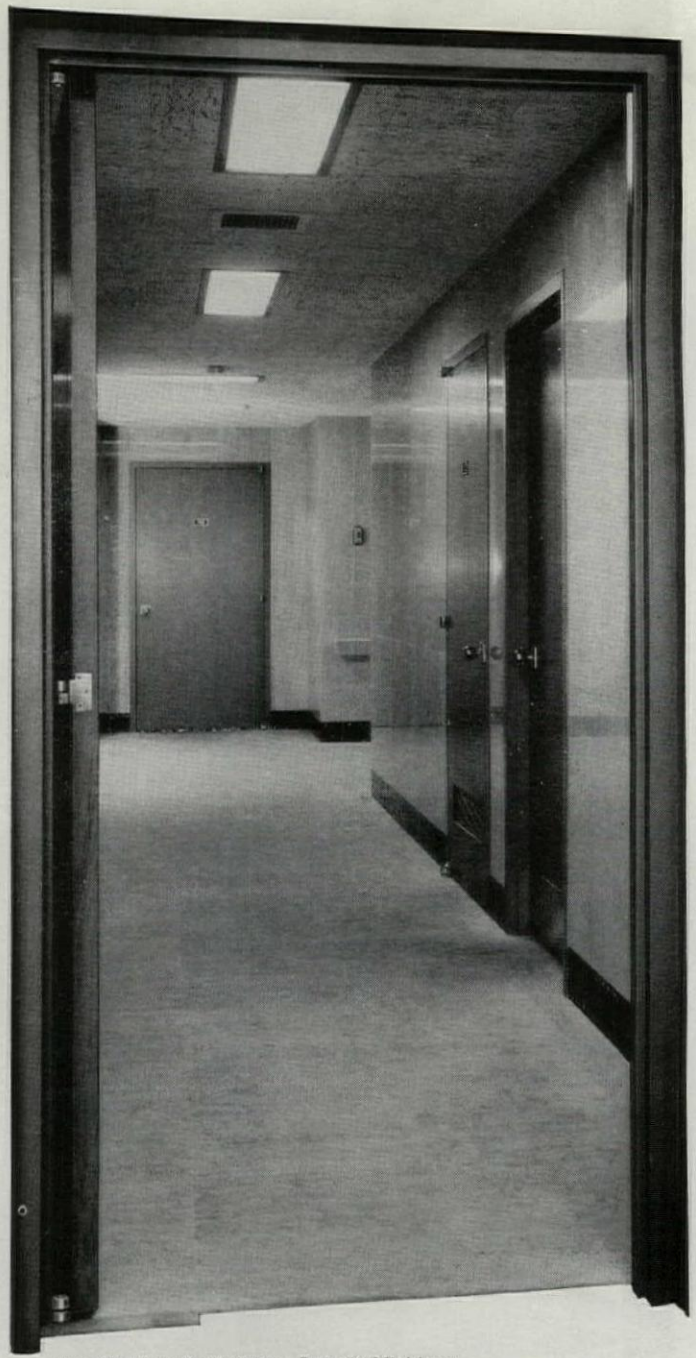
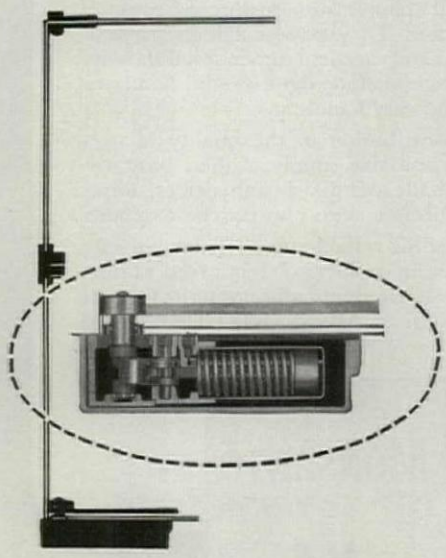


The City-County Building, Detroit, Michigan
HARLEY, ELLINGTON AND DAY, INC., Architects



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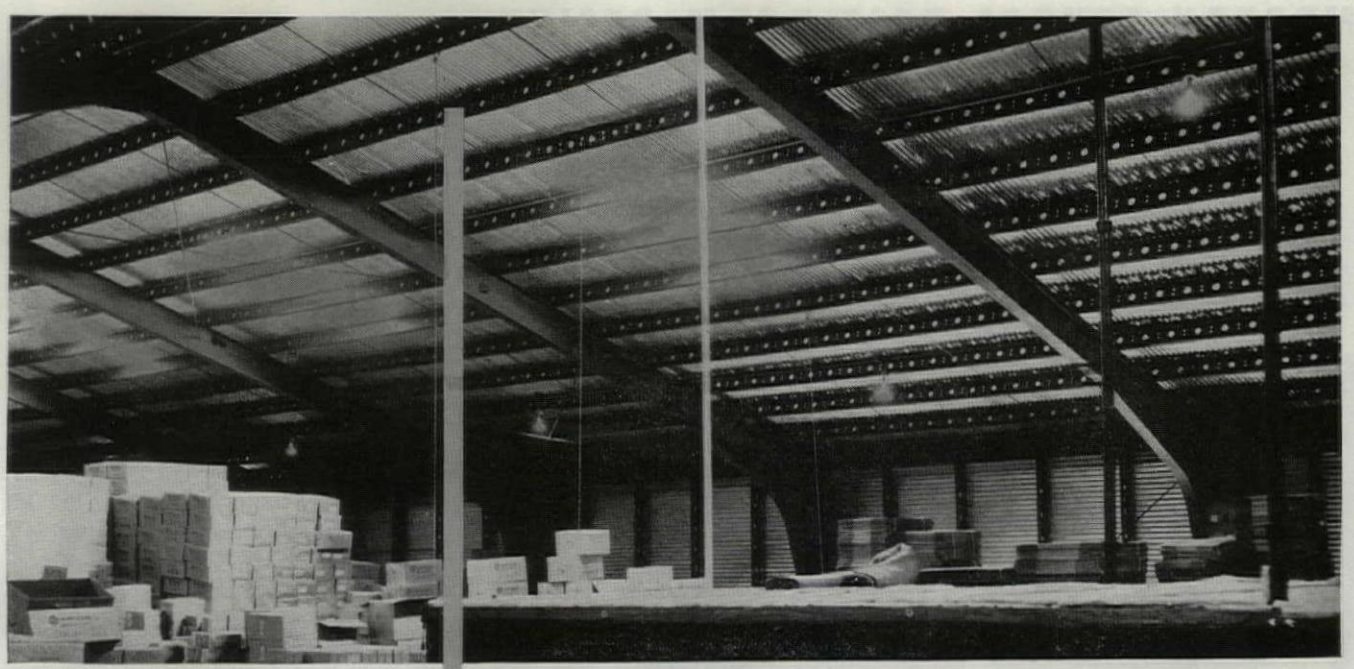

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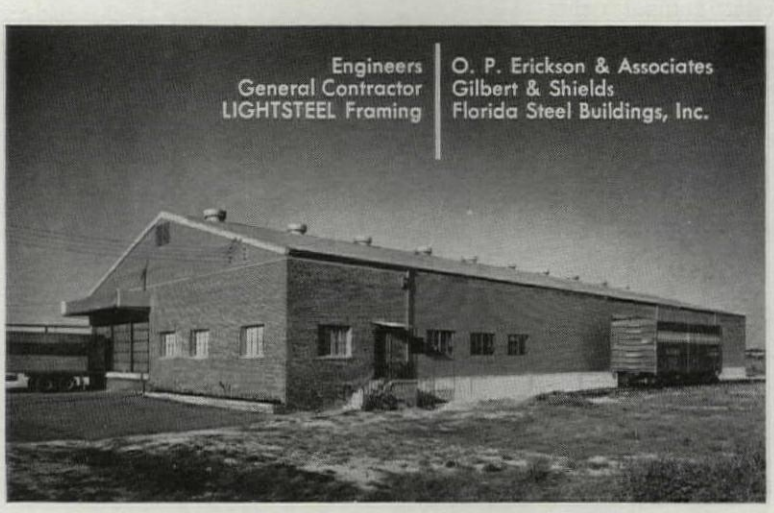

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reviews

(Continued from page 202)

real estate guide

Urban Real Estate. *Ernest M. Fisher & Robert Moore Fisher. Henry Holt & Co., 383 Madison Ave., New York 17, N.Y., 1954. 502 pp., $6.50*

The paths threading the jungle that is urban real estate are like the interchanges of a macabre superhighway, where a man can only hope he has properly read the sign as he whizzes past it at sixty miles an hour.

Fisher & Fisher set out to map the jungle, and their name will be praised by all who need a competent guide. They have posted clear, well-lighted signs along each road, put caution signs at intersections, and given ample forewarning of turn-offs. It won't be the fault of the authors if anyone goes astray.

This book carefully explores and thoroughly explains the complex turnings of all transactions involving urban land—buying, owning, selling. It picks a precise path among analyses of spatial units, titles and transfers, short- and long-term leases, markets and mortgages, the economic base of communities, and other such formidable obstacles. And an excellent glossary at the end completes the reader's orientation.

Definitions given here are a far cry from those of bygone days—those days when boundaries were a running brook, a bowed elm, an angle formed by two stone walls—"I give thee, Jonathan Blake, all the land contained therein. . . ." In the difference, one sees the progress and the plight of man.

Since we have arrived at our present sorry state, the architect who perforce gets involved in his client's real estate problems will do well to fortify himself with this fine book—and a brace of outstanding lawyers.

A director of the Institute of Urban Land Use and Housing Studies at Columbia University, trustee of New York City's Citizens Budget Commission and of the Urban Land Institute, Washington, D.C., and consultant to the Federal Reserve System (to list only a few affiliations), Dr. Ernest M. Fisher seems exceptionally

(Continued on page 211)

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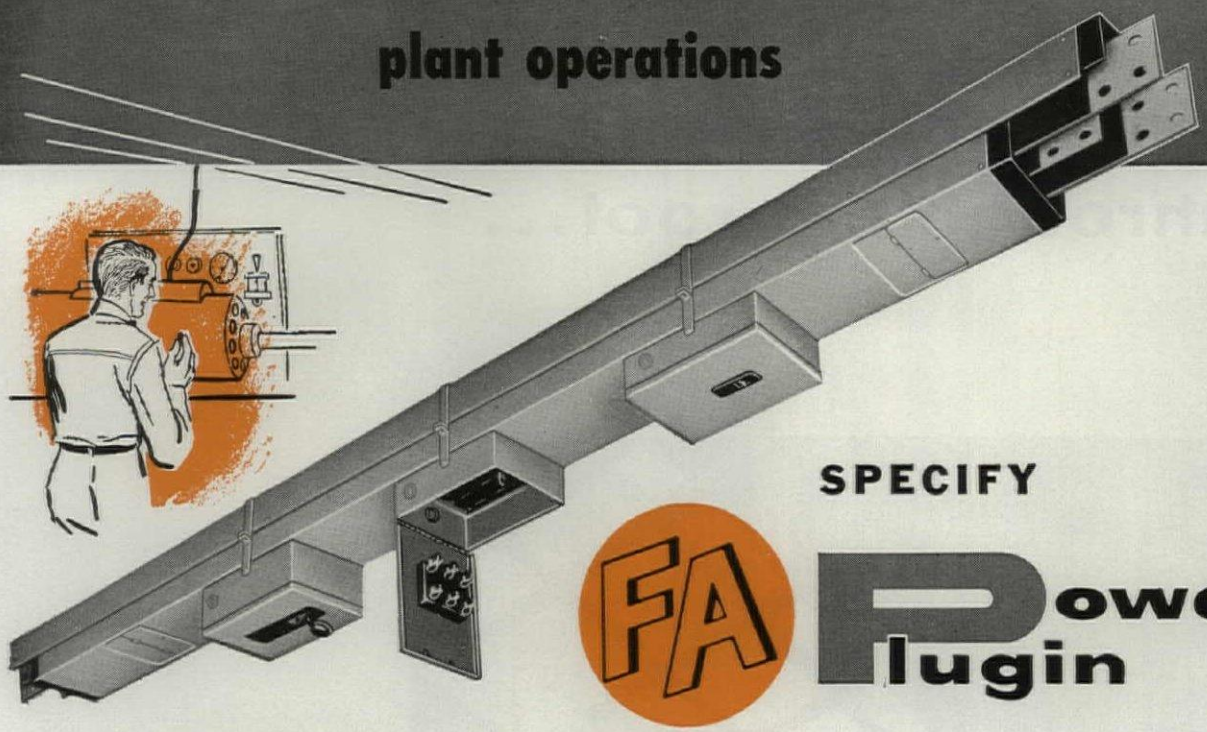

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Ⓕ POWERPLUGIN is the modern system of power distribution — safe, dependable, economical and flexible. It facilitates plant production by making power available where and when it is needed, enables machines to be regrouped and relocated without disrupting production, reduces voltage drop to a minimum by eliminating long lead-ins, cuts maintenance costs and provides other savings. Too, it is 100% reusable.

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Ⓕ POWERPLUGIN is available in the following capacities: 250 to 1000 amps (1200 and 1500 amps also available), 600 volts AC or less with Klampswitchfuz, Shutlbrak or Circuit Breaker plug-in units.

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Ⓕ POWERPLUGIN is made of 16 gauge steel with attractive pearl gray enamel finish.

Insulators are one piece glazed porcelain with steel channel supports riveted into position.

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Either copper or aluminum conductors available.

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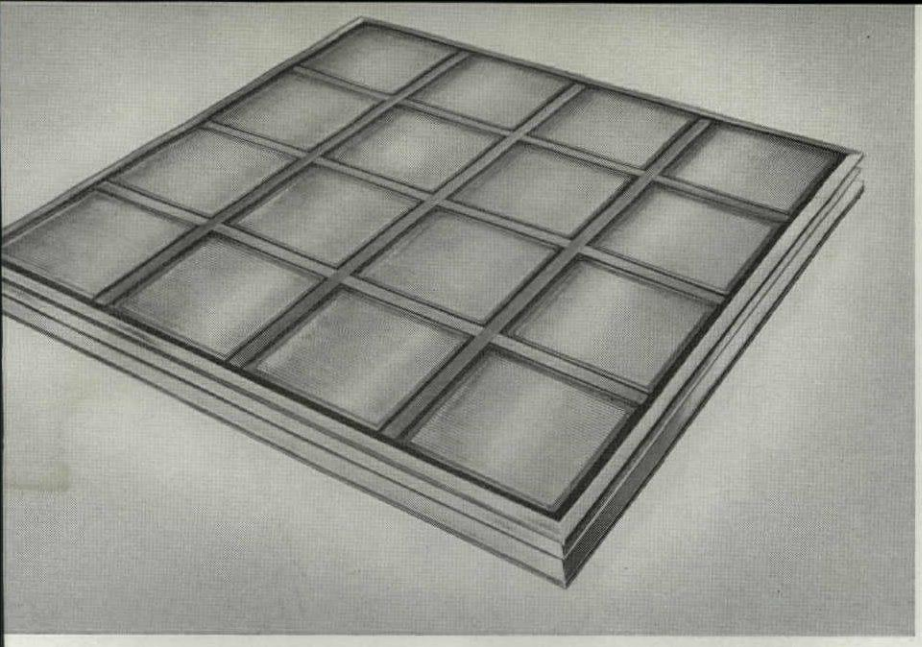
Glass Panels bring cool daylight in through the roof...

Toplite installation at Michener School, Adrian, Michigan. Louis Kingscott, Architect. W. N. Bjorklund, General Contractor. The Toplite panels and glass block act as a daylighting team to provide sufficient daylight during normal days without need for artificial lighting.

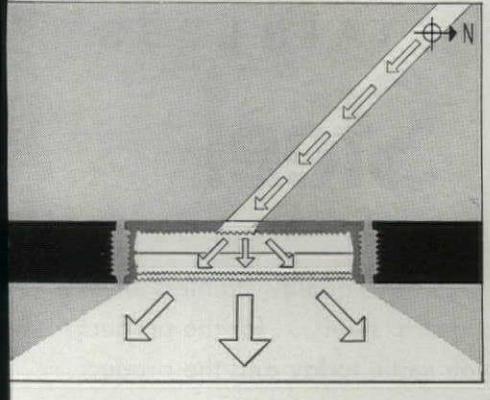
Toplite Panels may be installed in continuous strip, pattern, or in individual panels. Use a Toplite Panel as you do a lighting fixture. They permit daylighting of all building areas regardless of location or distance from exterior walls.



Toplite Roof Panels are factory-fabricated ... ready to install

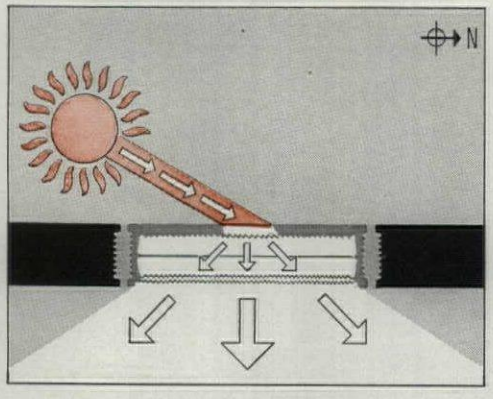
They are shipped in individual crates marked to show correct orientation and directional positioning; for speed and ease in installation. Panels arrive on job site ready to install. They are set on prepared curbs and anchored ready for flashing by the roofer.

Why Owens-Illinois TOPLITE meets the demand for good daylighting



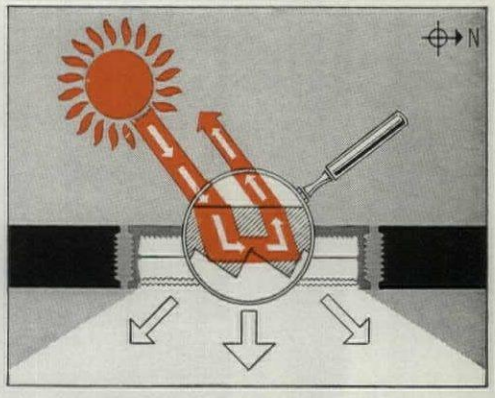
Transmits north light

Maximum transmission of north light is a desirable quality in toplighting because of its uniformity and freedom from glare and solar heat. Note how the prism structure of Toplite affords efficient transmission of north light.



Accepts winter sun

Since low winter sun is comparatively weak in relation to high summer sun as far as glare and solar heat are concerned, maximum transmission is again desirable. This illustration shows how Toplite accepts and transmits winter sunlight.



Rejects summer sun

Other materials which transmit north light and low winter sun also transmit high percentages of light during the hot, summer months. Toplite rejects direct light and heat from hot, summer sun, but transmits much of the cool, north light.

Write for free booklet on Toplite Roof Panels

The complete story of this great new advance in efficient utilization of free daylight is available in this new bulletin. For your free copy write today: Kimble Glass Company, subsidiary of Owens-Illinois, Dept. PA-10, Toledo 1, Ohio.

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McLouth Steel Corporation
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Manufacturers of Stainless and Carbon Steels

reviews

(Continued from page 206)

qualified to sponsor a study and analysis of real estate in American cities. Since six out of ten U.S. residents live in urban areas, the inherent problems affect, directly or indirectly, a sizeable segment of our population. Primarily, this is a guide for the real estate profession, but the layman, too, can profit.

For the architect in particular, now that practice demands a working knowledge of everything from zoning standards to population trends, the book would prove a timely addition to the technical shelf. Potentially valuable chapters include, "The Control of Space," "Title," "Agreements to Transfer," "The Rate of Utilization," "Patterns of Land Use," "Real Estate Finance," and "The Influence of Public Policies."

These will also bear out this reviewer's contention that urban real-estate transactions require the services of super-specialists equipped with a fair amount of clairvoyance and a medium crystal ball. Such things are best left to those who qualify: and at least one architect feels he should steal back to his drawing board and contemplate contentedly the blessing of small gifts.

JOSEPH AMISANO

new office tool

Building Check List. *Ben John Small. Reinhold Publishing Corp., 430 Park Ave., New York 22, N. Y., 1954. 151 pp., $3.50*

Ben John Small has long been known to P/A readers as the author of a long series of Streamlined Specifications and more recently as the creator of *Spec Small Talk*, a monthly column discussing both the serious and humorous aspects of specification writing. Ben's most recent book provides the architectural office with an invaluable set of check lists which quickly refresh the memory, useful against omitted or overlooked items. His check lists include specifications, equipment, contracts, tips to job captains, resumé of AIA General Conditions, and associations and institutes. Under Playground Equipment, for example, among many other checks one finds Ocean Wave

(Continued on page 214)

Long Beach Calif. High School; Hugh R. Davies, Architect; Smith-Campbell Co., Contractor.

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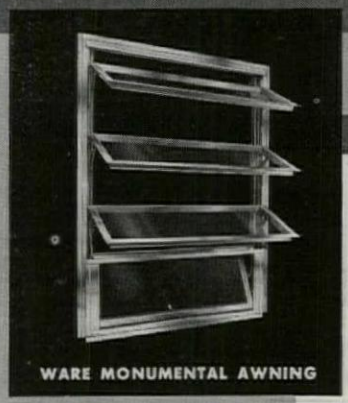

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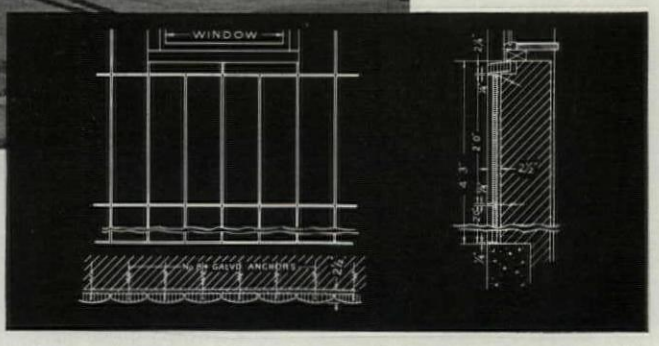
Facing, sills and trim are 2" Architectural Terra Cotta in spotted gray.



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reviews

(Continued from page 211)

Units; and under Theater Equipment one is reminded to recall whether he thought to consider the Wind Breaks. An excellent index makes this compact volume easy to use. B.H.H.

useful guide

Engineering Contracts and Specifications. *Third Edition. Robert W. Abbett. John Wiley and Sons, Inc., 440 Fourth Ave., New York 16, N. Y., 1954. 429 pp., $6*

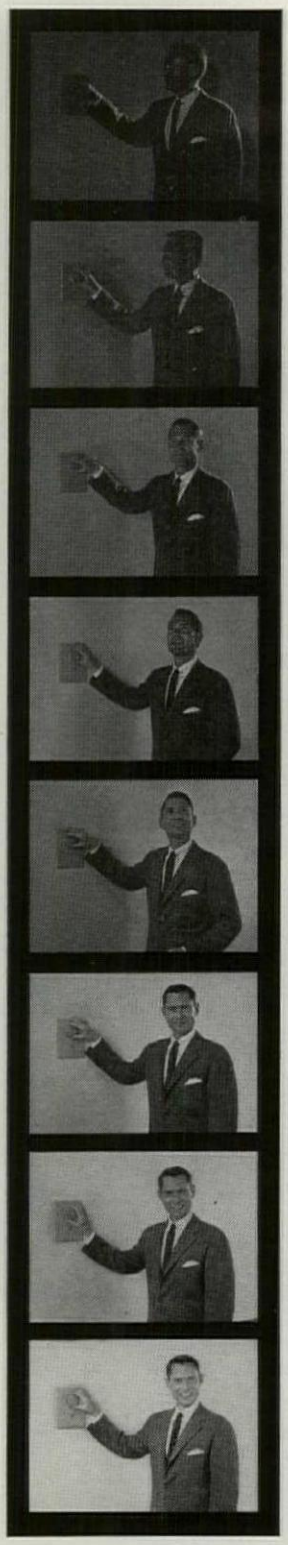
Written for architects, engineers, and contractors, this volume is a guide to the legal and business aspects of the administration of construction work. As in the two previous editions, the emphasis is on fundamental methods of preparing contracts and specifications, including an outline of the basic legal information pertaining to engineering and construction. It also reviews the many differences between U. S. Government contract procedures and private practice. The scope remains the same, but about one half of the book has been rewritten in order to make it more convenient for use as a text and reference; new material has been added on cost plus fixed fee contracts, insurance, contracts for professional services, and specifications. L. G.

persuasive report

Radiant Heating. *2nd Edition. Richard W. Shoemaker. McGraw-Hill Book Co., Inc., 330 W. 42 St., New York, N. Y., 1954. 346 pp. $7*

This is a volume of equal interest to the architect, engineer, contractor, and prospective owner. Throughout the book there is evidence of the author's wish to reach all who are concerned with the selection, design, installation, and operation of radiant heating. Another objective was the presentation of systems of all kinds—for buildings of all types and sizes, from the smallest residence to the largest industrial building. The author has succeeded well in achieving all of these aims. It is a complete work though concisely handled.

(Continued on page 213)



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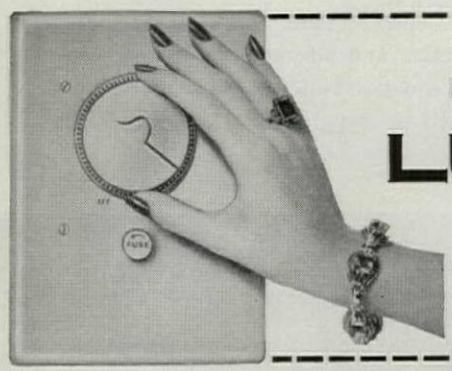

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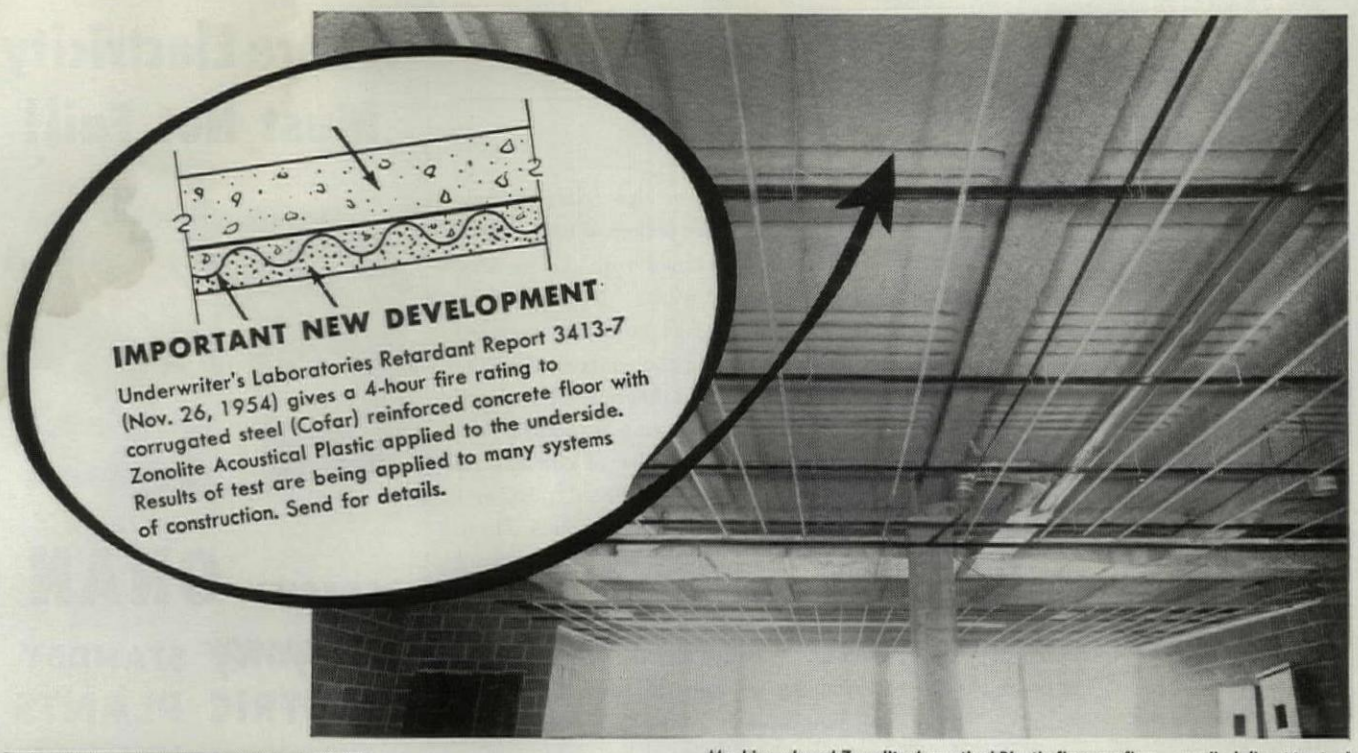
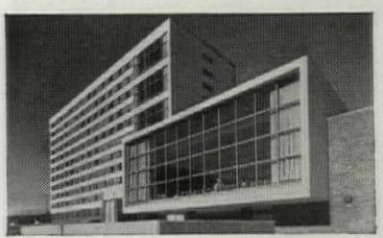


Machine-placed Zonolite Acoustical Plastic fireproofing—applied direct to steel floor, American Automobile Assn. office building, Kalamazoo, Michigan.

● Double Skyscraper represents *newest* in South American architecture. Centro Simon Bolivar, Caracas, Venezuela. *Architect:* Cipriana J. Dominguez

● Prize winner in recent school building contest. Double Oaks School, Charlotte, North Carolina. *Architect:* A. G. Odell, Jr. & Assoc.



● University of Washington Men's Residence Hall, Seattle, Washington. *Architect:* Young & Richardson, Carleton & Detlie

● A modern dwelling in the Chicago area. Residence, William E. Nuemann, DuPage County, Illinois. George Fred Keck and William Keck, *architects.*

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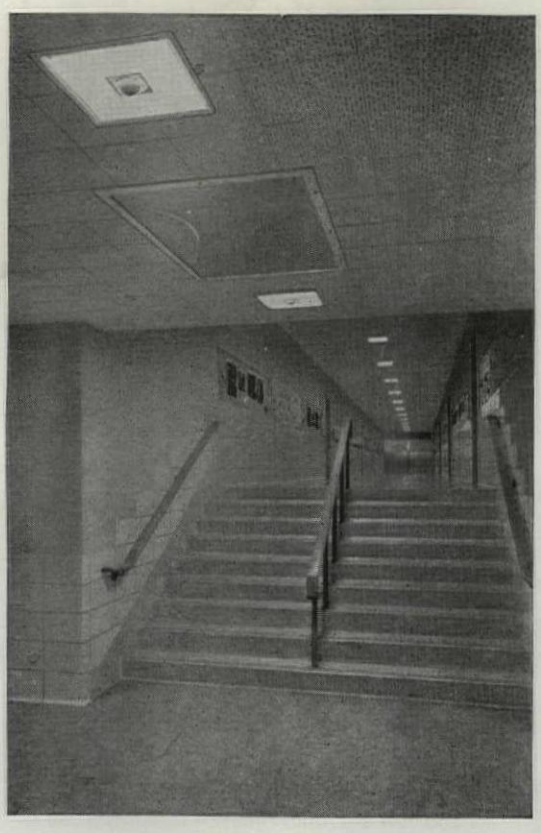
reviews

(Continued from page 214)

In planning to use this relatively new kind of heating, the seeker of information is primarily concerned with the successful experience of others. No other book on the subject gives quite as much attention to inspiring the confidence of the new user of radiant heating. There are 17 photographs showing structural advantages, 28 of examples of commercial installations, 20 of residential jobs, and 49 showing installation techniques. There is also much of value to more experienced readers who are already well acquainted with the subject. In addition to the divisions just mentioned, other chapters are: "Principles" (properly brief since they are now so well known); "Plant," illustrating boilers, firing, valves, and circulators; "Controls," comparing the on-off method with that of blended water temperature; "Design," which stresses simplicity of method and careful balancing of the system; "Radiant Cooling," including the use of the heat pump for this purpose; and "Electric Radiant," now so important as auxiliary heat and as primary heat in areas close to power generation centers. The last chapter is a discussion of advanced theory and methods of precise design of great interest to the consulting engineer and the research analyst.

Items of interest which receive a rather fresh treatment are: converters for producing hot water from steam in large buildings where steam generation is advantageous; details of the heating and cooling installation in the Alcoa Building; a great variety of heating boilers; comparison of design methods of the Chase Brass & Copper Company, Inc. and those of the *Guide* of the American Society of Heating and Air-Conditioning Engineers; soldering and bending techniques; the Kritzer system of enclosing fin convectors in walls and joist spaces; heated swimming pools; snow melting; radiant-heated railway cars; and slab and perimeter insulation in houses.

The book has very obvious advantages for the architect and engineer and should be in the possession of owners and managers who direct the selection and design of heating and cooling systems for buildings of any type. WILLIAM J. MC GUINNESS



Corridor in the Whiting Lane School, West Hartford, Conn. Moore and Salsbury, Architects.

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Skylike, the silvered bowl incandescent modular unit has been accorded wide acceptance as a highly efficient and economical indirect lighting unit for schools. The 24" and 14" units with metal eggcrate or plastic diffusers provide the quality and quantity of light demanded for school requirements – in classrooms, auditoriums, corridors, gyms, lunchrooms, etc.

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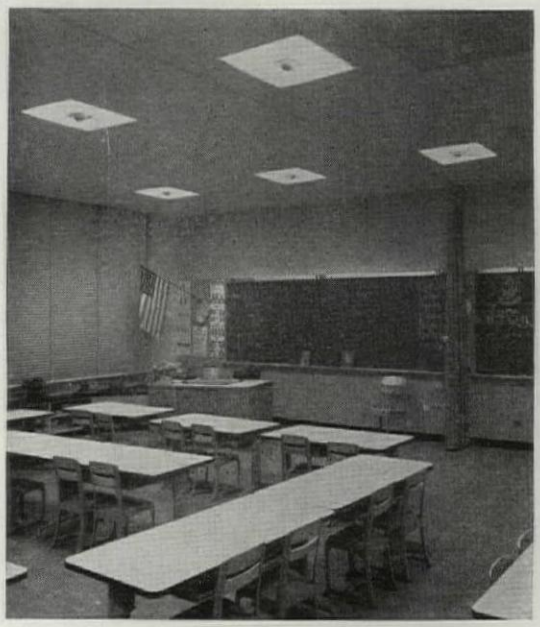
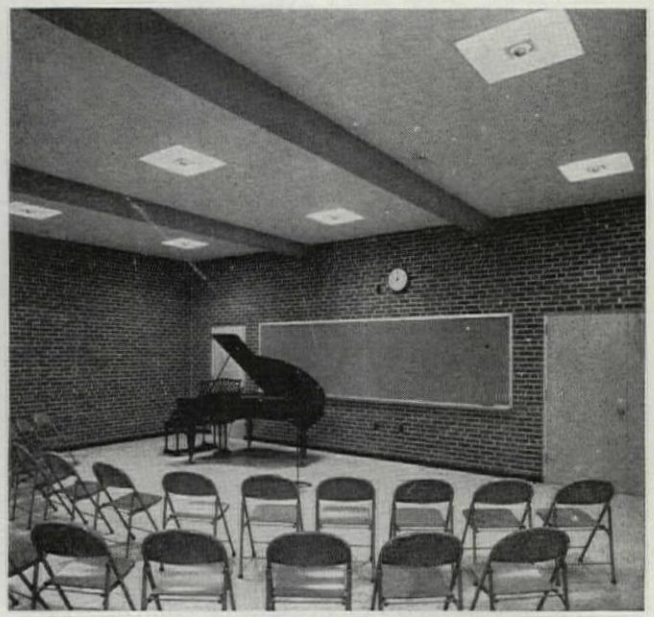


Classroom in the Whiting Lane School, West Hartford, Conn. Moore and Salsbury, Architects.



Band Room in the Concord, North Carolina, City School. A. G. Odell, Architect.

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More than a million people use the Miami Terminal of Eastern Air Lines each year. After several years of service, Terraflex has proved its durability . . . looks colorfully new . . . and has cut maintenance time and cost. Floor installed by Lotspeich Flooring Co.

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Available in a wide range of marbleized colors, J-M Terraflex vinyl-asbestos tile is ideal for restaurants, public areas, schools, hospitals . . . wherever reliable floor service, long-wearing beauty and long-time economy must be combined.

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See "MEET THE PRESS" on NBC-TV, sponsored on alternate Sundays by Johns-Manville

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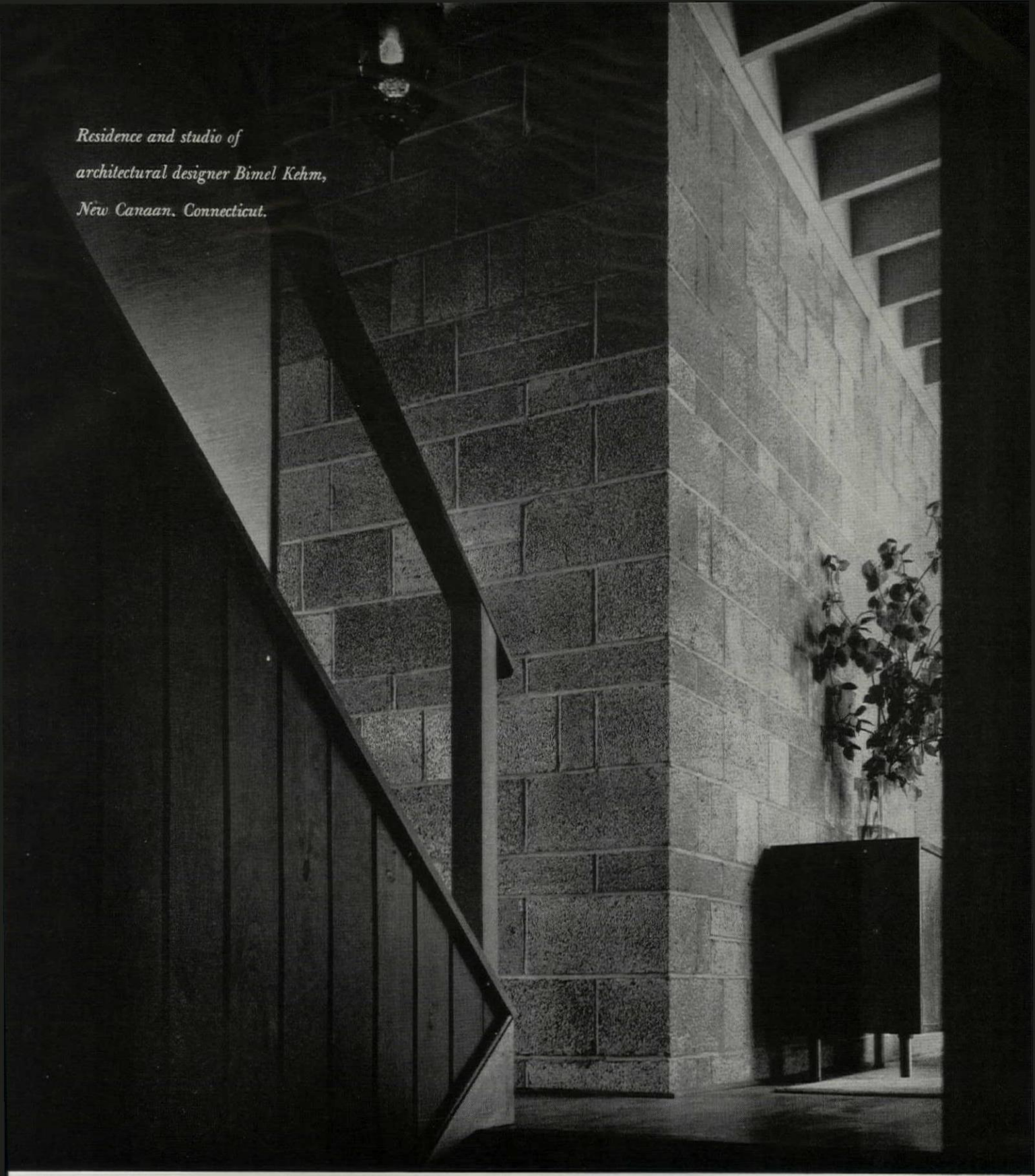

Residence and studio of architectural designer Bimel Kehm, New Canaan, Connecticut.

More and more, people with discriminating taste and a knowledge of construction values are using exposed Waylite Masonry. It is remarkable for beauty . . . economy . . . thermal and acoustical properties. Complete data in Sweet's or, write Waylite Co., 20 N. Wacker Drive, Chicago, or Box 30, Bethlehem, Pa.

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notices

competition winners

The College of Architecture and Design, University of Michigan, announces Phillip John Luth as winner of the George G. Booth Traveling Fellowship Competition for 1955.

J. C. Nichols Foundation of the Urban Land Institute has awarded a $2000 grant-in-aid to Gerald K. Taylor, Jr., for research to be carried on during the academic year 1955-56 at Georgia Institute of Technology.

fellowships

Charles G. Brickbauer, New Canaan, Conn., Dan R. Stewart, Boston, Mass., and Warren Platner, Birmingham, Mich., are recipients of Rome Prize Fellowships in Architecture for the year beginning October 1, 1955. Stephen F. Bochkor, Cambridge, Mass., at the same time received a Fellowship in Landscape Architecture.

William E. Palmquist, mechanical engineering senior at Illinois Institute of Technology, Chicago, Ill., has been named recipient of a propulsion and structural research fellowship presented by Armour Research Foundation of Illinois Tech.

new offices, partnerships

Roger G. Weeks, Architect, 301 Thiesen Bldg., Pensacola, Fla.

James Edward Lynskey, Architect, 1553-A Sunset Dr., South Miami, Fla.

Robert W. Conner, Architect, 244 S. Main St., High Point, N.C.

McCoy & Roach, Architects, 704 Queen & Crescent Bldg., New Orleans 12, La.

J. Buchanan Blitch, Architect, has become a partner in the firm of Ricciuti Associates, Architects-Engineers, 302 Q & C Bldg., New Orleans, La.

Laurence Sacchetti, Architect, has joined the firm of Kelly & Gruzen, Architects-Engineers, New York, Newark, and Boston.

Joseph L. Donofro, Architect, 208 N. Oates St., Dothan, Ala.

Jean Fenton Finkel & Warren Edward Finkel, Architects, 800 Broadway, Lorain, Ohio.

Alford-Pearson-Humphries, Architects, 201 Hill Bldg., Montgomery, Ala.

White, Noakes & Neubauer, Architects-Engineers, 1145 19 St. N.W., Washington, D.C.; 1073 W. Broad St., Falls Church, Va.; 80 Broad St., New York, N.Y.

Stephen H. Blair, Jr., Architect, 4 W.O.W. Bldg., Hattiesburg, Miss.

Parrish & Starr, Architects, 523½ Fourth Ave. South, St. Petersburg 5, Fla.

Charles A. Woehrl & Franklin D. Mabbett, Architects, 119 E. Washington Ave., Madison 3, Wis.

Prentice Bradley, Architect, 74 North St., Pittsfield, Mass.

Budina & Freeman, Architects, 728 E. Main St., Richmond, Va.

Gordon Dickson Orr, Jr., Architect, 80 S. Main St., Wallingford, Conn.

John Graham & Company, Architects-Engineers, 15 W. 44 St., New York, N.Y.

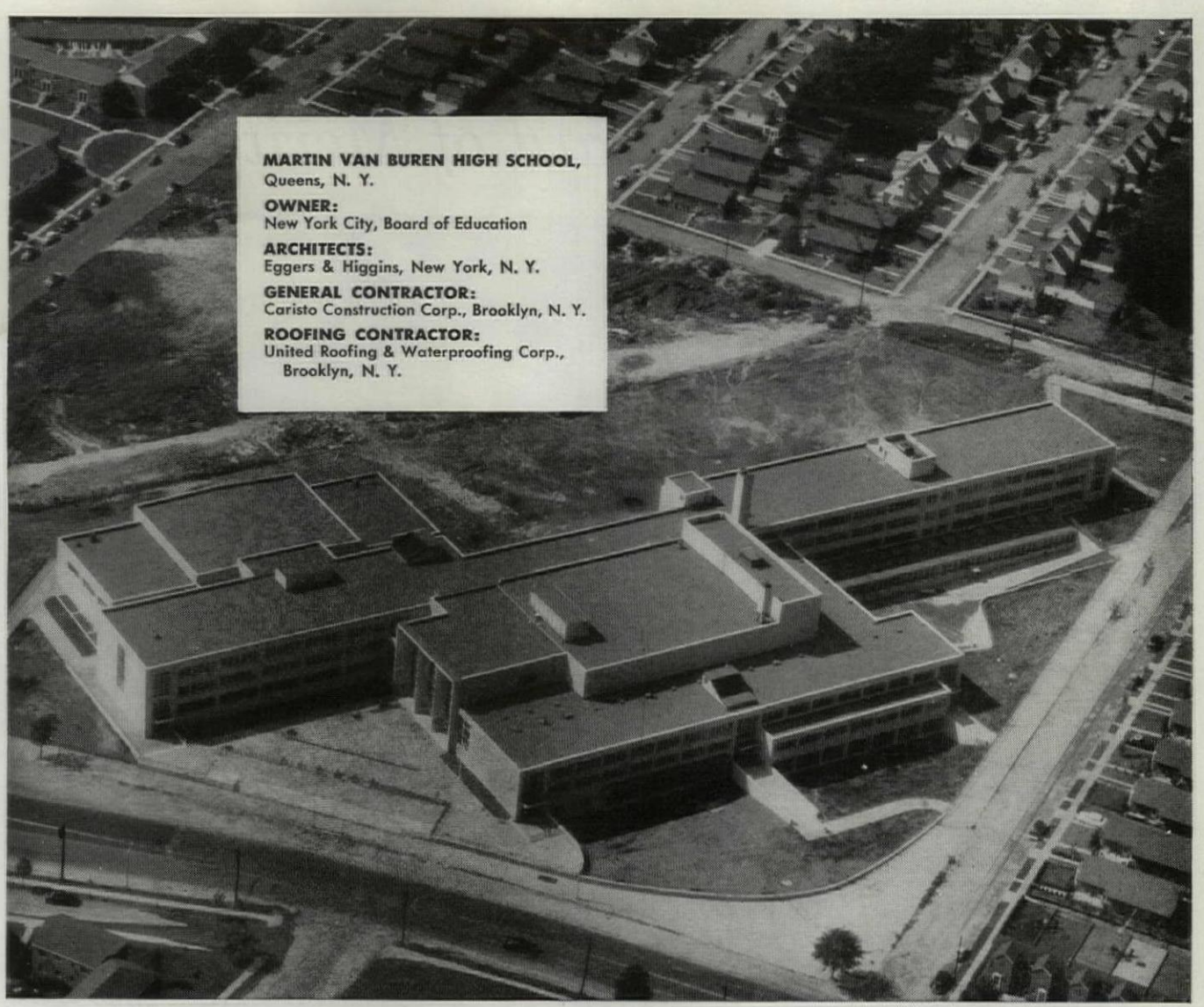
William P. Greening, Architect, 356 S. Beach St., Daytona Beach, Fla.

Robert S. Oliver, Architect, 916 F St., Marysville, Calif.

William B. Fox has become a partner in the firm of Weihe, Frick & Kruse, Architects, 414 Mason St., San Francisco 2, Calif.

Dr. Francis G. Cornell, Educational Consultant, has become a member of the firm of Engelhardt, Engelhardt & Leggett, 221 W. 57 St., New York 19, N.Y.

Swanson, Matson & Wegleitner, Architects, 500 Sexton Bldg., Minneapolis, Minn.



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The new Martin Van Buren High School, in the heart of New York's fastest growing borough, will open for classes this fall. Its over 3000 students will find it the most modern, best equipped and one of the largest high schools in the biggest school system in the country. It is constructed of the newest and best materials to insure many trouble-free years of low maintenance use.

An integral part of its construction is 103,000 square feet of Ruberoid Built-Up Roofing using Special Roofing Bitumen (Ruberoid Specification 203-A). In the case of Martin Van Buren High School, continuing shortages of coal tar pitch made it advisable to include Ruberoid Special Bitumen as an *alternate*. Special Bitumen is a time-tested material proven on thousands of jobs for over half a century and now available at no extra cost.

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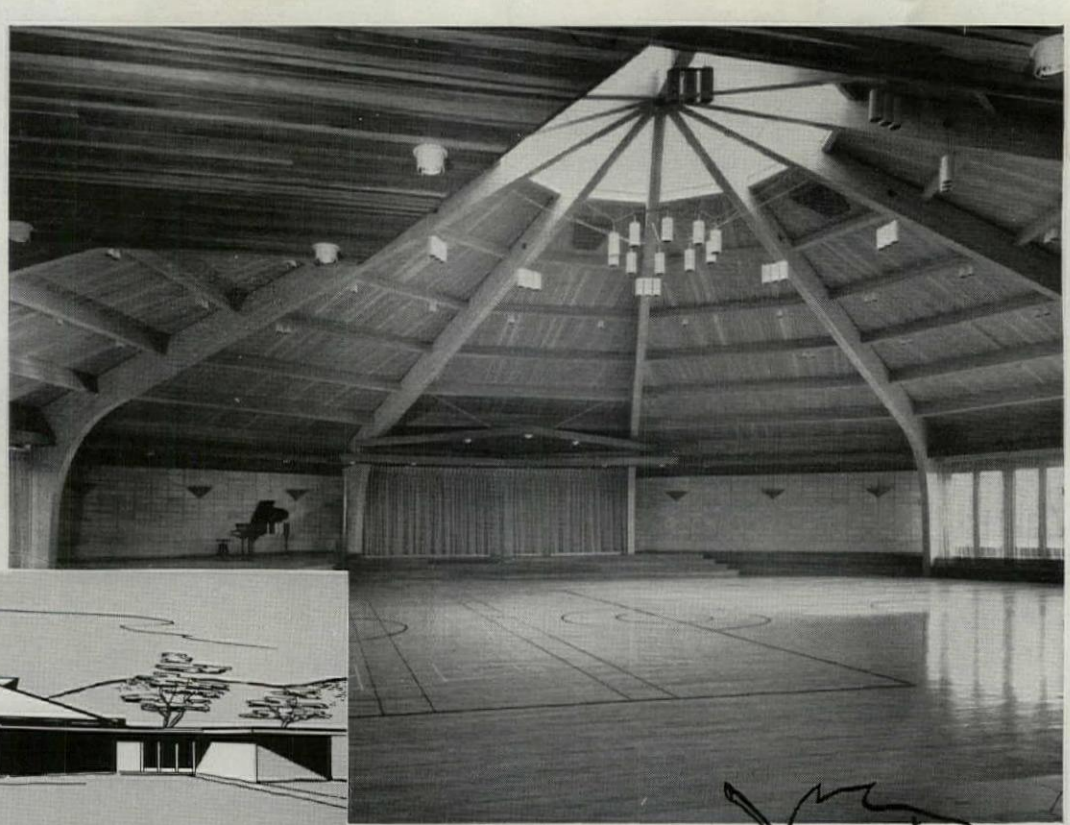
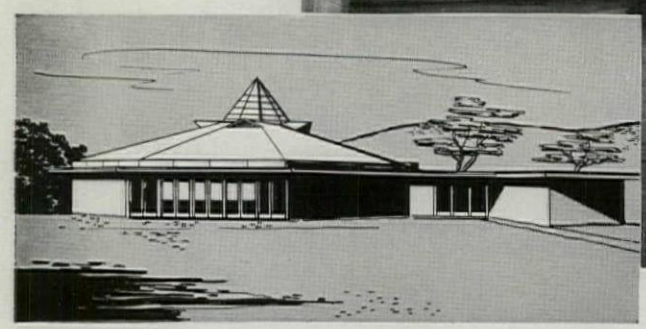


John M. Reeves Student Union Building, Centenary Junior College, Hackettstown, N.J. Architect: Jan Hird Pokorny, New York, N.Y. Gen'l Contractor: Fred J. Brotherton, Inc., Hackensack, N. J. Accorded Award of Merit for excellence of design by American Institute of Architects, 1955.



Photographer—Rollie McKenna, New York, N. Y.

the finest floor that grows

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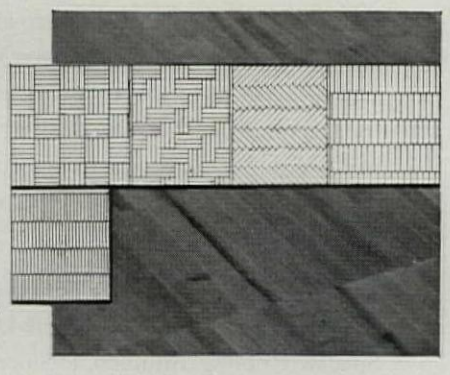
Architect Pokorný's emphatically modern version of poet Coleridge's "stately pleasure-dome" of Kubla Khan is the campus center of fun and relaxation. Its expansive polygonal floor areas of fine **MFMA** Northern Hard Maple see strenuous daily service as an auxiliary gym, for dancing, basketball, paddle tennis, shuffleboard, ping-pong, theatricals, musicales, recitals, lectures. Generations of students will carry away memories of carefree, joyous hours. The College's administrators may draw vast satisfaction from the long, thrifty service this enduring, *traditionally American* floor will deliver. *True* Northern Hard Maple is guaranteed unequivocally by **MFMA** as to species, as to exactness of dimension and as to rigid enforcement of official (federally recognized) grading specifications. By specifying **MFMA**-marked flooring, you may be sure of getting "the finest floor that grows."



Beauty! Variety! Versatility! MFMA Northern Hard Maple offers design resources almost endless. Regular strip and assembled block and pattern designs for laying in mastic, directly over concrete sub-floor. Patterns include the popular end-to-end design.

See SWEET'S —Arch. (1955) 12J-Ma for suggested specifications and full technical data.

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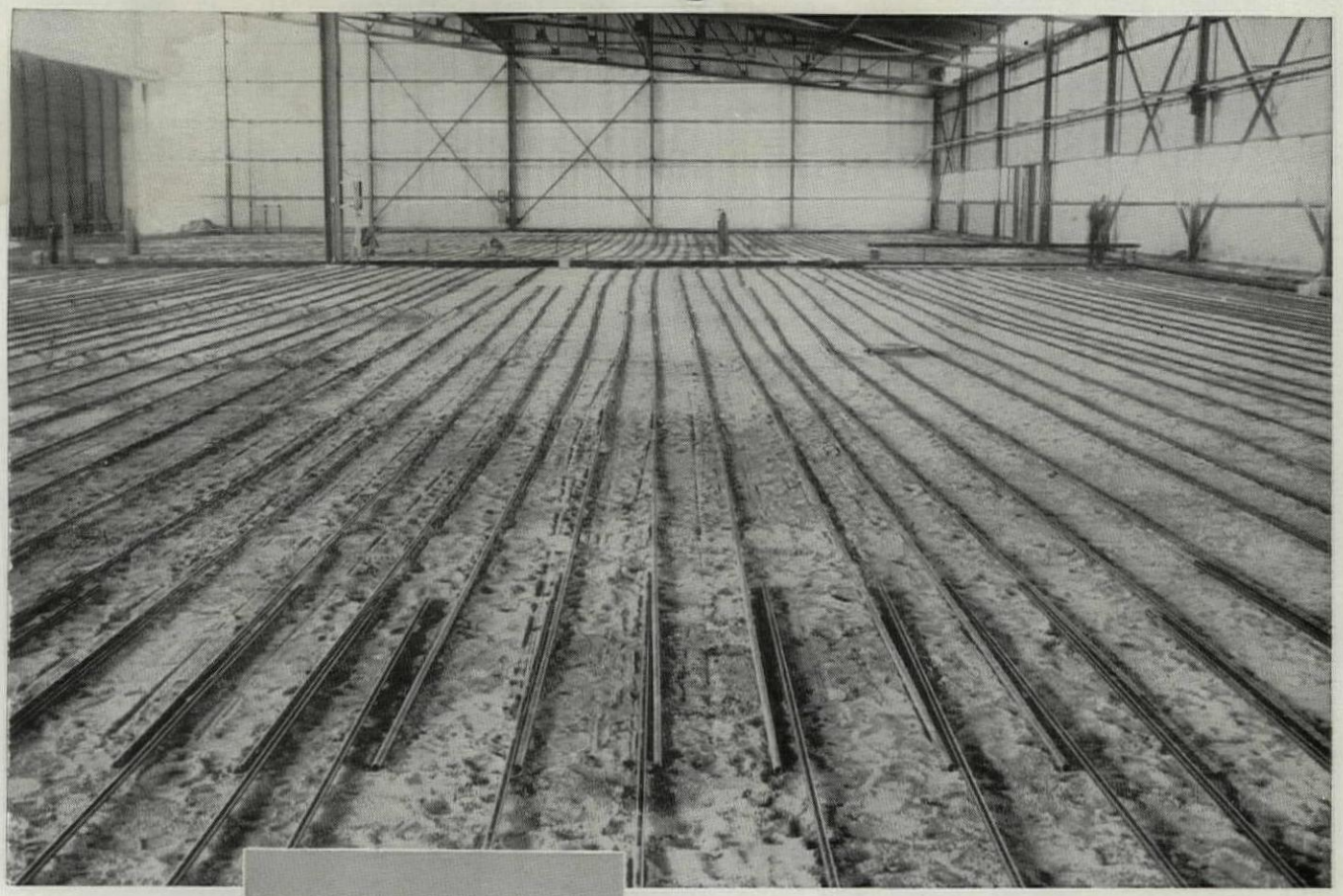
YOUNGSTOWN specified for radiant heating at O'Hare field



Airplane Hanger, O'Hare Field, Chicago, Illinois. Lundstrom & Skubic, Chicago, architects. George J. Rassas Construction Co., Chicago, general contractor. Reliable Heating Co., Park Ridge, heating contractor. Bell & Gossett Co., Morton Grove, heating material.

7 reasons why YOUNGSTOWN PIPE was selected

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3. Uniform Threading
4. Uniform Weldability
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Modern radiant heating will be keeping this 52,000 sq. ft. hanger snug when winter winds sweep O'Hare Field in Chicago. Snow, blown in when hanger doors are open, will melt immediately instead of creating a hazardous condition.

Projects such as this are typical of our jet age. And, the fact that Youngstown Pipe was chosen for this heating job is another evidence of its recognized dependability. Made only of the finest steel—its quality closely controlled by one producer from ore mine right through to the final threading operation—the Youngstown Pipe buried in the concrete floor will provide adequate heating service for years to come.

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notices

materials center

The CONSTRUTION MATERIALS CENTER has just opened its doors in San Francisco, at 330 Clay St. Established to serve the needs of the construction industry, the Center will gather samples and product information regarding competitive products for information of architects, builders, contractors and the general public. VICTOR M. DI SAVERO is Director of the Center.

new addresses

AETNA STEEL PRODUCTS CORPORATION, sales offices and sales executive personnel, Arnot Partition-ettes, Arnot Office-ettes and Arnot modular furniture components, 730 Fifth Ave., New York 19, N.Y.

MISSISSIPPI GLASS COMPANY, New York Office, Chanin Building, 122 E. 42 St., New York 17, N.Y.

p/a congratulates

ARMAND J. THIEBLOT, recently named Director of VITRO CORPORATION OF AMERICA, and RAYMOND T. RUDER and JUNIUS H. COOPER, new Treasurer and Controller.

PERRY L. FRANCIS, recently elected Vice-President in charge of Marketing, ALAN WOOD STEEL COMPANY, Conshohocken, Pa.

GLENN A. HUTT, newly appointed Vice-President, Building Products Division, FERRO CORPORATION, Cleveland, Ohio.

BURTON G. TREMAINE, Jr., newly elected President of THE MILLER COMPANY, and HENRY J. MILLINGTON, new Vice-President, and JOHN L. BUSEY, Director of the Company. BURTON G. TREMAINE was elected Chairman of the Board.

JOHN LANG, whose appointment as General Sales Manager was recently announced by THE RUBEROID CO., and JOSEPH G. HALL, new Assistant General Sales Manager.

CLYDE H. WILKINSON, newly appointed Manager of Water Heater Products, Plumbing and Heating Division, AMERICAN RADIATOR & STANDARD SANITARY CORPORATION, Pittsburgh, Pa.

ROBERT A. MULLER, recently named President of ATLAS PLYWOOD CORPORATION, Boston, Mass.

W. B. EVANS, recently appointed Manager of the Special Industries Department, THE PHILIP CAREY MFG. COMPANY, Cincinnati, Ohio.

L. B. OLMSTED, newly elected Vice-President of UNITED STATES PLYWOOD CORPORATION, New York, N.Y.

RICHARD G. LUBINSKY, Manager of the Fan Sales Department of THE TRANE COMPANY, La Crosse, Wis., who has been elected to a two-year term on the Board of Directors of THE NATIONAL ASSOCIATION OF FAN MANUFACTURERS, INC.

HERMAN R. GIESE, CHARLES A. ELLIS, and STANLEY R. CULLEN, recently promoted by SARGENT & COMPANY, New Haven, Conn., to Vice-President and General Manager; Vice-President in charge of Product Engineering and Research; and Works Manager (in that order).

RAY A. TRITTEN, new Assistant to the General Manager of the West Coast Divisions of CARRIER CORPORATION, Syracuse, N.Y. In this post Tritten will report to WILLIAM J. BAILEY, Carrier Vice-President and head of the Company's four West Coast Divisions.

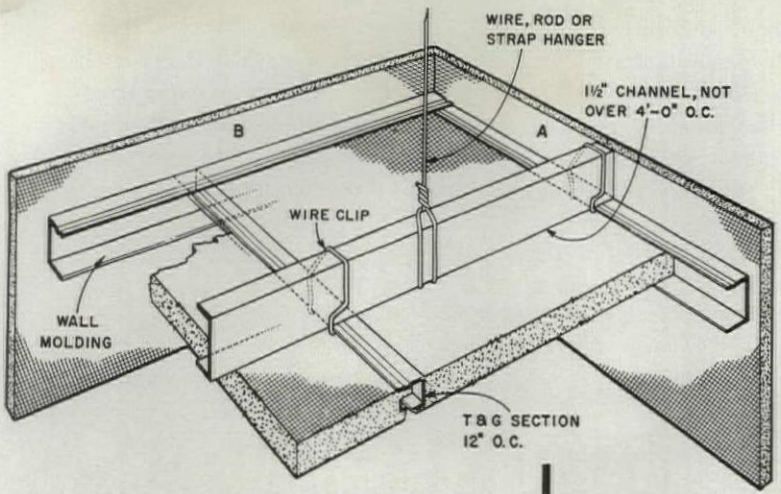
THURMAN G. CARTER, Vice-President of GENERAL BRONZE CORPORATION, Garden City, L.I., N.Y., who has been elected President of ALUMINUM WINDOW MANUFACTURERS ASSOCIATION. Other new officers include J. J. DONOVAN of UNIVERSAL WINDOW CO., Berkeley, Calif., First Vice-President; E. C. MUNRO of WARE LABORATORIES, Miami, Fla., Second Vice-President; and ROBERT L. KLEIN of WINDALUME CORP., Kenvil, N.J., Treasurer.

ROBERT W. MINETT, Jr., Vice-President in charge of Merchandising for THOMAS INDUSTRIES, INC., Fort Atkinson, Wis., recently elected President of AMERICAN HOME LIGHTING INSTITUTE.

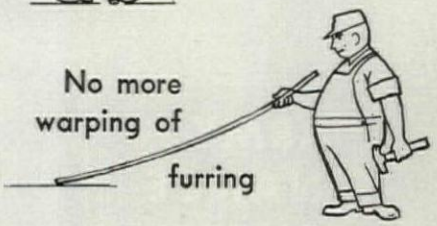
JOHN H. STEVENS, whose promotion to Senior Architect was recently announced by LIBBEY-OWENS-FORD GLASS COMPANY, Toledo, Ohio.

*Securitee and G system

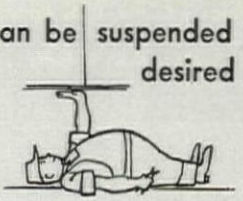
A mechanical method of suspending Tongue and Groove Acoustical Tile



No more nails



No more warping of furring



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Army Finance Center, U. S. Army
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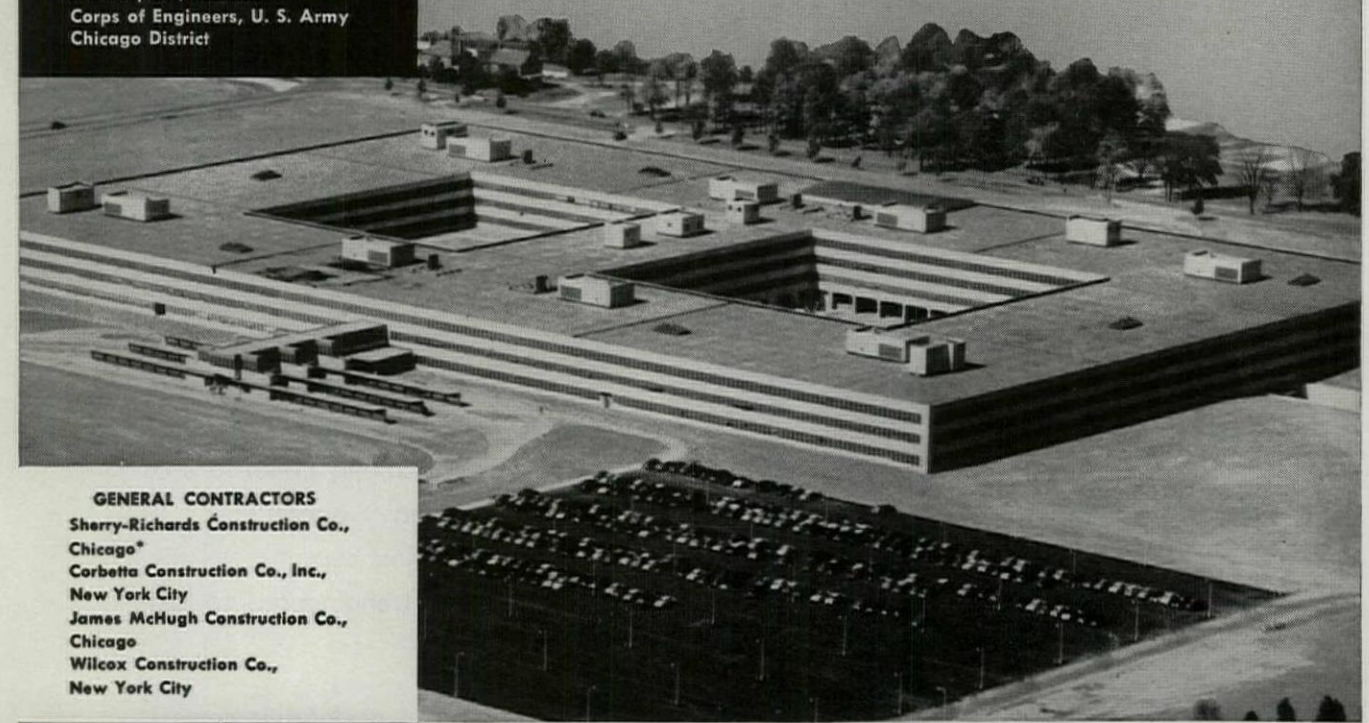

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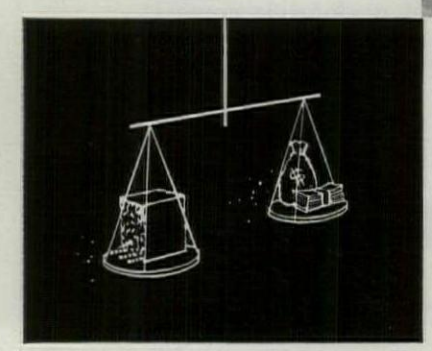
Corbetta Construction Co., Inc., New York City
James McHugh Construction Co., Chicago
Wilcox Construction Co., New York City



*Construction and supervision by Sherry-Richards, sponsor of joint venture.

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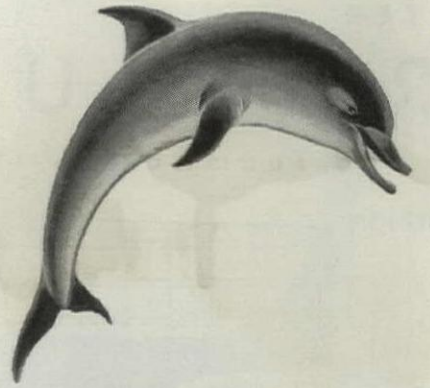


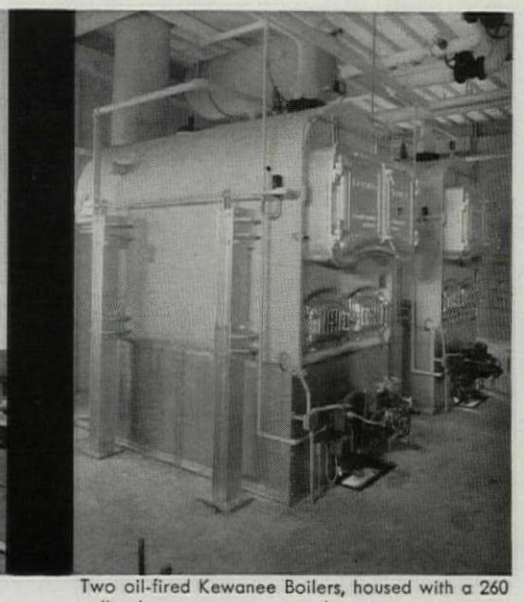
How Kewanee creates "safe weather" for fish...

KEWANEE reserve plus rated boilers

maintain constant temperature

Water temperature is like weather to fish and sudden variations of only a few degrees can be fatal. The problem at Marineland, world's largest oceanarium, Los Angeles County, California, is to meticulously maintain temperatures so its priceless deep sea specimens are not endangered. That's where Kewanee Boilers came in. Cold water from the sea is brought in at the rate of 2,000 gallons per minute. It is vital that boilers offer unfailing service so the inside water temperatures remain constant despite the ceaseless flow of water from the outside. Architects Pereira & Luckman specified Kewanee Reserve Plus Rated Boilers with 50% extra power built-in to take care of fluctuating demands. Only with reserve power could Marineland be sure its rare collection would be protected. And only boilers rated on nominal capacity with built-in reserve could meet the changing demands. So, if your problem is one of maintaining heat against as sharply a defined need as a few degrees change in temperature, or the broad problem of assuring sufficient power when expansion comes, choose Kewanee. You can be sure of unfaltering service.

Marineland Oceanarium, Los Angeles County, California, where rare fish are protected by Kewanee Boilers which assure uniform water temperature. Architects & Engineers: Pereira & Luckman/ Heating Contractor: Mehring & Hanson Company



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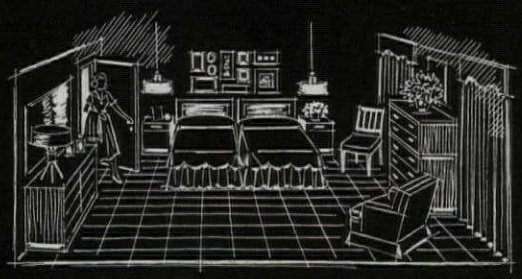

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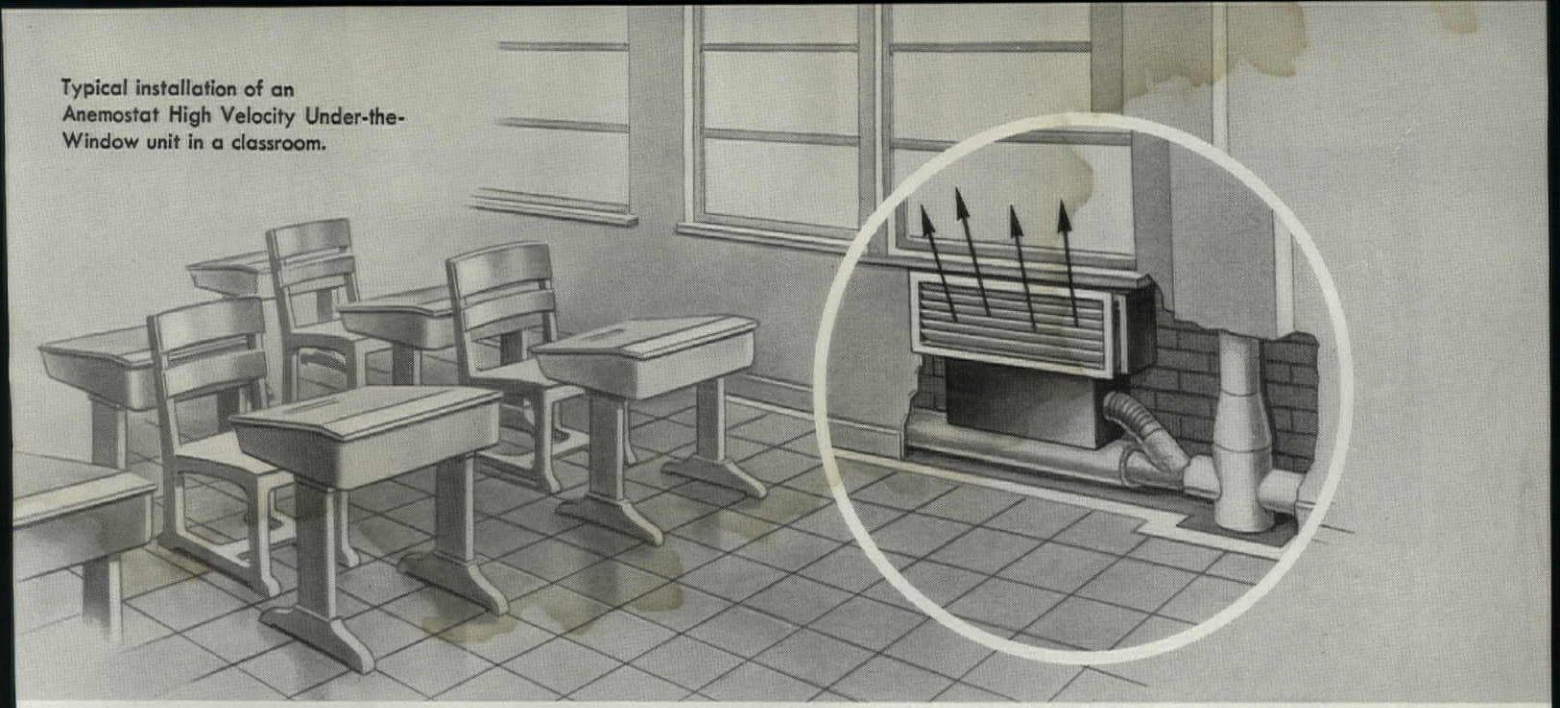

Typical installation of an Anemostat High Velocity Under-the-Window unit in a classroom.

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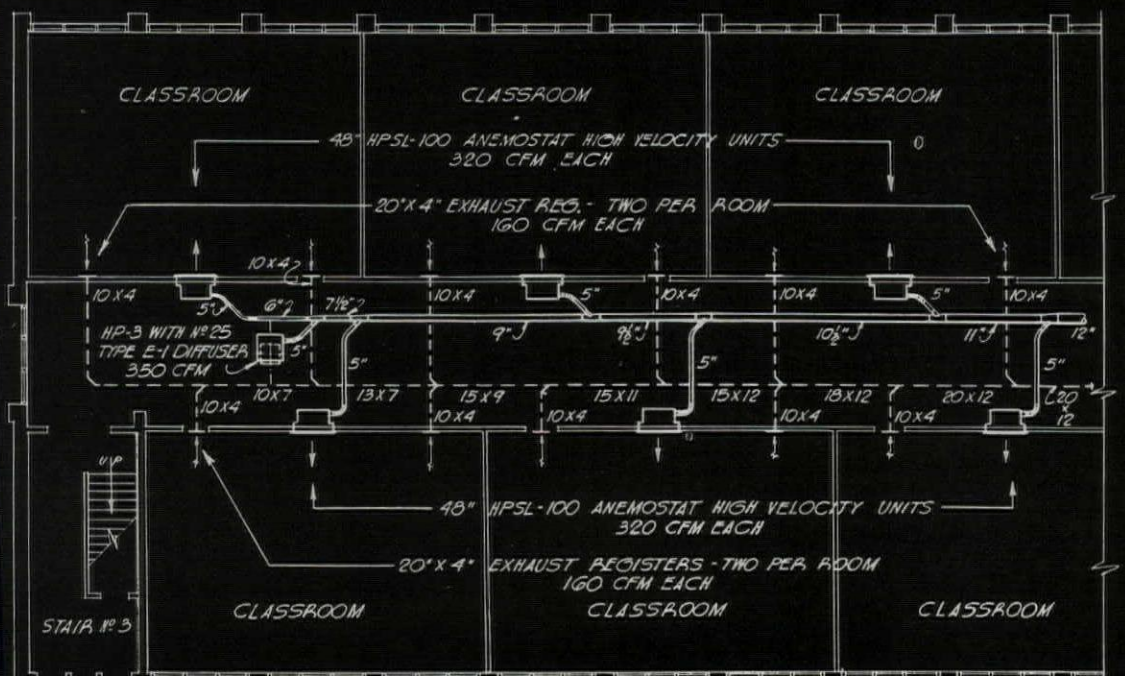

Diagrammatic layout shows corridor distribution of high velocity air for wing of school.

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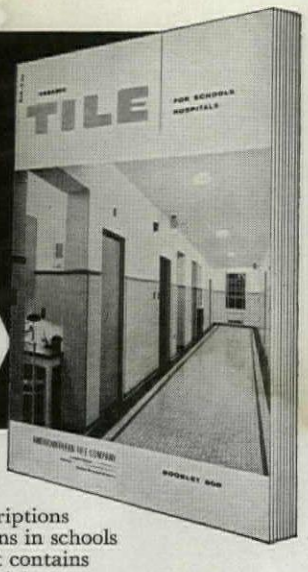

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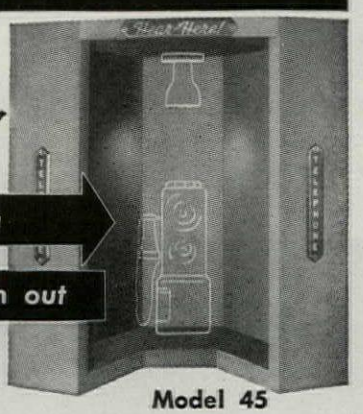

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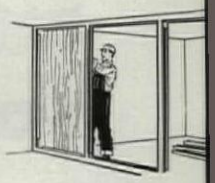
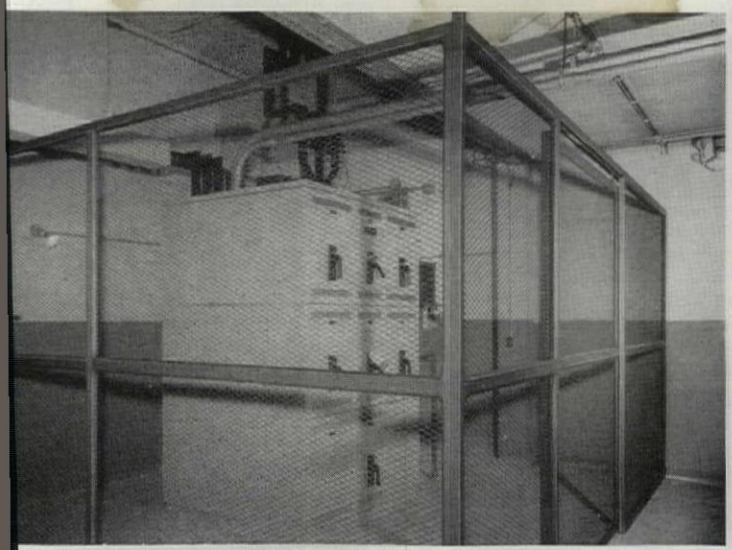


Place panel in frame and screw the corner plates in position.



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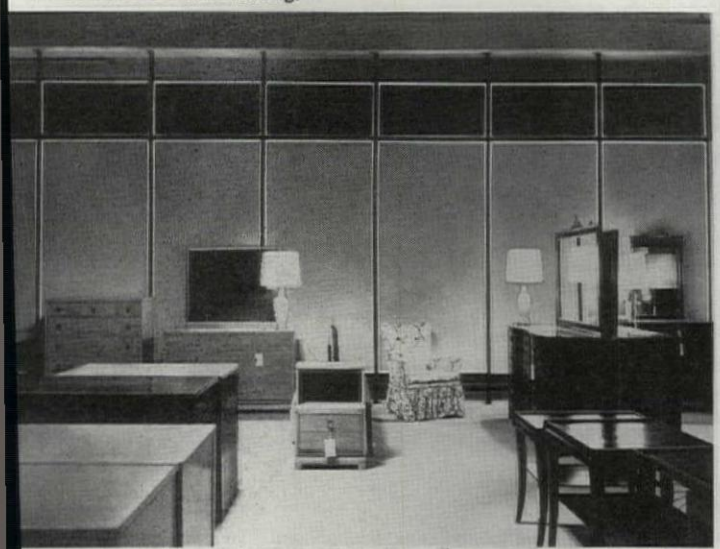

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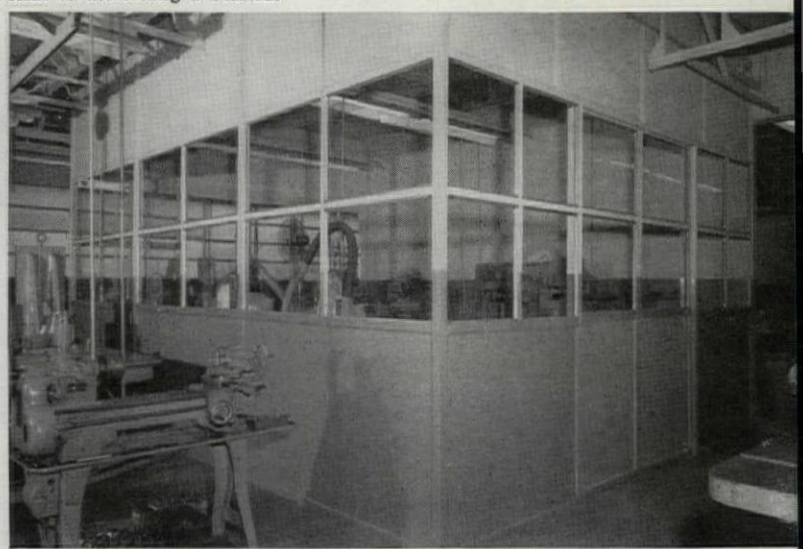

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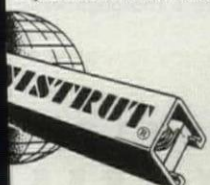

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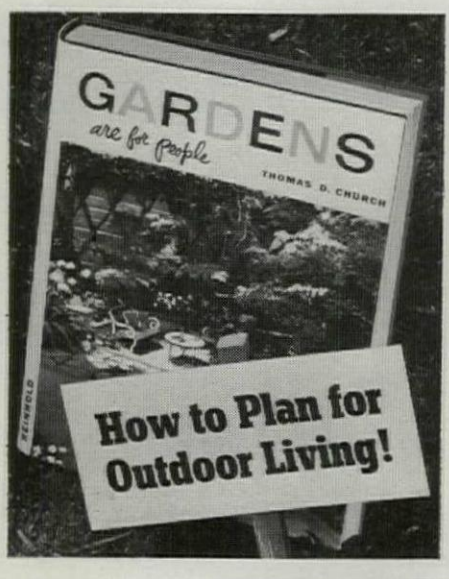

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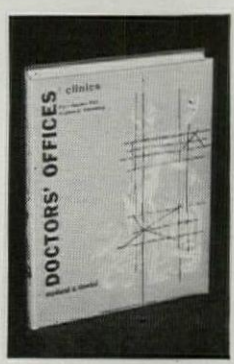

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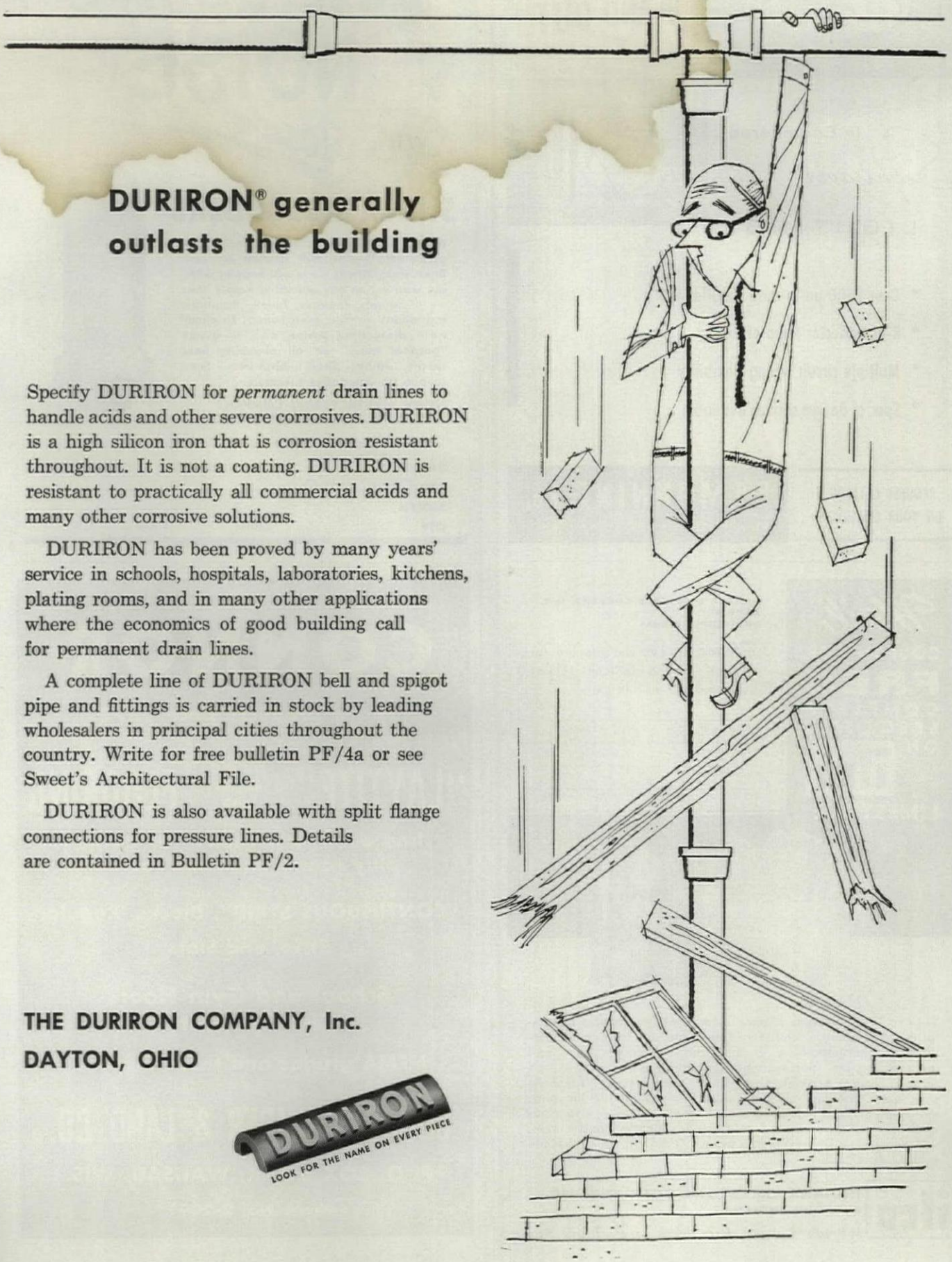

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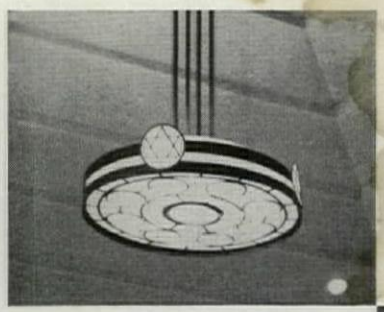

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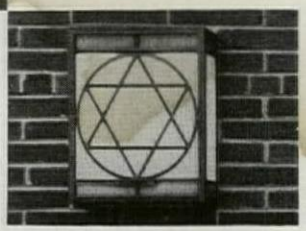

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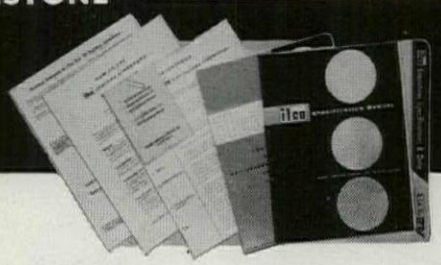

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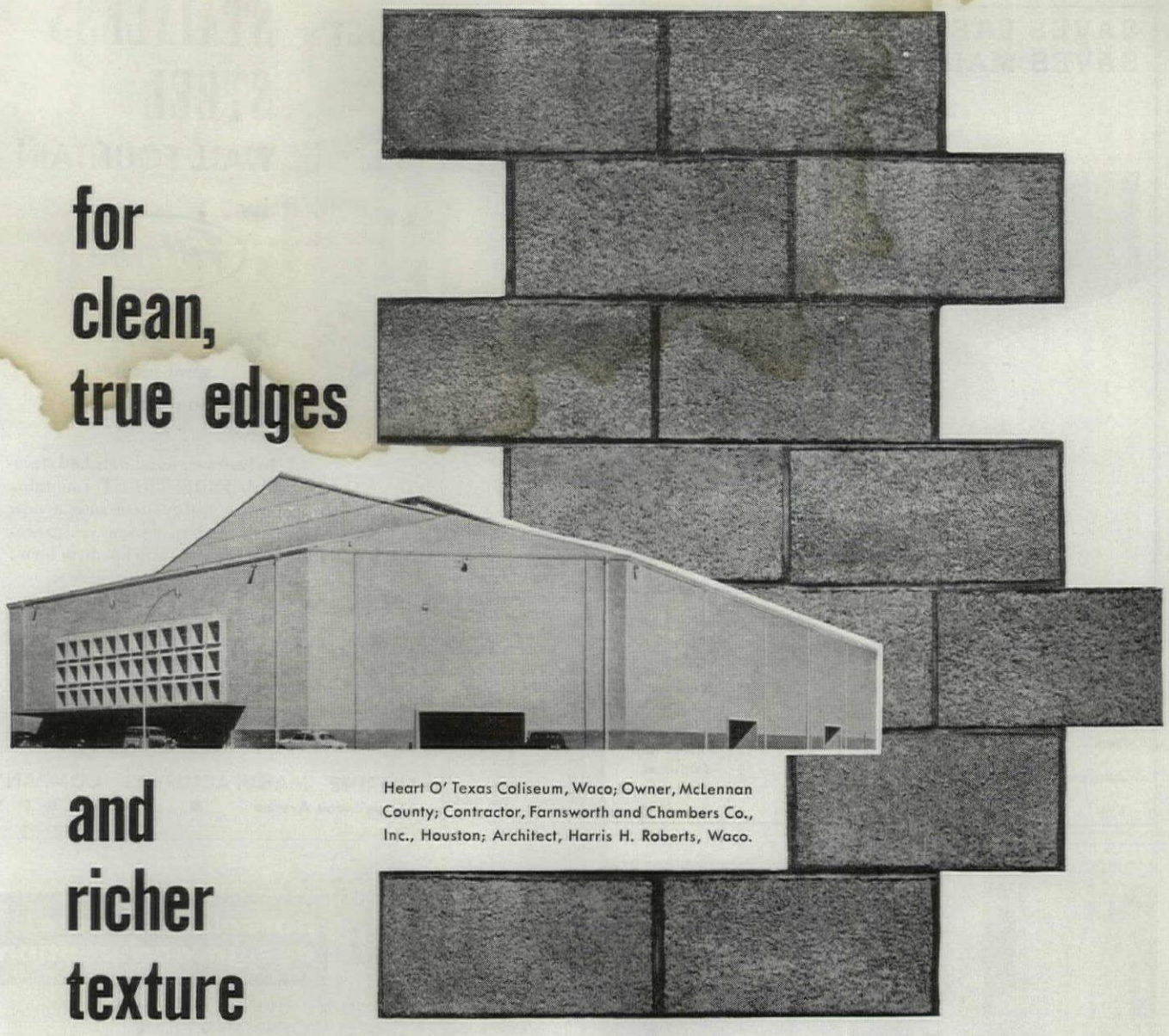

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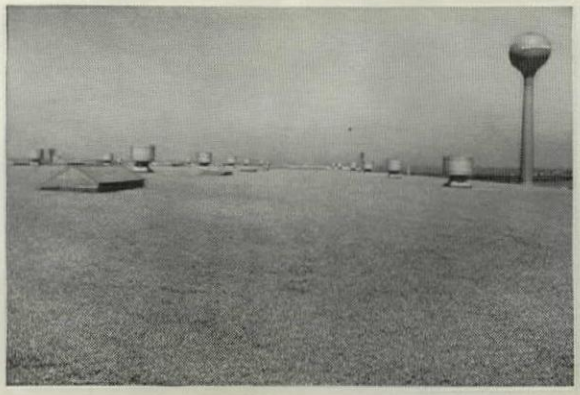

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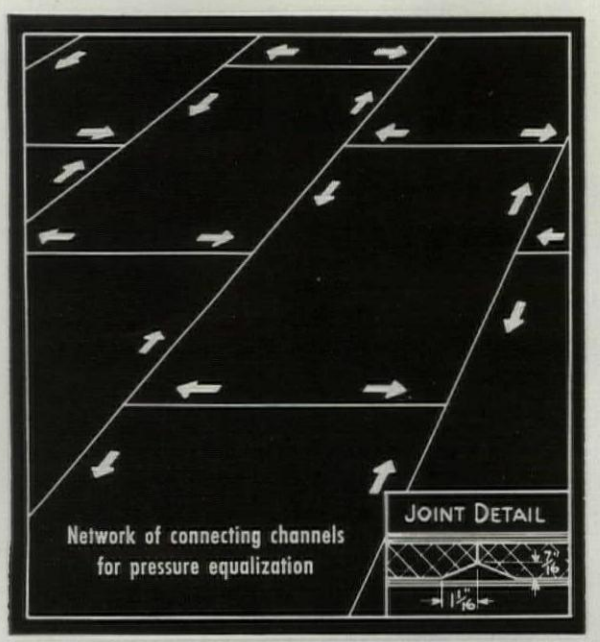

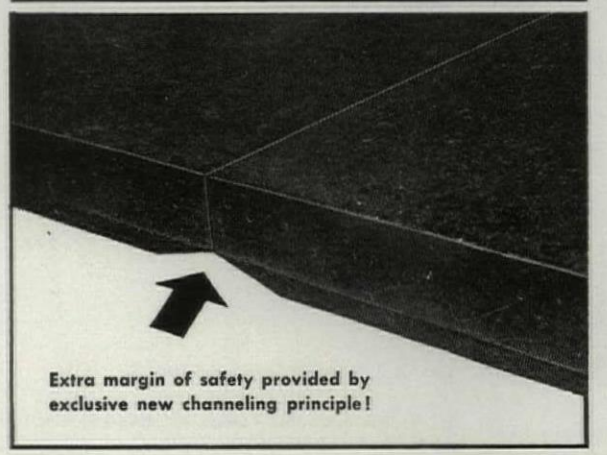

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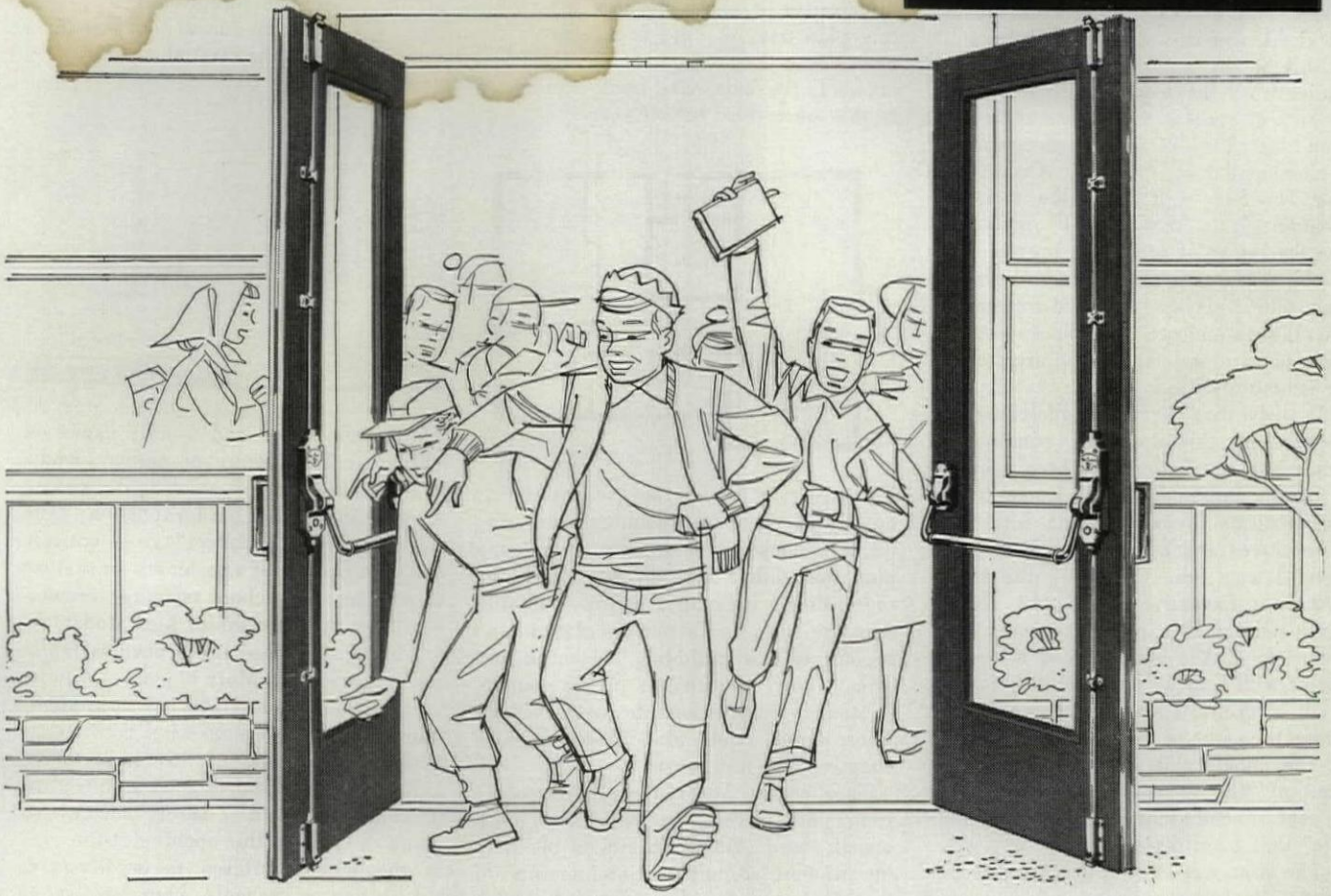

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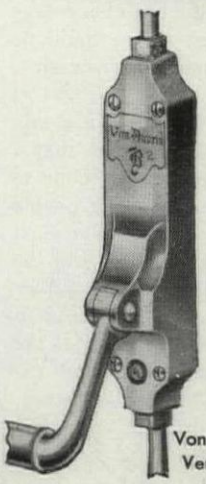

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P.S.

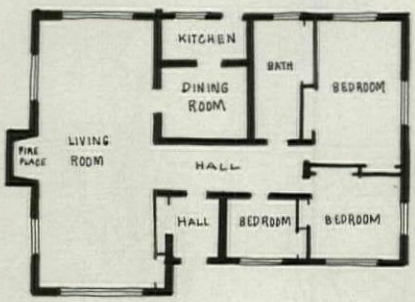
I have on my desk a review copy of a teaching manual issued by American Institute of Architects. It is entitled *At Home With Architecture.* Intended for use as a "manual of suggestions for the presentation of architecture in the primary, secondary, and junior-high school years," it will be tested in three Texas cities, and evaluated after that testing by the University of Texas. Presumably it will be revised if the testing indicates faults from the teachers' point of view, or lack of student acceptance and understanding. This is an implementation of Recommendation #6 of the Commission For The Survey of Education and Registration: ". . . that the AIA investigate the feasibility of preparing project workbooks for use in secondary and elementary school classes, designed to familiarize all such students with the importance, influence and appeal of good architecture in community life."

I wish that I could wholeheartedly recommend this workbook pamphlet; I know how much time has been spent on it by the Public Relations Committee of the Institute, in consultation with other Committees and individuals. I know the careful way John Campbell, the author (Account Executive of the AIA account for Ketchum, Inc., public relations counselors to AIA), has checked his manuscript with a large number of educators. And certainly I am not competent to judge the value of the educational aspects of the booklet. It is from the point of view of "the importance, influence, and appeal of good architecture in community life" that I am disappointed.

The first section (kindergarten-second grade) deals with understanding of basic

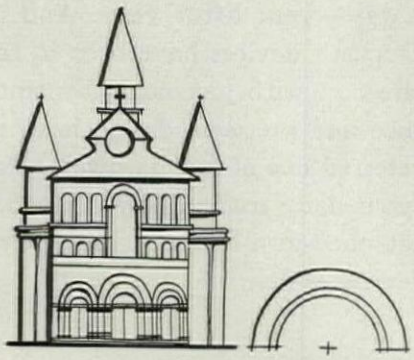
living requirements. Starting with living habits of animals and birds, discussing the child's own shelter requirements, and going on to simple order and arrangement, it seems to me to be excellent.

The second part (third and fourth years) discusses living needs of a family (the Jones family, with two children and a cute dog), and how a house is built. Nothing wrong with this, that I can see. From here on I think the manual becomes so sketchy as to be dangerous, and leads to rather shocking visual conclusions. The section for fifth and sixth school years has to do with "looking at a house" and "advantages of good design." There is a great deal said, sensibly, about *what is a plan?* While I think the text is probably informative, it scares me to death to see this plan used as "the floor plan of the new house for the Jones family." Remember, the kids have been leading up to this since third school year.



I'm sure that any of the good architects on any of the good Committees advising on this booklet could have provided a plan that didn't have an interior dining room, didn't indicate a bedroom smaller than the bath, had better circulation, and so on. Is this quibbling? I think not, when "good design" is being demonstrated to impressionable sixth-graders. There's one other plan shown in this chapter (which is worse).

Then comes the final section for older youngsters—seventh, eighth, and ninth school years. Here the aim is to "help the student respect the architecture of the past . . . realize that the house of each period was 'modern' . . . recognize the role of the architect . . . know the natural and educational requirements for a career as an architect." The approach to history is reasonable, if sketchy and oversimplified.



When one gets to an explanation of what is described as "a style which is called modern or contemporary" I feel again that the student is badly let down. This seems to me to be pretty slick, uninformative, in fact downright misleading teaching-manual material. Is this the best that could be found to illustrate what history has been leading toward? It would seem to lay a poor foundation for the kit of photographs of real buildings—in my estimation a good selection—that goes with the manual.

There follow two and a half pages on "What is The Nature of an Architect's Work," one page of which is devoted to *Remodeling.* The paragraphs on "The Training of an Architect" avoid entirely any description of the length or nature of architectural school training (remember these are now junior high students).

I hope that these fairly obvious faults can be corrected. More important, I hope that the final product will pay *some* attention to what the Commission report suggested as emphasis: ". . . the importance, influence and appeal of good architecture in community life." Surely somewhere along the line, in this opening of the eyes of the school children to *architecture,* the design of schools, churches, shopping centers, parks, and playgrounds could have been discussed. The importance, even to a child, of pleasant streets and good landscaping, of elementary *planning* in its broadest sense, could be made a subject for classroom discussion, I am sure.

It's a good try, and I suppose it's only through incomplete first attempts that a fully satisfactory answer will be found to this important business of getting *people* concerned about good design. The next time, perhaps, the attempt should be made by architectural educators rather than a public relations firm. There is altogether too much direct "selling" of *the architect* in this one, and not enough explanation of the value of *architecture.*

Thomas H. Creighton