PA-1958-10

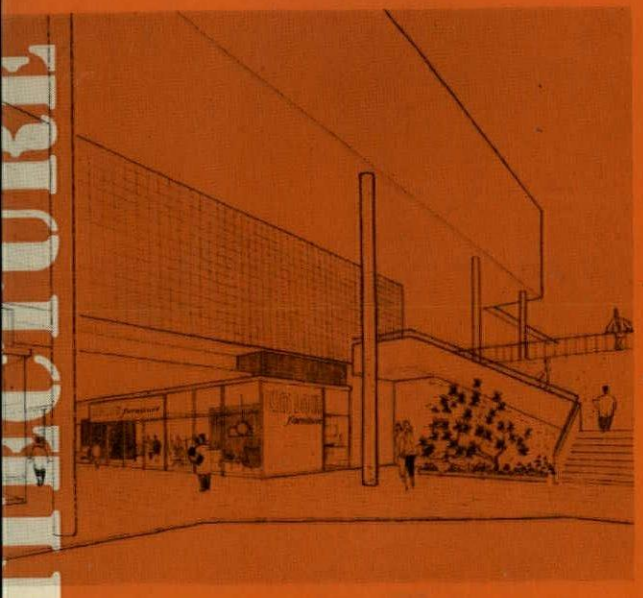
p/a

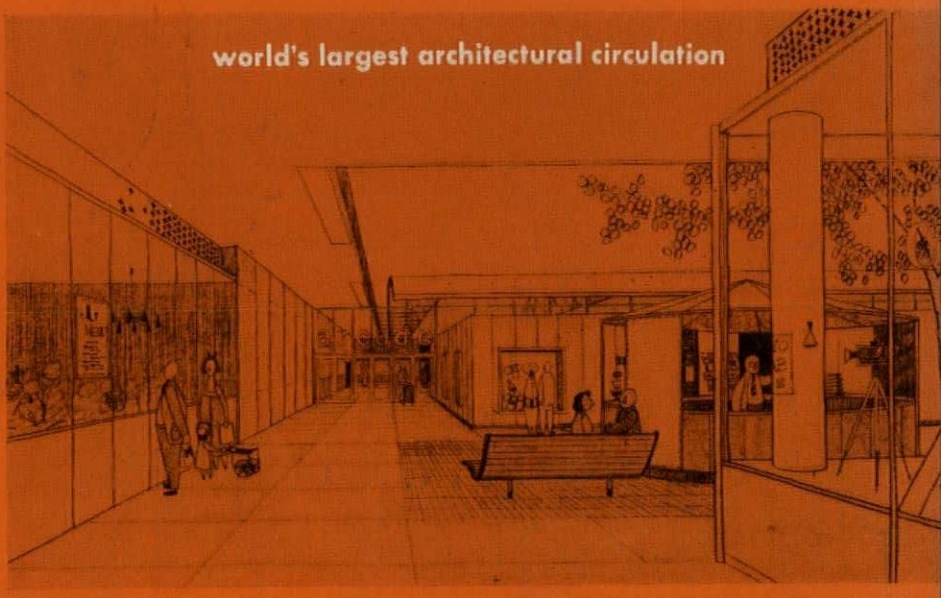
october 1958

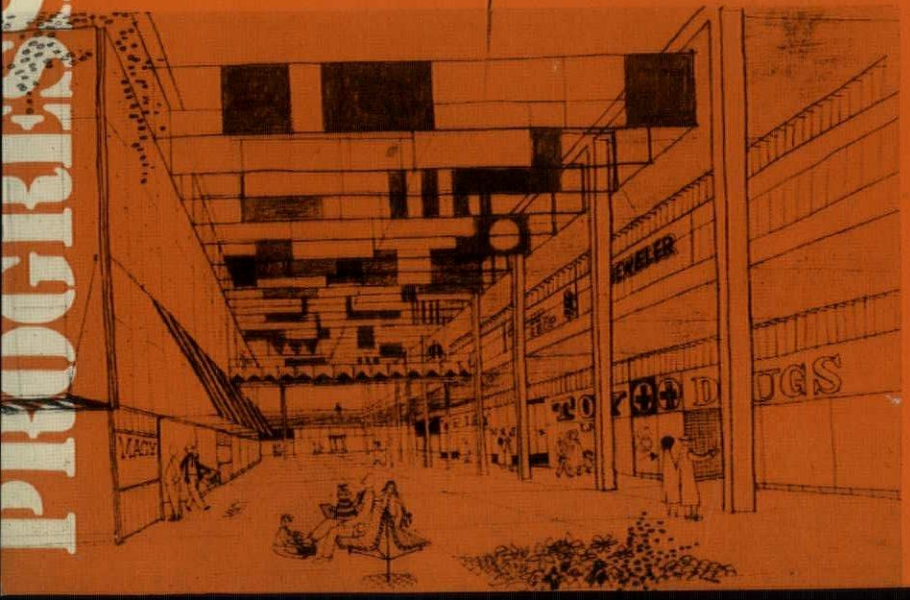
ommercial buildings

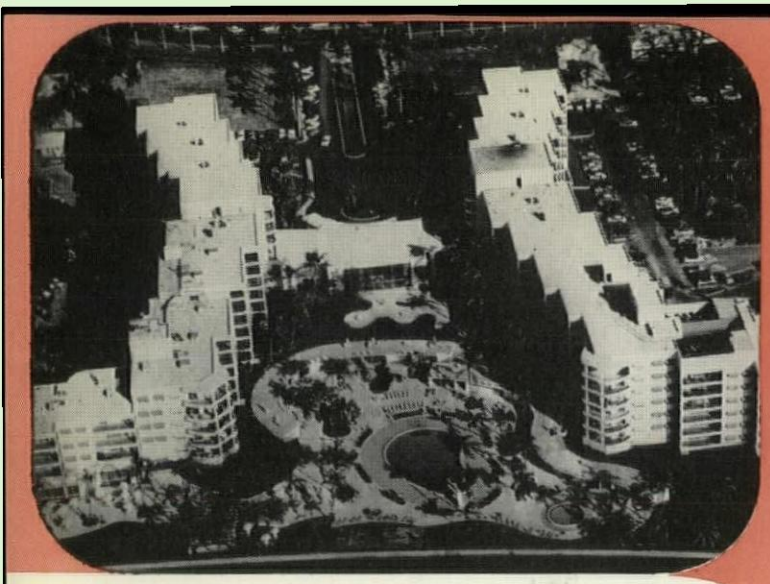
world's largest architectural circulation

PROGRESSIVE ARCHITECTURE









Palm Beach Towers Hotel, Palm Beach, Fla.; Arch.—John Hans Graham & Assocs., Washington, D. C.; Struc. Engr.—Oboler & Clarke, Miami; Consltg. Engr.—Norman C. Schmid & Assocs. Palm Beach; G. C.—Taylor Construction Co., Miami; Pozzolith Ready-Mixed concrete—Burnup & Sims, and Rinker Materials, West Palm Beach.

Thunderbird Motel, Miami Beach, Fla.; Archt.—Norman Giller & Assocs., Miami Beach; Contr.— Taylor Construction Co., Miami; Engr. —Jules Channing, Miami; Pozzolith Ready-Mixed concrete—Maule Industries, Inc. & Acme Concrete Corp.

Better Concrete Behavior . . . with POZZOLITH

Special concrete requirements for these four ultra-modern Florida hotels varied widely. They included: easy placeability with the least amount of water . . . accelerated strength for early form removal . . . minimum shrinkage . . . retarded rate of hardening for minimum cracking.

These special concrete properties, as well as improvement in overall quality, were obtained by employing Pozzolith—key to lowest water content, control of entrained air and control of rate of hardening.

More than 150,000,000 cubic yards of concrete for all types of structures have been produced with Pozzolith since 1932, to increase user's control of concrete behavior and to obtain desired properties *most advantageously.*

Call in any one of our more than 100 full-time fieldmen to discuss and demonstrate the benefits of Pozzolith controls for *your* project.

Americana Hotel, Bal Harbor, Miami Beach, Fla.; Archt.—Morris Lapidus, Miami Beach; Engr.—Oboler & Clarke, Miami Beach; G. C. —Taylor Construction Co., Miami; Pozzolith Ready-Mixed concrete —Maule Industries, Inc.

Eden Roc Hotel, Miami Beach, Fla.; Archt.—Morris Lapidus, Miami Beach; Engr.—H. J. Ross Assocs., Miami; G. C.—Taylor Construction Co., Miami; Pozzolith Ready-Mixed concrete—Maule Industries, Inc.

MASTER BUILDERS PRODUCTS

THE MASTER BUILDERS CO.
DIVISION OF AMERICAN-MARIETTA CO.

General Offices: Cleveland 3, Ohio • Toronto 9, Ontario • *Export:* New York 17, N. Y.
Branch Offices In All Principal Cities • *Cable: Mastmethod, N. Y.*

It pays to specify

The Hi-Density Rubber Flooring—

that's

Tougher-Textured for Longer Wear!

When you specify Goodyear Rubber Flooring, you make sure the job gets the flooring with the hi-density compounding that makes it easiest to care for, toughest to harm.

It is a fact proved in countless applications a quarter of a century old—floors in heavy-traffic areas that are still lovely today after 25 years of service.

Surely there can be no more lasting testimonial to your good judgment than to specify Goodyear Rubber for wainscoting and counter tops as well as floors on or above grade.

For there is no "or equal" when it comes to quality rubber flooring.

You'll discover this to be true in the underfoot comfort it offers, the way it hushes room sound and clatter—the perfection of its marbleization and the beauty of its colors.

Goodyear Rubber Flooring, the utmost in luxury and lasting service, is available in tiles and full 36"-wide rolls for wall, floor and counter top applications. For information and samples, address: Goodyear, Flooring Dept. V-8325, Akron 16, Ohio.

GOODYEAR
Rubber Flooring

In Tiles and Yard-Wide Rolls—
for Floors · Walls · Counter Tops

WHY ALL HYDRAULIC

Rotary®

First name in oil-hydraulic passenger and freight elevators—industrial lifting devices—auto lifts.

OILDRAULIC®

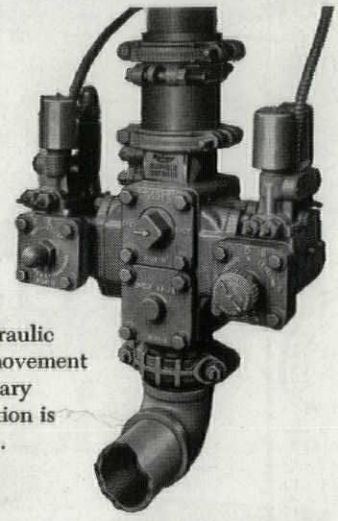
Engineered and built by Rotary Lift Co.

Division of Dover Corporation

Memphis, Tennessee • Chatham, Ontario

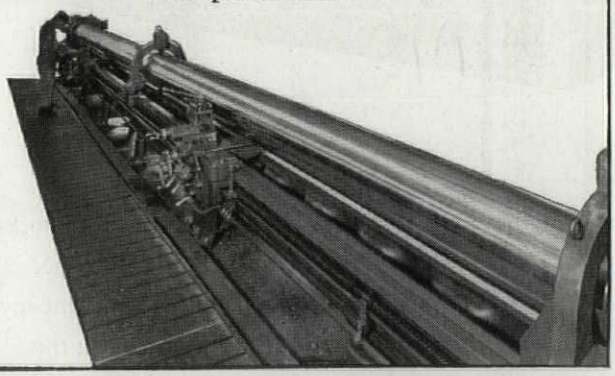
ELEVATORS ARE NOT ALIKE

Rotary gives you a completely engineered and integrated installation



■This unit, the Oildraulic Controller, governs movement and speed of the Rotary Elevator. Each function is externally adjustable.

■The Rotary Oildraulic jack plunger is seamless steel tubing, turned and polished to a super-smooth finish.



Today's hydraulic elevator, as perfected by Rotary Lift Company, is a precision engineered machine with built-in dependability and economy.

It is unlike other hydraulic elevators, for these and many other reasons:

Rotary is the largest manufacturer of hydraulic elevators in the country . . . has more experience and skill.

The Oildraulic Controller has no equal in the industry. This "heart" of the hydraulic system combines all operating valves and controls in one unit. It makes possible extremely accurate control and easy adjustment.

The Rotary hydraulic jack, which moves and supports the elevator, is fitted with a precision turned and polished plunger to insure smooth operation and long packing life. Anti-friction bearings, casing of heavy steel tubing, rugged car platforms and other components are all perfectly matched to make the complete elevator installation a quiet, trouble-free, efficient unit.

Completing the package is a nationwide organization that sells, installs and services Rotary Oildraulic Elevators. The largest independent elevator organization of its kind, this distributor group assures your clients expert installation, inspection and maintenance service.

So for the best in hydraulic elevators, always specify Rotary Oildraulic. Mail the coupon for more information, see our catalog in Sweet's Files, or look in your phone book for "Rotary Oildraulic" under "Elevators."

The modern elevator for modern buildings

ELEVATORS

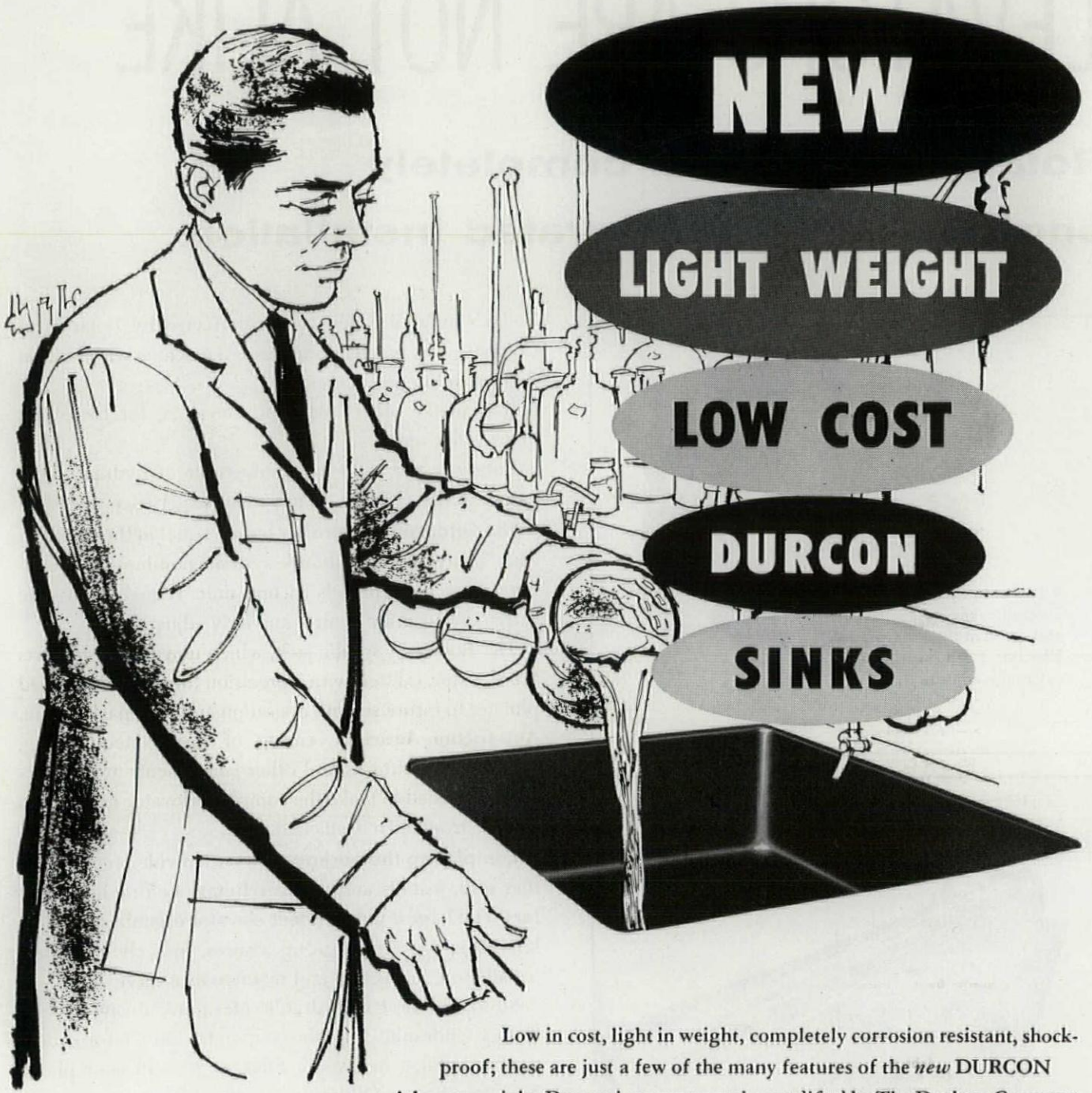
PASSENGER AND FREIGHT

Rotary Lift Co.
1111 Kentucky,
Memphis 2, Tenn.

Please send data file on Freight ☐ Passenger ☐ Elevators to:

Name_____

Address_____



Low in cost, light in weight, completely corrosion resistant, shock-proof; these are just a few of the many features of the *new* DURCON laboratory sinks. Durcon is an epoxy resin, modified by The Duriron Company. DURCON sinks have coved corners and dished bottoms to prevent the accumulation of contaminants. They weigh up to 60% less than competitive materials. Cast DURCON sinks are available *from stock* in twelve standard sizes. Special sizes can be fabricated to meet virtually all requirements.

For full information, send for our free Bulletin PF/5. Address Durcon Department, The Duriron Company, Inc., Dayton, Ohio, or contact your nearest laboratory equipment manufacturer.

The mark of dependability in tough chemical service . . . everywhere

DURCO
CORROSION RESISTING ALLOYS & EQUIPMENT

THE DURIRON COMPANY, INC. / DAYTON, OHIO

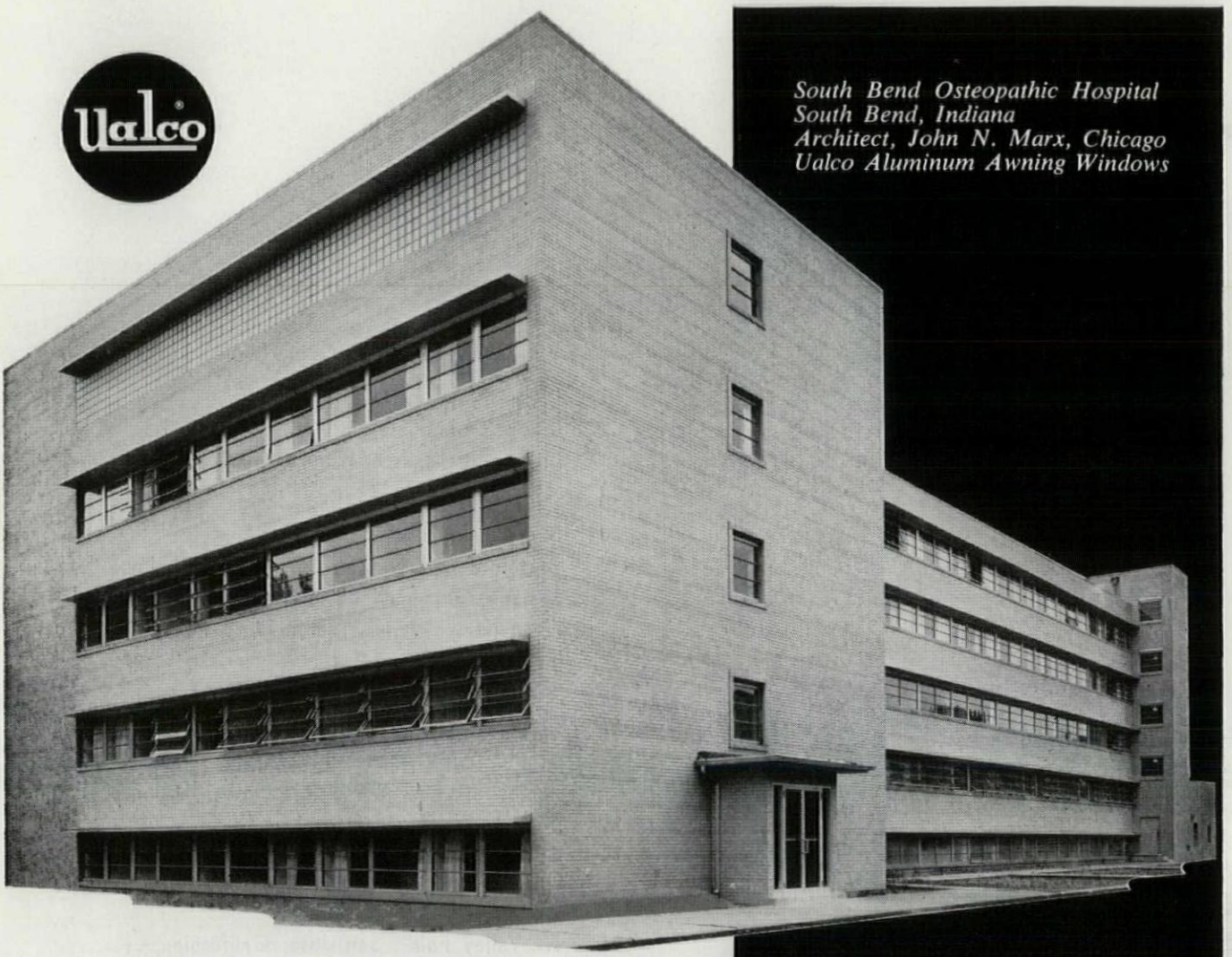
Branch Offices: Baltimore, Boston, Buffalo, Chicago, Cleveland, Dayton, Detroit, Houston, Knoxville, Los Angeles, New York, Pensacola, Philadelphia, and Pittsburgh.

PROGRESSIVE ARCHITECTURE

October 1958

Published monthly by REINHOLD PUBLISHING CORPORATION, 430 Park Avenue, New York 22, N. Y. Second-class mail privilege authorized at New York, N. Y. Professional subscription—$5. (For full data, see page 95.)
Volume XXXIX, No. 10

Ualco



South Bend Osteopathic Hospital
South Bend, Indiana
Architect, John N. Marx, Chicago
Ualco Aluminum Awning Windows

A SUCCESSFUL WINDOW SPECIFICATION — FOR A BEAUTIFUL, SUCCESSFUL BUILDING

As glass areas become larger, you're wise to put more and more thought into your window specification . . . so much beauty and utility hinge upon it. The word Ualco covers twenty aluminum window styles . . . four fine curtain wall series. Each is designed with *your* design in mind — to complement its graceful lines, to enlarge upon its practicality. It means economy and permanence; first cost is competitive, installation short cuts are built in, maintenance is never needed. Specify *success* for your building, lifetime satisfaction. Complete engineering planning service.

Narrow frames allow large vistas, flood interiors with natural light.

Fully weatherstripped Ualco Awnings open smoothly, close airtight.

SOUTHERN SASH

SALES & SUPPLY CO., INC., SHEFFIELD, ALA.

Huntsville, Ala.	Van Nuys, Calif.	Tampa, Fla.
Montgomery, Ala.	Fort Lauderdale, Fla.	Canton, Ohio
San Leandro, Calif.	Hialeah, Fla.	Elizabeth, N. J.

It's the Law by Bernard Tomson

P/A Office Practice *article warning Architects (again) that a written agreement with the Owner must be prepared to protect both parties.*

Faith is a wonderful thing, but experience dictates that a written agreement between Owner and Architect, defining their relationship, is the only satisfactory method of operation for each. If a project is abandoned and the Architect has completed his preliminaries or even the working-drawings, his compensation can be jeoparidized by the absence of a written agreement. This is illustrated once again by a recent Federal case in Delaware (*Abramson* vs. *Delrose, Inc.*, 132 Fed. Supp. 440).

In the Abramson case, the defendant owned property upon which it intended to erect an apartment house. The plaintiff was retained to prepare plans and specifications but no formal written agreement was made between the parties. The Architect prepared plans and specifications and actually obtained bids. However, as the result of difficulty in financing the project, the apartment house was never built and the project abandoned. The Owner attempted to sell the land, together with the Architect's plans, as a "package deal," but this attempt was not successful.

The Architect, who had not been paid his fee, instituted action against the Owner, contending that there had been an oral understanding that he was to receive as his compensation five percent of the cost of construction. As a defense to this suit, the Owner pleaded the "Statute of Frauds." This statute, which has been adopted by most states, requires that certain contracts be in writing in order to be enforceable. One such is a contract which is not to be performed within one year. The services of the Architect in the Abramson case were held to be furnished over a period of more than one year, and consequently, the Owner argued, the alleged contract could not be enforced as it was not in writing.

The Architect contended that the application of the "Statute of Frauds" would be unjust and unconscionable and that the defendant should be estopped from relying on it. The Court, however, rejected the Architect's position, stating:

"The plaintiff contends that 75% of the architect's services were rendered in preparing the plans and obtaining bids or estimates and that these services continued over a long period of time. He contends that the action of the defendants in allowing the plaintiff to continue his activities to such an extent would make it unjust and unconscionable to say that the contract was not in writing as provided by the Statute . . . . This is not a case where one party had fully and completely performed his contract and nothing remained but the payment of money by the other party. No fraud with reference to the nature of the contract has been alleged or shown and no misrepresentation at the inception of the contract While circumstances may exist making the pleading of the Statute of Frauds inequitable, no such facts are here apparent . . . .

"The defendants, under the facts here present, are not estopped from pleading the Statute. Any other result would necessarily imply that any party to an oral contract, not concerning the sale of lands, who had performed a large portion of his contractual obligation was immune from the operation of the Statute of Frauds."

However, the Architect further contended that there were several writings signed by the Owner which, when considered together, were sufficient to constitute a written memorandum, thereby making the "Statute of Frauds" inapplicable. One of these papers was an application by the Owner to a prospective mortgagee in which it referred to the Architect's payment as being deferred. A second document was a letter which accompanied the mortgage application in which it was stated how the Architect's fee for supervision was to be paid. The third writing was a written contract between the Owner and a subcontractor which indicated that the plaintiff was the Architect and stated that the plans and specifications were the property of the Architect. The Court, however, refused to consider these three writings as sufficient to avoid the application of the "Statute of Frauds," stating:

"I am of the opinion that the three writings taken individually or collectively do not comply sufficiently with the Statute of Frauds. In writings "A" and "B" no mention is made of any particular architect or engineer and unless writing "C" is read in connection with the others, the architect is not named. There is not shown in any of the writings any internal or direct connection of the three writings as among themselves, or with the alleged contract between the parties to the action. There is no mention of any particular service to be rendered by the plaintiff or the extent of such services; there is no indication of any price, consideration or amount involved and no terms of the contract are set out. These seem to be required by all the authorities."

The Architect, failing to enforce the specific oral agreement, which he alleged, then sought to recover from the Owner compensation for his services based upon their reasonable value. This is termed in law "quantum meruit." The Owner, however, defended against this cause of action urging that the suit had not been instituted within the time required under Delaware law, which provided that a suit based on "quantum meruit" be instituted within three years of the time the debt arose. The defendant argued that the plaintiff completed his plans in 1950 and that all services had been fully completed by February of 1951, which was the date of the abandonment of the project. The plaintiff, on the other hand, argued that he performed services within the three year period relative to the "package deal" which the Owner sought to transact after he had abandoned the project.

The Court ruled in favor of the Architect on this theory, holding that the Architect's right to compensation did not, under the alleged contract, arise until the building was constructed or until the project was abandoned, and it was the Court's opinion that this abandonment did not occur until the failure of the consummation of the "package deal." It is significant to emphasize in this connection that if the Owner had merely abandoned the project and had not attempted to sell the property and the Architect's plans, the Architect would have been unable to recover *any* compensation under *any* theory.

Although the facts in the Abramson case are unusual, disputes between Owner and Architect in the absence of an adequate written agreement are not. A good relationship between Architect and Owner will not be affected by insistence upon a written agreement but rather such an agreement will be instrumental in preserving that relationship. Again, and perhaps *ad nauseum*, it must be stated that not any agreement will do, but only one that properly protects the Architect as well as the Owner.

TOPS IN SCHOOL HEATING . . .

Norman Three-Sixty®

Gas-fired Unit Heaters Radial-Flo models circulate warm air outward through full 360° circle to form an umbrella of comfort. Ideal for corridors, vestibules, large rooms with normal ceiling heights. Down-Blo models provide quick, direct heating for gyms, auditoriums and other high-ceiling rooms.

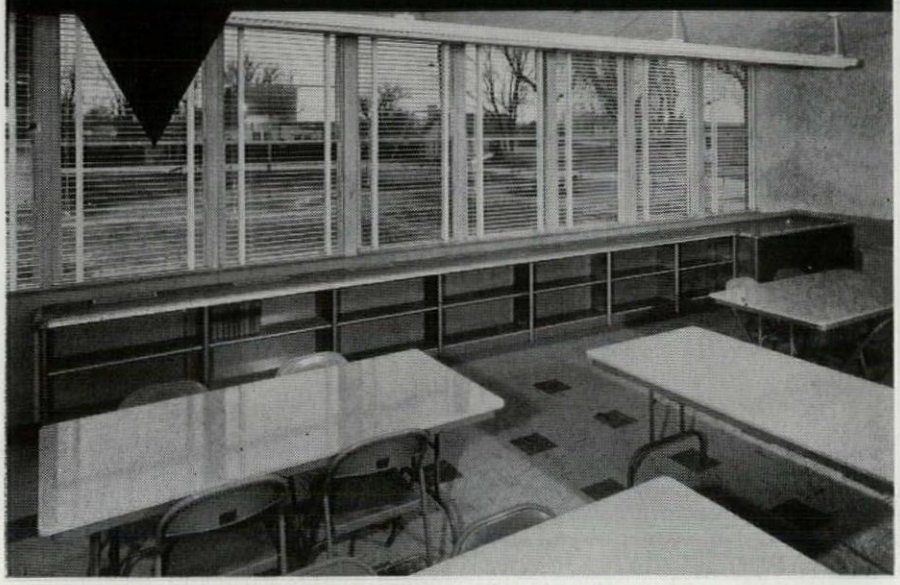
Norman Three-Sixty Unit Heaters feature *patented sealed combustion system* — 100% outside air is used for combustion and all flue and combustion products are removed outside under positive pressure.

Norman Three-Sixty overhead heating unit in Seventh Day Adventist Elementary School, Lincoln, Nebraska; Vernon S. Dunn, Bus. Mgr., Union College; H. C. Potter, Architect, Beaman's Heating Co., Heating Contractor.

Complete heating and ventilating

Classroom Comfort

PLUS TRIPLE ECONOMY



The **NORMAN** Complete Individual Schoolroom Package Provides Gas-Fired Heating...Fresh-Air Ventilation... plus Important Economies Right From the Start:

ECONOMY OF INSTALLATION . . . no expensive boiler rooms, chimneys, tunnels or costly revamping of central system. Pre-wired, partially-assembled Norman Systems are installed quickly, room by room—important economy in school expansion.

ECONOMY OF OPERATION . . . maintains uniform temperature without wasting fuel . . . supplies heat only when needed . . . ventilates automatically. Individual systems—no need to heat entire school for use of few rooms.

ECONOMY OF MAINTENANCE . . . Sturdy construction, finest materials and latest A.G.A. approved controls — standard to industry — assures long, trouble-free performance.

Versatile Norman Schoolroom Heating and Ventilating Systems fit any plan . . . Choice of 85,000 or 100,000 BTU/hr. inputs; Util-i-Duct Bookshelf (with or without sliding doors) or thin Wall-i-Duct comfort distribution sections.

HEAT AND VENTILATE YOUR SCHOOL WITH NORMAN SCHOOLROOM SYSTEMS . . . COMPLETE COMFORT PLUS TRIPLE ECONOMY

Photo Illustrates, Mingo School Addition, Tulsa, Okla.; Architect: Koberling and Brandborg A.I.A., Tulsa, Okla.; Mechanical Contractor: Palmer Plumbing and Heating Co., Tulsa, Okla.; Mechanical Sub-Contractor: Sand Springs Sheet Metal Co., Sand Springs, Okla.

Norman® products company

NORMAN PRODUCTS CO.
1154 Chesapeake Ave., Columbus 12, Ohio

We want to learn more about Norman Products for School Comfort. Please send complete information to:

NAME_____

COMPANY NAME_____

ADDRESS_____

CITY_____ ZONE___ STATE_____

See Sweet's Arch. File 30h/No, American Sch. and Univ. Annual C-1/No

Mechanical Engineering Critique by William J. McGuinness

P/A Office Practice *column on mechanical and electrical design and equipment devoted this month to methods and costs of installing air conditioning in schools.*

In a recent report of economic studies, *School Building Costs*,[1] Wayne Farland Koppes and John Hancock Callender, Architects, made the following statement: "Many schools now being built without any thought of air conditioning may, within their lifetime of 40 years or more, have mechanical cooling installed. It is far-sighted wisdom, therefore, to recognize that only at the time of building can proper provision be made for this possibility at relatively insignificant cost."

From one manufacturer of heating, ventilating, and air-conditioning products, the American Air Filter Company, Inc., of Louisville, Kentucky, we get the report that among the many buildings using their equipment and having air conditioning or provision for it, there are at least 215 school and college installations having present and/or future air conditioning in all classrooms — representing approximately 4300 classrooms.

Good planning suggests, and many state codes require, minimum ventilation standards for schools to reduce odors and to replace stale air with fresh, outdoor air. This air-handling provision for health and sanitation has been utilized and extended in modern techniques to reduce excess heat gain caused by sun shining through large glass areas and by the body-heat loss of pupils and teachers. This process of natural cooling by ventilation takes place in the winter, when classrooms would climb to temperatures far above the optimum maximum of 73 F—with the heat turned off, and resulting only from solar gain and body metabolism. By introducing air as low as 10 F, blending it with recirculated room air, the mixture can be admitted to the room at 50 or 60 F to cool it. To accomplish this cooling job, which is now standard in many schools, the rate of air-handling must be far in excess of the rate required for only air-freshness. This system breaks down in June and September. Then mechanical cooling might seem desirable. For possible school operation through the summer, it could appear to be essential. In any case, school boards and school managers in the North as well as the South are giving it serious consideration.

Most of us lose sight of the fact that school "heating" is very different from that of many other buildings. It is sufficient in many schools to supply heat to warm the rooms prior to school hours, after which the necessary heat is supplied or exceeded, without fuel use, by the sun and by people. Henry Wright, New York Building Product Research Consultant, has studied the relative hours of heating and cooling by outdoor air at a school in Illinois on a sunny March day, with outdoor temperatures ranging from 0 F to 10 F. The results of operation to maintain a temperature of at least 70 F, but not above 73 F, were presented by him.[2] For rooms oriented on the four major compass points the results were:

East. Heat was supplied prior to 9 a.m. During school hours it was supplied for only ½ hr from 12:30 to 1:00 p.m. when the children were out of the room for lunch. During the other 5½ hrs, natural cooling was effected by outdoor air through unit ventilators.

South. Heat was turned off before 9 a.m. and was not used again during the 6-hr school day while cooling by outdoor air.

West. Heat was used until 12:30 p.m., after which solar heat gain took over and made cooling necessary.

North. Heat was used until 1:00 p.m. and cooling for 2 hrs, 1 to 3 p.m.

summary of operation during school hours

	fuel heating	*natural cooling*
East	½	5½
South	0	6
West	3½	2½
North	4	2
	8 hrs	16 hrs

So, it appears that on sunny and cold winter days, cooling is often more important than heating. Obviously, as the outdoor temperature rises, cooling is even more of a requisite. However, as the cooling medium (outdoor air) rises above 50 F, it loses its effectiveness as a cooling agent. It is at this point that refrigeration can take over.

The unit heater and ventilator, also adaptable to full air conditioning, is a device that makes natural cooling possible. Designed to introduce the legal-minimum amount of fresh air to the room, it is located below a central window on the exterior wall. It draws outside air through a low external wall grill, and inside air through a low grill on the room side. The mixed air, automatically balanced, is drawn over filters and over heating coils through which steam or hot water can be circulated if heat is needed. Now these coils can also use chilled water instead of steam or hot water. This move to air conditioning requires revised coils, pipes covered to prevent condensation, a pan to catch condensed moisture from the coil surfaces, a chilled water plant, and a cooling tower. If air conditioning is a future item, all preparations can be made except the addition of chilled water and cooling tower. The use of unit heaters and ventilators is a start toward air conditioning. The addition of air conditioning undoubtedly results, in most cases, in a system of heating, ventilating and cooling which is cheaper than combined heating, and a central station air conditioning with bulky interior ducts for distribution to all rooms.

Thus, there are three possibilities:

A Heating and ventilating only. Unit heater not adaptable to conditioning.
B Heating, ventilating, and provision for future cooling. Larger coils, condensate pan, covered pipes, space for chiller and tower.
C Heating, ventilating, and air conditioning. Items in B plus chiller and tower.

In a second study of mechanical systems in schools,[3] Wright tackled the economics of installation of systems A, B, and C. The schools were located in such divers areas as California, Georgia, Illinois, Indiana, Kansas, Missouri, and New York. Actual costs were used.

A	Average of 10 schools	
	Total school cost per sq ft	$11.05
	Cost: heat and vent. per sq ft	$1.38
B	Average of 7 schools	
	Total school cost per sq ft	$13.25
	Cost: heat, vent., and provision for future conditioning per sq ft	$1.57
C	Average of 4 schools	
	Total school cost per sq ft	$13.49
	Cost: heat, vent., and full conditioning	$2.12

Mechanical costs per sq ft of school offer a more valid comparison than total cost of school per sq ft, because of the effect of special features in certain schools. We may fairly assume that with the use of the systems and equipment described, it costs about $.19 per sq ft of school floor area to make provision for future air conditioning. The additional cost for full air conditioning is about $.73 per sq ft over the basic cost of heating and ventilating.

[1] MECHANICAL ENGINEERING CRITIQUE, APRIL 1958 P/A.

[2] *February 1958* Heating, Piping and Air Conditioning (*ASHAE Journal Section*).

[3] *January 1958* School Board Journal.

ONE MILLION DOLLARS OUT THE WINDOW

BY THE WRONG ANSWER TO ONE BUILDING QUESTION*

Do you know the answers to these important problems?

1. **Is it true that WHITE PAINT indoors, and MIRRORS, have no more reflectivity to heat rays than a heavy coating of BLACK PAINT?** (20, 22)
2. **What causes timber rot, peeling paint, wet and cracked plaster, rust?** (16, 35)
3. **Is it true the average family creates 152 lbs. vapor (76 qts. water) a week; each person breathes and perspires 3 lbs. vapor per day?** (16, 35)
4. **Should you ever ventilate below insulation?** (11)
5. **How good an insulation is an ordinary air space?** (18, 25, 26, 27, 29)
6. **Is it true that HEAT RAYS HAVE NO TEMPERATURE?** (19, 21)
7. **Do metals in air spaces absorb, reflect and emit less or more heat rays than wood, plaster, brick, paper?** (20, 22)
8. **Which has the greatest and which has the least heat ray absorptivity: — asbestos, ice, aluminum, paper, rock or wood?** (22)
9. **Are there more invisible rays than visible rays?** (18, 19)
10. **Are there any DEAD AIR CELLS in insulations with respect to heat flow?** (28)
11. **Since metals are good conductors of heat, why are they exceptional insulators against heat flow?** (18, 20)

* The question was which type insulation to install inside the brick walls of a large housing development. "The Wrong Answer" made it necessary to rip open the plaster walls to remove sopping wet insulation at a cost of more than a million dollars. It was replaced with aluminum.

You'll find the answers in "Heat Flow by Radiation in Buildings – Simplified Physics," 3rd edition, written by an authority on heat and vapor flow, Alexander Schwartz. Facts, theories, practical installation techniques, scientific reports and discussions, aided by generous illustrating, are included in its contents. This booklet is helpful to architect, engineer and builder alike.

The numbers above refer to pages in the booklet whose text gives you the answers. Get the booklet, and this important information. Mail the coupon for your free copy.

Infra Insulation, Inc., 525 B'way, N.Y.C., Dept. P-10

☐ Send "Heat Flow by Radiation in Buildings."

Firm_____

Name_____

Address_____

Kind of Business_____

OFFICE BROCHURES 2: planning to build

P/A Office Practice ***article continuing the description, begun last month, of the office brochure—*** **Planning to Build—*published by the Philadelphia architectural firm of Nolen & Swinburne.***

The excellence of the office-practice manual for the layman, which this Philadelphia architectural firm uses as a booklet for clients, is well illustrated by its introductory statement to the pages on "Organization of the Architect's Office."

"The architect's office may vary," it begins, "from a small one-man office to the large complex organization. They all have one thing in common . . . Service. One man may do many things or he may be limited to a specialized few. Small offices can give intimate personal service on a modest annual volume of work—large offices can give an enormous range of service on an imposing annual volume.

"Size, however, is no criterion for architectural service, nor excellence of work. These are only as good as the principals of the firm, the knowledge and capacities of the men actually producing the drawings and the time and facilities placed at their disposal. Mix these qualities with years of practical experience, a good sense of business administration and you have it . . . good Architectural Service.

"The best way to judge an architect and his service is to visit him in his own office, look over his staff and their facilities, talk to some of his previous clients and then examine his executed works first hand."

An extremely ingenious chronological Sequence of Relations from this brochure is illustrated on page 13. More examples of its pages will be shown here next month.

(Continued on page 13)

ARCHITECTURAL FEES

Methods of Computation:

Percentage of cost of construction.
Multiple of technical payroll.
Lump sum.
Fixed fee plus reimbursement for expenses.

When Payable:

Percentage of cost:

25% of fee when owner approves preliminary drawings.
50% of fee (total 75%) when owner approves final drawings and specifications.
25% of fee (balance) in installments from time to time in proportion to completion of construction.

Other Methods:

As negotiated.

(If work is abandoned by the owner at any time, the architect is reimbursed the pro-rated amount of his fee up to such time of stoppage.)

"You get exactly what you pay for."

Architectural services are difficult to describe on a dollars and cents basis. Let's put it this way:

Is your fee paying for imagination, for creative impulse, for inspiration? Are you paying for an enthusiasm about the work? Is your architect searching for a real solution to your project? If he feels something isn't just quite right, does he re-study it, discard it, start over again, revise and re-analyze? Does he spend time and money, sweat and tears to produce the right solution?

..... or did your fee buy the first adequate design that was put down on paper?

Is your fee paying for complete working drawings that cover every part of the work? Are details designed to fit exact conditions using the latest research and technical information available? Are all construction conditions drawn completely and clearly; are they noted and cross-checked? Have architectural requirements been co-ordinated with structural, mechanical and electrical conditions? Are the plans well drawn, showing pride in the work as well as accuracy?

..... or did your fee buy a poorly executed set of drawings, turned out skimpily and hurriedly just to get the job out of the office?

And what of well-written specifications?

And what of thorough supervision?

"You get exactly what you pay for."

This is KENCOVE® Vinyl Wall Base

Both inside and outside corners are easily formed right on the job, from the base itself. No short, off-color, factory-made corners that come off or kick loose*.

KENTILE FLOORS

Available in Rubber, Cork, Vinyl Asbestos, Solid Vinyl, and Asphalt Tile . . . over 150 decorator colors.

SPECIFICATIONS:

SIZES:
Height
2 1/2", 4", 6"
Length
48" (2 1/2" & 4" heights also available in 96' rolls)

COLORS:
Black, Green, Brown, Sumac Red, Russet and Gray

*Ask your Kentile Representative to show you how the installation advantages of KENCOVE save time and money.

OFFICE BROCHURES 2: planning to build

■ OWNER ● ARCHITECTS ♦ JOINT ➨ SPECIAL

■ Seeks architectural services 11

♦ Preliminary conferences 11
♦ Owner/Architect agreement 12
♦ Establish building program 16
♦ Set production time limits 22

● Program analysis 16
● Schematic designs 18

■ Approves schematic documents 19

● Preliminary drawings 18
● Preliminary specifications 20
● Preliminary estimates 24-26

♦ Conference on preliminaries 19

● Revisions to preliminaries 19

■ Approves preliminary documents 19
■ Authorizes final documents 19
■ Approves special consultants, if any

➨ 25% of fee now payable 12

● Final working drawings 18

♦ Conference on specifics 14

● Final specifications 20
● Final estimates 24-26

♦ Set construction time limit 28
♦ Conference and review 19

● Revisions if required 19

➨ Review by City, State and Federal
➨ groups having jurisdiction 19

♦ Conference and acceptance 19

■ Approves final documents 19

➨ 50% of fee now payable 12

♦ Select contractors for bidding 34

■ OWNER ● ARCHITECTS ♦ JOINT ➨ SPECIAL

● Issue documents for bidding 35

■ Receives bids 35

♦ Bid tabulation and review 35

● Advise on contract award 36

■ Awards contract 36

● Assist in execution of contract ... 36

■ Executes contract 36

● Approve bonds and insurance 36

■ Arranges for waiver of liens 36

● Issue proceed letter to contractor . 36

➨ Field construction begins 37

Supervise construction 38
● Prepare field inspection reports .. 38
● Reviewandapprove shop drawings . 48
● Inspect and approve samples 50
● Prepare monthly certificates 40

■ Pays construction costs monthly... 40

♦ Review construction reports ... 36

➨ Emergencies 45
➨ Construction delays 46

● Prepare and sign change orders .. 44

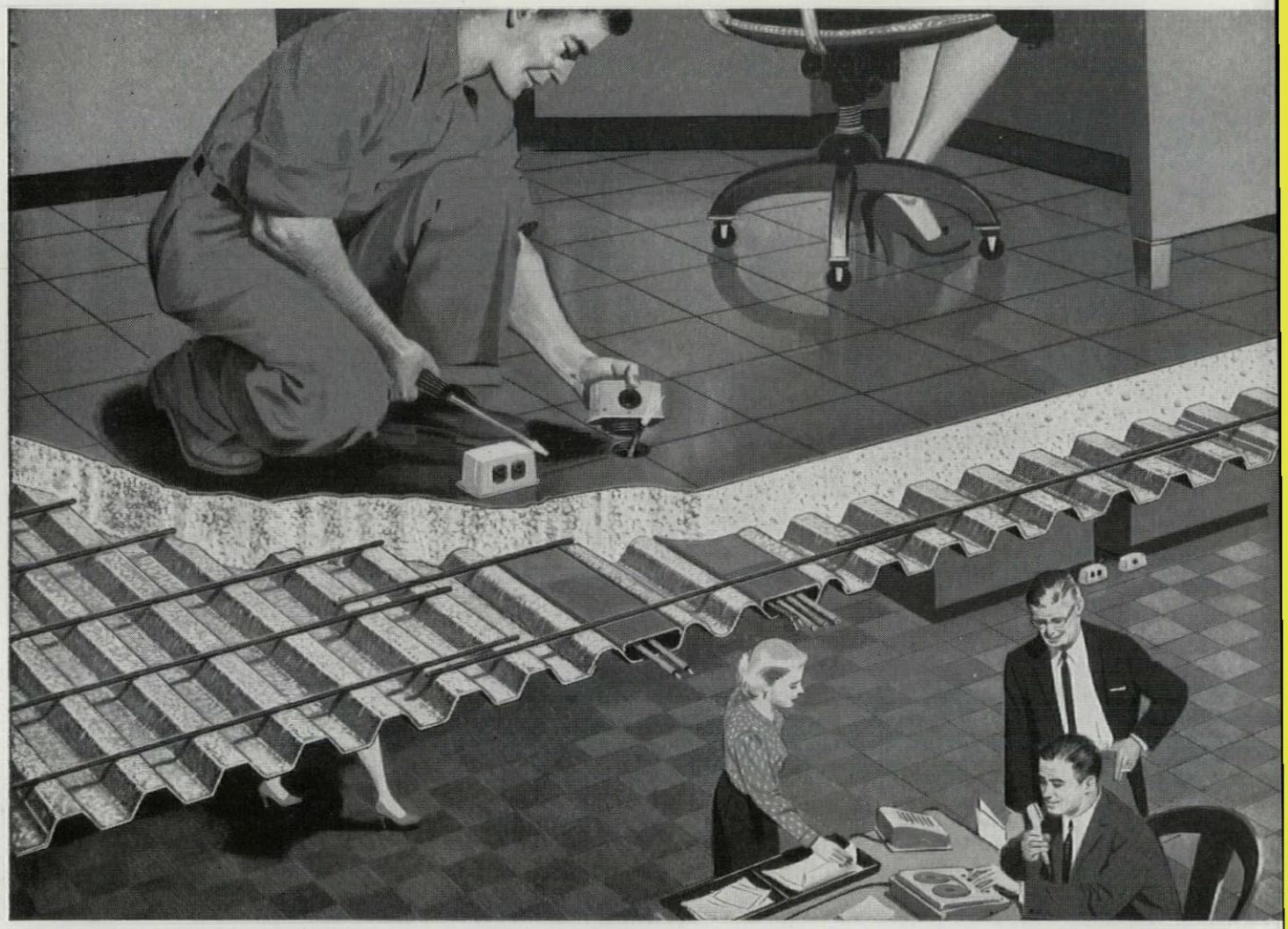
■ Countersigns change orders 44

➨ 25% of fee pro-rated 12

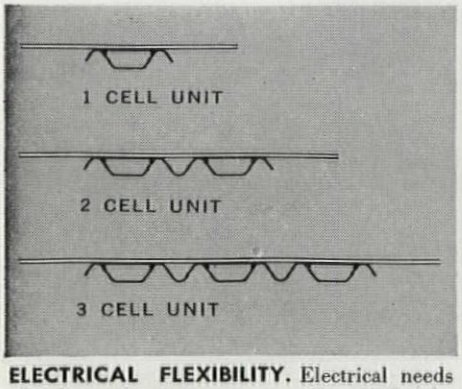
● Receive special guarantees
from contractor 52
● Make final inspection 52

■ Receives release of liens 52
■ Makes final payment 52
■ Accepts building 52
■ Assumes maintenance 52

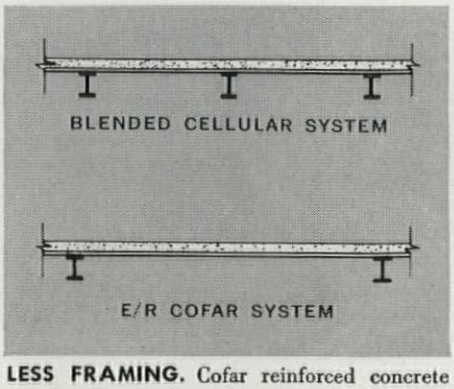
♦ Celebration



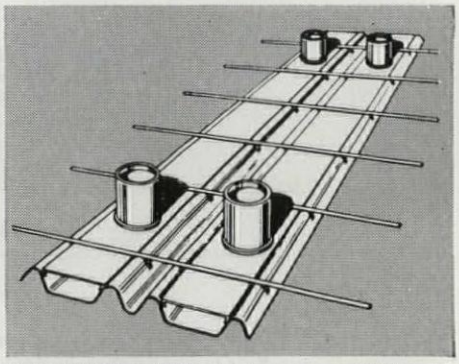
Electrical flexibility and wider spans with Granco's new Cofar®



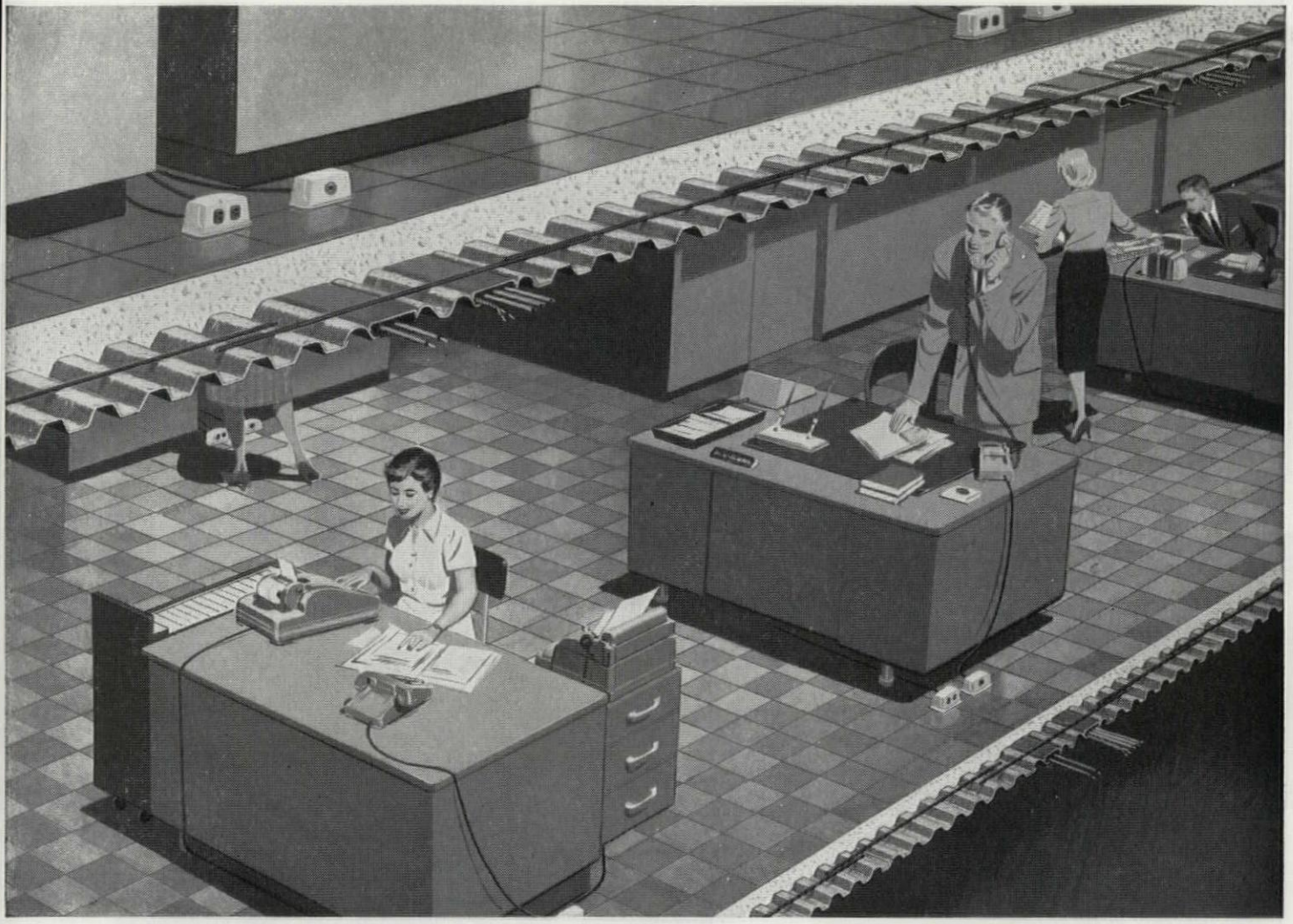
ELECTRICAL FLEXIBILITY. Electrical needs of today and tomorrow are easily satisfied by blending in one, two, or three cell E/R Cofar units with sections of standard Cofar.



LESS FRAMING. Cofar reinforced concrete construction permits wider spans, saves on structural framing costs, speeds up building completion and permits earlier occupancy by the owner.



PRE-SET INSERTS. Costly concrete drilling is eliminated by optional pre-set inserts. Install outlets after building is occupied! After-set inserts may also be used with E/R Cofar.



In 1957, Granco introduced a totally new method of providing raceways for electrification, plus reinforcing and forming of floor slabs—*all in one operation!*

Today, the Granco product that made it possible—Cofar—is available in a *new pattern* and *longer lengths* that extend effective span range to 16′.

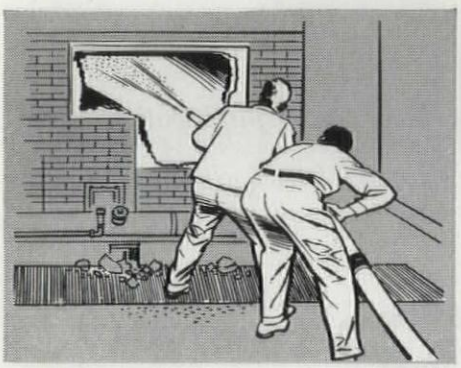
E/R Cofar units—wide troughs capped to form spacious raceways for wiring—are used between standard Cofar units to provide electrical flexibility at lowest possible cost. Both E/R units and "new pattern" Cofar have T-wires welded across corrugations to furnish necessary temperature reinforcing and mechanical anchorage between concrete and steel.

CHECK THESE MONEY-SAVING FEATURES OF THE E/R COFAR SYSTEM

A low-cost, high-strength floor with complete electrical flexibility • No wasted fill • Eliminates conventional forms • Units easily handled and quickly placed • Provides immediate working platform.

New-pattern Cofar and E/R Cofar may now be ordered through Granco distributors from coast to coast. For more information, contact your local distributor or mail coupon below.

• Visit Granco Booth #34, A.I.A. Convention!



FIRE-RETARDANT. In a recent 2-hour UL fire test, Cofar became the first electrified cellular floor system (with header ducts and junction boxes in place) to earn a fire-retardant rating.

GRANCO®

GRANCO STEEL PRODUCTS COMPANY
6506 N. BROADWAY, ST. LOUIS 15, MO.

A Subsidiary of
GRANITE CITY STEEL CO.
Granco Distributors in More Than 100 Principal Cities

SINCE 1878 GRANITE CITY STEEL ®

OUR CATALOGS ARE FILED IN SWEETS!

MAIL THIS COUPON FOR COFAR–E/R COFAR MANUAL

Free 24-page booklet gives complete description, uses, advantages, specifications, and design data on Cofar–E/R Cofar floor system. Mail coupon to Granco address shown at left. Attention: Dept. P-810.

Name_____

Title_____

Firm_____

Address_____

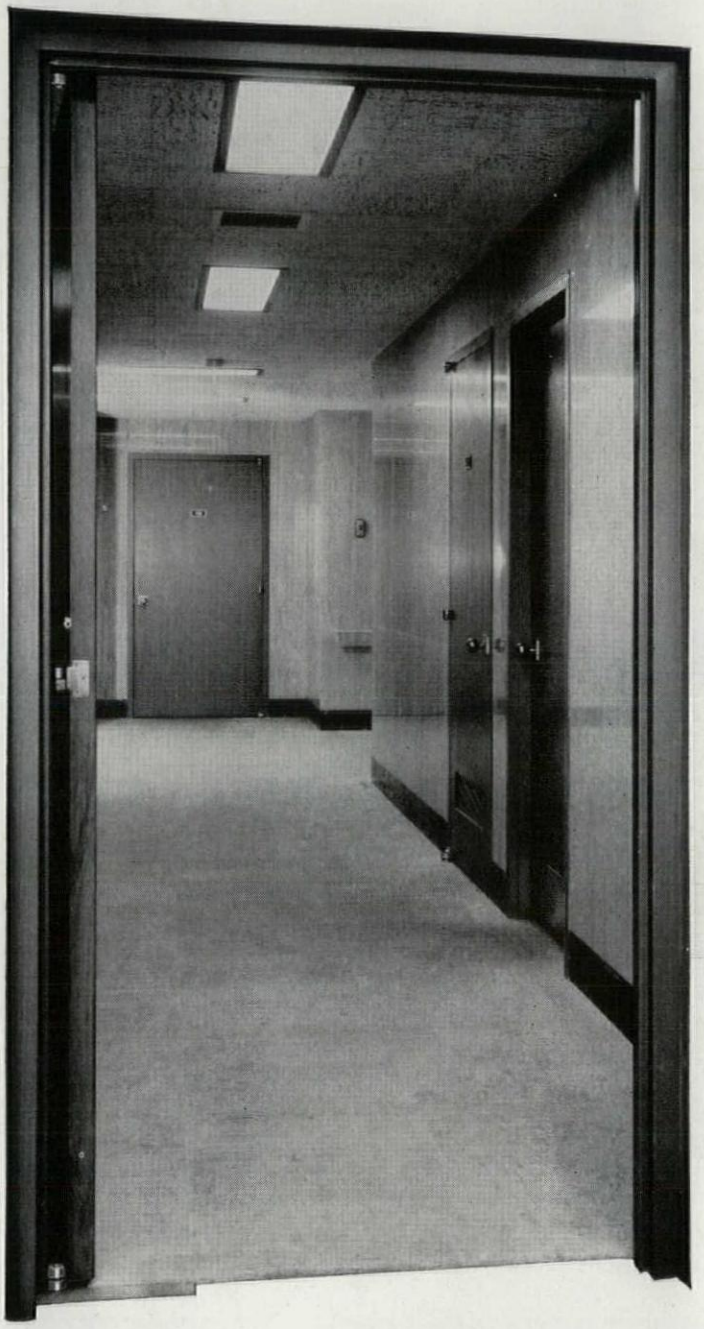
City_____ State_____

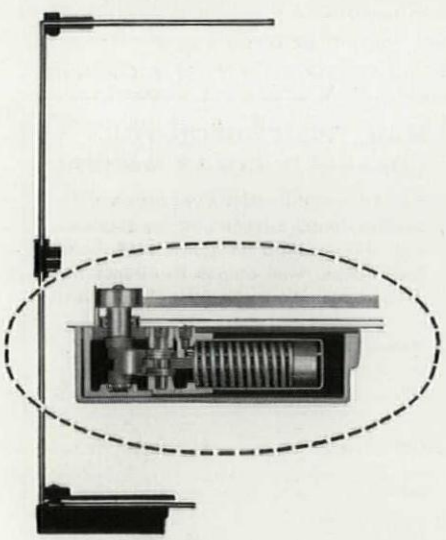
another modern corridor with "invisible" door closers

RIXSON

UNI•CHECKS®

Strong, trouble-free, shallow door closers . . . firmly embedded in the rigid floor . . . no arms or closer mechanisms visible on either side. Easy to install or adjust. Write for complete details.





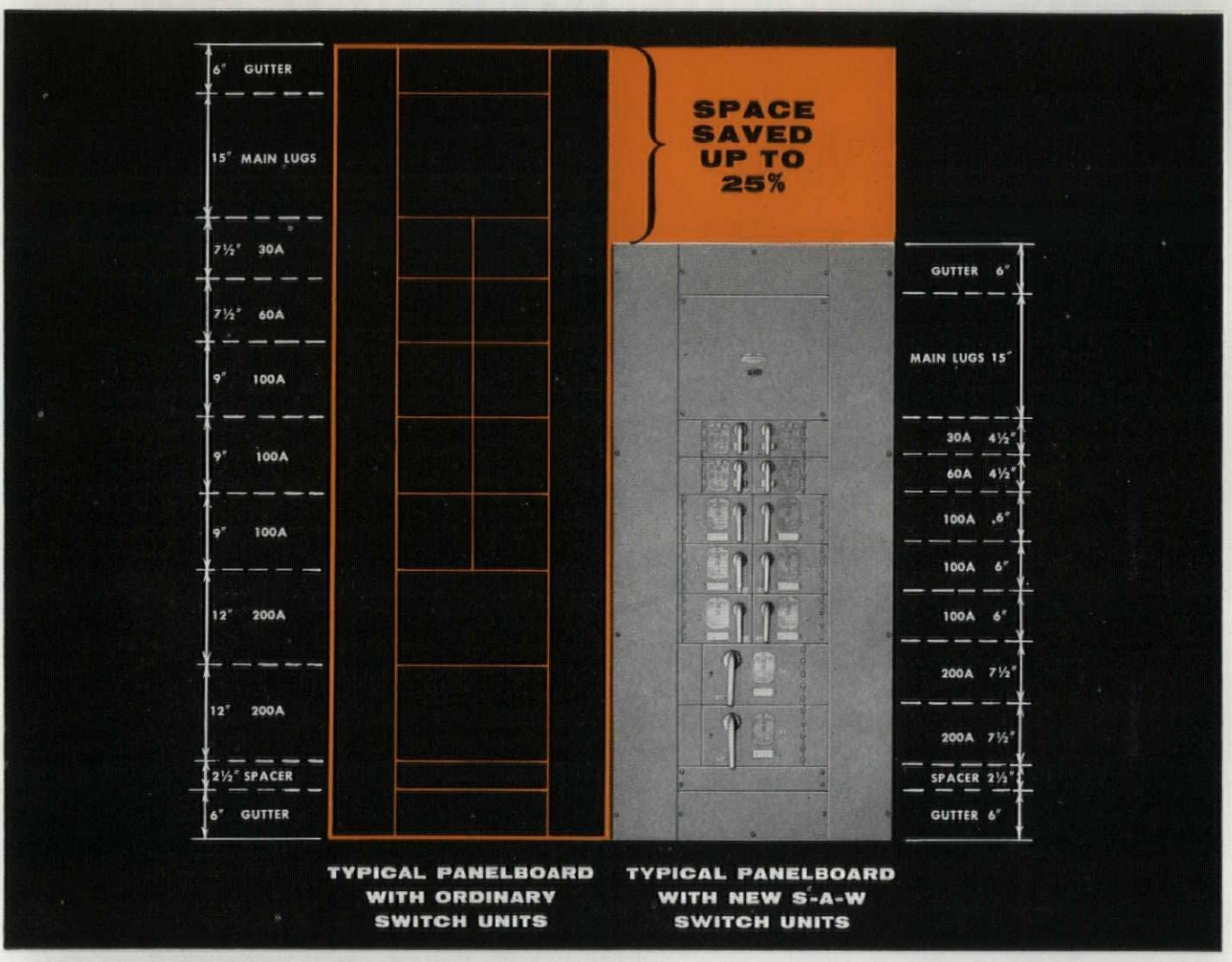
ideal for *school classroom doors • hospital patient room doors • hotel guest room doors • office building and factory interior doors . . .*

THE OSCAR C. RIXSON COMPANY

9100 west belmont ave. • franklin park, ill.

CANADIAN PLANT: 43 Racine Rd. • (Rexdale P.O.) Toronto, Ont.

new FRANK ADAM S-A-W SWITCHES SAVE UP TO 25% PANELBOARD SPACE!



S-A-W SHUTLBRAK SWITCH

Rotary operated, with famous arc-proof quick-make, quick-break mechanism. Continued use keeps the heavily silver-plated full-floating roller contact permanently clean and polished.

Another engineering advance by Frank Adam! These smaller space-saving S-A-W Shutlbrak switches present several exclusive advantages:

- If mounting space is limited, fewer panelboards will be needed thus saving both installation labor and equipment cost
- Provision for future expansion can be made by the installation of normal size panelboard enclosure and the smaller S-A-W Switches with filler plates
- Allow the use of smaller panelboards in new installations

Capacities of the new S-A-W switches are the same as ordinary switches of larger size. A full range of ratings is available in a combination of single and twin units. Defeatable interlocked doors insure positive safety. On-and-off padlock feature available.

Construction is the same exceptional quality typical of all (FA) equipment.

Write for information

(FA) *Products are the sign of a better job*

FRANK ADAM ELECTRIC COMPANY

P. O. BOX 357, MAIN P. O. • ST. LOUIS 3, MISSOURI

busduct • panelboards • switchboards • service equipment
safety switches • load centers • Quikheter

SEE OUR CATALOG IN SWEETS

Now you can see why only leads & pencils give you perfect

YOU ALWAYS GET PROVEN QUALITY FROM TURQUOISE DRAWING LEADS AND PENCILS

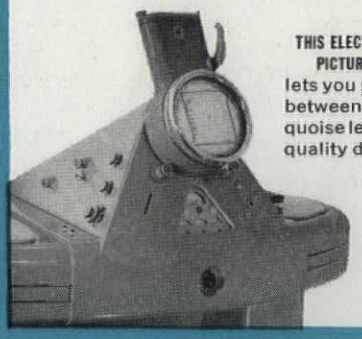
PROVEN GRADING -17 different formulae make sure you get exactly the line you expect—from every pencil, every time.

PROVEN DURABILITY —Because compact lead structure gives off no chunks of useless "dust" to blow away, Turquoise wears down more slowly.

PROVEN NEEDLE-POINT STRENGTH —as electron photomicrograph shows, Turquoise lead structure is finer—and therefore stronger. It holds a needle point under drawing pressures for long lines of unchanging width.

EAGLE PENCIL COMPANY • NEW YORK • LONDON • TORONTO • MEXICO • SYDNEY • BOGOTA

Eagle Turquoise reproduction

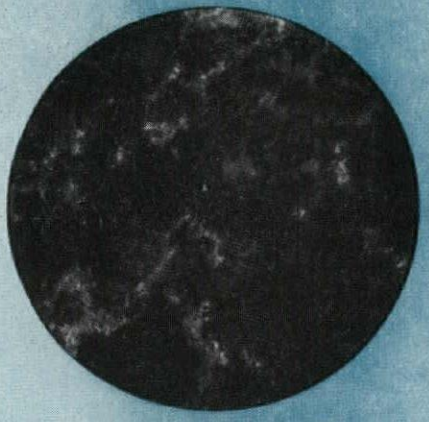


THIS ELECTRON MICROSCOPE TAKES PERFECT PICTURES 7,500 TIMES ACTUAL SIZE— lets you see the startling difference between Eagle's "Electronic" Turquoise lead and the lead in the usual quality drafting pencil.

Photographs courtesy of Ladd Research Industries, Inc.

...AND MARKS LIKE THIS

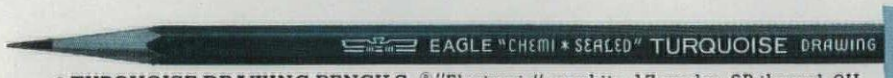
Relatively large, irregular particles of graphite make a rough-edged line with gaps that permit the passage of light. Prints will be inferior.



...AND MARKS LIKE THIS

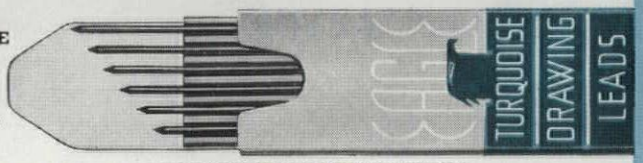
Tiny, more uniform particles deposit as a clean-edged, solid opaque line that blocks the light and reproduces to perfection.

WRITE FOR FREE SAMPLE DEMONSTRATION KIT (including Turquoise wood pencil, Turquoise lead, and Turquoise "skeleton" lead) naming this magazine. Eagle Pencil Company, 703 East 13th Street, New York, N. Y.

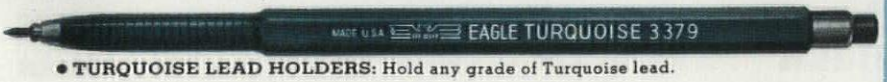


• **TURQUOISE DRAWING PENCILS:** ®"Electronic" graphite. 17 grades, 6B through 9H.

• **TURQUOISE CLEANTEX ERASER:** Super-soft, non-abrasive rubber.



• **TURQUOISE DRAWING LEADS:** Fit any standard lead holder. Grades 5B through 9H.



• **TURQUOISE LEAD HOLDERS:** Hold any grade of Turquoise lead.

EAGLE® TURQUOISE®

PENCILS AND LEADS

are the largest-selling in the United States!

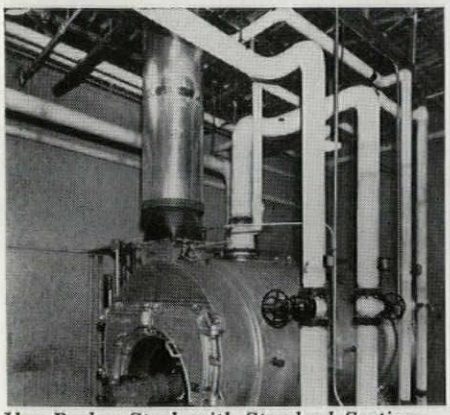
Low cost refractory stack outlasts steel

Low cost — The Van-Packer Industrial Stack is made of prefabricated sections for economy and easy installation. It costs no more than a steel stack, yet lasts substantially longer. Costs only a third as much as a brick stack.

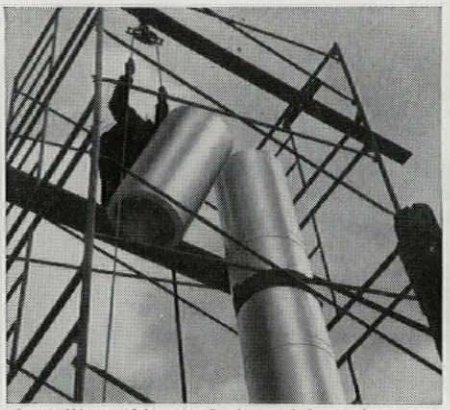
Refractory construction — Van-Packer Stack sections are centrifugally-cast of refractory material that will not corrode. Three-foot long sections come in 7 diameters from 10-inch ID to 30-inch ID to meet your requirements.

Needs no maintenance — Sections of the Van-Packer Stack are cemented one on top of another with acidproof cement, and secured with aluminum drawbands. Sections have an aluminum outer jacket that requires no maintenance.

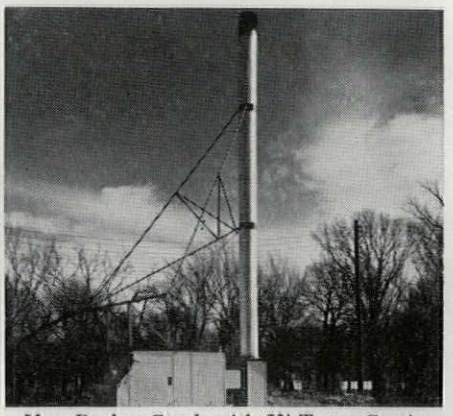
Available nationwide — The Van-Packer Stack is available through local Van-Packer Jobbers and Special Representatives. See "Chimneys — Prefabricated" in Yellow Pages, or write Van-Packer for Bulletin IS-32-53.



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



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

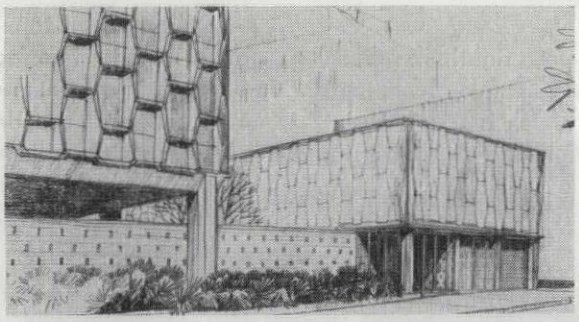


Van-Packer Stack with Hi-Temp Sections handles industrial incinerators with flue gas temperatures up to 2000° F.

Van-Packer PREFABRICATED REFRACTORY **Stack**

Van-Packer Company • Division of the Flintkote Company
1232 McKinley Ave., Chicago Heights, Ill. • Phone: SKyline 4-4772

see our catalog in Sweet's



OFFICES PLANNED FOR U.S. MISSION TO U.N.

Plans for a permanent home for United States Mission to United Nations were announced after passing of a Bill in Washington providing $3,750,000 for erection of the building. The structure is to be located directly across from the General Assembly building, on United Nations Plaza, New York. In it will be housed offices of the Chief and Deputy Chief of the Mission, and staff, as well as all auxiliary services. Architecturally, three elements are to be grouped around a garden court: 12-story office building; service tower; and 2-story auditorium wing. Steel framing will be used in combination with steel-and-concrete floors. The service tower is to be enclosed with light gray-buff brick masonry; the office building with a cast-stone screen in cream-white, which will shield the floor-to-ceiling glass walls; the auditorium with masonry, repeating the pattern of the cast-stone screen. Kelly & Gruzen and Kahn & Jacobs, Associated Architects; Harwood & Gould, Structural Engineers; Slocum & Fuller, Mechanical Engineers.

p/a news bulletins

• Richard J. Neutra received 1958 Grand Prize of City of Vienna "for outstanding achievements in the field of architecture and city planning." . . . Lightolier, Inc., was awarded first place—for luminous ceiling in 375 Park Avenue, New York (House of Seagram)—in a national competition conducted by Illuminating Engineering Society for "Most Interesting Lighting Job." . . . Leonard Payne of Harold Spitznagel & Associates, Architects, Sioux Falls, S. D., received Designer's Award from Rubber Flooring Division of Rubber Manufacturers Association, Inc., for best-designed rubber floor installed in an institutional or commercial building during 1957 (premiated structure was McKennan Hospital, Sioux Falls).

• Institute of International Education offers a chance for Americans to study in any of 43 foreign countries during 1959-60, under International Educational Exchange Program of the Department of State. Preference is given to applicants under 35 years of age. A demonstrated capacity for independent study is necessary. Persons interested should write: Institute of International Education, 1 E. 67 St., New York 21, New York, or any of its regional offices: 116 S. Michigan Ave., Chicago 3, Ill.; 1605 Pennsylvania St., Denver 3, Colo.; 401 Millam Building, Houston 2, Tex.; 1530 P St., N.W., Washington 5, D.C.; 291 Geary St., San Francisco 2, Calif. Applications filing deadline is Nov. 1, 1958.

• Office building (below left) will rise 41 stories from Park Avenue for First National City Bank of New York. Project replaces "Astor Plaza" building announced last spring, then abandoned, but has same architects: Carson & Lundin and Kahn & Jacobs, Associated Architects. New scheme dispenses with plaza and pedestrian areas proposed in first plan. Building, estimated at $50 millions, will contain more than 1,500,000 sq ft of gross space.

• Borg-Warner Building, Chicago (below right), has been formally dedicated. Tenant occupies top five floors and penthouse suite of 22-story structure, which is situated next to Symphony Hall and across from Chicago Art Institute. Designed by A. Epstein & Sons, Inc., Chicago; William Lescaze, New York, Consulting Architect.

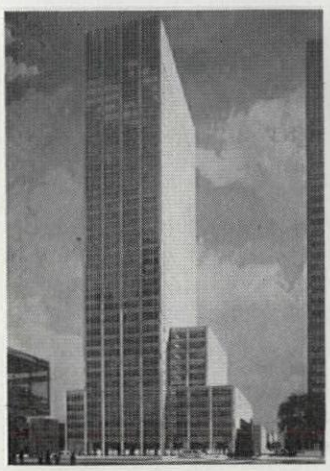
• AIA New York Chapter offers Arnold W. Brunner scholarship of $2400 for advanced study in special architectural fields during 1959, to active American architects with advanced professional backgrounds. Members of the teaching profession receiving sabbatical leave are also eligible. Apply, prior to Nov. 15, to: Gillet Lefferts, Jr., Secretary, New York Chapter, American Institute of Architects, 115 East 40 St., New York 16, N. Y.

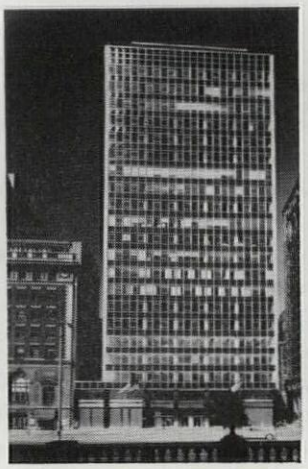
• American Academy in Rome has a limited number of fellowships for mature students and artists capable of independent work in architecture, landscape architecture, musical composition, painting, sculpture, history of art, and classical studies. Open to citizens of the United States for one year beginning Oct. 1, 1959, with possibility of renewal. Applications and work samples must be submitted by Dec. 31, 1958. Address: Executive Secretary, American Academy in Rome, 101 Park Ave., New York 17, N. Y.

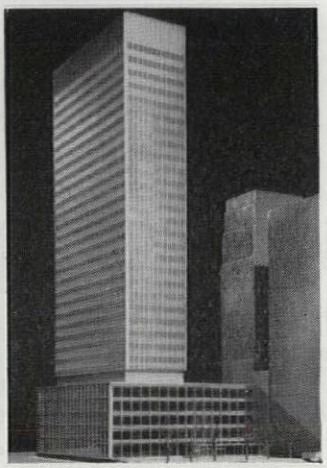
• Long-range plans for construction of medical facilities in West Berlin are under way. The buildings will be built co-operatively by the citizens of Berlin and the United States, under supervision of Benjamin Franklin Foundation (Ralph Walker, Chairman). German architects and doctors have toured U.S. medical institutions and conferred with architects and educators for background in planning the Berlin project.

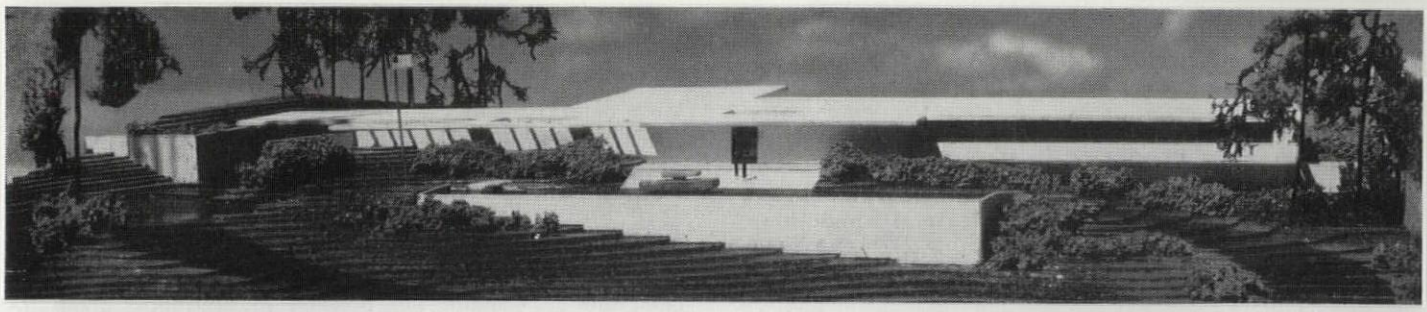
• First National Bank building in Minneapolis (below left) designed by Holabird & Root & Burgee, Architects, Chicago, provides a five-story bank superimposed by a 23-story office tower. Stainless steel will sheathe the bank; anodized aluminum, the office tower. A plaza over underground parking facilities and auto-bank will provide ice-skating rink in winter, outdoor display space in warm weather.

• New 26-story City-County Building in Indianapolis will be tallest, largest office building in Indiana. Central tower, containing administrative offices on 25 floors and mechanical equipment on top, will be flanked by Courts and Police wings. Tower will be faced with gray-glass windows and glass spandrels in aluminum sash; wings will feature Indiana limestone and glass spandrels. Projects designed by Architects & Engineers of Indianapolis, Inc.: Lennos, Matthews, Simmons & Ford, Inc., and Vonnegut, Wright & Porteus, Inc.; Consulting Architects: Harley, Ellington & Day, Inc., Detroit.









• Residence of U.S. Ambassador to Chile in Santiago (above) was designed by Paul Thiry, Seattle. Design evokes indigenous architecture of Andean region, utilizing terraced site, stuccoed exterior walls, and many building materials readily available in Chile, notably copper (for panelled doors, grills, plumbing, etc.). The one-story plan around patio will be flexible enough to provide a homelike atmosphere for the Ambassador and his family, and also accommodate large groups for state receptions and celebrations.

• Another Paul Thiry commission is that as Chief Architect for Century 21 Exposition to be held in Seattle, Washington, in 1961. Thiry will supervise conversion of Seattle's Civic Auditorium area into a $10-millions Civic Center to serve as site of exposition.

• Approval of Turkish Government has been received by George B. Quatman, businessman of Lima, Ohio, for restoration of Basilica of St. John near the ancient city of Ephesus. Original Basilica was built in the Sixth Century by Emperor Justinian I to mark burial place of the Apostle.

• Film documenting history of curtain-wall construction is being distributed by United States Steel Corporation to 75 member schools of Association of Collegiate Schools of Architecture. Film, which spans period from 1883 to present, is narrated by George Edson Danforth, Chairman of Department of Architecture, Western Reserve University.

• Pavilion for display of forest products (below) has been designed by Portland Architect John Storrs for 1959 Oregon Centennial Exposition and International Trade Fair. Structure will feature seven 50-ft-sq hyperbolic paraboloids constructed of laminated 2′ x 4′s. Each 2′ x 4′ will be offset slightly from the next, to provide a smooth surface. Pavilion will remain as a permanent structure after the exposition.

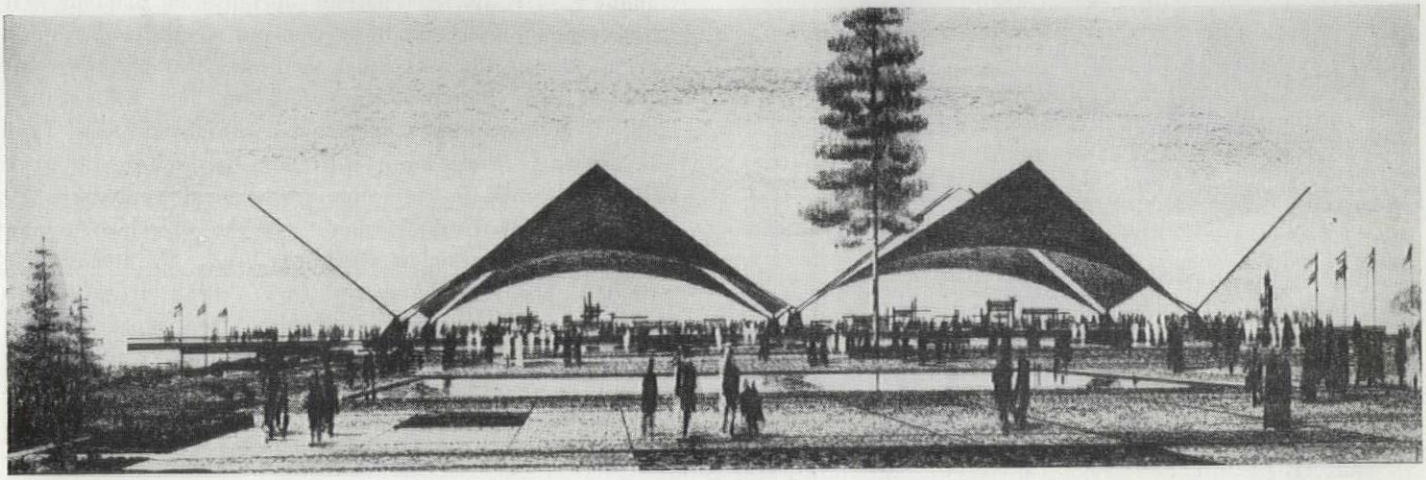
• Paul Nelson has become associated with Ketchum & Sharp, Architects, New York, to concentrate on medical commissions. His past work includes the Memorial Hospital, St. Lô, France (OCTOBER 1957 P/A).

• The Architectural League of New York has announced a program of 20 evening events for the coming year, with an emphasis on Collaboration of the Building Arts. There will be 10 "one-man" programs and 10 panel programs, all open to the public. Exhibitions in the League's main gallery will complement the panel programs. Subjects under discussion will include shopping centers, municipal arts, city planning, photography of architecture, old and new architecture in Puerto Rico, and architectural history.

• N. Y. State Association of Architects, Rochester, Oct. 16-18. . . . Design Conference of American Society of Industrial Designers, Bedford, Pa., Oct. 18-21. . . . Structural Clay Products Institute, Houston, Nov. 10-12. . . . Acoustical Society of America, Chicago, Nov. 20-22. . . . BRI Conference on Field Applied Paints and Protective Coatings, Washington, D. C., Dec. 3-4.

• Fourth Annual National Construction Industry Conference to be held at Hotel Sherman, Chicago, Dec. 10-11, has scheduled discussion of newest construction methods. The conference, theme of which is "Creative Trends in Urban Building," is sponsored by American Institute of Architects, American Society of Civil Engineers, Armour Research Foundation, Building Research Institute, and Associated General Contractors of America, Inc.

• AIA's 1959 convention dates at New Orleans will be June 22-26. President Richards has appointed a Board Advisory Committee of Directors Carroll, Rible, and Rogers to work with headquarters staff planning the program.



Washington report

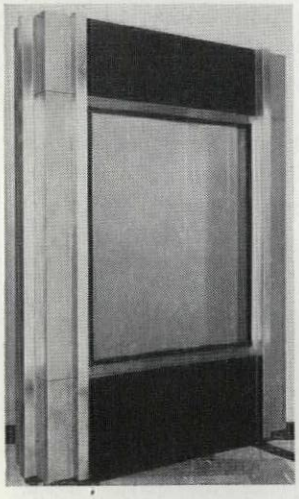
by Frederick Gutheim

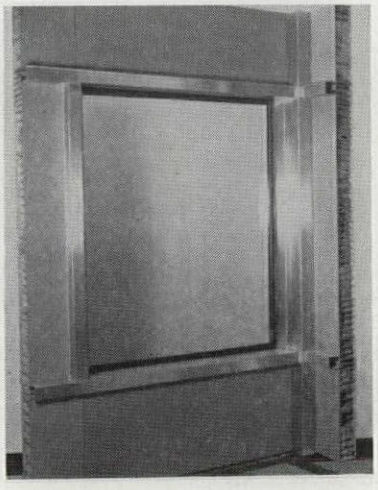
Two opportunities to employ the architectural competition as a device to help solve difficult design problems have now appeared in Washington. They might well activate some effort by American Institute of Architects to further its long-standing policy in support of competitions for public buildings. The new executive office building facing Lafayette Square and the Washington cultural center are the two projects. The first recalls the problem confronting the designers of the American Embassy in London, where the Grosvenor Square site obliged a "coming to terms" with the surrounding buildings and a special recognition of the space of the square itself. A limited competition was the answer provided by FBO. Eero Saarinen's winning design was not only a successful resolution of these problems, but its subsequent development profited from the thinking of other entrants in this limited competition. The sketches produced last spring by staff architects of Public Buildings Service (showing an excessively dull symetrical building, flanked by Latrobe's Decatur house and a phony replica) well illustrate the difficulties faced in Lafayette Square. It is not too late to take the one step that might retrieve this situation, by encouraging a more brilliant and venturesome solution to a unique problem of urban design as well as architecture. The cultural center is a quite different thing. Here there is a chance to break through the barriers of a civic monumental architecture, and achieve something that is at once distinctive and gay, with an atmosphere of its own. The picturesque hillside site of 10 acres, overlooking the Potomac River, is well suited to an independent expression of some sort, and such a new departure can be best stimulated by an unlimited architectural competition. Indeed, given the relatively unformulated nature of the project at this point, a two-stage competition embracing both program and design might be employed by the sponsoring committee. Not the least advantage of the competition here is the widespread interest and publicity it would generate—major advantages to an enterprise which faces a long and difficult fund-raising campaign to execute this project. Furthermore, given the aspiration to create a cultural center of worldwide significance, yet distinct from New York's Lincoln Center for Performing Arts, the sponsors of this quasi-public institution would do well to open their arms to architects throughout the world. No really commanding opportunities for competitions of this magnitude have appeared in Washington since the well remembered Smithsonian Art Gallery competition in 1939. We should not waste them in routine handling of these jobs.

• Another association headquarters building to strengthen the growing uptown concentration of such institutions on Wisconsin Avenue will be designed by the local firm of Vosbeck & Ward for Association for Childhood Education International. One of the activities of this organization is testing equipment used for child training; and a permanent display of such items will be a feature of the two and one-half story building. The National Housing Center is clearly a prototype for this plan. The remainder of this building will contain offices, conference and seminar rooms, library.

• The East Front of the Capitol is festooned with scaffolding required to take accurate measurements of the existing masonry details, and to allow their reproduction in the new wall to be built 32½ feet further out. The Architect of the

CANADA GETS FIRST STAINLESS-STEEL CURTAIN WALL



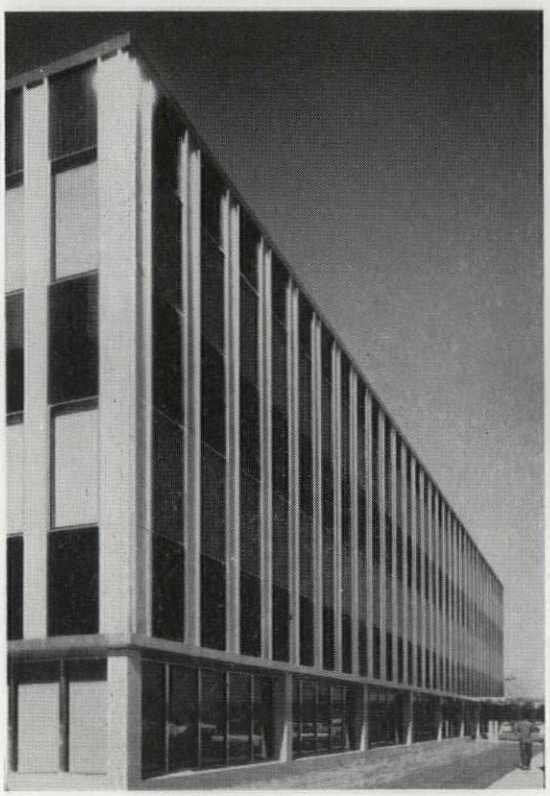


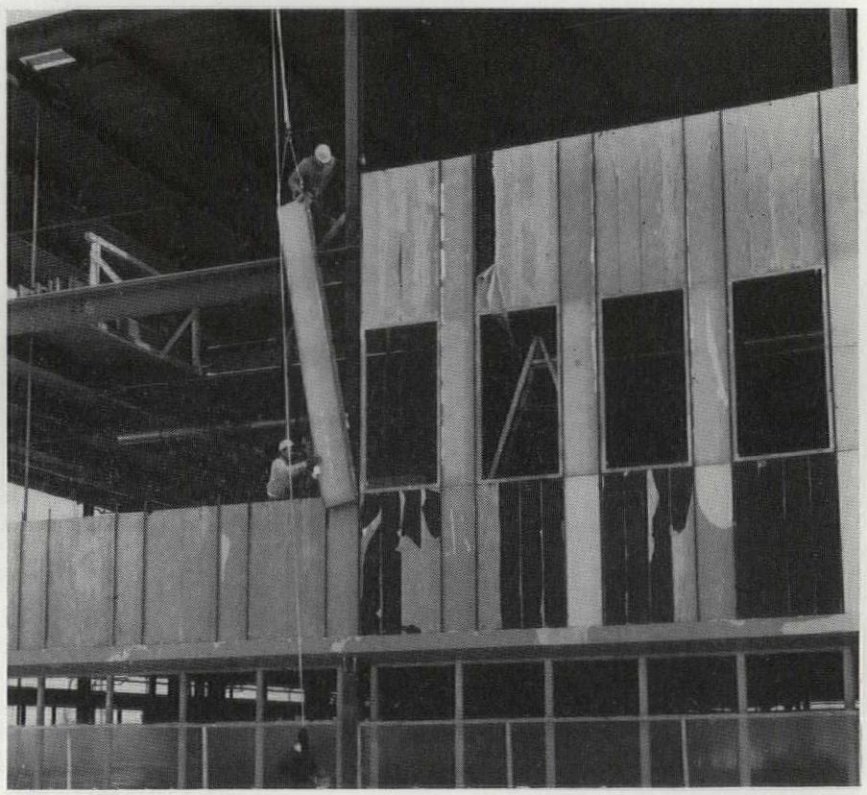
Canada's first all-stainless-steel curtain-wall building was officially opened last month at Welland, Ontario. Designed by Hamilton Architects Prack & Prack, the structure will serve as new Administration Building for Atlas Steels Limited. All curtain-wall panels were prefabricated of Type 301 stainless steel—three different finishes providing a variety of contrasts. Intermediate vertical panels are 2D finish; mullion covers, #4 finish; for the spandrels, a new form of colored stainless steel was used. By means of a patented process (Permyron, MAY 1958 P/A NEWS SURVEY) spandrel areas of stainless steel were given a permanent black-mat finish. In this first full use of the new process, minor difficulties were encountered; however, it is reported that field corrections produced an entirely satisfactory finish.

Capitol has announced that this work will be completed in time for the January 1961 inaugural ceremonies, but he has not specified where these will be held. With this olive out of the bottle, the heat will be on almost immediately to undertake the extensive and long overdue revisions to Capital Plaza, now one of the city's sloppiest parking lots, and get those done by 1961, too. The final vote in the Senate on the bill which had been unanimously reported by the Public Works Committee, was 47-32. A defeat by this close margin was actually a substantial accomplishment for the preservation advocates, who included every professional society in the field. Julian E. Berla, Washington architect and Chairman of Citizens Committee for Preservation of the Capitol, which rallied such powerful groups as DAR and local historical societies in nearly every state, announced that they would continue to fight in the next Congress for repeal of the authorizing legislation.

• Housing affairs have seldom been more snarled than as the result of the close defeat in the House of the housing bill and the subsequent release by the President of $100 millions in frozen housing funds to allow the slum-clearance program to go forward. This amounts to a temporary lease on life until January, when the White House will ask for further legislation. The House vote fell just short of a necessary two-thirds, so legislative action next year is a cinch. The housing row lined up the Administration, with its fears of inflation and its built-in resistance to any development of the housing function, against an election-year Congress bent on a major expansion of both public and private housing, as well as urban redevelopment. The net of it is further evidence that the Administration regards housing—especially Fanny May, the mortgage association —as a part of its economic-management tool kit, something to be turned off and on as it appears desirable. Turned on, as it was earlier in the year, housing made an important contribution to economic recovery. Cut back, it will diminish inflationary pressures. Out of the Presidential allocation, dribbles of aid will reach a number of pending redevelopment projects. Added to balances on hand, it gave HHFA a total of $154 millions with which to meet about $358 millions of pending redevelopment applications.

• Not enough attention was paid a remarkable speech by Sen. Margaret Chase Smith as Congress was wheeling toward adjournment, in which the lady from Maine uttered some long-awaited words about the decline in public buildings design. In a broad framework, which included such fundamentals as the location of Federal buildings in the capital city, Senator Smith took issue as well with such details as the lack of sculpture, mural paintings, mosaic and other decoration, in the increasingly utilitarian Federal office buildings. "A nation without regard for its art forms is on its way to decline," she warned. She took to task Congressional committees that have been indifferent to advice of National Capital Planning Commission and Fine Arts Commission, and particularly urged that advice of the latter be sought well in advance of building decisions rather than at the end of the design process, when it frequently appeared "obstructionist and unrealistic." While it is good to have such a spokesman for these valuable agencies, I believe that Senator Smith's speech was better in the columns of the Congressional Record than as it fell on rather indifferent Senatorial ears. Nevertheless, this is a statement from which more will be heard. Not since Mr. Justice Douglas' ringing words about the use of police powers to further the appearance of cities have we had such a forthright declaration. I hope it will be republished and quoted from, and will stimulate further talk about this neglected topic—our public architecture!





p/a financial news

by William Hurd Hillyer

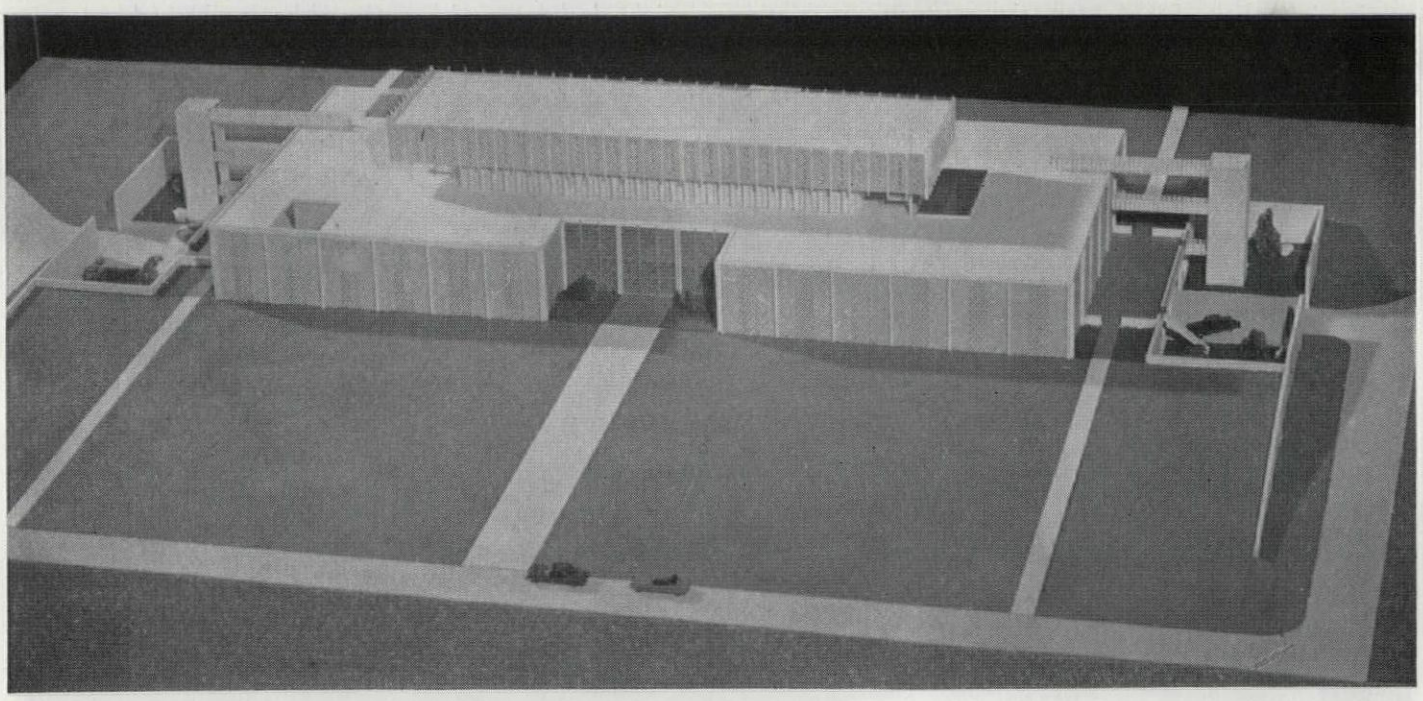
Building is increasing again after a $3.5 billions decline in annual rate for the first five months of this year, the Federal Reserve System notes in its current "mortgage credit and construction" study. More housing units are being started than at any time since early '56. At mid-'57 the outstanding home-mortgage debt exceeded $111 billions, of which $48 billions was in some fashion Federally sponsored. A feature of the graph plotted by the Board is the contrary trend of residential and business construction. The gap between the two was narrowed by about $5 billions, while dwellings took their '56 to '58 slide and nonresidential structures—a more profitable class for architects—a roughly corresponding increase.

Interposing a smoked glass against this brightening horizon, the Federal Reserve has raised the rediscount ratio at its component banks with the confessed aim of making business funds harder to get, thereby throttling the flow of liquid capital into productive enterprise and, indirectly, into a multitude of business structures. This move follows an already well marked procedure pattern. So we have the spectacle of a great Federal institution torn between contrary fears of inflation and deflation, attempting to control both at the same time by alternate liftings and pushings.

• Rate of post-depression recovery in dollar value of nonresidential building may assume spectacular proportions, if joint study by United States Departments of Labor and Commerce is taken as a guide. Fifteen times as many dollars went into industrial structures in '54 as in '34; office and warehouse buildings upsurged 1600 percent, school construction grew eighteenfold. Dollar value of all "new construction put in place" rose in August to a record monthly high of $4.8 billions, the two Government sources report, as this page goes to press; nonfarm residential expenditures were $1.7 billions in that month—3% ahead of July and 1% above August of last year.

• Latest weekly statistics as summarized by Dun & Bradstreet, Inc., continue to follow the firmer tendency discoverable in August: steel-ingot production leads the industrial climb, with a week-to-week gain of nearly 2½%, and is only 18% below 1957's comparable figures. Steel production touched a monthly high tonnage of 7.3 millions, according to other sources, with the industry looking forward to consecutive weekly gains in leading steel centers. Furthermore, business failures are at the lowest level this year and are currently less than in 1957. On the other hand, autos

BUILDINGS DESIGNED FOR NEW FLORIDA CAMPUS



Models of the five buildings that will constitute the central core of the new University of South Florida, in Tampa, were recently unveiled. They are: the Union/Classroom/Cafeteria Building (above) designed by Architect Robert Little; the Library/Classroom Building (acrosspage, above left) by Smith, McCandless & Hamlin; the Teaching/Auditorium-Theater Building (acrosspage, above right) by Gamble, Pownall & Gilroy; the Science-Laboratory/Classroom Building (acrosspage, bottom left) by Mark Hampton; and the Classroom/Administration Building (acrosspage, bottom right) by Pullara, Bowen & Watson.

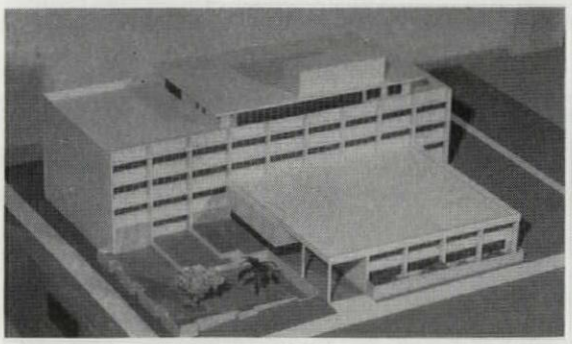
Authorized by the Florida Legislature in 1955 and created

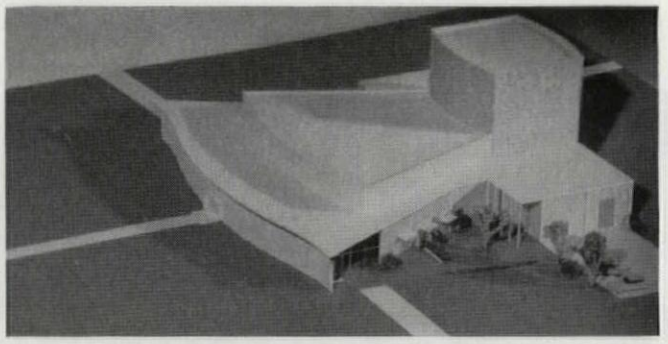
are still weak, "model change-overs" being the putative reason. Their output is running a third below that of '57 and the year-to-year decline has widened to 76%.

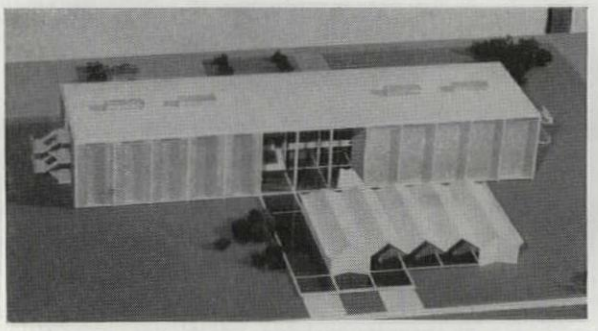
• The now upturning "recession" had good points as well as bad, in opinion of the Biddle Survey. Some results: it made businessmen look more critically upon expenses; taught them that the customer can sometimes be right; made them realize that they have to work if they want to sell—and, we may add, wrought a healthy readjustment of inventories. In like manner, it has engendered a more realistic view of new construction financing and costs, especially in the residential field. For some time to come, the housing approach will be less speculative, more selective. Authorities, such as Biddle, are already hailing the construction industry in general as "leader in the recovery" and as "pulling the balance of the economy out of the doldrums"—a development foreseen by this page early in the year. What conservative sources frankly fear is not a continuance of doldrums, but what they call the erosion of the dollar.

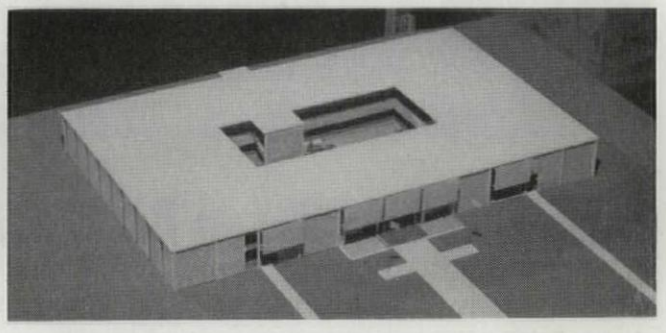
• The bottom of the "recession" was reached in April, First National City Bank declares in its Monthly Letter. "The turnaround has been so abrupt that questions arise as to how long the fast rate of climb can be maintained." Gross national product, that comprehensive business measure, moved up 6% to a $429-billions annual rate in this year's second quarter. That upturn is noteworthy, in belief of First National City, for both its breadth and its sharpness: every major industry covered by the Federal Reserve index has increased its output over this spring's low. Charts, as laid out by the bank, show a sharp contrast between the behavior of industrial output in this and the two previous postwar recessions; neither '49 nor '54 had a V-shaped trough like the one currently developing. In those years, the decline slowed down before touching bottom and the recovery was more gradual. However, the bank thinks that in the present case too much of the impetus behind factory shipments is traceable to easy money and increased Government spending. For example, home building has been helped in its comeback by liberalized mortgage insurance and heavy mortgage-purchase commitments on the part of Federal National Mortgage Association.

• Improved real estate continues to be the best hedge against inflation—a possibility which is increasingly feared, even in otherwise stolid quarters such as the world's biggest stockbrokers. As noted previously on this page, such a situation is favorably set up for architects. There seems to be a subconscious urge among purchasers and improvers of land to hurry with the erection of buildings before the rising tide of recovery carries prices much higher. Nevertheless, the excessive repetition of inflation prophecies tends to aggravate the danger on a chain-reaction principle.





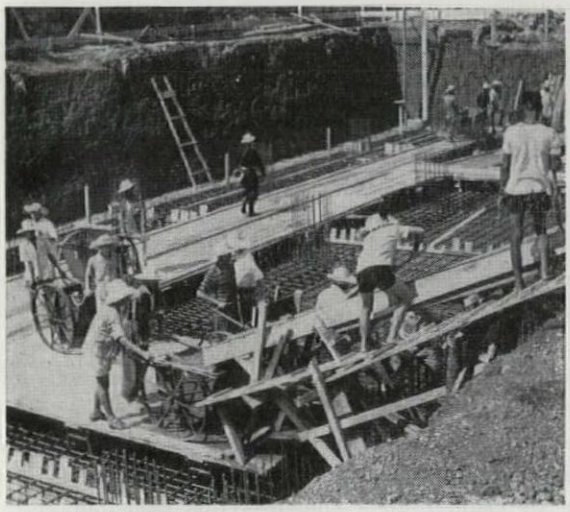


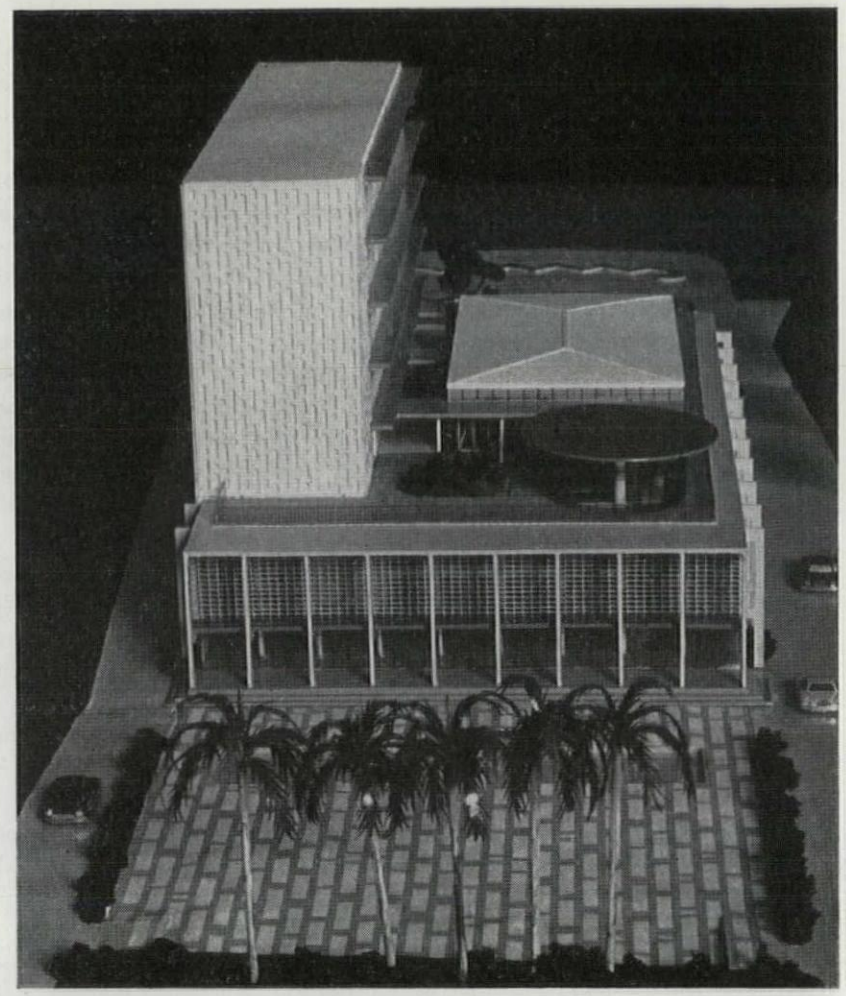


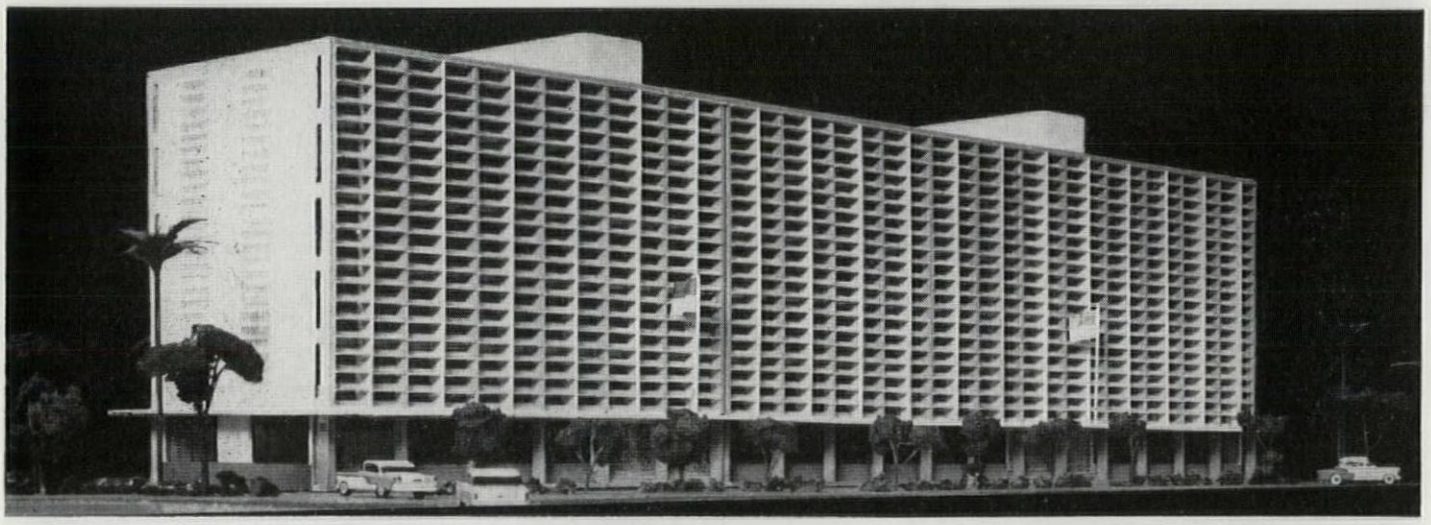
in 1956 by the State Board of Control, the university will occupy a 1700-acre site. Approximately 1500 students will enroll in 1960, and it is expected that by 1970, there will be a student body of 10,000.

The over-all campus plan, originally worked out by Jeff Hamilton, Planning Consultant at University of Florida, calls for major buildings to be grouped around a pedestrian mall, with dormitories, recreational units, and parking on the periphery. Milo Smith, Tampa city planner, has been commissioned by Guy Fulton, Architect to the Board of Control, to proceed with development of the plan.

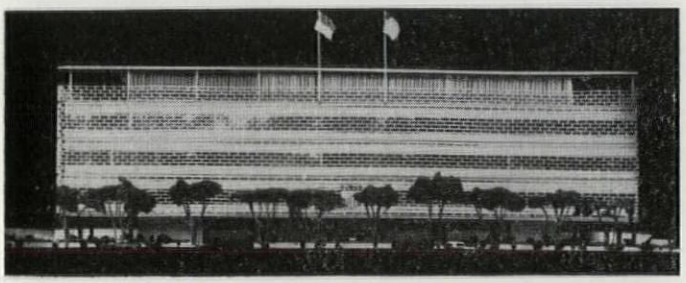
Photos of models: Tampa Morning Tribune







U.S. ARCHITECT BUSY IN DJAKARTA



Several years ago, Danish (born and educated) U.S. Architect Abel R. Sorensen went to Indonesia on a foreign trade-fair assignment, for a "brief stay" in the developing islands clustered around the capital, Djakarta. Today Sorensen has an apparently thriving practice there, with a major hotel being constructed (SEPTEMBER 1957 P/A), a group of staff houses completed for Ford Foundation, and three sizable office buildings (illustrated on this page) under way. Sorensen, who was a permanent U.N. employe during design and construction of U.N. Headquarters in New York, and himself designed many of the distinguished interiors in the Assembly Building, reports that he finds practice in the troubled islands difficult but rewarding.

TRY THIS 2-SECOND SCANNING TEST!

SEE HOW FAST YOU FIND THE "TROUBLE" SPOT

You spotted it instantly, of course . . . and thereby demonstrated to yourself how pneumatic controls save important operational time and dollars in operating modern air conditioning and heating systems. If your visual perception is average, one glance revealed the "trouble" is in the middle row, third dial from right.

Similarly, from a Johnson Pneumatic Control Center, the operator can scan his panel and check key temperatures, pressures and other data from up to a hundred or more strategic control points in the building—*all in less time than it takes to tell it!*

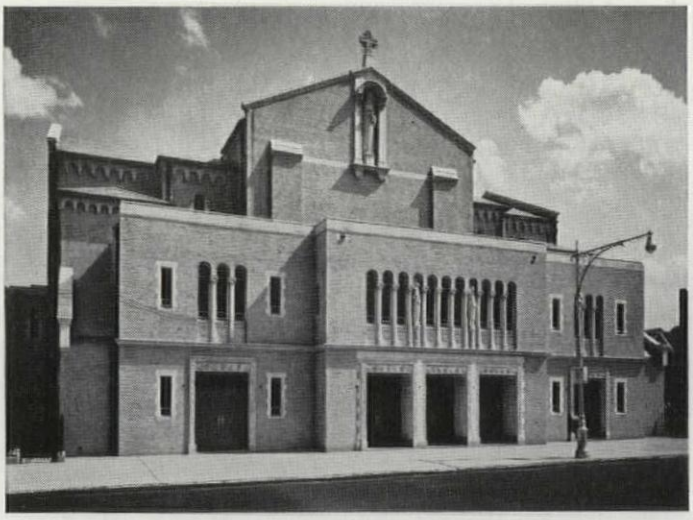
The continuous visual display of vital operating data, exclusive with pneumatic controls, permits instant, remote observation of an entire system, allows constant supervision when required. It saves time and manpower and adds greatly to the economy and efficiency of operating any air conditioning or heating system. With pneumatic indication, there are no buttons to push, no waiting for periodic logging, no codes to check. *And no complex equipment to study and maintain!*

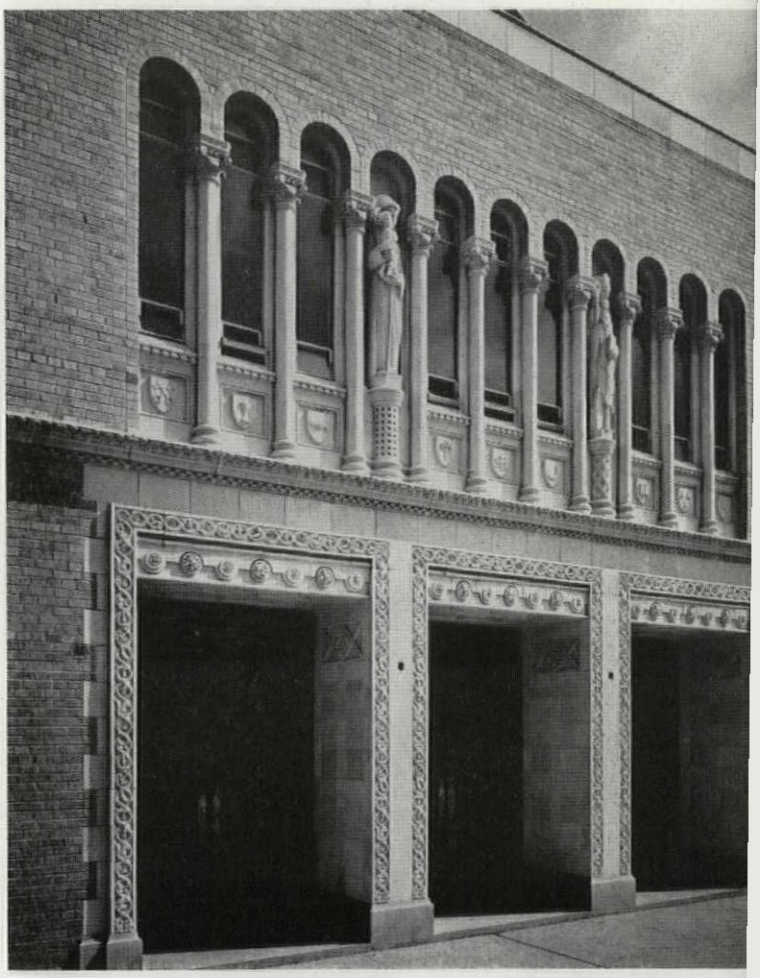
For complete facts about this and other exclusive advantages of pneumatic temperature control systems and control centers, call Johnson, the leader in pneumatic control. A talk with a nearby Johnson engineer involves no obligation. Johnson Service Company, Milwaukee 1, Wisconsin. Direct Branch Offices in Principal Cities.

JOHNSON CONTROL
PNEUMATIC SYSTEMS
DESIGN • MANUFACTURE • INSTALLATION • SINCE 1885

CHURCH OF ST. BENEDICT
Bronx, New York
Paul C. Reilly—*Architect*
T. G. K. Construction Co., Inc.—*Builder*
Ceramic Veneer was specified for all exterior trim, except statues.

CHURCH ORNAMENTATION



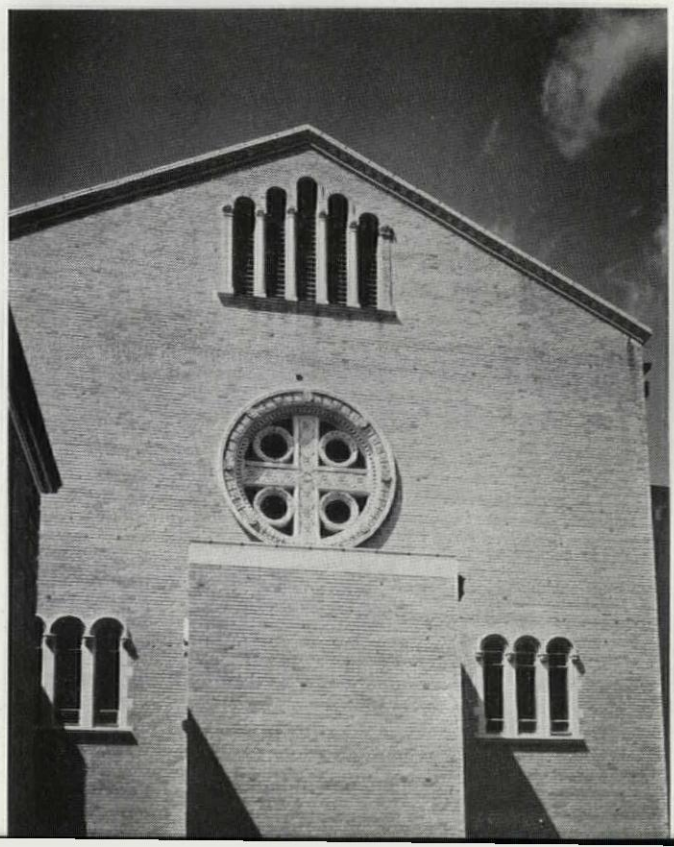


In church design, religious personification is the basis for architectural inspiration. Here the problem of interpretation is a challenging one whether the building be Gothic or modern, a great cathedral or a small, intimate chapel. And it's here that the versatility of Ceramic Veneer — in form, color, and texture — gives you complete freedom to create dignified character through interior and exterior ornamentation.

IN CERAMIC VENEER

Custom-made Ceramic Veneer is used for door and window trim, copings, band courses, pier caps, niches, colonnades, rose window, and free standing crosses; also for interior trim around doors and windows, and for wainscotting.

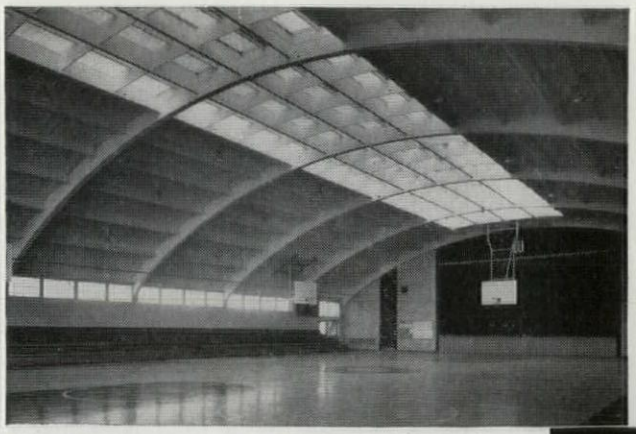
Your designs for domes, colonnades, rose window, sculpture, plain surfaces or intricate special trim are faithfully reproduced in Ceramic Veneer. Each unit, large or small is custom-made by Federal Seaboard's skilled craftsmen to your precise specifications. There are no restrictions as to contour or color. Besides versatility, Ceramic Veneer provides the advantages of quality, permanence, price and minimum maintenance. The original richness and beauty of Ceramic Veneer's glazed surface can be retained indefinitely by simple soap-and-water washings. For complete data on time-tested Ceramic Veneer, which can be combined so impressively with other building materials, write today. Without charge we will gladly furnish construction detail, data, color samples and advice on preliminary sketches.

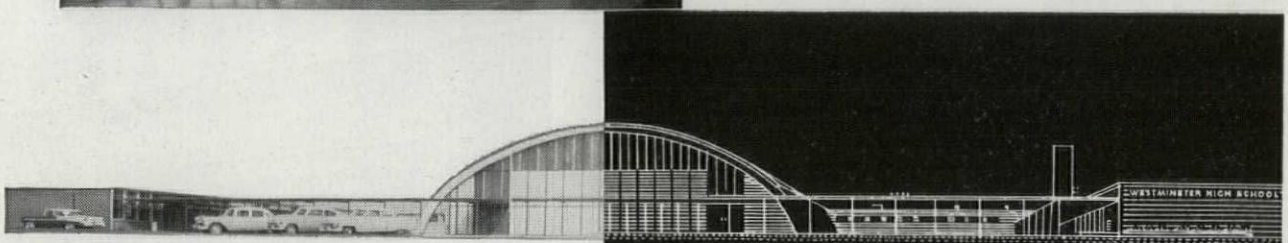


FEDERAL SEABOARD
TERRA COTTA CORPORATION

F S T C

10 East 40th Street, New York 16, N. Y.
PLANT AT PERTH AMBOY, NEW JERSEY





DESIGN ECONOMICALLY WITH FULL FREEDOM

High School, Westminster, S.C.
Architect: Harold Woodward

Wolmanized®

PRESSURE-TREATED LUMBER

Westminster High School was built for $7.69 per square foot by using contemporary design and modern Wolmanized® pressure-treated timber products. Pressure-treated arches, posts, beams and decking afforded economical construction . . . a structure of decided aesthetic appeal. The glulam timber design effected a $130,000 saving at a contract price of $393,893 for the building.

If you are designing schools, churches and similar buildings—see for yourself how Wolmanized pressure-treated lumber can effect substantial savings with full design freedom, structural strength, permanency.

W-37

Name_____

Firm_____

Address_____

City, Zone, State_____

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

Wolman Preservative Dept., Koppers Company, Inc.
752 Koppers Building, Pittsburgh 19, Pennsylvania

Office area in Connecticut General Life Insurance Building. Movable partitions, dividers, walls, doors and planter boxes are all surfaced with Consoweld laminated plastic. (Upper right) Luncheon tables in employees' lounge, also Consoweld surfaced.

7 Uses for Consoweld in new Connecticut General Offices

Movable Partitions • Dividers • Walls • Doors • Planters • Luncheon Tables • Work Surfaces

By design, a new concept in modern office efficiency . . . by specification, a showplace of proved modern building materials and techniques—Connecticut General's new home office in suburban Hartford stands out as a product of creative vision and planning.

Consoweld was one of the advanced products specified for this outstanding new building. Hundreds of thousands of square feet were used on movable partitions, dividers, walls, doors, planters and luncheon tables.

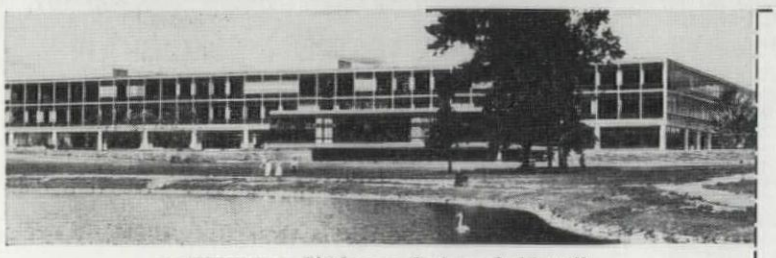
Colorful . . . durable . . . functional, Consoweld laminated plastic surfacing is a product *designed* for new ideas—to bring out the best in *your* ideas. A full line of research-tested patterns and solid decorator colors provides an unlimited variety of eye-pleasing combinations. Consoweld is available in stock panels up to 12 feet long and up to 60 inches wide, for use in a wide range of interior applications, horizontal and vertical. Postforming material is also available for use on contoured surfaces, such as countertops, window stools, and other specialized installations.

Send coupon for facts about Consoweld. Free Data File folder serves as an idea starter.

Ⓢ 14a Co

CONSOWELD® LAMINATED PLASTIC

Connecticut General Life Insurance Company Building, Hartford, Connecticut



ARCHITECTS: *Skidmore, Owings & Merrill*
INTERIORS: *Florence Knoll, Knoll Associates*
CONTRACTOR: *Turner Construction Company*

CONSOWELD CORPORATION
Wisconsin Rapids, Wis.—Dept. PA-108—

Please send me, free, Data File Folder and name of nearest Consoweld distributor.

Name_____

Firm_____

Address_____

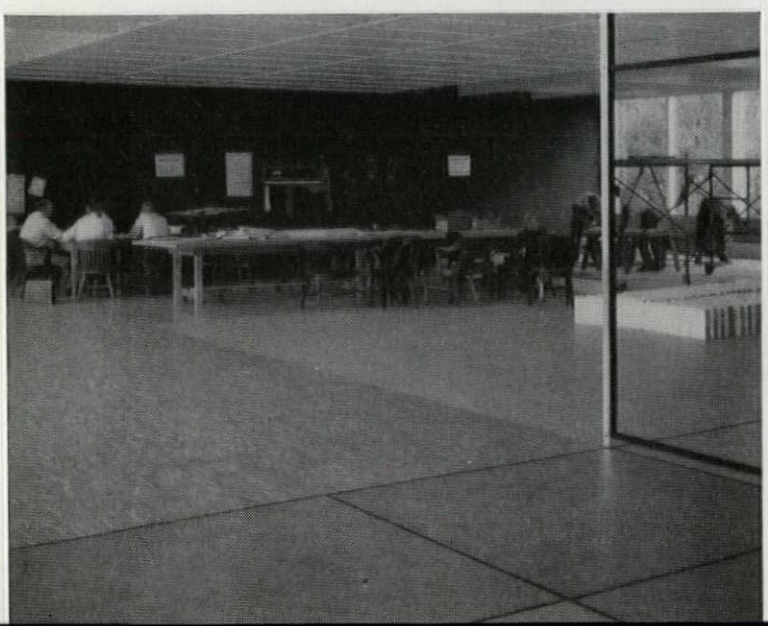
City_____ Zone____ State_____

Please check: ☐ Architect ☐ Builder ☐ Other 69

A. I. A. FILE NO. 35-C-12 & 23-L

WINNER OF A FIRST HONOR AWARD IN
1958 AIA HONOR AWARDS COMPETITION

CONNECTICUT GENERAL

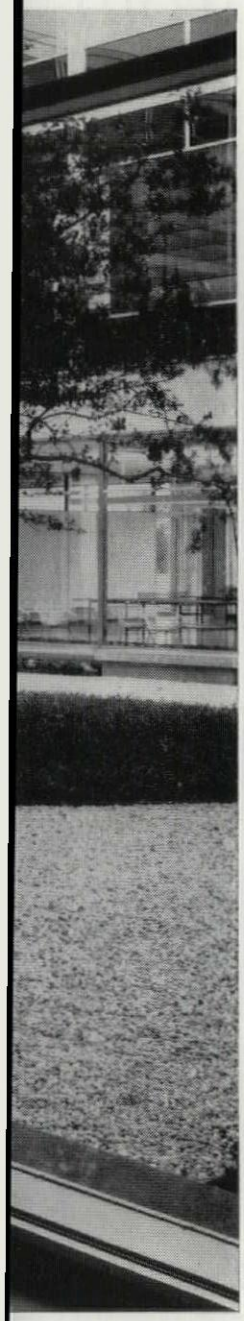


Connecticut General Life Insurance Company,
Bloomfield, Conn.
architects: Skidmore, Owings and Merrill, N.Y.C.
consultant on interiors: Florence Knoll
Knoll Associates, Inc., N.Y.C.
general contractors: Turner Construction
Company, N.Y.C.

LINOTILE PRE-TESTED IN MOCK-UP

In this detailed, full-scale mock-up built by the general contractor, structural materials were subjected to painstaking examination for long periods. Of the many resilient floors tested here, Armstrong Linotile proved itself by every measure of appearance and function. Especially impressive was the evidence that Linotile's beauty is actually heightened by use and maintenance. Despite the fact that Linotile increased flooring costs 4% over other materials considered, the test data convinced Connecticut General officials that the extra cost was a sound investment.

LIFE INSURANCE COMPANY



flooring spec: Armstrong Linotile

LASTING BEAUTY

The recently completed headquarters of the Connecticut General Life Insurance Company have been cited by the AIA as one of the "Ten Buildings in America's Future." The Armstrong Cork Company is proud that Armstrong Linotile—a floor which has been tested in use for many years—was chosen for virtually all the important areas of this most modern building. A single coloring, No. 169 Graphite Gray, is used throughout. Its subtle graining makes a perfect background for the modern architectural features. And because Linotile is regarded as one of the most durable and serviceable of all resilient floors, it will retain its beauty for many years to come.

EASE OF MAINTENANCE

Even in busy work areas, maintenance is always fast and economical because Linotile is specially processed for easy care under severe traffic conditions. Because Linotile is very dense, it has remarkable resistance to abrasion, indentation, and staining. Heavy furniture won't mar the good looks and smooth surface of Linotile. Employees are pleased with the floors because Linotile is comfortable and quiet underfoot, restfully diffuses light.

Armstrong Linotile—an exclusive Armstrong floor—has an enviable record of more than 40 years for ease of maintenance, exceptional durability, and decorative versatility. Linotile should not be confused with linoleum cut into blocks. A full ⅛" thick, the wearing surface extends through the entire thickness of the tile; it has no felt or burlap backing. Linotile is capable of withstanding furniture loads up to 200 lbs. per sq. in. without showing permanent indentation. It comes in two stylings—an unusually bold marbleizing and a subtle tone-on-tone effect; in many colors and sizes; and may be installed on all types of suspended subfloors.

Armstrong makes all types of resilient floors and can therefore offer unbiased recommendations for every flooring need. For information, samples, specifications, design assistance, call the Armstrong Architectural-Builder Consultant in an Armstrong District Office, or write direct to Armstrong Cork Company, 710 Watson St., Lancaster, Pennsylvania.

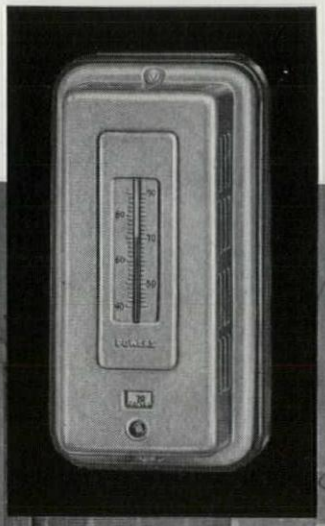
Armstrong FLOORS

Approximate Installed Prices per Sq. Ft. (Over concrete, minimum area 1000 sq. ft.)

20¢ to 35¢	Linoleum Tile Asphalt Tile, ⅛" (A, B, C, D) Linoleum, light gauge Asphalt Tile, 3/16" (A, B)	35¢ to 45¢	Linoleum, standard gauge Asphalt Tile, 3/16" (C, D) Linoleum, ⅛" ("Battleship") Greaseproof Asphalt Tile Cork Tile, 3/32"	45¢ to 60¢	Corlon (Sheet Vinyl) Linoleum, ⅛" Cork Tile, ⅛" Excelon Tile (Vinyl-Asbestos) ⅛"	60¢ to 70¢	Rubber Tile, ⅛" Cork Tile, 3/16" Linotile Corlon (Hydrocord Back)	70¢ to 90¢	Custom Corlon Tile (Homogeneous Vinyl) 3/32", ⅛" Cork Tile, 5/16" Rubber Tile, 3/16"	95¢ to $1.30	Custom Vinyl Cork Tile Imperial Custom Corlon Tile

How schools benefit from

A truly gradual acting thermostat—controls unit ventilators and convectors.
Day-Night type thermostat available with automatic changeover.



Banish packing Maintenance and Leakage with—

Powers PACKLESS Control Valves are standard for unit ventilators, convectors and unit air conditioners

They give more ACCURATE control—due to less valve stem friction.
SIMPLE, few moving parts with minimum vulnerability
to environmental hazards such as dirt, moisture, etc.

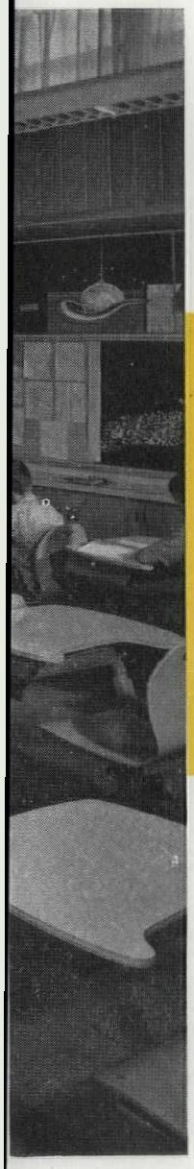
POWERSTROKE Damper Operator gives smooth gradual action of unit ventilator dampers. Accessible adjustment allows sequencing of dampers in accordance with A.S.H.A.E. unit ventilator control cycles.

Powers PACKLESS Control Valve

Both Controls are specifically designed for Unit Ventilators.

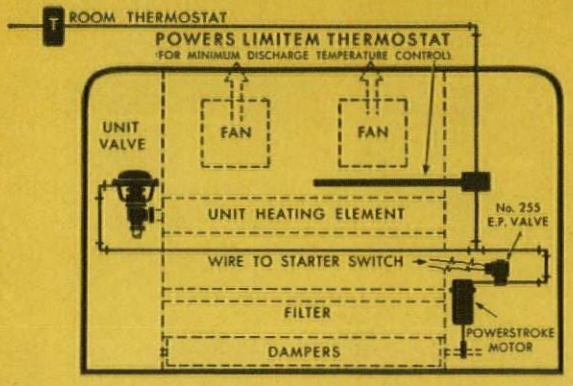
POWERSTROKE Damper Operator

QUALITY FEATURES provided by

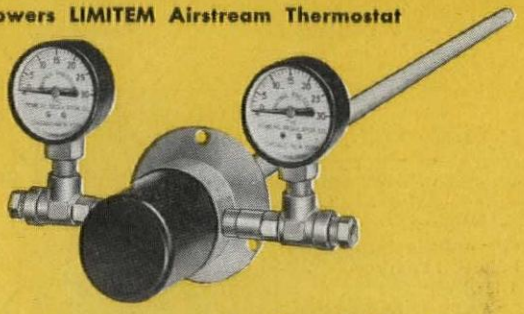


POWERS MODERN pneumatic system of UNIT VENTILATOR CONTROL

Teachers, Pupils and Taxpayers all benefit when you specify POWERS *temperature control*



Powers LIMITEM Airstream Thermostat



A precision instrument with calibrated dial and adjustable sensitivity to give precise throttling range.

Greater **SIMPLICITY** of Powers **Direct Control** Prevents OVER-heated classrooms and cold drafts and insures Lowest Cost Maintenance

Powers LIMITEM Airstream Thermostat with its efficient direct control gives precise regulation of unit ventilator discharge temperature without using complicated auxiliary devices.

LIMITEM performance and reliability have been time tested and proven in thousands of schools. Valve and damper operator which it controls are shown on opposite page.

Powers Responsibility for correct installation and dependable operation is accomplished by directly employed Powers mechanics with years of unit ventilator control experience.

There is no extra charge for Powers Quality and year after year dependability. When you specify a Powers modern pneumatic control system for unit ventilators your client gets the best. There is no better.

Use Powers 65 years of Experience and engineering know-how to help you select the most efficient type of control for schools or other buildings.

A nearby Powers factory and field trained engineer will gladly assist you. There's no obligation. Call our nearest office.

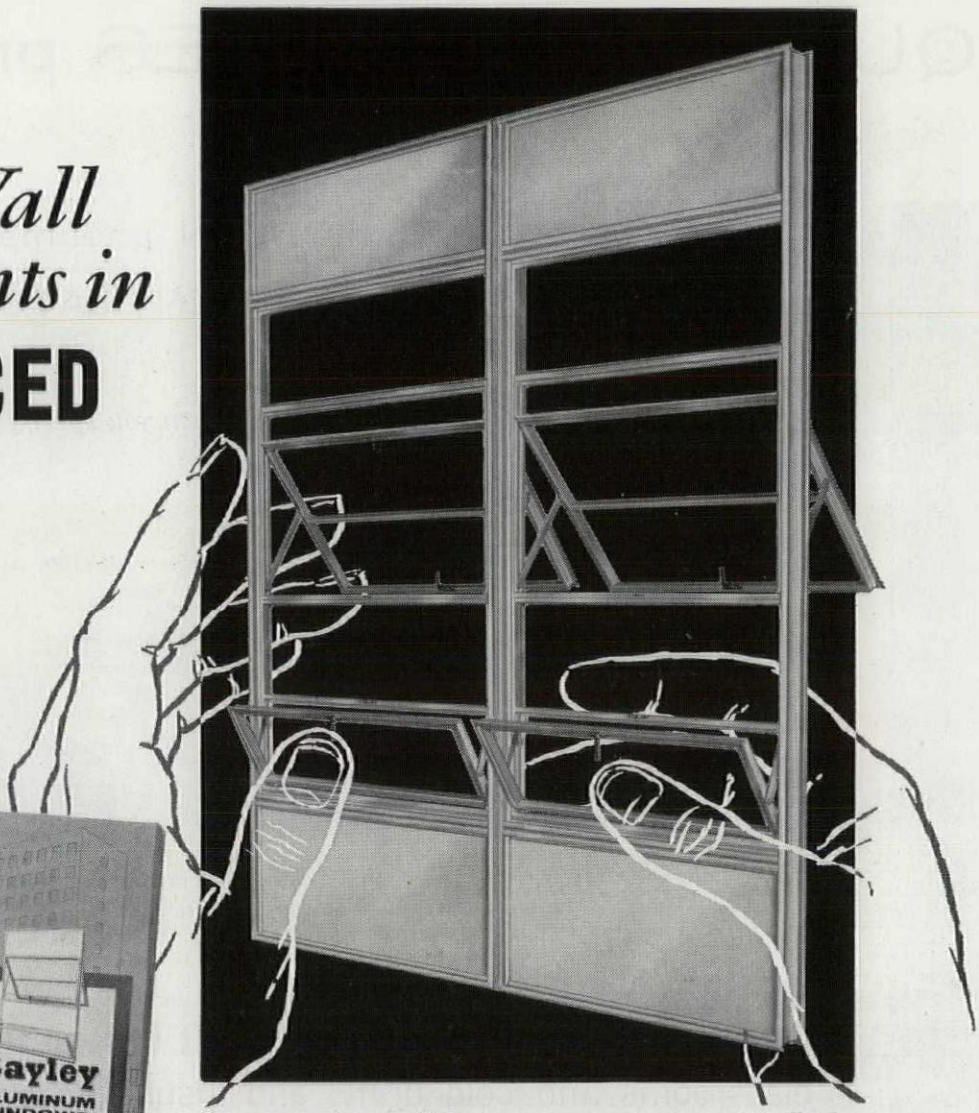
(c95)

THE POWERS REGULATOR COMPANY

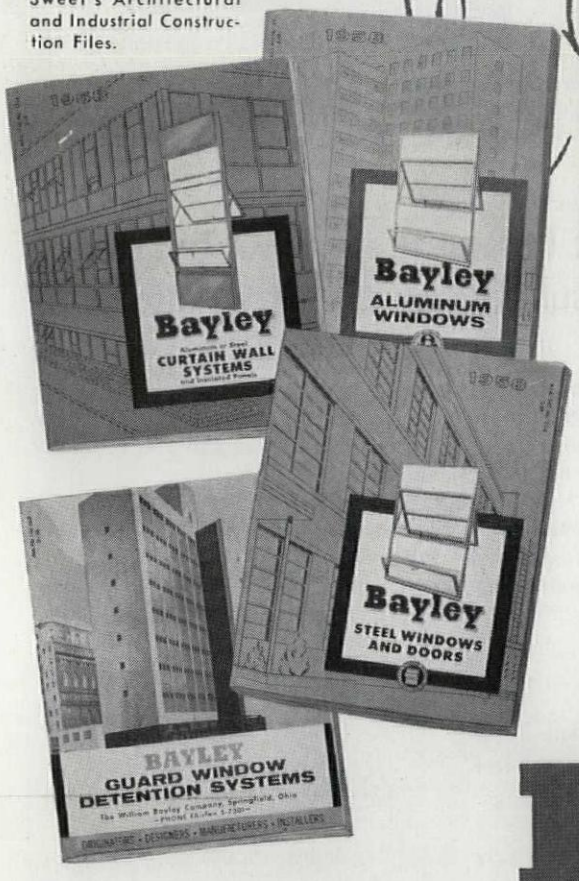
SKOKIE, ILLINOIS | *Offices in chief cities in U.S.A. and Canada*

65 Years of Automatic Temperature and Humidity Control

Put Your Curtain-Wall Requirements in **EXPERIENCED HANDS . . .**



THESE FOUR CATALOGS show how Bayley can work with you on both steel or aluminum windows and curtain wall systems for buildings of all types. Copies will be gladly sent on request—or see Sweet's Architectural and Industrial Construction Files.



On every point of window and curtain-wall function, Bayley systems give you maximum effectiveness . . . cost-saving, trouble-free erection . . . unusual design latitude without the extra cost and delay of fully "customized" fabrication.

And there's an *exclusive* Bayley feature of even greater importance: the *extra services* you can count on when you place your window-wall problems in Bayley's skilled and capable hands.

You are invited to counsel with Bayley engineers from the first moment windows or curtain walls enter into your planning picture. The earlier you do so, the sooner you get helpful information on what today's foremost curtain-wall specialists have learned to provide for—and to avoid.

These extra services encompass the *follow-through* responsibility Bayley assures for every job on which Bayley products are used—right through to building occupancy.

There's a BAYLEY representative in your immediate area at your service. Call him in today.

BAYLEY

Steel and Aluminum **Windows and Curtain Walls**

The **WILLIAM BAYLEY Co.**
Springfield, Ohio

District Sales Offices:
Springfield • Chicago 2 • New York 17 • Washington 16

ORIGINATORS • DESIGNERS • MANUFACTURERS • INSTALLERS

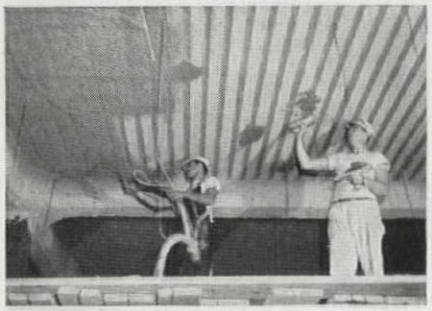
Biggest News in Construction Today!

NEW ZONOLITE® DIRECT-TO-STEEL FIREPROOFING...

Saves Time...Eliminates 7" Height Per Story... Gives 3- or 4-Hour Fire Ratings...Adds Acoustical Benefits...Simplifies Tenant Changes.

Bell Telephone Building
Pittsburgh, Pa.
Zonolite Direct-to-Steel Fireproofing
Arch.: Press & William C. Dowler & Assoc.
Gen. Contr.: Mellon-Stuart
Plast. Contr.: Easley & Rivers

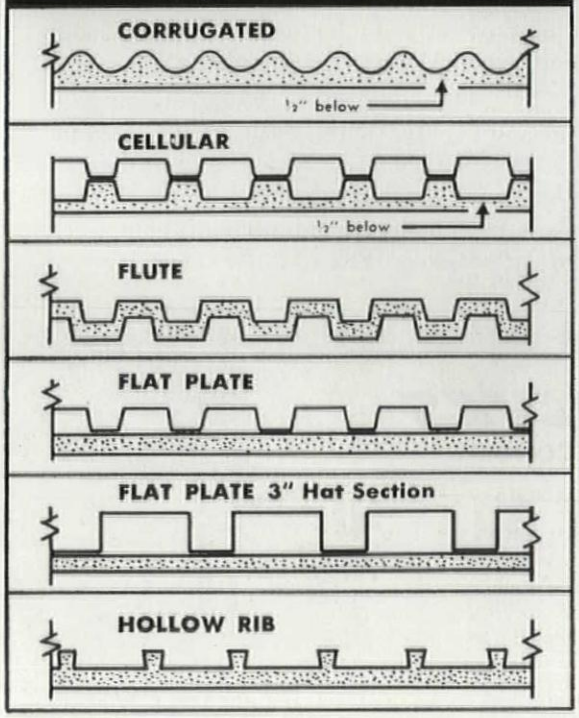
1 Underside of steel deck prior to application of Zonolite Direct-to-Steel Fireproofing. Oil, dirt removed for strong bond.



2 Machine plasterer fills flutes with material. Spot troweling only is required. Finish fireproofing coat is then applied.

3 Finished fireproofing presents pleasing surface. Photos taken at Bell Telephone Company Building, Pittsburgh, Pa.

DIRECT BOND TO UNDERSIDE OF STEEL FLOORS SAVES TIME, WEIGHT, SPACE



Now you can specify fireproofing to be applied *directly to the underside of steel floors.* Zonolite Acoustical Plastic, machine-applied, bonds firmly to steel, saves several inches per story in height, saves days on construction schedules, affords 3- and 4-hour fire ratings.

Because fireproofing is up high—out of the way—there is free access to the mechanical installations. Tenant changes are easily accomplished without cutting through the fireproofing.

For any type steel floor construction, in new work or renovation, Zonolite direct-to-steel fireproofing offers the best combination of fire-protection, economy, acoustical benefits, and speed of application. Mail coupon today for full information for your next project.

ZONOLITE COMPANY Dept. PA-108
135 S. La Salle St., Chicago 3, Ill.

Send me Data Sheet PA-35, and Specifications on Direct-to-Steel Fireproofing.

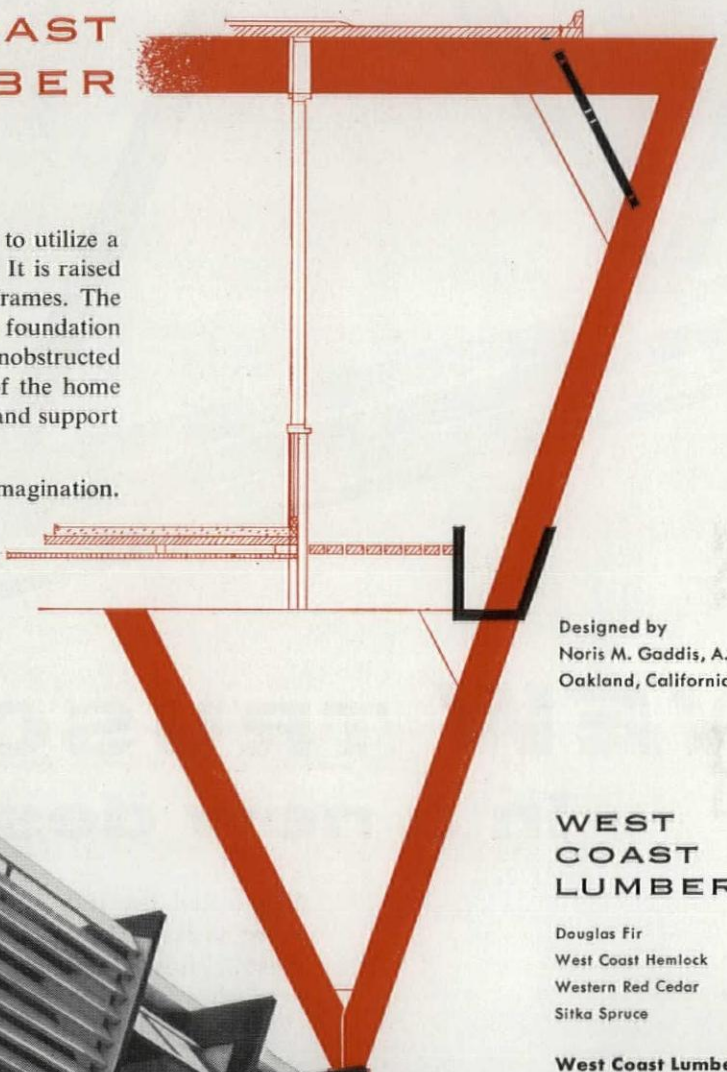
*Name*_____

*Firm*_____

*Address*_____

*City*_____ *Zone*___ *State*_____

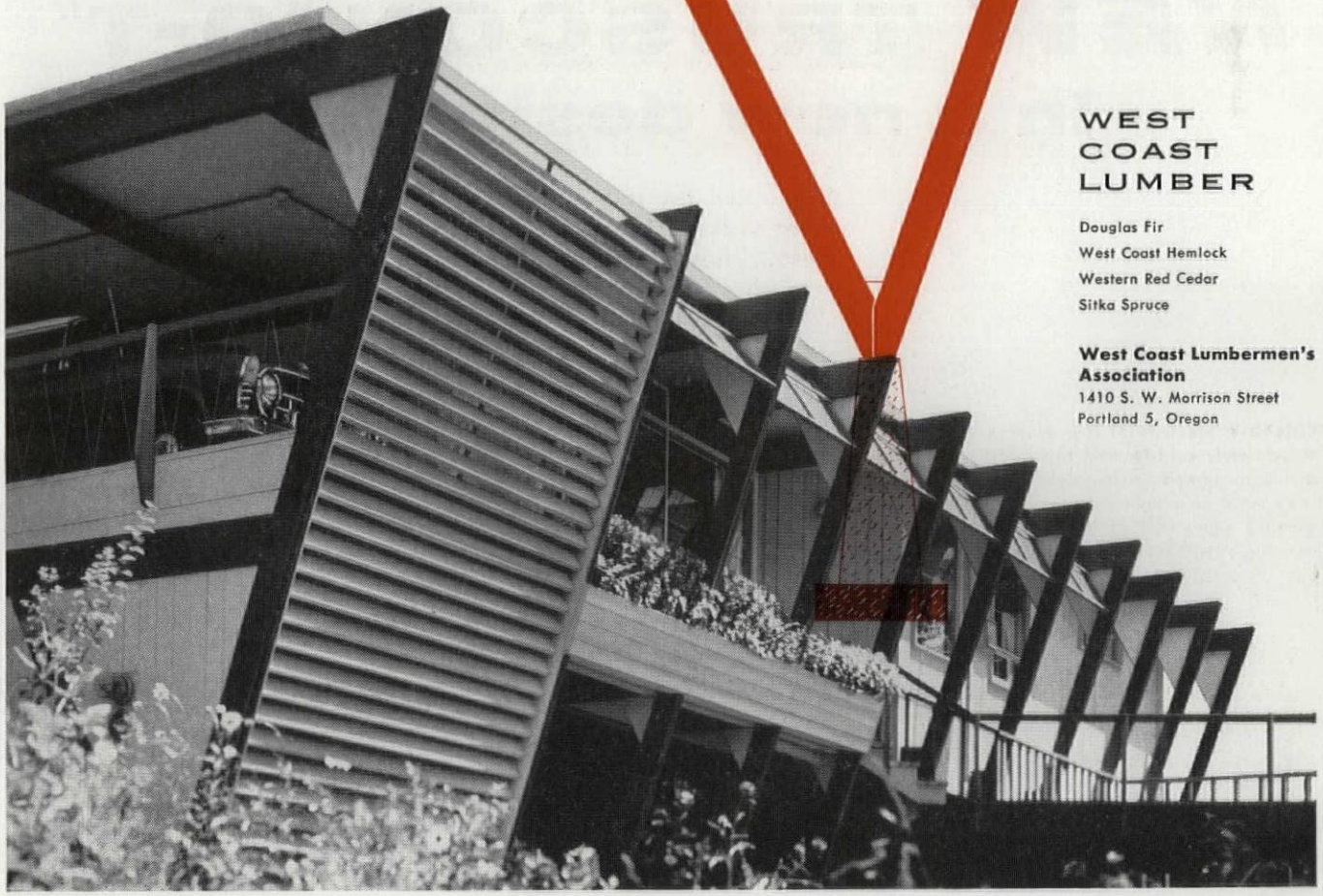
MODERN DESIGN USES WEST COAST LUMBER



Highly functional, this modern home was designed to utilize a steep hillside for maximum view at minimum cost. It is raised above the slope and supported by 11 rigid bent frames. The home's design eliminated grading, retaining wall foundation and drainage expenses . . . yet allows a completely unobstructed view to the west. The frames form the skeleton of the home while frame extensions, exposed, become the posts and support members. Frames were fabricated on the job.

When you design with wood your only limit is imagination. Function, interest, economy and adaptability are just a few of the plus factors in lumber construction. For dependable lumber, specify the West Coast species.

Designed by
Noris M. Gaddis, A.I.A.
Oakland, California



WEST COAST LUMBER

Douglas Fir
West Coast Hemlock
Western Red Cedar
Sitka Spruce

West Coast Lumbermen's Association
1410 S. W. Morrison Street
Portland 5, Oregon

NEW TRUSCON "O-T"
in a new design to fulfill

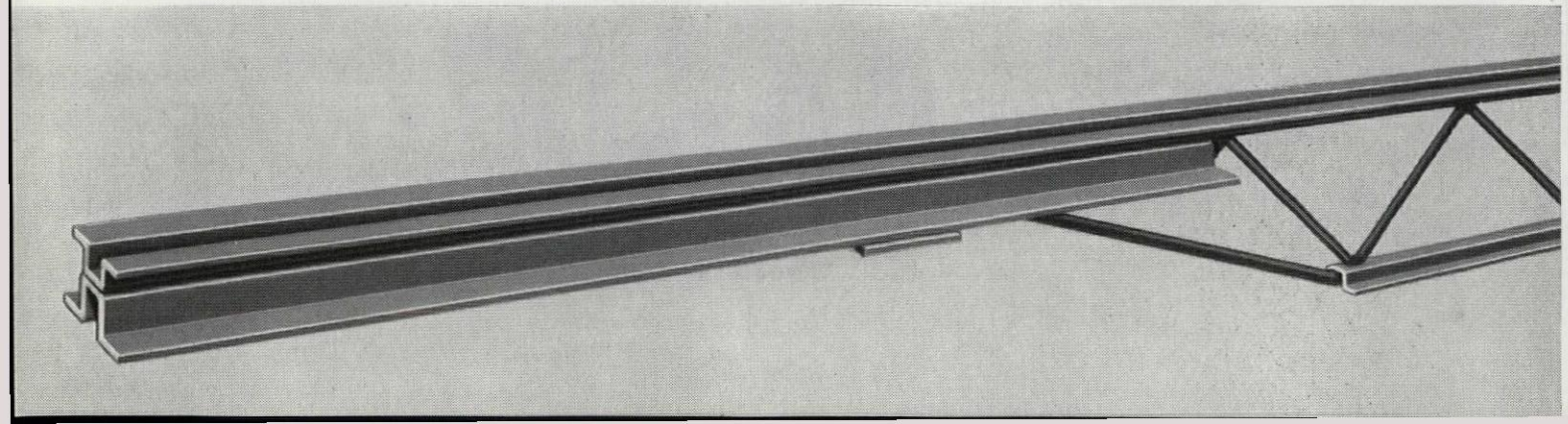
You asked for it... and here it is! Truscon's newly-designed, more versatile, stronger "O-T"®, Series "S" (Shortspan) Steel Joist... now being manufactured in the industry's newest fabricating plant, designed for highest efficiency.

You wanted a joist with a straight bottom chord to carry to spandrels and columns. Truscon designed it. You wanted a joist with an economical extended end. Truscon made it. You wanted a joist with good stability in both directions. Truscon engineered it.

And, you wanted more. You wanted a Series "S" Joist in the longer 40- to 48-foot range. Truscon produced it.

You wanted more exact, predictable coverage of all load conditions. Truscon, in co-operation with the Steel Joist Institute,

NEW TRUSCON "O-T" STEEL JOIST is a Warren Truss fabricated of accurately cold-formed top and bottom chords and a plain round web member. Cold formed steel sections not only make an exceptionally strong joist, but also add a pleasing appearance. Note the attractive extended end now possible with this new Truscon development.



STEEL JOIST
your design ideas

has increased the number of "S" Series sizes from 17 to 25.

You wanted the efficiency and economy of a balanced design—a joist design to balance with all other structural elements. Again, in co-operation with the SJI, Truscon will market this new "O-T" Joist designed to 20,000 psi. working stress as of January, 1959.

In producing and marketing this new design, Truscon continues to exceed the rigid standards of the Steel Joist Institute Quality Verification Program—your assurance of predictable, dependable load-bearing. The new design is available now. Ready to be incorporated into your next set of plans. Send coupon for specifications, design data, do's and don'ts.

REPUBLIC STEEL

World's Widest Range of Standard Steels and Steel Products

REPUBLIC STEEL CORPORATION
TRUSCON DIVISION
DEPT. C-6125
1140 ALBERT STREET • YOUNGSTOWN 1, OHIO

Please send catalog describing new Truscon "O-T" Series "S" Steel Joists.

Name _____ Title _____

Firm _____

Address _____

City _____ Zone _____ State _____

NOW HONEYWELL QUALITY AND SERVICE

for Fire Alarm and Master Clock

Honeywell Clockmaster* Systems

- Sturdily built to Honeywell standards.
- Precision link programming. Simplest, most trouble-free programming made.
- Signal duration easily varied.
- Can be adapted to operate all automatic functions.
- Honeywell lifetime maintenance contract offered owner.

The Honeywell Fire Alarm

- Positively locates fires by numbered light.
- Can report fires both at the building and to fire department.
- Will sound alarm even with ground or break in detection circuit.
- UL approved for auxiliary, local and sprinkler waterflow alarm systems.
- Honeywell offers owners lifetime maintenance contract to assure permanent protection.

Trademark

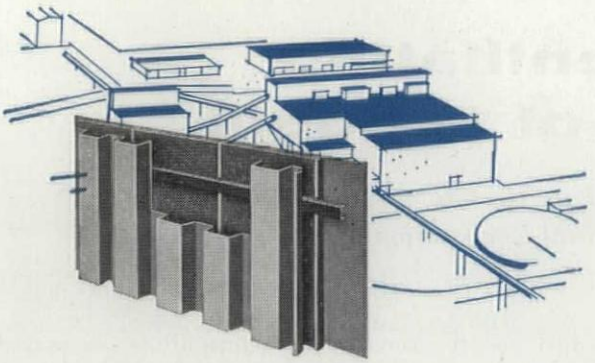
and Programming Systems

It's the same Honeywell service you've relied on for years in your temperature control installations.

Now for the first time this same service and support is offered for clock and alarm systems. It's service that starts with specialists who are available to you and your engineer during planning. Then Honeywell is on the job at the installation, gives free check-out and adjustment after the system is installed. Honeywell specialists help new owners get acquainted with the systems. Honeywell gives free service during the contractor's guarantee period, offers owners a low cost lifetime maintenance contract afterwards. No other manufacturer in this field gives architects, builders and contractors so much support. And it's all as near as your local Honeywell office. For more information about these new Honeywell systems call the Honeywell office nearest you.

Honeywell

First in Control



Skiing weather is working weather with Milcor Wall Panels

Here, 1200 squares were erected fast in the cold of Northern Michigan's ski country

Temperatures drop mighty low in Iron Mountain, Michigan during December, January, and February. It gets too cold to make much headway with masonry construction. But weather didn't worry the Bechtel Corporation in the erection of M. A. Hanna Company's iron ore processing plant.

They closed in the building fast, by using Milcor exterior wall panels. These were quickly fastened to subgirts with self-sealing, self-tapping screws.

Construction costs stayed down. And so will maintenance costs — Milcor exterior panels are Bonderized, fortified against corrosion.

Milcor Wall Panels are available also as field-assembled, non-load-bearing sandwich walls comprising interior steel liner panels, insulation, and fluted exterior panels.

See Sweet's, section 3b/In — or write for catalog 243.

MILCOR® Wall Panels

It pays... in many ways... to specify Milcor Steel Building Products

MILCOR CELLUFLOR	MILCOR ROOF DECK	MILCOR RIBFORM	MILCOR CONVECTOR ENCLOSURE WALL UNITS	MILCOR METAL TRIM
Sweet's, section 2a/In	Sweet's, section 2f/InL	Sweet's, section 2h/In	Sweet's, section 30h/In	Sweet's, section 12b/In

INLAND STEEL PRODUCTS COMPANY Member of the INLAND Steel Family

DEPT. J, 4069 WEST BURNHAM STREET • MILWAUKEE 1, WISCONSIN ATLANTA • BALTIMORE • BUFFALO • CHICAGO • CINCINNATI CLEVELAND • DALLAS • DENVER • DETROIT • KANSAS CITY • LOS ANGELES • MILWAUKEE • MINNEAPOLIS • NEW ORLEANS • NEW YORK • ST. LOUIS.

WP-1

A MODERN CONCEPT FOR
Heating, Ventilating and Cooling of Schools

By F. J. KURTH, Vice President
in Charge of Engineering, Anemostat Corporation of America

Educational efficiency

The Anemostat Dual Duct High Velocity System provides a controlled and healthy environment in accordance with the highest standards of comfort and is therefore conducive to more vigorous activity in the classrooms. It is a modern heating and ventilating system, carefully researched and new in concept, and is economical to install and operate. It is an effective heating and ventilating system, which later can be readily adapted to air conditioning by the addition of a central-station type refrigeration system.

Because large sums of money must be spent for new schools, it is important to study all factors which will improve educational efficiency. Though well constructed and equipped, many new schools are not provided with modern heating, ventilating or cooling systems which furnish comfort during all seasons of the year. Experience has shown that a proper climatic condition will improve student and teacher efficiency to the extent of a cumulative gain of approximately twenty percent.

System design

First the volume of air required for a classroom must be determined. In most communities this is regulated by local codes on a cubic foot per pupil basis.

Although requirements vary in different localities from ten to thirty cubic feet of fresh air per minute, there are other factors which must be considered: for ventilation purposes, when cooling is not used, a large volume of air will, of course, do a better job than a small volume; however, the introduction of from 1000 to 1200 cubic feet of air per minute is adequate. If air conditioning is installed, the engineer may specify air temperature differentials of 30° or more between the supply air in the cold duct and the room temperature—Anemostat Air Diffusers will diffuse air at high temperature differentials without draft.

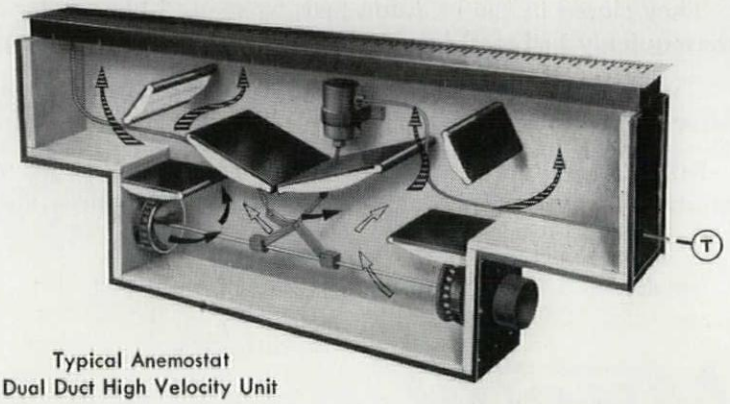
Location and type of units

The location of the units in the classroom is determined by the climate of the community in which the school is located and the construction of the school with particular reference to glass areas. When winters are severe the *under the window type units* must be used and two units per classroom should be installed as shown on the layout. The return air can be moved through corridors, ducts in corridors or exhaust plenums in the corridor ceilings.

In schools in mild climates or in colder climates where double glazing is used, the *sidewall units* will do an excellent job of year-round heating, ventilating and cooling. Two units providing from 500 to 600 CFM each per classroom are recommended. The return air can be returned to the fan through corridors, corridor ducts or plenums.

When two units are installed in a classroom, both are controlled by one

The Basic Principle of Anemostat School Units



Typical Anemostat
Dual Duct High Velocity Unit

The illustration shows a high velocity unit designed for a dual duct system for either heating and ventilating or complete air conditioning. To maintain ideal conditions, air is evenly and draftlessly diffused at high velocity throughout the classroom at controlled temperature; one duct carries cold air from the outside of the building, or cold air cooled by coils and mechanical refrigeration, the second duct carries warm air, which consists of a mixture of fresh and recirculated air heated by hot water or steam coils from heating boilers or by hot air furnaces. The thermostat in the classroom opens the hot air valve and closes the cold air valve, or vice versa depending on the room temperature requirements.

thermostat which should be located on an inside wall.

Ducts

The ducts can be installed in various ways depending on the type of structure: beneath the floor, on classroom or corridor ceilings, in roof spaces or on top of the roof. If tile or transite pipe is used the ducts can actually be buried in the ground. Because no water or steam is used, the ducts can be run in practically any space, as corrosion or trapping is not a problem.

Equipment room

For reasons of economy, the fan room or rooms should be so located as to keep the duct runs as short as possible. However, there is no problem in running ducts long distances; dual duct systems in commercial buildings often have duct-runs of over 500 feet. The fans are usually of the Class II type and can be either the forward or backward curve type. Consideration should be given to fans of the air-foil type, which are designed for quiet operation at high pressures.

Mechanical or electrostatic filters are generally used in high class commercial buildings and should also be considered for schools. Clean, filtered air properly diffused at controlled temperature is the answer to health and comfort in classrooms.

ECONO-LOK*®

• ELIMINATES HEADERS • INCREASES WALL STRENGTH
• REDUCES COST

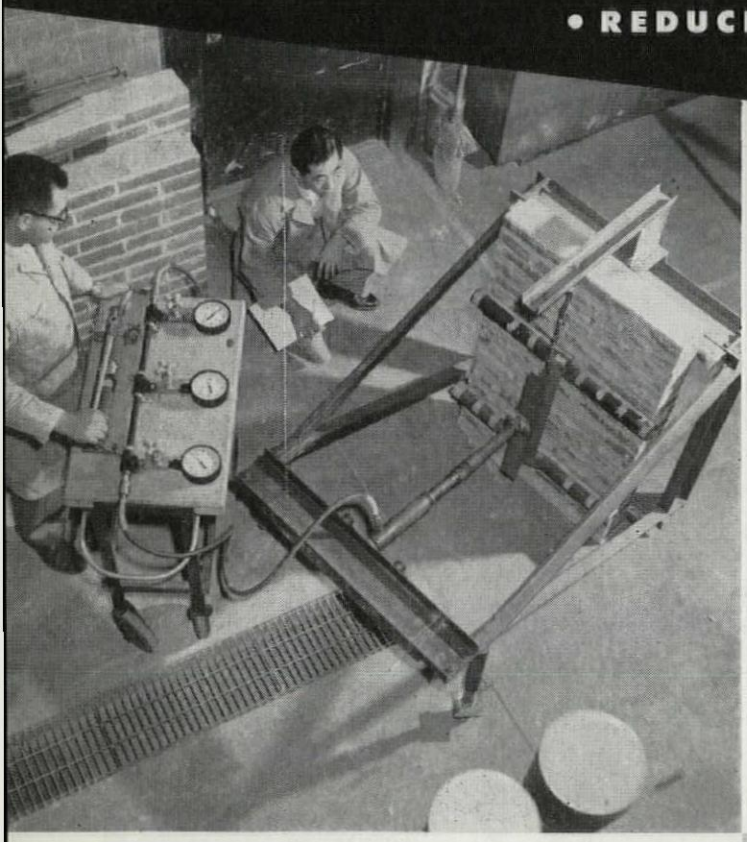


TABLE 1
TRANSVERSE LOADING RESULTS

From: †Project No. G-585 Armour Research Foundation of I.I.T.

Construction	Wall Tie	Total Transverse Load Pounds					Modulus of Rupture psi Average
		1	2	3	4	5	
Brick and block	Header	2600	2500	2300	1800	1400	31.1
Brick and block	Econo-Lok 3/16"	5000	- -	6400	3800	5200	74.6
Brick and block	Econo-Lok No. 9	4400	5400	6800			81.1

(Walls loaded in vertical span)

CONCLUSIONS

From the results presented, the following conclusions are indicated:

1. Replacement of header courses by wire reinforcement does not reduce the transverse strength of a wall. On the contrary, it may increase it.
2. Replacement of header courses by wire reinforcement does not reduce the compressive strength of a wall.
3. Wire reinforcement of *correct design* can satisfactorily replace header courses.

†Complete text of Armour Research Foundation report on Project No. G-585 can be secured by mailing coupon.

ECONO-LOK*®

Saves on Material and Labor Costs

Face brick needed to build 1000 sq. ft. of 8" wall, using 4" face brick facing and 4" concrete block backing and a 3/8" mortar joint:

Header Tied Walls	7,725
ECONO-LOK* Tied Walls	6,555
Less Face Brick in ECONO-LOK* Tied Walls	1,170

Saving in labor is also made when mason is permitted to use all stretcher courses and ECONO-LOK* instead of conventional headers

AA WIRE PRODUCTS COMPANY

Dept. PA 714 E. 61st St. Chicago 37, Ill. Phone: Midway 3-8203

Name_____

Address_____

Firm_____

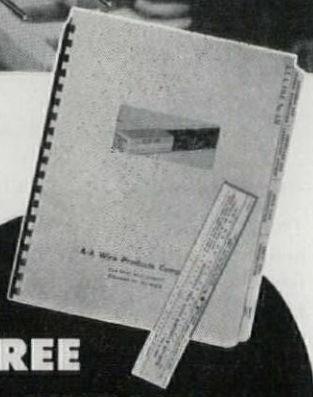
City_____ Zone____ State_____

I AM AN:

- ☐ Architect
- ☐ Engineer
- ☐ Designer
- ☐ _____

PLEASE SEND ME:

- ☐ Concrete Block Calculator
- ☐ 1958 Sweet's Arch. 4h/Aa and Ind. Const. 3c/Aa
- ☐ Armour Research Foundation Report G-585
- ☐ Data and Specifications File



FREE

New BLOK-LOK & Concrete Block Wall Calculator. Use height and length of the wall and Calculator tells you number of concrete blocks required . . . as well as amount of BLOK-LOK.

and BRONZE TEAM UP

to help make the world's longest

"Moving Sidewalk"

an attractive, dependable operation

Placed in operation at the Dallas Love Field Air Terminal, Texas, early in 1958, the world's longest passenger conveyor system has proved the answer to efficient transportation of pedestrians.

The three units which total more than a quarter of a mile in length extend out from the main terminal over three separate bridges to the first loading gate of each finger, carrying passengers in both directions.

These new Glide-Ride conveyors were designed, manufactured and installed by HEWITT-ROBINS, INC. Playing 2 important roles in these conveyors are 22,000 lbs. of Revere Aluminum Extruded Shapes and 22,000 lbs. of Revere Extruded Bronze. The aluminum extrusions were used as floor cove molding, handrail molding, spoon molding between balustrades and rubber carpet, and as a wall cove between handrail and wall. Not only are these Revere Aluminum extrusions attractive and decorative but their satiny finish will remain so for years with an occasional soap and water cleaning the only maintenance required.

Hidden under the moving rail is the track extruded from Revere Bronze, taking constant daily rugged wear in its stride.

The selection of Revere Aluminum and Bronze Extrusions was not a mere matter of specification. It was the result of HEWITT-ROBINS Engineers and Designers consulting with Revere's Technical Advisory Service men in order to determine the alloys and the shapes best suited to do the job required.

And so it is with practically every industry you can name. When you take your supplier into your confidence, discuss your problems with him, you invariably are rewarded with a better product at less cost, because the material finally selected is the *exact* material for the best job.

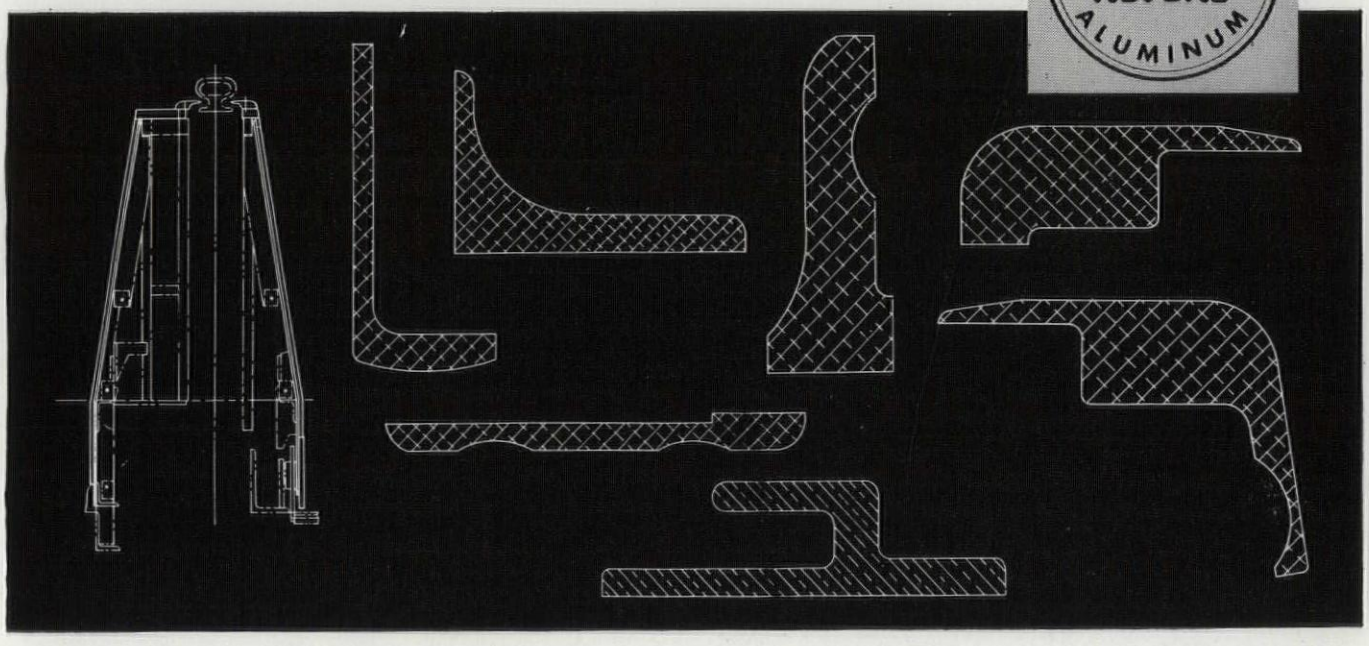
REVERE COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801

230 Park Avenue, New York 17, N. Y.

Mills: Rome, N. Y.; Baltimore, Md.; Chicago, Clinton and Joliet, Ill.; Detroit, Mich.; Los Angeles and Riverside, Calif.; New Bedford, Mass.; Brooklyn, N. Y.; Newport, Ark.; Ft. Calhoun, Neb. Sales Offices in Principal Cities, Distributors Everywhere.

COPPER ★ BRASS ★ 18 01 ★ REVERE ★ ALUMINUM



Georgia Institute of Technology Sports Arena. Architect, Aeck Associates, Atlanta. Photographs, courtesy Joseph W. Molitor, Ossining, N. Y.

Naturally it's MAPLE!

The bright, light-reflecting tone and gorgeous grain of Northern Hard Maple are truly matchless. This is First Grade — the best standard grade—of "the finest floor that grows."

in Georgia Tech's spectacular, new Alexander Memorial Physical Education Center.

Furthermore—*it's genuine Northern Hard* MAPLE

Coaches and physical education men emphatically endorse *only maple* for gymnasium floors. (Write for Survey.) Their judgment demands respect. Northern *climate* causes the slow, slow growth of the northern hard maple tree (*Acer saccharum*). If the flooring mill has indented the trademark MFMA on the back of the strip, that's your guarantee of genuine northern-grown maple—by long odds the finest floor that grows. Soft (or mixed) species maple or lesser woods, *cannot* serve you so well or so long. There's a *value* difference no price-paring can ever justify.

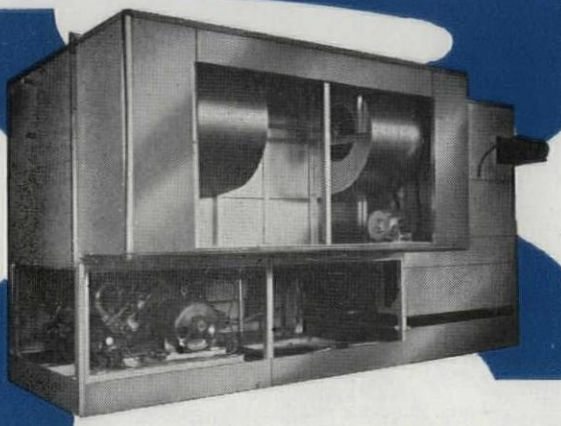
Gymnasium floors of N. H. maple are "buying themselves" in many schools, with fees from roller skating and community meeting rentals. Maintenance reported no big problem. Write—

the finest floor that grows

MAPLE FLOORING MANUFACTURERS ASSOCIATION

583 Pure Oil Building, 35 East Wacker Drive • Chicago 1, Illinois

"SATISFABRICATED" For Your Requirements . . .



GOVERNAIR'S NEW

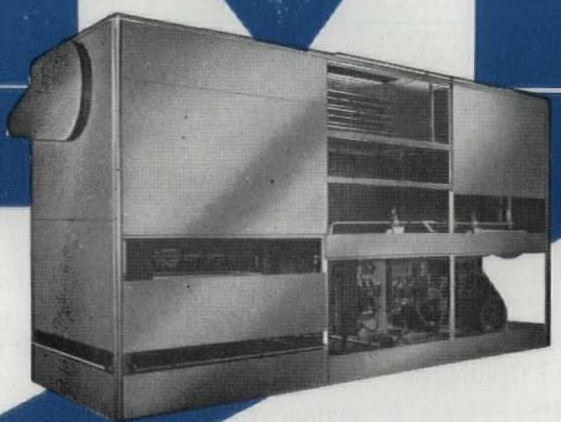
Self Contained Multi-Zone Conditioners . . . Type SCMZ

IMPORTANT FEATURES:

- FROM 7½ to 60 TONS COMPLETELY PACKAGED
- EITHER 4 ROW, 5 ROW OR 6 ROW COILS
- TWO INDEPENDENT REFRIGERANT CYCLES, IF REQUIRED
- DESIGNED WITH F-22 COMPRESSORS
- LESS INSTALLATION TIME AND TROUBLE
- ONE UNIT SATISFIES YOUR AIR CONDITIONING REQUIREMENTS

The new SCMZ is designed for complete flexibility . . . provides the desired latitude necessary to meet the exacting requirements and unusual space limitations not available in the majority of today's mass produced, unalterable packaged conditioners.

Governair's "Satisfabricated" Self Contained Units have all the basic components of a complete air conditioning system, conditioner section, compressor section, and evaporative condenser section. In these units all refrigerant piping and electrical connections are completed internally by factory-trained craftsman, and carefully supervised to assure proper operation on the job. Simple connection of duct work, electrical, make-up water and drain provide fast and economical installation.



Get Full Details Now

GOVERNAIR

GOVERNAIR CORPORATION

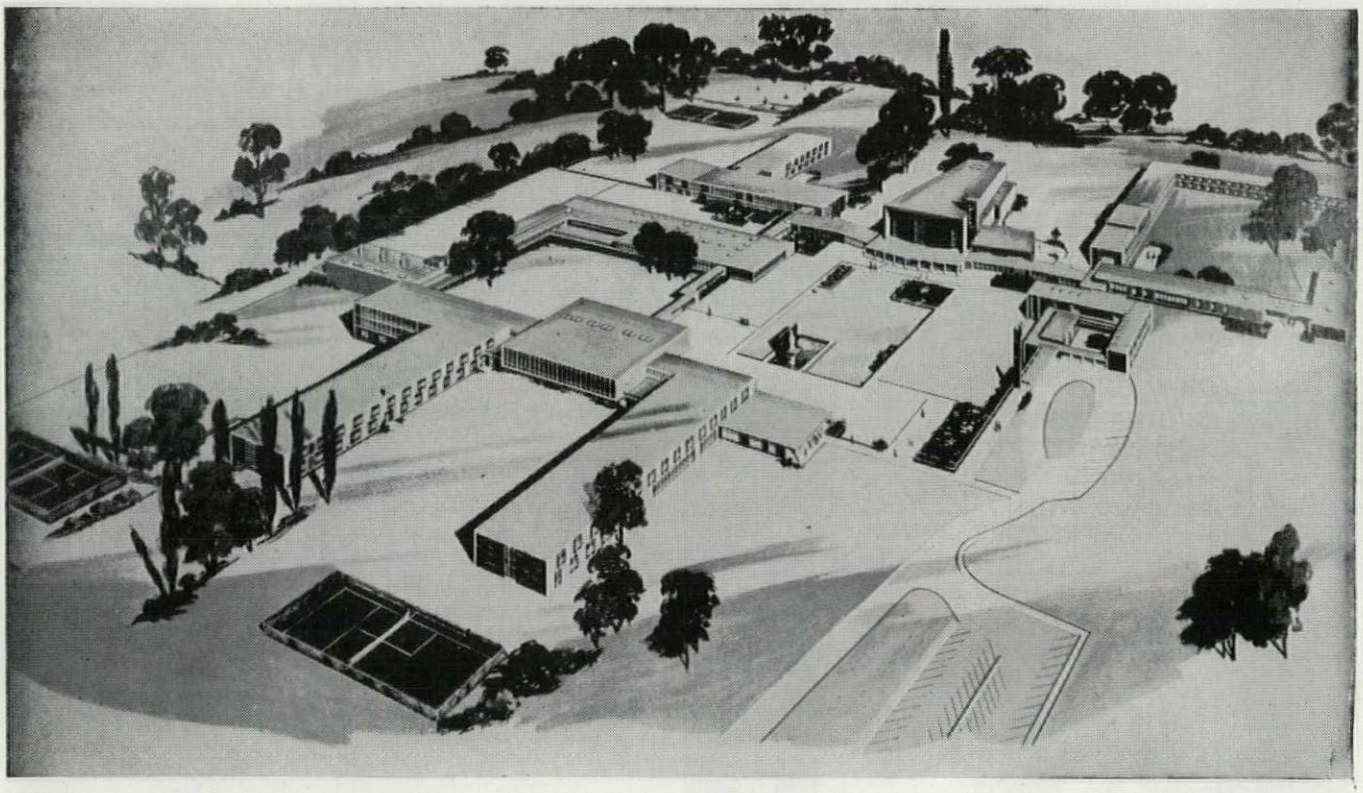
GA-1-58, **4840 North Sewell**

Oklahoma City, Oklahoma

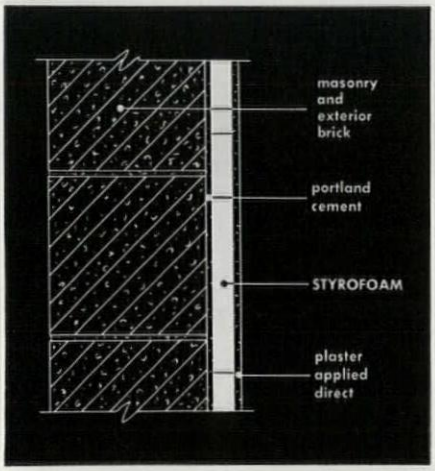
"ORIGINATORS OF COMPLETELY PACKAGED AIR CONDITIONERS"

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

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



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



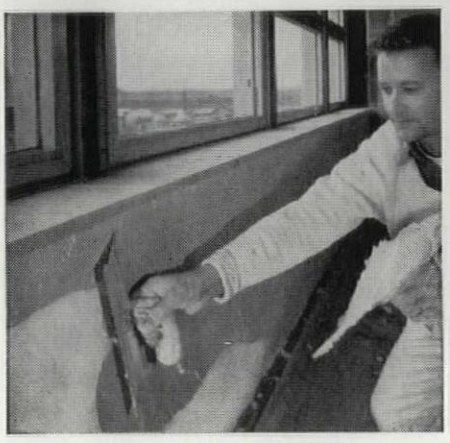
"We rate Styrofoam* as the most economical and feasible recommendation from the standpoint of our client, the most workable for the contractor, and of the highest insulating quality," says Mr. Brust. "It has a positive moisture resistance, a flexible expansion rate, and it adheres well to mortar and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

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

*STYROFOAM is a registered trademark of The Dow Chemical Company

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

"AN AUTOMATIC MORTARING JIG evenly coats each 4-foot section of Styrofoam with ¾" of mortar. The boards are pushed manually through the box and passed on to the installation man who puts them into position. Styrofoam adheres directly to the masonry, eliminating furring. This operation is so fast and simple that we achieve time reduction and cost savings by its use."



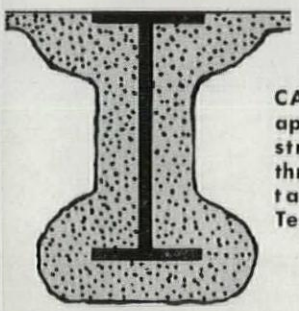
"PLASTERING DIRECTLY over Styrofoam eliminates complete operation of lath installation, permits substantial savings in cost. Styrofoam has the flexibility to give with expansion and contraction, provides a firm base for plaster."

For more information about Styrofoam, write to THE DOW CHEMICAL COMPANY, Plastics Sales Department 1924F-2, Midland, Michigan.

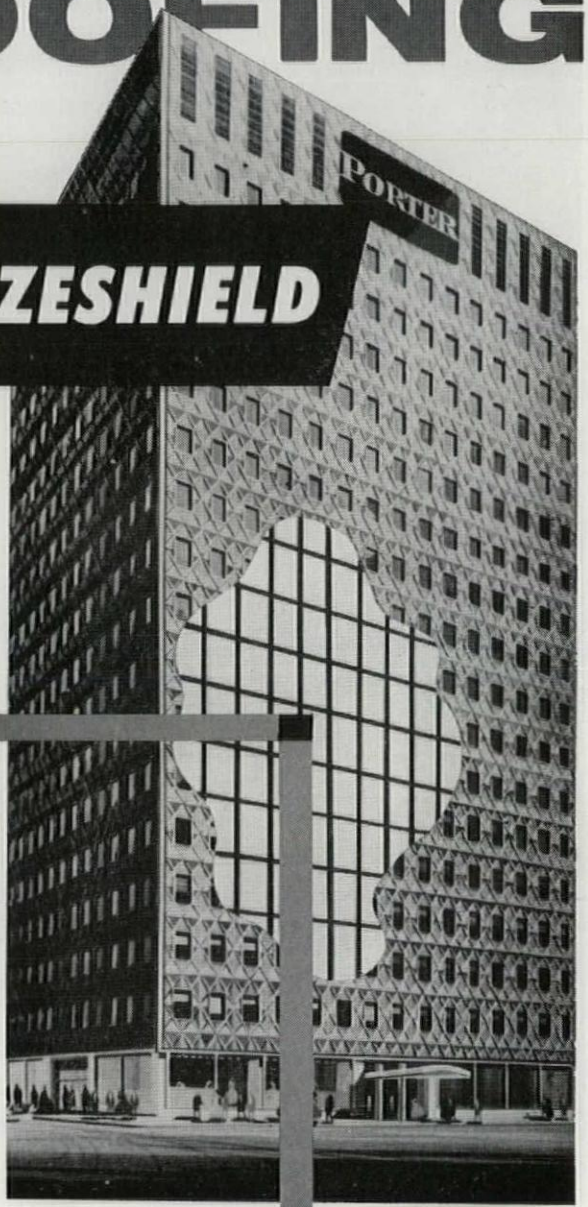
YOU CAN DEPEND ON DOW

ECONOMICAL FIREPROOFING

with **MACHINE-APPLIED** **Cafco® BLAZESHIELD**



CAFCO Blazeshield applied directly to structural steel for three hour fire retardent rating. Tested by U. L. Inc.



H. K. Porter Co. Inc.
Office Building,
Pittsburgh, Pennsylvania
Architects:
Harrison & Abramovitz, New York
General Contractor:
George A. Fuller Co.,
Pittsburgh, Pennsylvania

In fireproofing this outstanding new building, over 220 tons of CAFCO BLAZESHIELD were applied directly to the cellular deck and steel beams.

WHAT CAFCO BLAZESHIELD IS—A scientifically proportioned blend of mineral fiber and inorganic binders designed for direct, machine application to structural steel and cellular floors. Allows ONE application by ONE trade in ONE coat from small, rolling scaffold.

CAFCO BLAZESHIELD ADVANTAGES—Direct application—no clips, hangers, channels, lath. Reduces material and labor costs.

Less dead load—¾" thickness weighs less than 1½ pounds per square foot of cellular deck.

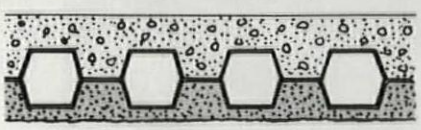
Permanence—no cracking or spalling from normal structural movement.

Early completion—other trades may work during application. No drying time delays.

High light reflection—often used as reflective surface for luminous ceilings.

High sound absorption—used as absorption element in open perforated ceiling systems.

Write for literature and test data on CAFCO BLAZESHIELD or refer to SWEET'S ARCHITECTURAL FILE.



CAFCO Blazeshield applied directly to cellular floor unit for three hour fire retardent rating. Tested by U. L. Inc.

COLUMBIA ACOUSTICS and FIREPROOFING COMPANY
Subsidiary of United States Mineral Wool Company
STANHOPE, NEW JERSEY

WHEN
additions pose problems

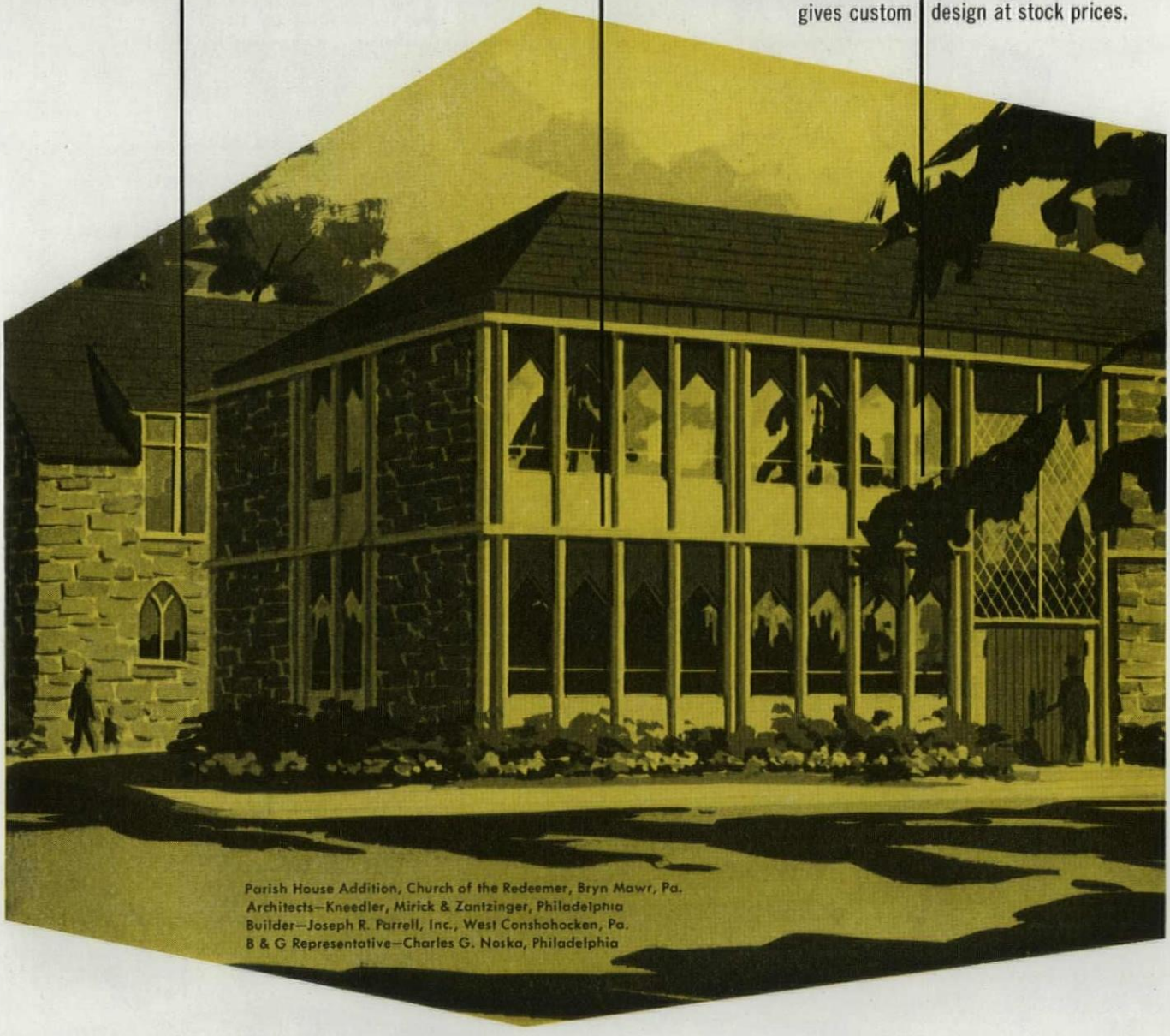
"You can never merely extend the style of an old building. That would be negative copyism," said the architect of the Parish House Addition, Church of the Redeemer, Bryn Mawr, Pa. "The architect must create freshly. But he must design with great sympathy for values of the old building."

HOW
new design respects age

Handling of color, proportions, scale and spaces respects and continues the mood of the Old Parish House. Yet, the addition is a fresh departure. As the architect states, "Brown and Grist panel walls are a part of this departure . . . modern, technically correct and aesthetically pleasing."

WHY
B & G panel walls

For new buildings or additions, architects like B & G quality. Gleaming frames of 6063T6 aluminum are light . . . yet amazingly rigid. Panels, sealed in at factory, are weather-tight. And Brown & Grist offers real cash savings, too . . . on installation . . . on low or no maintenance cost. Wide choice of sizes, panel materials and colors. B & G gives custom design at stock prices.

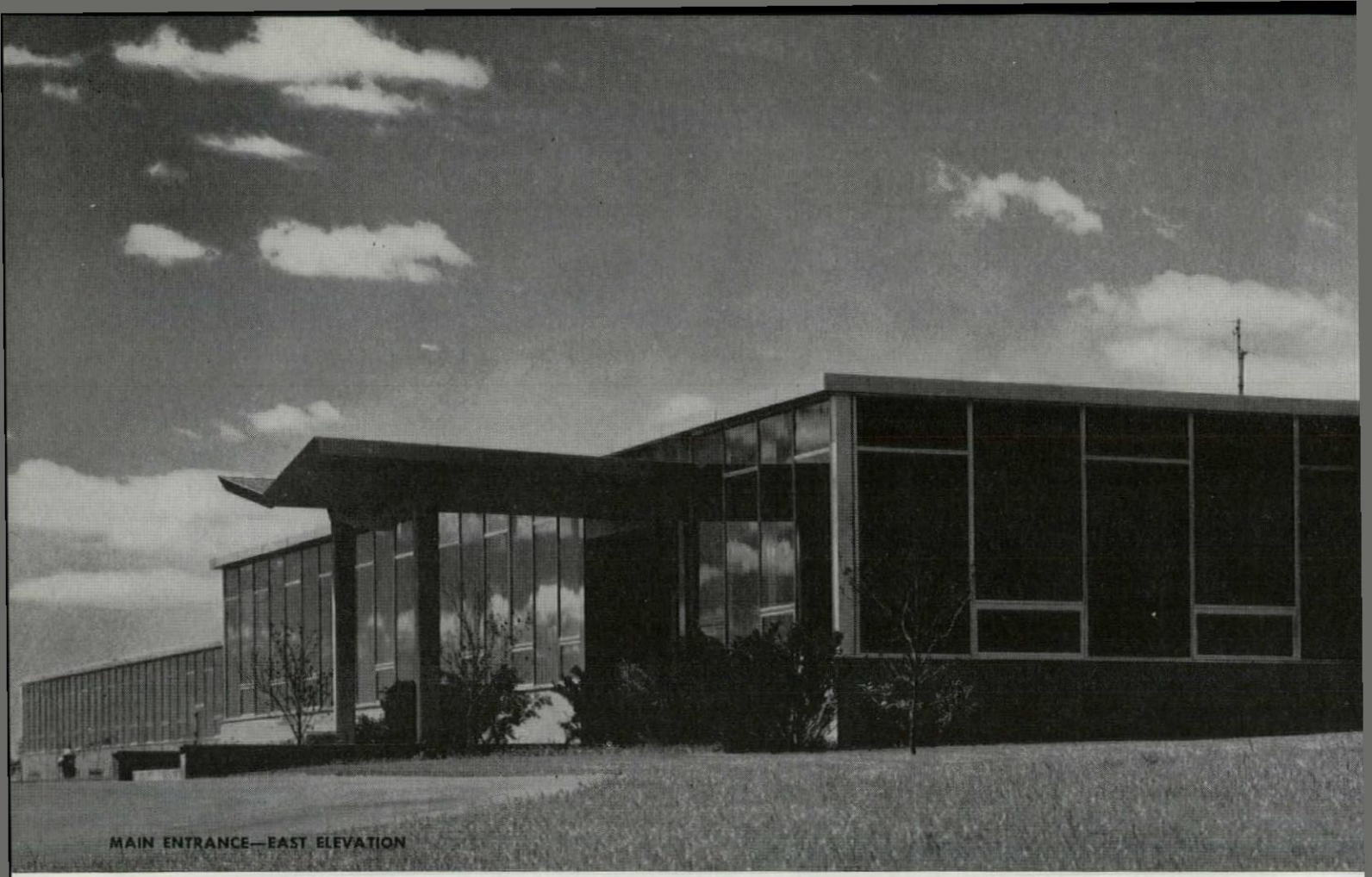


Parish House Addition, Church of the Redeemer, Bryn Mawr, Pa.
Architects—Kneedler, Mirick & Zantzinger, Philadelphia
Builder—Joseph R. Parrell, Inc., West Conshohocken, Pa.
B & G Representative—Charles G. Noska, Philadelphia

BROWN & GRIST PANEL WALLS

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

BROWN & GRIST, INC. 25 Tyler Ave., Newport News, Va.



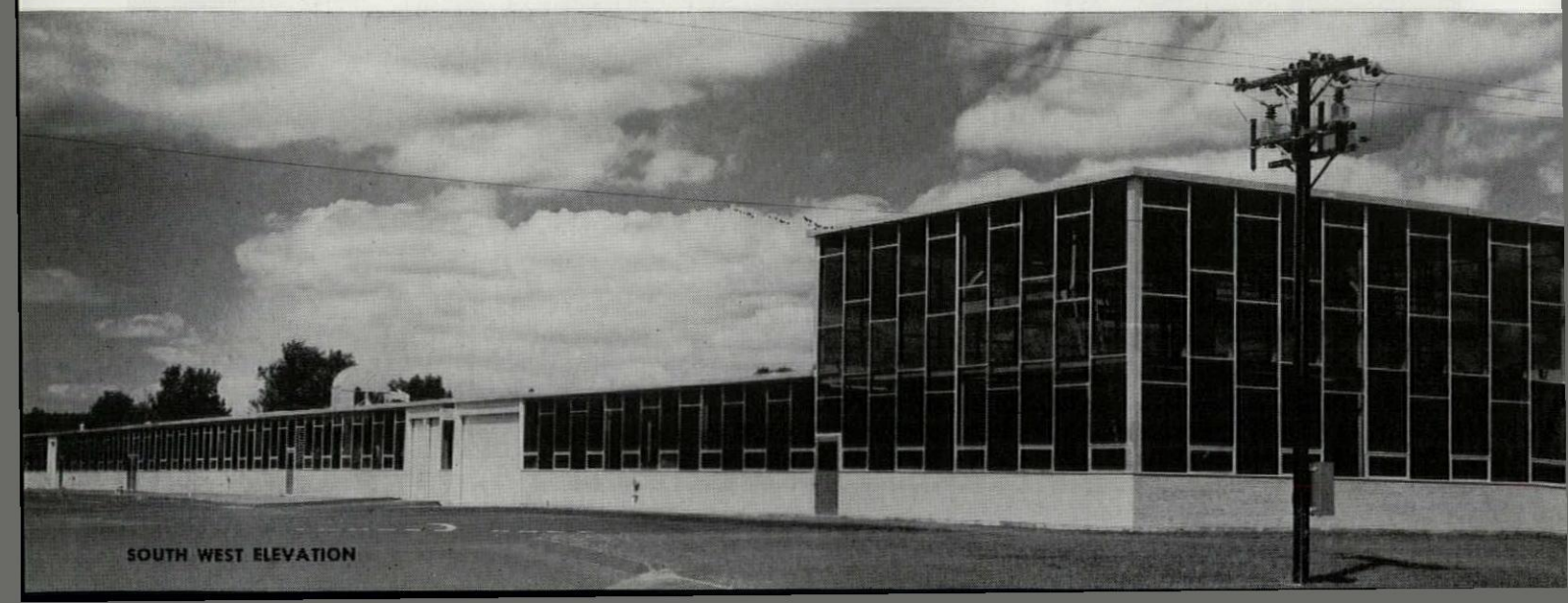
MAIN ENTRANCE—EAST ELEVATION

Another **AMERICAN Lustragray** Installation...

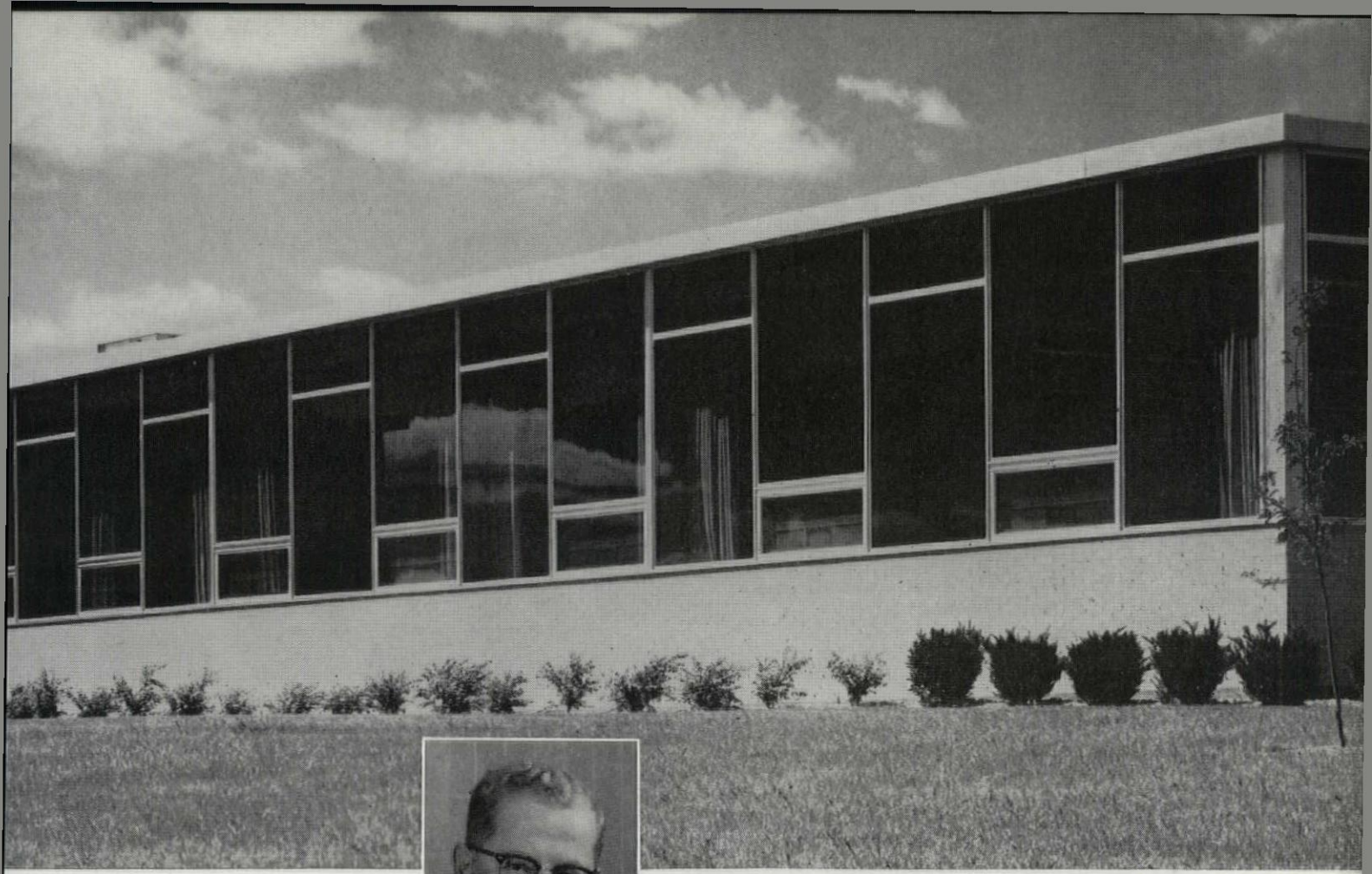
the **glass** that reduces sun glare and heat without sacrificing vision

Subject: *Phalo Plastics Building, Shrewsbury, Mass.* **Builder:** *Lilly Construction Company, Boston, Mass.*

Glazier: *Waltham Door & Window Company, Waltham, Mass.*



SOUTH WEST ELEVATION



Michael Lilly, Partner,
Lilly Construction Co.

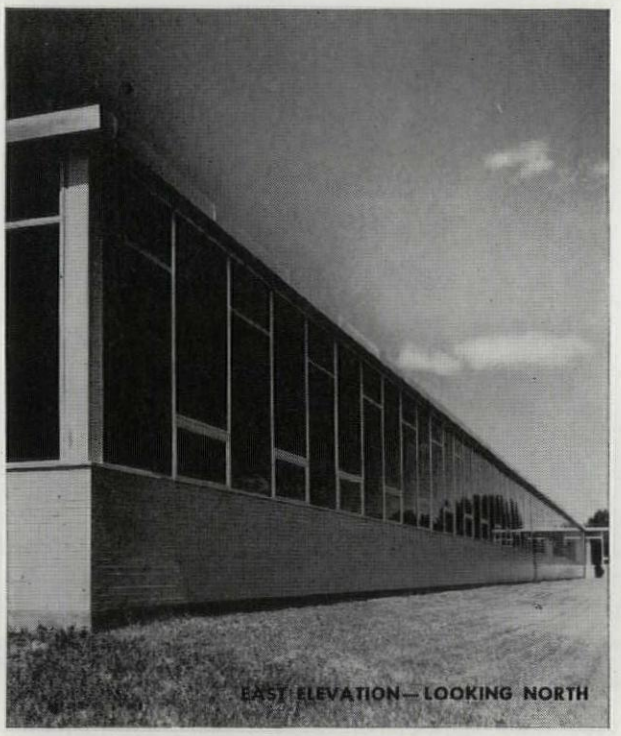
the builder has his say about

Lustragray's

client appeal:

"I've used Lustragray on quite a few jobs now because my clients like what it offers. Its degree of opacity gives a feeling of solidity to a building that has large areas of glass. They also like the glare-reducing feature of this glass. It's easy on the eyes, yet provides cheerful "clear glass" vision from the interior. Also, its neutral gray shade doesn't limit the selections of colors for furnishings or exterior wall materials. Probably the biggest reason my clients use Lustragray is its attractive appearance. The glass gives a building a look of distinction. And, too, the price is right."

See what Lustragray can do for your next building. Consult your phone directory for your nearest AMERICAN distributor or glazier, or write our Architectural Promotion Division—Dept. LG—today.



EAST ELEVATION—LOOKING NORTH

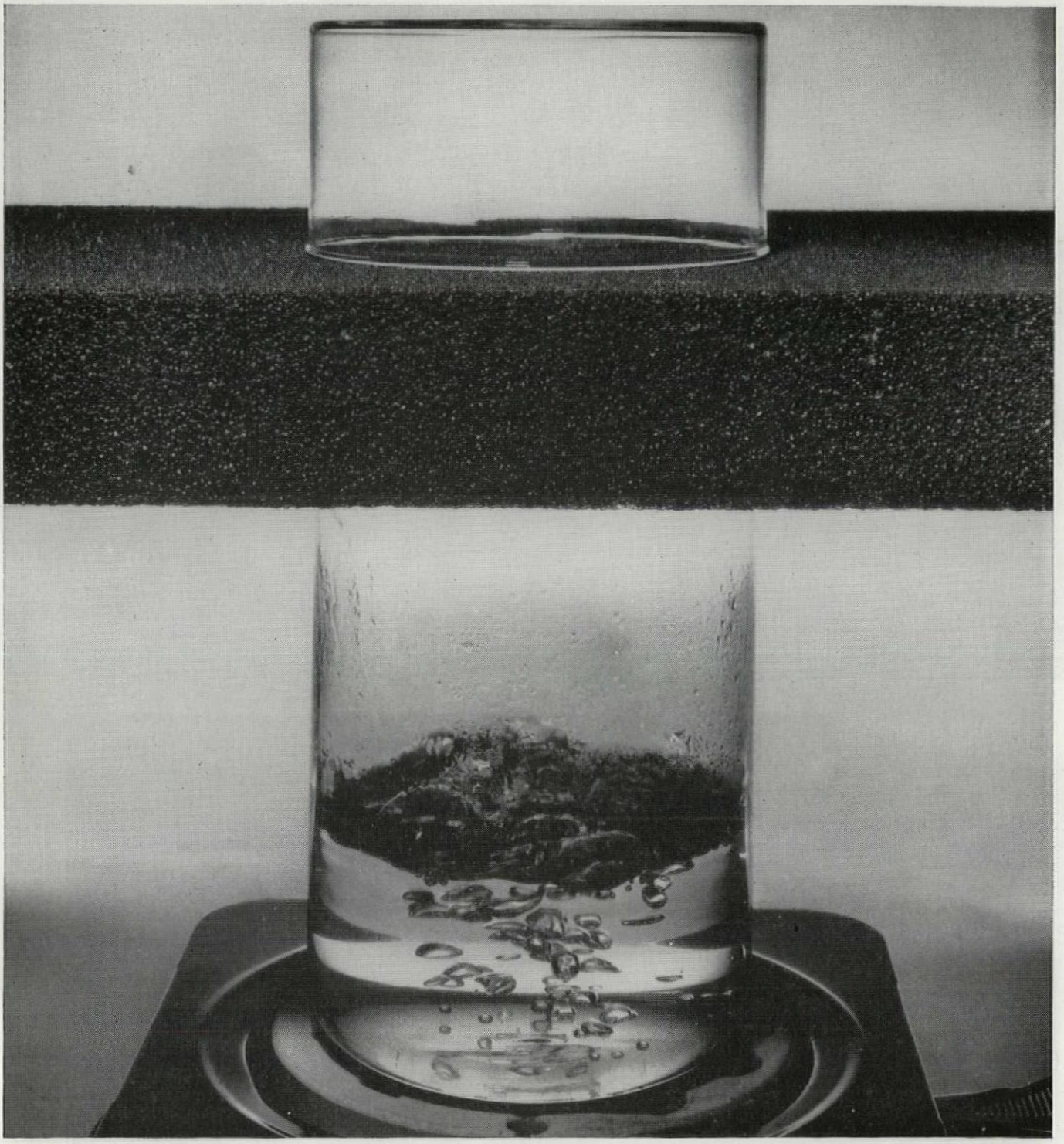
AMERICAN WINDOW GLASS DIVISION

AMERICAN-SAINT GOBAIN CORPORATION

General Offices: FARMERS BANK BUILDING • PITTSBURGH 22, PA.

AMERICAN-SAINT GOBAIN CORPORATION is a merger of the former American Window Glass Company, Pittsburgh, Pa., and the former Blue Ridge Glass Corporation, Kingsport, Tenn. (which was a wholly-owned subsidiary of Saint-Gobain of Paris, France). American Window Glass Division plants are located in Arnold, Jeannette, Ellwood City, Pa.; Okmulgee, Okla. Blue Ridge Glass Division plant is located in Kingsport, Tenn.

WSW 7297



...always an insulation investment; never an insulating expense

FOAMGLAS® IS VAPOR-PROOF

Water vapor is the biggest threat to any insulation's thermal performance. It is present in nearly every situation requiring thermal insulation. Most insulations absorb vapor. When they do, the vapor can condense within the material . . . and turn the insulation into a conductor of heat. Eliminate this threat. Use Pittsburgh Corning FOAMGLAS. Its sealed glass cells can never absorb or transmit vapor (see above) . . . thus guaranteeing long lasting insulating value that never fades from its original high level. There's still more to this insulation investment story. FOAMGLAS is dimensionally stable . . . can't burn . . . unusually strong . . . acid-proof . . . vermin-proof . . . easy, economical to handle and install. Write for our latest literature. PC Glass Blocks are another outstanding building product of Pittsburgh Corning Corporation.

PITTSBURGH CORNING CORPORATION

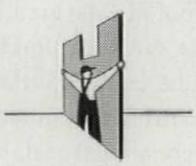
Dept. AB-98, One Gateway Center, Pittsburgh 22, Pa. • In Canada: 57 Bloor Street West, Toronto, Ontario

For cost-conscious clients . . . design with HAUSERMAN "HP"

Attractive, modern, low cost . . . this office will still be in style and continue to be useful, years from now. That's why the architect chose the distinctive, functional design of the HAUSERMAN "HP" Movable Wall System.

New HAUSERMAN "HP" units, factory-finished in a wide combination of washable decorator colors, will fit *your* client's space-division needs . . . and his budget. As the job goes in, your layout detailing and erection supervision will be cut to a minimum because these tasks are turned over to reliable HAUSERMAN engineering and installation service.

Call in your local HAUSERMAN representative for literature and technical advice about HAUSERMAN "HP" Walls . . . and other systems in HAUSERMAN'S Complete Line. He's listed in the "Yellow Pages" under "Partitions."



A complete line to meet every space division need

THE E. F. HAUSERMAN COMPANY
7467 GRANT AVENUE, CLEVELAND 5, OHIO
Hauserman of Canada Ltd.
Mallard Rd., Don Mills, Ontario
Please send free literature to:

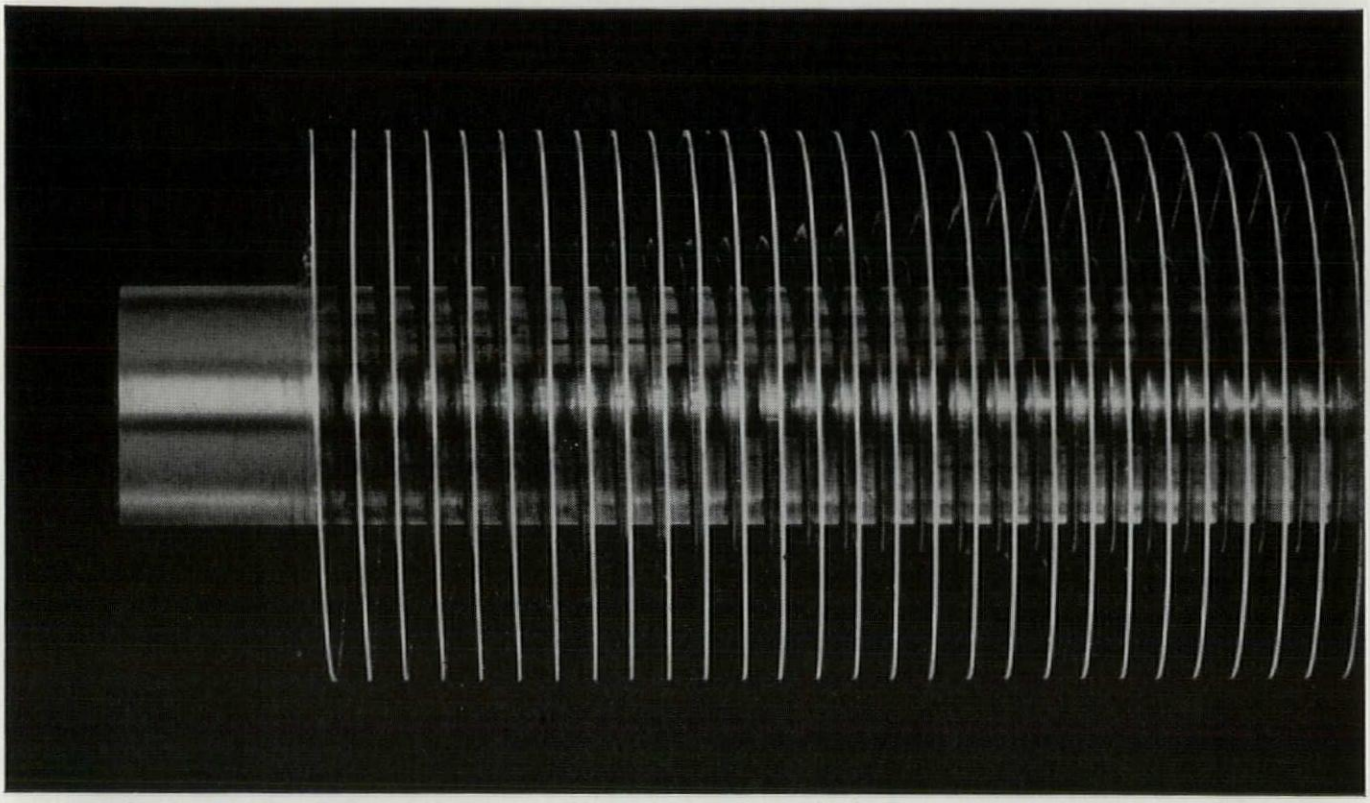
Name _____

Company _____ Title _____

Street _____

City _____ State _____

MOVABLE HAUSERMAN INTERIOR WALLS



AEROFIN
Smooth-Fin Coils offer you

Greater Heat Transfer
per sq. ft. of face area

Lower Airway Resistance
—less power per c.f.m.

Aerofin smooth fins can be spaced as closely as 14 per inch with low air friction. Consequently, the heat-exchange capacity per square foot of face area is extremely high, and the use of high air velocities entirely practical. Tapered fin construction provides ample tube-contact surface so that the entire fin becomes effective transfer surface. Standardized encased units arranged for simple, quick, economical installation.

Write for Bulletin S-55

AEROFIN CORPORATION

101 Greenway Ave., Syracuse 3, N. Y.

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

Accent on Excellence

Youngstown "Buckeye" steel conduit

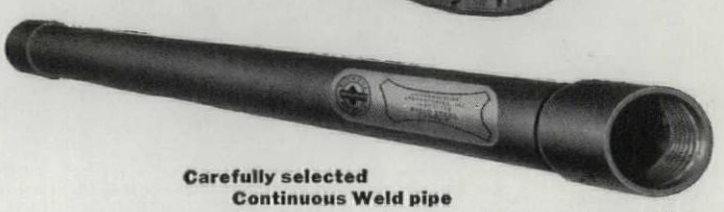
This highly-functional modernistic department store building—only one of many new structures that will make up Denver's Zeckendorf Plaza Development—has built-in lifetime wiring protection, thanks to Youngstown "Buckeye" Full Weight Rigid Steel Conduit.

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

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

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

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



Carefully selected Continuous Weld pipe

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

QUALITY YOUNGSTOWN SERVICE

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

you asked for it

a vinyl wall covering that looks like stippled paint...

...lasts a building-time

in 40 new exciting colors

. . . grays, charcoals and the kind of sharp accent colors you've been looking for!

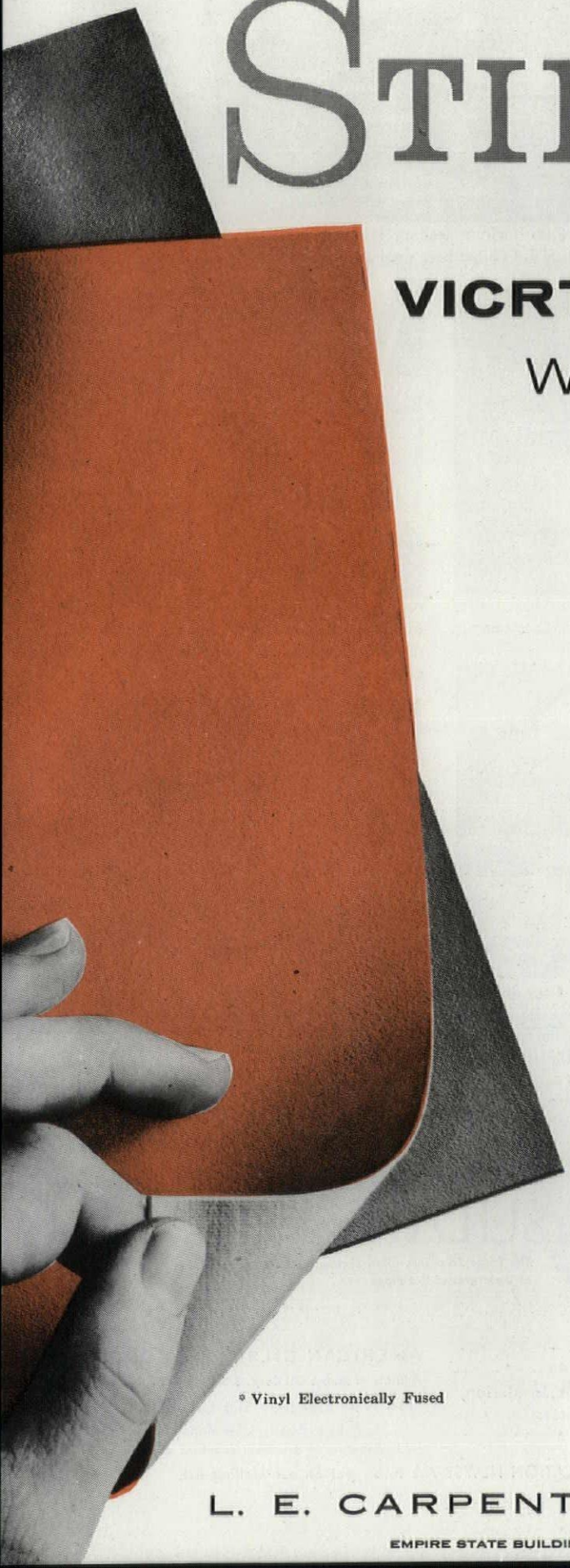
If you don't find the exact shade you want . . . we'll make it on orders of 300 yards or more!

ANOTHER L. E. CARPENTER ORIGINAL

VICRTEX DESIGN

STIP-L-TEX

VICRTEX VEF* VINYL WALLCOVERING



L. E. CARPENTER's NEWEST TRIUMPH

VICRTEX VEF STIP-L-TEX gives walls a fine, pinpoint finish that duplicates perfectly the stippled painting of craftsmen . . . the beautiful even finish previously achieved only through multiple coats. It has a beautiful flat mat finish . . . without sheen, shine or seam showing. Easily washable, it will never show abrasion, marks, digs, scuffs, the yellowing or fading of time.

New VICRTEX VEF STIPL-L-TEX is the answer for

general offices where nicks, scratches, marks, etc., start the day they move in

corridors where constant rubbing, bumping and heavy traffic take their toll

partitions (metal or otherwise) whether full or partial, whether temporary or permanent, they get punishing wear

the hundreds of other places where you never thought of specifying vinyl before

Like all VICRTEX VEF wallcovering fabrics, STIP-L-TEX can be hung on any smooth surface — wood, metal, glass, plaster, even *bare* structural block or untaped wallboard.

Write or phone *right now* for samples of *new* STIP-L-TEX and the more than 40 other fadeproof, crackproof, peelproof VICRTEX VEF vinyl wallcovering patterns.

Yours for the asking . . . Colorful, exciting "Walls of Fame" brochure showing actual installations.

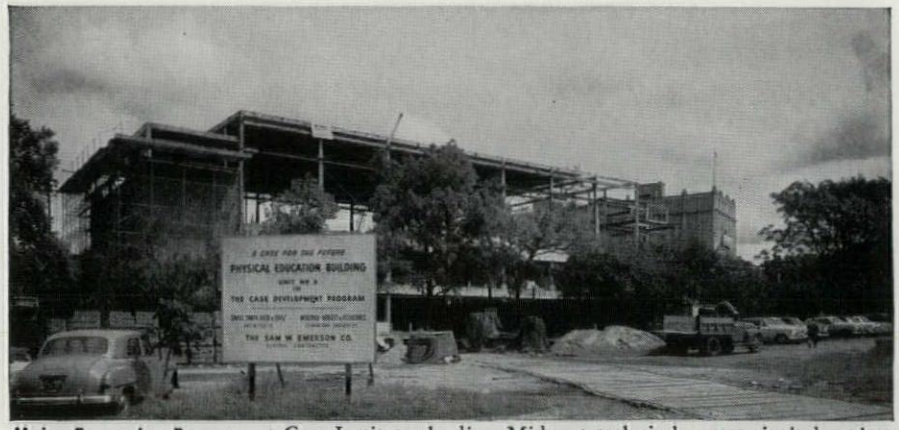
* Vinyl Electronically Fused

L. E. CARPENTER & COMPANY, INC.

EMPIRE STATE BUILDING, NEW YORK 1, N.Y. LONGACRE 4-0080 • MILLS: WHARTON, N. J.

Building "A Case for the future"

Cleveland's Case Institute approves GILSULATE® for underground hot pipe insulation



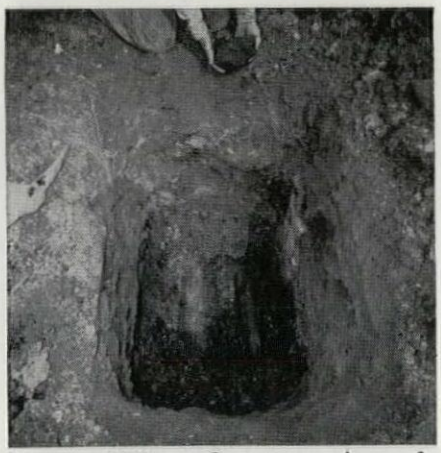
Major Expansion Program at Case Institute, leading Midwest technical center, includes plans for several new buildings. GILSULATE has been used and approved by Case on these projects.

300-Foot Replacement Line for existing buildings. Case is replacing all lines with GILSULATE. Thus far, 1900 feet of GILSULATE-protected steam and return lines are on the Case campus.

Pouring GILSULATE is a simple job. Plywood forms conserve material. This is a close-up of the pipe run shown at the left. No special equipment is required during handling.

Shovel Pointing works GILSULATE between and under the pipes, filling all the voids. GILSULATE is ideal for use under roads and pavements, has a high load bearing capacity.

Tamping is the next step. It firms the GILSULATE bed prior to curing. Backfilling, seen in the overall view, is the final step. Few men are needed on a GILSULATE job.



Two-year-old Line on Case campus, dug up for experimental purposes, shows pipes to be in perfect condition, with intact GILSULATE protective structure.

Facts about Gilsulate

1. EASY TO USE—just pour and tamp...pipe heat does the rest.
2. FORMS 3 ZONES of protection against heat loss and all hazards commonly encountered by hot buried pipes.
3. NEEDS NO HOUSING OR MECHANICAL SHEATHS: no mixing, special handling or equipment.
4. ONLY NEEDS NORMAL PIPE SPACING: for multiple pipe or cramped conditions.
5. THREE TYPES AVAILABLE:
   Type A for 220°-300°F temp. range
   Type B for 300°-385°F temp. range
   Type C for 385°-520°F temp. range

GILSULATE®

The Triple Zone Insulation System for Lifetime Protection of Underground Hot Pipes

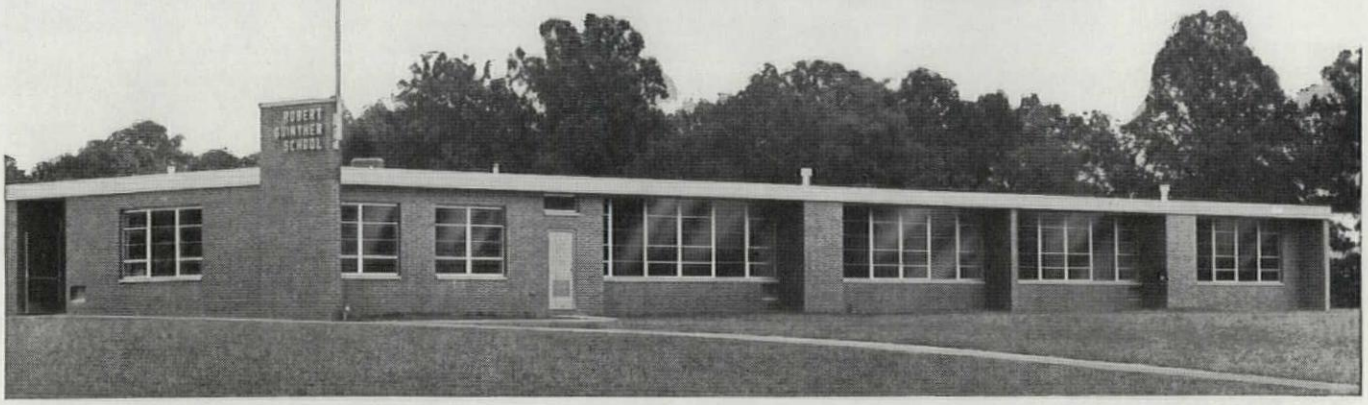
For complete information on GILSULATE Insulation, write any of our offices:

AMERICAN GILSONITE COMPANY
Affiliate of Barber Oil Corp. & Standard Oil Co. of Calif.
134 West Broadway Salt Lake City 1, Utah
3537 Lee Road, Cleveland 20, Ohio
Distributors in principal countries of the world

Do you receive PIPE INSULATION NEWS? Ask to be put on our mailing list.

New Akron School Selects Lennox Comfort Curtain

. . . as the finest of all heating-ventilating systems once again comes in at the lowest bid price!



This winter the new Robert Guinther School will have one of the most refreshing and comfortable indoor climates of any school in the entire country. The reason: the specification of the new Lennox Comfort Curtain heating-ventilating system.

This all-new system applies to classrooms the sound, tested principles of perimeter air distribution, with the rapid, accurate responses to temperature changes which only an all air system can give. In comfort, in flexibility, in economy of installation and operation—it outperforms all other systems. Read the facts below. Then send in the coupon for free booklet.

NEW LENNOX COMFORT CURTAIN SYSTEM OFFERS THESE IMPORTANT AND FAR-REACHING ADVANTAGES

More effective temperature control at all times—Eliminates overheating problem. Holds temperature to a variance of 1 degree despite heat gains from the sun, lights, and occupants.

Continuous ventilation—New Comfort Curtain system draws in controlled amounts of outside fresh air, filters this air, then mixes it with heated or recirculated air, and distributes it evenly throughout the classroom. No drafts or "cold spots" near the windows.

Individual classroom control—Each classroom can be maintained at its own temperature level in accordance with occupancy and activities. Controls are part of Comfort Curtain system. No extra cost.

Greater flexibility—No money for extra equipment need be expended initially for future requirements. Comfort Curtain, modular by design, may be added as the school expands. System may be fired by gas, oil, or electricity, and air conditioning can be added without upsetting the original installation.

Lower building costs—No expensive pipe tunnels. Installation time and expense reduced with completely assembled units.

Lower operating costs—Modular design permits operation in areas where heat is required, non-operation in others. Maintenance is simple and can be performed inexpensively by local heating contractor.

LENNOX®

FREE 28-page booklet on new Lennox Comfort Curtain. Just fill out coupon and mail to:

LENNOX INDUSTRIES INC., Dept. PA-85
P. O. Box 1294
Des Moines, Iowa

Name _____

Address _____

City _____ *Zone* _____ *State* _____

Caterpillar makes tracks for coal

Seven Caterpillar Tractor Co. plants burn coal for low-cost steam generation

When seven plants of a company all burn coal—over 250,000 tons a year—you can be sure there's a *good* reason. At Caterpillar Tractor Co., where steam is used for both process work and heating, coal is burned for low-cost, efficient steam production. Because of its importance at Caterpillar steam generation must meet the same standards of efficiency and dependability set up for all phases of plant production. As Caterpillar has expanded from one plant to many, therefore, *each* plant has burned coal.

Consult an engineering firm

If you are remodeling or building new power facilities, consult a qualified engineering firm. Such concerns—familiar with the latest in fuel costs and equipment—will effect great savings for you in efficiency and fuel economy over the years.

Facts you should know about coal

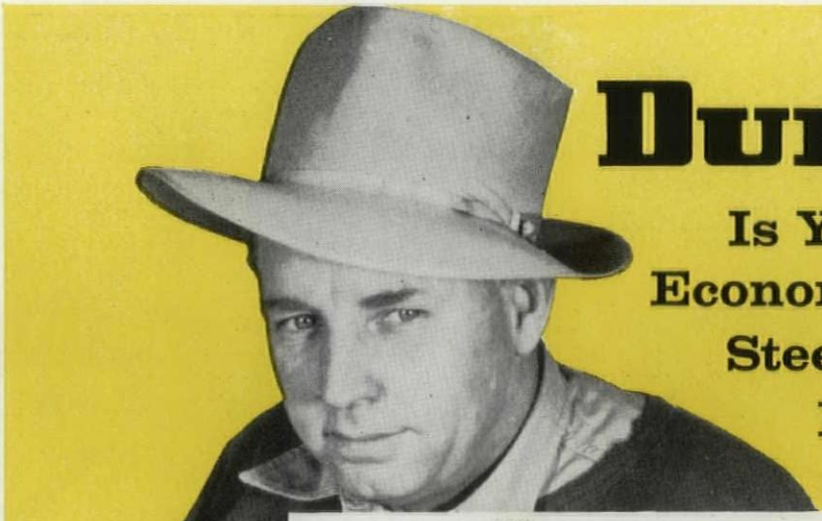
Not only is bituminous coal the lowest-cost fuel in most industrial areas, but up-to-date coal burning equipment can give you 15% to 50% more steam per dollar. Today's automatic equipment pares labor costs and eliminates smoke problems. And vast coal reserves plus mechanized production methods mean a constantly plentiful supply of coal at stable prices.

For free booklet "Guide Specifications for Typical Low-Pressure Commercial Heating Plant" or for technical advisory service, write to the address below.

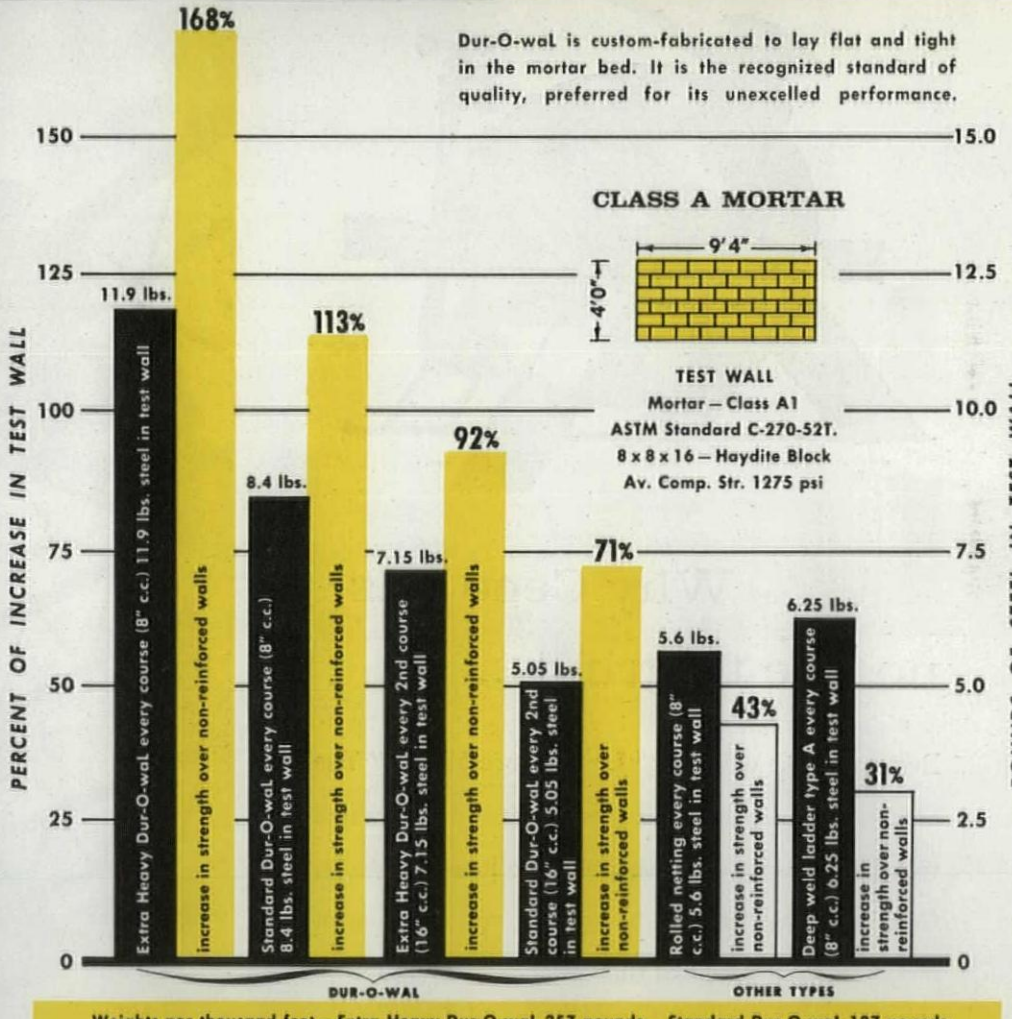
BITUMINOUS COAL INSTITUTE • Dept. PA-10, Southern Building, Washington 5, D.C.

DUR-O-WAL®

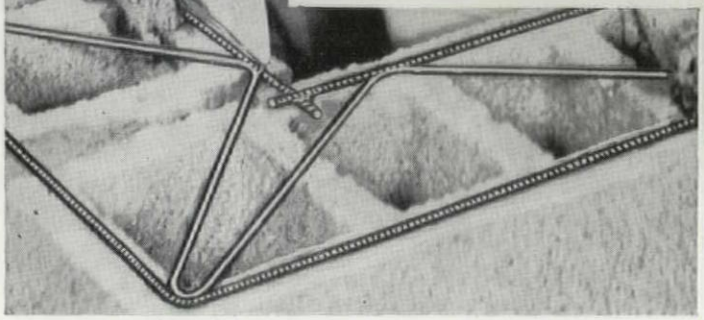
Is Your Most Economical and Effective Steel Masonry Reinforcing



Dur-O-wal is custom-fabricated to lay flat and tight in the mortar bed. It is the recognized standard of quality, preferred for its unexcelled performance.



Weights per thousand feet – Extra Heavy Dur-O-wal 257 pounds; Standard Dur-O-wal 187 pounds; Rolled Netting Type 113 pounds; Deep Weld Ladder Type 139 pounds.

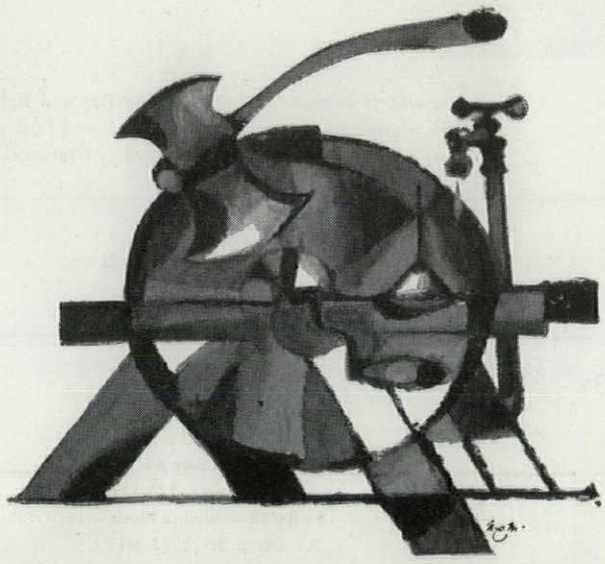


Tests Conducted by Toledo University Research Foundation

DUR-O-WAL®

Rigid Backbone of Steel For Every Masonry Wall

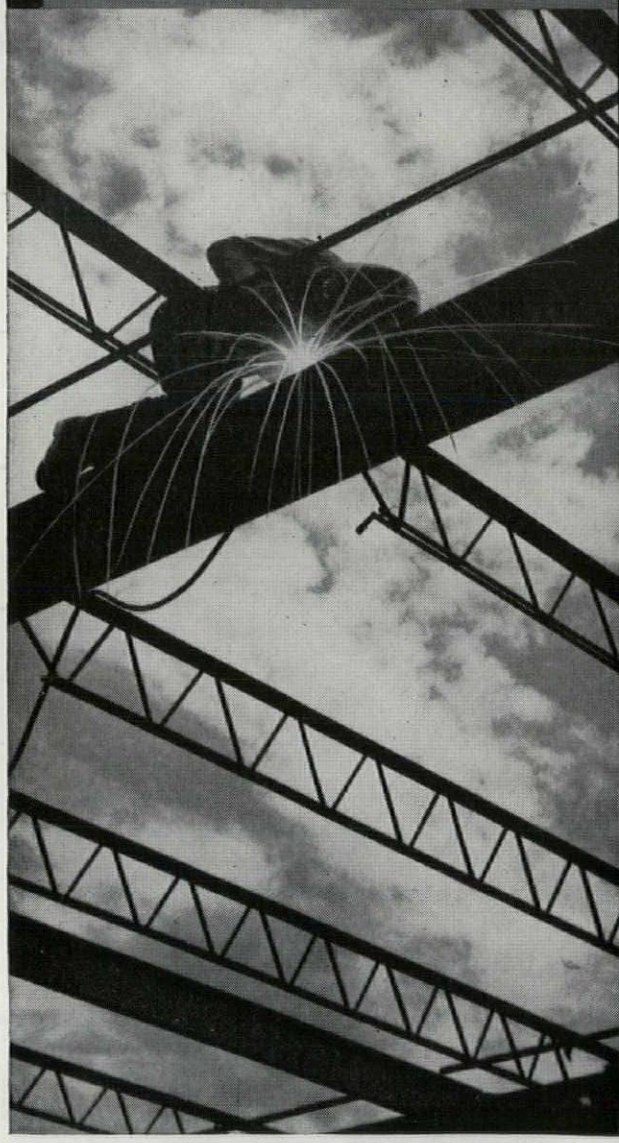
Dur-O-wal Div., Cedar Rapids Block Co., **CEDAR RAPIDS, IA.** Dur-O-wal Prod., Inc., Box 628, **SYRACUSE, N. Y.** Dur-O-wal Div., Frontier Mfg. Co., Box 49, **PHOENIX, ARIZ.** Dur-O-wal Prod., Inc., 4500 E. Lombard St., **BALTIMORE, MD.** Dur-O-wal of Ill., 119 N. River St., **AURORA, ILL.** Dur-O-wal Prod. of Ala., Inc., Box 5446, **BIRMINGHAM, ALA.** Dur-O-wal of Colorado, 29th and Court St., **PUEBLO, COLORADO** Dur-O-wal Inc., 165 Utah Street, **TOLEDO, OHIO**



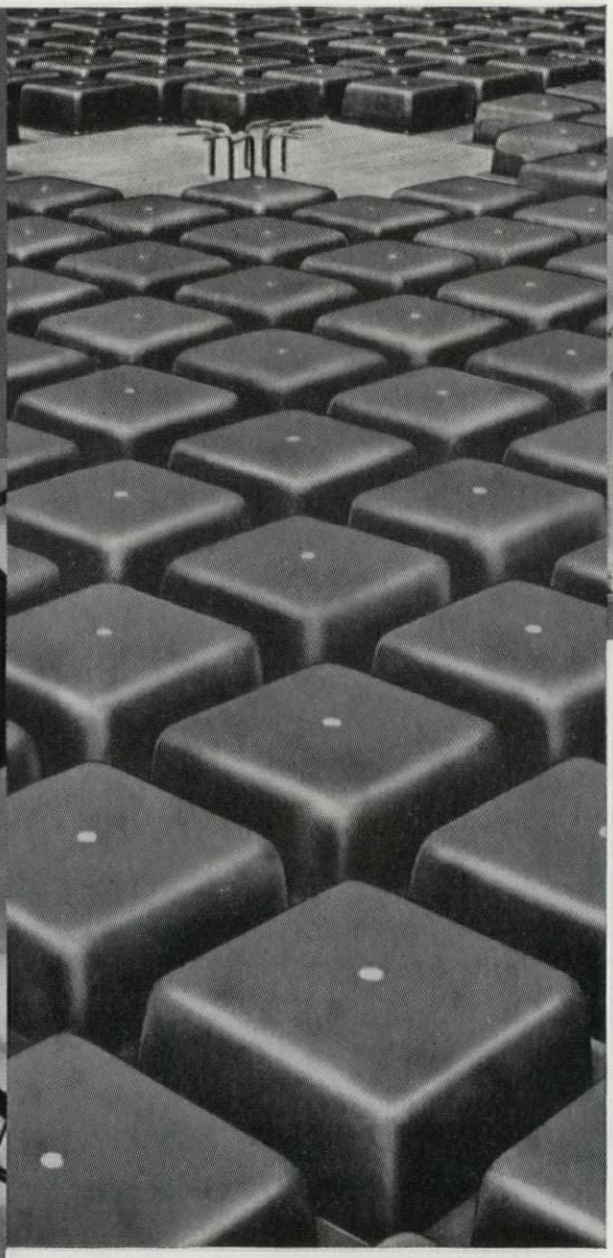
Why Ceco has no axe to grind...

Remember the old song: "Don't Fence Me In?" The architect will agree it expresses his attitude. He wants to achieve his design without restrictions. Therefore, Ceco has established a broad and versatile line of metal building products that provide answers for all architectural viewpoints. That's why Ceco has no axe to grind when it comes to building methods. And that's why you get what you want at Ceco. Ceco Steel Products Corporation. General offices, 5601 West 26th Street, Chicago 50, Illinois. Offices, warehouses and fabricating plants in principal cities.

Consider these 4 engineering concepts:



■ If lightweight open floors are wanted in structural steel, the most practical and economical solution can be found in *Ceco Open-Web Longspan and Shortspan Steel Joists.* Lightweight but rigid construction with Ceco Steel joists reduces weight of supporting beams, columns and footings, saving materials throughout the building. Pipes and ducts are easily placed through the open webs of Ceco Joists, making it unnecessary to increase story heights. This saves materials, permits low silhouette exteriors. Construction time is kept to the minimum. An exclusive feature: Low cost quality underfloor electrification is obtained by using Ceco Electro-Channel Steel Joists in combination with Ceco standard joists.



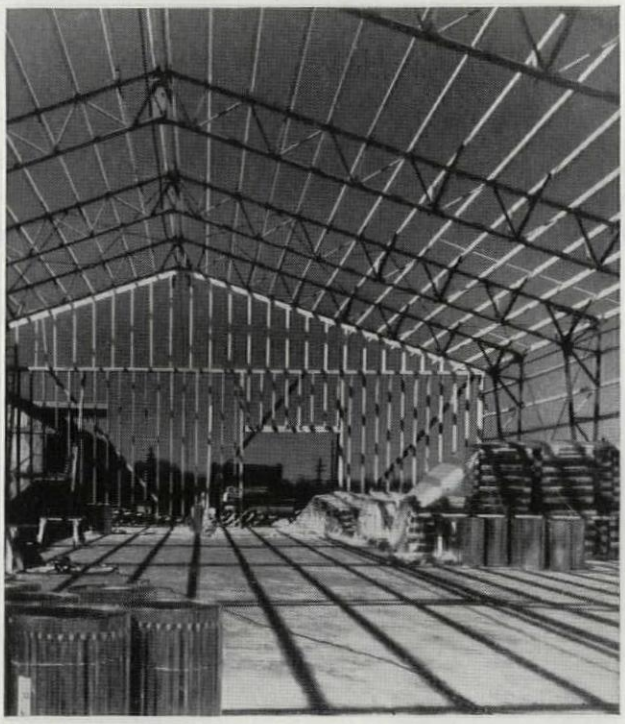
■ If open floor area is wanted in reinforced concrete, the answer is waffle-type flat slab construction formed with *Ceco Steeldomes*. Wide column spacings are achieved with Steeldomes, because of (a) the basic economy of two-way construction, and (b) the saving of dead-load through use of a joist framing system Projecting beams are eliminated—story heights kept to the minimum. Splayed heads and drop panels can be eliminated, too. Your client saves on concrete, steel and labor . . . gets wide open spaces he can convert to profit. R/C duct underfloor electrification is readily installed, allowing electrical and telephone outlet flexibility for the life of the building.

CECO STEEL

IN CONSTRUCTION PRODUCTS CECO ENGINEERING MAKES THE BIG DIFFERENCE

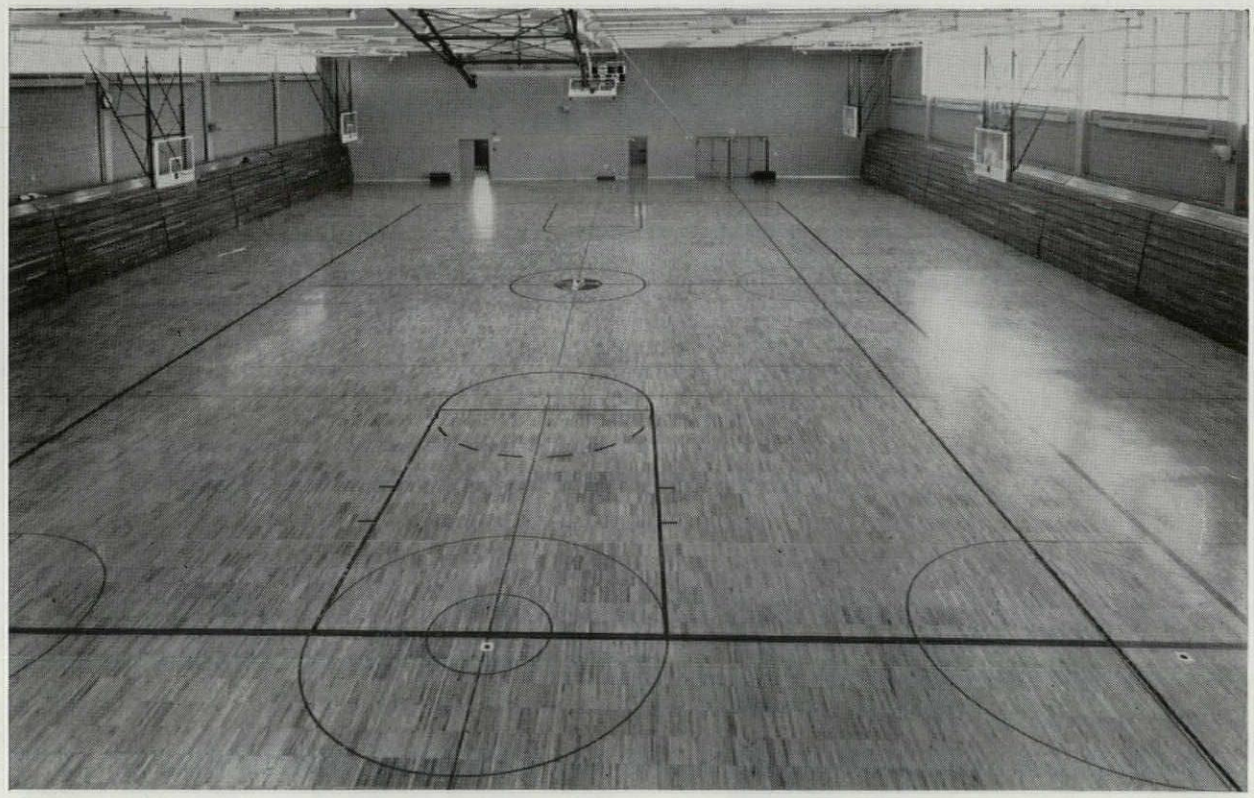
Ceco Steelforms / Concrete Reinforcing / Steel Joists
Roofing Products / Cecoframe Buildings / Curtainwalls,
Windows, Screens / Hollow-Metal Doors / Metal Lath

■ If you want to exercise your architectural imagination, turn to *Ceco Aluminum* or *Steel Curtainwalls*. Using experience and sound engineering principles, Ceco can accommodate almost any architectural design. This frees you of limitations. Ceco mullions and windows are proven sound in engineering, practical in application and pleasing in appearance. So to achieve your artistic goal in a practical way, see Ceco for engineering advice before you sit down at the drawing board.



■ If standard clearspan design in one-story construction is wanted, *Cecoframe Steel Buildings* fill the need. Durable Cecoframe structures are ideal for warehousing and manufacturing—for machine shops and utility buildings—can also serve a variety of light-occupancy commercial and industrial purposes. Complete freedom is offered by Cecoframes because they can be enclosed with any material—such as walls of windows, engineered Cecoroll galvanized steel roofing, steel panels, brick, block or wood, with hollow-metal or overhead doors. Cecoframes are designed on open-web steel joist principles for great rigidity. You have freedom in layout because Cecoframe structures can be placed side by side or in L shapes to fit any land site.

case study



Ironbound floor in Case Institute of Technology fieldhouse, Cleveland, Ohio. Architect: Small, Smith, Reeb and Draz, Cleveland. General Contractor: Sam W. Emerson Co., Cleveland. Installer: Ironbound Co. of Cleveland.

IRONBOUND* CONTINUOUS STRIP* MAPLE FLOOR

A study in smoothness is the Ironbound Continuous Strip Maple floor in the fieldhouse of Cleveland's Case Institute of Technology.

But this floor was chosen for more than smoothness alone. Its unmatched uniform resiliency, tight-grained splinter resistance, warm, durable beauty and long-run economy are equally important reasons why the Case architects specified Ironbound.

And these are the same reasons why architects from coast to coast specify Ironbound floors for gymnasiums, classrooms, industrial plants and public buildings. They know there is no better hardwood floor anywhere. For details, write Robbins Flooring Company, Reed City, Michigan. Attn; Dept. PA-1058.

Ironbound is now available vacuum-impregnated with Woodlife PENTA-preservative by the Dri-Vac process for extra protection against moisture absorption, termite and fungi attack.

MILLIONS WALK DAILY ON IRONBOUND FLOORS

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

ROBBINS FLOORING COMPANY

Reed City and Ishpeming, Michigan

WORLD'S LARGEST MANUFACTURER OF MAPLE FLOORS

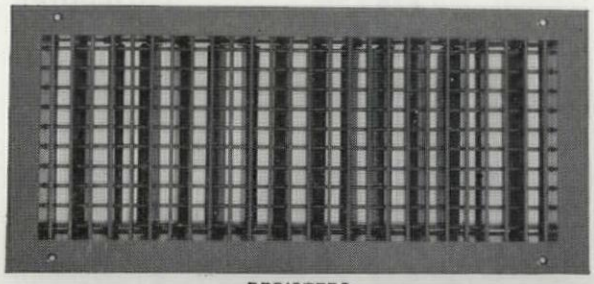
NOW AGITAIR® REGISTERS and GRILLES

(formerly STEWART)

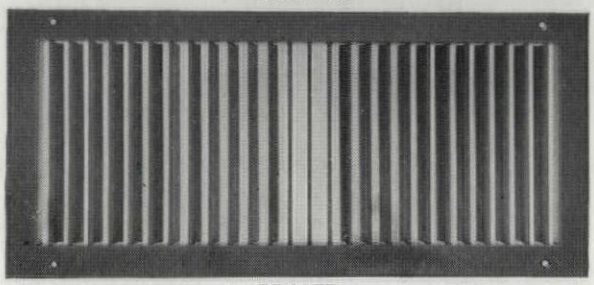
Air Devices Inc., has acquired the complete line of STEWART Registers and Grilles to add to job proven AGITAIR Diffusers, Filters and Exhausters...THERMOTANK High Velocity Mixing Boxes and Punkah Louvres.

Now from one source, Air Devices Inc., you can select with confidence and specify any AGITAIR product and be assured that the item or items selected will meet every performance and architectural requirement.

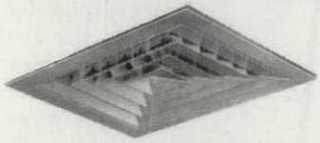
All Air Devices Inc. representatives have practical "on the job" experience in the application of Agitair products. They will gladly assist you in the selection, sizing and application of these products.



REGISTERS

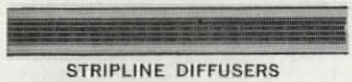


GRILLES



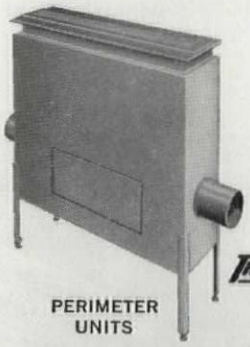
SQUARE & RECTANGULAR DIFFUSERS

CIRCULAR DIFFUSERS



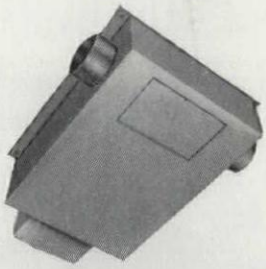
STRIPLINE DIFFUSERS

PERFAIR PERFORATED DIFFUSERS

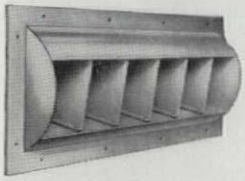


PERIMETER UNITS

THERMOTANK



CEILING UNITS

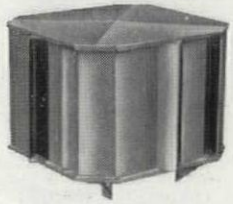


DRUM PUNKAH LOUVRES

THERMOTANK

ROUND PUNKAH LOUVRES

FILTERS



EXHAUSTERS

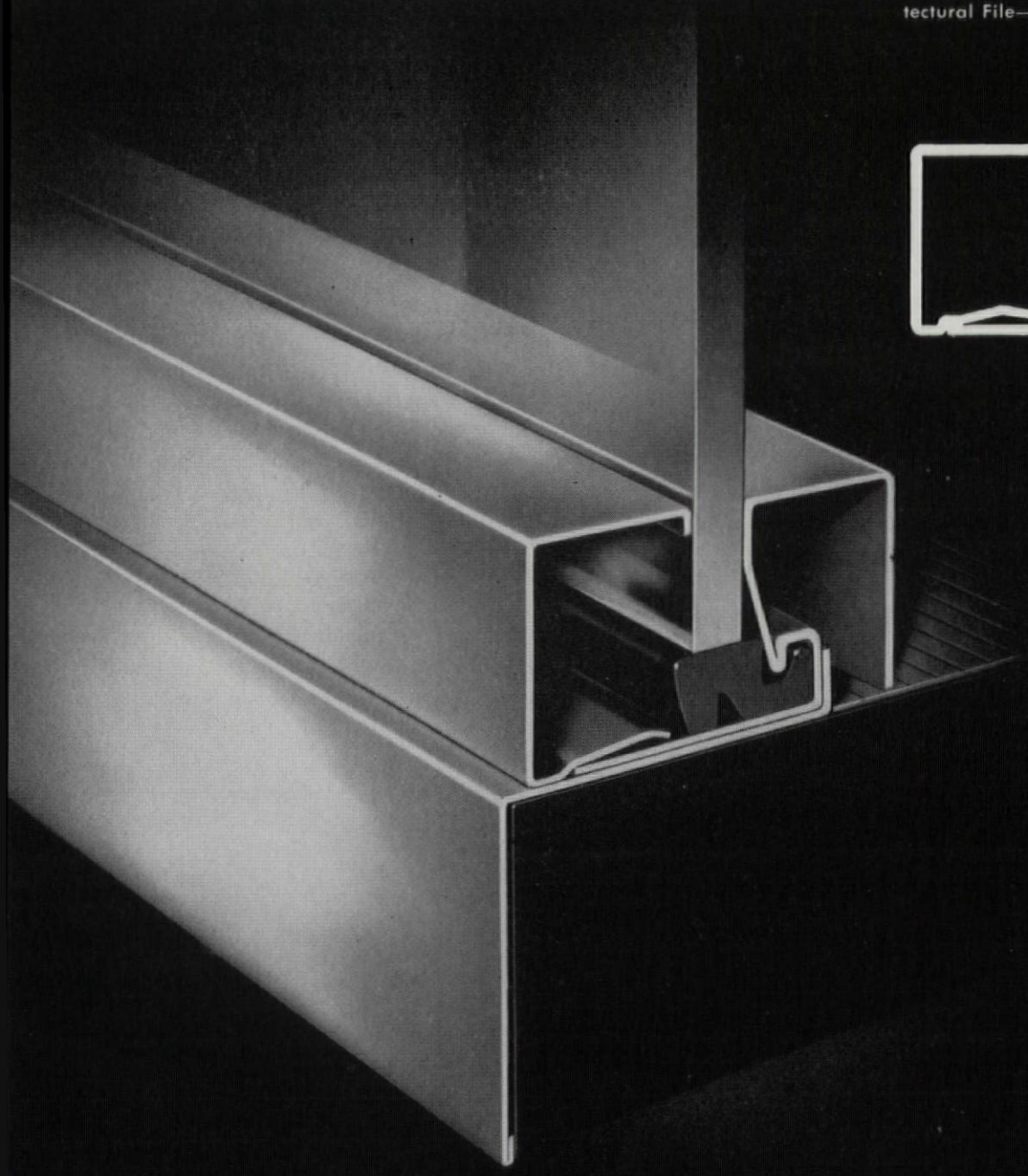
AIR DEVICES INC.

185 MADISON AVENUE, NEW YORK 16, N. Y.

high velocity units • punkah louvers
air diffusers • filters • exhausters
registers and grilles

PITTCO® SASH NO. 72-A

Beautiful in its simplicity, this PITTCO double-face sash is noted for its strength and sturdy construction. It is one of a wide selection of PITTCO sashes, sills, heads, jambs, bars and mouldings available for complete harmony of design in every store front. Consult your PITTCO Store Front Metal Representative, or refer to Sweet's Architectural File—Section 21.



75th ANNIVERSARY 1883–1958

SYMBOL OF SERVICE FOR SEVENTY-FIVE YEARS

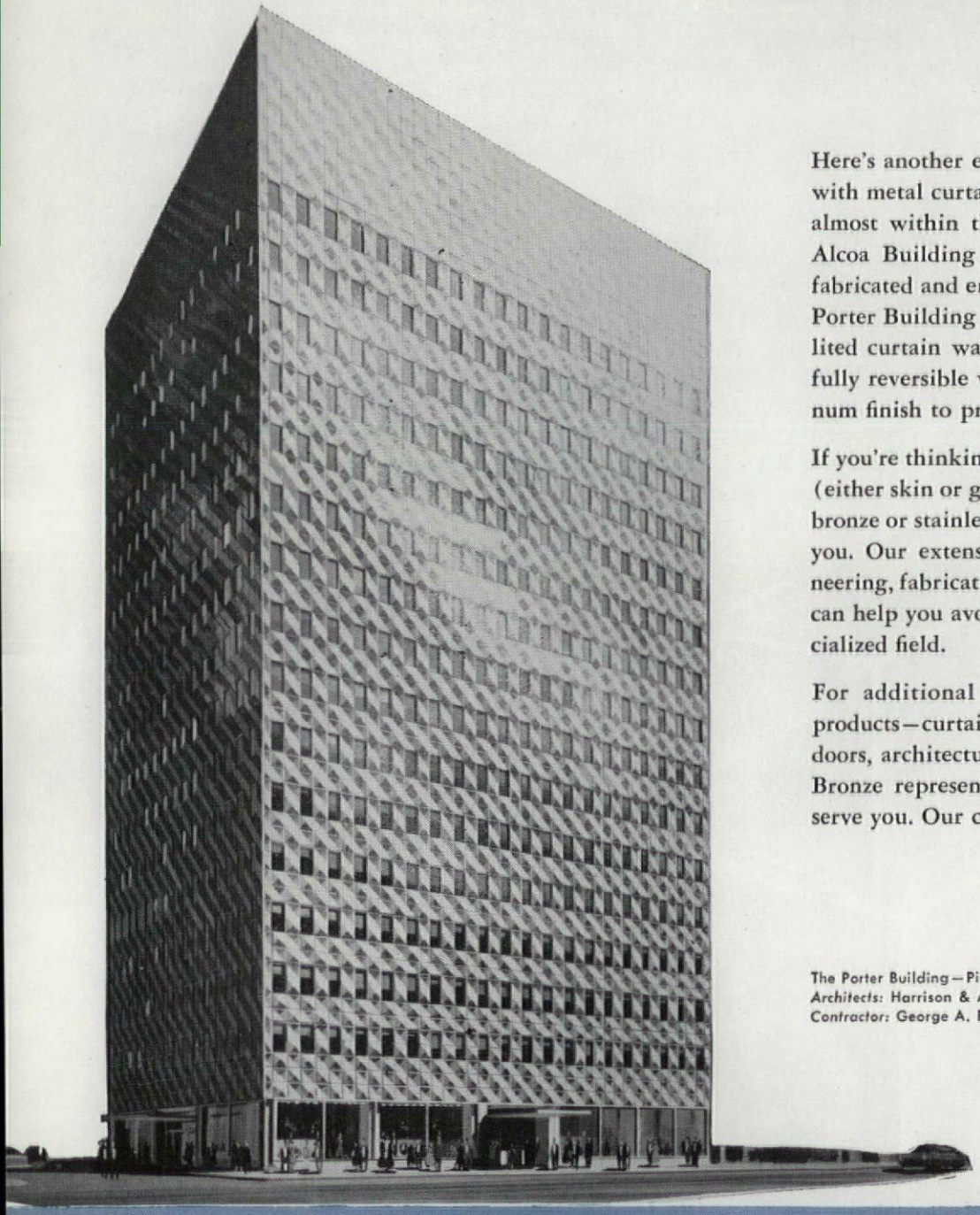
PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

THE PORTER BUILDING...ANOTHER PITTSBURGH LANDMARK WITH

CURTAIN WALLS

by GENERAL BRONZE



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

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

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

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

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

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

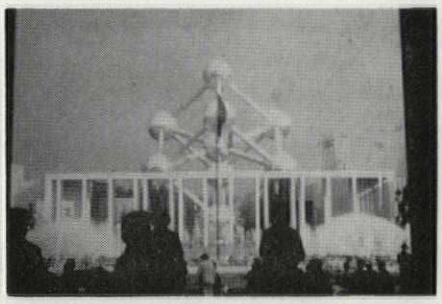
must a fair be an international honky-tonk?

Dear Editor: Sibyl Moholy-Nagy, in "Brussels for the Dilettante" (AUGUST 1958 P/A) wrote her usual fine analysis of contemporary architecture. With particular reference to the United States and the Netherlands pavilions, I, too, came away from Brussels with the feelings she so eloquently put in words. These buildings are, indeed, fine expressions of Architecture as Delight and Architecture as Function.

I liked very much Mrs. Moholy-Nagy's contrast of the Atomium with the "succession of wooden frames," surrounding pavilions of an earlier fair. The comparison can even be extended to a contrast of the Atomium with the horrible street furniture right in its shadow, at its very doorstep. The extremely poor solution of this is inexcusable.

Official Photo

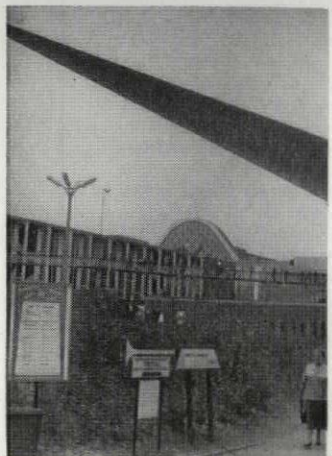
Aronin



Everywhere, one's vision is interrupted by ramshackle ice-cream stands, camera-film vendors, soft-drink sellers amidst crates of high-piled warm Cokes, ghastly signs reminiscent of the daily-special ads in supermarket windows, advertisements on litter baskets, telephone booths (with long queues outside them), and beer-company slogans. There are very few chairs or benches along public walks, but plenty of them in over-priced restaurants. The use of water is very clumsy; one could not derive any satisfaction from the pools or fountains, except at the American pavilion, for there is nowhere to sit

(Continued on page 102)

Official Photo



Aronin

PROGRESSIVE ARCHITECTURE published monthly by REINHOLD PUBLISHING CORPORATION, 430 Park Avenue, New York 22, N. Y. Ralph W. Reinhold, chairman of the Board; Philip H. Hubbard, President and Treasurer; Fred P. Peters, Vice-President and Secretary; Alfred E. Fountain, H. Burton Lowe, Merald F. Lue, D. Bradford Wilkin, William P. Winsor, Vice-Presidents; Kathleen Starke, Assistant Treasurer. Executive and Editorial offices: 430 Park Avenue, New York 22, N. Y. Subscriptions payable in advance. Subscription prices to those who, by title, are *architects, engineers, specification writers, designers or draftsmen or employes of architectural and engineering firms,* and to government departments, trade associations, members of the armed forces, college libraries, college students, publishers, advertisers, prospective advertisers and their employes—$5.00 for one year, $8.00 for two years, $10.00 for three years. Above prices are applicable in U. S., U. S. Possessions and Canada. All foreign subscriptions—$10.00 for one year, $16.00 for two years, $20.00 for three years. Foreign rates apply to architects and engineers only. Single copy —$1.00; special issues—$2.00 per copy. Printed by Publishers Printing Co., New York, N. Y.

Indexed in Art Index, Architectural Index.

ABP

AUDITED PAID CIRCULATION ABC

REINHOLD

ACOUSTI-CELOTEX DISTRIBUTORS

ALA.—Acousti Engineering of Alabama, Inc., Birmingham 3; Acoustics & Specialties Co., New Orleans 12, La. **ARIZ.**—Phoenix Roofing & Supply Co., Phoenix; Garrett Building Specialties, Tucson. **ARK.**—Acoustics & Specialties Co. Little Rock; Acoustics & Specialties, Inc., Memphis 3, Tenn **CAL.**—McNaul's, Bakersfield; The Harold E. Shugart Co., Inc., Glendale 4; Western Asbestos Co., Fresno, Oakland 6, Sacramento 14, San Francisco 3, San Jose, Stockton; Hackett Acoustics & Specialties, Inc., San Diego 1. **COLO.**—Lauren Burt, Inc., Denver 1. **CONN.**—Thermal Acoustics, Inc., West Haven. **DELA.**—The Hampshire Corp., Baltimore 11, Md.; Jacobsen & Co., Inc., Philadelphia 31, Pa. **D.C.**—The Hampshire Corp., Bladensburg, Md. **FLA.**—Acoustic Engineering Company of Florida, Jacksonville 4, Tampa 5, Orlando; Acousti Corporation of Miami, Ltd., Miami 32; Acoustics & Specialties Company, New Orleans 12, La. **GA.**—Acousti Engineering Company, Atlanta 3; Hale & Wallace, Inc., Chatanooga 4, Tenn. **IDAHO**—Lauren Burt, Inc., Salt Lake City, Utah; Noise Control of Spokane, Inc., Spokane 10, Wash. **ILL.**—James L. Lyon Co., Chicago 10, Rockford; R. L. McManus & Co., Peoria; Hugh J. Baker & Co., Indianapolis 6, Ind.; Allied Construction Services, Inc., Davenport, Iowa; Henges Co., Inc., St. Louis 3, Mo. **IND.**—Hugh J. Baker & Co., Indianapolis 6; Lipps Acoustics Specialties Co., South Bend; James L. Lyon Co., Chicago 10, Ill.; E. C. Decker & Co. of Ky., Inc., Louisville 2, Ky.; E. C. Decker & Co., Inc., Cincinnati 2, Ohio. **IOWA**—Allied Construction Services, Inc., Des Moines, Davenport; Earl S. Lewis & Co., Inc., Sioux City, Omaha, Neb. **KAN.**—Henges Co., Inc., Wichita, Kansas City 8, Mo. **KY.**—E. C. Decker & Co. of Ky., Inc., Louisville 2; E. C. Decker & Co., Inc., Cincinnati 2, Ohio; Tri-State Roofing Co., Knoxville, Nashville, Tenn. **LA.**—Acoustics & Specialties Co., New Orleans 12, Shreveport. **ME.**—Pitcher & Co., Inc., Winthrop, Me. **MD.**—The Hampshire Corp., Baltimore 11, Bladensburg. **MASS.**—Pitcher & Co., Inc., Cambridge 42, Worcester; Acoustical Ceilings, Inc., Pittsfield. **MICH.**—R. E. Leggette Co., Dearborn, Lansing, Saginaw; Leggette-Michaels Co., Grand Rapids; Edward T. Ver Halen, Inc., Green Bay, Wis. **MINN.**—Insulation Sales Co., Inc., Minneapolis 15, Duluth. **MISS.**—Acoustics & Specialties, Inc., Jackson, Memphis 3, Tenn.; Acoustics & Specialties Co., New Orleans 12, La. **MO.**—Henges Co., Inc., Kansas City 8, St. Louis 3. **MONT.**—Noise Control of Spokane, Inc., Spokane 10, Wash. **NEB.**—Earl S. Lewis & Co., Inc., Omaha 2; Lauren Burt, Inc. of Colorado, Denver 1, Colo. **NEV.**—Western Asbestos Co., Sacramento 14, Calif.; Lauren Burt, Inc., Salt Lake City 4, Utah. **N. H.**—Pitcher & Co., Inc., Goffstown, N. H. **N. J.**—Jacobson & Co., Inc., Elizabeth 4, Philadelphia 31, Pa. **N. M.**—R. E. Leggette Co. of New Mexico, Albuquerque; Southwest Acoustical Co., El Paso, Texas. **N. Y.**—Collum Acoustical Co., Inc., Albany, Rochester 10, Syracuse 3; Western New York Collum Acoustical Corp., Buffalo 2, Jamestown; Jacobson & Co., Inc., New York 17. **N. C.**—Acousti Engineering of Carolinas, Inc., Charlotte 3; The Hampshire Corp., Norfolk, Va. **N. D.**—Insulation Sales Co., Inc., Minneapolis 15, Minn. **OHIO**—E. C. Decker & Co., Inc., Cincinnati 2, Dayton 5; The George P. Little Co., Inc., Cleveland 13, Columbus 8, Akron 4, Pittsburgh 12, Pa. **OKLA.**—Sooner Acoustical Company, Oklahoma City 4; Oklahoma Acoustical & Specialties Co., Tulsa. **ORE.**—Noise Control of Oregon, Inc., Portland 10. **PA.**—Jacobson & Co., Inc., Philadelphia 31, Harrisburg; The George P. Little Co., Inc., Pittsburgh 12; Western New York Collum Acoustical Corp., Buffalo 2, N. Y.; The Hampshire Corp., Baltimore 11, Md. **R. I.**—Pitcher & Co., Inc., Providence. **S. C.**—Acousti Engineering of Carolinas, Inc., Charlotte 3, N. C. **S. D.**—Insulation Sales Co., Inc., Minneapolis 15, Minn.; Lauren Burt, Inc. of Colo., Denver 1, Colo. **TENN.**—Acoustics & Specialties, Inc., Memphis 3; Tri-State Roofing Co., Knoxville, Nashville; Hale & Wallace, Inc., Chattanooga 4; The Hampshire Corp., Roanoke, Va. **TEX.**—Callaway's, Abilene; West Texas Brick & Tile Co., Midland; Jenkins Brick & Supply Co., Amarillo; Gambrell & Company, Dallas; Straus-Frank Co., Houston, San Antonio, Corpus Christi; Southwest Acoustical Company, El Paso. **UTAH**—Lauren Burt, Inc., Salt Lake City 4. **VT.**—The Bader Co., Burlington, Rutland. **VA.**—The Hampshire Corp., Baltimore 11, Md., Bladensburg, Md.; The Hampshire Corp., Richmond 22, Roanoke 2, Norfolk. **WASH.**—Noise Control of Oregon, Inc., Portland 10, Ore.; Noise Control of Seattle, Inc., Seattle 3; Noise Control of Spokane, Inc., Spokane 10. **W. VA.**—E. C. Decker & Co., Cincinnati, Ohio; The Hampshire Corp.; St. Albans; The George P. Little Co., Inc., Pittsburgh 12, Pa.; The Hampshire Corp., Baltimore 11, Md., Roanoke 2, Va. **WIS.**—Edward T. Ver Halen, Inc., Milwaukee 2, Green Bay, Madison; Insulation Sales Co., Inc., Minneapolis 15, Minn. **WYO.**—Lauren Burt, Inc., of Colorado, Denver 1, Colo.; Lauren Burt, Inc., Salt Lake City 4, Utah. **IN CANADA**—Dominion Sound Equipments, Ltd., St. John's, Nfld., Halifax; Montreal (Home office), Ottawa, Toronto, North Bay, Hamilton, London, Winnipeg, Regina, Saskatoon, Calgary, Edmonton, Vancouver.

NEW... FROM CELOTEX

CAVITY TILE* . . . another development of Celotex Research Laboratory . . . first commercial application of cavity resonance principle . . . first successful use of gypsum type board as chief element . . . lowest cost incombustible acoustical product (carries UL label) offering these unique quality advantages:

REPAINTABLE time after time with no loss of sound absorption. Historically, properly designed perforated materials such as Cavity Tile have given the best acoustical performance through repeated maintenance paintings. Now, for the first time, you can specify a low cost, incombustible product that is permanently efficient!

LEAST ABSORPTION VARIATION. First perforated tile offering high efficiency across full frequency range.

CPS.....	125	250	500	1000	2000	4000	NRC
CAVITY TILE	.77	.81	.71	.64	.64	.70	.70
TYPICAL OTHER PERFORATED TILE...	.34	.59	.64	.73	.92	.80	.70

Acoustical Materials Association data—No. 7 Mounting

*U. S. Pat. No. 2,838,8.6

HOW IT WORKS: Cavity Tile utilizes the air space (plenum) above a suspended ceiling. Spring-like action of air in cavity dissipates sound waves as they are forced back and forth through a special membrane. For specifications and detailed drawings, call your distributor (listed left) or write direct.

ACOUSTI-CELOTEX

REGISTERED U. S. PAT. OFF.

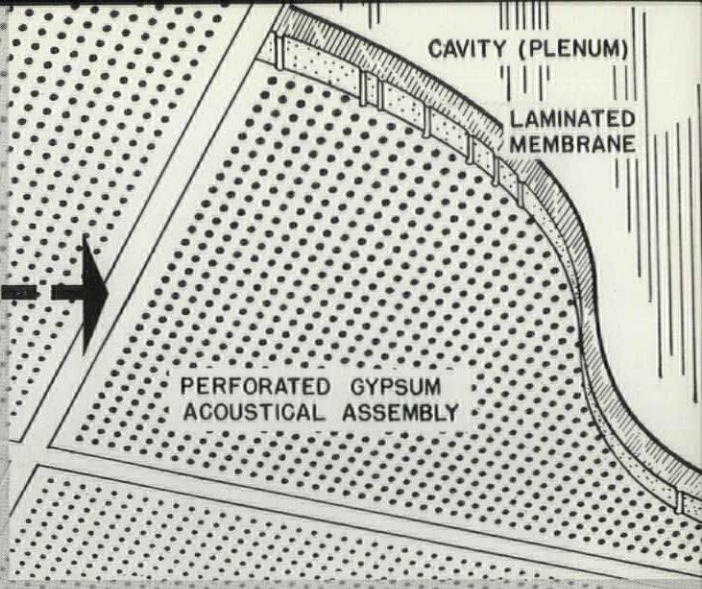
SOUND CONDITIONING

Products to Meet Every Sound Conditioning Problem . . . Every Building Code

The Celotex Corporation, 120 S. La Salle St., Chicago 3, Illinois

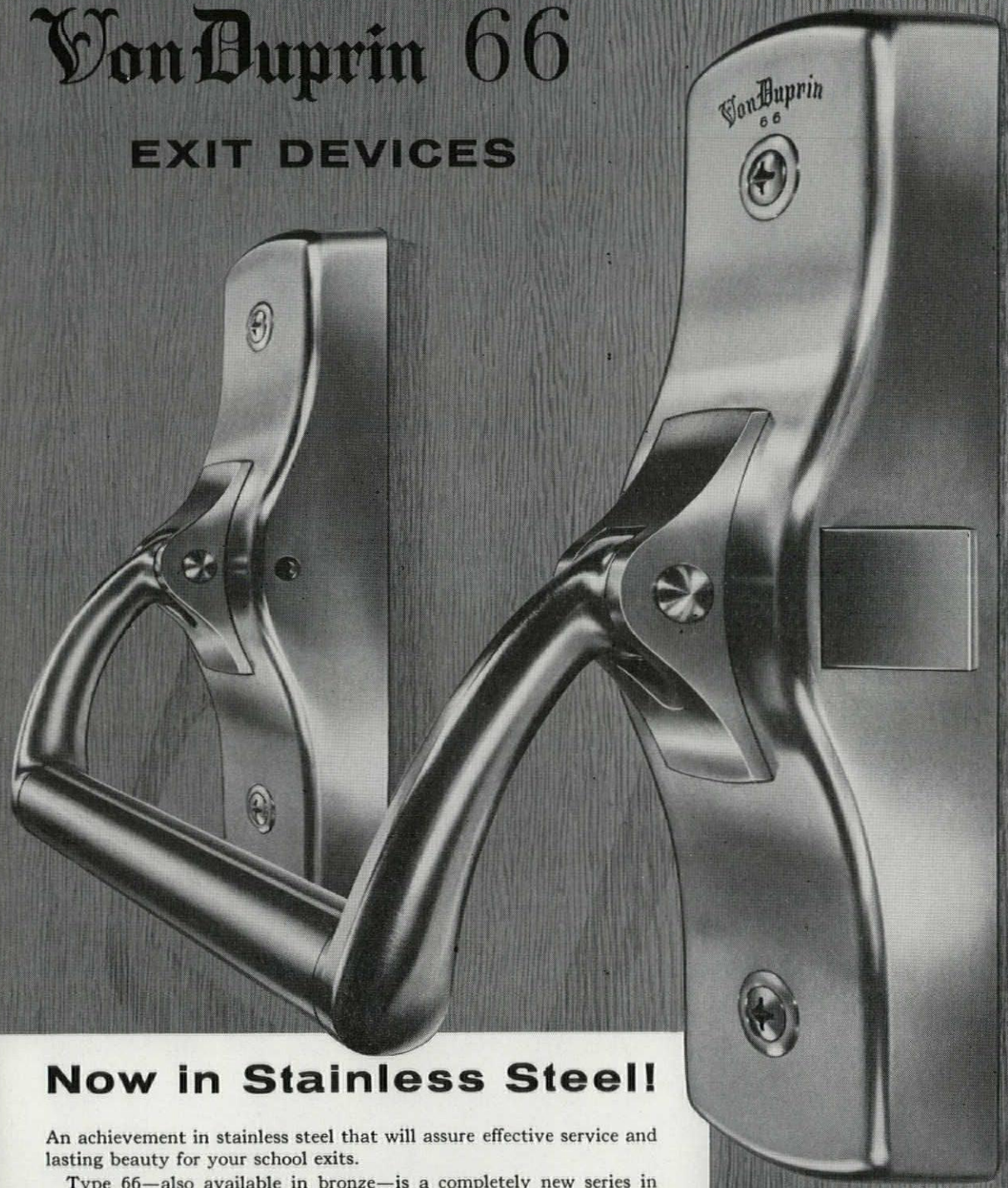
In Canada: Dominion Sound Equipments, Ltd., Montreal, Quebec

Cavity Resonance



Von Duprin 66

EXIT DEVICES



Now in Stainless Steel!

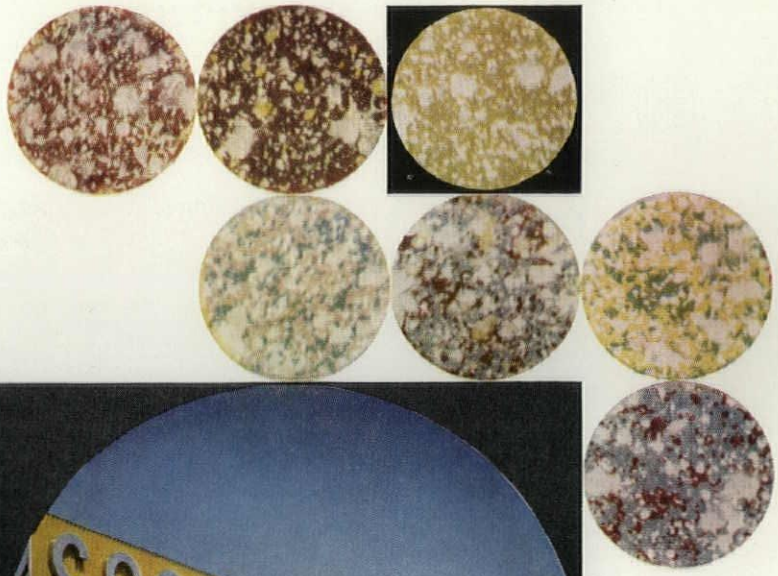
An achievement in stainless steel that will assure effective service and lasting beauty for your school exits.

Type 66—also available in bronze—is a completely new series in rim, mortise lock and vertical rod models, and features a smart new line of matching outside trims.

For the finest expression of "the safe way out!", ask your architect or hardware consultant for full details on the Von Duprin 66. Or write direct for your copy of Bulletin 581.

Von Duprin PANIC DEVICES ASSURE SAFE EXIT

VONNEGUT HARDWARE CO. • VON DUPRIN DIVISION
INDIANAPOLIS 9, INDIANA



MAURICE LENELL COOKY CO., Chicago, Ill. Architect: Melvin A. Nelson. General Contractor: Ture Peterson & Son. Vitro Glaze by the Desco Vitro Glaze Company of Illinois, Inc. Colors used are beige-yellow with pure-white fleck.

CHEMISTRY IN CEMENT

VITRO GLAZE BY DESCO

Maximum Cleanliness with Minimum Effort in a Beautiful Wall Finish!

The modern trend is to *let the public see* the steps in food preparation. This requires wall surfaces of unusual beauty, easy to keep spotlessly clean with minimum time and effort. Vitro Glaze, by Desco—a functional wall surfacing resistant to grease, oil, water, steam and cleaning agents—solved the problem for Maurice Lenell Cooky Company.

Vitro Glaze is a permanent, glazed wall finish without struck joints to chip out, discolor and contract. It is spray-applied by multi-coat process in a continuous surface by factory trained applicators. Desco Vitro Glaze is in reality Chemistry In Cement—both the base coat and color coat contain 90% silica and cement. Desco Vitro Glaze is both economical to install and maintain and is available in a full range of decorator colors.

Complete technical data and specifications are available in Sweet's Architectural catalog, File No. 13H/DE or write:

vitro glaze by DESCO

THE DESCO VITRO GLAZE ASSOCIATION OF AMERICA, Dept. 6A, 5220 Whitby Avenue, Philadelphia 43, Pa.

p/a views

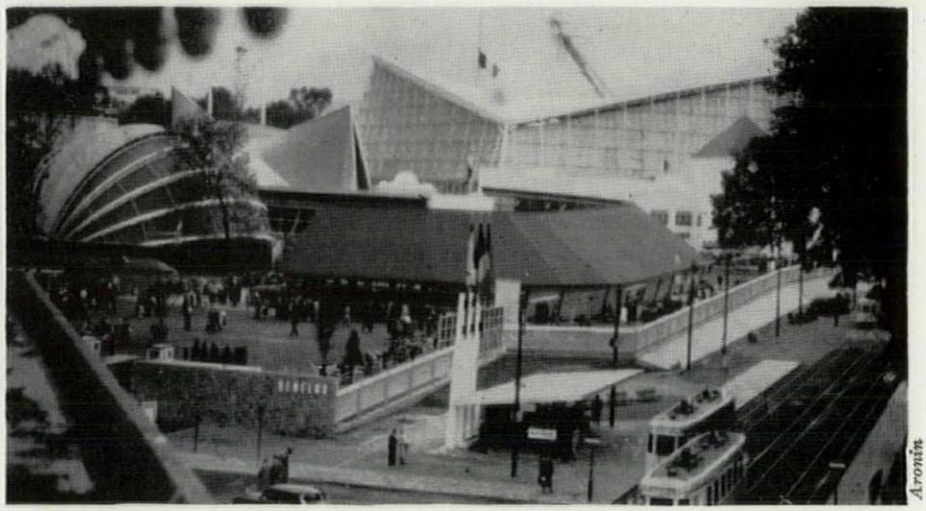
(Continued from page 102)

are—are almost terrifying. One is exhausted at the end of a day's visit. The planners had not mastered all the tools that go into creation of a town's character. The Italian, United States, and Netherlands' pavilions get the visitor out of all that hubbub and put him at ease; and even if they were not architectural gems, they still would have shone as jewels.

Disheartening as it is to see the hodge-podge of the average *unplanned* American urban landscape—used-car lots, billboards, gasoline stations, and the like—when we *plan* a new area here we can do a pretty good job of design, right to the last detail of street furniture—lamps, litter baskets, benches, and road signs. We have only to look at the TVA, New York International Airport, our many turnpike toll roads, downtown Philadelphia, and countless other examples for evidence of the master hand of an architect in authority.

The Brussels Exposition does not bear that seal, and that is why, to my eye, it is nothing more than a trade fair such as one might find every now and then in any European city. The American visitor can learn much more by visiting the European countries, themselves. It is good to have on the architectural scene such fine observers as Sibyl Moholy-Nagy, and I hope P/A will continue to publish her observations, as it has in the past.

JEFFREY ELLIS ARONIN
Woodmere, N. Y.



Aronin

setting the example

Dear Editor: I heartily agree with the VIEWS expressed by Henry Kohler ("Is the Practice of Architecture a Profession?") in JUNE 1958 P/A, and hope you will communicate my enthusiastic "second" to him. I have waited five years, feeling I was alone in thinking this way.

An area he did not develop is that of inadequate and poor training afforded the rising generation of architects by their mentors. What can be expected of the offspring of offices which do not practice in the most strict manner?

GUY LOUIS CALHAMER
La Grange Park, Ill.

WHEN YOU CHANGE YOUR ADDRESS

Please report both new and old addresses directly to P/A five weeks before you move. The Post Office will not forward your magazine to the new address unless you pay extra postage. Avoid this needless expense by notifying us five weeks in advance.

PROGRESSIVE ARCHITECTURE
Circulation Department
430 Park Ave., New York 22, N. Y.

Careful attention to detail is evident in this swimming pool. Walls are 4¼ x 4¼, 81 Spruce Green. Deck Floor: Sand Gray Textone. Pool ledge and markers are Maroon Textone with numbers and lettering in Sand Gray Textone. Pool lining is White with Red markings. Color Plate 391.

CARTHAGE CENTRAL JUNIOR-SENIOR HIGH SCHOOL

Carthage, N.Y.

Sargent, Webster, Crenshaw & Folley, Architects

Walls in cheerful contrasting colors lend the corridors and stairways a permanently well-groomed appearance. Here, walls are 72 Dawn Gray and 51 Jonquil. Color Plate 390. D. A. Lanzetta Marble Co., Tile Contractors.

In this new school, American-Olean Tile was used in many areas in addition to the swimming pool:

Walls in corridors and stairways
Walls and floors in shower rooms and washrooms
Walls in kitchen

—assuring this school many thousand square feet of permanently beautiful, maintenance-free surface.

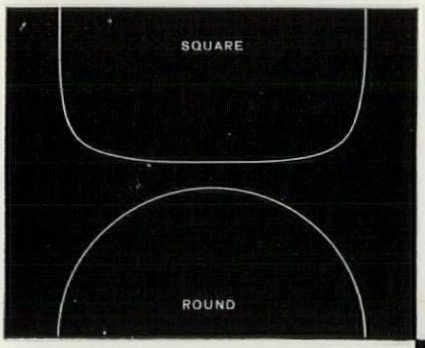
Helpful Booklets for Architects:

Booklet 208:	*Catalog of Tile Products*
Manual 800 Rev.:	*Specifications and Details for Swimming Pools*
Booklet 910:	*New Large Size Tile*
Booklet 1020:	*Crystalline Glazes and Scored Tile*

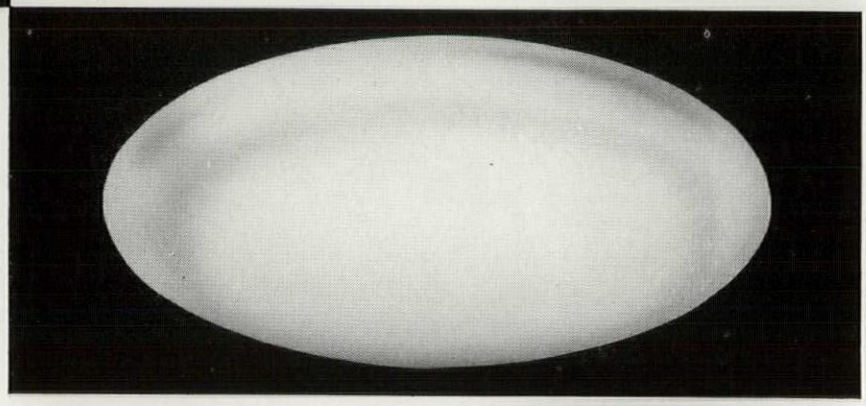
CERAMIC TILE

American Olean

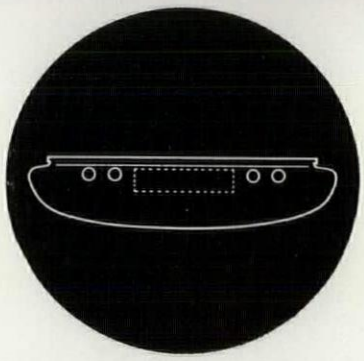
AMERICAN-OLEAN TILE COMPANY
EXECUTIVE OFFICES: 1359 CANNON AVENUE, LANSDALE, PA.
FACTORIES: LANSDALE, PA., OLEAN, N.Y.
MEMBER: TILE COUNCIL OF AMERICA, PRODUCERS' COUNCIL



sculpture in light



CIRCULITE is a rare development in architectural lighting... a completely new full-diffusing light form with a sculptured look. Surface-mounted 24" softened square and round units look almost built-in. They feature a specially regressed housing so the eye sees only a smooth luminous surface at most viewing angles. Light stabilized styrene diffusers are completely frameless, swing down on hidden hinges for easy maintenance. Takes two Rapid Start Circline lamps. A refreshing and exciting treatment for restaurants, lobbies, stairhalls, reception areas, corridors and retail shops. For a 120-PAGE CATALOG-BINDER fully detailing Lightolier's wide range of architectural lighting, write Dept. PA-108.



LIGHTOLIER

ARCHITECTURAL LIGHTING • RESIDENTIAL FIXTURES • PORTABLE LAMPS

MAIN OFFICE AND FACTORY: JERSEY CITY 5, NEW JERSEY

See all the newest Lightolier designs at these authorized distributors:

ALABAMA
Birmingham:
Mayer Elec. Sup. Co.

ARIZONA
Phoenix:
Brown Wholesale Elec.

CALIFORNIA
San Francisco:
California Elec. Sup. Co.

COLORADO
Denver: Central Elec. Sup.

CONNECTICUT
Bridgeport: B. M. Tower
Hartford:
Beacon Light & Sup. Co.
New Haven:
Grand Light & Sup. Co.
New London:
United Elec. Sup. Co.
Stamford: Marle Co.

DISTRICT OF COLUMBIA
Maurice Elec. Sup. Co.
National Elec. Wholesalers
O. R. Evans & Bros.

FLORIDA
Miami:
Farrey's Whsle. Hdwe. Co.

GEORGIA
Atlanta: Atlanta Ltg. Fix.
Noland Co.

ILLINOIS
Chicago:
Efengee Elec. Sup. Co.
Englewood Elec. Sup. Co.
Hawkins Electric
Hyland Elec. Sup. Co.
Wholesale Elec. Sup.
Elgin: Fox Elec. Sup.
Rockford:
Englewood Elec. Sup. Co.
Springfield:
Springfield Elec. Sup.

INDIANA
Ft. Wayne:
Mossman-Yarnelle Co.
Gary:
Englewood Elec. Sup. Co.
So. Bend:
Englewood Elec. Sup. Co.

IOWA
Des Moines:
Weston Lighting Co.

KANSAS
Kansas City:
W. T. Foley Elec. Co.

KENTUCKY
Paducah: Ohio Valley Sup.

LOUISIANA
Baton Rouge:
Electrical Wholesalers
New Orleans:
Interstate Elec. Co.

MAINE
Bangor: Standard Elec. Co.
Portland:
Holmes Elec. Supply Co.

MARYLAND
Baltimore:
Excello Public Serv. Corp.

MASSACHUSETTS
Boston:
Mass. Gas & Elec. Light Co.
Henry L. Wolfers Inc.
Fitchburg:
Service Elec. Sup. Co.
Pittsfield: Carr Supply
Springfield:
Eastern Elec. Sup.
Worcester:
Atlantic Elec. Sup.
Benjamin Elec. Sup.

MICHIGAN
Detroit:
Madison Elec. Co.
Michigan Chandelier Co.
Flint: Royalite Co.
Grand Rapids:
Purchase Elec. Sup. Co.
Pontiac:
Standard Elec. Co.
Saginaw: Standard Elec.

MINNESOTA
Duluth:
Northern Elec. Sup. Co.
Minneapolis:
Charles A. Anderson & Co.
Northland Elec. Sup. Co.
St. Paul: Lax Elec. Co.

MISSOURI
St. Louis: M. K. Clark

NEBRASKA
Omaha:
Electric Fix. & Sup. Co.

NEVADA
Reno:
Western Elec. Dists. Co.

NEW HAMPSHIRE
Portsmouth:
Mass. Gas & Elec. Light Co.

NEW JERSEY
Atlantic City:
Franklin Elec. Sup. Co.
Camden:
Camden Elec. Fix. Co.

NEW MEXICO
Albuquerque:
Albuquerque Dist. Co.

NEW YORK
Albany:
Havens Elec. Co. Inc
Binghamton:
Freije Elec. Sup. Co.
Buffalo:
Buffalo Incan. Light Co. Inc.
Niagara Falls:
Hysen Sup. Co.
Poughkeepsie:
Electra Sup. Co.
Rochester:
Rowe Electric Sup. Co.
Syracuse: Superior Elec.

NORTH CAROLINA
Charlotte:
Independent Elec. Sup.
Durham: Noland Co.
Greensboro:
Elec. Sup. & Equip. Co.
Kinston: Kinston Elec.
Winston-Salem:
Noland Co.

OHIO
Akron:
The Sacks Elec. Sup. Co.
Canton: The Electric Sales
Cincinnati: B. & B. Elec.
F. D. Lawrence Electric Co.
Cleveland: H. Leff Electric
Columbus:
Elgee Elec. Co.
The Loeb Elec. Co.
Dayton:
Duellman Elec. Co.
Toledo: Gross Elec.
Youngstown:
Mart Industries

OKLAHOMA
Tulsa: Lawson Elec. Co.

PENNSYLVANIA
Allentown:
Coleman Elec. Co.
Erie: Kraus Elec. Co.
Harrisburg:
Fluorescent Sup. Co.
Hazleton:
Power Elec. Co. Inc.
New Castle:
Midwestern Elec. Co.
Philadelphia:
Ace Lighting Fix. Co.
Gold Seal Elec. Sup. Co.
Sylvan Elec. Fix. Co.
Pittsburgh:
Allied Elec. Sup. Co.
Argo-Lite Studios
Doubleday-Hill Elec. Co.
Wally Elec. Sup. Co.
Reading: Coleman Elec. Co.
Scranton: Lewis & Reif
Wilkes-Barre:
Anthracite Elec. Sup. Co.

RHODE ISLAND
Pawtucket:
Major Elec. Sup. Co.
Providence:
Leavitt Colson Co.

SOUTH CAROLINA
Anderson:
Sullivan Hdwe. Co.
Columbia:
Capitol Elec. Sup. Co.
Noland Co.
Greenville:
Sullivan Hdwe. Co.

SOUTH DAKOTA
Watertown:
J. H. Larson Elec. Co.

TENNESSEE
Johnson City: Noland Co
Nashville:
Nashville Elec. Sup. Co.

TEXAS
Dallas: Rogers Elec. Sup
Ft. Worth:
Anderson Fixture Co.
Houston:
Marlin Associates
San Antonio:
Southern Equip. Co.

VIRGINIA
Arlington: Dominion
Elec. Sup. Co. Inc.
Noland Co.
Lynchburg:
Mid State Elec. Sup. Inc.
Norfolk: Noland Co.
Rosslyn: Noland Co.

WEST VIRGINIA
Charleston:
Goldfarb Elec. Sup. Co.
Virginian Electric Inc.
Huntington:
West Virginia Elec. Co.
Wheeling: The Front Co.

WISCONSIN
Appleton:
Moe Northern Co.
Eau Claire:
W. H. Hobbs Sup. Co.
La Crosse:
W. A. Roosevelt Co.
Milwaukee:
Lappin Elec. Co.
Standard Elec. Sup.

WASHINGTON
Seattle:
Seattle Lighting Fix. Co.

ALASKA—*Anchorage:*
Northern Supply Co.

CANADA
Montreal:
The Gray Elec. Co.
Toronto:
Revere Elec. Dist.
Toronto Elec. Sup. Co.

HAWAII
Honolulu:
Hawaiian Light. & Sup. Co.

notices

new partners, associates

HAROLD ROSEN, Associate, in the firm of KELLY & GRUZEN, Architects-Engineers of New York, Newark, and Boston.

GEORGE H. RIGGS, JR., Principal, in the firm of CLAS & RIGGS, Architects, Washington, D. C.

J. EVERETT HOERNER, Architect-Engineer, and ALLEN W. YOUNG, Architect, Principals in the firm of KAESTNER, HOERNER & YOUNG, INC., Architects-Engineers, Visalia, Calif.

PAUL W. REITER, Associate, in the firm of MARIO J. CIAMPI, Architect, & Associates ALLYN C. MARTIN, PAUL W. REITER, 425 Bush St., San Francisco 8, Calif.

Junior Partners in the firm of GOLEMON & ROLFE, Architects-Engineers of Houston, Beaumont, and Orange are: HARRY W. GOLEMON, Manager, Beaumont Office; E. L. YOUENS, Coordinating Manager; D. DANA PRICE, Chief Engineer; HARRY A. GOLEMON, Head, Architectural Department; DIMITRI DEMOPULOS, Head, Design Department; CHARLES H. KERNER, Head, Specifications Department; BERNARD C. BRADY, JR., Head, Inspection Department; Mrs. JO ANN LANGFORD, Head, Admin. & Cleric. Department.

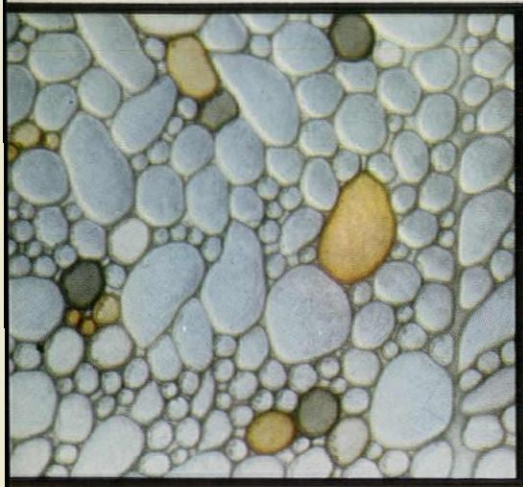
PAUL M. WHITE, RONALD HENDRICKSON, COLVIN B. CHILDS, JR., HARRY FOARD, COLEMAN MULLIN, Associates, in the firm of JAMES H. VAN DYKE & ASSOCIATES, Architects-Engineers, Los Angeles, Calif.

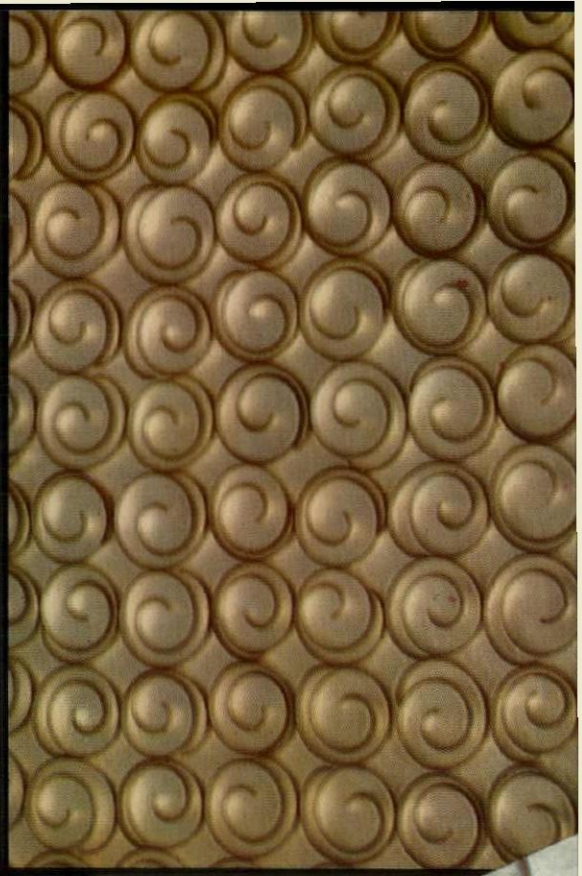
M. H. CUTLER, new Assistant Engineering Manager, and ROBERT M. JACOBS, new Chief Structural Engineer, in the firm of STONE & WEBSTER ENGINEERING CORPORATION, Boston, Mass.

WILLIAMS D. BAILEY, Partner and Manager of Highway Engineering Division, SEELYE, STEVENSON, VALUE & KNECHT, Consulting Engineers, New York, N.Y.

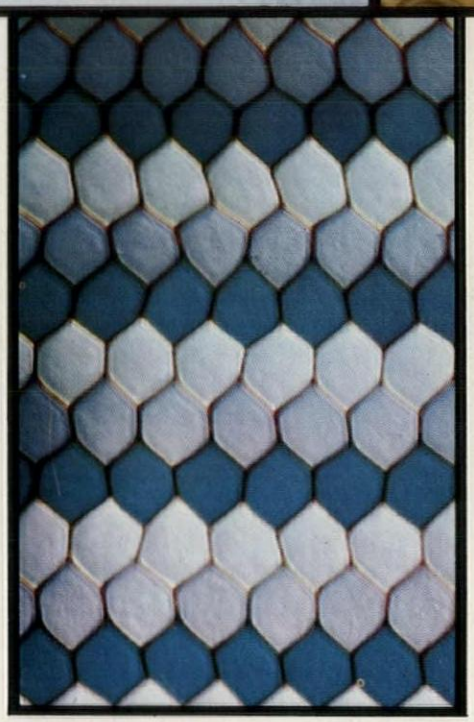
RIGHT: Woodcurl—available in Walnut, Basswood, White Magnolia, Pine, or Mahogany.

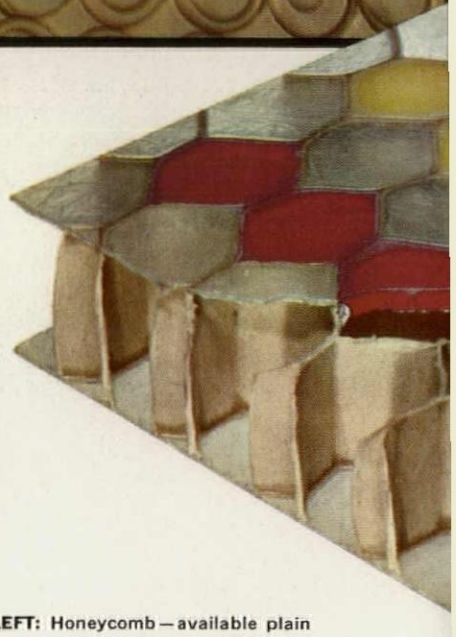
completely new





ABOVE LEFT: New Circlet Pattern—available in varying cell sizes and shapes, plain or colored.
RIGHT: Color Wheel—available singly or in clusters, varying wheel colors and sizes.





LEFT: Honeycomb—available plain or colored, single or double color rows, horizontal or vertical, or in random color pattern.

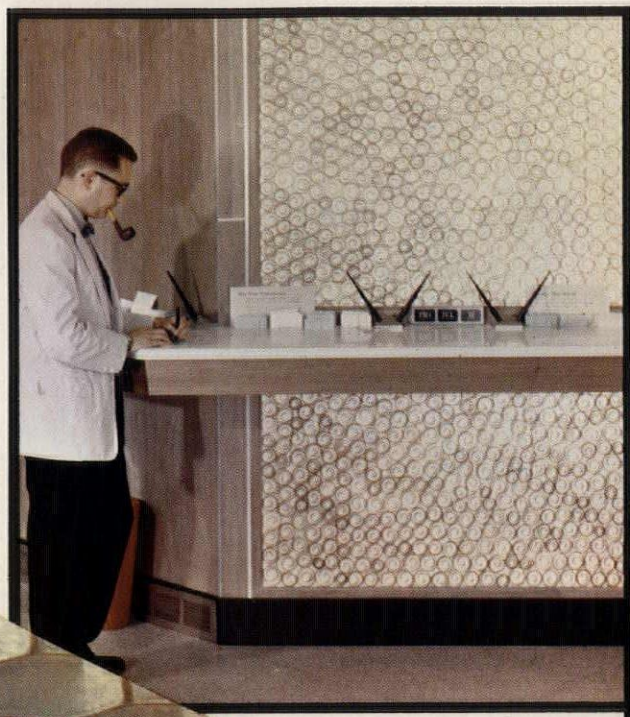
TROPICEL ...as versatile as your imagination!

Here is a material so new, so different, so wonderfully versatile in the effects possible, it throws a brilliant new light on modern design possibilities. TROPICEL combines strength, practicality, and vibrant beauty as no other material has ever done before. It's the material **especially designed** for imaginative use.

Consider such advantages as these:

- variety of pattern and color that is practically endless
- integral color designs—with 3-dimensional effect
- the beauty of stained glass
- a "U" factor as low as .32
- outstanding toughness—no "kid gloves" required
- complete weather resistance—from Arctic cold to Tropic heat
- controlled thicknesses from ⅜" to 4"
- panel sizes up to 3½' x 11'
- controlled light transmission
- simplified installation—fits standard window wall systems

structural and decorative panel

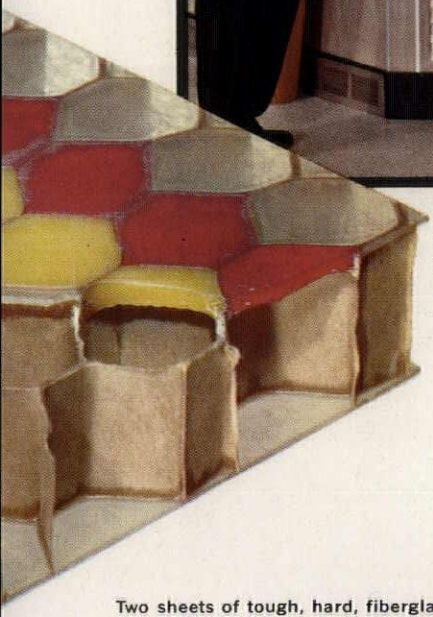


Mahogany Woodcurl installation: First National Bank & Trust Co. of Bayshore, Community Branch, Bayshore, New York. Designer—R. A. Kelly, Inc., Hempstead, L. I.

Woodcurl: Ceiling, partition in breakfast area, S. H. Vuncannon home, Coral Gables, Florida. Architect—Robert Fitch Smith.

Custom Woodcurl: Gold—anodized aluminum screen in Model Dining Area. Designer—Curtis Besinger.

Random pattern Chromocel: Hampton Grill, Montauk Highway, Hampton Bays, N. Y. Designer—Leonard Sheldon Associates, Riverhead, L. I.



Two sheets of tough, hard, fiberglass-reinforced polyester plastic are bonded together by a unique polyester impregnated wood or fiberboard core. Either or both sheets may be color impregnated. Individual color cells are formed by adding pigmented polyester resin before second sheet is applied.

PROVED IN USE—TROPICEL has already been used by leading architects, installed in more than a hundred of the country's most modern hotels, schools, churches, and other buildings, public and private. The effects achieved speak for themselves. The durability of the polyester material of which TROPICEL is made has been proved many times over... in boats, sport car bodies, chemical pipe, truck bodies, indoor and outdoor applications by the thousands.

Consider the exciting possibilities of TROPICEL for interior walls and partitions, dropped ceilings, fenestration, curtain walls, exterior windbreaks, hospital room dividers, reception rooms, patio roofs...You can even design your own color schemes and patterns. Let your imagination be your guide!

Send this coupon today for Free Informative TROPICEL Booklet and list of Franchised Distributors

Naugatuck Chemical Division, U. S. Rubber
1048T Elm Street, Naugatuck, Conn.

☐ Please send informative TROPICEL Booklet

☐ Please have representative call

Name_____

Firm_____

Address_____

City_____ Zone____ State____

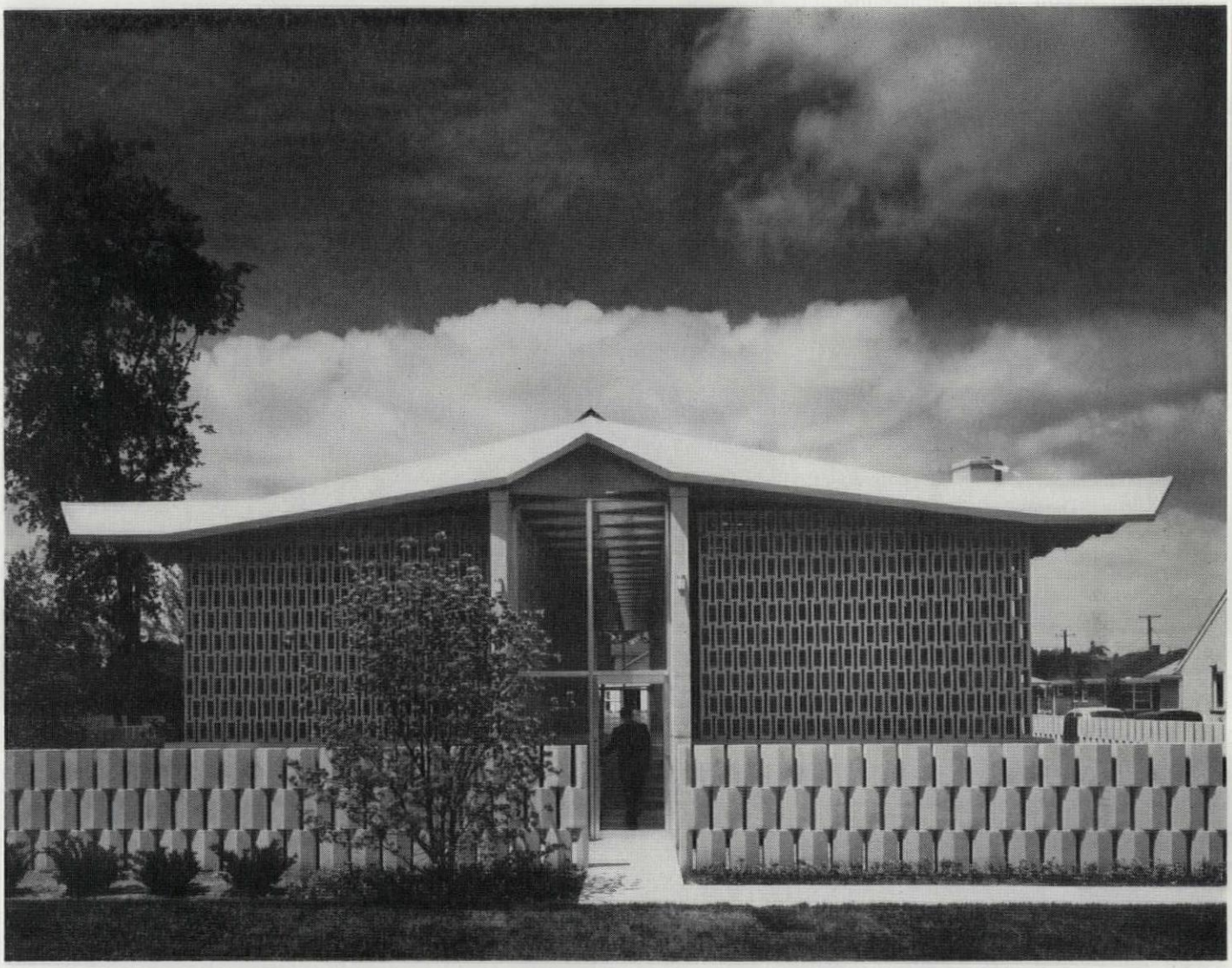
United States Rubber

Naugatuck Chemical Division 1048T Elm Street Naugatuck, Connecticut

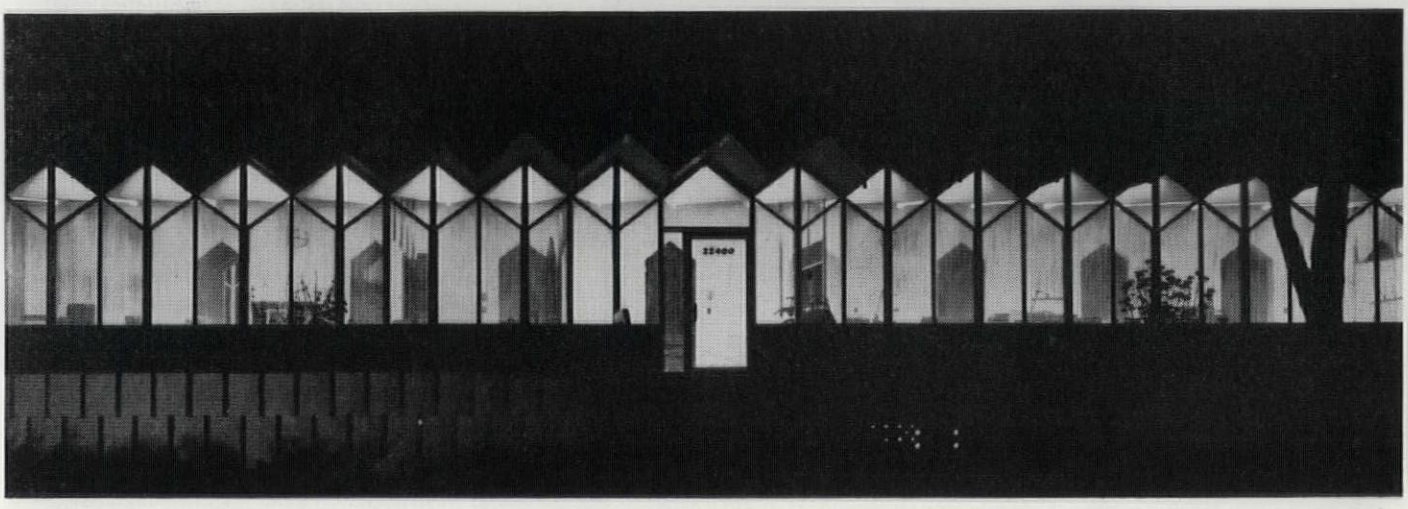
Rubber Chemicals • Synthetic Rubber • Plastics • Agricultural Chemicals • Reclaimed Rubber • Latices

DIST. OFFICES: Akron • Boston • Gastonia • Chicago • Los Angeles • Memphis • New York • Phila.
CANADA: Naugatuck Chemicals, Elmira, Ont. • **CABLE:** Rubexport, N.Y.

ACI Headquarters Exploits Concrete's Potentials

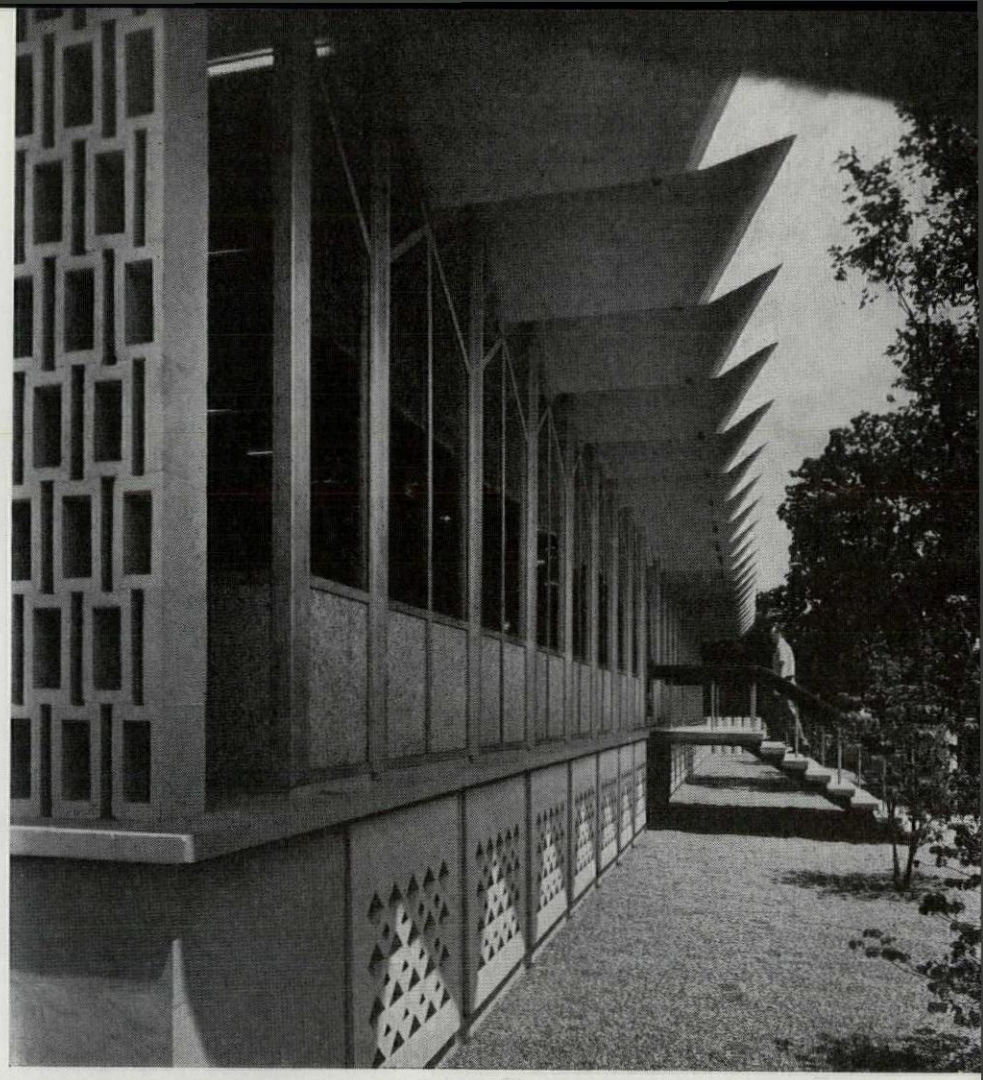


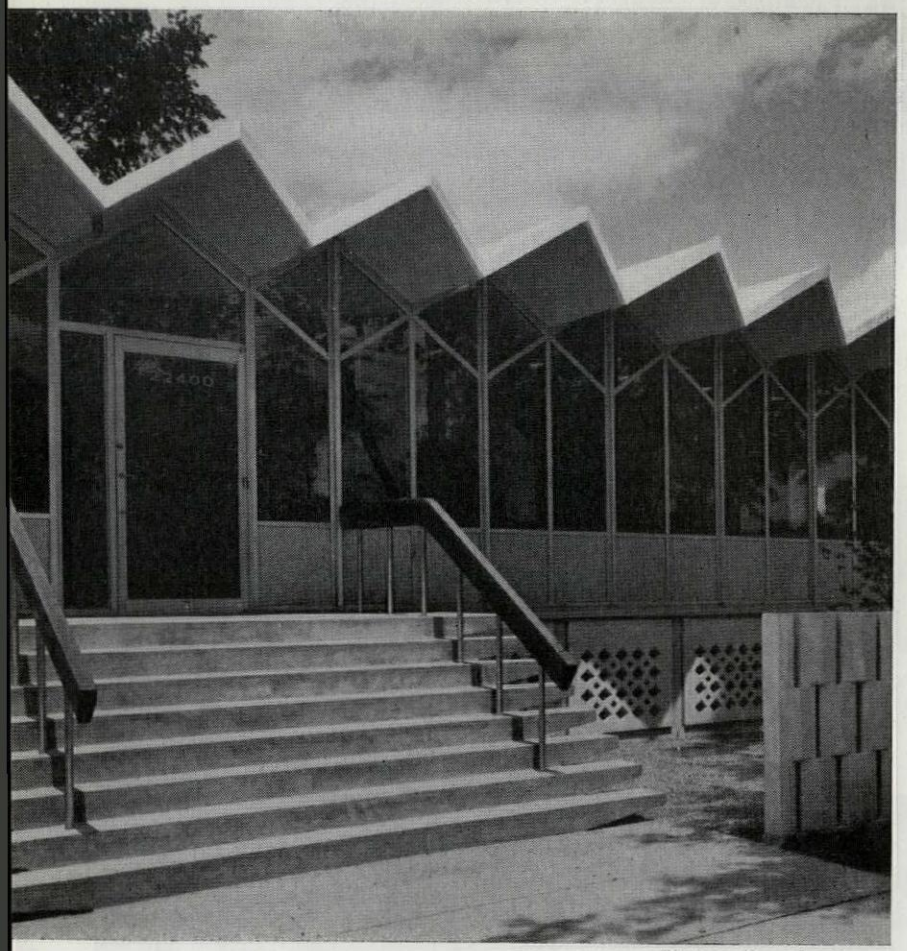
location	Detroit, Michigan
architects-engineers	Yamasaki, Leinweber & Associates
project chief	Frank Straub
landscape architects	Eichstedt & Johnson
interiors	Petczynski-Pierce Designers



ACI Headquarters

This building points an important new direction toward which architecture is moving—according to the consensus of opinion at the P/A Design Awards Seminar in Janary 1957. Ever since the lively discussion at Tulane University, which centered around the design for the new Headquarters Building for American Concrete Institute (JANUARY *and* AUGUST 1957 P/A), the architectural profession has anticipated the structure's completion with great interest. This was to be a building which would freshly explore and illustrate the exciting possibilities of concrete as a material. Yamasaki's wish was to achieve, with this material—normally considered ponderous—lightness and delicacy. This was even more desirable since the building was to be small—only about 90 ft long. The use of the concrete shell or any other such dramatic form was ruled out, because of the intimate size

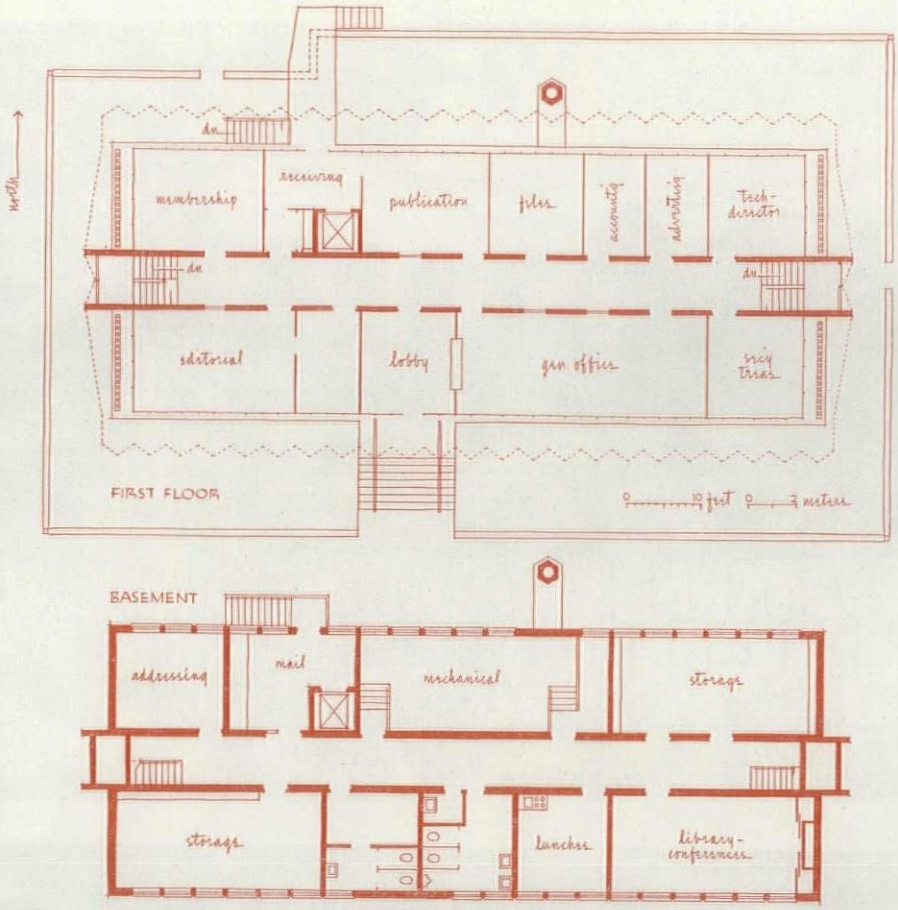




Photos: Alexandre Georges

No other building has ever exhibited as clearly the physical qualities and the architectural possibilities of concrete. Its tensile strength, when coupled with steel reinforcement is well illustrated by the cantilevered folded-plate roof. Its compressive strength is manifested by the "box," which is the basement; and by the two, bearing, corridor partitions from which the precast roof sections spring. Its architectural possibilities are evident in the precast-concrete elements such as the pierced window grills for the basement, the spandrel sections at the main level, the block assembly for garden wall and sunscreen end walls.

To express properly the cantilever of the roof, it was most important that the glass wall "look" nonbearing. This, Yamasaki feels, has not been achieved to his complete satisfaction. "The aluminum mullions are too thick," he says, "and appear to support the roof." His other criticism is the scale of the perimeter fence which, he feels, should have been more delicate.

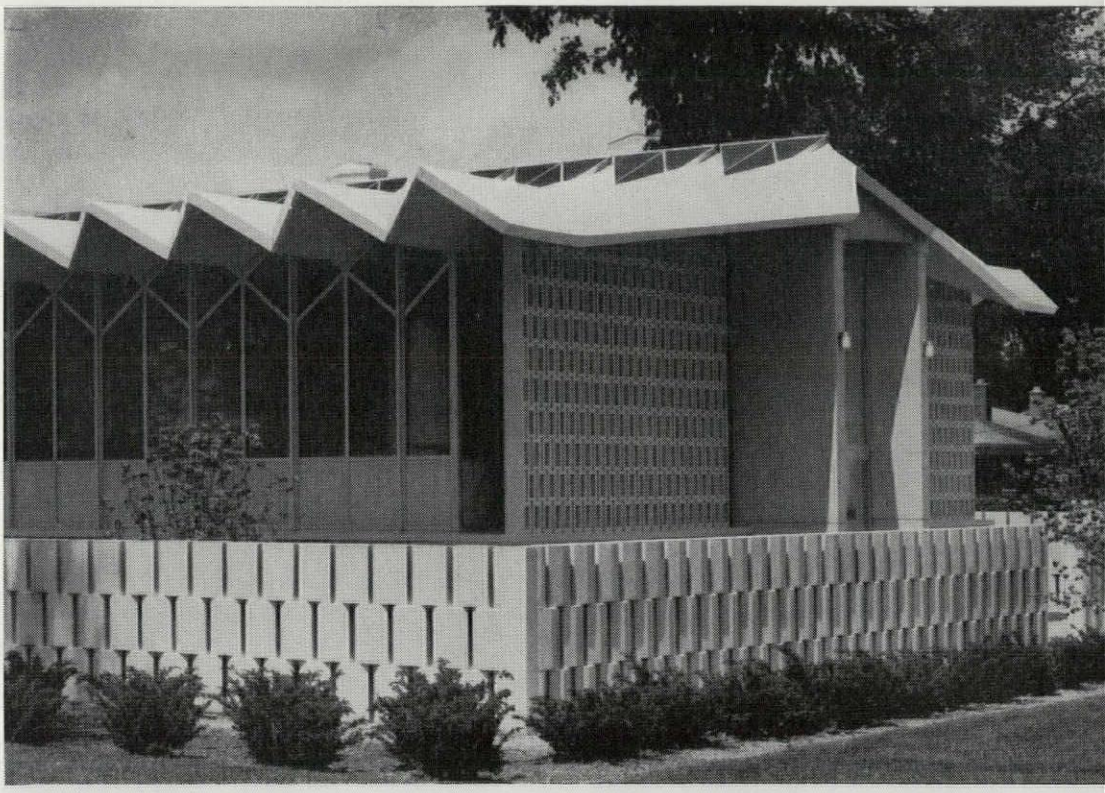


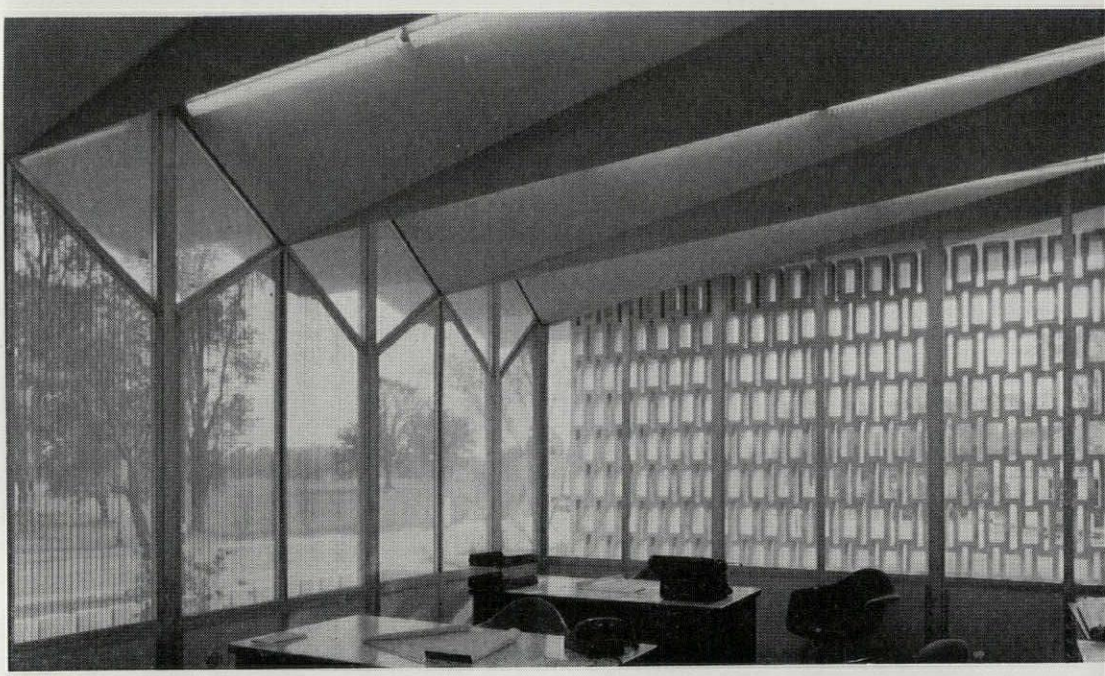
and limited site. With the folded-plate roof, the architect has achieved the desired lightness; the desired delicate scale in relation to the total volume of the building; and an excellent means of bringing concrete to the attention of the public in an exciting yet dignified way. In plan, the building is a simple rectangle with offices at either side of a central, skylighted corridor. The structure is set within a larger rectangle, formed by a garden wall, which was intended to cut off some of the view into offices from the nearby sidewalk and highway. The building is heated by means of a gas-fired, warm-air furnace, and air conditioning is provided by a reciprocating compressor.

Office associates were: Cass S. Wadowski, Mechanical; Henry Guthard, Electrical; A. Prevost and Manfredi Nicholetti, Architectural. Ammann & Whitney (Robert Hopwood) were Associated Structural Engineers; Pulte-Strang, Inc., General Contractor.

ACI Headquarters

"Because we felt it was important to express the concrete construction of the roof," write the architects, "we were reluctant to use the ordinary built-up roofing with the usual flashing, etc., or to go to the expense of a copper or aluminum roof." They therefore specified a clear-plastic coating to be applied directly to the concrete. Insulation and vapor barrier are fastened to the underside of the roof, in the form of batt-type insulation between the furring channels of the suspended ceiling. The interior ceiling finish in the office areas is acoustical plaster.

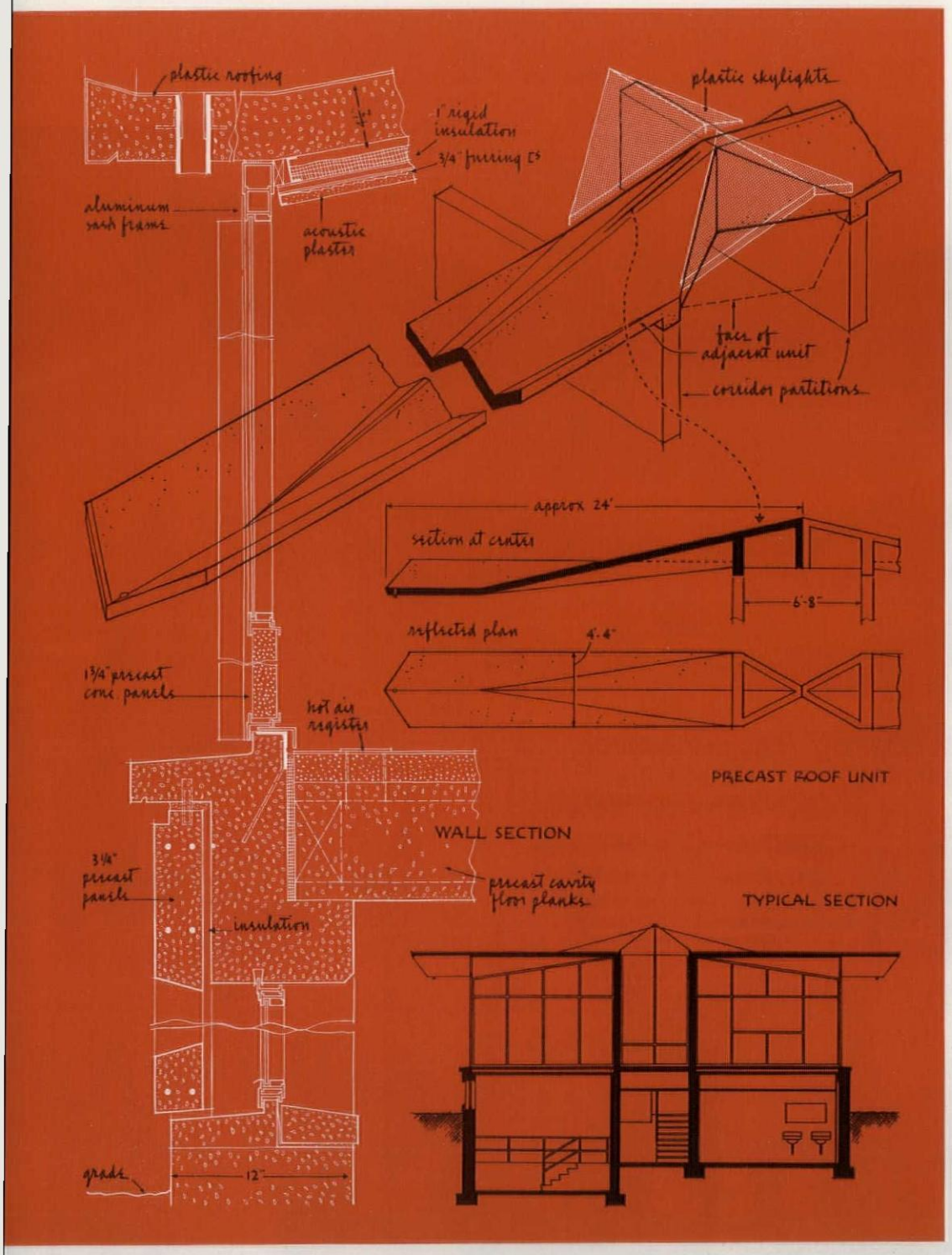




Materials & Methods

construction

Foundation: reinforced concrete. **Structure:** frame and walls: reinforced concrete; floors: precast planks—Flexicore Company, Incorporated; roof: precast concrete (folded slab) panels cantilevered from corridor walls: cement—Peerless Cement Corporation; aggregate—American Aggregates Corporation; additive—Master Builders Company; reinforcing steel—Concrete Steel Company. **Wall Surfacing:** exterior: precast window panels; interior and rest rooms: painted concrete. **Floor Surfacing:** asphalt tile—Kentile, Incorporated; terrazzo in lobby and stairs. **Ceiling Surfacing:** first floor: acoustic plaster; basement: acoustic tile. **Roof Surfacing:** plastic coating—Surface Engineering Company, Incorporated. **Waterproofing & Dampproofing:** metallic waterproofing on inside of exterior walls—Ironite Company. **Insulation:** thermal: batt insulation on underside of roof. **Roof Drainage:** built-in drain pipes at low point of overhang; drains in gravel strip around building; catch basins in parking area. **Partitions:** interior: aluminum and asbestos-cement board; toilet: flush metal, floor braced—Mills Metal Compartment Company, subsidiary of Mills Company. **Windows:** sash: extruded aluminum—Valley Metal Products Company; glass: 3/16" crystal; skylights: extruded-aluminum frames—Super Steel Products Company; screening: aluminum—Kaiser Aluminum & Chemical Sales, Incorporated. **Doors:** interior: first floor: solid wood core; basement: hollow metal; elevator: hollow metal—Acme Steel Door Corporation, division of Acme Steel Partition Company, Incorporated; entrance: aluminum—Hankins & Johann, Incorporated. **Hardware:** lock sets—Schlage Lock Company; interior door closers—LCN Closers, Incorporated; exterior door closers—Oscar C. Rixson Company; hinges: steel and

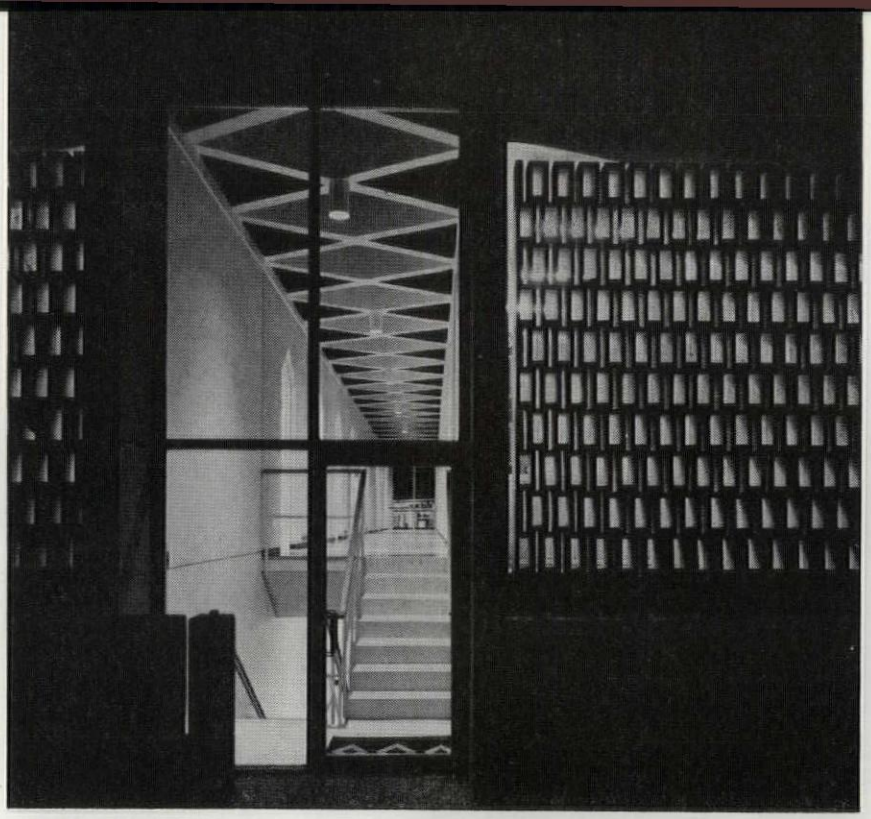


The entire roof is made up of 46 precast sections. Each segment is a double-reverse fold to which a closed, triangular, beam box has been attached at one end. The triangular boxes have been joined at their apexes, by concreting and welding of reinforcement, to form X-shaped beams over the central corridor. The openings between the X-shaped beams have been glazed to admit daylight into the interior corridor. Two roof sections were cast daily in wood forms. Assembly of the reinforcing steel was done on a wood jig identical to the form used for casting. Steel plates along each edge of the roof sections have been welded to join the roof members and to provide transverse-moment connection.

bronze ball bearings—Stanley Hardware, division of Stanley Works. **Paint & Stain:** exterior: paint—National Lead Company; interior: flat oil paint—Durako Paint & Color Company.

equipment

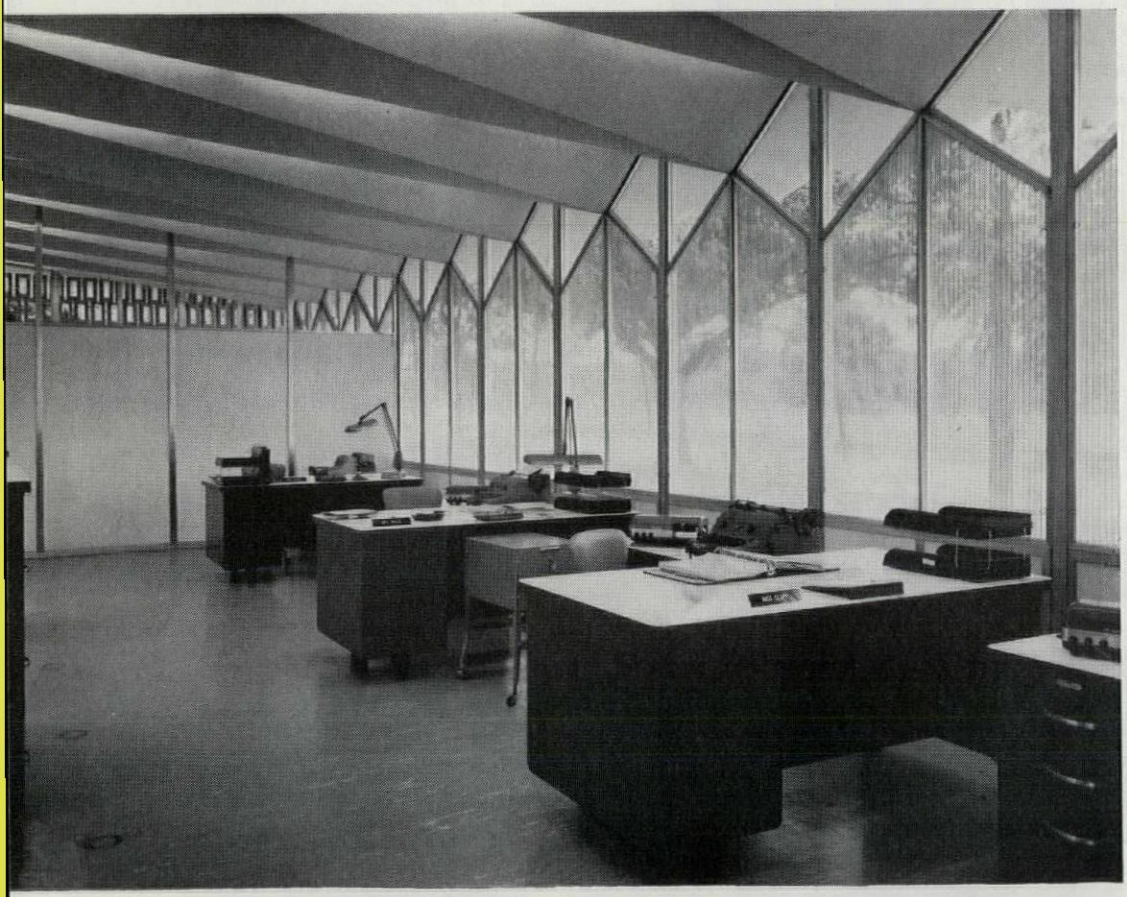
Specialized Equipment: kitchen:—Dwyer Products Corporation; telephone paging system. **Elevators:** rotary lift. **Lighting Fixtures:** office area: fluorescent and incandescent—Smithcraft Lighting, Century Lighting, Incorporated; building floodlighting: incandescent—Crouse-Hinds Company. **Electric Distribution:** service-entrance switch and fuse panel, power distribution, lighting panels—Frank Adam Electric Company; duct system: underfloor (power and telephone) —Flexicore Company, Incorporated; conduit: hot-dipped rigid galvanized; wiring devices: nonmercury, quiet type—The Arrow-Hart & Hegeman Electric Company. **Plumbing & Sanitary:** water closets and lavatories: floor-mounted vitreous—Crane Company; toilet seat: solid molded plastic—Swedish Crucible Steel Company; gas-fired water heater; flush valves—Sloan Valve Company; incinerator: gas fired, commercial type—Incinerator Products Company; water cooler: built-in type—Filtrine Manufacturing Company. **Heating:** type: warm air; furnace: package type—National Heater Incorporated; fuel—natural gas; controls: pneumatic—Power Regulator Company. **Air Conditioning:** type: 20-ton reciprocating, coils in bypass around furnace; refrigerant: Freon—E. I. DuPont de Nemours Company (Incorporated); compressor: reciprocating type—Trane Company; condenser: evaporating type—Carrier Corporation; grills: aluminum—Titus Manufacturing Company; filters: throw-away type; cooling coils: copper; controls: pneumatic—Powers Regulator Company.

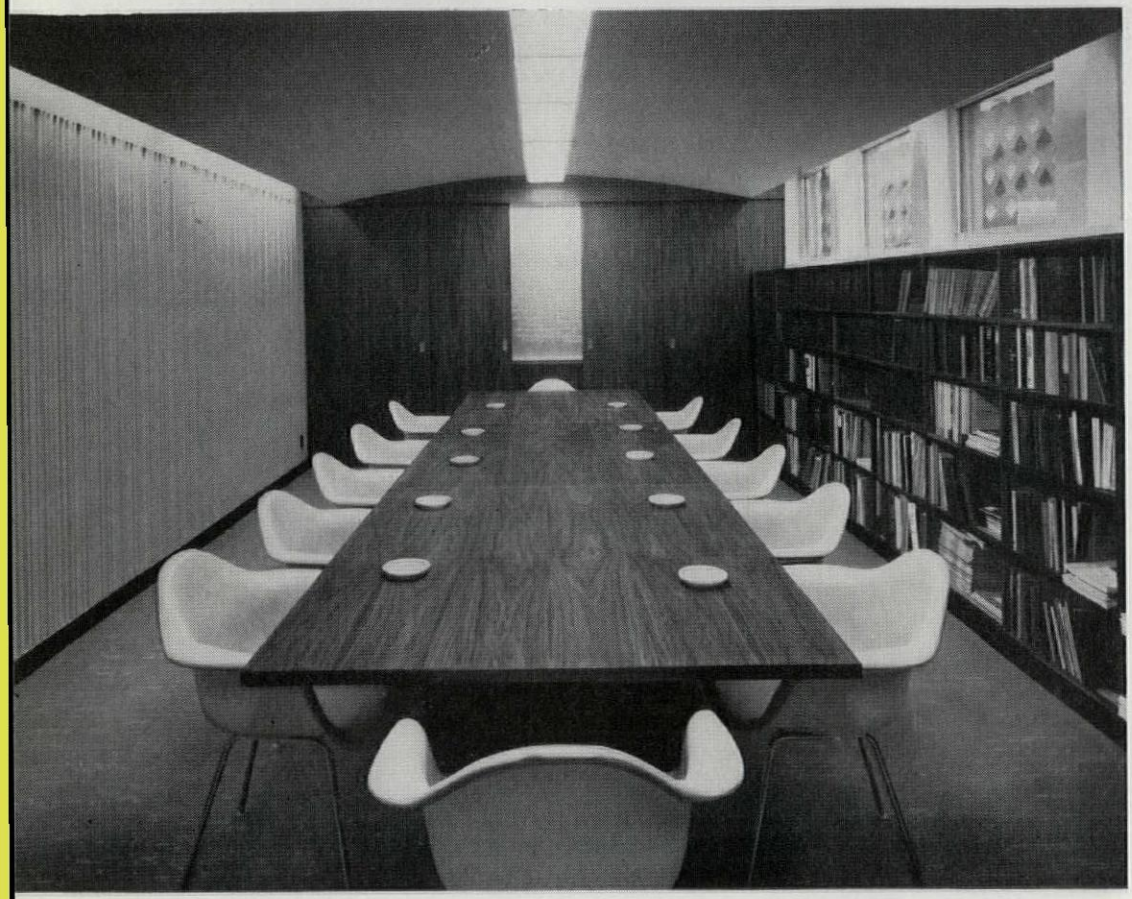


According to the architects, the skylighted center corridor (acrosspage *and* left) *has proved to be one of the most successful design elements of the scheme. The corridor walls were cast-in-place with flutings formed by wood battens applied to the forms. The triangular door openings, "punched" into the bearing partitions, seemed to the architects to be the natural way to form an opening in concrete. The fluted walls are off-white; color has been introduced into the corridor by painting solid triangles of the corridor ceiling green and blue alternately. Night-lighting of the corridor is by incandescent fixtures.*

Lighting in the office areas (below) *is fluorescent. Single-lamp, tandem-fired strips have been installed along the junction of the folded plate, and partially recessed in the acoustical-plaster ceiling.*

All offices and the lobby have individual thermostats for temperature control, and each office has a separate supply duct from the heating-and-cooling plant. Air from the supply duct enters the voids of the precast-concrete floor planks near the center of the building, travels toward the exterior, and is discharged through perimeter floor registers. This results in a combination radiant floor and ventilating system for winter use.





Upper portions of interior partitions on the main floor (left) *are glazed in order to give full play to the folded planes of the roof. Screen visible in lower portion of window wall is used primarily to cut low-angle winter sun. In color, the general-office areas are light, warm gray; the floors a neutral beige.*

The library/conference room on the floor below (left) *has fluted-concrete walls on the corridor side; tackboard at one end wall; walnut sliding panels to close off storage space and chalkboard at the other end.*

p/a design awards seminar IV

This is another in a series of Case-Study Seminar discussions published from tape recordings made at the time of announcement of results of the P/A Design Awards Program last January. The 1958 Seminars were held at University of Pennsylvania, with the co-operation of its Department of Architecture under Dean G. Holmes Perkins. After Gyo Obata's presentation and an analysis by Arthur Davis, discussion followed from the floor.

Project: **Priory of St. Louis and St. Mary**

Client: **Benedictine Order**

Location: **St. Louis, Missouri**

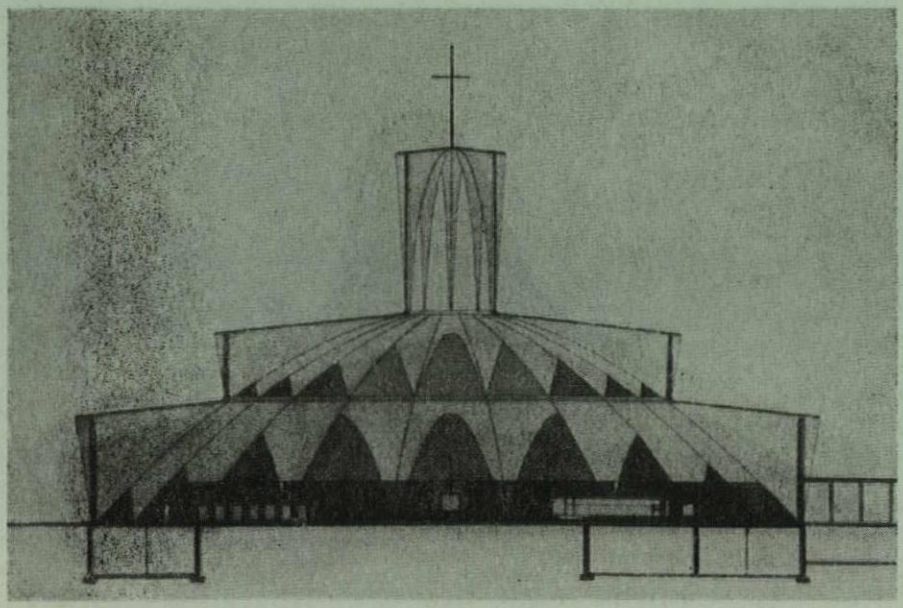
Architects: **Hellmuth, Obata & Kassabaum**

Presentation:

Gyo Obata

This is a project for a group of Benedictine Monks who came from England to set up a school and a monastery and decided to locate it about 20 miles west of St. Louis in 150 acres of nice wooded country. They told us that they wanted to do a contemporary building—that the Benedictine's tradition had always been that they would build in the materials and methods of their particular time. As we began this project there were certain points that we wanted to make clear in the design. We wanted to make a full master plan for the total development of the site, although it would go up in stages. We wanted to think of the buildings not as individual structures, but rather as part of a whole complex of buildings; we were conscious of the relationship between buildings, of the relationship of buildings to the land. In the Church especially, we wanted to use contemporary art, stained glass, and screens; we wanted to use light as an element of the design, through skylights and through stained glass, to create an atmosphere of worship. And finally, in all our talks with the monks, it was emphasized that the Church had to be the focal point of the whole composition, to stand out visually.

The three main elements are the monastery and church group; the upper school and lower schools for boys; and the recreational area, with gymnasium. We placed the monastic group at the highest point of the site so that as you approach from the road you can see it as you drive up a curving road to the platform. On the second hillside are the schools for the boys. In the valley, we are going to create a lake between the monastery and the schools. In the monastic area, the Church is set in the center of the main monastery building. There will be cells with small intimate courts surrounding it, as well as guest wings, administrative quarters, and dining facilities to be used both by the monks and the school boys.



The diameter of the Church is approximately 138 ft and the height of the first tier of arches is about 21 ft; the second group of arches is 12 ft high and the height of the main nave is about 40 ft. A monastic church, as we studied the plan, is quite different from a regular parish church, in that you have the element of the monastic choir, where the monks will sit, with the abbot's throne in the center. We tried rectangular and square plans and we kept coming back to the circular plan because of the relationship of the central altar to the rest of the Church—the monks wanted to be behind the altar, with the worshippers in front. Therefore the circular plan seemed like a very logical solution to this particular problem. Another requirement was that there should be a series of thirty chapels, so that the monks could say mass in privacy, and therefore the circular plan began to work, with this ringing of the outer periphery by the chapels, with the open stairways, and with the passageway completely around the nave. There will be a screen which you can see through—we haven't designed it yet, we're working on it now—which will give the nave area a slight privacy from the passage.

From this circular plan the arches came quite easily—once we got the circular plan it seemed to demand a concentric series of parabolic arches; the first height being the one that defines the chapel areas and passageway; the second defines the nave area, so as you go into the nave you get a sense of height; and finally, definition of the most important area, the altar and sanctuary. We felt there was a tremendous opportunity for controlling the atmosphere in the Church through the use of stained glass and texture in the glass of all these different arches. This we are now studying—how to make this one very dark, this

one a little lighter, this one very bright. The ribs for the arches come together in a structural ring and we will thicken the concrete at that point, forming a V. We are studying the arches now by means of a rough model, at 1" scale. It's very difficult, otherwise, to tell what happens at the springing points. We have found that the circular form is very interesting—as you walk through this passageway the views keep changing with the arches and their relationship to the curving walls.

***Discussion:* Arthur Davis**

Needless to say, this is a very lovely Church. In order to describe it, I chose a few quotations: I'd like to start with Le Corbusier. He says "Architecture is a profound projection of harmony." This Church well demonstrates such architecture. It can't be less than beautiful, because as we've seen the form is really quite graceful and, more important than that, structurally honest. One of the collaborators on this design, Nervi, in the preface to his book expressed it very well: "I maintain that a good structural organism, worked out passionately in detail and in general appearance is essential to good architecture. It is most difficult to define a good structural organism. Let us look at the great architectural creations of the past, such as the Gothic cathedrals or the great domes of the Renaissance. We are filled with unbounded admiration for their designers, whose intelligence, sensitivity, intuition, and genius made them such immensely complex and magnificent buildings." This is a fine description, I think, of Nervi's philosophy and also the underlying one behind such a design as this. But at this point I would like to sound a note of alarm because, having sat in on this monumental task of judging between 600 and 700 designs I would like to add one little postscript to Dean Kamphoefner's interesting comments on the report of the Jury (FEBRUARY 1958 P/A). It appeared, from what we on the Jury saw, that we are about to embark upon a new cult—the plastic form. We saw, in these 700 or so designs, every shape of roof imaginable, and some unimaginable ones. There were forms that I can't give the technical description for and some plastic shapes which undulated in, out, and around unbelievably. They showed really no conception or understanding of the material that was used or why such a material should be used.

Because of this, I think, the design that we see today should be even more commended, because not only does it have adherence to the new plastic cult, but it has order, and it has not only honesty of structure but, even more important than that, it shows a design with a degree of discipline.

I have three questions to pose. One of them is in the form of a statement, Mr. Obata. One of the most difficult things in the world to do is to conceive of a really beautiful form, complete in itself, and then be forced by the needs of designing a building to put functions inside and place there activities which sometimes may detract from, or even destroy, the original simple conception. I think Saarinen, in his MIT Auditorium, and Stubbins, in his German project, would certainly agree that this is a very difficult thing to do. Also, in New Orleans in the seminars last year, Minoru Yamasaki and our own office were taken to task for attempting this. Today we're going to throw the torch to you, Mr. Obata, because I think you face the same problem in this Church that we, and these other people I have mentioned, have had to face. One of the questions that the Jury had, was whether these smaller elements around the periphery of the large lower arches will distract and perhaps prevent expression of the main attempt of the design. On the outside, as we've noticed, the arches spring from the ground, very beautifully and gracefully, but as we get inside we're a little surprised to find, or the spectator would be, that these side chapels and stairways and other elements in the outer ring, to a certain extent, kill the continuity, either visually or physically, of the graceful arches. The lower ones, in fact, are cut off about halfway. This is a difficult problem, we know, because you do have those altars to deal with. We would like to hear your comments on that.

I have two other minor points to mention. With all of these plastic roof forms one of the big problems today is to find a waterproofing membrane of some sort—a moisture membrane—to keep them dry. You don't want to destroy the delicacy of this design by having to put on a heavy roof, or perhaps even ribbed metal—things which are completely out of harmony with the conception of the design. Selfishly, I ask you to give us a good solution to this. My other comment has to do with the stained glass. I'm very curious to see how this will be handled because our experience has been that in many churches there has been too much of an attempt to bring the outside in and I am glad to note that your conception here is that you will grade from relatively dark to light. The mystical quality of a church certainly should not be ignored and I think your conception in that respect is very good.

Obata: I think the point about what goes on inside shell structure is a very important one. . . . When we sent these drawings in to the P/A Design Awards Program they were fairly rough preliminaries and I think details weren't too clearly shown to the Jury. At that time we had some walls around the stairways, and we had the altars turned another way, but since that time they have changed. You can't work on these projects on paper. You have to build a model, and the model we have is very big, in three sections. Studying how to place these elements, using the model, we are certainly considering how to keep the springing of the arches clear. The screen that sets off the nave from the passageway will be one that you see through, so that it doesn't destroy the springing.

Now as to the roof. Mr. Weidlinger is our Structural Engineer and Mr. Nervi was our Consultant. Both feel that when you do a shell it's wrong to conceal it, as we did on the St. Louis Airport, where we had a copper ribbed roof. If you do a three-inch shell, which this one is going to be, and you add about three or four more inches of insulation and roofing, it is wrong. We don't have the answer yet but we have some pretty good indications that a plastic waterproof roofing on the concrete outside is going to work—we're going to put insulation probably directly on the concrete, then finish the insulation, which will be part of the shell, with another hard plastic finish which will give us the water barrier. We're trying to keep all this one inch or so in thickness.

As for the stained glass: this church, because of the limited budget, is going to be done in stages. We'll probably fill the glazed areas originally with some sort of dark heat-absorbing glass, then gradually replace it with stained glass. Therefore I think we will have a lot of time to think about this and study it in model form; to think about what colors we want to use and how deep they should be, what textures, and so on.

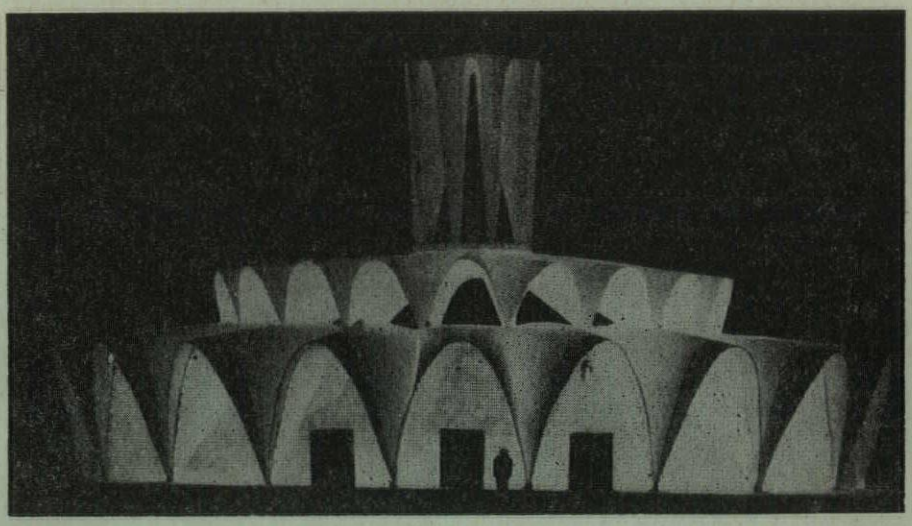
Davis: I have one more question in

regard to the little chapels. You have some of them in the basement. Would it be possible to put the rest of them in the basement?

Obata: I don't feel that they will particularly disturb when they are perpendicular to the outside wall. Actually I think it might be an interesting thing as you walk through to see these chapels.

Robert Geddes: I think this is a very handsome building. My only concern is that we are—as architects—in a very formative and early stage in modern architecture, and we can learn a great deal about it. I think there is a particular problem of scale that this building brings up. If you look back at The Livestock Pavilion in Raleigh, or Stubbins' building in Berlin, or Saarinen's Auditorium at MIT, and then at Utzon's winning scheme for the Sydney Opera House, and the St. Louis Airport, and now this building, one begins to wonder whether you can judge the scale of these new buildings at all. If you had told me that your building was twice as high as it actually is I would be just as convinced. It gives you a sense of size in which the element of scale is so large that you have almost the same result as a monumental column or a gigantic order which goes full building height. For example, if we did not always spring our shells from the ground, or spring our arches from the ground—if you had had a base and then a shell—you might have then had an opportunity of establishing a scale in the composition itself. Santa Sophia, for example, is that way; Ravenna is that way. And I suspect, after you build your building, and after Utzon builds his, and Saarinen builds his new terminal at Idlewild, that we will begin to know what it is that we're doing about scale in these new structures. My suspicion now is that we are ignoring this problem.

Obata: We began with a much bigger Church and, as we made models of our schemes, we realized that we were off in scale. Now, as we built this last big model and studied it in relationship to the scale of a man, in model form, we did have a feeling that the lower arches of 21-ft are in scale and that these other things like the altar and the screen next to the nave will give a scale to this building. I think that to use a base to establish scale would be wrong here because one of the beauties of this springing is that you have a very strong horizontal plane and you come off of that. I think if you put in another base you'd lose some of that feeling.



". . . adherence to the new plastic cult, but it has order."

Davis: The business of scale, of course, is a very relative thing. In St. Peters in Rome the columns have a monumental scale all of their own—in relation to a little human being they're colossal. In Japan I've seen some tremendous temples where the doors were almost twice the height of this room, and seen other, little, temples where the door was not 7 feet high. In either one of these cases, without the human figure, I defy you to ascertain scale. I think that probably the only thing we can use as a measure for scale is the human figure. Of course there are trees, and there are other objects, but when you get to architecture and you talk about scale in the abstract I've never been able to tell the scale of a building without a person.

William Corlett: I am fascinated by the fact that you did consult with Nervi. I would like to know what your relationship was with him, how you did work with him.

Obata: We wrote to Nervi, in Rome, and asked him to give us a criticism of our structure He was here on the Jury for the Fermi Competition in Chicago so on his way back to New York he stopped in at St. Louis one day. Of course he doesn't speak any English—a friend who spoke fluent Italian acted as interpreter between Nervi and myself. He gave us a very good criticism of our structure. One of the things that helped us most in Nervi's comments was—we were working in a series of polygons instead of pure circles and he thought structurally it would be much sounder to have a circle because your forces would be all equal to the outside. I think that was his biggest contribution—he is a wonderful person. Actually Weidlinger will do the working drawings but Nervi will comment all the way through.

Ladislav L. Rado: I am struggling just now with a church—smaller than yours—and the problem of scale is very puzzling. Perhaps in a church it's quite proper to disregard the human scale because after all it is a monument to the glory of God. As for the details of those chapels: thinking of some of the Baroque churches, they had chapels, and the way they did it successfully was that they were free, really like objects of art that were floating freely in space . . . some very exciting structures. . . . Another thing I would like to ask you: how will you handle the rain water so that it won't cascade?

Obata: We will probably have a gutter around the periphery, where the water will spill into a covered areaway.

Rado: It could make a beautiful cascade over the arches, but I hope it won't spill over as one enters.

George Qualls: I would like to ask a question about the site plan—the total plan. I am a little disturbed by the fact that in modern architecture many of us are capable of handling buildings much more successfully in an urban environment—where we initially have a very strong point of departure, working with existing buildings and so on, and many times working within a rather strict rectilinear esthetic—than in an open setting. You described the countryside as rolling and rather hilly. Just looking at the site plan there's no real clue to the land itself. I like this kind of organization, but in terms of the land rolling I wonder whether this is really the most successful way of handling it. How do you actually introduce these large rectilinear ele-

ments into the terrain? And what effect does the chapel have on the other elements in the rear? It would be extremely impressive as you enter it but I wonder whether you gain any effect from the other buildings.

Obata: This is high land. There are two hilltops; we placed the school on one and the main monastic level on the higher one. And we created a pond which we are expanding to a lake; the library of the school and the dining area will look out over this lake. You can see the Church from the schools.

Edmund Bacon: I think this is a magnificent site plan. I think we are beginning to understand landscape with a new appreciation; this shows a new understanding of the way to put buildings on land, and I think it's enormously important.

James Goldstein: Regarding scale, there are probably three aspects: the distant approach scale, the entering scale, the indoor scale. With respect to the approach scale I wonder whether you have continued to study the relationships of surrounding buildings to the Church itself . . . the shapes and sizes of the roofs . . . the vegetation. Perhaps this may be unimportant, the scale of the Church itself is so great, the distant approach scale may be irrelevant. On the entering scale, have you studied the sizes and shapes of the doors? The photograph shows a very pedestrian door.

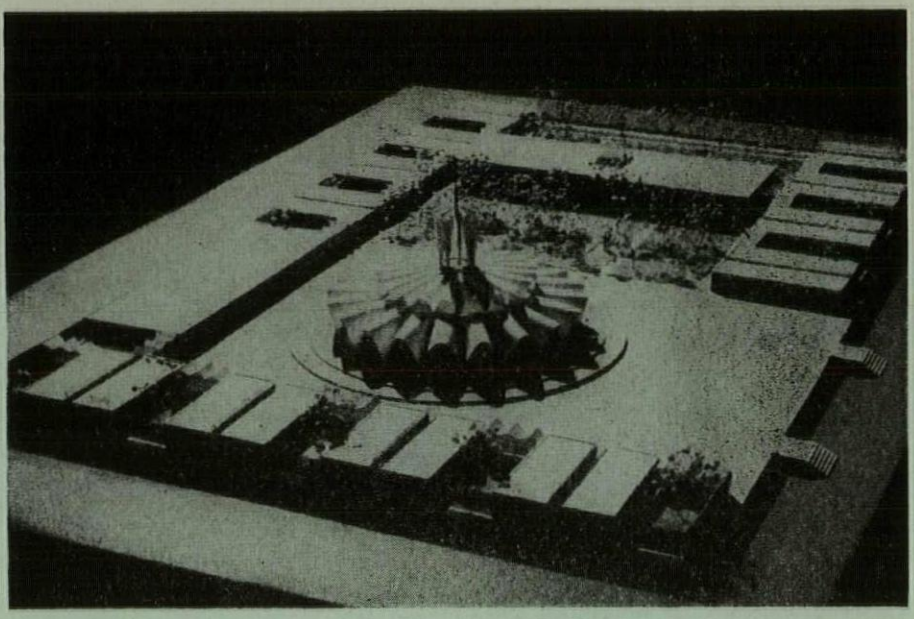
Obata: I agree.

Goldstein: On the interior scale—what height have you tentatively settled on for the translucent screen?

Obata: We are still working on that.

Henry Kamphoefner: On the cult of the plastic form: it seems to be a worldwide trend right now—one of our bright young graduates who has travelled recently in Europe says it is called, over there, "rampant Ronchampsism." I did want to say too . . . that your project came very close to winning the top Award and I thought it was interesting that the first comment on scale came from the top Award winner (Geddes). I think, quite apart from my being a member of the Jury, the main reason that his project won over yours was on the point of scale.

Vernon DeMars: Scale seems to have enlisted a lot of interest. I would like to say that I found myself in disagreement with the idea that a person related to it might *give* a sense of scale. I do think a good deal of our concern with the question of scale is: How does it look in a photograph; how can you tell how big it is? . . . and: how does it look in a drawing; how can you tell how big it is? I contend that in reality you find the scale not merely by someone else being there but by *your* being there. I think that when one moves into a space, it finally captures, at that moment, a real scale, no matter what else happens. I admit that you can also falsify the whole thing but I think that oversimplification sometimes produces space in which there is no other clue than your being there. This room we are all in, I would say, might be a good case in point, if it didn't have grills and light fixtures. It would be rather scaleless according to many definitions. But with our people here, with the specific experience, I can tell, I can sense, that the ceiling is so high, and so forth, and I think that in the last analysis this really is the thing which defines scale. Maybe the word *size* should be used instead, and defined a little differently from *scale*.



". . . a particular problem of scale that this building brings up."

Geddes: I would like to say that I think everything that has been said on scale is relevant, and probably valid, but what this points to is that the new methods of building, the new way in which we make spaces, are beginning to demand a new theory of architecture. And in that new theory of architecture there will be new definitions of scale, which will be directly related to the new ways in which spaces are made. When you look out the window here you see buildings made of brick—the scale is very apparent, because we know all about the brick that's doing the job. But in concrete that hint is lost. Something else is gained, obviously. New kinds of spaces are made. The point I am trying to make is that we don't know what the scale will be in your building. I think we'll learn a great deal after these buildings are built. . . . I think we will be much richer for your doing them—we obviously will have much easier problems in regard to sense of scale.

Maurice Lavanoux: The beauty of this project is a certain sense of adventure. Speaking about scale, I am reminded of the remark of the person who said "today we must risk a failure." This is a milestone in church architecture, even if you risk failure, and I don't think you will. The great thing here is that your problems in a church of this sort, stained glass, etc., are new problems. Your problem is not in any mold. This is one of the greatest things that is happening in this country because it is really one of a kind: you have Marcel Breuer, who is leading a revolution in North Dakota and Minnesota, Pietro Belluschi, and others doing work under the sponsoring wing of an order that is resolved to deal with tradition as a living tradition. So that these things that are being done for the Benedictine Order are going to torpedo the fallacy that you cannot be modern in church work. The more you know of the past, the more you feel for the present.

Incidentally, you'll have a problem with the stained glass windows. You'll save difficulty getting what you want out of the stained-glass people in this country. I wish you luck.

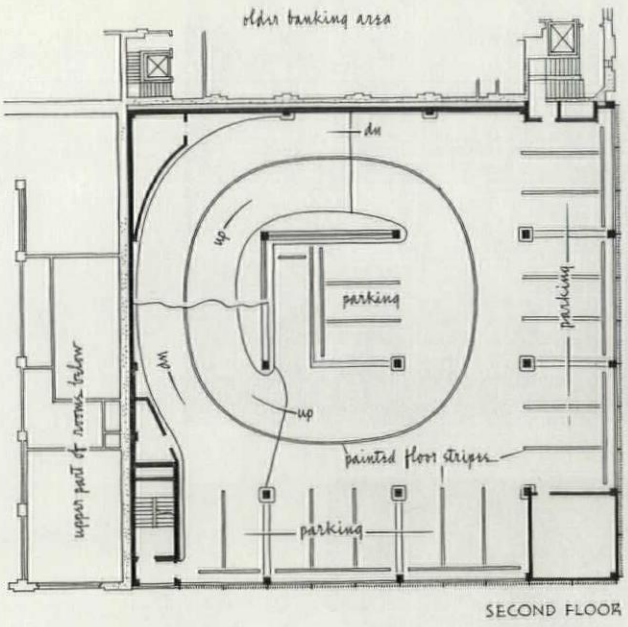
Multipurpose Structure Added to Old Bank

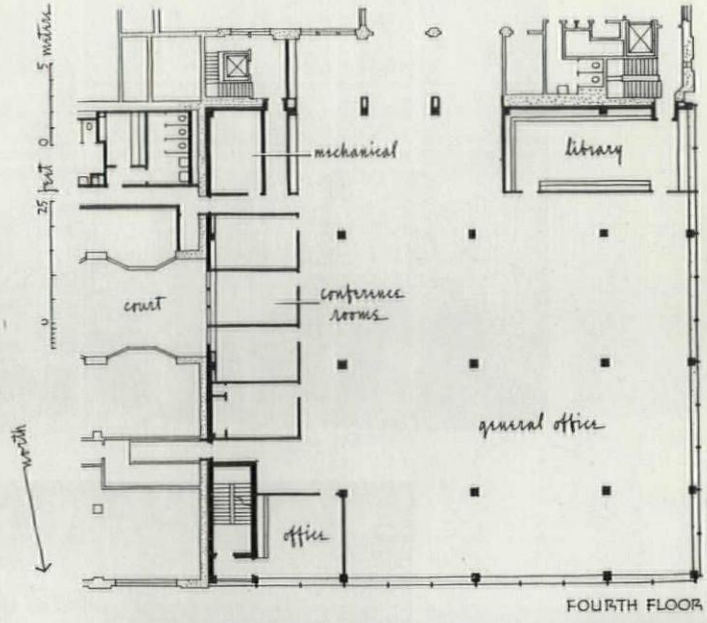
location | Portland, Oregon
architects | Belluschi and Skidmore, Owings & Merrill

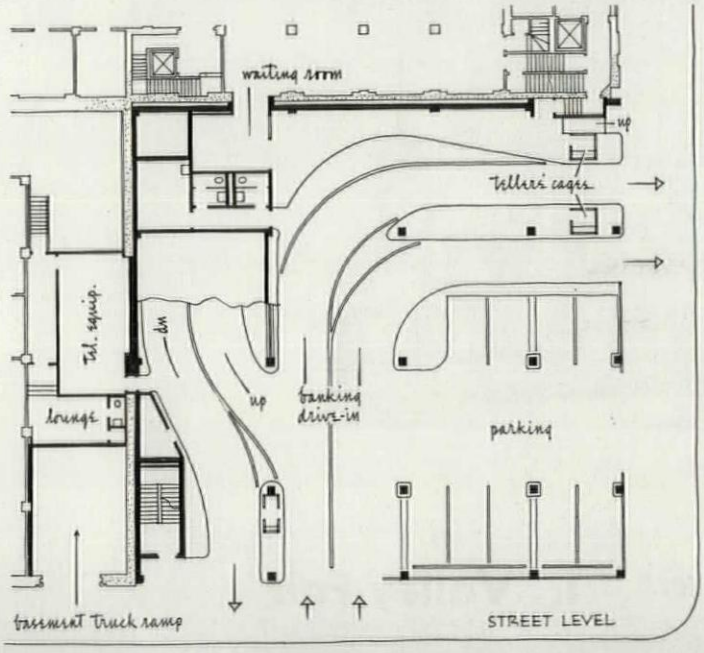
bank addition

Photos: Dearborn-Massar

This structure occupies a 100′ x 100′ corner section of the 200′-square block property of U.S. National Bank of Portland. On one side, the new bank addition adjoins the imposing 5-story Renaissance building which houses the main offices. On the other side, it borders a 12-story office building also occupied by the bank and its tenants. The first portion of the addition now completed—the building is to have seven additional floors at a later date—provides drive-in banking facilities, parking for the bank's customers, parking and delivery service in the basement, and two office floors for bank use. It was important in the design of the new structure that it be well related to the Classical architecture of the Main Bank and that floor levels correspond to it. Corridor connections with the other existing building required ramps to adjust variances in floor elevations. Structurally, the building is a bolted, fireproofed, steel frame designed to take the load of the future floors. The bolted frame was chosen to simplify later construction and to keep noise down as much as possible during the course of erection. For the floor construction, the architects specified corrugated-steel forms with concrete fill. All exterior walls and interior partitions are nonloadbearing. Exterior materials are: terra-cotta spandrels (chosen to complement the existing terra-cotta work on the main building), and dark-gray aluminum, to delineate the character of the curtain wall. Miles K. Cooper and Roland Rose were Structural Engineers; J. Donald Kroeker & Associates, Mechanical Engineers; Grant Kelley & Associates, Electrical Engineers; Donald M. Drake Company, General Contractor.



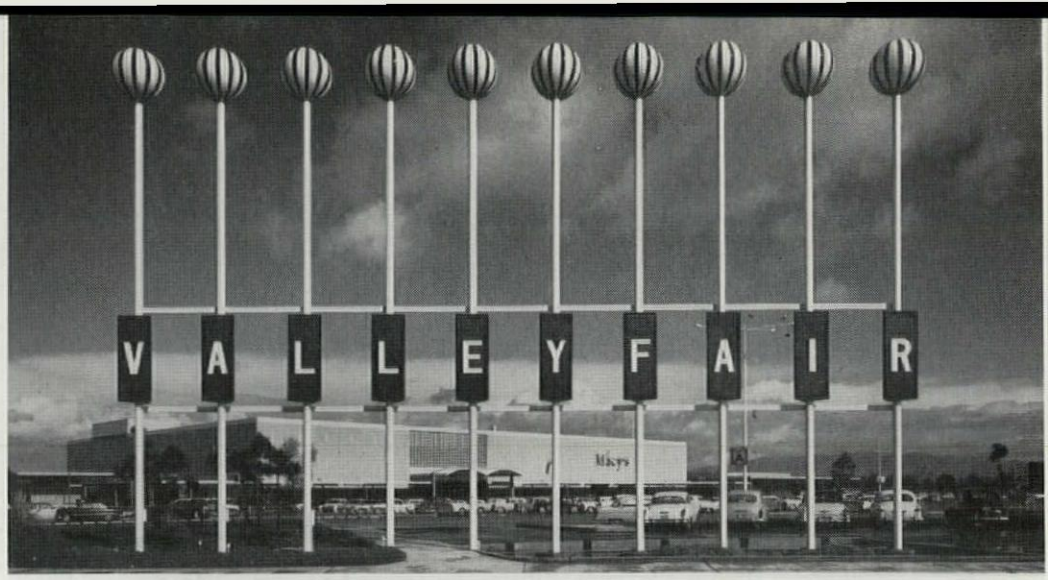




Car-and-truck access to the basement has been provided through the adjacent bay of the existing 12-story building.

Currently, two tellers' booths are in operation (left) *for drive-up banking service. Provision has been made for expansion of these facilities.*

Interior finishes and colors on the office floors (above) *were selected to tie in with the existing building. Artificial illumination on these floors is provided by 4'x4' flush-mounted fluorescent fixtures with glass reflectors. Heating and cooling is effected by an air-distribution system. For acoustical control, ceilings are surfaced with perforated-metal pans, backed with glass-fiber insulation.*



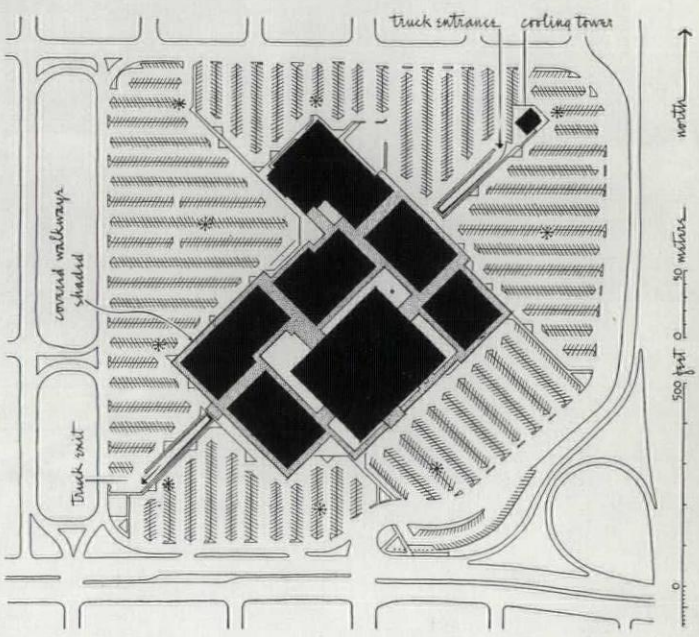
Photos: Gordon Sommers

Two Gruen Shopping Centers 1. "Valley Fair"

Requirements for "Valley Fair" and "Bay Fair" were unusually similar. For both centers, the size of acreage, budget, and required rental area were comparable. For each, the department store was to be the dominant element. Both were designed to be built in two stages. They are being constructed and operated by the Capital Company and R. H. Macy & Company, Inc. What Gruen Associates—designers for these shopping centers—have done to adjust to two individual site conditions merits careful study.

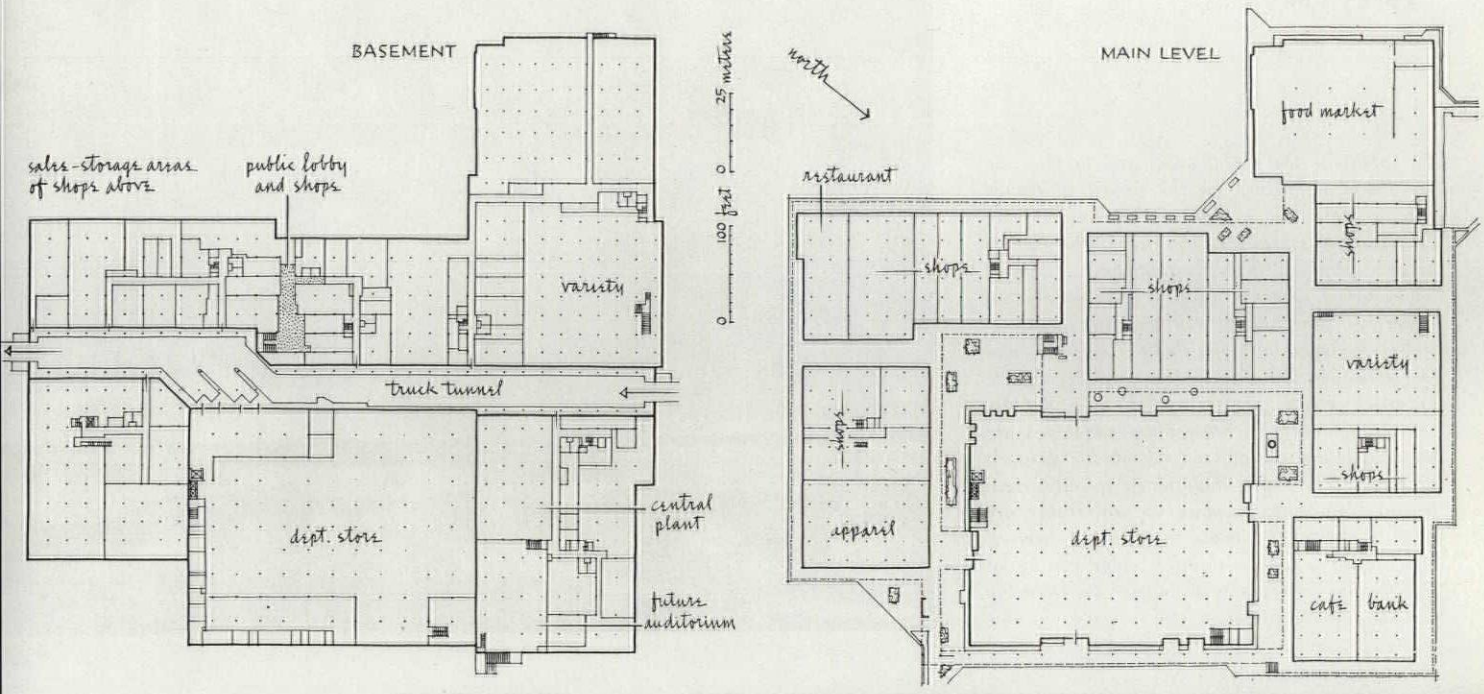
Valley Fair is centered in the fast-growing Santa Clara Valley area, 50 miles south of San Francisco. Approximately 40 acres at the intersection of a major freeway and a suburban main artery provided the site for the new shopping center. Gross area of the center is 583,083 sq ft, net rentable area 505,849 sq ft. In contrast to Bay Fair, ground conditions at Valley Fair permitted the building of an underground service tunnel. With this device the architects have achieved the desired separation of shopper and service traffic. The tunnel bisects the basement level and provides service access to all retail areas. The main shopping level above is a compact cluster of buildings, in which the structures serve to define various interior courts. The largest building element, the department store, faces the main access road while a food market is the drawing point on the opposite side. "With this type of arrangement," write the architects, "customer circulation was maintained through the various courts and malls to the advantage of all tenants." Equal access has been given to all shops by placing the shopping center axis at a 45° angle to the major roadways, thus dividing the site into four major parking fields. Parking facilities for a total of 3000 cars have been provided. Visual symbol of the shopping center is the boiler chimney *(acrosspage)* which has been faced with colored tiles after the design of R. L. Baumfeld. Dudley Deane & Associates were Mechanical-Electrical Engineers for the center; Haas & Haynie, General Contractor.

location	San Jose, California
architects	Victor Gruen Associates
partner-in-charge	R. L. Baumfeld
associate-in-charge	Sidney H. Brisker
project co-ordinator	Robert Lesnett
landscape architects	Eckbo, Royston & Williams



"Valley Fair"

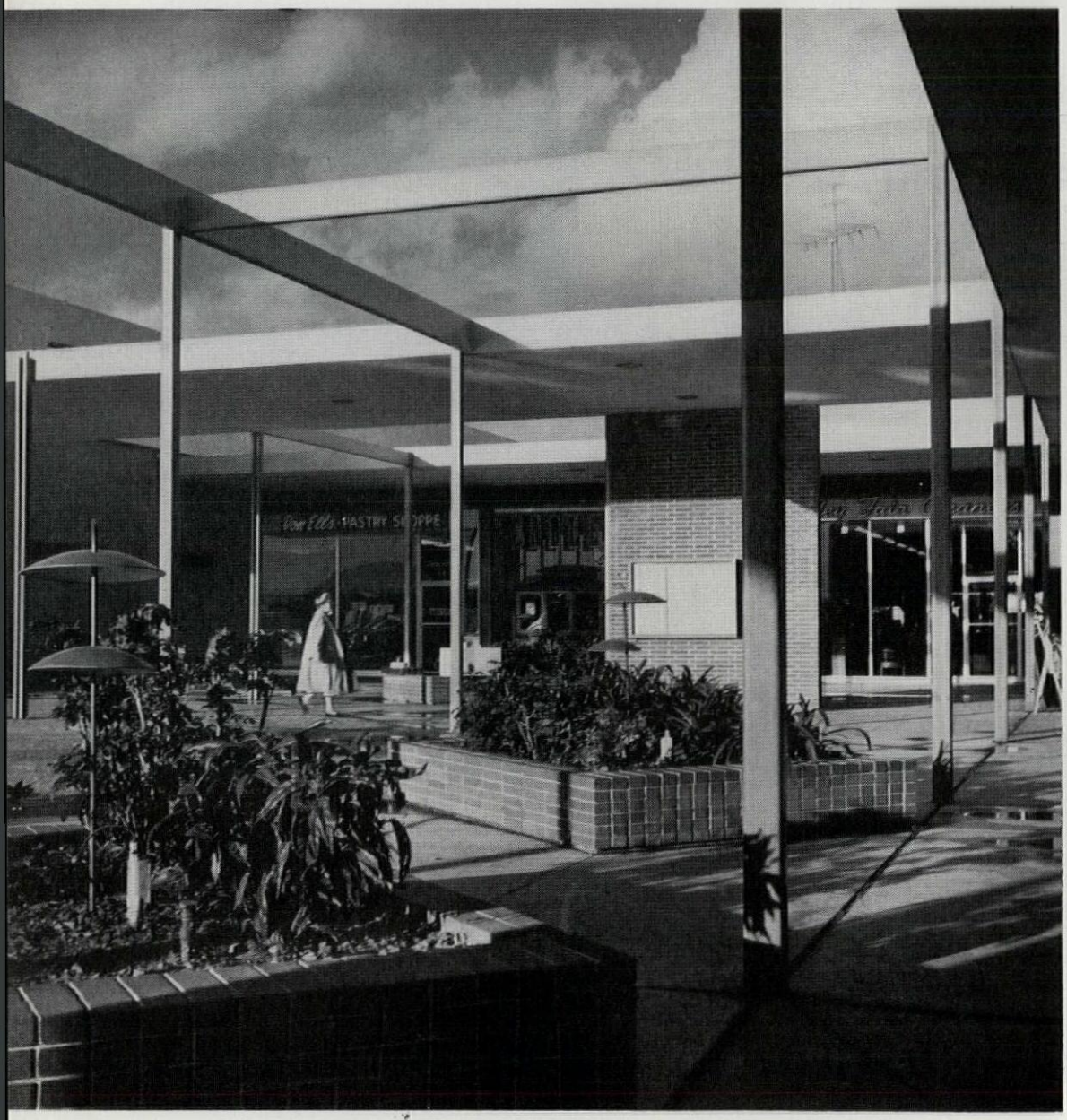
Two different types of structural systems have been employed throughout the center. The department store (right, below, *and* acrosspage bottom) *is a reinforced-concrete building with concrete exterior walls and concrete floor and roof slabs. Basement and first-floor slabs of the tenant buildings are reinforced concrete with reinforced-concrete columns. The mall or main level of the tenant stores is a rigid frame of steel. Columns in this area are 10-in-sq steel tubes spaced 20 ft on centers in one direction, 40 ft in the other. Open-web joists and steel beams support the roof. Roofing is of poured gypsum which is not only lightweight but also provides the necessary diaphragm action. This rigid-frame construction permitted the elimination of structural crosswalls and thus gave greater flexibility in the arrangement of tenant space.*


BASEMENT
sales-storage areas of shops above
public lobby and shops
variety
truck tunnel
dept. store
central plant
future auditorium
25 meters
0
100 feet
0
north
MAIN LEVEL
food market
restaurant
shops
shops
shops
shops
variety
shops
apparel
dept. store
cafe
bank


Macy's

"Valley Fair"

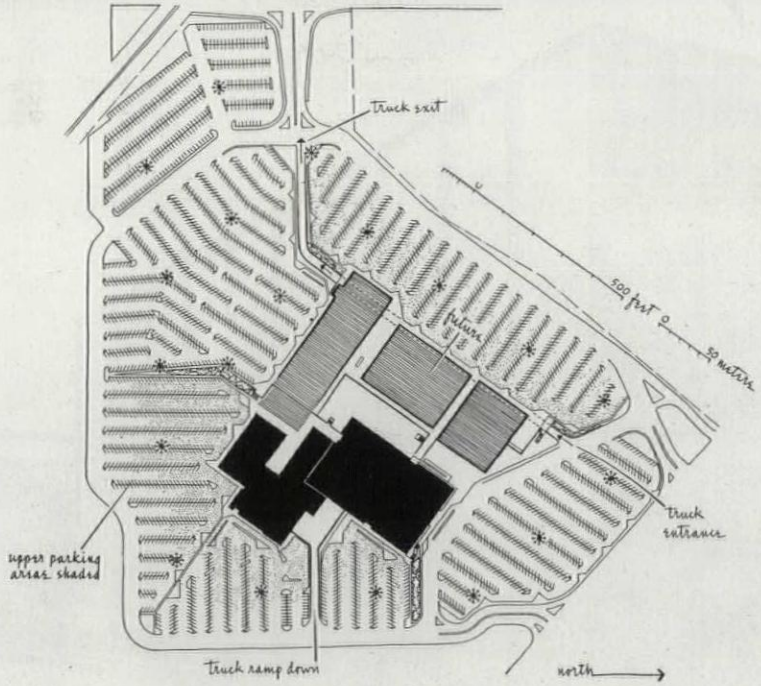
To subdivide the rental areas and to plan the architectural finishes for the structural frame, tenants were free to choose their own or the center's architects. For this work, the owners of the shopping center established an allowance system whereby each space was allotted a certain sum toward the finishing of storefronts, ceilings, air-conditioning systems, and electrical distribution. In this way the owners' expenses could be controlled and definite rentals determined. Storefronts and signs are all under the design control of the center's architects, and being maintained through rigid leasing conditions. Colors of storefronts are also co-ordinated toward a pleasing over-all effect and to assist—through color coding of the various pedestrian passages—in orienting the shopper.




the fashion

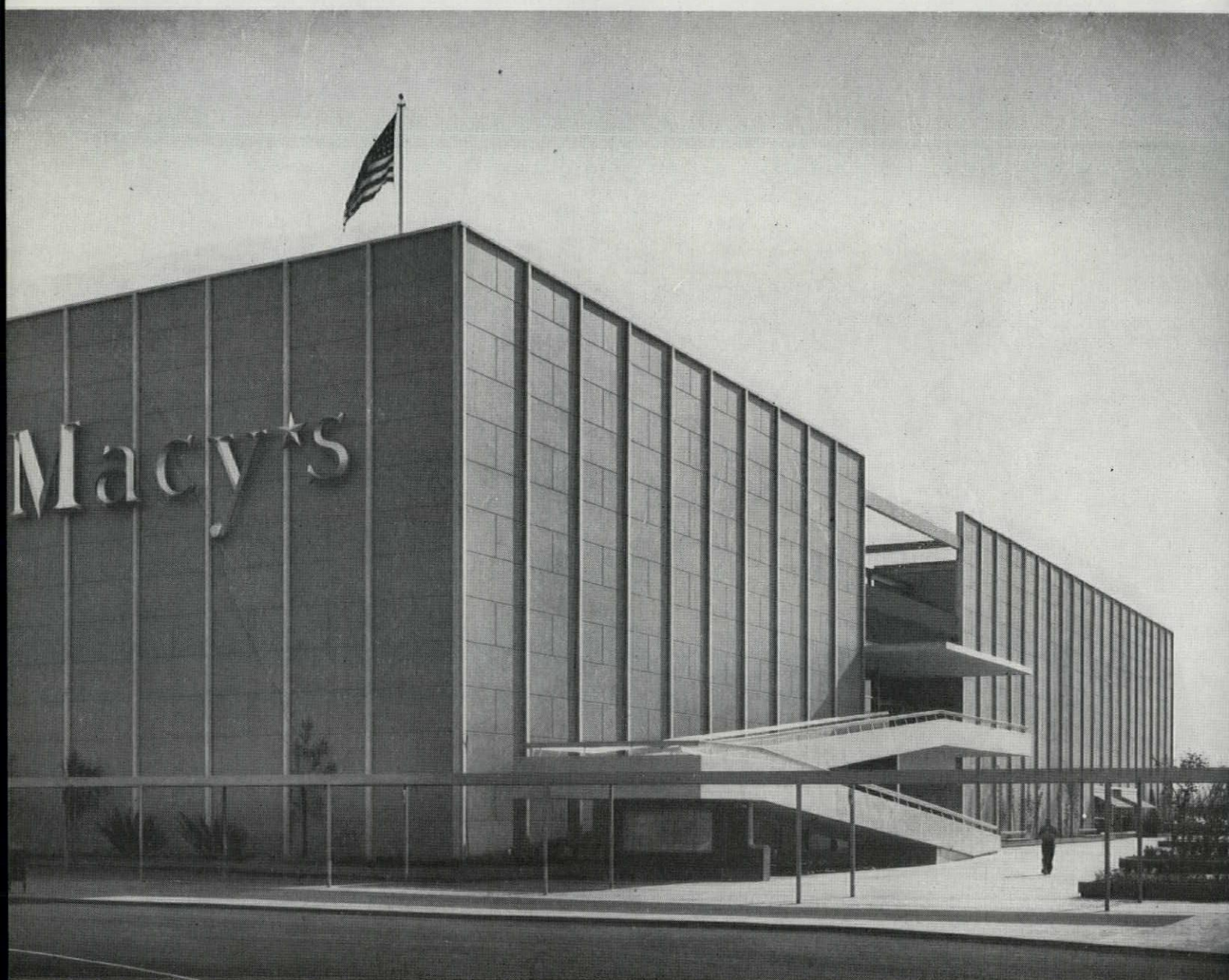
2. "Bay Fair"

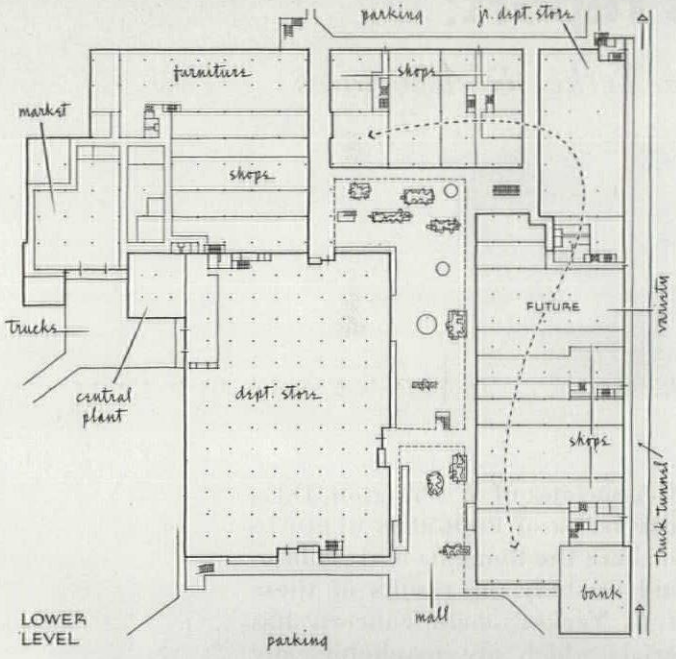
location	San Leandro, California
architects	Victor Gruen Associates
partner-in-charge	Edgardo Contini
associate-in-charge	Sidney H. Brisker
project co-ordinator	Robert Lesnett
landscape architects	Eckbo, Royston & Williams

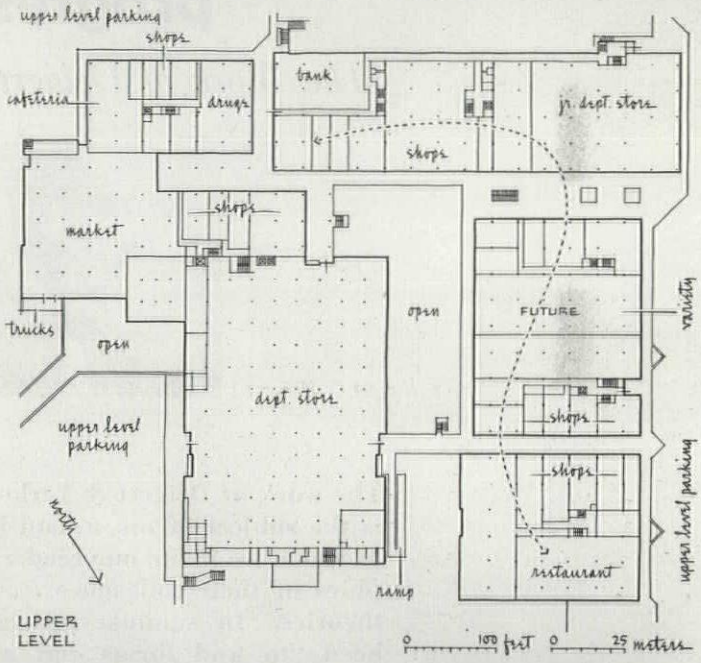


Bay Fair is located on a 47-acre site in the heart of the East Bay region, about eleven miles south of downtown Oakland. Here the natural grade was found to be only 4 ft above the high level of the underground water table, thus ruling out the use of an underground service tunnel. Instead, parking and shopping areas are on split levels built up of imported fill. There are two shopping levels with storage areas in a portion of the lower level and on a partial third level. Because of site conditions requiring the use of piles, the structures have been designed as light as possible. This has been achieved by using waffle-slab construction employing lightweight concrete. All of the structural framing is of reinforced concrete. Like Valley Fair, the buildings are distributed compactly in order to cut walking distances and to consciously induce a bustling and gay atmosphere. With the erection of the department store, the food market, and 22 stores, the first building stage is completed. Ultimately 650,000 sq ft of retail space and parking facilities for 3600 cars will be provided. Of

interest in both centers are systems for the supply and distribution of electric power and temperature-controlled water. For the air conditioning of retail shops, the central plant supplies hot and chilled water to individual fan units with heating and cooling coils. Temperature is controlled by the tenant with a room thermostat and three-way mixing valve. The department store employs a combination of high and standard velocity air-handling system. Power is purchased by the shopping center owners at 12,000 volts and distributed to five substations within the center. From there, low voltage is distributed to a plug-in bus duct. The services to individual tenants are taken from the bus duct and metered at the premises. Dudley Deane & Associates were Mechanical-Electrical Engineers; Dinwiddie Construction Company, General Contractor.

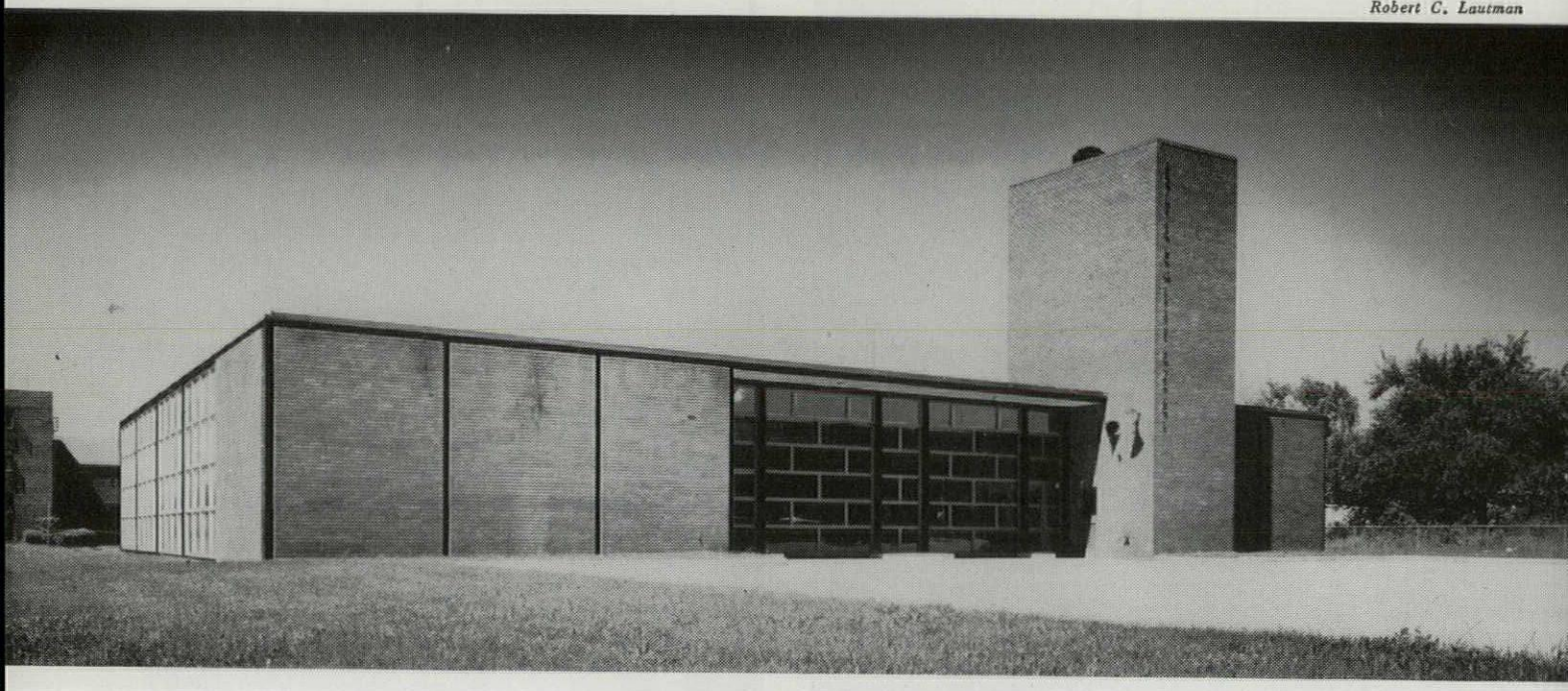



parking
jr. dept. store
furniture
shops
market
shops
FUTURE
variety
Truck Tunnel
trucks
central plant
dept. store
shops
bank
mall
parking
LOWER LEVEL


upper level parking
shops
cafeteria
drugs
bank
jr. dept. store
shops
shops
market
FUTURE
variety
trucks
open
open
dept. store
upper level parking
shops
shops
north
restaurant
ramp
upper level parking
LIPPER LEVEL
0 100 feet 0 25 meters


MARKET

Robert C. Lautman



progress report:

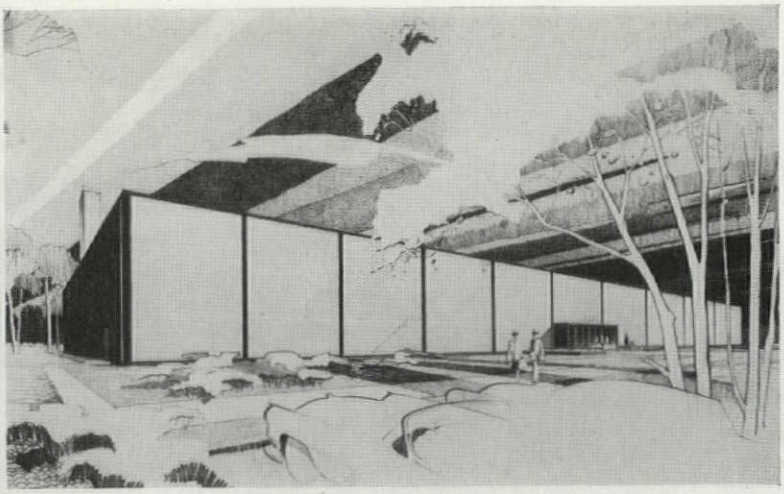
The Work of Deigert & Yerkes & Associates

Robert C. Deigert

David N. Yerkes

The work of Deigert & Yerkes & Associates of Washington, D.C., is the subject of the second in our series of PROGRESS REPORTS in which we invite our readers to share the thoughts and philosophies of their colleagues . . . and to study the results of these theories. In summary, Deigert & Yerkes' main concern has been "to find forms and materials which are psychologically and emotionally satisfying because of their relationship to each other and their appropriateness to their purpose and place."

James R. Dunlop, Inc.

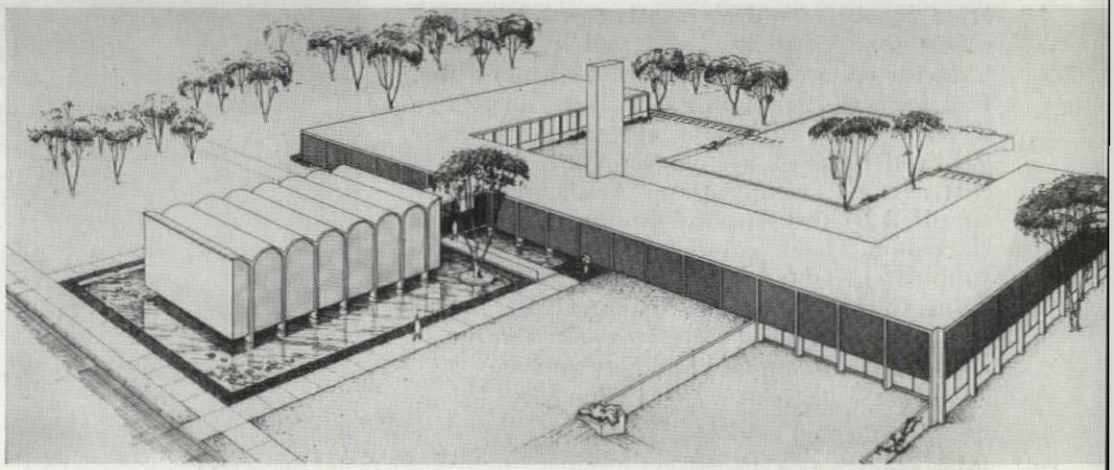


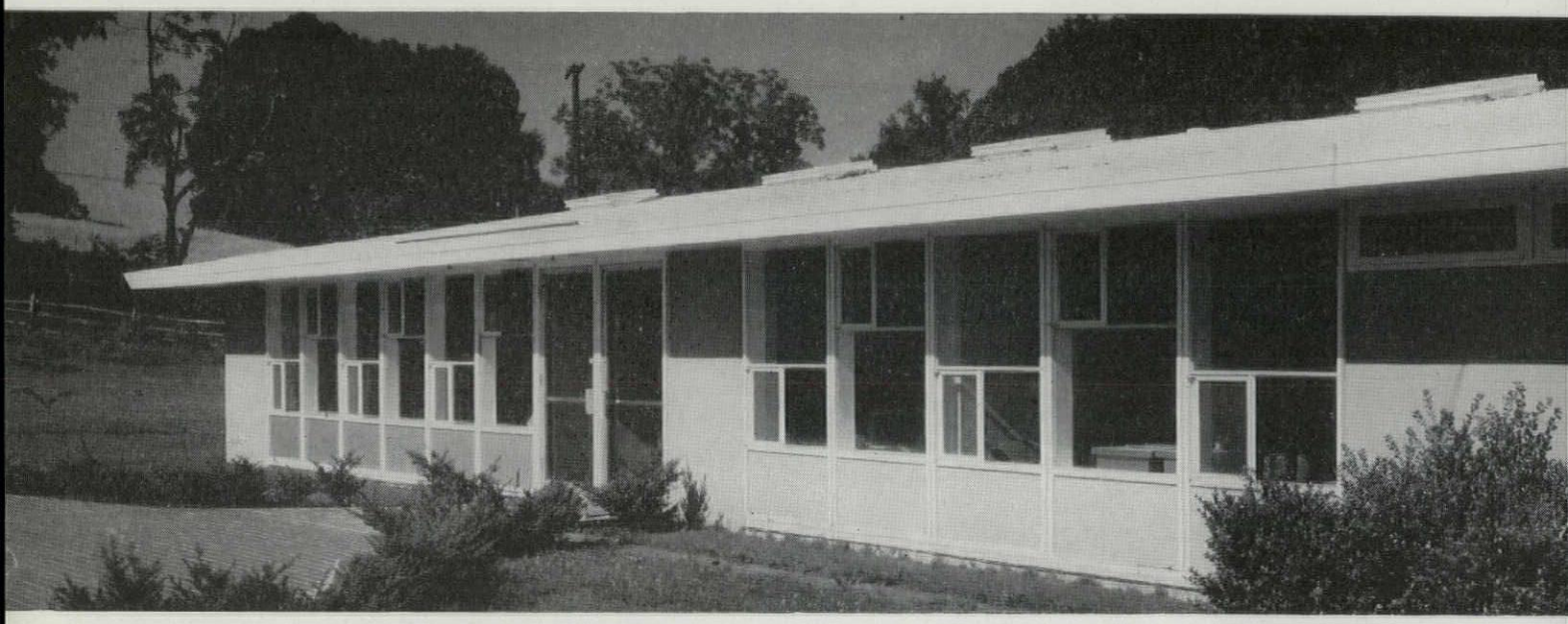
The interests, objectives, and professional problems of Deigert & Yerkes are many and varied but not untypical of those architects having practices of similar size. "Sometimes we find that the conditions of a project—function, site, materials, structure, client—lead us to a dominating theme apparent in the early stages of design. This theme is sometimes battered beyond recognition by the demands of detailed requirements and limitations. The test of its validity—and the test of the architect—is whether the guiding idea has survived in the completed building. The vivid presentation of this theme, in which all problems are solved and clearly co-ordinated, is a tremendous source of satisfaction." Too often, they say, administrative demands are distracting—a greater separation of the administrative and design functions would be desirable. However, "over and above the professional obligations which we owe to our clients, we keep returning to the fact that the ultimate excuse for our existence as architects is to produce buildings which are—to the greatest degree we are capable of—works of art."

Ezra Stoller

Deigert and Yerkes formed their partnership in 1947. After a year devoted almost exclusively to the design of radio structures, they wished to diversify their practice as much as possible. That they have succeeded is evident in the cross section of work shown here, which includes—in addition to a radio station—a number of houses, one of them the 1956 "House of Ideas" for *House and Garden (left)*; a fire house *(acrosspage top)*; a doctors' office building; preliminary studies for a relay station for the U.S. Army Signal Corps *(left)*; and a college auditorium/classroom building *(below)*.

The D&Y office normally employs six architects and draftsmen in addition to the two partners, though the total number of employes has varied from two to fifteen. James Hilleary and Nicholas Pappas form the nucleus of the drafting room. William Curtis keeps the office in touch with various government agencies concerned with building.



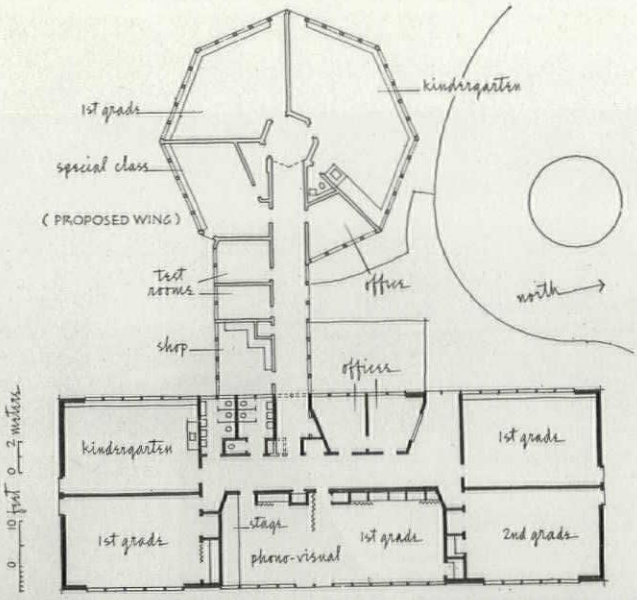


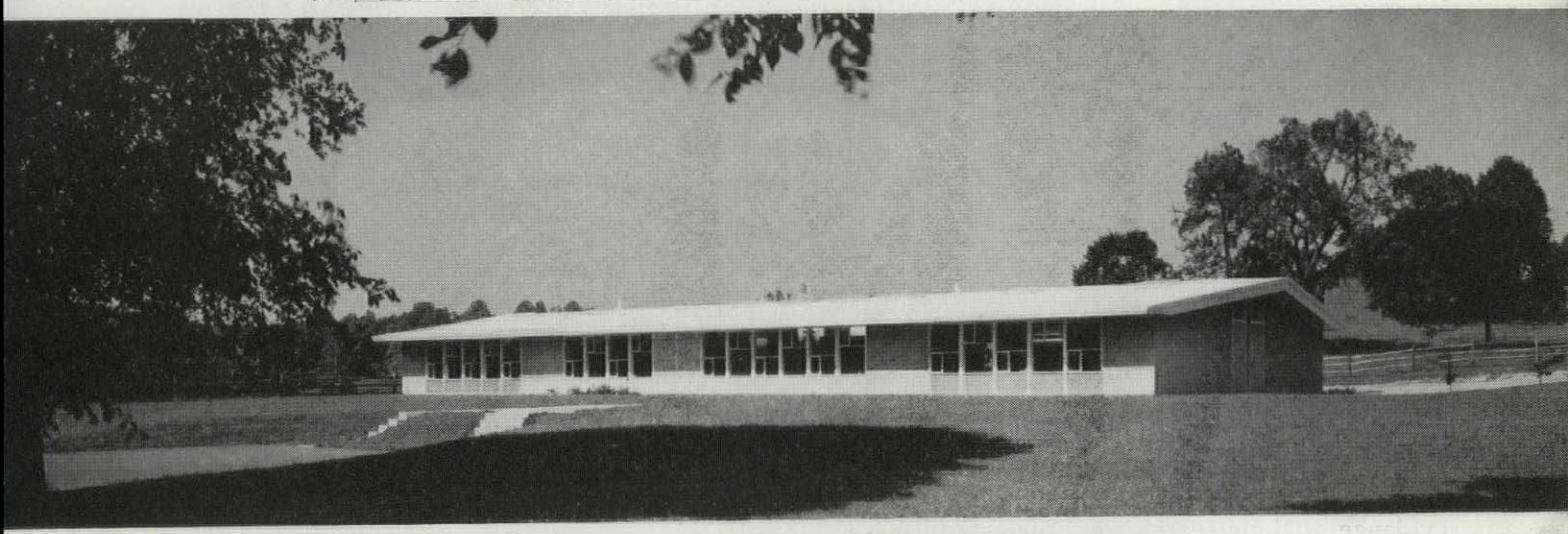
primary-school design conditioned by factors of scale and economics

"We attempted to make the building small in scale, colorful, light and cheerful," in keeping with its purpose as a school for the three primary grades and its setting in the midst of open fields of Montgomery County, Maryland. Since the heads of the school have developed a special method for the teaching of reading, a room was required which would be used for the demonstration of the phono-visual method to groups of visiting teachers and school principals.

Economy was the controlling factor in selection of materials and type of structure. The floor is a slab on grade, heated by a warm-air perimeter system. A central partition plus the longitudinal exterior walls serve as bearing walls for the wood roof structure. End and interior walls are of concrete block; spandrel panels are of cement-asbestos board painted red, yellow, and blue. Exterior concrete block is gray, trim is white. Interior walls are light green, blue, or yellow. Heating is by means of six small warm-air gas-fired units—a system economical in first cost as well as operation. Artificial light is supplied by two rows of fluorescents in each classroom. Each room has two skylights to supplement daylighting through windows. John G. Loehler was Structural Engineer; Robert R. Jones, Mechanical Engineer; Demory Brothers, General Contractor.

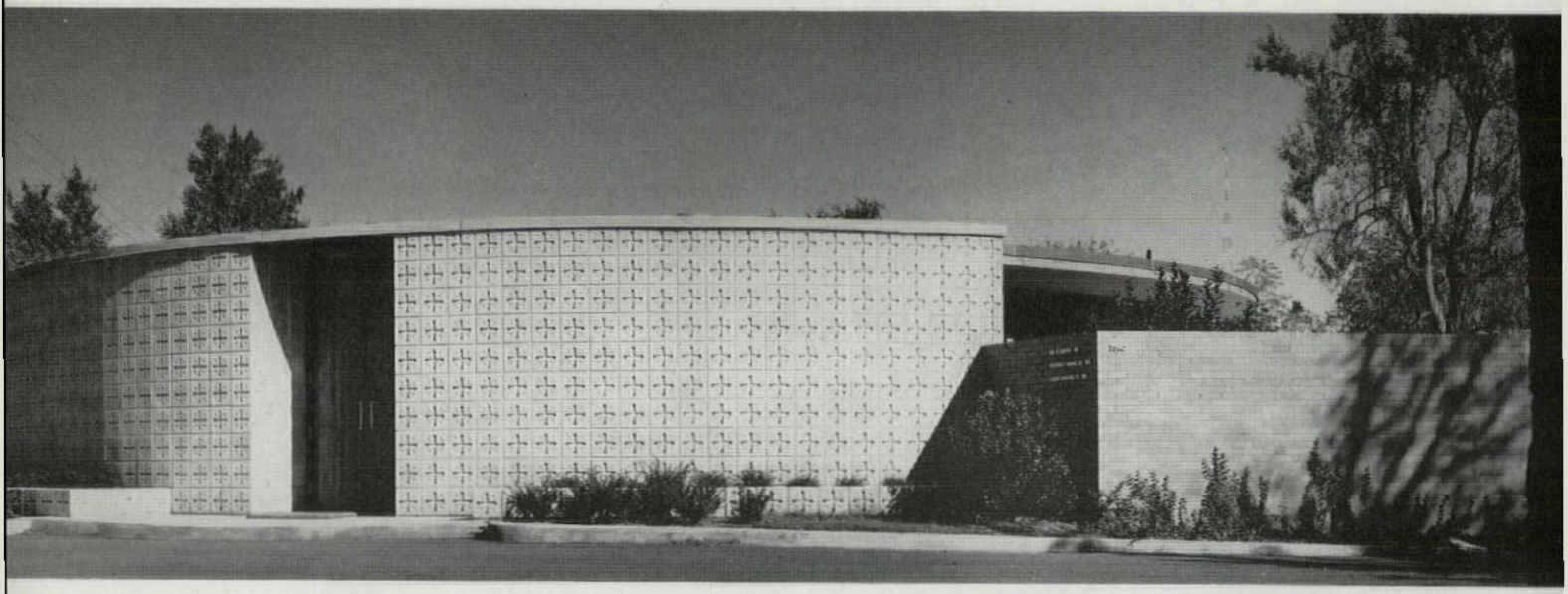
Deigert & Yerkes & Associates





Photos: Robert C. Lautman

Deigert & Yerkes & Associates

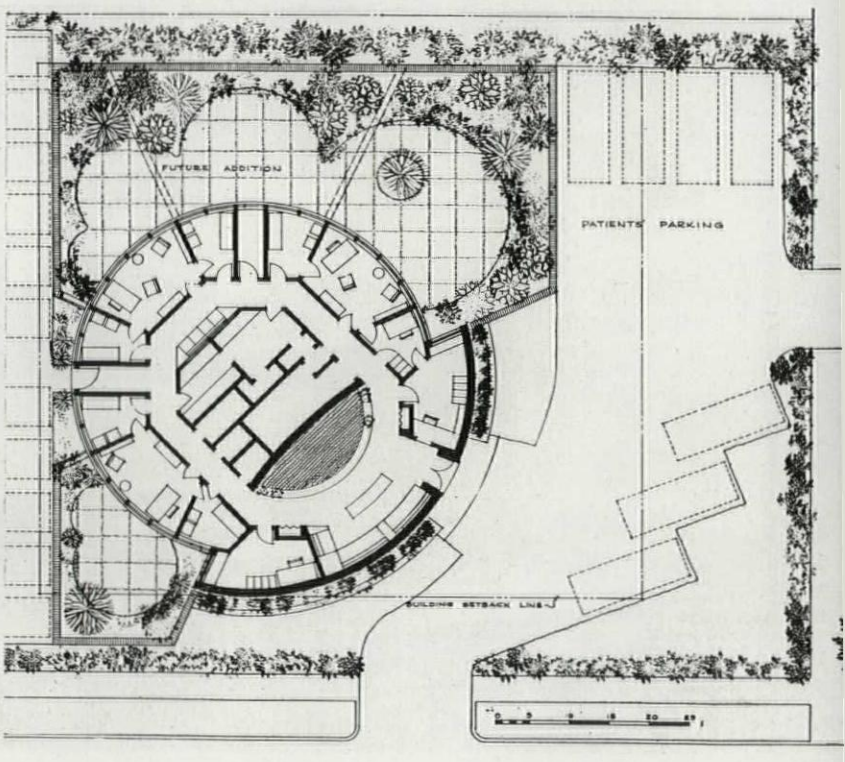


Robert C. Lautman

informality and privacy stressed in doctors' office building

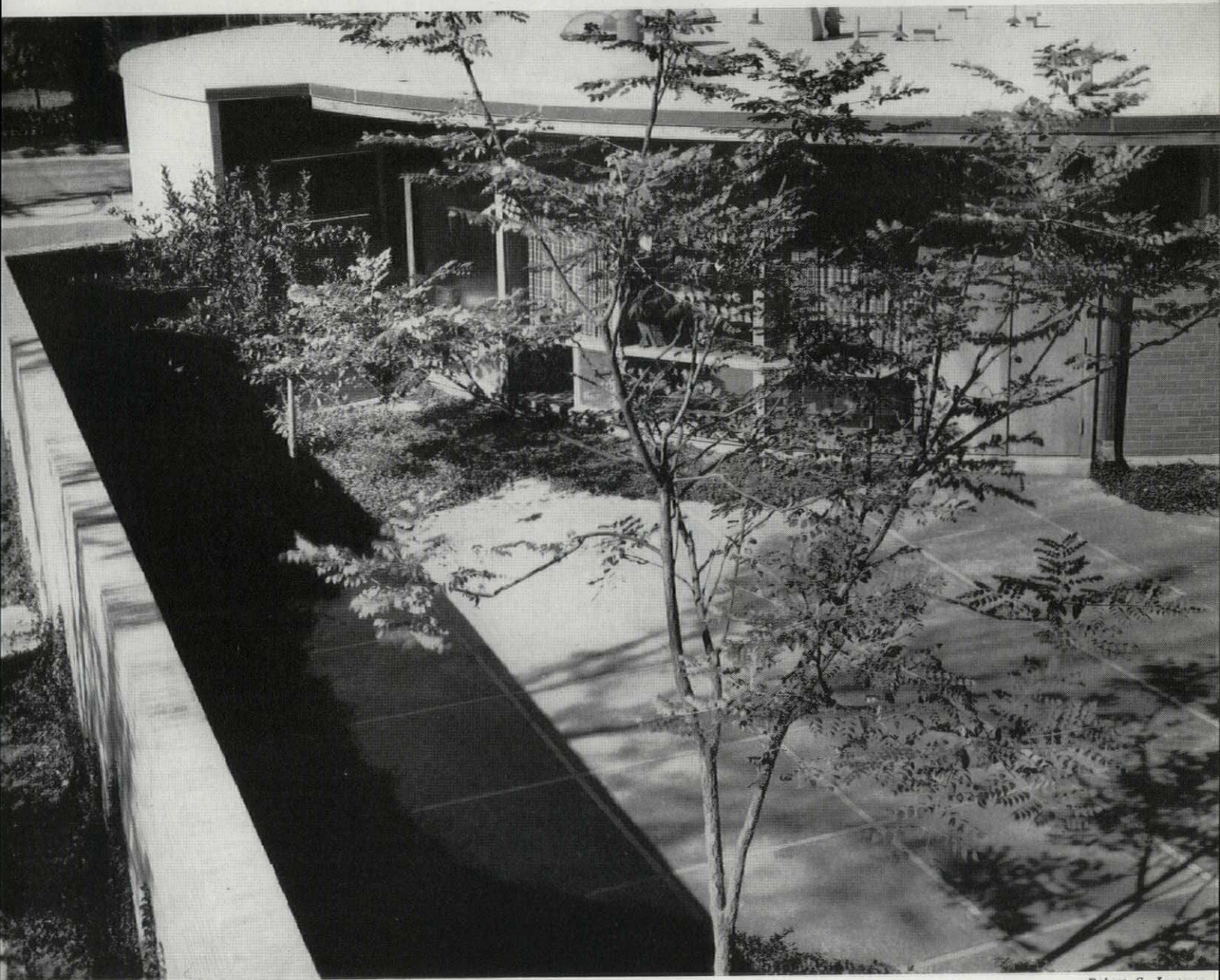
This building in Richmond, Virginia, more than any other example of D&Y's work, gives evidence of their search for "forms and materials which are psychologically and emotionally satisfying." It accommodates three doctors with independent practices, who share such facilities as labs, washrooms, and secretarial services. The circular plan—with shared facilities in a central core, offices and examination rooms at the perimeter—best suited the owners' requirements.

A great advantage of the circular plan is the fact that none of the windows looks into other parts of the building. Instead, consulting rooms *(below)* have views into private gardens enclosed by screen walls. This design element and others—the decorative cast-stone and gray-brown brick exterior *(above)* or, in the public area *(acrosspage top)*, the walnut and oak paneling, bright colors, and skylighted fountain—have caused many patients to remark that "it makes them feel better just to be there." The doctors find the building an efficient and relaxing place in which to work. The structural system is wood post-and-lintel. Warm-air heating and air conditioning have been supplemented by radiant coils in the slab in the outside rooms. Robert R. Jones was Mechanical Engineer; Laburnam Construction Co., General Contractor.



Robert C. Lautman

Lee Salsbery Studios



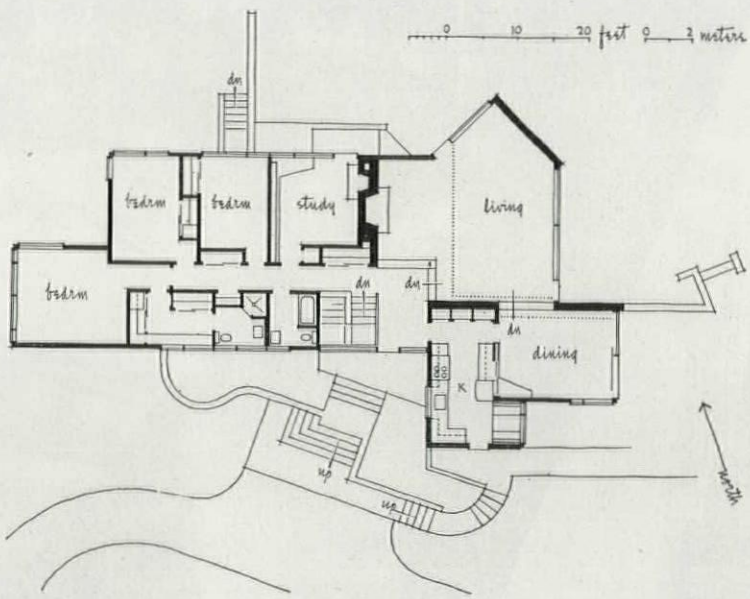
Robert C. Lautman

house of a group offers contrasting spaces

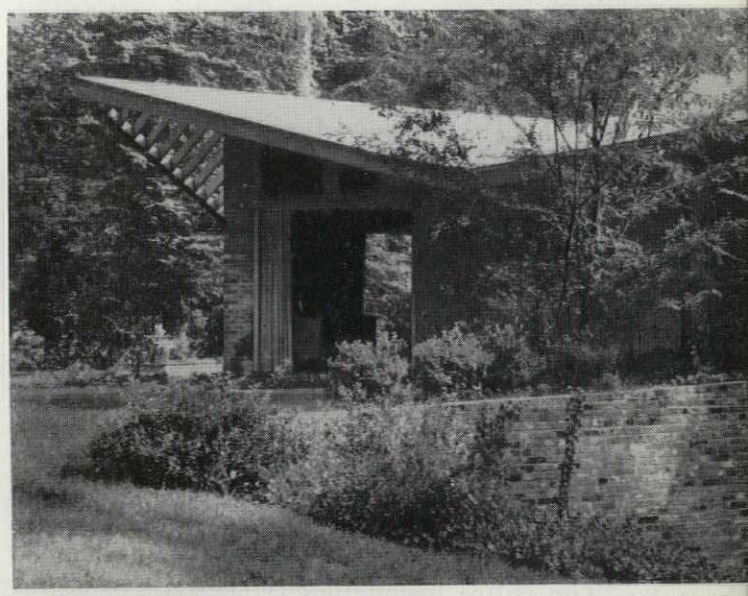
"We are interested in using the relationships of spaces to make the qualities of differing spaces more apparent. The same thing applies to materials and textures. There is always an element of contrast in these juxtapositions: the low confining space and the expanding one, the massive and the light material, the smooth and the textured surface."

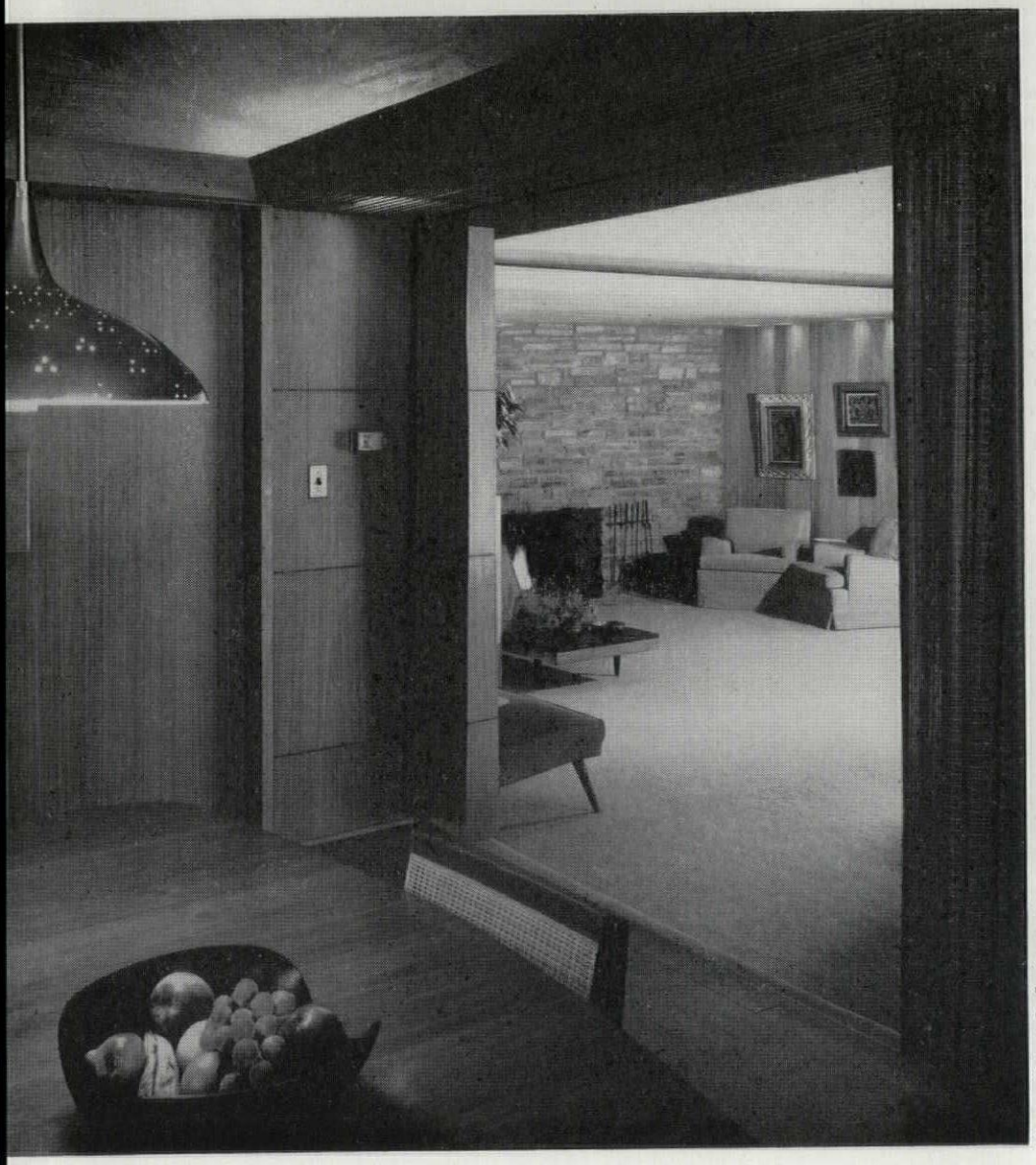
The architects' awareness of these factors is best revealed in this house in Tulip Hill, Maryland. The living room, for example, consists of two types of spaces. One is the open space defined by the big glass areas and the lofty plaster ceiling which follows the line of the roof. The other is the fireplace alcove which, with the low contrasting ceiling of woodstrips, imparts a sense of "enclosure and protection." The structural frame of the house is wood. Walls are of used brick or redwood boards, outside; mahogany plywood or plaster, inside.

The residence is one of a group designed by D&Y for a 75-acre site acquired and subdivided by them "to form a small community, harmonious in architectural treatment." Bernard Voight was Landscape Architect; John G. Loehler, Structural Engineer; Robert R. Jones, Mechanical Engineer; Demory Brothers, General Contractor.



Deigert & Yerkes & Associates



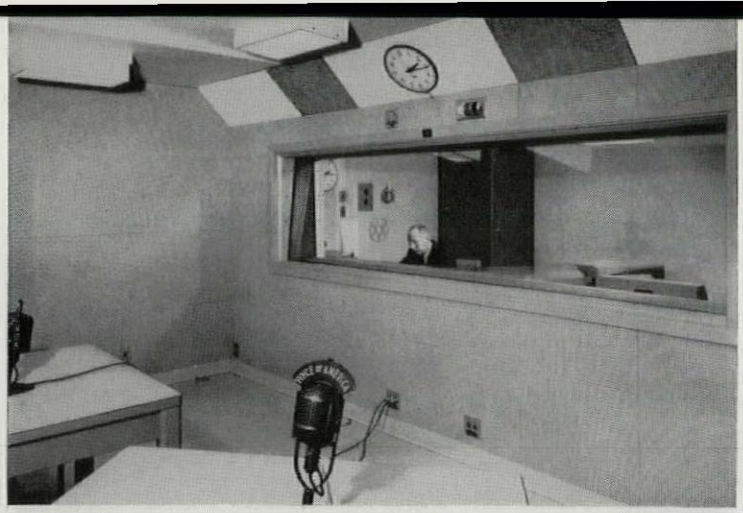


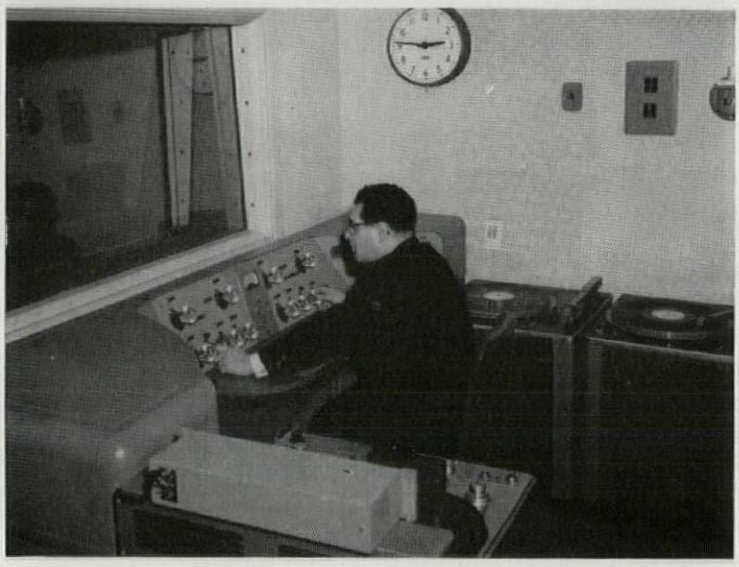
Photos: Robert C. Lautman

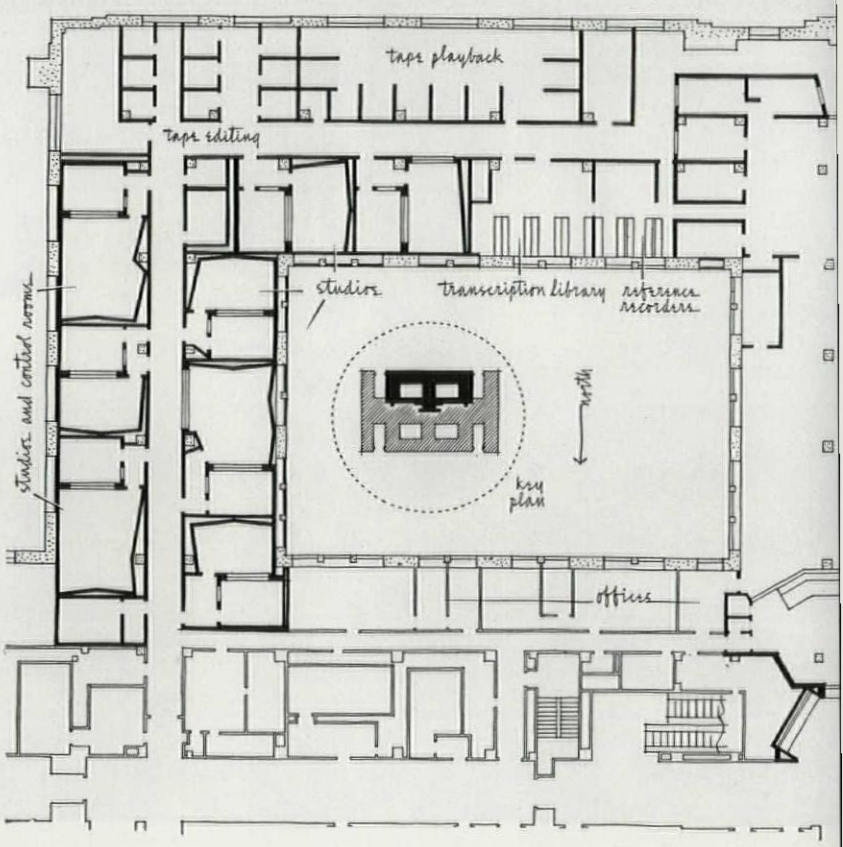
USIA's Voice of America station handles 26 programs at once

In 1954, D&Y—noted for their work in the field of communications—completed one of their most important commissions, the headquarters for Voice of America. Studios, control rooms, and equipment areas occupy about 50,000 sq ft on the second floor of the Health, Education, and Welfare Building in Washington, D.C. Originating programs are sent out through a master control console *(acrosspage bottom)* to relay stations from where they are broadcast to all parts of the world. In addition to 16 studios there are also recording studios, booths for the editing of tape, a library for disk and tape recordings, shops, and a large equipment room with overhead troughs for cable.

The entire installation is air conditioned by units on special isolated and insulated mounts. A central vacuum system removes the dust produced by cutting records. All artificial lighting is incandescent. Because of vibration of the building due to existing compressors in the basement, the floors of studios and control rooms had to be mounted on vibration isolators. All studio walls and ceilings are surfaced with perforated cement-asbestos board backed with blanket insulation for acoustic purposes. Studios are of irregular shape to break up sound reflection, and their walls are double concrete-block partitions separated by an air space. Lanier & Levy were Mechanical Engineers; Kenneth Manhart, Acoustical Engineer; Howard De Long, Engineer for USIA; Joseph B. Bahen, Construction Co., Inc., General Contractor.





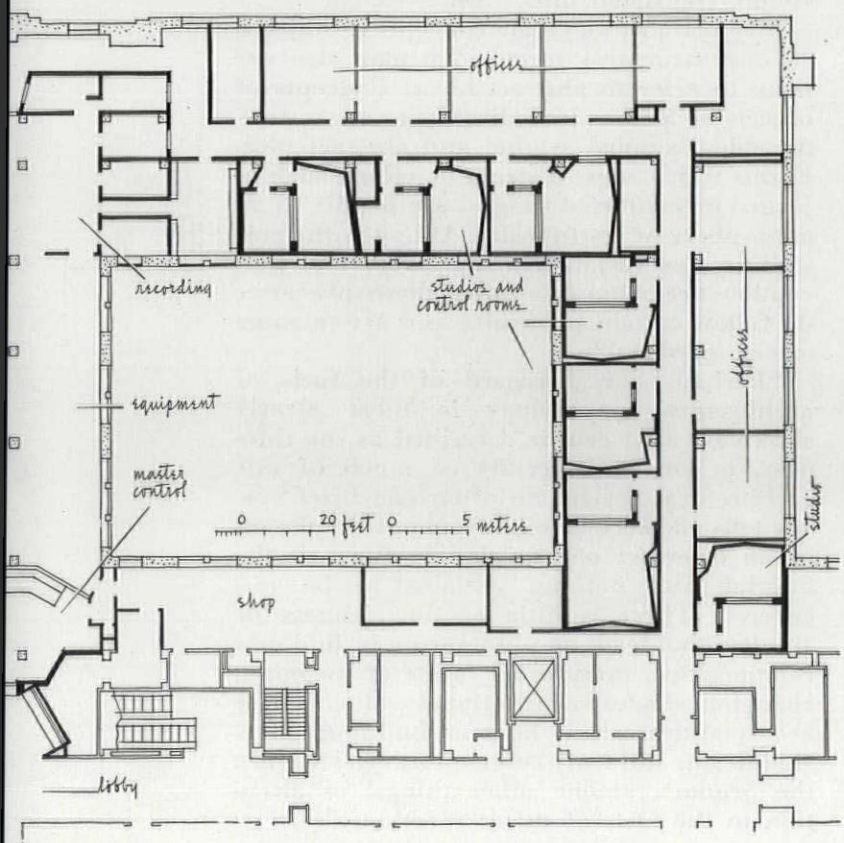


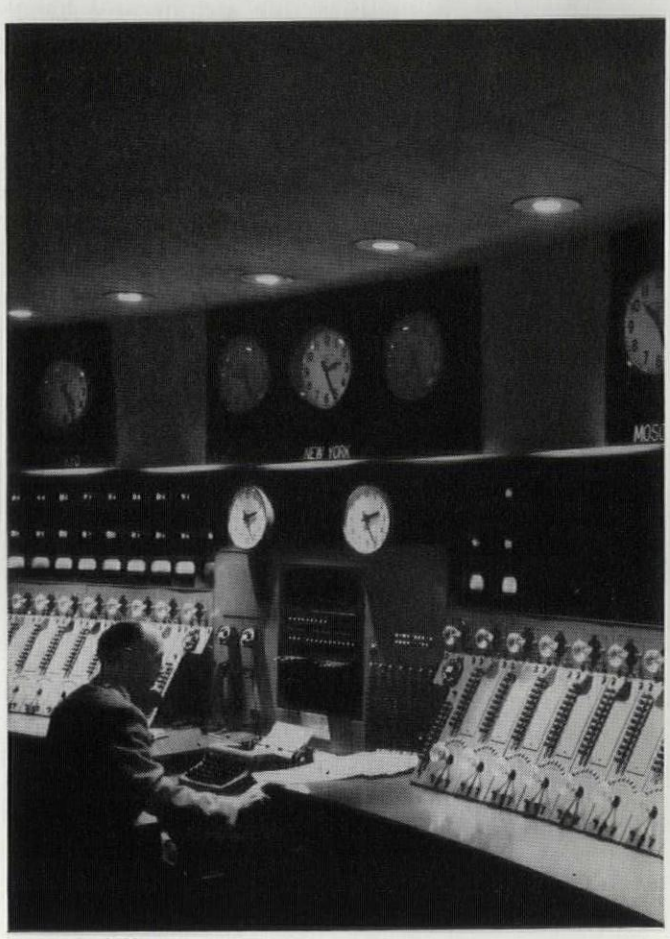
psychology and architecture

Deigert and Yerkes have written extensively, jointly and separately, on various architectural subjects. One of these articles, "Building and Experience," by David N. Yerkes, is a particularly provocative argument pointing to the close link between architecture and psychology. The following are excerpts from this article:

"Architecture begins and ends with human beings; it is created by them and for their use. It follows that the architect must understand people—their needs, their thought processes, their reactions. The better he knows

Deigert & Yerkes & Associates





Photos: Fred Maroon

Deigert & Yerkes & Associates

himself and others the better equipped he is to create works of architecture which are also works of art.

"The architect, as an artist, is concerned with expressing his feelings about certain things—materials, forms, sites, activities, people. He must be able to anticipate the expressive qualities of forms. If he has a clear comprehension of the laws which govern his responses, his judgment in performing this difficult task will be less fallible. The architect who has a profound understanding of the mind and the emotions can best appraise the importance and permanence of his ideas and feelings. Art is a means of communication. To speak intelligibly, the artist must anticipate the effect that forms will have on other men.

"Architects have paid surprisingly little attention to this phase of their art, perhaps because psychology is a comparatively young science; perhaps even more because physical problems and advances have demanded too much attention. But to keep advancing these aspects of building while neglecting the psychological problems of response is to treat architecture as a science, which it is, but to ignore it as an art, which it should be.

"In the psychological sense, buildings are largely constructed of signs and symbols. Recognition of materials immediately calls up concepts of qualities like weight and hardness, and of relevant facts like cost. The exterior of a building suggests what goes on inside, both as to function and arrangement. The style of architecture recalls other buildings; a dome may subtly influence our feelings by reminding us of St. Peter's. A color suggests the sea. A column makes us feel the weight of the load it carries, the effort of lifting. A windowless wall suggests seclusion, protection, or perhaps confinement. In a multitude of ways the forms that we see are related to facts and feelings we have known in the past. Since the artist deals with emotion, quality, and experience, he could not avoid using symbols even if he wished to. Signs are also inevitable, but they are the language of fact, the vocabulary of the engineer. Architecture is full of rhythms and relationships between the things we are looking at and those we have previously seen; relationships which help to organize a design, giving it the unity that is necessary if it is to hold our attention.

"What of the power of materials to evoke concepts? Psychologically and emotionally the effect of the monument [the Ardeatine Caves] depends partly on its form; but its solemn power is produced largely by the concept of tremendous weight. From various signs, such as color and texture, we know that the material we see is concrete. A wood structure of the same dimensions would be as different in its effect as a bicycle is different from a bulldozer.

"Forms create conceptions of physical objets, borrowing from them some of the mood, the flavor, or the emotion which these objects produce. Thanks to the phenomenon known as empathy, symbols can also refer to actions and activities.

"Forms vary from the wildly dynamic to the solidly stable, depending largely on whether they suggest movement (or potential movement). A rectangle is highly stable. A circle, though it is enclosed and complete, suggests the possibility of rolling and therefore lacks stability. In a line which changes direction suddenly, one can sense the effort and interruption involved in a stop and a new start.

"Some forms and materials have the power of suggesting the type of action which produced them. The difference between the tensile nature of steel and the compressive value of concrete may be felt by an observer who is familiar with these materials; but the overtones, based on action, which are created by the adze marks on a beam or the grooves of a saw in a plank, are missing. Perhaps this absence, as much as any actual uniformity, explains why so many of the buildings which are constructed of mass-produced materials quickly begin to seem sterile and devoid of individuality. These action concepts have near relatives in the family of symbols—the concepts of structural forces. In some of Nervi's work, for example, forces are brilliantly and vividly translated into form.

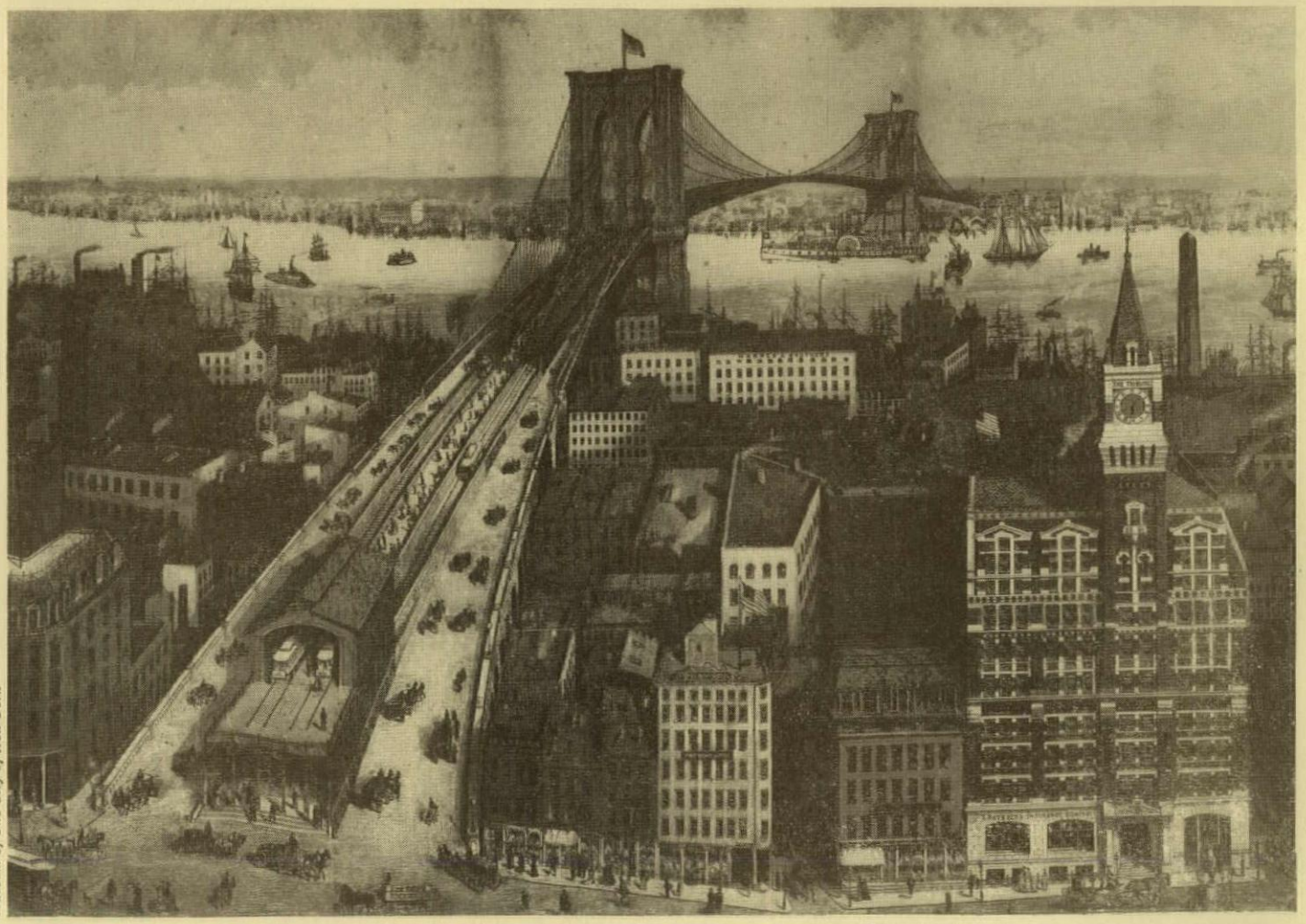
"By symbols we create concepts of objects, actions, structural forces. We may also use them to refer to abstract ideas. Concepts of objects or actions lead directly to many relationships between symbol and abstract idea. Forms which suggest strain or effort, such as jagged or contorted shapes, are hostile to an atmosphere of restful calm. Although the possibilities for variation in the process of perception are almost infinite, these processes do follow certain principles and are to some extent predictable.

"Perhaps our disregard of the facts of architectural psychology is most clearly shown by what can be described as the thinness, pallor, and sterility of much of our architectural design. So often one brief survey tells all there is to know about the design of an exterior; one quick trip through the interior and nothing remains to be discovered. There is little of the richness or subtlety that leads an observer on to find new relationships, unexpected facets of meaning, changing shades of emotional value. These are qualities which keep a building alive, significant, and truly contemporary. They are the product, among other things, of attention to the facts of men's reactions."

PROGRESSIVE ARCHITECTURE IN AMERICA

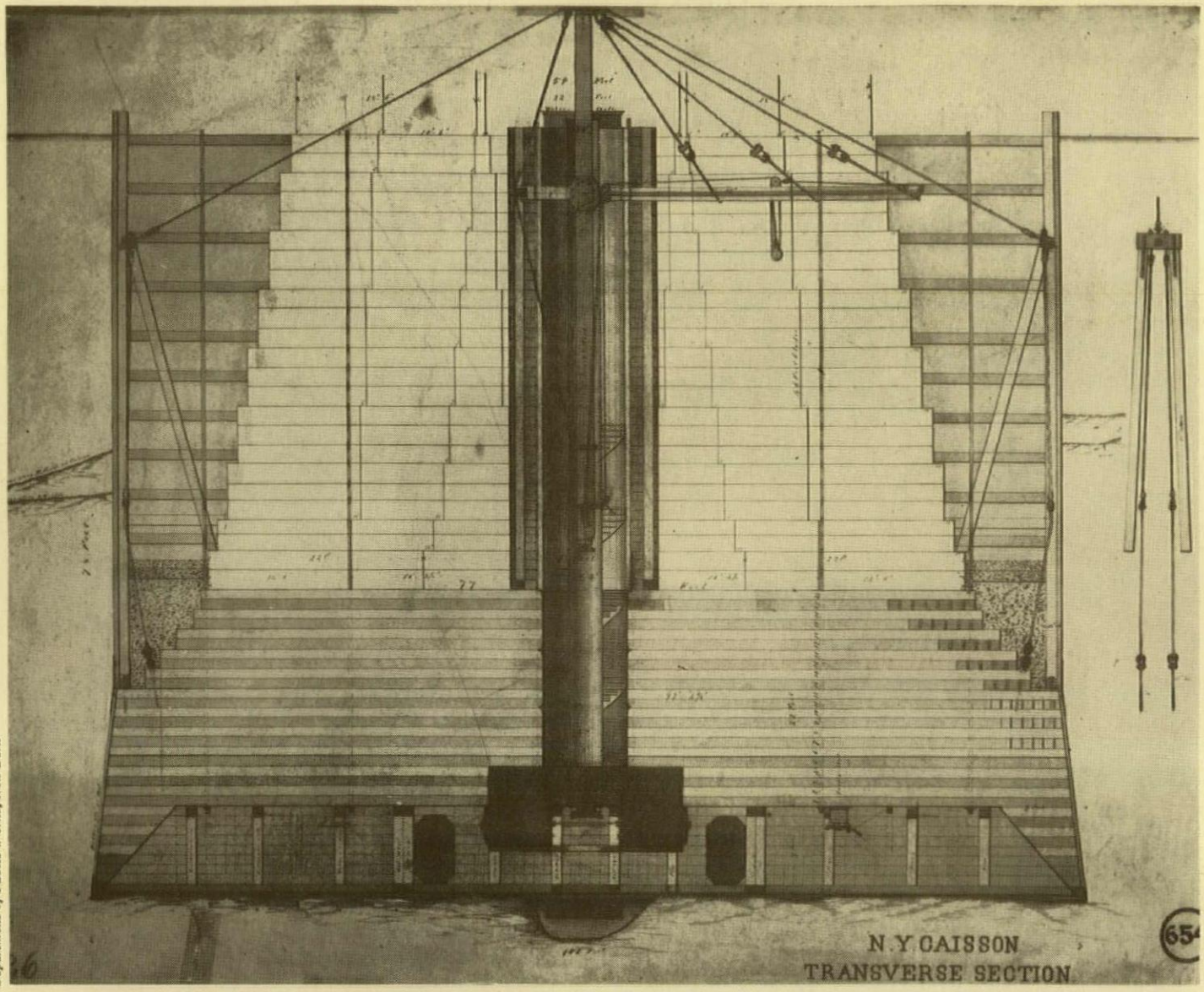
BROOKLYN BRIDGE—1867-1883
New York, New York
John A. Roebling & Washington A. Roebling, Engineers

D. B. Steinman



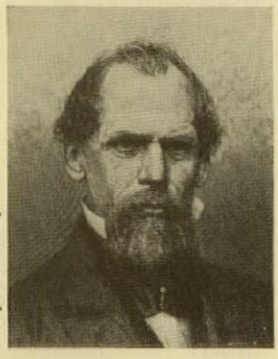
Museum of The City of New York

Presentation rendering during construction, 1876 (top); *print of completed bridge* (above).

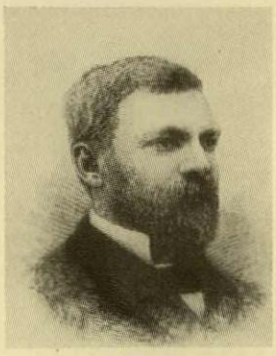


Department of Public Works, New York

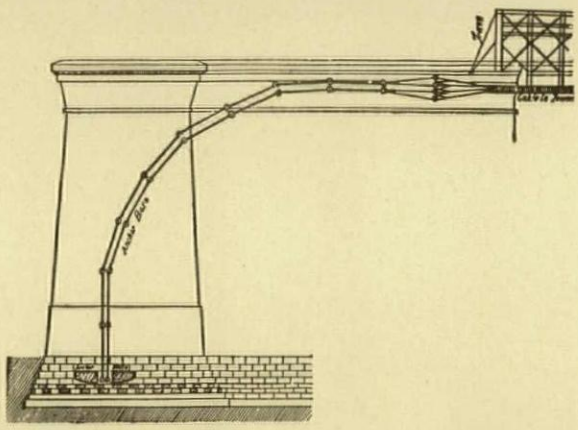
John A. Roebling



Washington A. Roebling



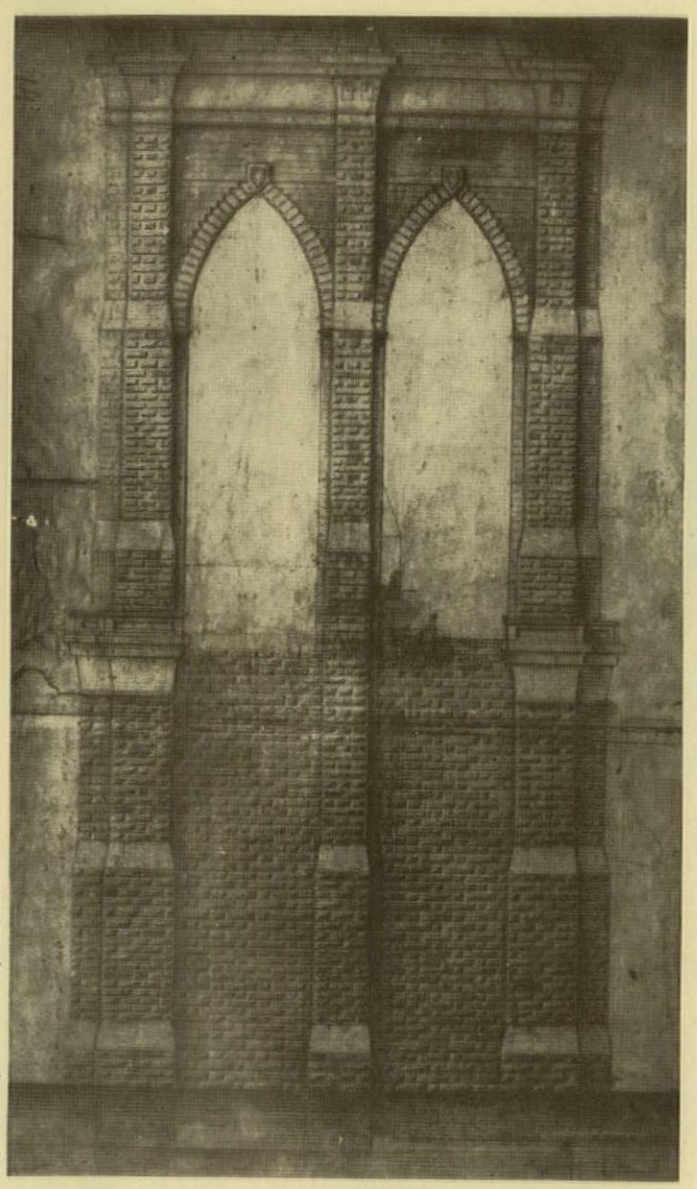
"Harper's Monthly"



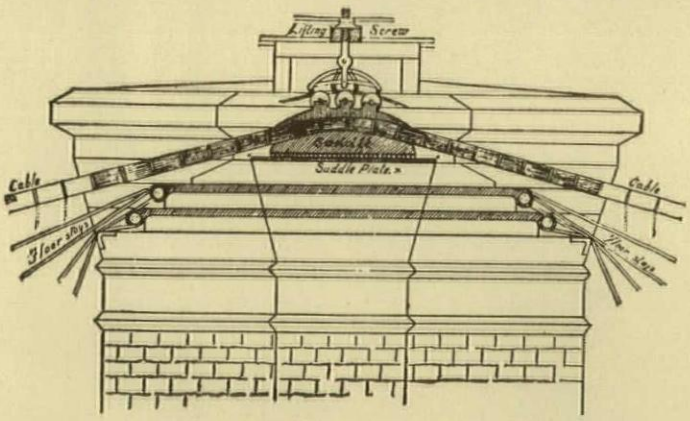
The significance of Brooklyn Bridge is hard to measure in terms of engineering alone. More than a technical landmark, it is a living legend, and a work of art. Few utilitarian structures have engaged popular interest and emotions with such complete and continuing authority. To see it, to cross over it, to pass beneath it, is to react to the strange power and poetry of its presence, and to feel the particular magic that is woven into the network of its strong steel cables.

This magic is made up of equal parts of science, esthetics, history, and myth. As science, Brooklyn Bridge adds an unforgettable chapter to the story of engineering advance. Esthetically, it is one of the great monuments of the Victorian Age. Its history recalls a classic Victorian melodrama, containing all of the most popular themes of the day: Vision, Invention, Honor, Courage, Catastrophe, Perserverance, Personal Tragedy, and Ultimate Triumph. The myth is compounded of such disparate elements as its awesome beauty by moonlight, Steve Brodie's notorious plunge from its heights, and its majestic confirmation of man's triumph over nature, as expressed by Abram S. Hewitt at the dedication ceremonies in 1883: "What hath *man* wrought!"

At the time of its completion, Brooklyn Bridge was widely acclaimed as the Eighth Wonder of the World. It was the longest suspension span in existence—1600 feet—and had taken 16 years and over $15 millions to build. It was the first suspension bridge to use steel (this material had been



Department of Public Works, New York



employed in Eads Bridge over the Mississippi, in the early 70's, but had never been used before in suspension cables on this scale) and the design of its strong, graceful span was Roebling's unique contribution to a field that was still theoretical and experimental, but of which he was already the undisputed master. His lifelong dream of the suspended bridge, conceived as an engineering student in Germany and cherished while an immigrant farmer in Pennsylvania, had already been realized in the unprecedented Niagara railroad-suspension bridge of 1855, and his impressive span across the Ohio at Cincinnati in 1867. Brooklyn Bridge incorporated and improved upon the contributions of these earlier milestones to become the culmination of his dream and the capstone of his career. The Victorian drama was never underplayed, however, and the final ironic flourish was not lacking: the dream took Roebling's life, for he died as the result of an accident during the plotting of the footings of the bridge, and it also claimed the health of his son, who was permanently invalided by caisson disease while supervising the construction of the New York tower.

The materials and methods of Brooklyn Bridge were revolutionary. John Roebling had pioneered the use of iron-wire rope for suspension structures; Washington Roebling took the daring step of specifying steel wire for the cables of the bridge. Special systems were devised for anchoring and securing the cables, and for excavating and removing material from the huge timber caissons—the largest ever built at that time. In contrast to the previously accepted procedure of laying up cables on land, these were laid in place on the bridge, to insure equal tension on all strands; then the "air-spun" ropes of parallel strands were bound into one large cable with a complete covering of close wire mesh. The use of a single cable, instead of several smaller ones, was against conventional practice, as was the solid cover in place of spiral binding, and the safety of both innovations was questioned by many engineers. To those familiar with Roebling's previous demonstrations of his engineering acumen, painstaking accuracy and Germanic thoroughness, it was no surprise when his methods were proved right. Particularly remarkable, however, were his instinctive and scientific grasp of the amount of stabilization and rigidity necessary in a suspension structure, and his provision for adequate vertical stays and trusses, made at a time when knowledge of such matters was so incomplete that spectacular failures, like that of the Wheeling Bridge over the Ohio, in 1854, were not uncommon.

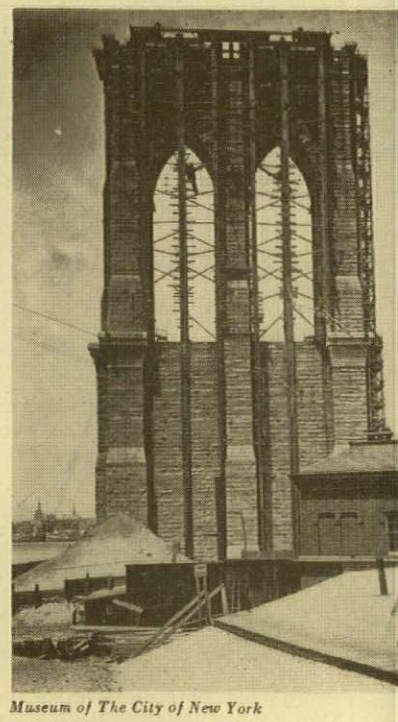
So advanced was the Roeblings' grasp of such problems that many of the lessons of Brooklyn Bridge were never understood, or were soon forgotten, only to be arduously relearned after many years. Not only had Washington Roebling specified steel for cable wires, but he had ordered the wires galvanized. Later bridges, like the Williamsburg, used less efficient safeguards than this protective zinc coating, with the result that many wires rusted. Brooklyn Bridge cables were connected to wrought-iron bars in the masonry; other engineers ignored this example to run wire cables directly into the anchorage, with resulting corrosion. Although the lacy diagonal stays that give Brooklyn Bridge its particular abstract beauty have been supplanted elsewhere by less picturesque systems, the strength of the bridge was so well calculated for almost any potentiality, that it has kept pace with changing loads and stresses until the present day. Only recently was it decided to convert the roadways for modern traffic. The outer truss was heightened and this revision necessarily resulted in a thickening of the slender, elegant span that arched so gracefully across the river.

The Brooklyn Bridge still ranks as one of America's finest structures. Although admiration for its engineering has been constant, opinions of its architecture have varied. Roebling, himself, had no doubt of its merits, esthetic or otherwise: "The contemplated work, when constructed in accordance with my design, will not only be the greatest bridge in existence, but it will be the great engineering work of this Continent and of the age . . . [and] . . . a great work of art." Montgomery Schuyler, writing in 1891, attacked the "rudeness" and "crudeness" of the masonry towers with their Gothic arches, and called the bridge "architectural barbarism." Today, we are rediscovering an admirable vigor in this 19th Century "barbarism," and assigning a new importance to its monuments.

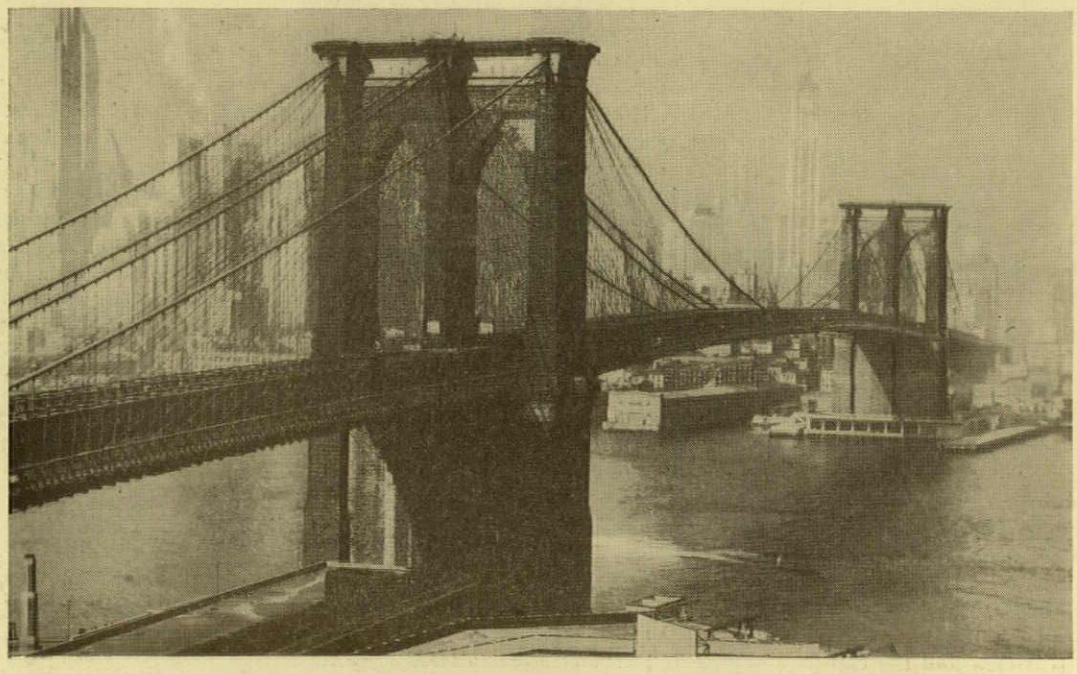
ADA LOUISE HUXTABLE

Photographs and research assistance from Dr. David B. Steinman, The Museum of the City of New York, and New York City Department of Public Works, Frederick H. Zurmuhlen, P.E., R.A., Commissioner, is gratefully acknowledged.

Museum of The City of New York



Museum of The City of New York



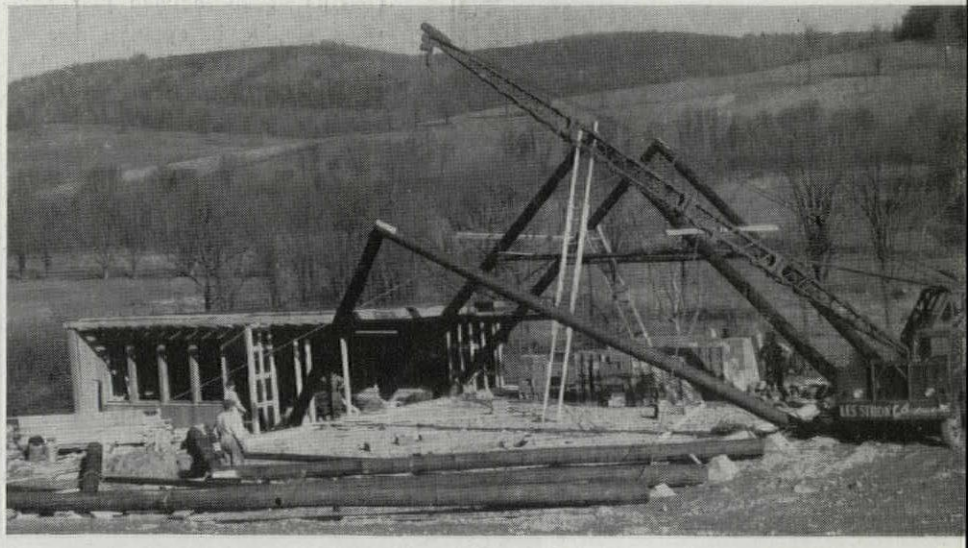
D. B. Steinman

new structural techniques

It is almost always foolhardy to cite a "new" design advance —structural or otherwise—for invariably some observer will produce a precedent. However, on the following pages the reader will find fresh or extended uses of relatively recent developments in the use of materials in structure. Some of these, highlighted below, are: **1** *folded-plate fir plywood roof for a suburban shopping center;* **2** *creosoted telephone poles to frame a ski lodge;* **3** *built-up cantilevered steel sections for a grandstand;* **4** *inventive combinations of familiar structural sections to form tapered columns.*

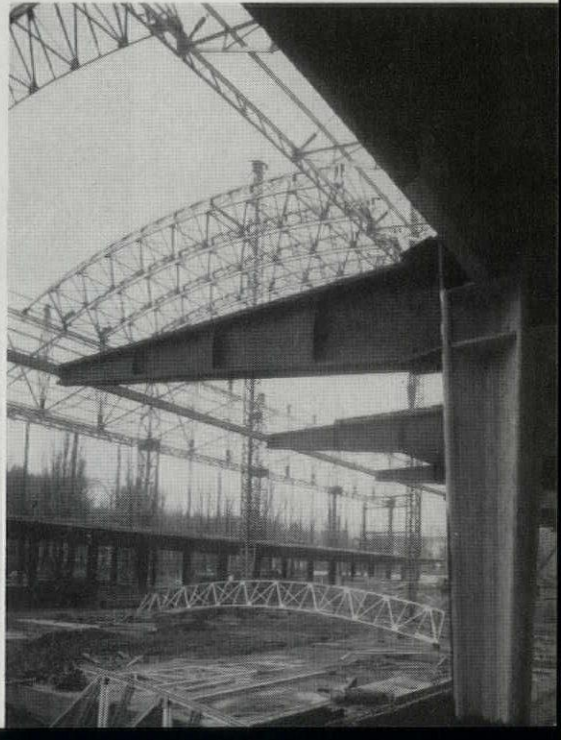
1

2



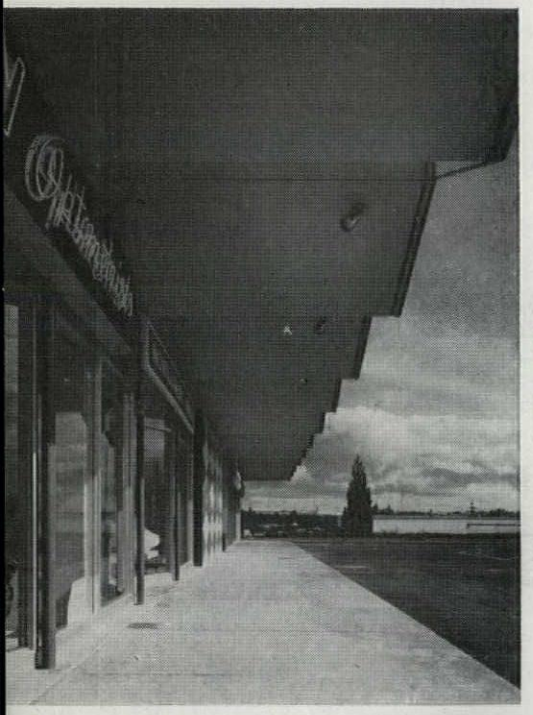
3

4



folded-plywood roof for supermarket

A low-cost roof structure—the first instance of the folded-plate concept used so extensively in wood—has recently been erected at Burien (near Seattle), Washington. As designed by Architect Jack N. Bryant—working with Engineer Harvey H. Johnson—total cost, including materials, labor, and erection, came to $.80 per sq ft.

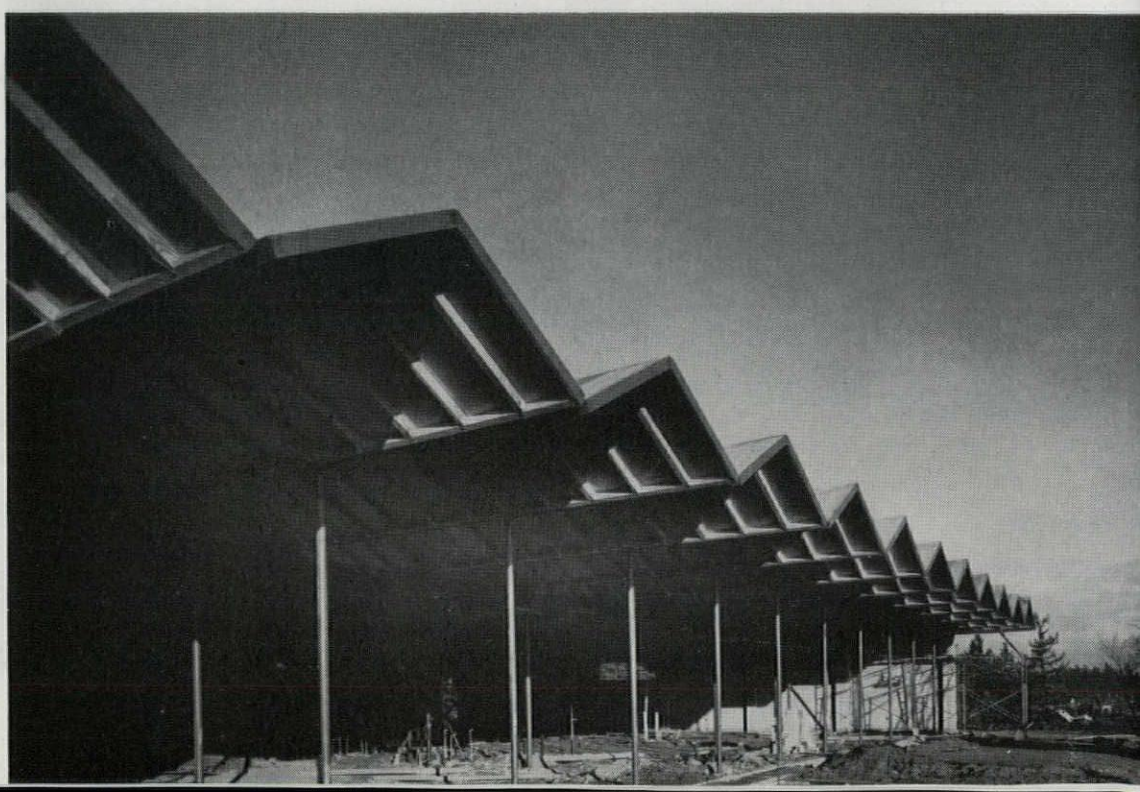


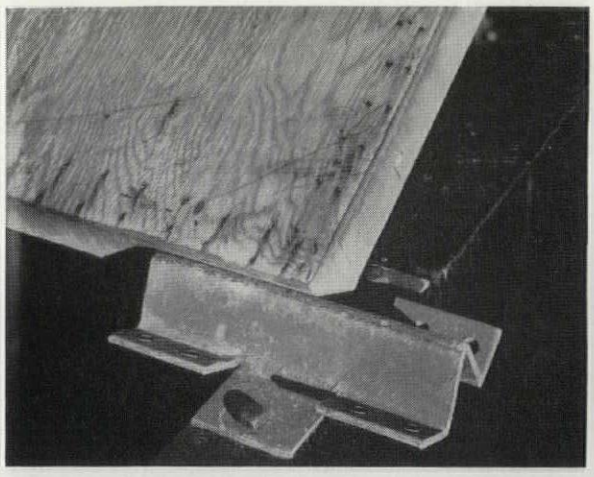
This roof, protecting an element of a suburban shopping center, was assembled with flat, prefab, lumber-framed plywood components functioning as a series of self-supporting, inclined diaphragms. It consists of 23 inclined planes, 5′-7½″ wide, sloping in opposite directions to form a series of peaks and valleys 121′ long from the cantilever-covered walkway to the rear of the structure. The plywood plates are supported on four glue-laminated beams spanning the width of the building. Beams, in turn, are supported at side walls by concrete-block piers and at intermediate points by 4″ pipe columns. An unusual element in this design is that the plywood plates spanning between the beams are supported only at their four corner points.

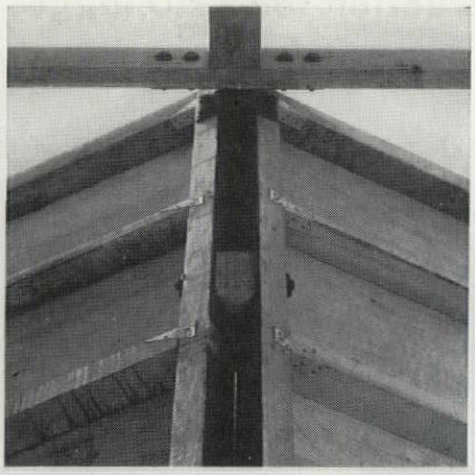
Plates were prefabricated at the job site in jigs, using ⅝″ fir plywood cut by the mill to a uniform length of 5′-6″. Standard 4′ width was used generally throughout. Longitudinal framing for each panel consists of a 4″x4″ at the top of the frame and 3″x4″'s at the valley. (The 4″x4″'s were ripped at an angle so that the panels would butt squarely against each other; rippings were used in valleys for a cant strip.) Vertical members are 3″x4″'s four ft o.c. to which the plywood edges were nailed; 2″x4″'s at the center of each sheet act as stiffeners. Casein glue was applied to the framing members by roller, prior to placing the plywood in position. Nailing was accomplished with an air gun—two rows on all edges. Where cross members butt against the purlins, triple-grip, galvanized-iron anchor clips were nailed by hand. Top purlins and 3″x4″'s were drilled at each end to accept ⅝″ lag bolts for joining. Lifting of all plates was accomplished in less than nine hours.

"Costs were comparable to the least expensive roof system necessary to accomplish the same structurally," says the architect, "however, esthetically we feel that we achieved more than we could have with standard joist construction."

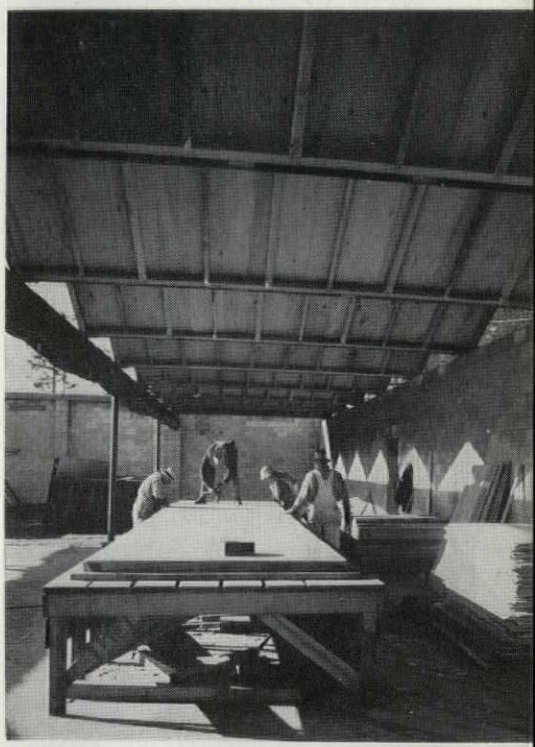
Photos: courtesy Douglas Fir Plywood Association

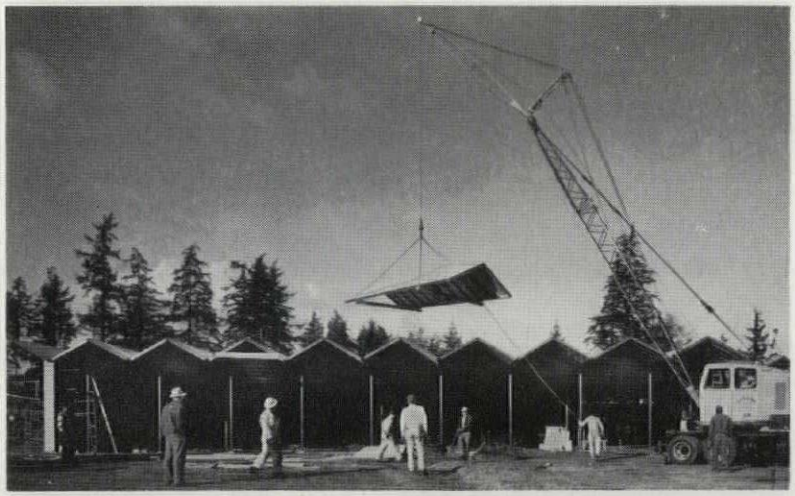


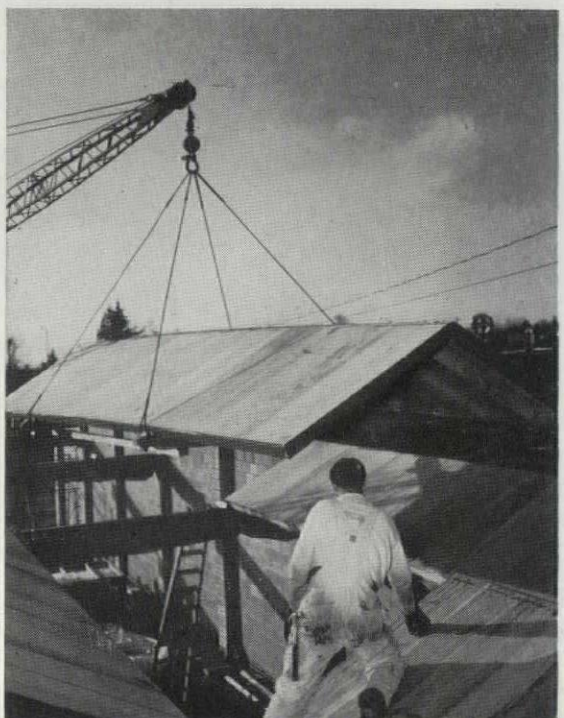




Custom-made support bracket (above left), *in which four corners of four panels rest, was made of two* ⅜" *angles welded together. Underside of valley* (above right) *shows anchor clips and beveled block between panel bottoms. Nailing was done with air gun* (right).







pole-type construction for a ski lodge

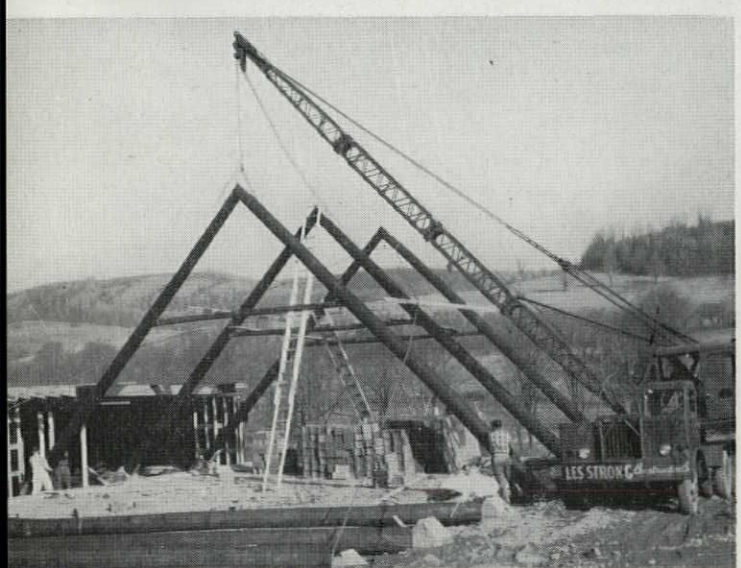
Structural members of this ski lodge near Cortland, New York, are creosoted poles. As reported by Robert B. Tallman, of the Ithaca firm of Tallman & Tallman, Architects: "They permit a large, unobstructed floor area and a view through a 600-sq-ft window that would have been restricted by a conventional A-frame construction—all at a cost of only $5.00 per sq ft."

The roof line—designed to tilt upward facing the ski slope—is supported by 12 massive telephone poles serving as roof beams. The framing could safely be exposed to the elements and in addition is strong enough to support a large roof area, often heavy with snow. The poles vary in length from 30′-10″ to 43′-9″, the diameter of the largest being 13″. Roofing consists of 1″x6″ tongue-and-groove roofers supported by 2″x6″ purlins which span 10′ between frames. Asphalt-roll roofing was selected as the surfacing material.

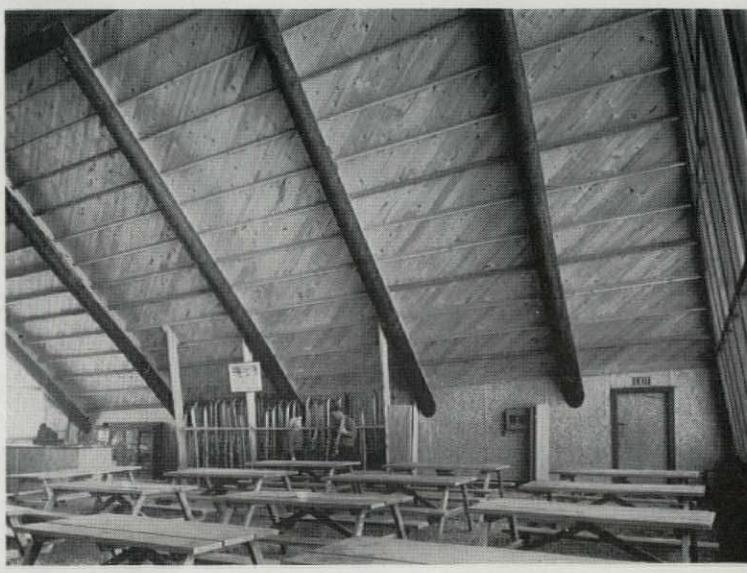
A special order for the yellow-pine poles was supplied from Alabama. After being trimmed to size, the poles were fastened to the peak with strap steel ½″x 4″x18″. A 20′ pole was used as a temporary cross member, anchored with bolts and wire; a truck crane having a 50′ boom lifted each frame into position where they were secured *(erection photo, bottom left)*. The largest frame, containing two poles, weighed more than three tons. Each pole is supported by a reinforced-concrete pillar set about 9′ into the earth. Time required to erect the six frames was only one-half day; total construction time was six months.

Norman E. Green, consulting engineer, also with Tallman & Tallman, states: "In this modified tent-shaped construction, the greatest stress on one member of the frame is at the center of the pole. This, then, is the 'critical' dimension, and bending moment here governs the pole's thickness."

The entire ski area may be seen through the 600 sq ft of glass which is tilted 4′ from vertical position to avoid distracting reflections from the sun. Since the window faces southwest, the sun shines into the dining room most of the day providing a considerable amount of light and heat. Total floor area, including a snack bar, measures 2860 sq ft.



Photos: courtesy Koppers Company, Inc.

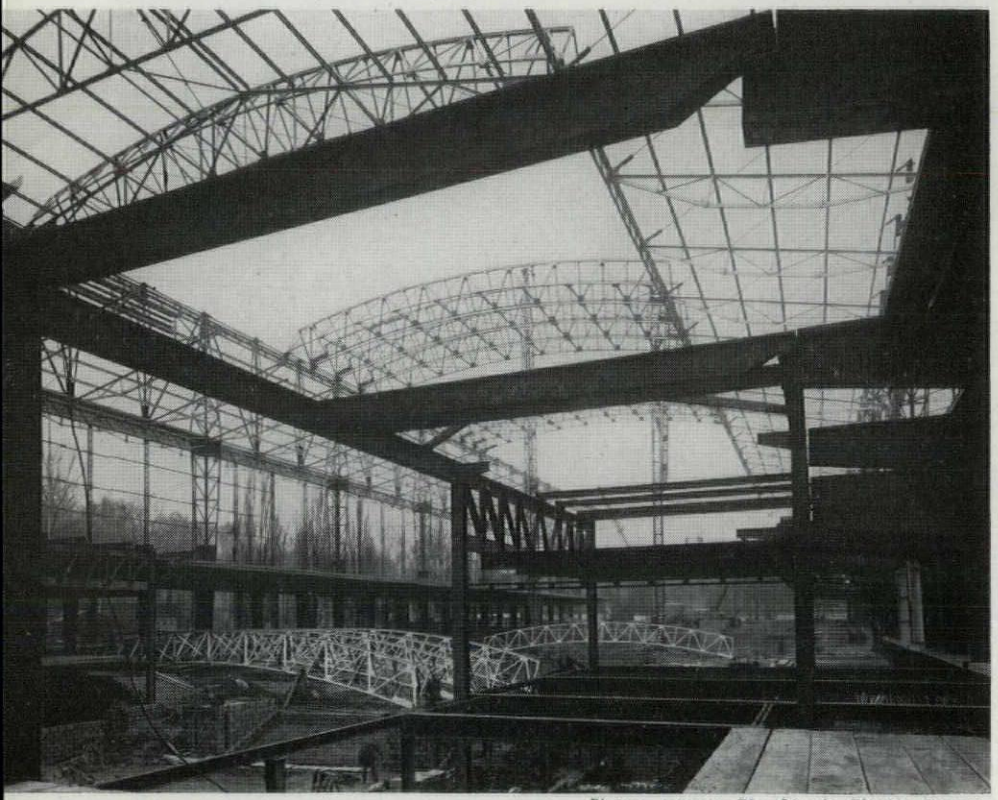


doubly-curved wood-plank roof

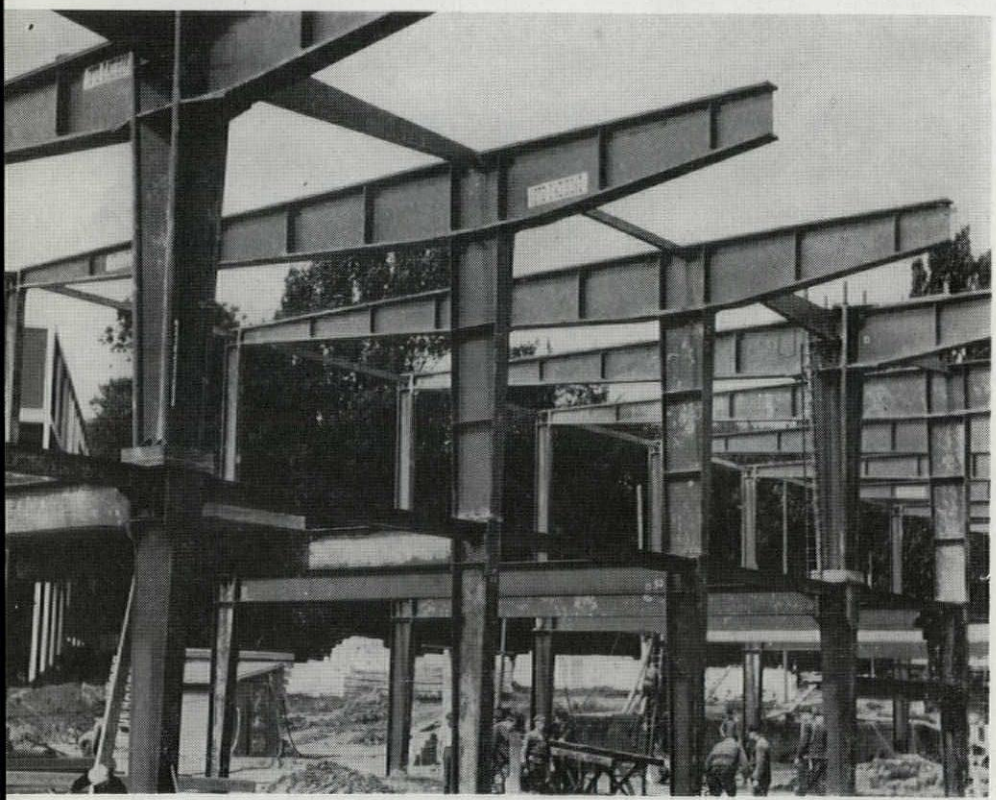
California's first residential hyperbolic-paraboloid roof made of wood—designed by Architect Roscoe L. Wood with Structural Engineer John Steinbrugge—was recently constructed at Redondo Beach. It consists of four hyperbolic paraboloids each 16′x16′ in plan with high points at the center and at the four corners. Three temporary straight beams were placed in each bay parallel to edge beams and one set of 1″x6″s spaced 6″ o.c. were "draped" diagonally from high corner to high corner. Another set of 1″x6″s were laid across the first set. Over this wood lattice, 1″-thick expanded polystyrene panels formed the finish ceiling. To preserve translucency, clear-plastic coating originally covered the plastic panels. Ultimately, however, a conventional surfacing was applied.

Photos: Hanson Williams Jr.

welding techniques in Russian Pavilion at Brussels



Photos: courtesy The Lincoln Electric Company



For the steel work in the Russian Pavilion at the Brussels World's Fair, extensive use was made of tapered beams and columns, including some unusual built-up columns fabricated from pipe, plate, and lattice work.

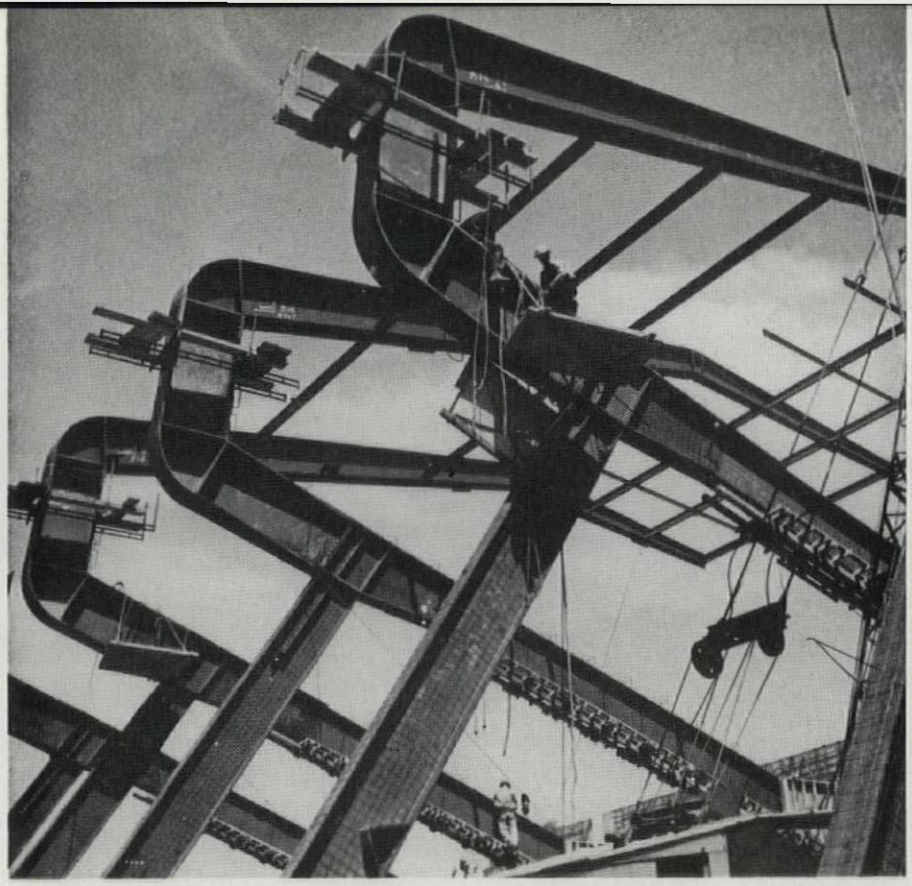
Four different column designs are used. The first is simply a large, tapered, fabricated H-section. Columns of this design support the first two floors, but carry little, if any, of the roof load. The taper is from small at the bottom to large at the top. Stiffeners are used on the wider parts.

The other three designs are found in the larger columns that support the roof structure. Each column, as it rises, has first a box section, then a built-up section with pipe and plate, and finally a built-up section with pipe-and-lattice work. The box portion extends from the foundation to the first-floor ceiling. The cap on its top becomes the base of the next section of column. The second section is built up with pipe and plate. Four ribs, or fins, radiate from a center pipe. They are welded to the pipe for its entire length. To the outside edges of the ribs are welded other pipes *(photo below)*. Like most of the building's columns, they taper to a larger size at the top. They extend from the first floor to the second floor.

The final section of the heavier columns is a built-up section with a pipe in the center surrounded by a lattice. These columns extend from the second floor to an aluminum roof structure.

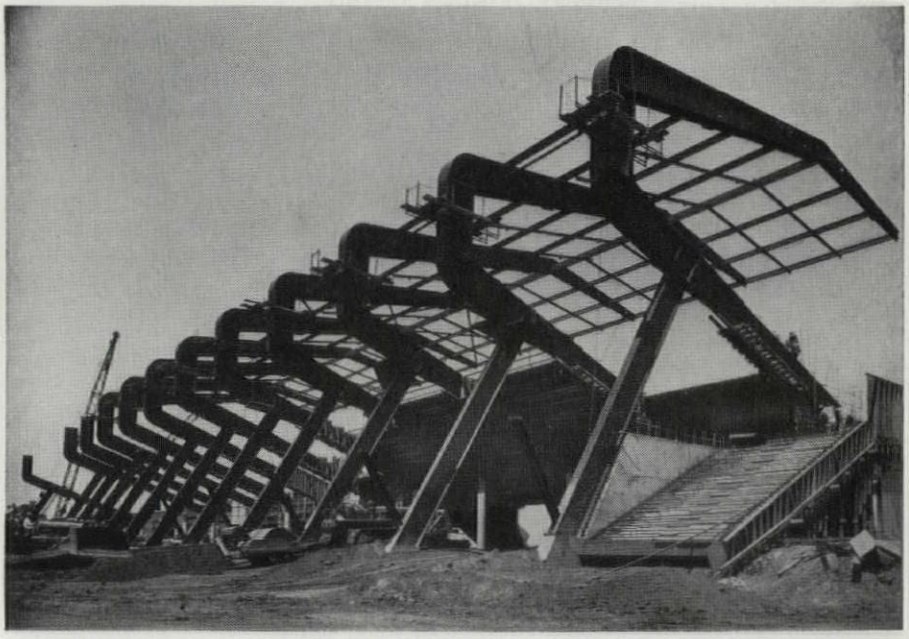
The building also uses welded girders at the second floor level. Most of these are supported between columns of the outside wall and a row of columns inside the building that are only two floors high. They are cantilevered beyond the inside columns, in some cases holding one end of supported girders that extend even farther inside the building. Cross members between the girders are fabricated box-section beams. These taper, depending on the distance from one of the large roof-supporting columns.

Steel work was by a Belgium fabricator; most of the welding was done with the submerged-arc process.

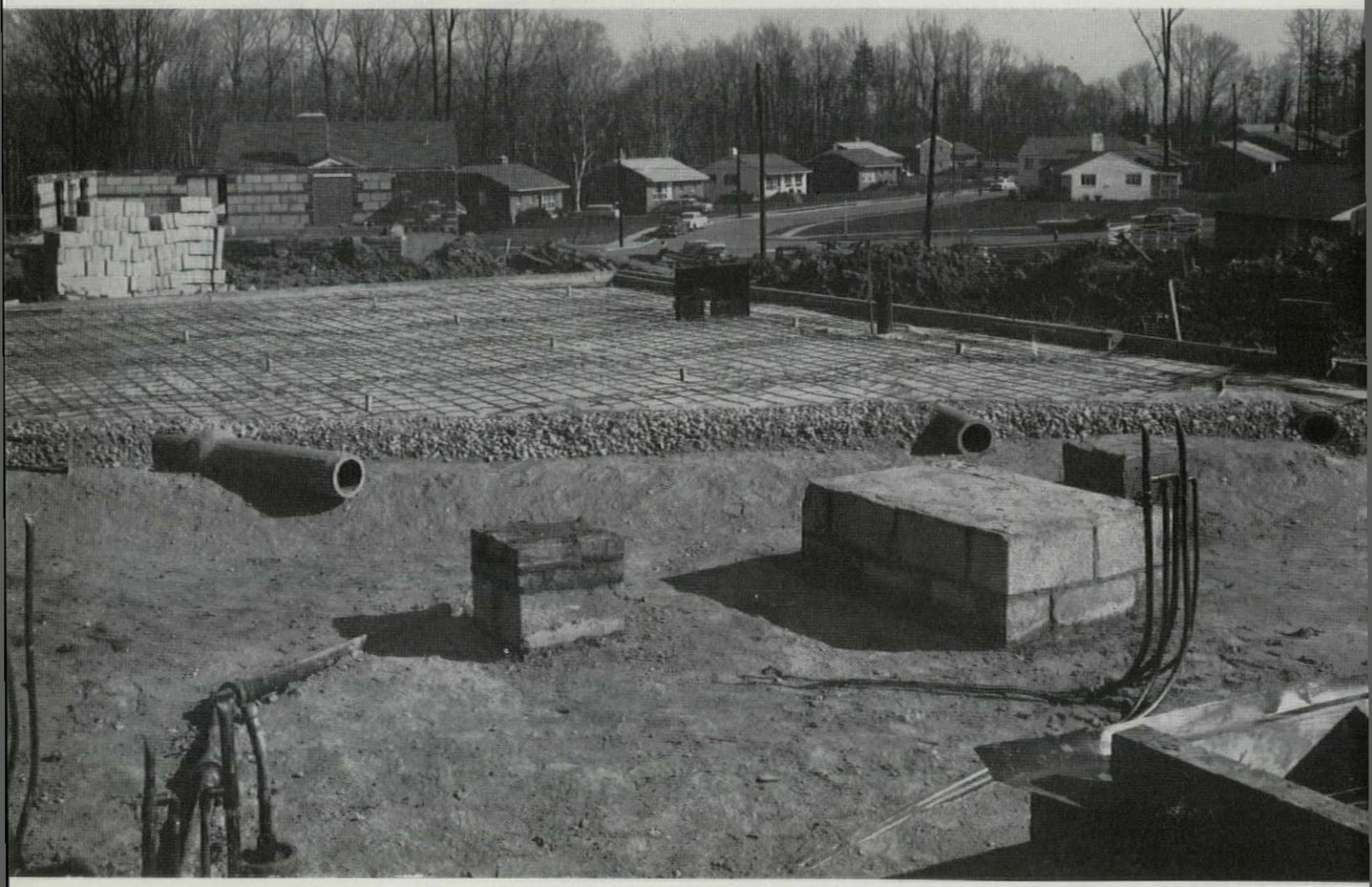


built-up cantilevered steel girders

A new grandstand at Stockton, California —seating 3776 spectators—has a skeleton of 15 horseshoe-shaped, fabricated, steel frames standing 65′ high and set 25′ o.c. Total pavilion length is 350′. The cantilevered sections extend about 60′ out from the back wall to form the roof over the easting area. Ten-in. I-beams were used as purlins between the upright frames. Each section was fabricated in four parts and bolted together at the job site. Metal louvers in the roof facilitate air circulation. A mezzanine under the stands houses concessions and pari-mutuel windows. Architect-Engineer was California State Division of Architecture, with Edwin A. Verner, San Francisco, as Structural Engineer.

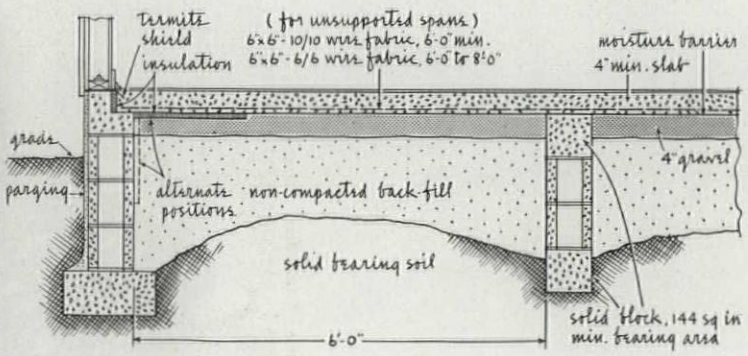


Photos: courtesy Kaiser Steel Corporation

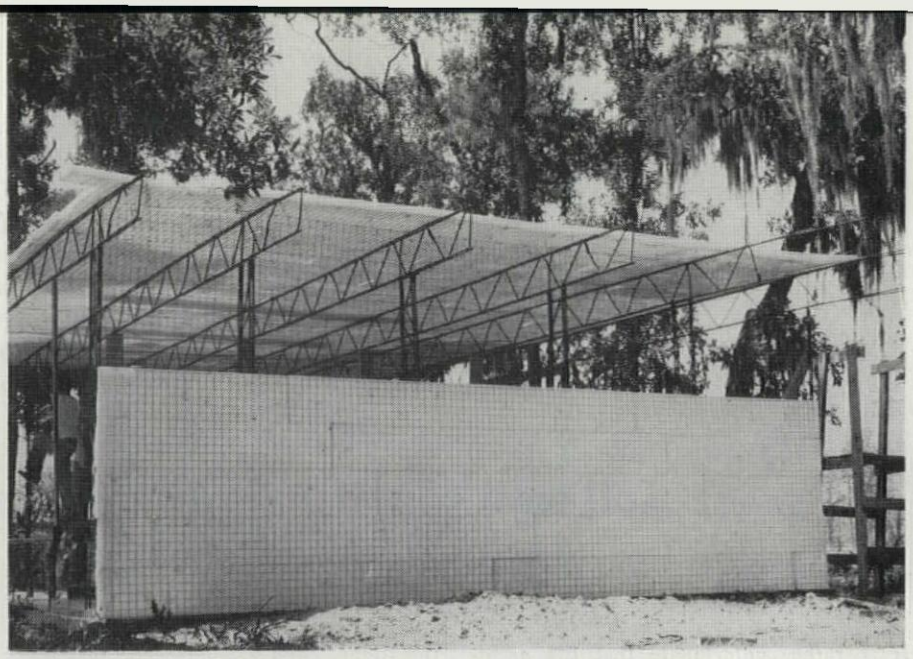


pier system for concrete-slab construction

A new ground-slab design—"intermediate pier floor-slab construction"—has been required by FHA's District of Columbia office for five years, with nearly 5000 installations to date. Primary difference from conventional slab-on-ground construction is that concrete floor in combination with welded-wire fabric reinforcement is a semi-structural slab. Weight of slab, and its live load, is borne by foundation walls and intermediate supporting piers penetrating to undisturbed soil. Principal savings result from elimination of thorough backfill compaction. Pier/slab method requires little or no more wire reinforcement than most good builders provide for shrinkage and temperature steel. Because slab would be supported by ground in case of failure, allowable working stress for steel has been increased to 40,000 psi.



Photos: courtesy Wire Reinforcement Institute

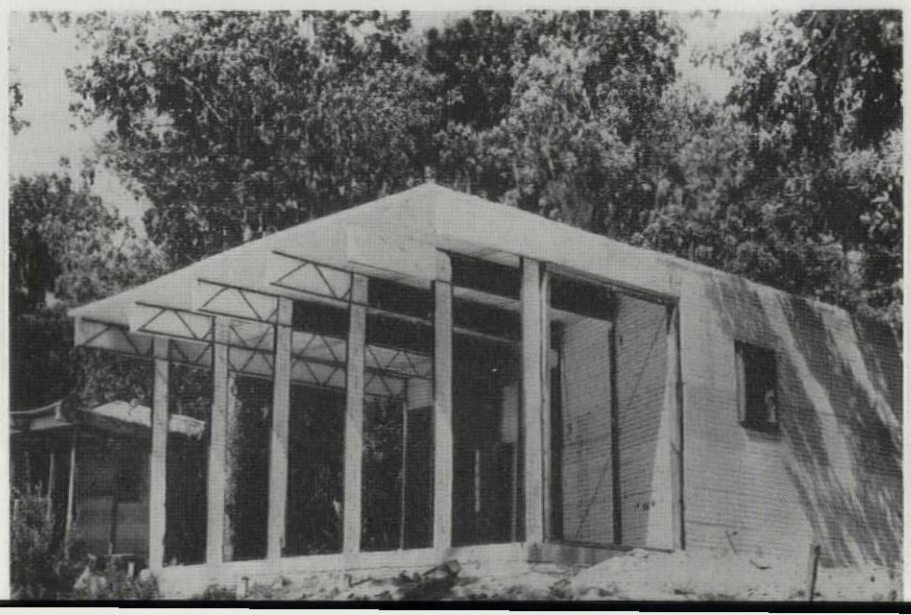


foamed-polystyrene/concrete-sandwich panel construction

Built as an extension to the facilities of the Atascocita Country Club near Houston, Texas, 15 sturdy cottages were erected without the use of such conventional materials as masonry, lathing, or even nails or screws. Walls of these units are of sandwich construction having concrete exterior and interior surfaces and an expanded-polystyrene core.

Initial construction step was pouring a concrete slab. Next, a framework of steel bar joists was erected at 4′ intervals and horizontal strips of wire mesh were fastened to the joists to ceiling height. Where required for additional support, reinforcing rods were placed 36″ o.c. Two-in.-thick panels of expanded polystyrene were then wired to the mesh, with all vertical joints staggered. Last step before spraying on concrete was to anchor an exterior covering of wire to the plastic core. Ceiling framework was identical, as was construction of inside partitions—except that the latter were self-supporting and required no bar joists.

Guniting operations began with a light coating applied to the structure—a section at a time. First coat of cement was allowed to set partially. Then minor adjustments necessary to plumb the area were made. The gunite operator continually moved around the cottage—spraying a new area while the coat of a previously sprayed area was setting. Successive coats were applied, inside and out, until a coat 1″ thick was achieved on either side of the core material. Standard methods of finishing were used.



Photos: courtesy The Dow Chemical Company

Increase in awareness of the need for soils-and-materials testing is substantiated by the number of laboratories that now perform this work. From a total of about 400 in 1950, there are more than 3000 in operation today. This article demonstrates benefits to be derived from reports prepared by competent soils engineers and discusses the important considerations: who should select the testing laboratory; and who should pay its fee.

soil and construction materials testing

by Theodore W. Van Zelst*

It is rather unfortunate that the architectural team of Bonannus and William cannot read this brief exposition. Their greatest architectural mistake might never have been made. But then, one of the most famous tourist attractions in all of Italy might never have been created. For it was Bonannus of Pisa and William of Innsbruck who built the famous Tower of Pisa, beginning late in the 12th Century, and who have given us a classic example of what can happen when a proper foundation study is not made before a structure is begun. There was a "soft" side of the foundation area, and according to the most reliable reports, the building started leaning soon after the third story was added to the structure. From then on, the building had to be designed in such a way as to keep the weight on the high side, thus preventing the structure from toppling over completely.

Today, few major building programs are undertaken without a reasonable amount of foundation-exploration work being done. And, for the most part, quality-control testing programs are carried out on construction materials with reasonable regularity. This is substantiated by the fact that more than 30 percent of the work done by private engineering-testing laboratories in the United States today is being ordered by architects, and this includes both soils and concrete testing.

soil—part of structure

There are few in the civil engineering field today who do not regard as part of the structure the foundation on which a building rests. Buildings still sag, foundations crack, and walls drop, so that there is a constant program on the part of architects and engineers to improve methods of testing, to develop equipment, and to refine survey practices to minimize the hazards of the subsoil. Private testing laboratories, increasing in number every year, are able to subject soil samples to the conditions that will prevail after many years of tremendous pressure, strain, and climatic conditions. Triaxial-testing apparatus has been developed that will not only reveal, with a great deal of accuracy, the failure point of a soil sample, but also will allow for precise measurements of specimen volume changes in very small increments during the test. Consolidation tests can be made that will reveal, within a few weeks in a laboratory, what effect the total load of a structure will have on its foundation after the passage of many years. And, in addition to revealing to an architect or engineer what the reaction will be, the soils engineer can then make recommendations that will insure proper use of the soil on which a building or structure is to be erected. In this way, the foundation material can be integrated into the building design rather than considered as an unrelated factor.

In fact, proper knowledge of subsoil conditions can often be used to reduce the cost of building by preventing overdesign of the structure. This can represent a significant savings, since the basement and foundation of a structure can frequently represent as much as 20 percent of the cost of the entire building. Not infrequently an experienced and rather salty self-educated contractor will sneer at the idea of testing. "We know from experience what kind of a footing a building or house we're working on will need. Then, if we think the ground is a little soft, we just go a little deeper or make the footings a little wider." Which is, indeed, a fairly acceptable rule of thumb. . . . as long as cost is no factor. It is the architect's responsibility to provide his client with a building which is esthetically acceptable as well as structurally safe; however, needless expense because of over-design is to be shunned in the interests of the owner.

soils consultants' reports

Even an architect's appreciation of the various tests to which soil samples can be subjected—density, triaxial, permeability, direct shear, consolidation, unconfined compression, and others—is not enough information in itself to base designs on. Very often a soils engineer must interpret these findings to supply the architect with the complete picture necessary for structural-planning purposes.

Bramlette McClelland, Houston, Texas, soils consultant, cited the case of architects who had tests carried out in connection with a two-story, basementless, commercial office building. Running the tests was a good first step, but improper or inexperienced use of the data obtained led to the development of a rather costly problem. They wanted optimum moisture tests on underfloor fill material and field density tests to control compaction of the fill. The specified tests were performed in accordance with standard procedures and the clay-fill material was placed to a high percentage of maximum density. A few weeks after the floor slab was poured and interior partitions had been erected, the fill began to swell. Severe cracking of the floor slab and of interior partitions resulted, with damage extend-

* *President, Soiltest, Incorporated, Chicago, Ill.*

ing to exterior, masonry walls. It was this lack of the knowledge of soil behavior that a soils engineer could supply, that could have easily prevented this damage. On the other hand, savings of an estimated $100,000 were effected by the willingness of the same foundation engineers to do a little more than they were asked to do by another architectural firm on a high-school job. In this case, the McClelland foundation consultants were engaged to test only soils deeper than 30 ft, for the exclusive purpose of establishing pile lengths and loads. Preliminary auger boring made by the architects revealed that pile bearings were necessary. However, McClelland, working outside his authorization, tested all soils encountered and demonstrated conclusively that relatively shallow drilled-and-underreamed footings would safely support the structure with negligible settlement. So, the expensive pile supports were unnecessary. But the point is, it took a qualified soils expert to determine that fact with recognized testing methods. This, of course, is not to "point the finger" at architects in any way. Soil mechanics is a new field and not too much has been known about soil properties until recently. Most authorities in the field are still alive and learning. Although architects are familiarized with soil mechanics in a general way at schools of architecture, this introduction is too superficial to produce more than awareness of soil mechanics and its relation to construction and design.

Oscar J Schrerer, president of Nevada Testing Laboratories, Las Vegas, observed that architects with whom he had worked seemed to be interested primarily in the loadbearing capacity of soils. He reports that their interest in methods and procedures is "negligible." Furthermore, he feels that architects might do well to advise owners of the consequences that arise as far as construction costs are concerned in selecting unsuitable sites for building. Many situations have arisen where subsurface conditions encountered during construction necessitated reconsideration of the foundation designs. Thorough site explorations before purchase, or at least before the final-design stage has been reached, can save considerable money.

Soils specialists too, with new experience, have become more flexible in their thinking and recommendations. Harl P. Aldrich, of the consulting soils engineering firm of Haley & Aldrich, Cambridge, Mass., performed an interesting operation, in order to save the cost of a pile foundation thought to be needed for two 120′x60′ oil tanks. The tanks were being constructed for the Metropolitan Coal Company, Chelsea, Massachusetts. Soil conditions at the site consisted of approximately 13 ft of miscellaneous granular fill underlaid by 6 to 13 ft of organic silt and inorganic silty fine sand. Stiff yellow clay, sand, gravel, and boulders occurred below this compressible stratum. The key to saving the cost of the piling foundation was the compressibility of the foundation, as determined by laboratory consolidation tests. A site preloading operation could be carried out for less than half the cost of the pile foundations. Therefore, approximately 28,000 tons of sand and gravel were placed first on one tank site, and then on another for the purpose of precompressing the underlying soils to minimize foundation settlement. This saved the owner more than $100,000 over the cost of a pile foundation.

This same type of experience has been reported by Jose Capacete, president of Foundation Engineering Company in Puerto Rico. Working on a project with the architectural firm of Lyles, Carlisle & Bisset of South Carolina, a saving of an estimated $28,000 was effected by determining the degree of compressibility of an organic clayey silt. Soil studies revealed the compaction and preloading possibilities and the design of the structure was made compatible with these findings.

We can applaud the fact that when the soils engineer and the architect work together on these problems there is a noteworthy, positive attitude on both sides. Capacete reports that 75 percent of the soil-testing and foundation exploration that he does is for architects; and he feels most emphatically that those with whom he has been working definitely understand the need for soil exploration and testing, prior to recommending the preferred site for a building to an owner.

This feeling is apparently echoed by Paul Wood, of the architectural firm of Briggs & Wood, New York, who stated: "Sub-surface investigations are most important and generally are not held in high enough appreciation by architects and owners." He also pointed out that core borings on a reasonable grid are essential and that proper evaluation and testing of the samples taken are "absolutely essential for economic design of any structure."

There are many instances where test boring has caused major changes in plans for site located. In Stamford, Connecticut, a major supermarket chain was considering the purchase of a 16.2-acre tract of land for a warehouse, at a reported $30,000 per acre. Before negotiations were completed, however, the firm had its engineers complete a series of test borings. These samples revealed soil conditions and a boulder situation that would require an estimated $400,000 in site development. The chain simply looked elsewhere.

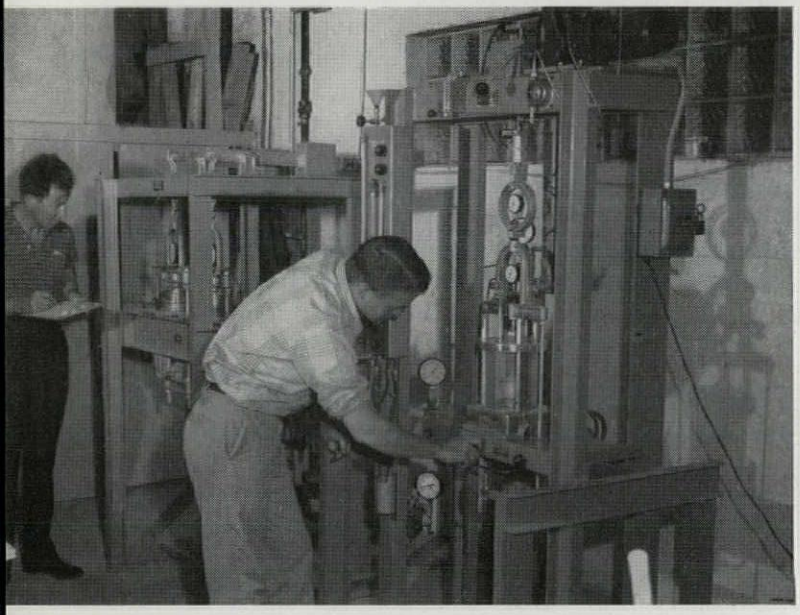
building materials testing

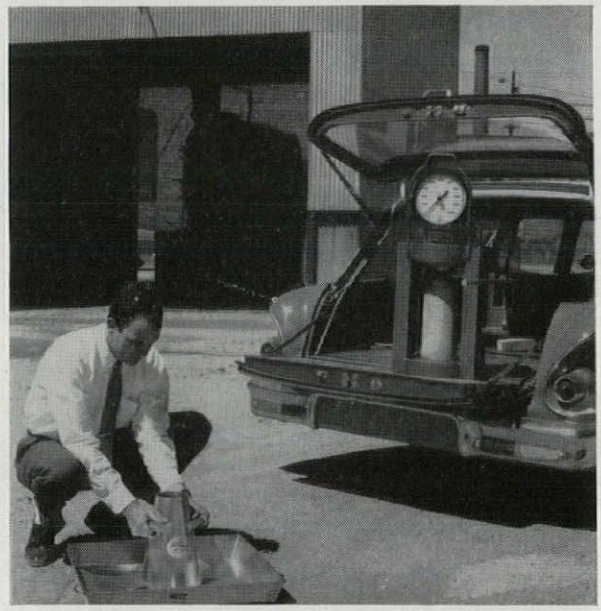
Overdesign can also be minimized in connection with building materials. Concrete, for example, being a basic ingredient in a majority of structures, can be subjected to a number of tests both in establishing design standards and in running quality control on individual batches of mix. Tests can, and on major projects should, be made to determine strengths and standards for a given job. Cement can be tested, the aggregate can be classified, air-and-moisture content of concrete controlled, and the compressive strength of the concrete at 3, 7, and 28 days easily checked, on the job site if necessary.

In metropolitan New York, the interest in and need for concrete testing was made manifest when, just last year, the Concrete Industry Board issued a bulletin entitled *Manual of Recommended Testing Practice for Inspection and Testing of Concrete Materials and Concrete.* This Board—composed of architects, engineers, contractors, owners, suppliers, and testing engineers—made the strong recommendation that: " . . . the owner or the architect, not the contractor, should employ a qualified testing laboratory to carry out the requirements of the specifications. . . ." This recommendation was made, and is being promulgated because it was felt by the Board that requiring a contractor to submit and pay for quality-control reports on his own products,

Performing liquid-limit test in a laboratory as one of the steps in soil classification (right).

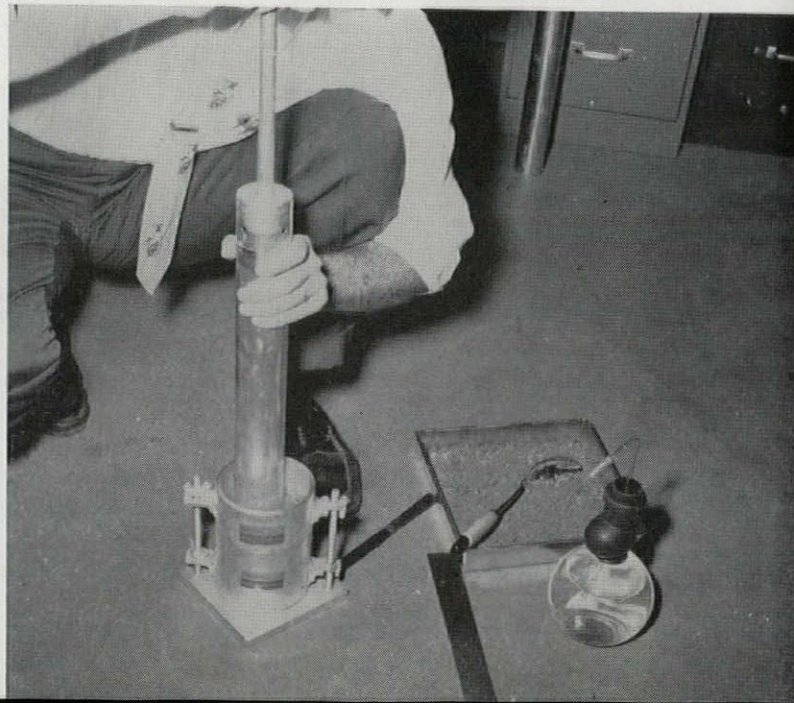
At the laboratories of Goodkind & O'Dea, (below) *Chicago, soils engineers conduct a consolidation test, left, and a triaxial test, right, as part of soils studies in connection with a local construction project.* Photos: courtesy Soiltest, Inc.





Easy-to-transport testing equipment makes quality control a simple practice today. Portable concrete tester is shown on station wagon tailgate and a slump test is performed in foreground (above right).

Laboratory compaction of soils (right). *This type of test can also be performed in the field or in a mobile lab.*



would be like asking a student to correct his own exam paper and then read the teacher the mark he thought he should get. In fact, the Board further recommended that all materials and mixtures be submitted to a testing laboratory by the supplier of concrete, together with a certification by the concrete producer that they are typical of the materials proposed to be furnished throughout the project. To meet this requirement, concrete producers would have to deliver a sufficient quantity of this concrete to the testing laboratory at least 45 days in advance of any concrete operations so that preliminary tests could be performed and the concrete mixes established.

Of course, these are recommendations and have not the force of law. It is a voluntary effort on the part of all engaged in the building and construction industry to raise standards and practices. But, it is a beginning.

architects' reports on testing

It seems fortunate that the question of who should employ the testing laboratory is set forth clearly and unequivocably. A survey was made recently to determine the thinking of representative architects on the employment of a testing laboratory. The question was: "If architects were to supervise control testing of concrete and materials, these costs would have to be added to the basic architectural fees. Do you think owners would object to paying this clearly indicated additional expense?" The majority (about 60 percent) indicated that they didn't think there would be any problem. The remainder definitely expected trouble. Looking at the reaction of the minority reporting (those who felt owners might object to these costs), the following are noted:

Robert Hutchins, of Moore & Hutchins, New York, writes that it might be difficult to arrange beforehand with an owner, because the amount of testing cannot be fixed, so that an architect can include these testing costs in his contract with the owner. But he also admits that it is not very satisfactory to have the contractor, himself, handle the testing.

Likewise, Carl M. Teutsch, Chicago, feels that since owners are generally interested in keeping costs at a minimum, they could be expected, at times, to question the need for testing. Howard T. Fisher, also of Chicago, pointed out the objection to an architect undertaking the financing of the testing program himself. He feels that if soil testing or other testing is to be ordered on behalf of owners, that the testing services should be billed directly to the owner. Short of that, he would have expenditures of this sort handled by the contractor, with payment covered as part of the periodic payments to contractors.

Other objections, in general, pointed to the fact that owners might be well advised to understand the significance of testing and shown the savings that can be effected through a good preliminary materials and foundation testing program. But this is a long-term undertaking for all in the building and construction field. Nevertheless, well broadcasted savings and economies that such a project can bring about will help spread the word to owners and prospective owners. Everybody is interested in saving money.

On the other hand, the majority of architects—feeling that owners would not object to paying costs of testing—point out that when owners have this phase of the building program carefully explained to them, they will go along with the additional costs. Many, however, pointed out that as long as the fees for testing were included in the general construction contract, there would be no problem.

H. C. Porter, of Lorimer Rich & Associates, New York, states that architects are always in charge of the testing program; but that laboratory expenses are always in the General Contract bid.

The materials-testing program is contracted for by the General Contractor, though supervised by the architect, according to John R. Fugard, Jr., of Fugard, Burt, Wilkinson & Orth of Chicago. "We believe that is the architect's responsibility to supervise the testing of concrete and materials. The resident architectural supervisor usually handles this in our office. All our work is under our supervision and we believe that our client expects this service and is willing to pay for it."

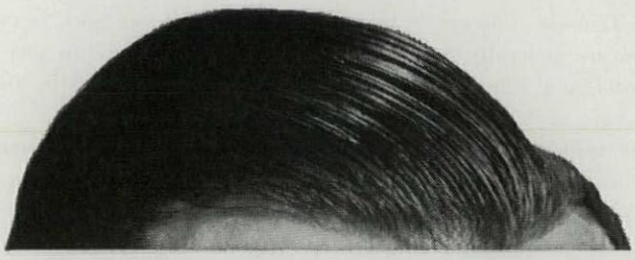
N. Brunkow, of Graham, Anderson, Probst & White, Chicago, reports his firm's practice of recommending and checking testing service to the owner, who in turn pays the testing fees directly. And from New York, Kenneth K. Stowell, of Giffels & Rossetti, explains that owners pay for all borings and tests as part of a contract set up between the firm and owner.

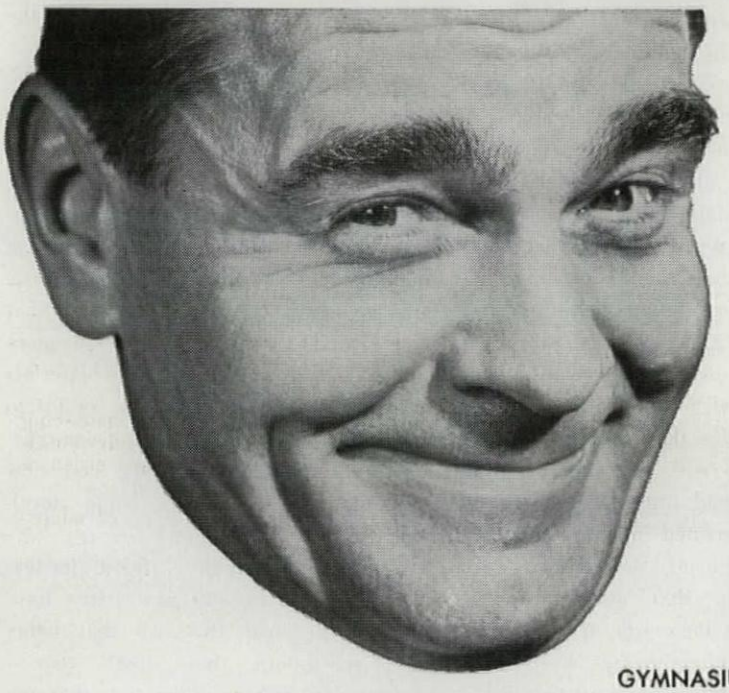
present status

All told, there seems to be a wide range of practices among architects in various parts of the country. But one thing seems to be certain: there is growing understanding of the need for testing. This is substantiated by the fact that from a total of 400 in about 1950, more than 3000 soils-and-construction-materials testing laboratories have been set up to serve the growing needs of the construction industry. New methods, and new equipment are constantly being developed.

In our own company catalog, for example, more than 300 new items have been added since 1956, so that today there are more than 1600 items—machines and testing apparatus—that can be used for materials testing. Every year, the American Society for Testing Materials announces new specifications and standards, new materials and methods to improve and standardize testing practices. More universities are teaching soils mechanics—in 1946 there were 12 colleges with respectable soils testing laboratories in the United States. Today more than 250 schools have their own labs. Even abroad, this trend is noted. At Robert College, in Istanbul, 25 percent of the civil engineers do graduate work in soil mechanics. Suddenly, engineers everywhere are looking at the foundation as part of the structure; examining design for possible building economies. And, architects, it seems, are fast following suit. Today, more than ever, testing is "good insurance."

"I find the answers on FLOOR TREATMENTS ... in these HILLYARD FILES!"





"What's The Best Treatment?"

Folders recommend treatments for varying floorings, floor uses and problems. Contain architect's specifications for treatment of new flooring (old flooring, too).

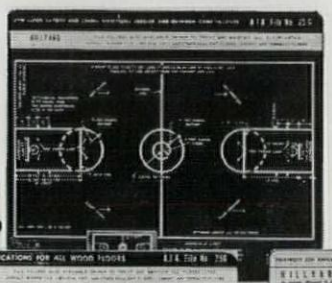
"What Help Can I Give My Contractor?"

Folders also contain detailed step-by-step instructions for applying each treatment specified. Includes recommendations on maintenance, which can be passed on to the client.

"Who Will Serve as My Job Captain?"

The Hillyard Maintaineer® will serve — without charge or obligation! He's your own skilled consultant, ready to help on any floor treatment problem. File carries geographical listing of the more than 175 trained "Mainfaineers", from which you can select the man in your territory.

GYMNASIUM



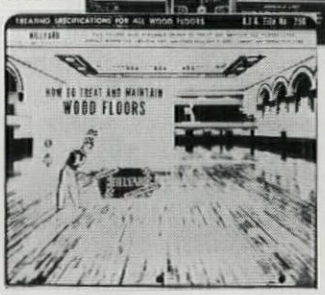
SEE OUR CATALOG IN SWEET'S ARCHITECTURAL FILE

THE PRODUCERS COUNCIL

TERRAZZO

CONCRETE

WOOD



RESILIENT

Bring Your Files Up-to-Date

Each of these Hillyard Files (AIA No. 25G) has been revised and is current for 1958. Write for new issues to complete your files, or to replace older files you now have.

The Hillyard Maintaineer is *"On Your Staff—Not Your Payroll"*

FLOOR HILLYARD TREATMENTS

ST. JOSEPH, MO.
Passaic, N. J.
San Jose, Calif.
A-4

Branches and Warehouse Stocks in Principal Cities

Building-Code Requirements for Metal Curtain Walls

*by Harold J. Rosen**

Promoters of new materials and methods of construction are frequently stymied, and frustrated, when they are confronted with what appear to be ancient and outmoded building-code requirements. However, the process of revising building codes is an arduous, drawn-out task with many factors and forces having a hand in the development of safe and modern building regulations.

The Committee on Building Research and Technology of American Iron and Steel Institute has just anounced that substantial progress has been made in recent years in revising building-code regulations to permit modern, steel, curtain-wall construction. The Committee credits the promulgation of new, advanced building codes to far-sighted architects, building-code and fire authorities, as well as engineers and builders who have recognized the advantages that can accrue from the use of metal curtain walls without sacrifice of fire safety.

The "specification" type of building code which spells out the kind and thickness of material to be used is very restrictive and has retarded the introduction and use of new building products. Building codes which have been adopted in recent years tend more to the type which specify standards of performance. This type is not written around materials and methods in vogue today, but establishes certain performance standards with which certain classes of construction must comply, so that future materials and methods may be used if they meet these requirements.

The metal-panel curtain wall at its inception could not offer as great monetary savings as it can today, because of the restrictive nature of the building codes in force at that time. The common regulation of these older codes was to require that exterior walls of fire-resistive buildings be constructed of reinforced concrete or masonry having a 2- to 4-hour fire resistive rating. Furthermore, no differentiation was made between loadbearing and nonloadbearing exterior walls. Such outmoded building-code regulations are still in force in some localities. Metal curtain walls, when first introduced (and in those localities still governed by old building codes), required the use of masonry back-up to obtain the necessary 2- or 4-hour fire rating.

However, an anomalous situation exists with respect to the use of glass under some of these older codes. These codes permit glass-window areas of unlimited size and number in walls, but when glass is not used these codes require 2- to 4-hour concrete or masonry construction. Obviously, these requirements are inconsistent and unbalanced, safetywise. They are unduly costly at a time when other wall materials have become available.

Early code writers did not give consideration to the fact that exposure temperatures created by a fire in an adjacent building, although capable of igniting exposed combustible materials over a wide distance, represent a relatively low severity of fire exposure; i.e., only a few minutes duration (severity) of the standard ASTM fire test exposure, which is the commonly accepted test by which fire-resistance ratings of walls are evaluated. Fire-protection authorities now agree that, when adequate separation distances are provided, no prescribed minimum fire resistance is necessary for noncombustible-panel walls to provide adequate fire safety.

Fortunately, building-code regulations are being continually modernized and brought up to date. Provisions for the use of modern panel-wall construction now appear in building code standards which receive national or wide regional recognition—such as the Basic Building Code, National Building Code, Southern Standard Building Code Uniform Building Code, and Standards of National Fire Protection Association. The Committee on Building Research and Technology of American Iron and Steel Institute has co-operated with building-official groups and other organizations responsible for the development of these codes. The Committee's efforts in encouraging recognition of code standards to provide for the modern curtain wall have also been an important contribution to this progress. It is estimated that one or another of these code standards is followed in more than 75 percent of the jurisdictions, including cities, counties, townships, and states, in the United States that have building-code regulations.

These codes now, very properly, differentiate between the fire-resistance requirements for loadbearing walls and those for nonloadbearing panel- or curtain-wall construction. The latter are now generally required to be of "noncombustible construction" and not specifically of "masonry or concrete." Further, their fire-resistance requirements are varied according to the distance of separation from fire exposure. A 2-hour fire resistance is generally required in those locations where the code does not permit wall openings; and a 1-hour fire resistance is required in less-exposed locations where protected wall openings are required. Where unprotected wall openings are permitted, exterior panel walls of unprotected noncombustible construction are now permitted. Thus, adequate fire safety is provided without undue penalties on building costs.

Modern exterior curtain-wall construction is now permitted in a considerable number of the larger cities in the country. In addition, other cities and jurisdictions are presently in the process of revising their building codes to provide for the use of this type of wall construction.

A continuing informal survey of 100 large cities (those having a population of 100,000 or more) presently reveals the following:

> 49 cities permit modern curtain-wall construction (without fire-resistive back-up) when adequate exposure distance is provided.
>
> 12 cities are presently considering specific amendments to their building codes to permit modern curtain-wall construction.
>
> 17 cities are in the process of adopting the latest edition of one of the national building code standards which include provisions for modern curtain-wall construction.

Thus, 78 percent of the cities surveyed either permit unprotected, noncombustible, panel- or curtain-wall construction when adequate exposure distance is provided, or have code amendments under consideration which will permit such construction.

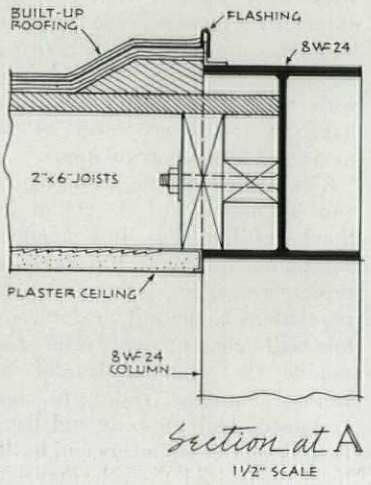
The codes of the remaining 22 percent of these cities either require 1- to 4-hour fire resistance or masonry materials for wall construction regardless of fire-exposure distance. These codes generally would permit either unlimited or large areas of glass installations in such walls, in lieu of the fire-resistive construction or masonry materials. Proposed amendments have not yet been considered by all of the cities that fall within this 22 percent. It is reasonable to assume that many of these cities will adopt amendments in the near future that will provide for modern curtain-wall installations.

The list of cities surveyed, together with their present code requirements, may be obtained from American Iron and Steel Institute, 150 East 42 Street, New York 17, N. Y.

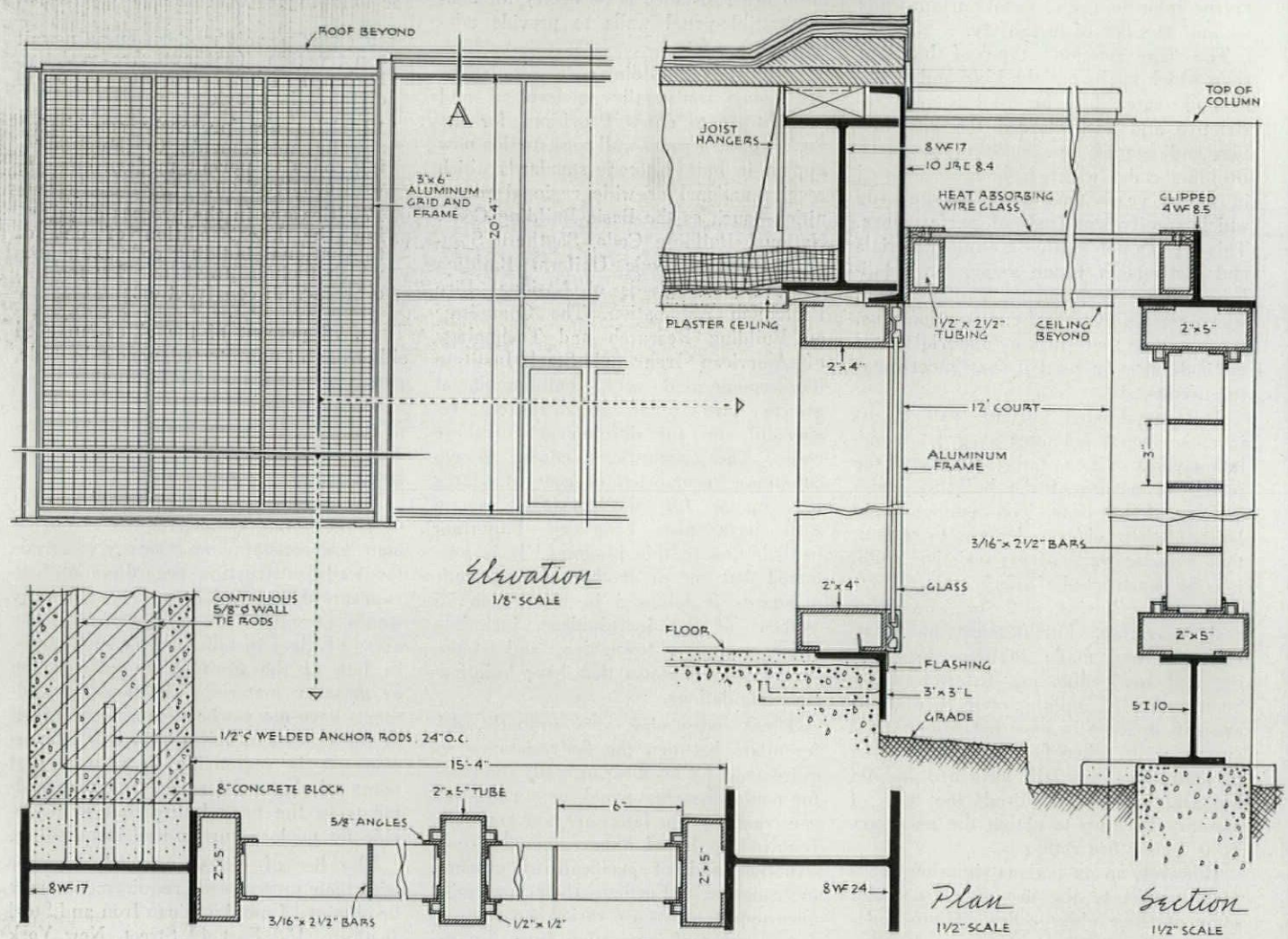
**Associate, Kelly & Gruzen, Architect-Engineers.*

sunscreen

MARVIN RAND



Section at A
1½" SCALE



Elevation
1/8" SCALE

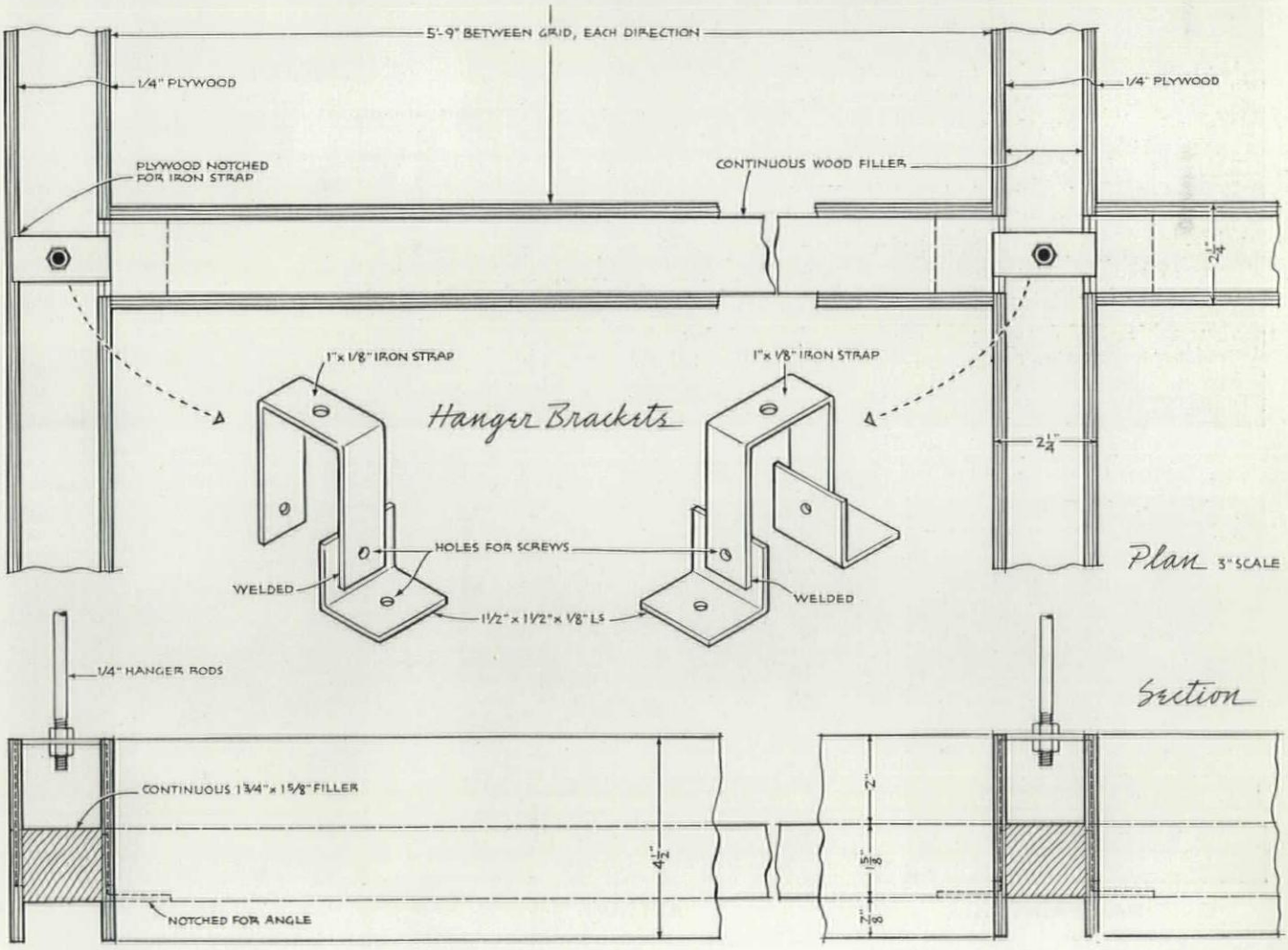
Plan
1½" SCALE

Section
1½" SCALE

BANK, Manhattan Beach, California
Craig Ellwood, Designer

ceiling grid

ALEXANDRE GEORGES

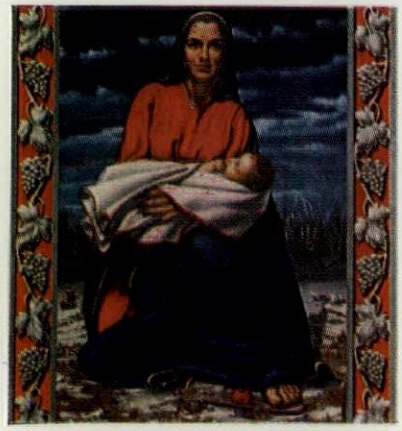


FURNITURE SHOWROOM, Tampa, Florida

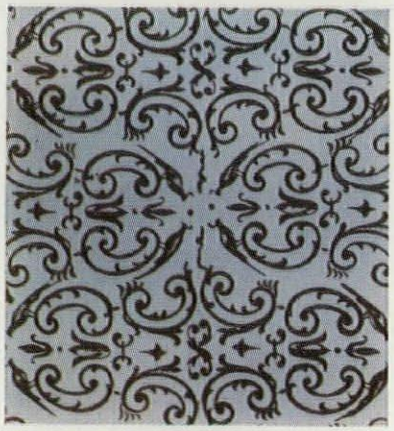
Mark Hampton, Architect

New dimensions

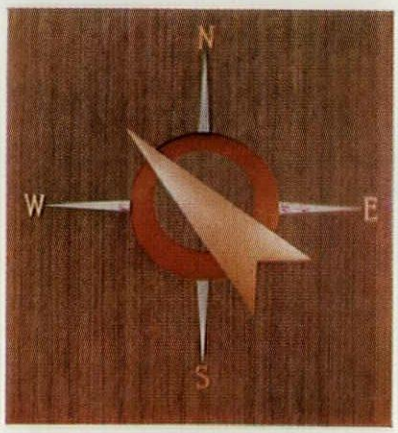
The 3 Techniques of Formica® Decorative Art



ORIGINAL PAINTINGS



ARTLAY



INLAY

in FORMICA® *laminated plastic*

Decorative Art

a custom architectural service of murals, designs and art treatments sealed in durable Formica.

Never before has one proven material offered so many and varied opportunities for you to introduce fresh new ways of interpreting the character and personality of a public, institutional or commercial building. Versatile, flexible, adaptable – Formica Decorative Art is a fusion of Beauty Bonded Formica and artistic imagination – your imagination. The Formica Corporation places at your disposal its vast resources of architectural engineering and production to execute your own designs and color combinations in the permanent and maintenance-free medium of decorative laminate.

Each Decorative Art project is a custom assignment, and requires close cooperation with the customer. The cost of each project is determined as the details are worked out, and is dependent upon the complexity and types of designs and the number of colors used. The three techniques employed are: Original Paintings, Artlay, Inlay. Used individually or in combination with each other, they make possible the creation of truly unique and beautiful designs.

ORIGINAL PAINTINGS

Original Paintings are used in murals or as smaller graphic "key stones" in combination with other techniques, in one-of-a-kind installations. Your artist can create the design and send the finished art work to Cincinnati where Formica specialists will duplicate it using special Formica inks and facilities. Or the artist can come to Cincinnati and work with our Decorative Art Department.

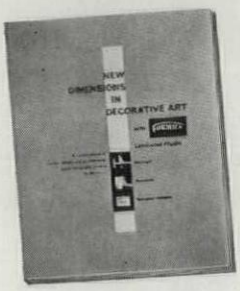
When executed, the finished art is sealed right in the Formica laminated plastic sheet, safe from dirt, fading, or destructive effect of atmospheric acids.

ARTLAY

Formica executed Artlay designs can be as simple or complicated as your imagination dictates. Very nearly any pattern, commercial trademark or new repetitive design can be treated and custom produced in Formica by a printing press.

INLAY

To accomplish special effects in this third "custom" process, decorative sheets of Formica treated paper – pattern or solid color – or plain or anodized aluminum parts are cut to desired shapes and laid into the laminate prior to the final pressing operation.



GET THE FACTS

Write today for the FREE booklet "New Dimensions in Decorative Art" (Form No. 863). Contains photographs of completed Formica Decorative Art treatments. Offers detailed information about the execution and cost of this new art form. There is a Formica district manager near you with a full color slide film on Formica Decorative Art. Showings can be arranged for groups of any size. Formica Corporation, 4604 Spring Grove Ave., Cincinnati 32, Ohio.

FORMICA®
Laminated Plastic
Guaranteed by Good Housekeeping
product of CYANAMID

Louise Sloane

architects' homes

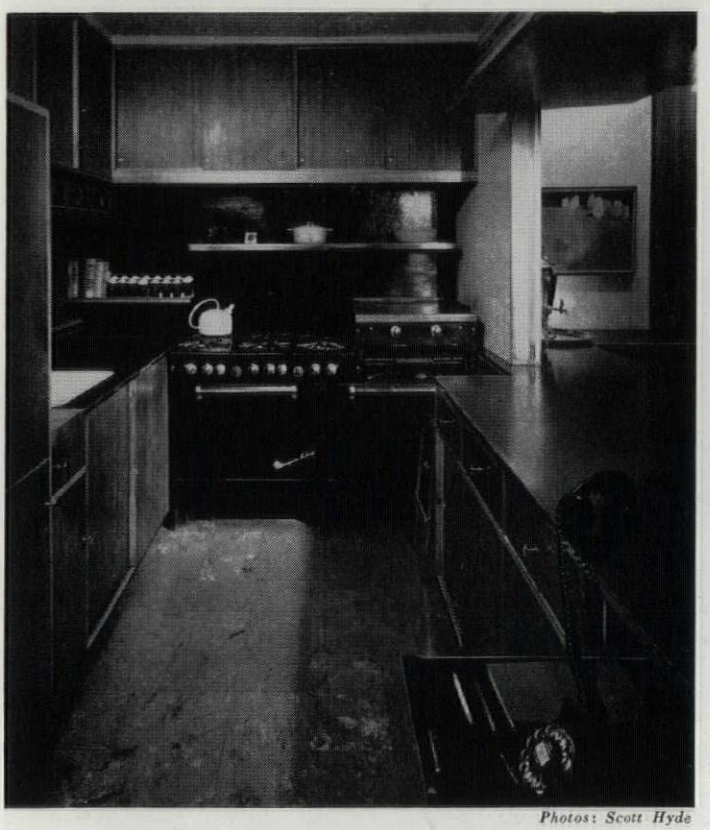
The two architects' houses we show this month are New York brownstones remodeled to meet the particular needs of the owners.

Edwin Harris, Jr., has created a superb area for entertaining in his design of the garden floor of his house. The total design integrates garden with interior, through such means as: having garden tilted toward house for better visibility, "third-dimensional look," better drainage; a uniform color plan for both areas, repeating white walls, walnut trim, and gray floors, outside as well as in; evergreen landscaping for equally inviting winter and summer views; placement of picture window to frame garden and obtain 100-foot vista as one enters house, visually extending the room itself.

The walnut kitchen was designed to be part of the dining area most of the time, with fold-down hinged screen in open position, but can be completely cut off for more formal occasions by closing screen to form a solid wall of walnut plywood. Kitchen has natural ventilation from three sides.

Color plan of the room is walnut, white, and gray—with brown, gold, apple green, and yellow introduced in the faience-tile table and repeated in the silk draperies that repeat the faience-tile motif.

client	Mr. and Mrs. Edwin Harris, Jr.
location	New York, New York
architect	Edwin Harris, Jr.
design associate, landscaping	Mrs. Edwin Harris, Jr.



Photos: Scott Hyde

data

cabinetwork, partitions

Built-Ins: architect-designed/¼" walnut plywood/United States Plywood Corp., 55 W. 44 St., New York 36, N. Y.

doors and windows

Door: aluminum, adjustable glass jalousies.

Window: ¼" plate glass/Libbey-Owens-Ford Glass Co., 608 Madison Ave., Toledo, Ohio.

equipment

Kitchen: exhaust fan/ILG Electric Ventilating Co., 2870 N. Pulaski Rd, Chicago 41, Ill.; black restaurant range/Magic Chef, 4931 Daggett Ave., St. Louis, Mo.; refrigerator/General Electric Co., 310 W. Liberty, Louisville, Ky.

furniture, fabrics

Dining Table: walnut frame, custom-made faience-tile top/same design and colors as draperies/Vanderlaan Tile Co., 103 Park Ave., New York, N. Y.

Chairs: walnut frame/Altamira, 125 E. 55 St., New York 22, N.Y.; upholstered in gold leather/Adams Leathers, Inc., 530 Madison Ave., New York, N. Y.

Draperies: appliqued silk, custom-made/repeating motif of faience-tile table/Thaibok Fabrics, Ltd., 3 E. 52 St., New York 22, N. Y.

lighting

All: custom strip-lightng; fluorescent tubes, "De-Lux"/General Electric Co., 1285 Boston Ave., Bridgeport 2, Conn.

walls, ceiling, flooring

Garden Walls: white-painted brick. **Interior Plaster, Brick Walls:** painted white.

Walnut Walls: ¼" plywood/United States Plywood Corp.

Garden Flooring: dark-gray slate on concrete slab.

Interior Flooring: dark-gray asphalt tile to match slate color/Armstrong Cork Co., Lancaster, Pa.

accessories

All Planting: Yorkville Nurseries, 447 E. 88 St., New York 28, N. Y.

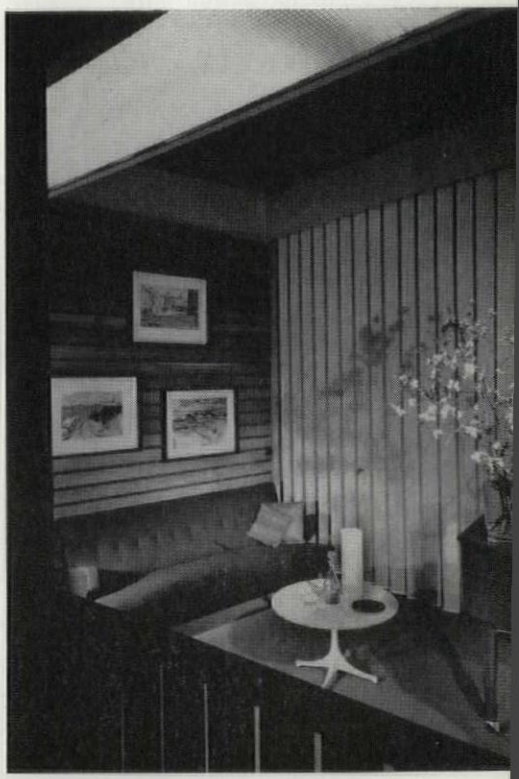
Garden Constructon: Goodman-Garson, Inc., General Contractors, 907 Broadway, New York, N. Y.

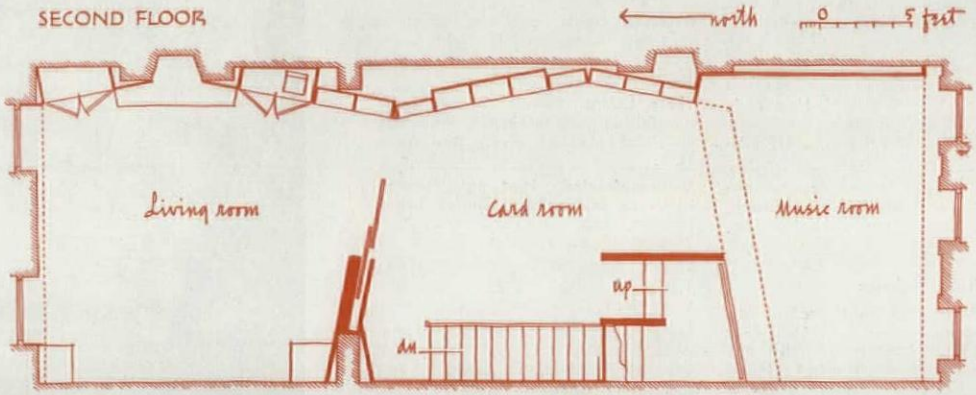
architects' homes

Uniquely satisfying results stem from the rare combination of informed client, Architect Rolland Thompson, and Interior Designer Peter Fraser, Jr. For the main (second) floor of the Thompsons' brownstone, the designer was required to provide a layout adaptable to small and large parties, as well as to intimate family living; storage for photographic and miscellaneous equipment, logs, books; a bar; display for a rare chess set; a flexible means of displaying the owner's watercolors; good piano placement. The long tunnel-like space problem was overcome by a zigzag wall which serves also to provide required storage. Horizontally placed ceiling tiles, turned staircase and landing, sliding doors all contribute to the desired effect—with the entire floor now resolved into music, card, and living room areas. Color scheme, based on watercolor landscapes, is basically neutral with beige, brown, sand, natural-walnut, and oak tones, accented by brilliant blue and green.

Photos: Ben Schnall

client	Mr. and Mrs. Rolland D. Thompson
location	New York, New York
designer	Peter Fraser, Jr.
architects	Steinhardt & Thompson





architects' homes

data

Main (Second) Floor

cabinetwork

Storage: walnut/custom-designed to hold books, bar, photographic equipment, logs/David Miller, cabinetmaker, 410 E. 93 St., New York 28, N. Y.

doors, windows

Sliding Doors: walnut frames; "Vicrtex"/natural grasscloth-covered plywood panels/L. E. Carpenter & Co., Inc., 350 Fifth Ave., New York 1, N. Y.

South Window: roll-up blinds/painted to match surrounding walls/Holland Shade Co., 999 Third Ave., New York, N. Y.; vertical blinds/sand-colored/Thru-Vu Vertical Blind Corp., 113 Calvert St., Harrison, N. Y.

North Window: "Strings"/open-weave fabric draw curtain/beige, brown, black/Herman Miller Furniture Co., Zeeland, Mich.

furniture, fabrics

Living Room: sectional sofa/Directional showrooms, 41 E. 57 St., New York, N. Y.; upholstered in blue and green "Gemstones"/Herman Miller Furniture Co.; Albini-designed walnut armchairs/Knoll Associates, Inc., 575 Madison Ave., New York 22, N. Y.; upholstered in blue and green "Prestini"/Knoll Associates, Inc.; and in blue and green texture/Boris Kroll Fabrics, Inc., 220 E. 51 St., New York 22, N. Y.; lounge chairs, ottoman/Directional Showrooms; upholstered in brown "Rapture"/L. Anton Maix, Inc., 162 E. 59 St., New York 22, N. Y.; coffee table, Travertine top, walnut base/Fraser-Thompson design/custom-made.

Card Room: card table, chairs/Directional Showrooms; upholstered in black, brown, cocoa "Spectra"/Knoll Textiles, Inc.; brass ottomans/Directional Showrooms; upholstered in blue and blue-and-green stripe/ Boris Kroll Fabrics, Inc.

Music Room: sofa/Knoll Associates, Inc.; upholstered in "Spectra"; armchair, Albini-designed, upholstered in "Prestini"/Knoll Associates, Inc.; coffee table, all-white, Micarta top/ Herman Miller Furniture Co.

lighting

Recessed Lights: over cardtable; at landing; flourescents in light cove/ Gotham Lighting Corp., 37-01 31 St., Long Island City 1, N. Y.

Table Lamps: owners' Chinese antiques/string shades/Rena Rosenthal, Inc., 757 Madison Ave., New York, N. Y.

Ceiling-mounted Hanging Fixtures, Lamp on Music Room Coffee Table: Habitat, Inc., 336 Third Ave., New York 10, N. Y.

Floor Lamp: Metropolitan Lighting Fixture Co., Inc., 16 E. 39 St., New York, N. Y.

Light Cove: "Guthgrate" plastic eggcrate/The Edwin F. Guth Co., 2601 Washington Blvd., St. Louis 3, Mo.

Dimmer Control: "Luxtrol"/Superior Electric Co., Bristol, Conn.

walls, ceiling, flooring

Walls: walnut; painted plaster; oak strips 3½" x ¾", spaced 1" apart, rabbeted to receive walnut picture frames at any height, at any point horizontally or vertically.

Mirror: ½" polished-plate glass/ Pittsburgh Plate Glass Co., 632 Duquesne Way, Pittsburgh, Pa.

Painted Ceilings: Music Room, bright blue; Living Room, bright green.

Thompson house *(continued)*

study

Dropped Ceiling: striated acoustical tile, set at right angles to long walls/Jas. A. Phillips, Inc., 1776 Park Ave., New York, N. Y.

Carpet: wheat-colored wool "Durance"/Vogue Carpet Corp., 17 E. 53 St., New York 22, N. Y.

accessories

Hardware: polished brass/Ostrander & Eshleman, Inc., 40 E. 49 St., New York, N. Y.

Pillows: "Lazyback"/Nettle Creek Industries, Inc., P. O. Box 202, Richmond, Ind.

Paintings: Rolland D. Thompson.

Dining Room

cabinetwork

Storage: natural-finish mahogany; sliding glass doors at right; painted blue-green doors at left/David Miller, cabinetmaker.

doors, windows

Door: sliding-glass door/Arcadia Metal Products, 801 S. Acacia Ave., Fullerton, Calif.

Window Fabric: "Fibra"/sheer white on white/Knoll Textiles, Inc.

furniture, fabrics

Dining Table: owners' antique.

Chairs: Jens Risom Design, Inc., 49 E. 53 St., New York, N. Y.; upholstered in "Spectra"/Knoll Textiles, Inc.

Terrace Chairs: Bertoia design/Knoll Associates, Inc.

lighting

Over Window: light cove/"Plexiglas" panels/continuous flourescent lamps ceiling-mounted above panels.

Over Fireplace: ceiling-hung double spotlight/General Lighting Co., Inc., 248 McKibben St., Brooklyn 6, N. Y.

walls, ceiling, flooring

Walls, Ceiling: plaster, painted pale yellow.

Mirrored Wall: floor-to-ceiling, reflecting garden.

Flooring: cork tile/9"x9"/Kentile, Inc., 58 Second Ave., Brooklyn 15, N. Y.

Study

cabinetwork

Storage Wall: natural-finish walnut, beige Formica countertop/for record storage, bookshelves, file cabinets, drawer space, built-in hi-fi; guest closet when room doubles as guest room/David Miller, cabinetmaker.

furniture, fabrics

Desk Chair: Knoll Associates, Inc.; upholstered in orange "Prestini"/Knoll Textiles, Inc.

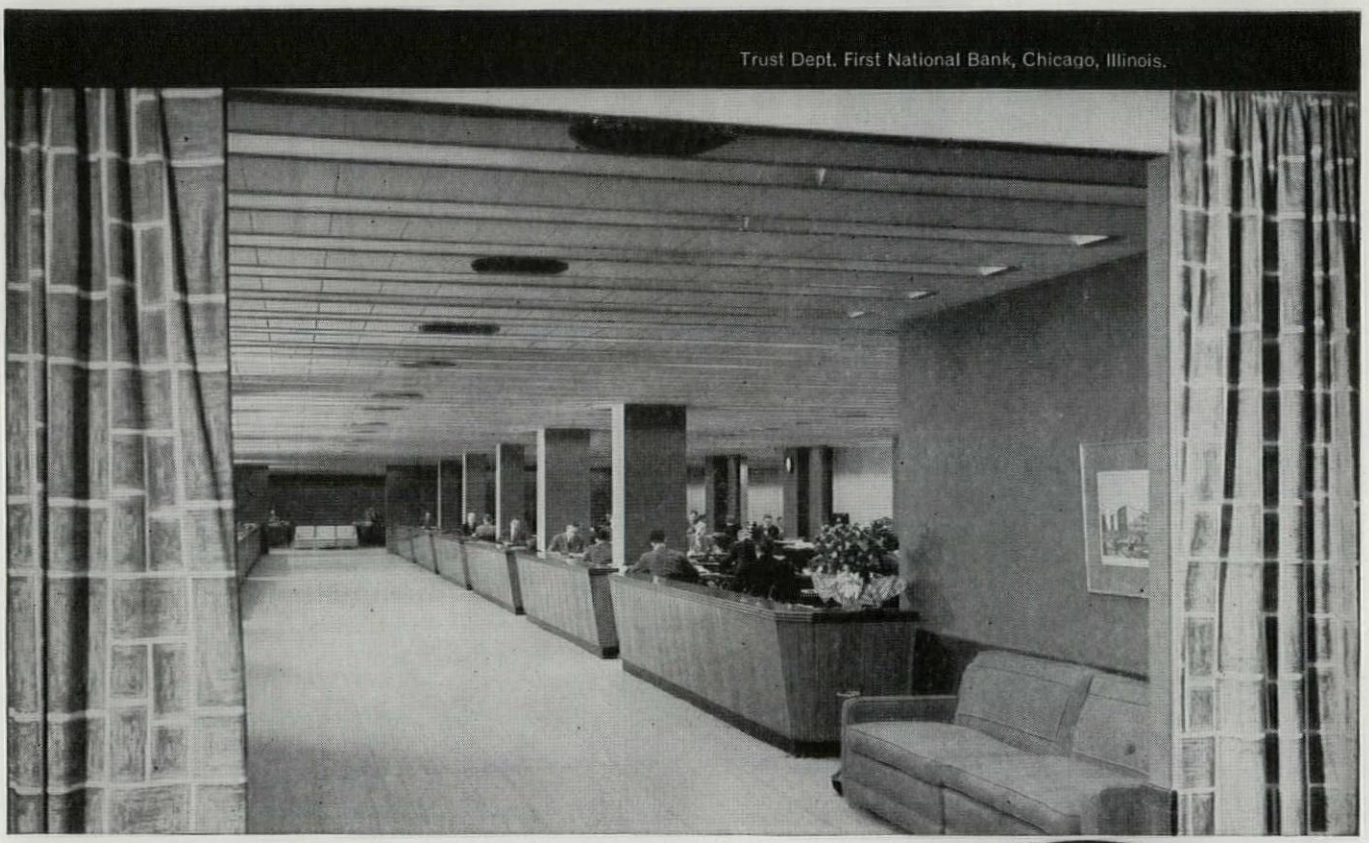
Draperies: yellow, gold, copper, pumpkin panels/Knoll Textiles, Inc.

Carpet: dark brown/handwoven in Puerto Rico.

lighting

Fixture Over Desk: "Lyteline"/Lightolier, Inc., 346 Claremont Ave., Jersey City, N. J.

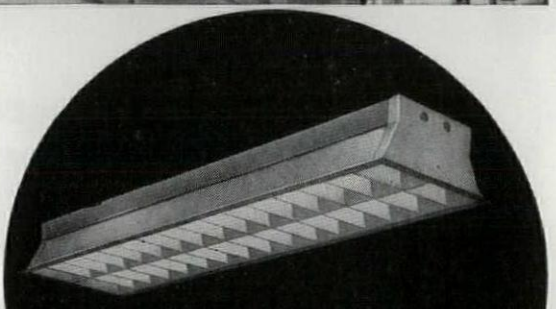
Anticipation... the heart of creation



Trust Dept. First National Bank, Chicago, Illinois.

*From the foresight of Curtis Visioneers comes the New Eye Comfort Troffer with L.B.Q.**

A 60-year history of developing new advancements in planned lighting must be respected. Not surprising, then, that credit for the exclusive Eye Comfort® Troffer with *low-brightness quality goes to Curtis visioneers. Who are the Curtis visioneers? Vision-engineers. Illuminating engineers who scientifically plan, design, manufacture and oversee installation of lighting systems that assure visual acuity, provide visual comfort, under any conditions. They are engineers not only of vision but *with* vision. The vision to pioneer with innovations like the revolutionary new Curtis Eye Comfort Alzak Aluminum Troffer . . . first luminaire to have a *true parabolic-shaped fin* of heaviest gauge aluminum—the extruded L.B.Q. louver. Result is high level illumination . . . shadowless low-brightness quality . . . wherever light is cast. Meets the demands, too, of those who specify and buy fluorescent lighting for *quality illumination—long-run* economy. Write today for the name and address of the Curtis representative in the principal city nearest you. Curtis Lighting Inc., 6135 W. 65th Street, Chicago 38, Ill. In Canada: 195 Wicksteed Ave., Toronto 17.

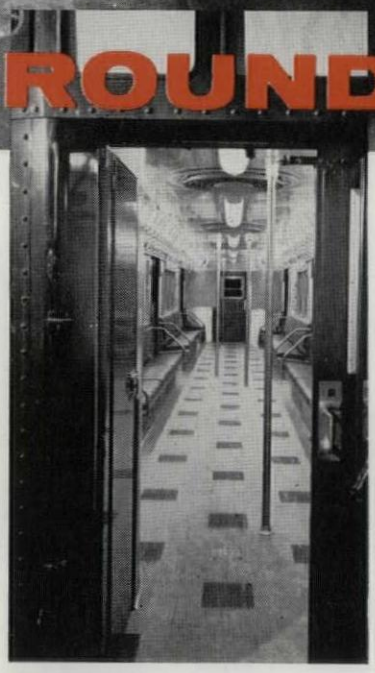


CURTIS EYE COMFORT ALZAK ALUMINUM TROFFER WITH L.B.Q. LOUVER FIN.
Snap-on yoke and toggle bolts for easy application to any type ceiling. Uninterrupted wireway. No nipples required. New shallow depth . . . maximum recessing space required, only 6½".

CURTIS
Visioneers in Planned Lighting®

FOUND UNDERGROUND

the toughest wear test ever!



The Matico Tile Floors in 350 New York City subway cars take more punishment in one day than most floors get in a lifetime. Only the toughest flooring could stand up under the constant beat, beat, beat of millions of riders' feet. But Matico's ability to take it . . . proved in installation after installation across the country . . . is only one factor that led to Matico's selection. Others: Outstanding economy; fast, easy maintenance; through and through quality; a wide choice of pleasing colors. Aren't these the very properties you look for when you specify flooring? For information and specification data write: Dept. 9-10, P.O. Box 128, Vails Gate, N. Y.

MATICO TILE FLOORING

MASTIC TILE CORPORATION OF AMERICA

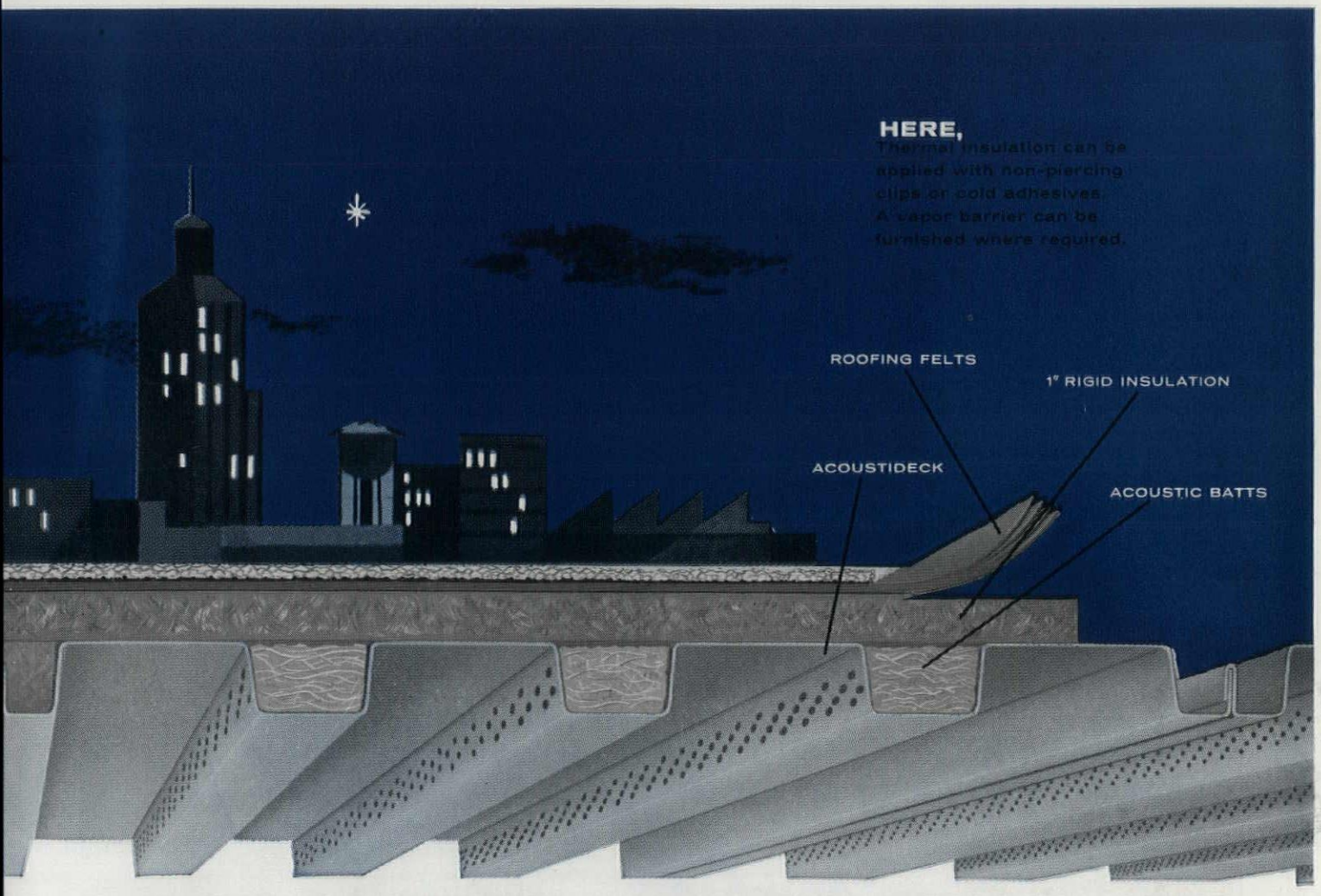
Houston, Tex. • Joliet, Ill. • Long Beach, Calif. • Newburgh, N. Y.

Vinyl Tile • Rubber Tile • Vinyl-Asbestos Tile • Asphalt Tile • Plastic Wall Tile

QUALITY CONTROLLED MATICO PRODUCTS

8A521


ORDINARY HARD-SURFACE CEILING
When a sound wave strikes an ordinary hard-surfaced ceiling, 97% or more of the sound energy is reflected back with high, irritating intensity.
NEW MILCOR ACOUSTIDECK
When a sound wave strikes Milcor Acoustideck, 70% of the energy is absorbed and 30% reflected, to reduce the overall loudness level.
IT'S A STEEL ROOF DECK
IT'S AN ACOUSTICAL CEILING
Since perforations are in vertical webs only, spans can be almost as long as with standard deck. Spans to 10 feet are practical.
Milcor Acoustideck goes up fast—can be erected in any weather that a man can work.
Bonderized, baked-enamel prime finish applied at the factory cuts field painting costs in half.
new
cuts noise
NEW
saves time
saves money
new



DUAL-PURPOSE MILCOR ACOUSTIDECK

New STEEL roof deck doubles as an acoustical ceiling — saves almost half the cost of similar types!

Now you can give clients the advantages of *steel deck* with *outstanding acoustical values,* at cost savings up to 50%! You enjoy speed of erection. No waiting on the weather—no waiting for wet-mass material to set and dry. You save on structural supports. Acoustideck weighs less than half of equivalent poured-in-place or precast construction — carries normal loads over greater spans. You need fewer bar joists — space them farther apart.

A sound-absorption test conducted by Armour Research Foundation showed Milcor Acoustideck to have a noise reduction coefficient of .70. It satisfies requirements of classrooms, industrial plants, offices, gymnasiums, tank rooms, etc.

The underside of Milcor Acoustideck is left exposed as a ceiling. The fluted design — with the Bonderized, baked-enamel primer—has a clean, modern appearance.

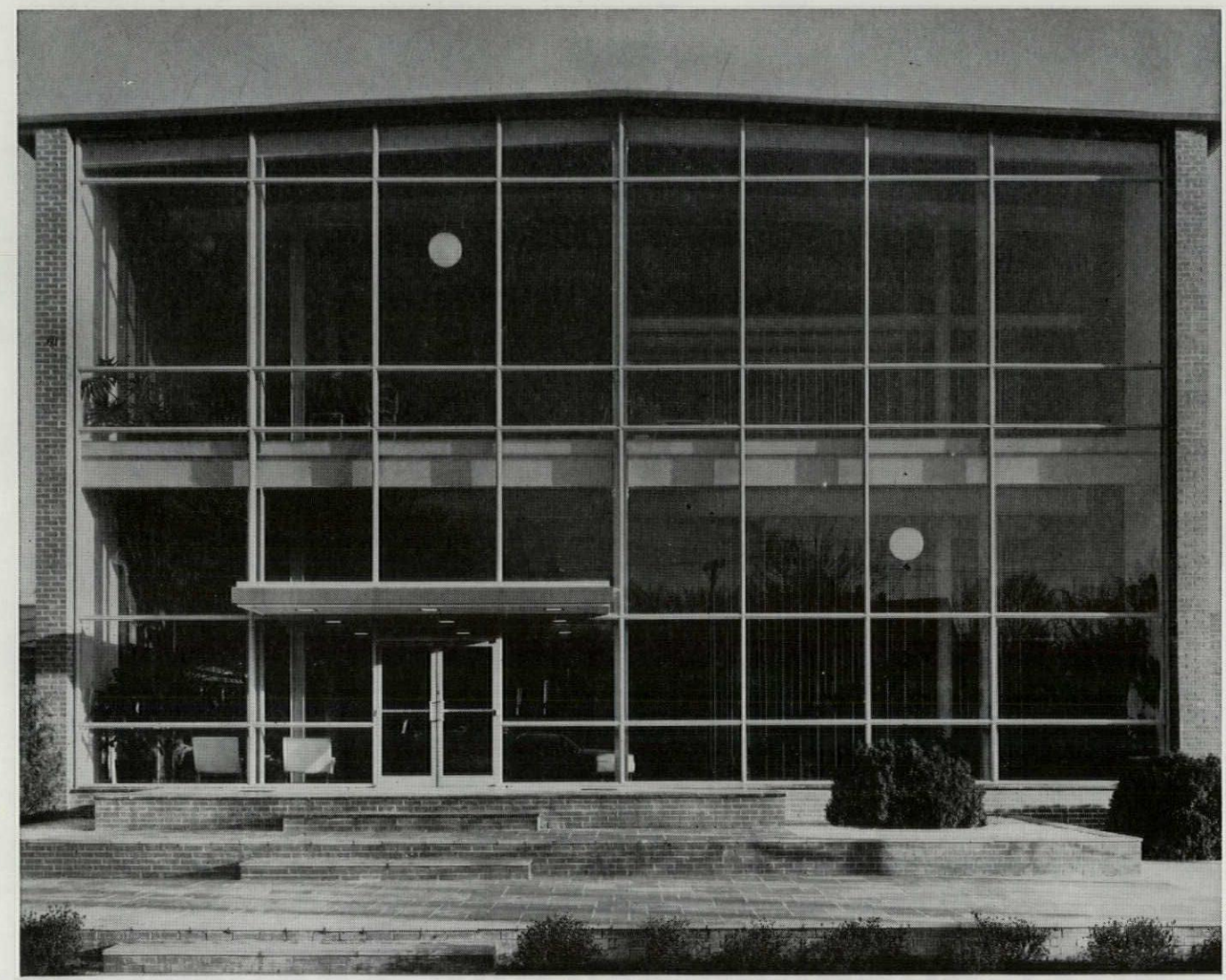
There's more you should know about Milcor Acoustideck. It's too new to be found in Sweet's Catalog File. So write today for copy of Catalog 241.

RD-17

INLAND STEEL PRODUCTS COMPANY
DEPT. J, 4069 WEST BURNHAM STREET, MILWAUKEE 1, WISCONSIN

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

MILCOR®



Showroom-Office, Dixie Furniture Co., Lexington, North Carolina. Architects: Louis F. Voorhees and Eccles D. Everhart, High Point, North Carolina.

New Overline Tilt-A-Front eliminates trial-and-error field work . . . cuts erection time by 60% over conventional wall framing methods

This unique concept of window wall framing is a combination of curtain wall techniques and hollow metal production methods. The result is a pre-engineered, economical wall framing system which presents an exceptionally rigid, structurally sound construction.

For example, units for the building shown here — which enclose an opening 50′ wide x 30′ high — were shipped in full height lengths. Intermediate horizontal members in four of the sections were shipped knocked down. The erector simply tilted and hoisted the welded units in place, secured them, then finished up by bolting in the horizontal members. Total installed cost—including Overline Colorclad entrances, hardware, freight, erection and glazing—slightly over $3.00 per sq. ft.

The Tilt-A-Front system is available in baked enamel steel (Colorclad), stainless steel or aluminum. For complete data, write today for our catalog 16a-Ovt.

Overly

METAL PRODUCTS SINCE 1888

MANUFACTURING COMPANY

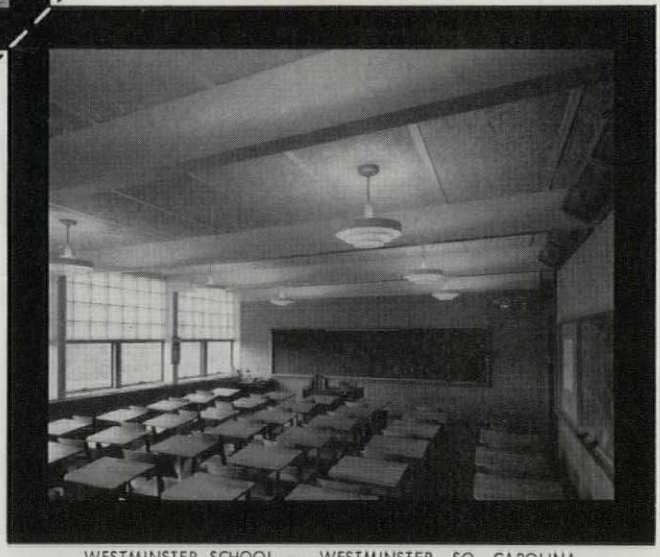
Greensburg, Pennsylvania
Los Angeles 39, California

HERE'S PROOF OF ECONOMY

...in beautiful-functional

School Construction

$7.69 per square foot complete



WESTMINSTER SCHOOL — WESTMINSTER, SO. CAROLINA
ARCHITECT — HAROLD WOODWARD, SPARTANBURG, SO. CAROLINA

...made possible by use of...

UNIT Laminated Members

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

The use of clear spanning laminated arches and beams was a major factor in the low, low cost of $7.69 per sq. ft. achieved in the construction of the Westminster High School. The 5″ x 13″ classroom roof beams span 57′ - 3″ over two classrooms and the middle corridor and bear on 5″ x 8⅛″ glued laminated exterior wall columns. The simple beam-to-column connection and the single element construction effected considerable erection savings, according to the Triangle Construction Co., General Contractors, Greenville, S. C.

The 7″ thick Southern Pine arches, shown in the gymnasium, are spaced 17′ - 2″ on center. The arch depth was tapered from 15″ at the crown to 24″ at the base, thereby economically utilizing the lumber in accordance with the structural requirements.

A continuous skylight was readily achieved by simple framing between the laminated wood purlins.

UNIT STRUCTURES, INC. PESHTIGO, WISCONSIN

UNIT STRUCTURES, Inc.

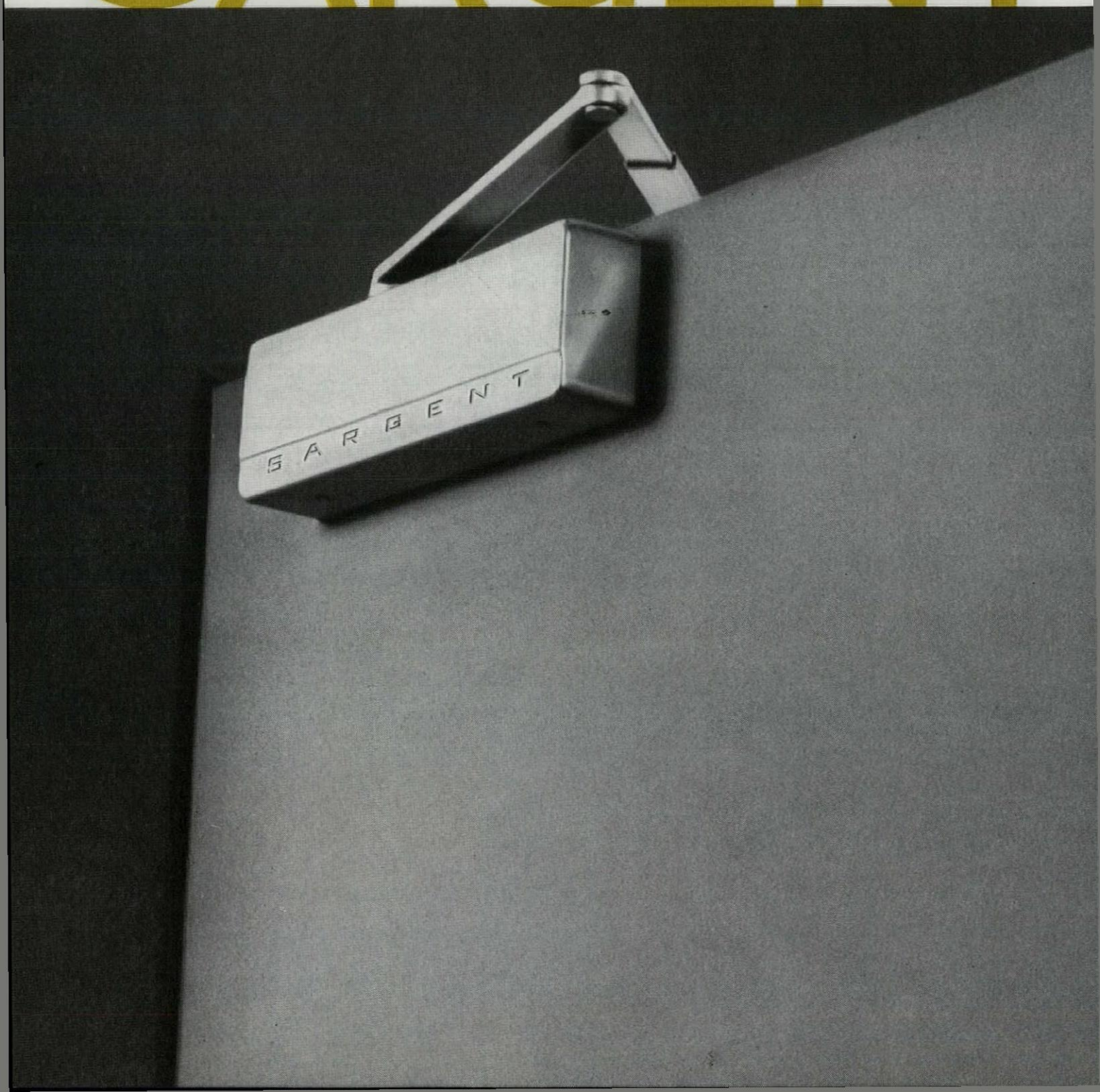
GENERAL OFFICES: PESHTIGO, WISCONSIN

PLANTS — Peshtigo, Wisconsin and Magnolia, Arkansas
Offices and Representatives in all Principal Cities

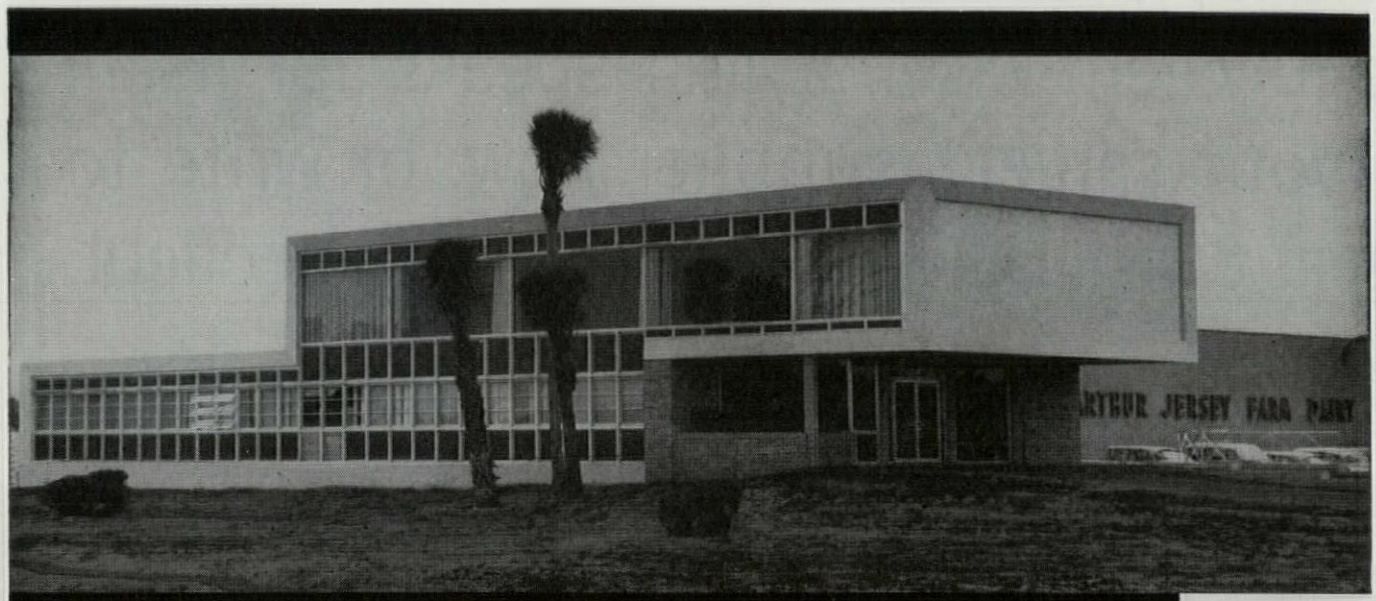
CHARTER AITC MEMBER

now . . . for the first time anywhere, a complete line of **surface and concealed** door closers. for all applications . . . all door sizes, both exterior and interior. no sacrifice in

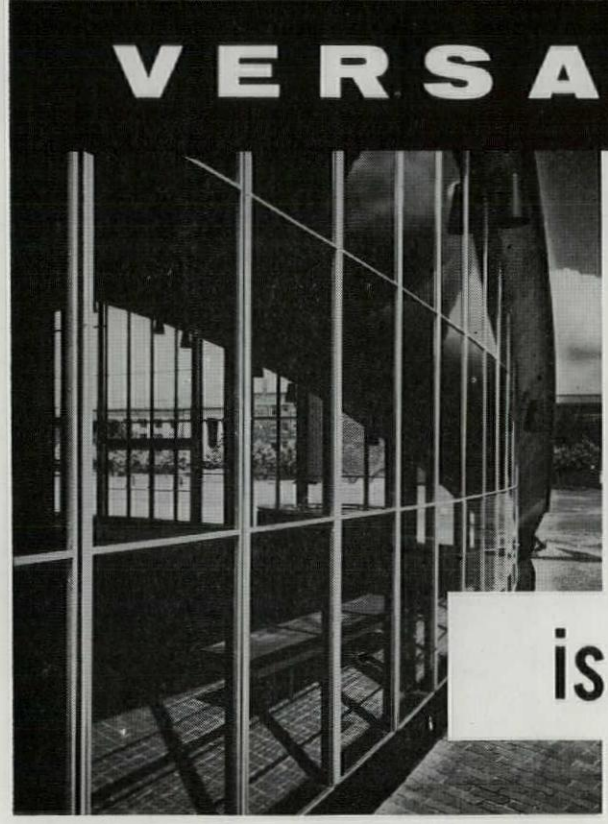
SARGENT

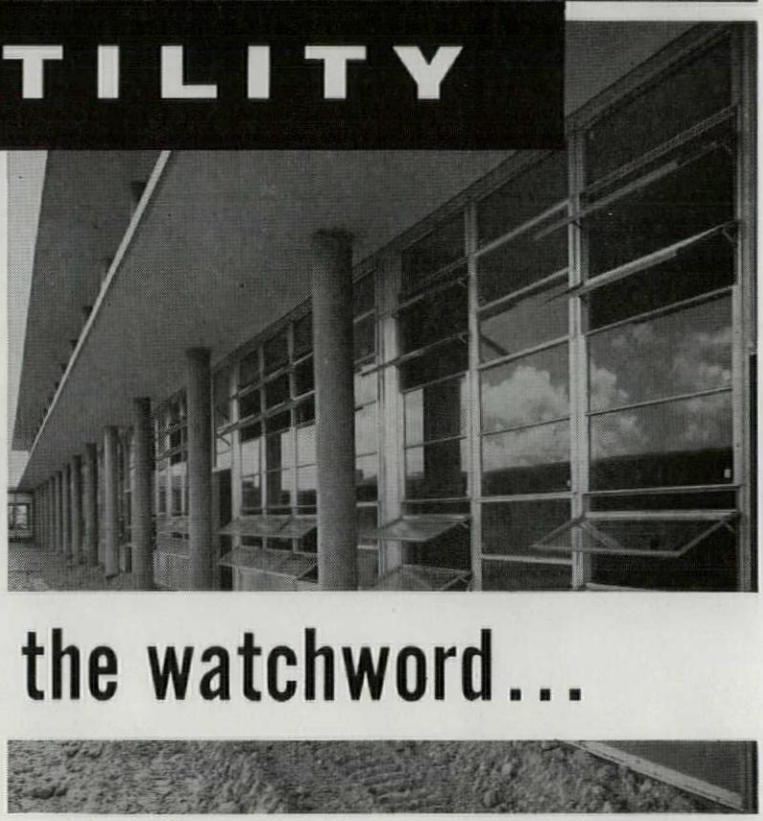


efficiency over conventional surface closers of equivalent size. styling speaks for itself. call your **sargent** supplier now. or write to **sargent & company,** new haven 9, connecticut.



VERSATILITY





is the watchword...

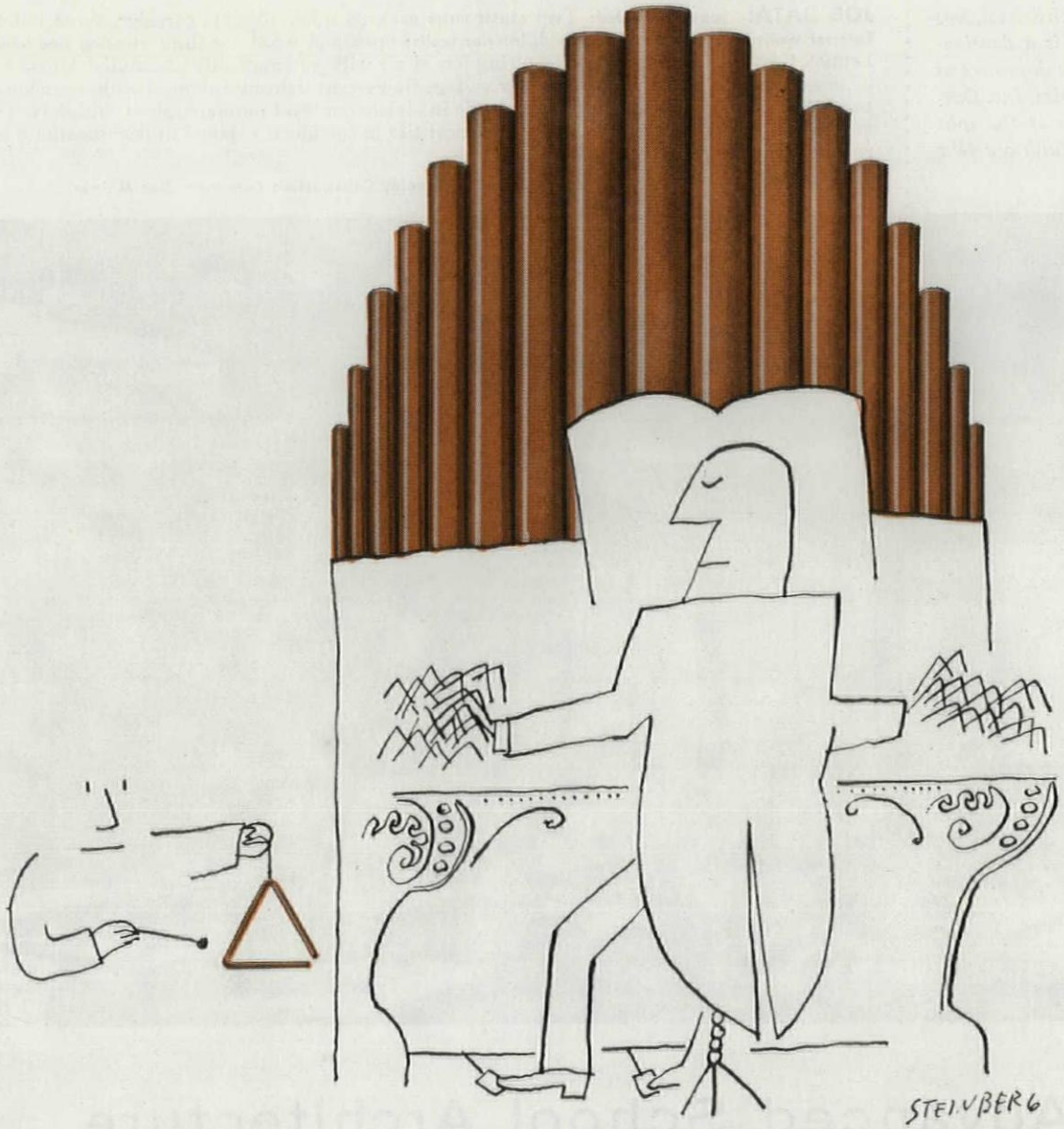
with WARE curtain·walls

Imaginative—unusual—conventional . . . whatever curtain-wall treatment you are planning next, Ware engineers are equipped to help you meet the most challenging requirements. Versatility is the watchword at Ware, with special emphasis on new design features that cut installation time and assure weathertightness. *Why not send for our new Curtain-Wall brochure, today? Please write Dept. PA-10.*

MEMBER

Aluminum **WARE** *Windows*

WARE Laboratories, Inc., 3700 N.W. 25th St., Miami, Fla.



high fidelity

Lewin-Mathes' quality strikes a responsive accord.

Despite the large number of new customers for Lewin-Mathes Copper and Brass tube, pipe and rod in recent years, better than 90 per cent of our business comes from *repeat* customers. High fidelity of a rare order!

So long as we remain faithful to the highest standards of tolerance, temper and uniformity, we can expect our customers to remain loyal to Lewin-Mathes products. And as specialists—with a *completely integrated* plant designed specifically for the manufacture of tube, pipe and rod—it's in our own best interest to be *perfectionists*.

For the most fitting accompaniment to your plumbing, heating and air conditioning installations, specify...

LEWIN (LM) MATHES

SAINT LOUIS, MISSOURI

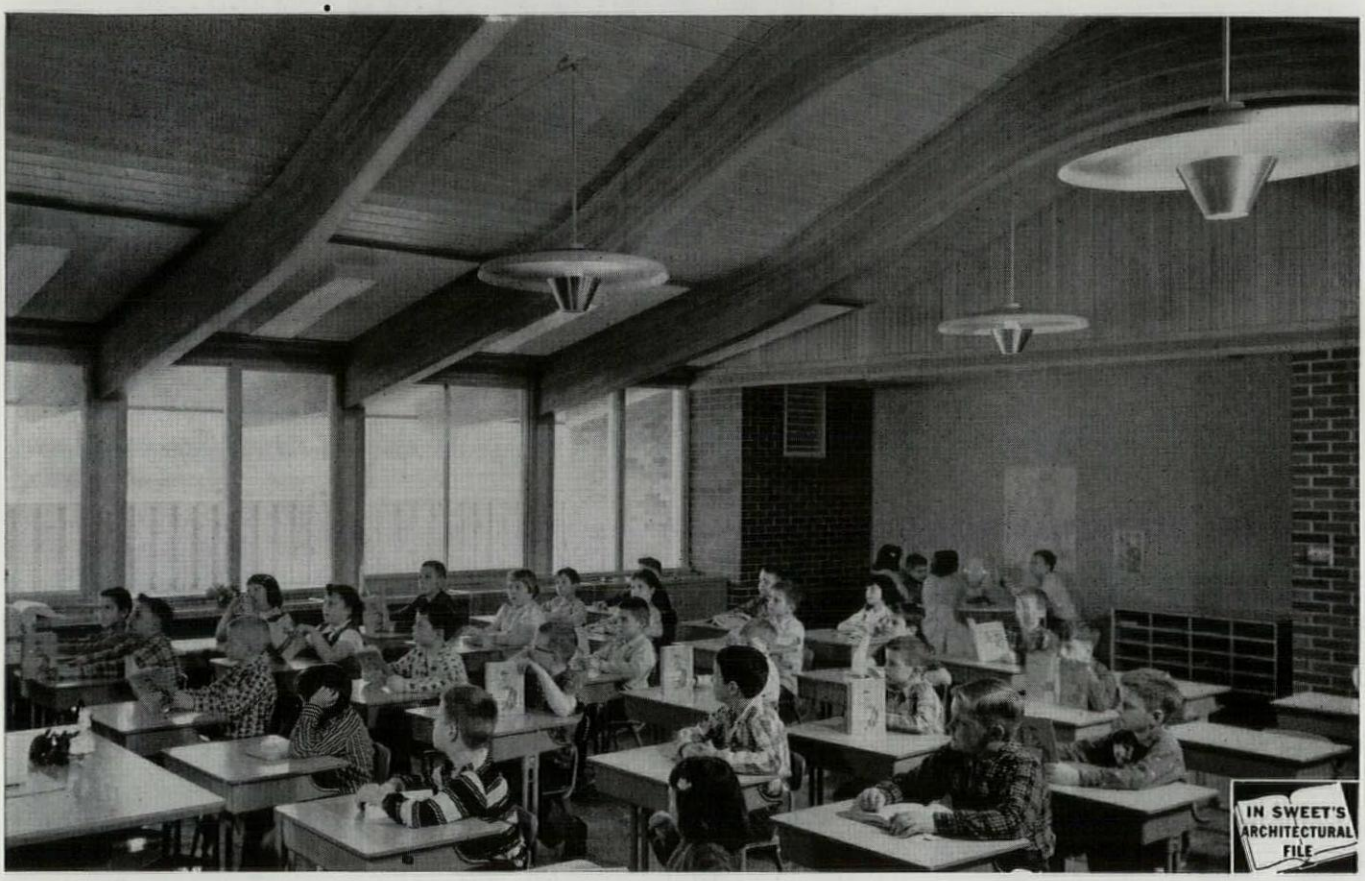
COPPER AND BRASS TUBE PIPE AND ROD

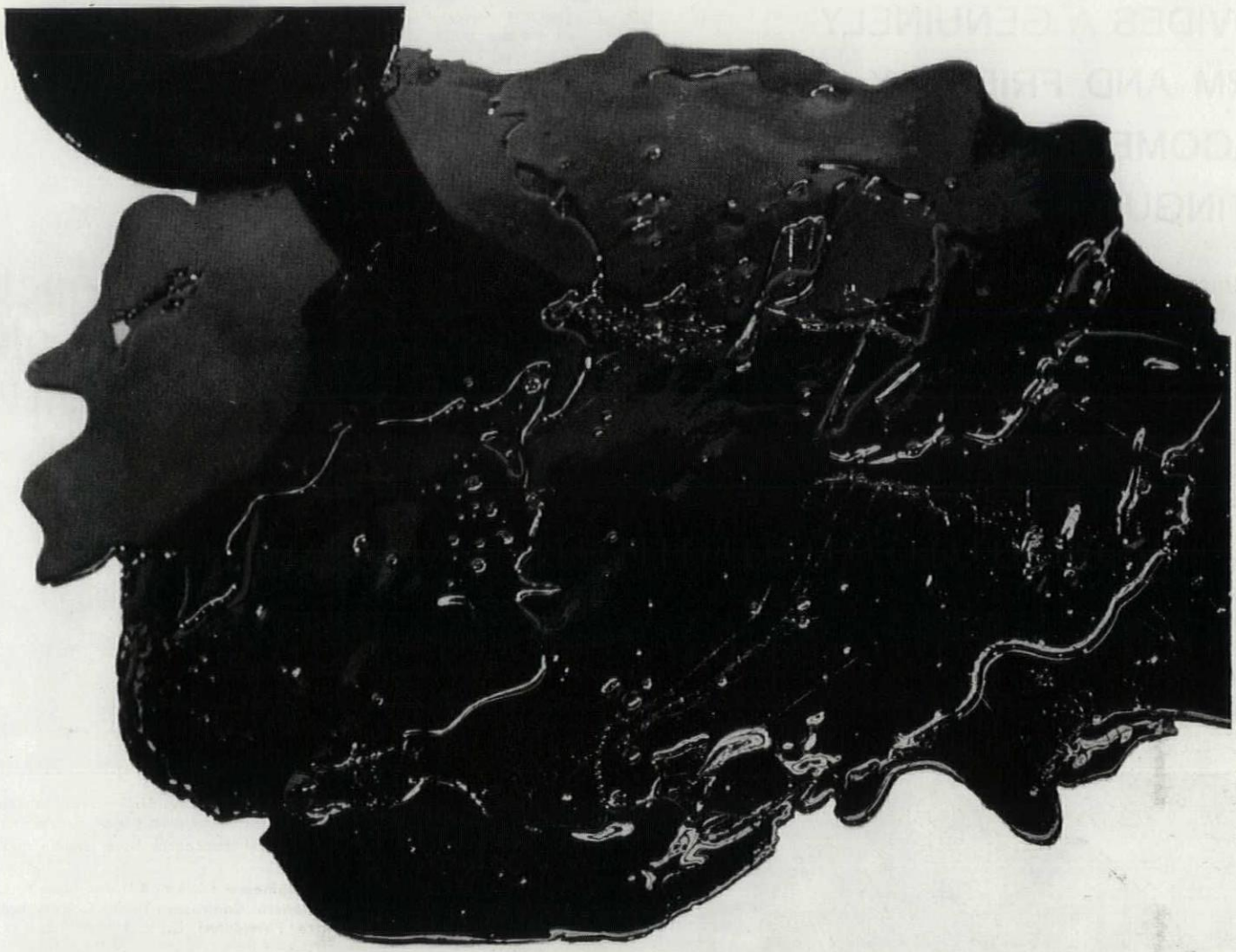
DIVISION OF CERRO DE PASCO CORP.

Lennox Research School, Des Moines, Iowa, is a development and research project of Lennox Industries, Inc. Outside dimensions of the split level two-room unit are 46′ x 71′-10″.

JOB DATA: **Space provided:** Two classrooms each 28′ x 30′, 10′ x 71′ corridor, three toilet areas. **Exterior walls:** brick, glass and wood. **Interior walls:** brick and wood paneling. **Heating and ventilation:** Lennox Comfort Curtain system featuring forced air with automatically controlled dampers to mix fresh and recirculated air. **Lighting:** Low voltage fluorescent lighting balanced with incandescent fixtures. **Floors:** quarry tile in entry, asphalt tile in classrooms. **Roof surface:** asphalt shingles over 2″x6″ tongue-and-groove sheathing. **Ceiling:** acoustical tile in corridors; exposed timber sheathing in classrooms. **Cost** per square foot: $15.00

Architects: Perkins and Will, Chicago. Contractor: Lovejoy Construction Company, Des Moines





World's Largest Shopping Center Under One Roof—Barrett Pitch and Felt, Of Course!

Southdale Shopping Center, 6601 France Avenue South, Edina, Minnesota. *Architect:* Victor Gruen, Minneapolis and Los Angeles. *General Contractor:* Johnson, Drake & Piper, Minneapolis. *Barrett Roofer:* John A. Dalsin & Son, 2421 Bloomington Avenue, Minneapolis.

Barrett Specification Roofs® ... they outlive the bond

Bravissimo! Italian galleries inspired the architect of the sparkling Southdale Shopping Center. Refreshing *piazzas* are spaced gaily among seventy-five stores! All umbrellaed by a Barrett built-up roof—protected by coal-tar pitch.

Pitch, with its vital oils, lasts for decades. And pitch is actually unaffected by moisture—the *destructive* enemy of other bitumens!

Laboratory tests show that other bitumens absorb from 2 to 17 times more water than does pitch.

Layers of pitch, and roofing felt, armored with a slag or gravel surface, comprise the famous Barrett SPECIFICATION® Roof—the critical standard in built-up roofing for over 50 years.

BARRETT DIVISION
40 Rector St., New York 6, N.Y.

In Canada: Allied Chemical Canada, Ltd., 1450 City Councillors St., Montreal, Que.

Allied Chemical

ARCHITECTURAL BRONZE PROVIDES A GENUINELY WARM AND FRIENDLY WELCOME FOR THIS DISTINGUISHED BUILDING

The entrance to the Sinclair Oil Building in New York City is another example of the versatility of architectural bronze. It gives zest to the architectural composition. Its warmth of color—and the wide variety of finishes and shapes possible—enhance the beauty of other building materials. Architectural designers are finding that copper alloys in extrusions, drawn shapes and sheets offer almost unlimited opportunities in design and color effects.

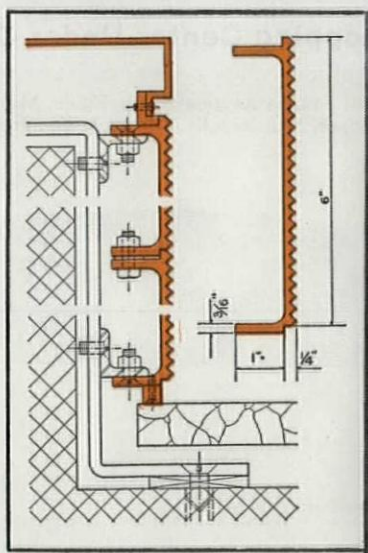
As a leader and pioneer in producing architectural metals of copper alloys, The American Brass Company has accumulated the experience that can help you achieve outstanding designs in Copper, Red Brass, Architectural Bronze, Yellow Brass and Nickel Silver. For assistance, write: Architectural Service, The American Brass Company, Waterbury 20, Conn.

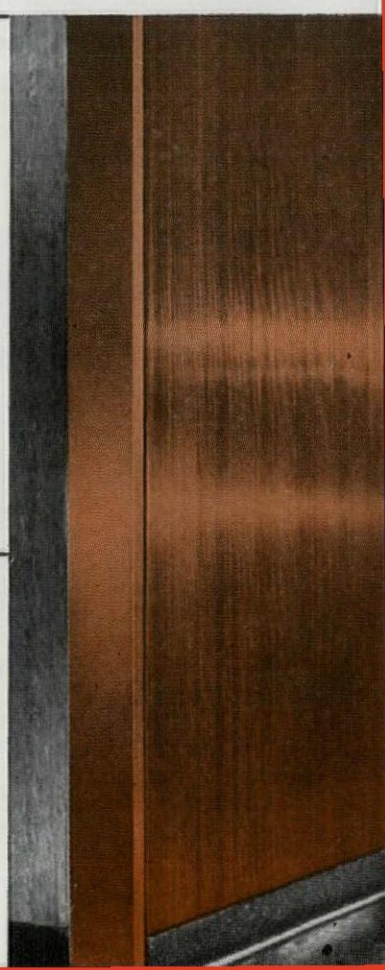
5832

The main entrance (above) of the Sinclair Oil Building. Architectural bronze forms the door openings and housings, and frames the glass panels above.

Escalator and stairs (left) from lower-level concourse have architectural bronze paneling and trim.

Architects: Carson & Lundin, New York. **Engineers:** Edwards & Hjorth, New York, and Jaros, Baum & Boles, New York. **General Contractor:** Turner Construction Co., New York. **Ornamental Bronze Fabricator:** C. E. Halback & Co., Brooklyn, N. Y.

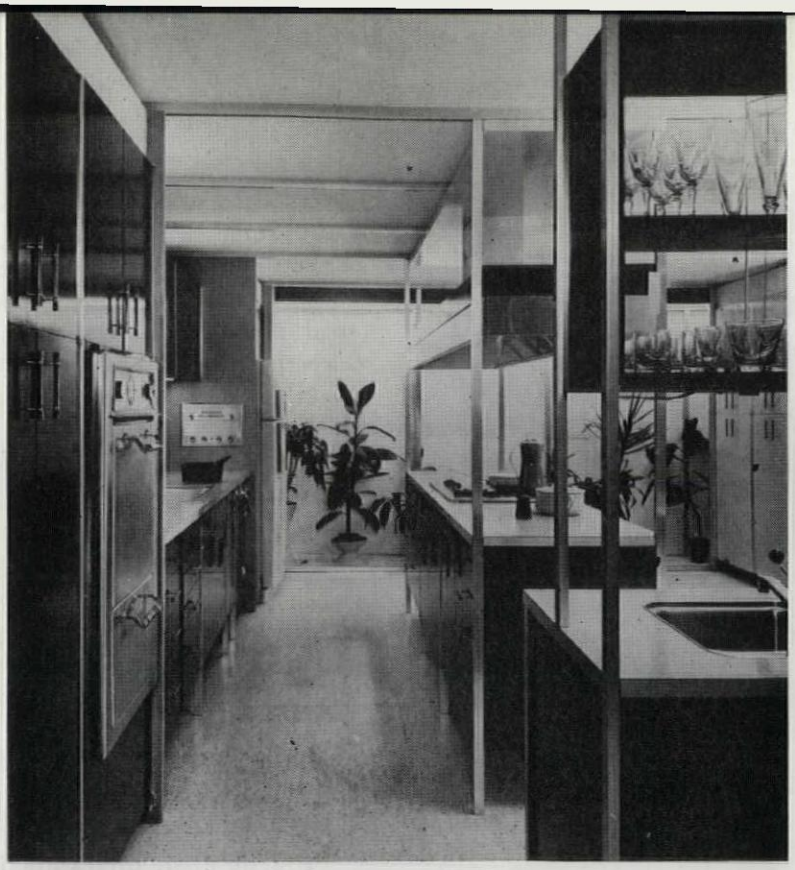


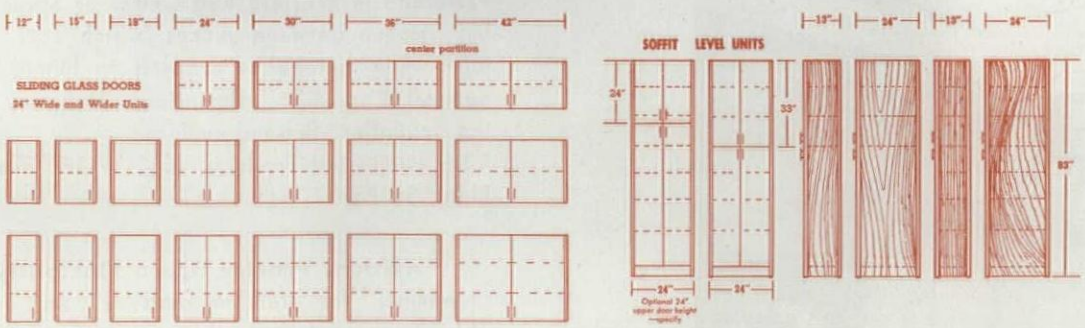


Elevator lobby (left) has an extremely interesting wall treatment. To complement the marble, the wall surrounding the elevator doors is composed of serrated architectural bronze extrusions. Detail drawing (above) shows how extrusions are fastened to the wall construction. Close-up photo (right) indicates the pleasing vertical striated effect.

ANACONDA® ARCHITECTURAL METALS

Made by **THE AMERICAN BRASS COMPANY**



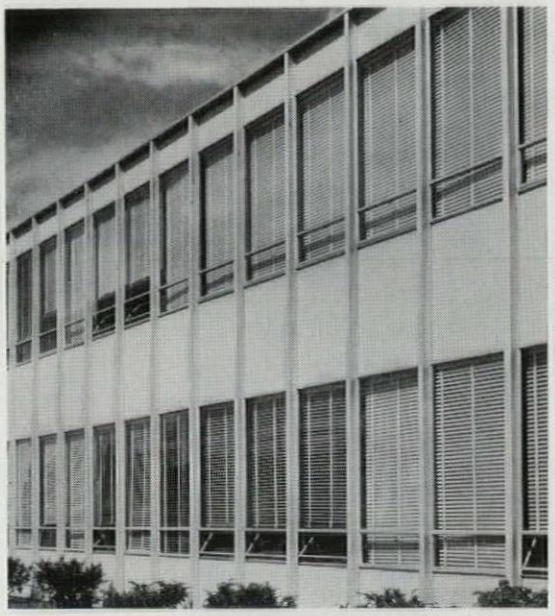


Custom Storage Via Mass Production

In his new "Series 700" storage components, Designer Paul McCobb has introduced throughout-the-house storage with a custom look, at production prices. The cabinet units are designed to be used in kitchen, dining, living, bed, or bath rooms. Consisting of more than 50 pieces, the system presents wall-hung units 13" deep, decorative units 18" deep, work units 24" deep, standing units varying in height from 30½" to 32" and 36". All pieces are built eight inches off the floor. Supporting stanchions are satin aluminum; panels are either walnut-finished birch or painted in a variety of colors. Top surfaces are available in marble, tile, wood, or plastic. Interiors are engineered for special storage needs.

Mutschler Brothers Company, Nappanee, Ind.

p/a products



Asbestos-Cement Insulated Paneling

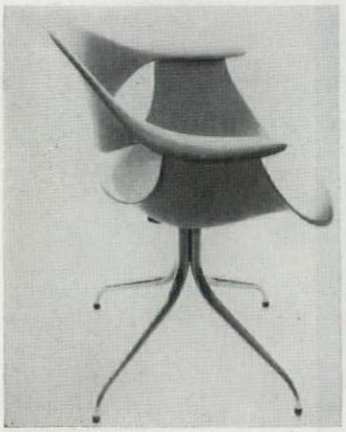
Façade of new office building utilizes insulated asbestos-cement paneling adaptable to curtain-wall construction. Insulpanel's sandwich construction (a core of compressed-wood fibers contained between two sheets of asbestos-cement) provides insulation, is impervious to weathering. Available in a range of dimensions or tailored to individual requirements.

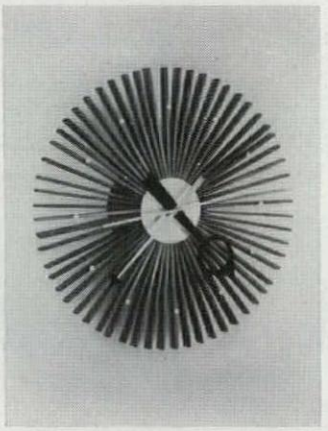
Keasbey & Mattison Co., Ambler, Pa.

Extra-Fine Granite Board Can be Formed

Smooth-surface particle board possesses good dimensional stability, low thickness swell. Particles are uniform and compact in comparison to plywood core. Material has insulating characteristics, while retaining rigidity to a degree. Board can be turned, bent, curved as well as laminated.

National Starch Products Inc., 270 Madison Ave., New York, N. Y.





Plastic Chair Offers Flexibility

Taking full advantage of the tensile strength of the plastic material used for this new chair, Designer George Nelson introduces separation between back and seat to increase flexibility. Trapered steel-tubing legs form a graceful base; soft rubber shock-mounts between seat and base contribute to comfort.

Herman Miller Furniture Company, Zeeland, Mich.

Decorative Clock Employs Fan Motif

Flat spokes of grained birch or walnut radiate from a central brass disk to create an airy, three-dimensional effect in this George Nelson design. Multicolored metal hands tell time on hour markings of iced-porcelain beads. Electric plug-in or 8-day-wind mechanism. Diameter: 14". Retail: $25.

Howard Miller Clock Company, Zeeland, Mich.

Plank Deck Offered in Patterns

Patterned in Western Red Cedar or Spruce, roof deck has 1/4" groove between pieces, which acts as an expansion joint when material is exposed to humidity. Available in nominal 3" or 4"x6" dimensions, deck may serve as sheathing, insulation, finished ceiling.

Rilco Laminated Products, Inc., W-891 First National Bank Bldg., St. Paul 1, Minn.

Partitions Provide Space Flexibility

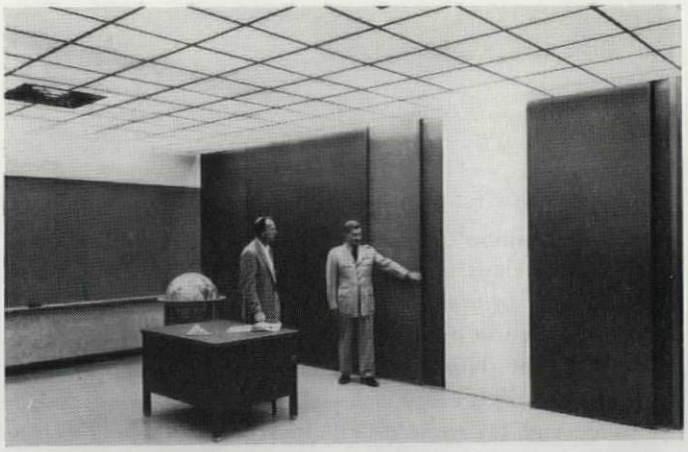
"Mainliner" free-standing modular partitions offer changeable space control—enable rerouting of traffic, expanding existing facilities. Thick units, 1½", are rigid, have concealed leveling foot permitting a 2" adjustment for uneven floors, positive friction-lock with floor to prevent movement. Assembled with a screwdriver. Panel heights: 42", 54", 68", and 84"; widths: 12" to 66" in 6" increments. Choice of different materials furnished with partitions over 42" high. Supplied in six standard colors or any special color requested.

The Mills Co., Cleveland, Ohio

Chalkboards Offer Varied Applications

Sliding-steel chalkboards in three shades of gray are installed in mock-up classroom for Air Force Academy. Produced by spraying a porcelain-enamel coat on a special analysis steel, developd by U. S. Steel, these magnetic blackboards have numerous applications in addition to their familiar use—including duty as closet doors, room partitions, and projection screens.

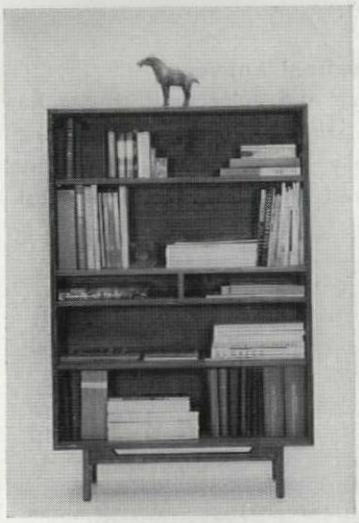
U. S. Steel Corp., 525 William Penn Pl. Pittsburgh 30, Pa.

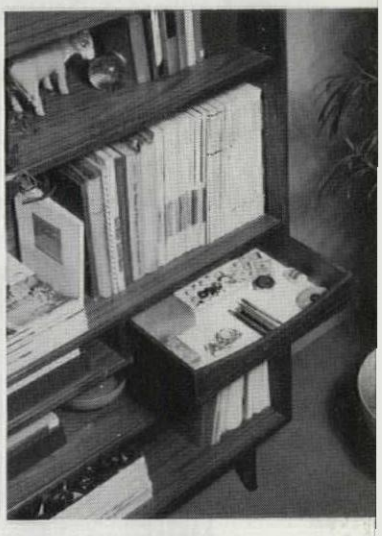


Modular Storage Unit Has Many Uses

Double bookcase or record-storage unit in walnut with rubbed-oil or natural-lacquer finish is composed of two sections with adjustable shelves and a center compartment for magazines, newspapers. May be used free-standing or in combination with Group "R" cabinets to form a modular storage wall. Close-up shows white plastic-lined walnut pull-out tray for stationery or other small storage. The tray slides easily into the center compartment of the unit. Retail: R-8 unit, $220; R-90 tray, $18; R-27 base, $35; R-98 separator, $18.

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

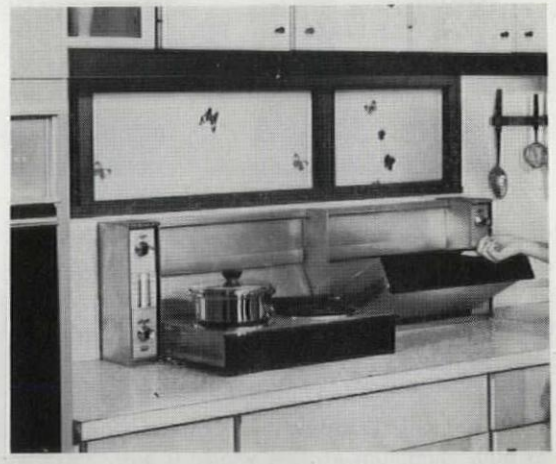




Pin-Neat Heating Units by Frigidaire

Frigidaire markets gas- and oil-fired residential furnaces to meet heating and space requirements in any type house. Line includes 19 gas and 9 oil models. Gas-fired units have capacity range from 70,000 to 190,000 B's per hour input—oil units from 84,000 to 129,000 B's per hour output. For summer air conditioning, cooling coil is added on top, hooked up to exterior condensing unit. Upflow, downflow, lowboy, and horizontal models available.

Frigidaire, Div. General Motors Corp., Dayton 1, Ohio



Fold-Back Cooking Units Allow Flexibility

Built-in electric surface cooking units swing down for cooking and can be folded back when not in use. Available in 24" and 48" models, equipment contains two sealed radiant-tube heating elements. Controls can be arranged to suit kitchen requirements. Fold-Back units are easy to clean and can be installed wherever needed—kitchen, family room, near patio. High-speed heating elements and over-heat control devices available.

Frigidaire Div., General Motors Corp., Dayton 1, Ohio.

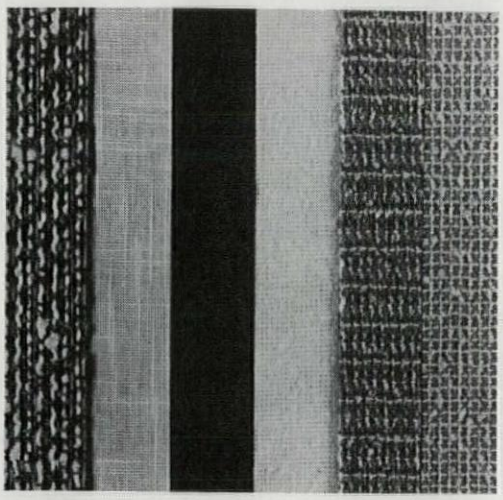
Wall System Accommodates Diversified Surfacing

Executive offices of the new Milliken building, designed by Architects Carson & Lundin, New York, have maximum flexibility of space arrangement by utilizing Hauserman interior, movable, wall system. All component parts of the wall system, based on a 4" module in every dimension, correspond to the modular plan of the entire building and assure that wall installations will match perfectly with the basic module of the ceiling sections, despite varying room sizes. Installed quickly and easily, walls will accommodate panels and surfaces of any material, color, and texture.

E. F. Hauserman Co., 6800 Grant Ave., Cleveland 5, Ohio.

"Cube-Jumbo" Face Brick Saves Time and Cost
Substantial savings in cost, time, weight, are effected with this brick due to greater surface coverage than standard or present jumbo-size brick—also saves 24% in mortar as compared to jumbo. New brick is more easily handled, with kerf and a hole marking every inch—eliminates measuring, speeds up sizing and laying. 3″x9″x3″ brick supplied in 5 colors: Harvard, Indo, Rose Blend, Antique Buff, Antique White.
Sayre & Fisher Co., Sayerville, N. J.

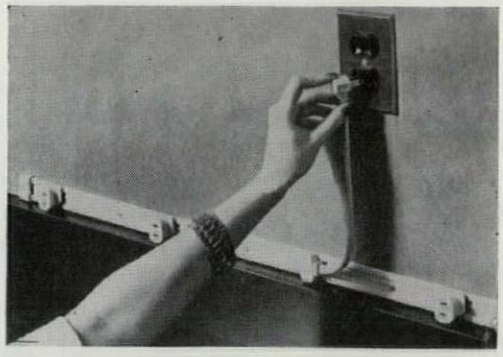
Fabrics Woven for Vertical Louvers
Textured fabrics, with surface and color interest, are now available for vertical-blind louvers. The "Louver-Drape" group includes four specially woven fabrics, translucent enough to admit soft, filtered light; treated to be dust-,



dirt-, and water-resistant, colorfast, stretch-proof, shrink-proof. They are washable and will not shred or rip. In base colors of Sand, Toast, Dresden, Peacock.
Vertical Blinds Corp. of America, 1936 Pontius Ave., Los Angeles 25, Calif.

New Awning Window for Commercial Installation
Series 600, aluminum awning windows with 2¼" wide jamb members, allow use of up to 2" insulated panels, below or above vented area. Venting arrangements are flexible, manually or electrically operated. System is especially adaptable to heavy-duty installations.
Ware Laboratories, Inc., 3700 N.W. 25 St., Miami, Fla.

New Drafting Compass Saves Time
Two-in. speed-template compasses with ball-bearing action assure clean work, reduction in work time—measurements are automatic. Compact, durable, 3⅜"x4¼" over-all precision instrument draws 69 diameters from 1/16" to 2" in 1/32" increment—no adjusting before use—tinted for quick identification. Draftman's model graduated in 1/32". Student model graduated in 1/16". Shown is model No. D-1.
F. & H. Mfg. Co., 817 N.W. 23 Ave., Portland, Ore.

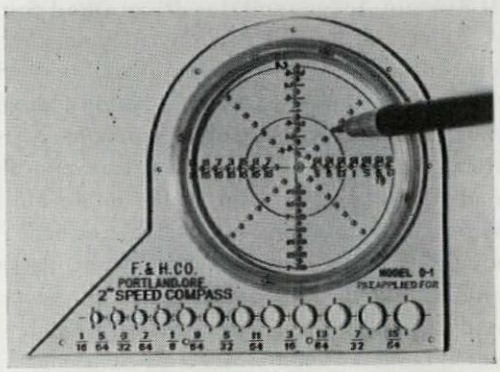


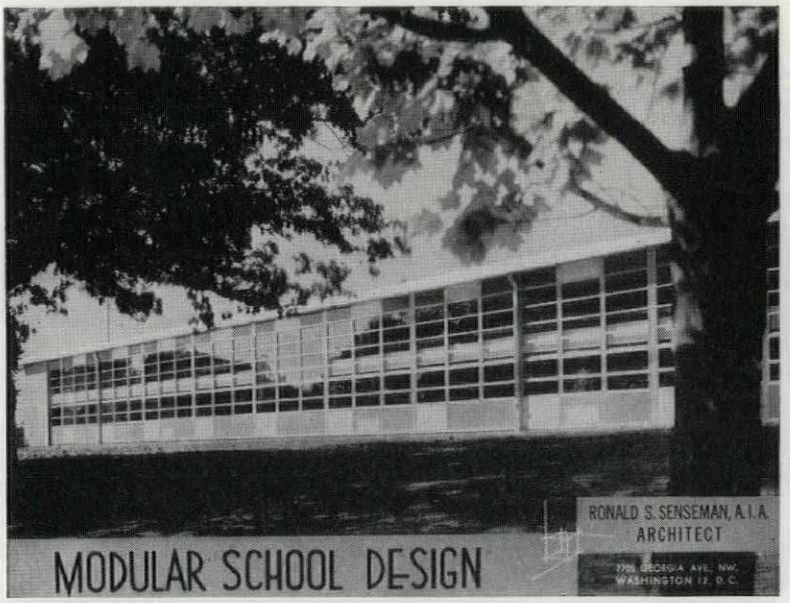
Electric Strip Aids Housewives
Vinyl plastic "four-footer" Electrostrip, designed especially for bedroom and kitchen use, consists of 4' of Electrostrip, three receptacles, new polarized plug-in connector, and mounting screws. Predrilled holes every 8" simplify screwdriver installation. Strip is plugged into existing wall plug, and twist-in receptacles may be placed anywhere along its length for convenience and appearance. Bends to go around obstacles. Quickly movable to any location. It comes in light ivory color, or can be painted. With warranty card, "four-footer" (15 amp, 125-v ac) package retails at $2.95. Listed by Underwriters' Laboratories, and bears the Good Housekeeping Seal.
BullDog Electric Products Co., 7610 Joseph Campau St., Detroit 32, Mich.

Lab-Volt Provides Power for Laboratories
Power package for high-school science laboratories gives reasonably priced power for experiments. Units—8⅜″x4″x 6½″—connect to regular 110-v ac line, supplying ac-dc current. Instructor retains control over power source. Protection against overload is included.
Buck Engineering Co., Inc., Freehold, N. J.

Grout Cement for Dry-Wall Construction
New grout cement developed for use in dry-wall construction is said to eliminate shrinkage cracks and stains. Cement is white and contains a special additive to hinder excessive suction and loss of water.
Medusa Portland Cement Co., Cleveland 1, Ohio

Snap-In Runner Track Aids Construction
Runner track for floor or ceiling is channel-shaped cold-rolled steel. Stud shoes and wire tying are reduced—parallel notches 2″ on center in 1″ legs hold studs in place. Track may be cut with tin snips or hacksaw and is fabricated in 8′ lengths, three widths.
United States Gypsum Co., 20 N. Wacker Dr., Chicago 6, Ill.





Modular School Design, a brochure offered by Macomber, Inc., presents an analysis of advantages of modular planning and construction for schools, by Architect Ronald S. Senseman, of Washington, D. C. A system of interlocking structural members is shown, using standardized building materials and construction methods to reduce building cost and time—with minimum equipment and skilled labor required. Standardization and repetition permit prefabrication possibilities, and considerable adaptability to future expansion and alteration. Basic module is 4 ft; all purlins and girders have 2-ft panel points.
Modular School Design, 22-p. Macomber, Inc. 266

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

AIR AND TEMPERATURE CONTROL

Conversion Gas Burners
Gas burners for installation with residential furnaces and steam or hot water boilers offer quiet, economic, clean service. Cutaway drawing is labeled to illustrate salient features. Ratings and specifications given.
Timken Silent Automatic Products (6-p.) **191**

Building and Air Conditioning With Built-In Thinline
Series of illustrations show how Thinline air-conditioning units can be used in all types of homes—from early American to contemporary design. Zone "comfort conditioning" stressed. Construction detail drawings given for frame, veneer, masonry, metal construction.
General Electric Co. (AIA 30-F, 14-p.) **192**

Air-Duct
Asbestos-cement duct for heating, air conditioning, ventilating systems in residential, commercial, or industrial installations eliminates concrete encasement. Noncorrosive and strong, duct can be installed quickly. Dimensions, illustrations, given.
Keasebey & Mattison Co. (4-p.) **193**

Riviera Heating-Cooling Conditioner
Five separate models of heating-cooling units offer numerous installation possibilities. Complete description is given for each element, as well as connections, etc. Capacity tables, diagrams, engineering data (including psychometric chart), included for each model.
Warren Webster & Co. (28-p.) **194**

Central-Station Air Conditioning Units
Units for filtering, washing, heating, cooling, humidifying, dehumidifying, and circulating air are described in this catalog. Both floor and ceiling types with 400 to 40,000 cfm capacity are available. Engineering data, performance, tables, capacities, drawings, various arrangements presented.
Marlo Coil Co. (AIA 30-F-2, 50-p.) **195**

Double-Duct Air Conditioning Mixing Unit
Folder describes double-duct Uni-Flow mixing unit. Available in octopus, open-end, and integral-diffuser types, serving one or a series of diffusers, it delivers constant cfm while reducing hot and cold high-velocity air to conventional velocities at minimum noise level. Single manual adjustment dials required. Temperature controls and volume regulation are treated as separate functions. Hot and cold inlet valves are electrically or pneumatically operated, with motor mounted inside or outside unit.
Barber-Colman Co. (3-p.) **196**

Year-Round Air-Conditioning Equipment
Catalog contains complete specifications and product dimensional diagrams for full line of warm-air furnaces, winter air conditioners, central residential and light commercial summer, and combination year-round units.
American-Standard, Air Conditioning Div. **197**

CONSTRUCTION

Caloric Laminated Panels
★ Data sheets illustrate eight types of laminated panels for curtain-wall construction by showing details, labeled drawings for each type. Core materials—aluminum honeycomb, glass foam, glass fiber, paper honeycomb—can be used with exterior porcelain-enamel surfacing.
Caloric Corp (8-p.) **255**

Technical Report, duPont Mylar Polyester Film
Tough, durable film made from polyethylene terephthalate; physical, electrical, and chemical properties described and illustrated by graphs and tables. Material is also resistant to chemical agents, while having high insulation value.
E. I. duPont de Nemours & Co., Inc. (16-p.) **256**

p/a manufacturers' literature

Tentative Specifications for Porcelain Enamel on Aluminum

Data sheet details recommended specifications for porcelain enamel on aluminum, especially as used for signs and architectural applications. Requirements, test methods, recommended guarantee included.

Porcelain Enamel Institute, Inc. (2-p.) **257**

Design and Specification, Watertight Masonry

★ To obtain watertight masonry, good workmanship and absence of cracks between brick and mortar are musts. This booklet cites six major considerations for water-tight design, including selection of mortar ingredients, types of mortar, importance of shrinkage control, mortar bleeding, mechanical disturbance.

The Master Builders Co. (6-p.) **258**

Standard Stainless-Steel Corner Guards

Stainless-steel corner guards, with adjustable anchor, can be used with plastered concrete block, or tile walls, leaving no visible screws or weld marks. Guards are 4' high, fabricated from 16-gage polished stainless steel. Installation shown for featured models.

Wilkinson Chutes, Inc. (AIA 20-C, 2-p.) **259**

Arkelite Ceramic-Glazed Structural Tile

Five colors are now available in clear-glazed structural-tile line. Specifications and grading rules are featured. Tables give data on compressive strength, permissible distortion, variation in face dimensions.

Arketex Ceramic Corp. (AIA 10-B, 4-p.) **260**

Preferred Hardboards

Line of 20 hardboards for all types of applications are described in this booklet, including factory-finished, tempered, textured, utility, standard, perforated, and smooth-faced boards. Complete specifications sheets list size and thickness, strength, specific gravity, and water-absorption data.

Georgia-Pacific Corp. (4-p.) **261**

Metal Lath

Booklet contains specifications for metal lathing and furring. Fire-resistive ratings given for metal lath and plaster fireproofing. Materials are specified; design tables, and specifications for all types partitions, lath attached to noncombustive ceiling supports, etc. Drawings illustrate data; erection specifications included.

Metal Lath Manufacturers Association (AIA 20-B-1, 20-p.) **262**

Kaisaloy High-Strength, Low-Alloy Steel

★ Three grades of this high-strength steel allow use for all kinds of applications. No. 1 has high yield strength, weld-ability; No. 2 has high formability; No. 3 is particularly wear-resistant. Mechanical properties are detailed in table and descriptive form.

Kaiser Steel Corp. (20-p.) **263**

Stran-Steel Buildings in Factory-Applied Stran-Satin Color

★ Vinyl-aluminum protective coating on steel panels offered in six colors, as well as standard metal finish. Coating is applied to galvanized-steel panels at the factory—test results show resistance to corrosion, and no loss of adhesion. Guide shows possibilities of applications as well as colors.

Stran-Steel Corp. (4-p.) **264**

Darkroom Design and Construction

Over 25 possible layouts for darkroom facilities are presented in this detailed brochure. Check list of necessary elements and what to take into consideration is presented. Entrances, wall covering, wiring, ventilation requirements are presented.

Eastman Kodak Co., Rochester 4, N. Y. $.50

Free Porcelain-Enamel Color Samples

★ A kit containing specimens of standard colors for Monarch Wall Architectural Porcelain Enamel is available to architects free of charge. Twenty-one 2"x3" samples, ranging from pastel to stipples, are packaged in a colorful box. Monarch panels come in a wide range of sizes, for use as facing material or in curtain-wall construction. Write direct to Davidson on letterhead stationery for the free kit.

Davidson Enamel Products, Inc., Div. MW, 1104 East Kibby Street, Lima, Ohio **265**

Type HP Movable Interior Walls

Brochure illustrates features of low cost movable wall system (P/A PRODUCTS, June 1958). Full-flush panels can be reused when layouts are changed. Typical elevations given, with details and drawings for all steel, steel and glass, all glass systems. Adapters also included.

The E. F. Hauserman Co. (12-p.) **267**

DOORS AND WINDOWS

Vertically Pivoted Window VPA-1

File presents specifications for aluminum window which rotates 360 degrees. Feature is automatic locking at 180 degree angle. Extruded tubular sash with corner reinforcement is also weatherstripped. Glass up to 1" thick can be accommodated. Section drawings are inserted for easy reference.

Michaels Art Bronze Co. (AIA 16-E) **364**

Arcadia Sliding Glass Doors/ Windows and Window Wall

Catalog includes main series of aluminum sliding doors, steel sliding doors, aluminum and steel window walls, aluminum sliding windows. Details, specifications, features, accessories, glazing, and shipping are described for each type.

Arcadia Metal Products (AIA 16-E, 36-p.) **365**

The Diebold-Basic 3½ Inch Vault Door

Something new for bank vaults is this 3½" thick door. Constructed of high-carbon steel, copper, hardened 5-ply drill resistive steel, doors offer handsome design as well as protection. Drawings show vertical and horizontal sections. Stainless-steel finish is available in two patterns.

Diebold, Inc. (6-p.) **366**

Penguin Aluminum Rolling Window

Designed for residential and commercial usage—both traditional and contemporary installations—this aluminum window has flush exterior, condensation barrier, plus features of horizontal rolling windows. Construction detail, installation, and glazing details, are included.

Peterson Window Corp. (4-p.) **367**

Paragon Projected Aluminum Window
Construction and glazing details are featured in this booklet to show operation of projected-window series. Types of fenestration are shown, as well as standard heights, widths, etc. Information included for integrated wall units.
Peterson Window Corp. (4-p.) **368**

Excel-Framing, Erecto-Framing Glass Doors
Catalog shows stainless-steel Twinstile series, and stainless or bronze Fuline line of glass doors. Construction features of both lines explained with drawings; specifications offered. Excel-Framing and Erecto-Framing details given for both types. Fuline is a fully prefabricated door.
Schacht Associates, Inc. (AIA 16-N, 16-p.) **369**

ELECTRICAL EQUIPMENT, LIGHTING

Abolite Incandescent and Mercury Fixtures for Industrial Lighting
Alzak series of aluminum and porcelain-enameled units for high- and medium-mounted mercury lamps, and incandescent medium- and high-bay units are described in this brochure. Data, performance information, dimensions given, as well as photos.
Abolite Lighting Division, The Jones Metal Products Co. (4-p.) **479**

Low Voltage Switching Systems
★ The Touch-Plate system—a master-control system—is particularly adaptable to home systems, offering safe, quiet means of switching electricity. Booklet suggests means of designing a system, provides sections on architectural specifications, planning installation, basic components.
Touch-Plate Mfg. Corp. (18-p.) **480**

The University Technilog on Loudspeakers
Manual provides a guide to sound planning. Such subjects as overload protection, line matching problems, best use of available power, adjusting power capacity, and cut-off are described with technical data, charts, and tables. Architects and engineers specifications included.
University Loudspeakers, Inc., 80 S. Kensico Ave., White Plains, N. Y. $1.00 (64-p.)

Panel Fires
Electric-heating elements, utilizing principle of parabolic reflector with carborundum, are available for all types of residential installations. Photos show actual usage and models available. Installation, specifications, construction discussed, as well as switches, sizes of openings, etc.
Ferranti Ltd. (16-p.) **481**

FINISHERS AND PROTECTORS

Maintz, The Outstanding Maintenance Coating
Maintz coating, developed from synthetic-rubber compound, offers resiliency as well as protection against abrasion, weathering, chemical corrosion. Useful as coating on thin-shell concrete roofs, heavy-duty floors, conduit, pipe, electrical equipment. Material is available in several colors. Chemical and weather resistance outlined. Application methods and costs suggested.
West Chester Chemical Co. (8-p.) **561**

Waterproofing and Roofing
Brochure presents complete information on new prefabricated waterproofing and roofing materials, with detailed specifications, drawings on waterproofing, new roofing, roof maintenance. Case histories with photographs of application are included.
Twinsburg-Miller Corp. (15-p.) **562**

Adhesives, Coatings and Sealers
Catalog lists official United States Government Specifications for a wide variety of adhesives, coatings, and sealers. In numerical form, it gives Military, Army, and Federal specifications, their definitions, and corresponding 3M adhesive, coating, or sealer that meets these specifications.
Minnesota Mining & Mfg. Co. (23-p.) **563**

Painting Asbestos-Cement Products
Informative manual describing surface preparation, and application of types of paints suitable for use on asbestos-cement products, for siding, shingles, flat and corrugated asbestos-cement sheets.
Asbestos-Cement Products Association (11-p.) **564**

Tremco 1958 Glazing Recommendations
This brochure covers characteristics of sealants currently available for optimum performance in relation to cost in construction, for glass: vision, structural, heat-resisting, insulating; marble or granite, insulated panel units—set in aluminum, bronze, hot dipped galvanized, limestone, stainless steel, steel, wood. It contains detailed drawings showing uses and application of types of compounds.
The Tremco Organization (1-p.) **565**

25 Years of Color Trends in America
Booklet reports on events in the use of color in the past quarter-century. Chart shows preferences evidenced since 1933 for three categories—paints and wallpaper, automobiles, home furnishings. Of note is trend in past decade to light colors in all groups. Preferred colors discussed.
Faber Birren & Co. (6-p.) **566**

PROGRESSIVE ARCHITECTURE, 430 Park Avenue, New York 22, N. Y. I should like a copy of each piece of Manufacturers' Literature circled. Coupon must be used by 12/1/58

191	256	264	368	564	765	988
192	257	265	369	565	846	76
193	258	266	479	566	847	
194	259	267	480	567	848	
195	260	364	481	669	849	
196	261	365	561	670	850	
197	262	366	562	763	986	
255	263	367	563	764	987	

please print

Name

Position

Firm

Mailing Address

City *State*

p/a manufacturers' literature

Acrylic-Emulsion Paints for Exterior Masonry
Booklet is based on lectures given by Gerould Allyn for Univ. of Florida's 1958 Short Course in Paint Technology. Included are discussions of development of water-thinned paints, acrylic paint formulations, outdoor application, summaries of fourth and fifth year exposure findings on mildew resistance, color retention, etc. Tables and photographs.
Rohm & Haas Co. (10-p.) **567**

INSULATION

Diamontex
Folder on "Lay-in" acoustical panels for ceiling applications. Installation shown by diagrammatic drawings. Sound-absorbing material is rolled on cold-rolled steel panels at time of installation, when panels are laid on grid system. Fire-resistance and low maintenance claimed. Test data shown in table form; specifications.
Diamond Mfg. Co. (4-p.) **669**

Clairtone Acoustical Tile
Sheet concerns line of perforated cellulose-fiber tile. Available in two styles; random and regular patterns, with textured finish and high reflectivity. Sizes, sound absorption, specifications and installation data given.
Acoustical Products Div., Baldwin-Hill Co. (2-p.) **670**

SANITATION, PLUMBING, WATER SUPPLY

Wrought-Iron Pipe for Modern School Building
Quality design of piping for school buildings is emphasized in this booklet. Main section describes where wrought iron piping should be used: water lines, drainage piping, condensate return piping, snow melting, fuel oil and gas lines, radiant heating, air conditioning, etc. Special advantages of new 4-D wrought iron listed, plus installations in various schools.
A. M. Byers Co. (8-p.) **763**

Paddock Seablue Pool Equipment
All types of equipment—from pool chlorinators to diving boards—are present in this 1958 catalog. Description of products, plus suggested pool layout and cutaway drawings of numerous components featured.
Paddock of Texas Inc. (32-p.) **764**

Zurn Systemette
Supports for residential toilets—both bar-supports and yoke-supports—are illustrated with photos and descriptive data in this booklet. Cutaway drawings show actual installation, with specifications and complementary copper drainage components. Features and ease of maintenance are stressed.
Zurn Industries, Inc. (AIA 20-H-8, 4-p.) **765**

SPECIALIZED EQUIPMENT

Pigeon-Hole Parking
Mechanical parking system is swift and convenient. Tiers of stalls facing each other across corridors provide multiple parking of cars lifted on mobile platform. Patented dolly extends from lift platform, raising car onto platform. Also adaptable to materials handling. Diagram shows operation.
Pigeon Hole Parking, Inc. (6-p.) **846**

Individual Quality Seating Equipment
Sturdy steel-constructed desks and chairs for every school activity are illustrated in white and color photographs in this catalog, with measurements and construction details given. Some desks have wood finishes. Similarly, church and stadium seating equipment are presented, offering a choice of upholstery materials.
American Desk Mfg. Co. (23-p.) **847**

Educators Classroom Cabinets
Folder shows six specific series for teachers' use of quality cabinets, movable, fixed, and special purpose units, including wardrobes. Colored pegboard, wood and laminated plastic are combined in some items. Dimensions and construction features are supplied.
Educators Mfg. Co. (AIA 35-B-4, 6-p.) **848**

The Truth About Office Copying Machines
New illustrated booklet analyzes growing use in business of copying machines, giving facts about cost, speed, operating ease, best equipment for a company's specific needs. Copease line claims to make a perfect photocopy in 30 seconds.
Copease Corp. (7-p.) **849**

"Reach" for Safety Body Mechanics Manual
This manual describes the structural design of grab bars and other safety equipment for patient maneuverability, for installation in hospitals, convalescent homes, etc. It is profuse with graphic illustrations of the uses of these devices.
National Steel Products (59-p.) **850**

SURFACING MATERIAL

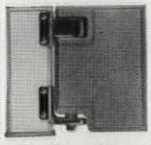
Floor Patterns
Loose-leaf booklet contains 20 black-and-white drawings of available floor patterns in Stylon ceramic tile. Shapes, textures, finishes are suggested by shading. Standard sheets size is 24"x12", ready to install.
Stylon Corp. (22-p.) **986**

Ceramic Floor and Wall Tile Classics
Durability and attractive appearance of these wall and floor tiles are stressed. Twelve colors are depicted for wall coverings while variegated patterns in floorings are presented, utilizing 14 colors.
Miseramic Tile (8-p.) **987**

Weldwood Textured-Wood Paneling
Brochure gives information on wood paneling for interiors. Description of four principal types of paneling—Surfwood, Sea swirl, Weldtex, Planktex—included. Installation described, and detailed discussion of means of application suggested.
U.S. Plywood Corp. (8-p.) **988**

INTERIOR FURNISHINGS

How To Provide Lower Cost School Seating
Folder describes line of easy-to-handle folding chairs. Safety and engineering features are pointed out. Photos show use in numerous schools and colleges. Hinge action and double-tube construction illustrated.
Clarin Mfg. Co. (6-p.) **76**



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

TYPICAL WEIS INSTALLATIONS

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

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

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

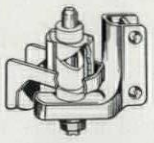
BRANIFF AIRWAYS MAINTENANCE HANGAR, DALLAS, TEXAS
Architect: Mark Lemmon / Pereira & Luckman—
Contractor: J. W. Bateson Co.

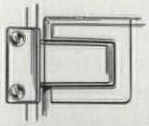
SHOPPING CENTER, GRETNA, LOUISIANA
Architect: August Perez & Associates—
Contractor: Keller Construction Corp.

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

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

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





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

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

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

WEIS TOILET COMPARTMENTS

Henry Weis Mfg. Co., Inc.,
Dept. H-2210, Weisteel Bldg., Elkhart, Indiana

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

name _____

firm _____

address _____

city, state _____

engineering genius

The Structures of Eduardo Torroja. *Eduardo Torroja. F. W. Dodge Corp., 119 W. 40 St., New York, N. Y., 1958. 198 pp., illus. $8.50.*

In building, a man need erect but one great structure to achieve fame. So it is with Eduardo Torroja. The Zarzuela Hippodrome, designed and built in 1935, sufficed to prove his genius. This structure, and to a lesser degree, the Fronton Recoletos and some whimsical sculpting at the Costillares Research Institute, are his only widely known works.

In this book, he modestly reviews his building activities over 30 years; and we can examine his structures more precisely.

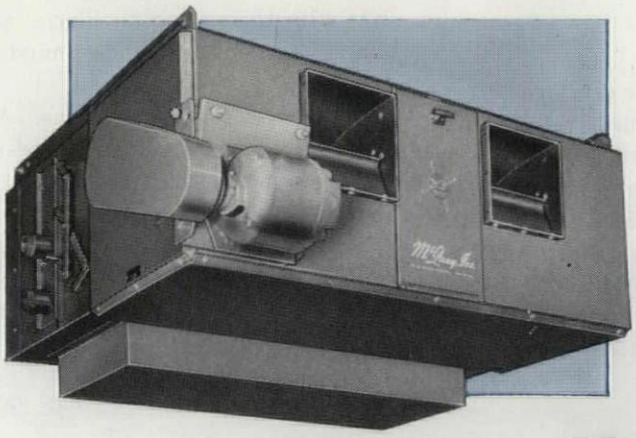
A man is considered a genius in engineering if, after a long period of effort and concentration on the theme, he is simply able to understand the basic truths which (were it not for the misconceptions and prejudices that obscure them under the guise of "science") might be readily obvious to any normally intelligent person. A great engineer can abstract the essential and disregard the secondary.

Torroja is such a man. He commands the mathematics needed to represent the play of forces in a structure. He knows what different building materials are capable of. He has stored up enough building experience to be able to see, at an early stage of the design, what conditions a stable and easy-working structure must fulfill. He has also a rare love of detail, which can transform a plain structure into a work of art.

We can see this in the tribune at the Zarzuela Hippodrome. The impression of lightness due to the apparent absence of stiffeners or ribs, and the gracefulness of the shell forms, make this the best of Torroja's structures. And other structures show his genius. The barrel vaults of the Fronton Recoletos held, at one time, the record for size, and the triangulated members of its skylights are highly original. Another of Torroja's most beautiful works is the Alloz Aqueduct, a clever, prestressed structure, very pleasant to the eye. In the hyperboloid caissons of the Sancti Petri bridge, he uses hollow brick as a structural material, following the old Mediterranean tradition. He traces a logical path of thought to arrive at a most interesting spatial framework for an operating amphitheater in Madrid.

All these structures (built before the Spanish Civil War) seem imbued with that magical quality we always associate with the extraordinary. But Torroja's later works are a bit disappointing. They are extremely competent, as we might expect, but they seem to lack the spontaneity

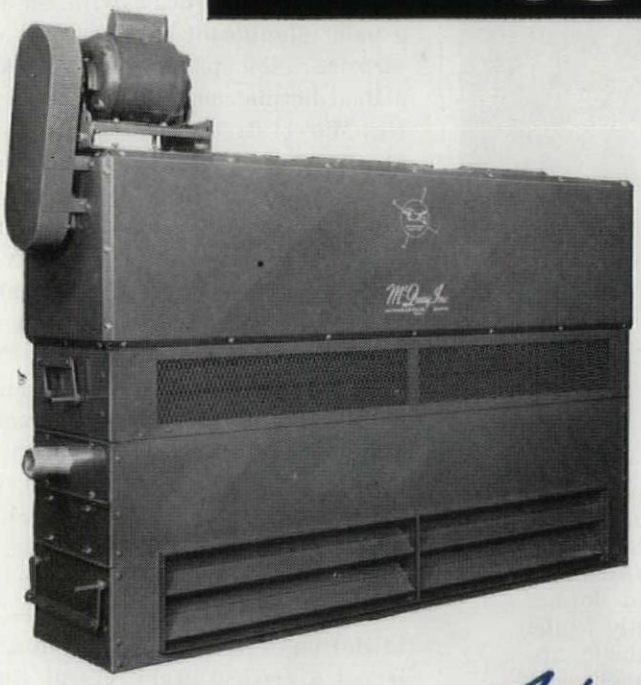
(Continued on page 210)



McQuay "HC" Horizontal heating and ventilating unit. Available in three coil types, standard steam, jet tube steam and hot water.

Flexible for any job
Versatile for any need

THE McQuay "HC" LINE OF
HEATING and VENTILATING UNITS



McQuay "HC" heating and ventilating units are the most flexible and versatile available for a wide range of applications, such as schools, churches, hospitals, industrial plants, public and office buildings, and other large area installations requiring quiet, high volume heating and ventilating. They'll handle even the most difficult jobs with ease. Often one McQuay unit will do what normally would require two or more other units. And with McQuay "HC" units come the exclusive Ripple Fin coils and Dura-Frame construction essential to peak performance and economy and quiet, trouble-free operation for years to come. When you have a heating and ventilating problem, call in the McQuay representative or write McQuay, Inc., 1638 Broadway Street N. E., Minneapolis 13, Minnesota.

McQuay "HC" Vertical heating and ventilating unit. Also available in three coil types. A full line of accessories is available for all models.

4 types

19 sizes

1,280 to 48,300 cfm.

26,200 to 2,931,500 Btu./hr.

McQuay Means Quality

McQuay units feature the exclusive Ripple Fin coils which create maximum air turbulence and have wide, full fin collars that act as automatic spacers to form a tube around the coil tube for greatest heat transfer and protection. The Dura-Frame "V" channel construction provides the strength and rigidity necessary for quiet, trouble-free operation.

McQuay INC.

MAKE THE SEASONS COME TO YOU

AIR CONDITIONING • HEATING • REFRIGERATION

(Continued from page 208)

and brilliance of his early structures. At the end of the book appear a few self-conscious "architectural" designs for chapels and churches, which might better have been omitted along with the "hundreds" of other Torroja structures Mario G. Salvadori enumerates vaguely in his foreword.

Torroja has taken pains in this book to describe the creative process involved in structural design—and this makes for some fascinating reading. But, in common with another great engineer who recently undertook to impart something of his knowledge to less enlightened persons, he includes not a single mathematical equation and he neglects to complete his structural drawings with the size or number of steel bars. The serious reader must regret this.

These are minor criticisms. At a time when almost any second-rate engineer dares to boast about our ability to analyze and calculate any piece of structural nonsense dreamed up by architects after ill-digested dinners, *The Structures of Eduardo Torroja* brings us back to the grounds of common sense.

FELIX CANDELA & COLIN FABER
Mexico, D. F.

entente cordiale

Adventure in Architecture. *Whitney S. Stoddard and Marcel Breuer. Longmans, Green & Co., Inc., 55 Fifth Ave., New York, N. Y. 1958. 128 pp., illus. $8.50*

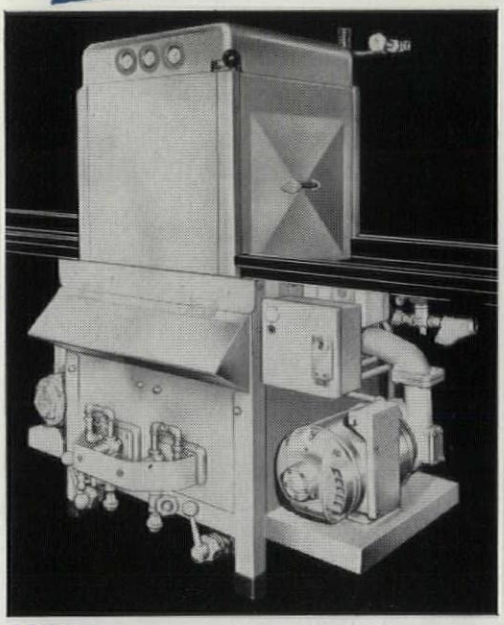
This publication deals with an unusually significant architectural enterprise: the partnership between a Benedictine community and Architect Marcel Breuer; and their efforts at planning and designing a monastic compound at Saint John's Abbey, Collegeville, Minnesota. It records the sequence of steps which led from an initial concern with the rehousing of the retired fathers (1951) to the appointment of a master architect (1953); his comprehensive building proposals for the next 100 years; designs for a new church, chapter-house, and belfry; and, to date, the completed construction of a monastic wing and sacristy.

Professor Stoddard's account focusses as much on the process of initiating design as on its results. It is not a critical architectural study nor does it have the immediacy of Le Corbusier's own publication about the chapel at Ronchamp, which reveals artistic intent from within the creative process. Stoddard is the chronist who records as a labor of love. Of necessity, he remains on the outside of the design process, as much fascinated with the portrayal of the Benedictine fathers' own contribution as with the work methods of the architect. To the existing, already massive, documentation of the St. John's project, Stoddard adds

(Continued on page 218)

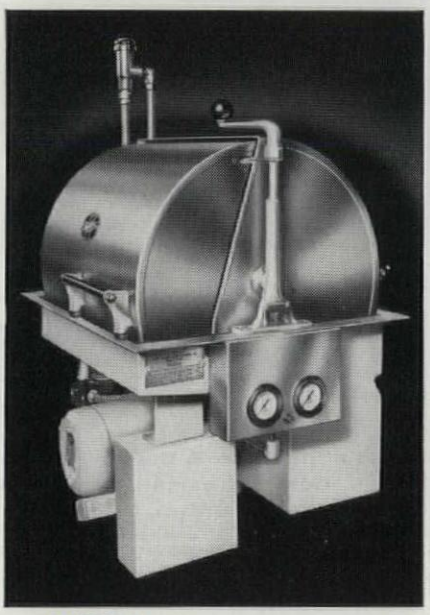
NEW DISHWASHER DEVELOPMENTS FROM HOBART

Space... speed... savings... sanitation. These are the areas where Hobart research is constantly improving the performance of the industry's most complete line of quality dishwashing machines. Here are the latest of these developments— each designed to make a specific dishwashing operation more efficient for your commercial kitchen layouts.



NEW two-tank machine in space of one-tank type

Another industry-*first* by Hobart. Now you can have all the improved sanitation and efficiency of power wash, separate power rinse in a machine with the same between-tables dimensions as a single-tank unit. In this minimum space, unique Hobart design of the new AM-77 effectively separates wash and rinse streams—each powered by a separate Hobart-built motor and pump. Final fresh-water rinse employs famous Hobart revolving-arm feature.

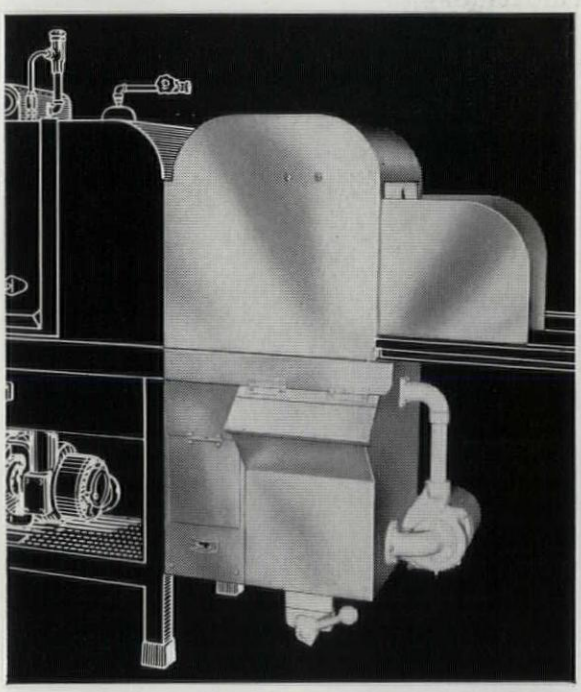


NEW timed countertop dishwasher

A favorite straight-line machine for smaller operations, the SM series of machines now offers improved automatic-timed control for power wash and rinse cycles... is more compact, simplified. Single selector switch for timed, automatic or off positions. "On-off" pilot light indicates machine operation. Another important feature: prolonged rinse for glasses is always available.

NEW popular machines now stainless steel... inside and out

The exclusive Hobart undercounter or free-standing dishwasher now features all interior and exterior surfaces of durable, easily cleaned stainless steel. Ideal for convenient yet out-of-the-way installation in bars, drugstores, snack bars, diet kitchens, rest homes and as a glasswasher unit in higher volume kitchens. Capacity, 600 glasses an hour.



NEW compact power scrapper... saves water

This newest addition gives Hobart the most complete scrapper line. The Model RS gives *power* scrapping advantages in the space of 22 inches. By using overflow rinse water from the dishwasher, the Model RS saves water and reduces costs. Other new features: splash shields and front-removable scrap trays.

It is good insurance for you to specify machines that can be depended upon to guarantee the efficiency of the kitchens you design. As an architect you'll readily appreciate the performance and dependability that are synonymous with kitchen machines bearing the Hobart name. You'll appreciate the flexibility of choice offered by the complete line of Hobart equipment.

Check Sweet's Architectural File for complete specifications on all Hobart kitchen and dishwashing machines. Or send in the coupon.

Hobart

Hobart machines

A complete line by the World's Oldest and Largest Manufacturer of Food Store, Kitchen, Bakery and Dishwashing Machines

The Hobart Manufacturing Co., Dept. HPA,
Troy, Ohio

☐ Please send information on dishwashers.
☐ Please send information on other kitchen machines.

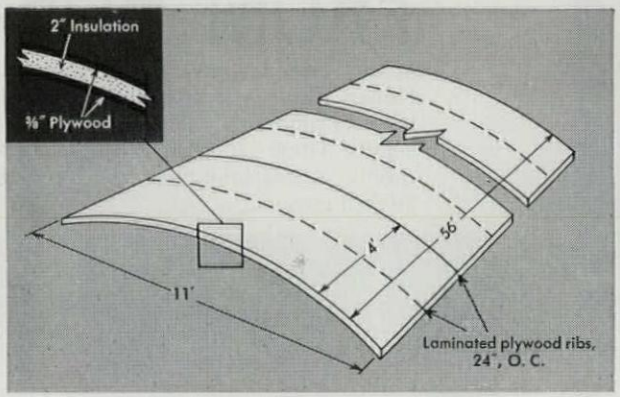
Name of Firm.....

My Name.....

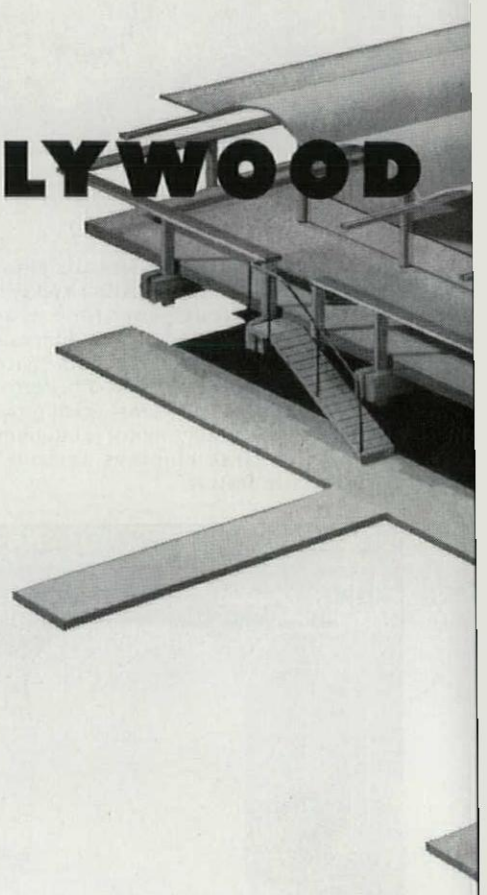
Address.....

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

new approaches to structural design with fir plywood



Prefabricated roof vaults are 11 feet wide at the chord, and 56 feet long (40 foot span plus 8 foot cantilever both ends). Key to system is the outstanding shear strength of the stressed fir plywood skins.



FIR PLYWOOD

ARCHITECT: Theodore T. Boutmy, A. I. A.
George Kosmak, Consultant
John E. Brown, Structural Engineer

PLYWOOD VAULTS designed and engineered by Berkeley Plywood Co., Oakland

THESE lightweight fir plywood stressed skin barrel vaults designed for a California yacht club provide large clear floor areas at low cost plus an attractive profile and interior.

Combining roof decking, insulation and ceiling, the prefabricated vaults span 40 feet from front to rear and 11 feet from valley to valley, without use of beams or trusses. Vaults are cantilevered 8 feet front and rear; spouts which join units at the spring lines extend an additional 10 feet to act as gargoyles in carrying off water.

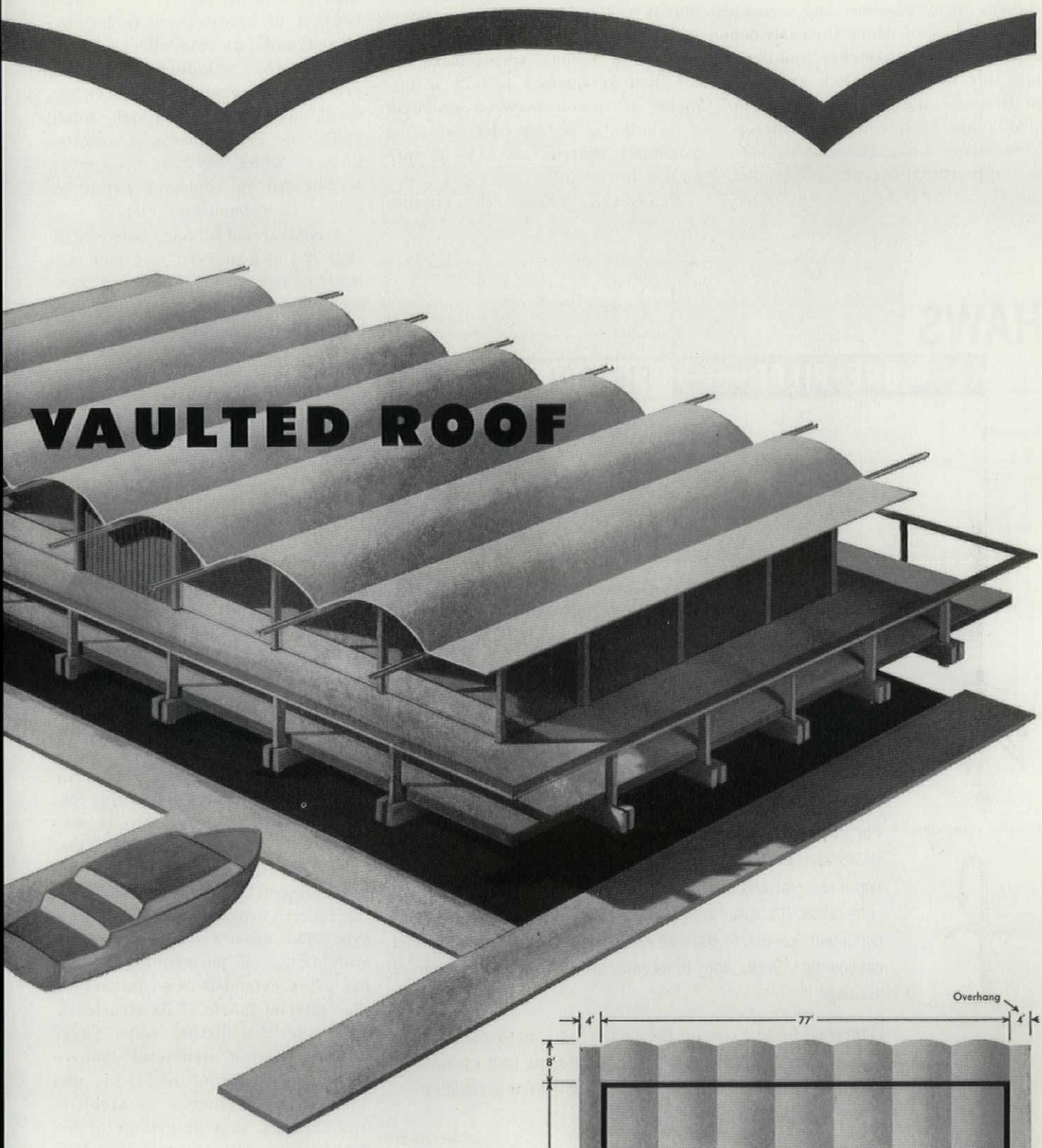
The roof system provides complete freedom in interior arrangements. Additions can be made simply by adding new vaults or extending the existing ones.

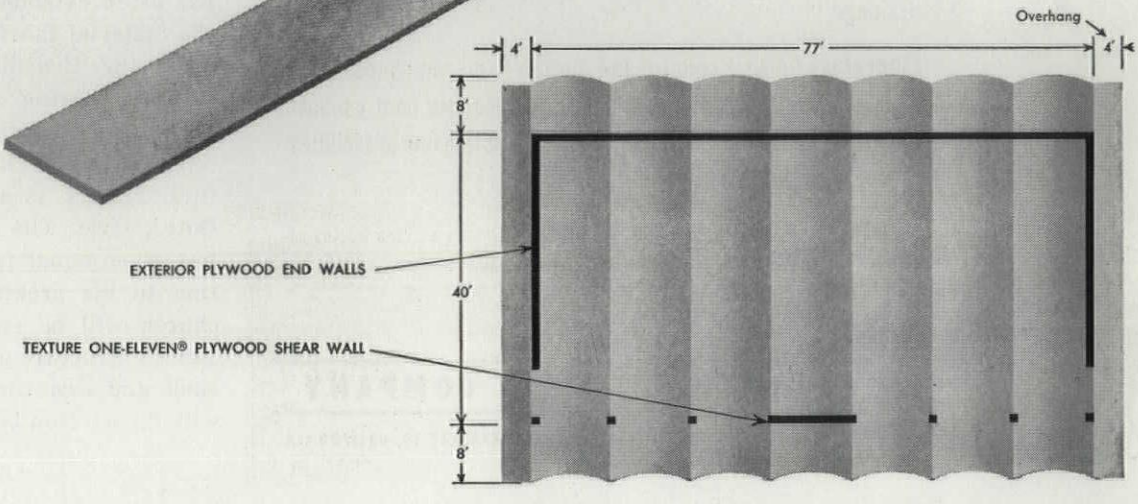
Structurally, the entire roof acts as a rigid plywood diaphragm in transferring lateral loads to the plywood end and shear walls. Two test vaults were successfully used at the San Francisco Arts Festival. Berkeley Plywood is contemplating mass producing the vaults as a standard construction component.

SEND FOR YOUR COPY OF "SCHOOLS OF THE FUTURE"

. . . a portfolio collection of outstanding designs by six leading architectural firms. Includes 10-page booklet on fir plywood diaphragm construction. For your free copy, write (USA only) Douglas Fir Plywood Association, Tacoma, Washington.
Also write for information about DFPA design and engineering consultation services.

VAULTED ROOF





(Continued from page 210)

records of discussions and development studies, of which the early conceptual freehand sketches, and drawings for the new church annotated in Breuer's and Nervi's hands (pp. 39-42) are of considerable interest. What gives this publication its place in the marginal literature surrounding the architectural process is primarily the human, cultural interest it arouses in architectural activity. For, in a society which lacks the cohesion of common beliefs, a harmony of action between architect and building patron, derived from commonly shared values, is as rare as it is important.

Stoddard conveys the circumstances of mutual understanding, which, removed from the short-term money values, permit the lasting benefits of architecture to be envisioned and put into effect. He describes the grinding, purposeful process of programming, design proposal, and consent, which finally yields the grave forms of architecture, to which we have become unaccustomed in times of parsimony as well as conspicuous display.

A contractual alliance between the church and a modern architect is in itself no new event. The choice, however, of an illustrious former member of the Bauhaus Group, which a generation ago was accused of materialistic heresy by the demagogues, must be recognized as courageous. For it should be remembered that Niemeyer's great church of St. Francis (1943) has never been consecrated and Notre - Dame - du - Haut of Ronchamp had to be accepted by the community before receiving a blessing. Yet this book shows how close, really, are the principles of modern architecture to those of the spiritual faiths. The affinities lie in the search for the essence of things which animates the architect's quest for forms that are true to purpose and feeling, esthetics and construction.

The Benedictines have a long tradition of awareness regarding the arts, and their role in a joyous revelation of order and purpose. Their monastic life, teaching, and ritual have always been embroidered with the felicities of music and the visual arts. The order's concern with the evolving social pattern of the day has often extended to an interest in the material fabric of its structures. Thus the Benedictine Abbé Suger initiated daring structural changes in the sanctuary of St. Denis and consequently is known to architectural history as a progenitor of the Gothic style. The Abbot of St. John's has given equal freedom of exploration to his architect, and the new church will be enclosed by the advanced structure of a folded concrete shell, and a cantilevered vertical slab will fly as icon-bell-banner over its

(Continued on page 222)

Curved roof of "Structoglas" panels, manufactured by International Molded Plastics, Inc., Cleveland, Ohio, at Morris Elementary School, Troy, Michigan.

NO WEATHERING WORRIES HERE!

These glass-fiber reinforced panels are made with PARAPLEX® P-444

The *superior weather resistance* of glass-fiber reinforced panels made with acrylic-modified PARAPLEX P-444 polyester resin is shown in the photomicrographs below. After THREE years of continuous outdoor exposure in Florida, PARAPLEX P-444 test panels show virtually no discoloration or fiber evidence. But notice the progressive degradation of the conventional light-stabilized resin!

For highest *quality* and *durability* in glass-fiber reinforced panels, insist on panels made with PARAPLEX P-444.

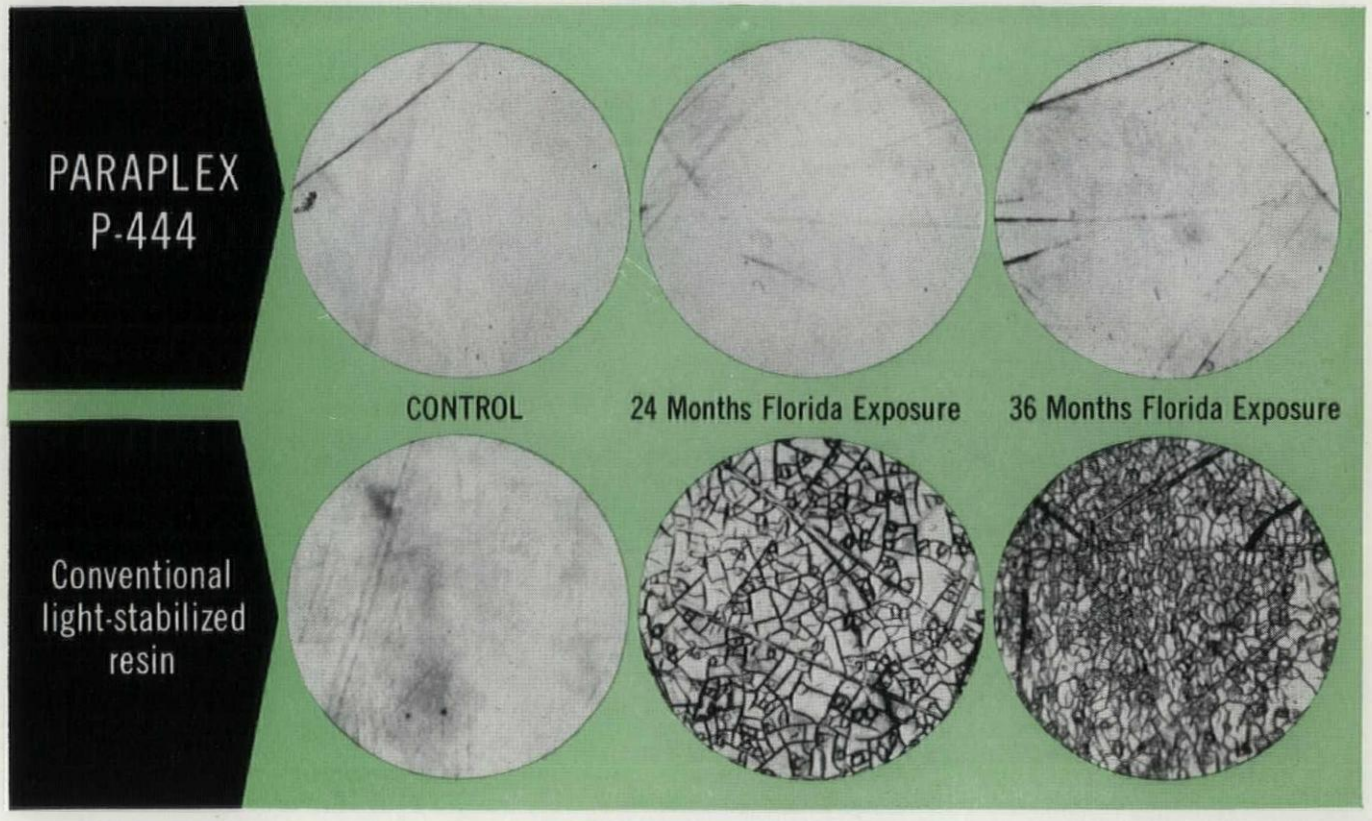
Chemicals for Industry

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

Representatives in principal foreign countries

36-MONTH FLORIDA EXPOSURE TEST



you wouldn't substitute this

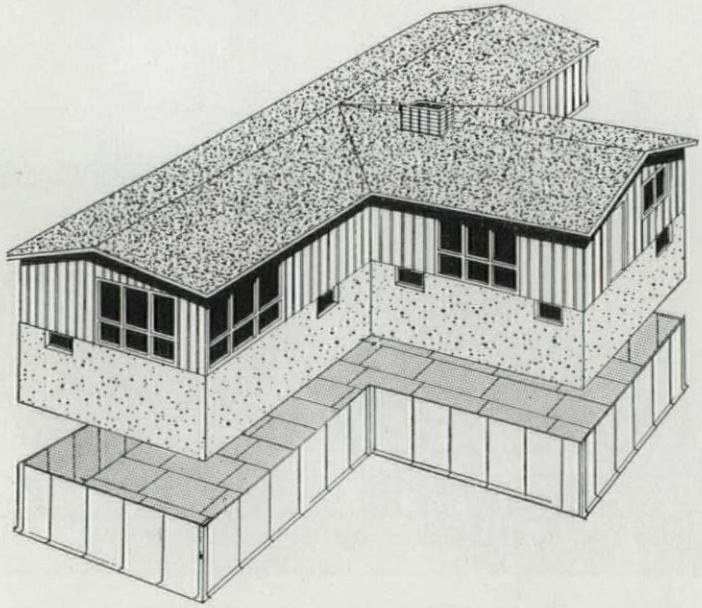
...so why substitute it for

COMPARE *PM WITH ANY OTHER TYPE OF VAPOR SEAL ON THE MARKET!

COMPARE the permeance ratings . . . for on this point alone, "PREMOULDED MEMBRANE" stands head and shoulders above all other, so called, vapor barriers on the market. In fact, as you will see by the chart below "PREMOULDED MEMBRANE" is over 16 times more impermeable than the next ranking material.

MATERIAL	WATER VAPOR TRANSMISSION (in *Perms)	
	LOW	HIGH
Sealtight "PREMOULDED MEMBRANE"	.0066	.0066
Polyethylene Film (.004 in. thick)	.097	.108
55-pounds roll roofing	.030	.081
Duplex paper (coated both sides—reflectors material, reinforced)	.304	.347

*Perms—grains per square foot per hour per inch of mercury difference in vapor pressure at standard test condition.

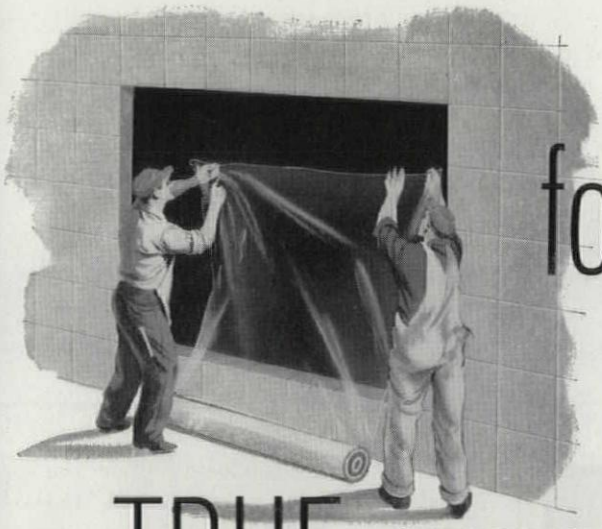


COMPARE the strength . . . "PREMOULDED MEMBRANE" is strong enough to maintain its permeance rating after it has been subjected to the pouring of aggregate, trundling of wheelbarrows and installation foot traffic. Resists rupturing and tearing. How many other materials will perform like this under the above circumstances?

COMPARE the ease and speed of providing a permanent installation . . . "PM" may be laid directly over the tamped grade or fill . . . joints are then efficiently sealed with Sealtight Catalytic (non-setting) Asphalt, thereby providing a monolithic vapor seal with mechanically sealed joints, that will expand and contract with the concrete slab above without breaking the bond.

*PM PROVIDES A WATERPROOF SHIELD THAT PERMANENTLY PROTECTS YOUR STRUCTURE FROM MOISTURE MIGRATION

Sealtight "Premoulded Membrane" provides a positive, permanent protection against the ravages of destructive moisture in all residential, commercial and institutional buildings. Ideal for all types of construction . . . for slab-on grade construction the installation of "PM" completely isolates slab from any moisture originating in the site . . . the installation of "PM" in Crawl-space construction removes all danger of moisture migration, condensation and oxidation of metal installations in the crawl-space area . . . eliminates need for ventilation . . . "PM" properly applied to the exterior of basement walls and beneath the floor slab insures a warm, dry, livable basement. Prevents any migration of vapor or capillary movement of free water.



for this

a TRUE vapor seal?

It is fortunate that within the last decade the building industry has recognized the need to install a vapor barrier between the site and structure . . . unfortunately, the building industry has been guilty of the promiscuous use of permeable materials under the guise of vapor barriers. It is a known fact that asphalt saturated felts and building papers, duplex papers and plastic films are all highly permeable and should not be considered as effective vapor barriers.

You do not use a polyethylene film to replace glass for many reasons . . . most important is the fact that it would not completely eliminate weather penetration and is easily ruptured. It is basically these very same reasons that make plastic films and other permeable materials unsuitable as a vapor barrier . . . and, even more important, unlike a window, a vapor seal is installed *permanently* . . . it cannot be replaced at a later date. A vapor seal must be impermeable, monolithic, without voids, open or lapped seams and strong enough to provide a permanent installation without rupturing under installation handling and foot traffic, the trundling of wheelbarrows and pouring of aggregate.

We sincerely advise and invite your comparison of "PM" against all other "so called" vapor barrier products on the market. "PM," the industry's only true, impermeable vapor seal, is actually the most economical available when you consider the reduced maintenance and redecorating costs realized through the complete elimination of moisture migration into the structure.

*Premoulded Membrane TRADEMARK . . . the industry's only TRUE vapor seal!

Write today for complete information . . . request your free copy of "Design Techniques"—a technical manual that provides in the architects and engineers own language factual proof of the effectiveness of using impermeable materials in eliminating moisture migration. For a complete set of structural recommendations on the applications and installation of "Premoulded Membrane," request a set of our "PM" Tech-Tips.

OTHER SEALTIGHT® BUILDING PRODUCTS

- "CORKTITE" Impermeable Perimeter Insulation
- "DURAJOINT" PVC Waterstops
- "HYDROMAT" Asphalt Liners
- JOINT SEALING COMPOUNDS
- EXPANSION JOINTS of all types including asphalt, fibre, cork, and sponge rubber
- ROOF COATINGS & CEMENT
- PLASTER BOND
- SILICONE WATERPROOFING

W. R. MEADOWS, INC.

9 KIMBALL STREET · ELGIN, ILLINOIS

(Continued from page 218)

approaches.

As a matter of special interest, this record reveals the method by means of which the building committee chose its architect. Significant omissions on the extensive list of famous architects interviewed show that the fathers' search was not for a master of fiery vision, whose form hallucinations might consume the delicate organism of their community. It was rather a matter of entrusting the work to a master who also could be a servant of ideas, who in the formal passion of his art could match the humility and dignity of the Benedictine rule and the fervor and serenity of its ritual. In our time, it is difficult to think of an architectural temperament more suited to this than Breuer's.

His proposals for a dynamic, winged plan of sufficient closure for a contemplative environment, yet with extensional possibilities for growth, his firmness in the handling of forms and materials show a true congeniality of the spirit. The new church, which in asymmetrical placement dominates the group, reflects Benedictine ideas for ritual reform. Its interior arrangement and spatial quality reminds of the sturdiness of early Christian and Romanesque examples rather than the Gothic, while the concrete folds closing upon the ritual place do so with all the prowess of contemporary structuring. The bell-banner is a lyrical invention of plastic and symbolic effectiveness, a new sport in the morphology of the belfries.

Because of its sequential documentation, Stoddard's book affords the possibility of comparison between the initial rugged simplicity and the later elegancies of the design. Questionable to a discerning architectural reader must surely be the changes in the north façade, from a vivid, tensely organized surface to the present affable hexagrid; the lately added slight curvature in the sidewalls of the church; and the transformation in the bell-banner from its early elusiveness, recalling indigenous naive structures, to the final emblem of much greater formal and structural assuredness yet lacking totally in the former sense of mystery. Misgivings about the built-in distortion of the increased foldedness under the downslope of the roof in the enclosure of the church must remain until the actual construction of a design that may still undergo many changes.

Adventure in Architecture, apart from the human story it has to tell, adds to the records of a building which is bound to be of historical interest. It is not materially helped by a typography which is both conventional and wayward.

G. M. KALLMANN
A.A. DIP. A.R.I.B.A.
Associate, Dept. of Architecture
Columbia University, and Cooper Union
New York, N. Y.

(Continued on page 226)

Call the man from Fenestra for

Entrance doors at the lowest installed cost!

They look like costly custom-made doors, but these are *stock* doors by Fenestra, specially engineered for public buildings.

These new Fenestra® Hollow Metal Doors swing open smoothly, close quietly. You save year after year on maintenance because Fenestra Doors can't warp, swell, stick or splinter. They last a lifetime! And in addition to durability, you get the lowest installed cost because:

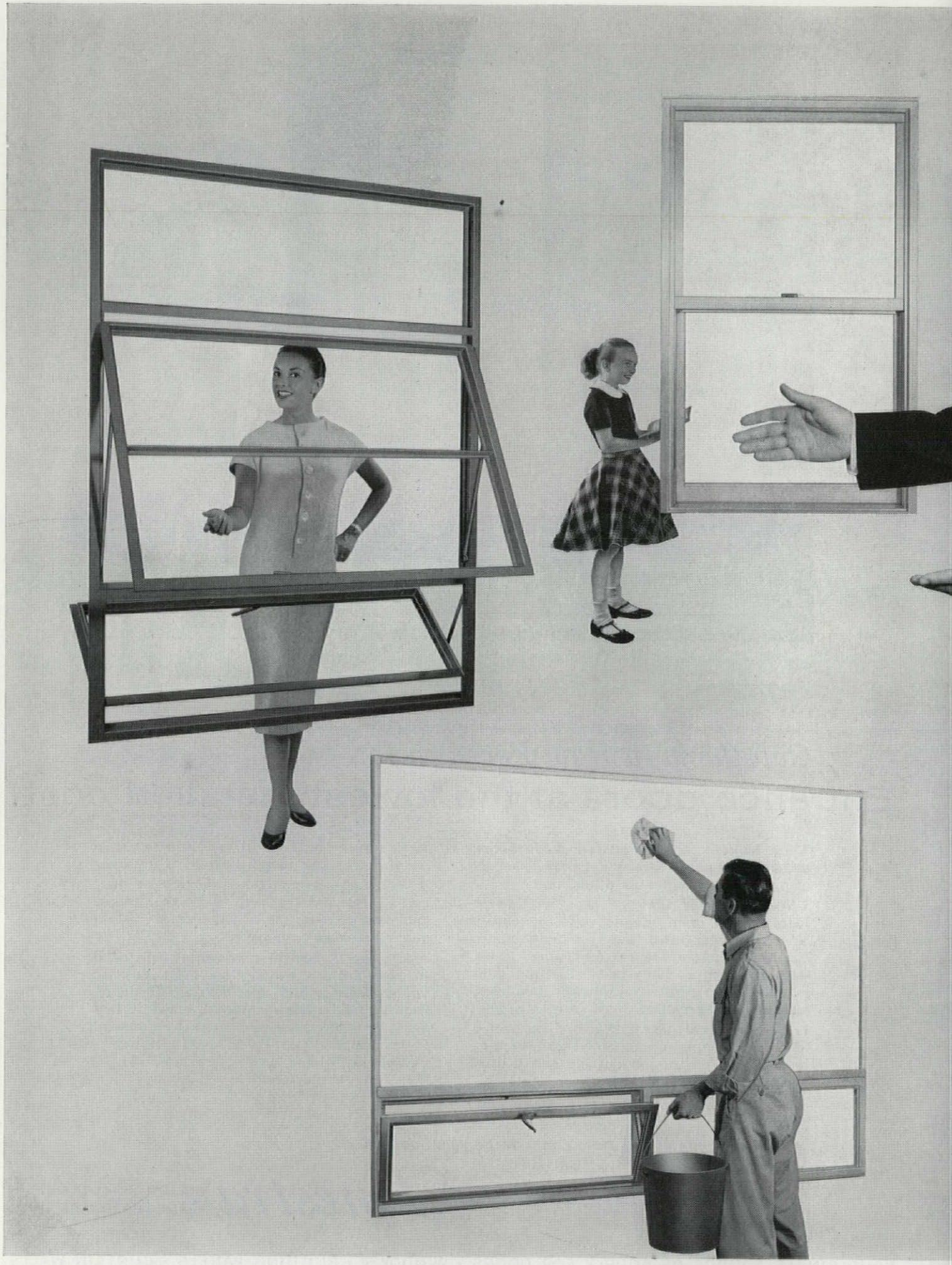
1. You buy a *complete package*—door, frame, hardware, completely machined at the factory to eliminate on-the-job cutting and fitting.
2. Erection is fast—one man with a screw driver can install a door in minutes.
3. You have a complete selection of door types (1⅜" and 1¾") of distinctive designs and features—*all mass produced*. Custom quality at *stock* door prices!

Ask your Fenestra representative (listed in the Yellow Pages) to help you in your selection and specification of doors, frames and hardware and to schedule fast delivery from stock. Or, write to Fenestra Incorporated, Dept. PA-10, 3409 Griffin St., Detroit 11, Michigan.

Let the man from Fenestra be your "door man"

Fenestra HOLLOW METAL DOOR FRAME • HARDWARE UNITS

YOUR SINGLE SOURCE OF SUPPLY FOR DOORS • WINDOWS • BUILDING PANELS • CURTAIN WALLS



Call the Man from Fenestra for

a NEW complete line of MAINTENANCE-FREE ALUMINUM or STEEL WINDOWS

He can give *impartial* answers to your questions about window costs, styles, maintenance and performance—whether you're interested in steel or aluminum. He has no axe to grind for either. Or for one style versus another. Because he has a *complete* line of *both* steel and aluminum windows—the finest for every purpose.

He can show you slim-framed aluminum projected windows for school and office buildings. Sturdy steel pivoted windows for industrial buildings. Double-hung. Casements. Intermediate and commercial. In short, just about every style window you could possibly need . . . in steel *or* aluminum.

These windows require virtually *no maintenance!* The steel windows can have a lifetime, corrosion-resistant *Fenlite* finish that requires no painting. The aluminum windows have a satiny finish that is permanent.

If you need advice or information on any window or maintenance problem, call the Man from *Fenestra*—an *experienced* window specialist. He is listed in the Yellow Pages. Or write to Fenestra Incorporated, Dept. PA-10, 3409 Griffin Street, Detroit 11, Michigan.

Fenestra

INCORPORATED

YOUR SINGLE SOURCE OF SUPPLY FOR CURTAIN WALLS • DOORS • WINDOWS • BUILDING PANELS

reviews

(Continued from page 222)

"outrage" sequel

Counter-Attack Against Subtopia. *Ian Nairn. The Architectural Press, 9-13 Queen Anne's Gate, Westminster, London, England, 1957. 88 pp., illus. 12s.6d.*

Environmental planning, a relatively new field in this country, has for many centuries preserved the charm of English cities and the beauty of her countryside. But progress in its ugliest aspects—mass-produced automobiles, roadside billboards, naked super-highways and omnipresent telephone poles—now threatens the visual harmony of the English environment.

In June 1955, *The Architectural Review* attempted to awaken its readers to the threat, in an issue entitled "Outrage," which showed how serious the problem of decaying towns, standardized suburbs, and blighted countryside had become. The word "subtopia" was coined to describe this distressing environmental condition.

A sequel to this issue was published in *The Architectural Review*, of December 1956. This sequel, "Counter-Attack Against Subtopia," has been reprinted in hard-cover form, to serve as a handbook for visual planners. The main purpose is to outline a remedy for the conditions described and decried in "Outrage."

Of these conditions, the most serious is an increasing loss of distinctiveness between types of environments, *i.e.*, town and country, suburb and wilderness; a condition which E. M. Forster, the contemporary English novelist, described, in *Howard's End, as the* "creeping rust of London," with its grim promise of modern life "melted down, all over the world." Eventually, the grandeur of nature beside the machinery of "civilization" is no more impressive than a painted backdrop.

The most pleasing aspect of this book is its basic attitude toward planning, which places the esthetic ideal before the practical (although both are considered), as if to say that *what is beautiful is functional.* It is difficult to understand how the reverse can be propagated in this country. But if we really believed that *what is functional is beautiful,* we would not invariably install an industrial designer between the engineer and artist, and we would not set the city planner between our sociologists and financiers. Nevertheless, in this country at least, the practical forces and the functional causes generally inhibit all but the merest unified efforts in creative design.

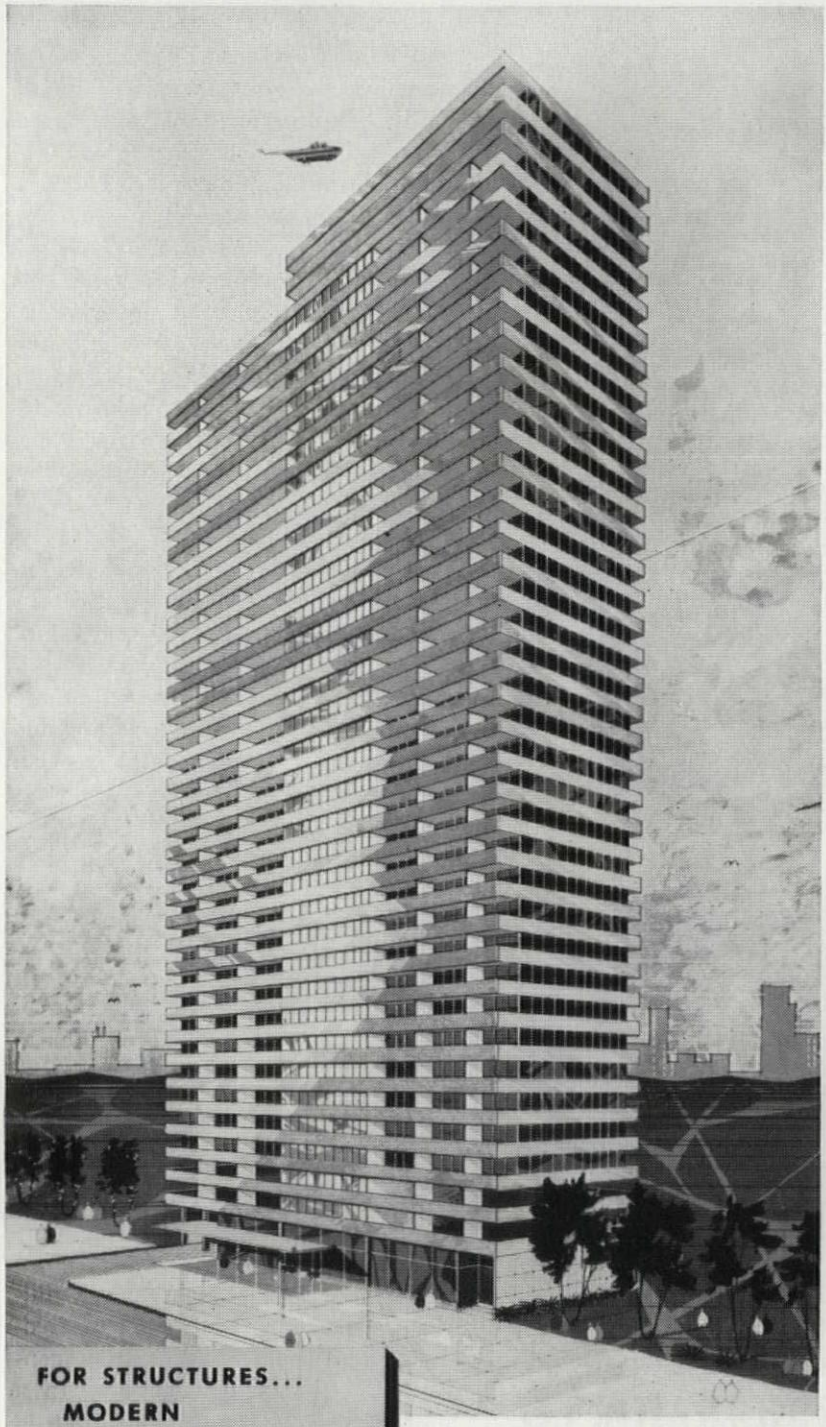
Despite the "uglifying progress," England is relatively small and intimate. One can love the towns and countryside easily, cultivate them

(Continued on page 228)

Exclusive "Executive House" in downtown Chicago . . .

country's tallest concrete frame and floor building rises 40 stories in 371 feet!

WHEN AMERICA BUILDS FOR THE FUTURE . . .
IT BUILDS WITH CONCRETE



This impressive $6,000,000 building with its 446 apartments brings luxury living to Chicago's business district.

On the 100 ft. x 150 ft. lot, space was at a premium. To make the most of it, architects Milton M. Schwartz & Associates, Inc., and the Miller Engineering Company, both of Chicago, chose *concrete*. With it, apartments are big . . . ceilings a full eight feet. Yet floor to floor height is only 8 ft. 10½ in. Plaster is applied directly to the concrete.

And concrete saved money—an estimated $500,000. It saved time, made easier scheduling, too. Concrete's always ready on short order.

Executive House sets a U.S. height record for concrete. Today, for high-rise buildings and monumental structures, more and more architects and engineers are turning to concrete.

Four concrete shear walls extending across the width of the building provide necessary resistance to wind forces.

FOR STRUCTURES . . .
MODERN
concrete

PORTLAND CEMENT ASSOCIATION

A national organization to improve and extend the uses of concrete

(Continued from page 226)

slowly. But America, with its sprawling plains, vast desert spaces, awesome natural wonders and gigantic metropolitan areas is too overpowering to be loved that way and too changeable to be comprehended. The struggle against nature here is a violent one, fought with derricks, dredging machines, dynamite, and cement mixers. We have not learned to live with nature, except in the case of a dozen enlightened architects and their wealthy clientele. Hence, a few sporadic developments, a town here and there, an individual house can draw a happy sign—but the greater part of our visual environment is either dark, dank, cluttered, and deteriorating, or raw, rough, and ranging.

"Counter-Attack" then, can only be applicable to the American planning problem in the most general sense. The book is organized simply and clearly with a multitude of "before and after," "do and don't" pictures. In the first section, the main categories of landscape are defined: metropolis, town, arcadia, country, and wild. The second section shows a collection of utilitarian objects (seats, railings, shelters, walls) used differently in each category to express its unique character. Third is an article on the physiology and care of trees and another on afforestation. The fourth section deals with special problems such as advertising, ornamental planting, and military installations; while the fifth section deals with trunk and local roads. Finally, there is a "Plan for Planning"—a program for effecting the visual design standards set forth in the preceding pages.

"Counter-Attack" is probably too alarming in tone and too local in content to have broad readership, but to the planning student it will reveal the staggering breadth of the planning field and serve as a guide to the most fundamental aspects of it.

ROSALIND COHEN
New York, N. Y.

educational ideal

The New School. *Alfred Roth. Frederick A. Praeger, Inc., 15 W. 47 St., New York, N. Y., 1958. 280 pp., illus., English, French & German texts. $11.50*

This excellent, small book (7½" x 9½") by the distinguished architect and educator, Alfred Roth, has considerable scope. It is addressed to architects, town planners, the building profession, educators, sociologists, and public authorities concerned with proper education in a proper physical environment. It is written concisely in German, French, and English; with clear photographs,

(Continued on page 238)

"I always specify Hako floor tile"

Builder: "Individuality. That's what the buyers want. Got any more suggestions?"

Architect: "Yep—floors. Give them color, pattern. A real personal effect."

Builder: "How do you do it within MY cost structure? I've got to meet competitive prices!"

Architect: "Easy. Use asphalt tile—the colors and floor patterns make every home different inside. And the material is economical."

Builder: "Sounds good. We'd have no trouble putting it in and I'll have something that gives me a selling plus. I suppose any tile will do the job?"

Architect: "Oh no! I want you to be satisfied with color, price and value. That's why I always specify HAKO."

HAKO BUILDING PRODUCTS

A DIVISION OF MASTIC TILE CORPORATION OF AMERICA

Houston, Tex. • Joliet, Ill. • Long Beach, Calif. • Newburgh, N. Y.

Asphalt Tile • Vinylflex • Polykrome • CorkAtile
Parquetry • Coronet Plastic Wall Tile

HAKO

For best results we recommend Milmark® wax . . . cleaner . . . adhesives

HA 22

Hako Building Products
Division of Mastic Tile Corp. of America
Dept. H8-10, P.O. Box 128, Vails Gate, N. Y.

Please send me full details and specification data on Hako Asphalt and Vinyl-Asbestos Tile.

NAME_____

ADDRESS_____

CITY_____ ZONE____ STATE____

now available in

AETNAPAK

BORROWED LIGHTS, TRANSOMS,

To its line of in-stock, custom-standard hollow metal doors and frames, AETNAPAK now adds borrowed lights, transoms, side lights, smoke screens.

These items supplement the over 500 door types and sizes, plus standard door frames, already in the AETNAPAK hollow metal catalog. Check these AETNAPAK features:

Frames 16-gauge steel; complete line of AETNAPAK steel doors, with hardware, IN STOCK.

Two-inch trim and two-inch transom bars.

Exclusive mullion clip attachment for standard, simplified assembly in the field.

Frames prepared for either mortise cylinder locksets (government 86) or cylindrical locksets (government 161).

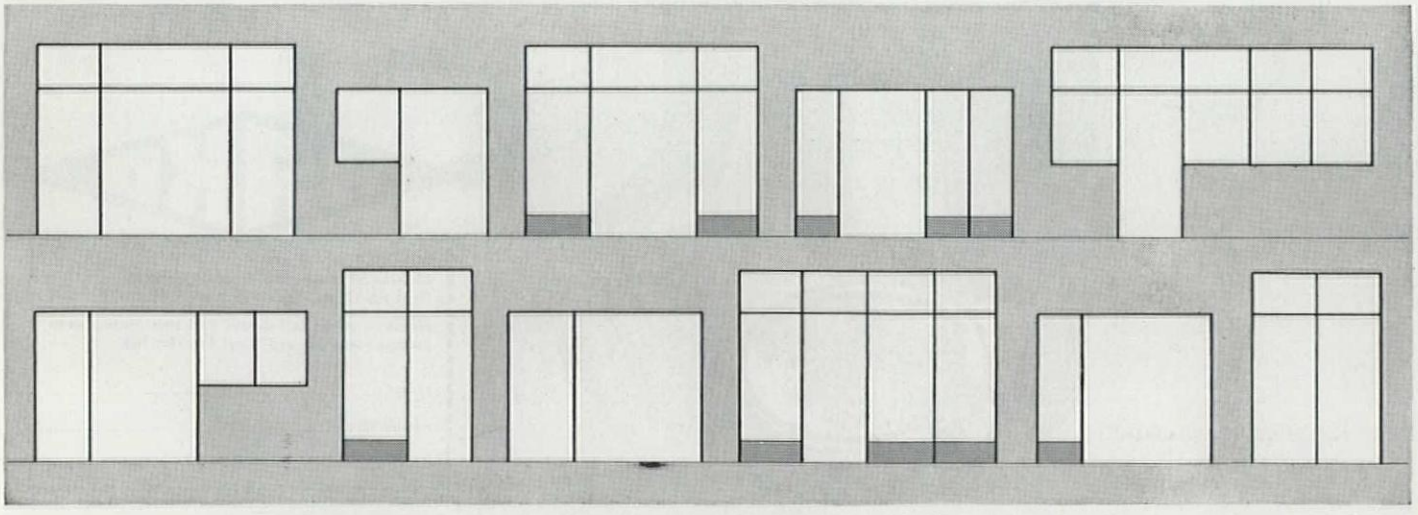
5½" jambs.

supplementing

AETNAPAK DOORS AND FRAMES

AETNAPAK offers completely flush design in both swing and sliding doors. Your choice of hinges, push plates, closers, push bars, panic devices and other accessories. Order CUSTOM-STANDARD AETNAPAK door-frame packages with or without hardware; doors separately or frames separately.

JUST A FEW OF THE ARRANGEMENTS POSSIBLE WITH AETNAPAK COMPONENTS



IN STOCK, READY FOR DELIVERY

REMEMBER, all components of custom-standard AETNAPAK doors, door frames, borrowed lights, transoms, side lights and smoke screens are held in stock under inventory control—which means that everything you order in the AETNAPAK line is available for immediate delivery!

avoid engineering delay.

AETNA STEEL PRODUCTS CORPORATION

730 Fifth Avenue, New York 19, New York

AETNA STEEL PRODUCTS CORPORATION

730 Fifth Avenue, New York 19, N. Y.

Please send more detailed information on AETNAPAK transoms, borrowed lights, sidelights, smoke screens ☐

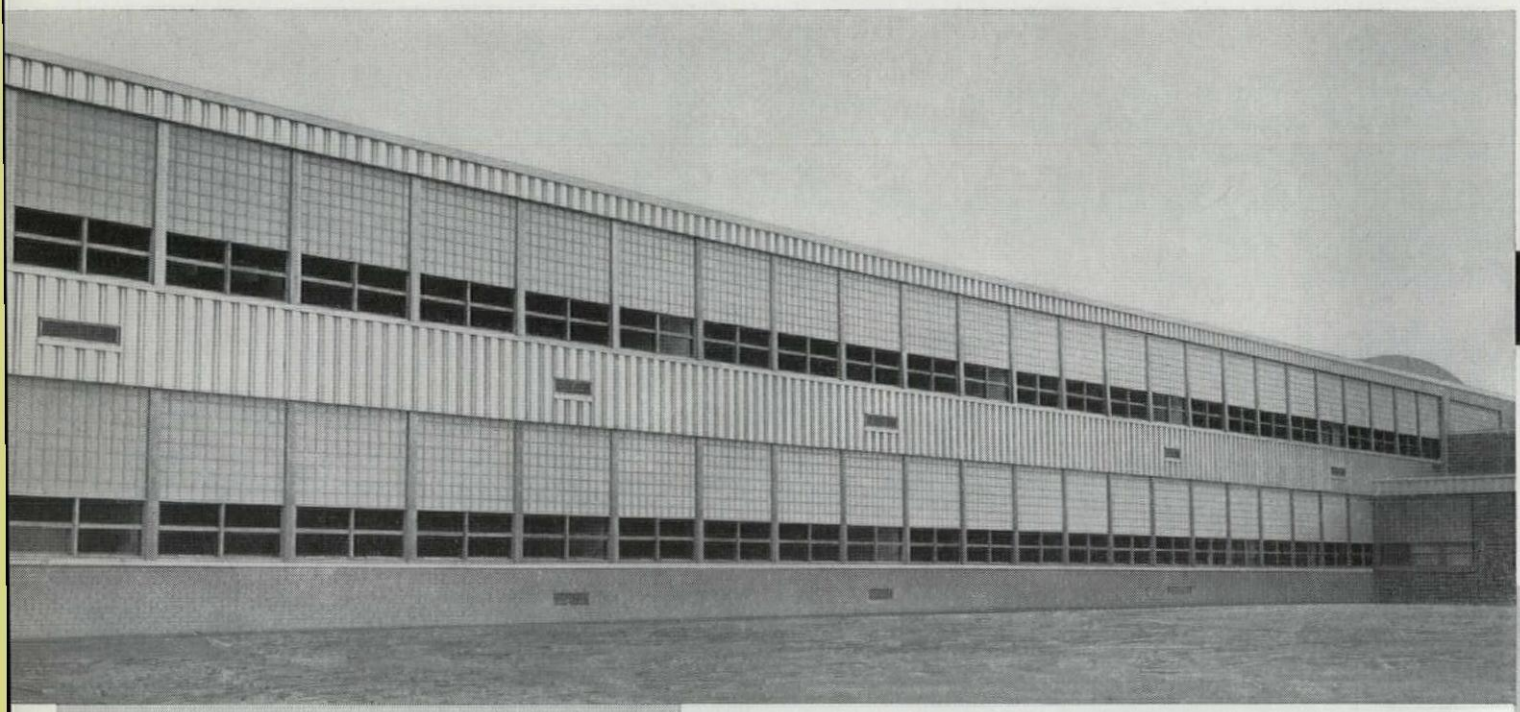
Please send free catalog of AETNAPAK custom-quality, always-in-stock steel doors, frames and hardware. ☐

Name..... Title.....

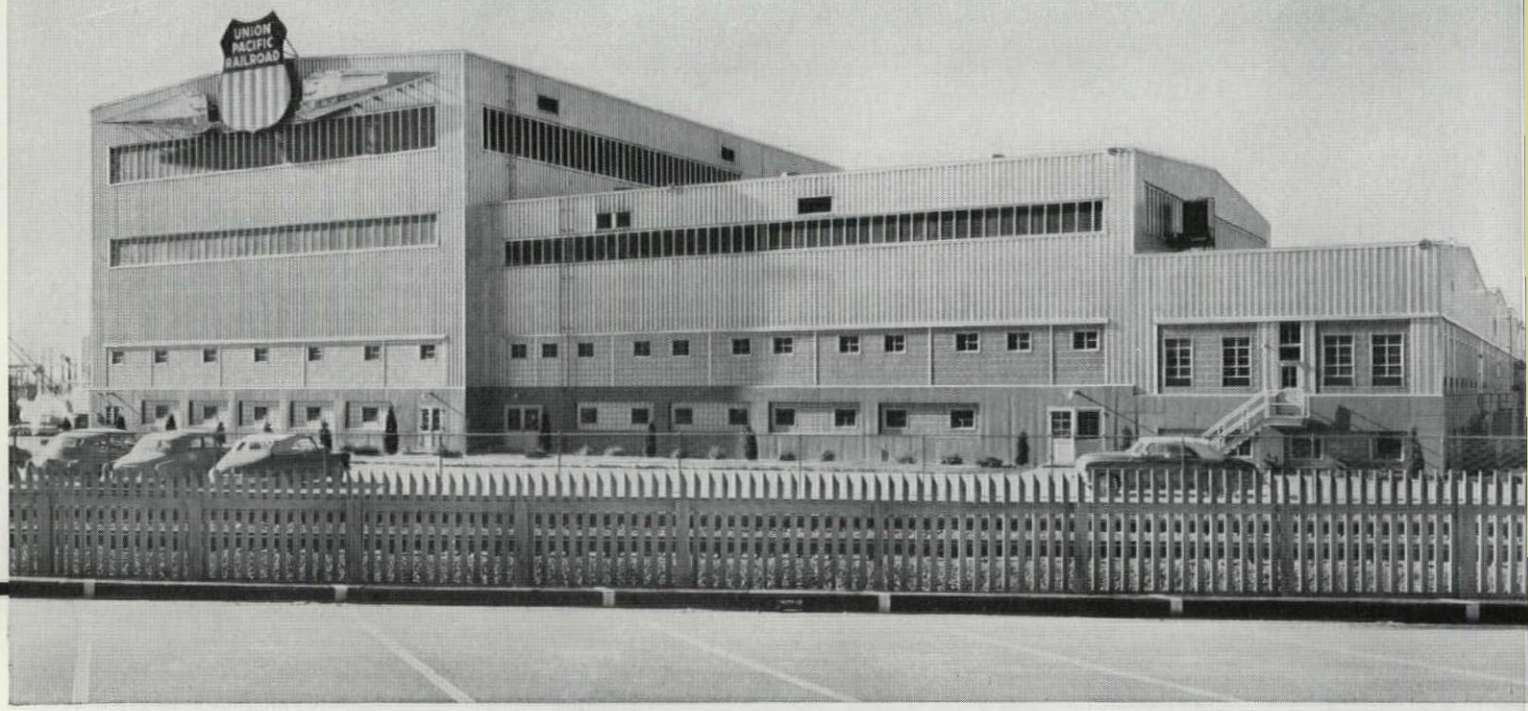
Company name.....

City..... State.....

Mahon METAL CURTAIN WALLS



Above: Mahon Stainless Steel Curtain Walls employed in the construction of the EDISON JUNIOR HIGH SCHOOL, West Mifflin Boro, Pennsylvania. Lamont H. Button and Paul F. McLean, Architects. Nicholas La Donne, General Contractor. Below: UNION PACIFIC RAILROAD'S NEW DIESEL LOCOMOTIVE REPAIR SHOP at Salt Lake City, Utah. Walls of this modern building were constructed with Mahon Prefabricated Aluminum Wall Panels.

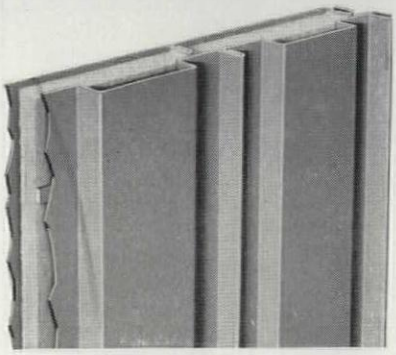


Serving the Construction Industry Through Fabrication of Structural Steel, Steel Plate Components, and Building Products

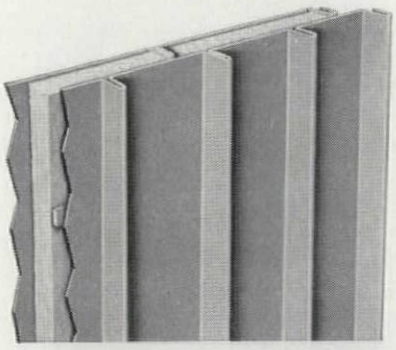
Give You Low-Cost Permanence . . . Produce Attractive Exteriors!

Vertical Joints are Invisible . . . Symmetry of Pattern is Continuous Across the Wall Surface

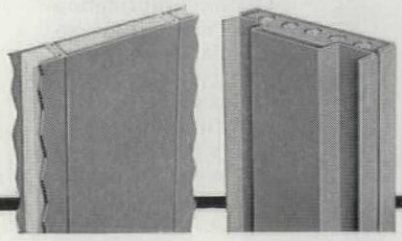
ALUMINUM or STAINLESS
GALVANIZED or PAINTED STEEL



MAHON FLUTED WALL
FIELD CONSTRUCTED



MAHON RIBBED WALL
FIELD CONSTRUCTED



FLUSH FLUTED
MAHON PREFAB WALL PANELS

☆ OTHER MAHON BUILDING PRODUCTS and SERVICES:

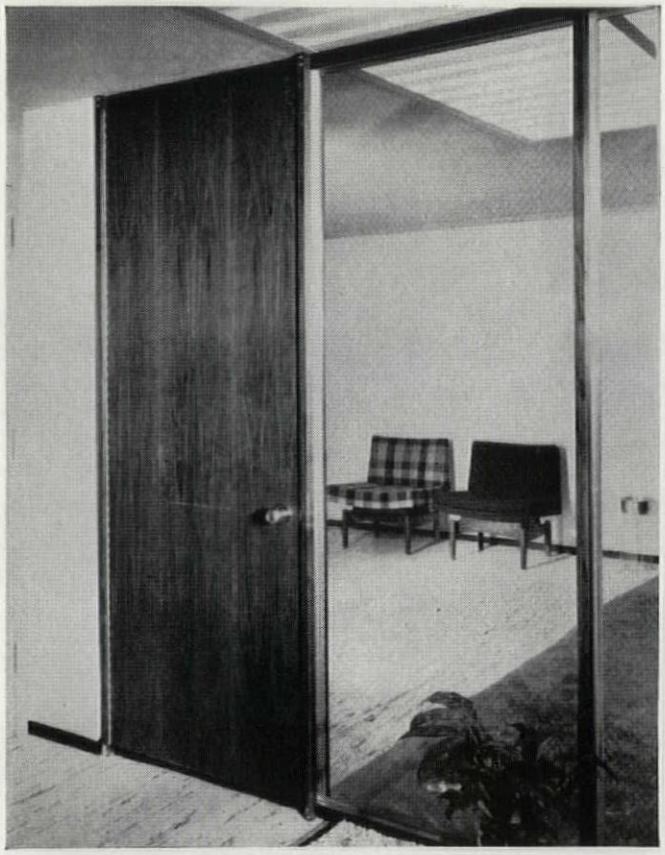
- Underwriters' Rated Metalclad Fire Walls
- Rolling Steel Doors (Standard or Underwriters' Labeled)
- M-Floors (Electrified Cellular Steel Sub-Floors)
- Long Span M-Decks (Cellular or Open Beam)
- Steel Roof Deck
- Permanent Concrete Floor Forms
- Acoustical and Troffer Forms
- Acoustical Metal Walls and Partitions
- Acoustical Metal Ceilings
- Structural Steel—Fabrication and Erection
- Steel Plate Components—Riveted or Welded

☆ *For INFORMATION See SWEET'S FILES or Write for Catalogues*

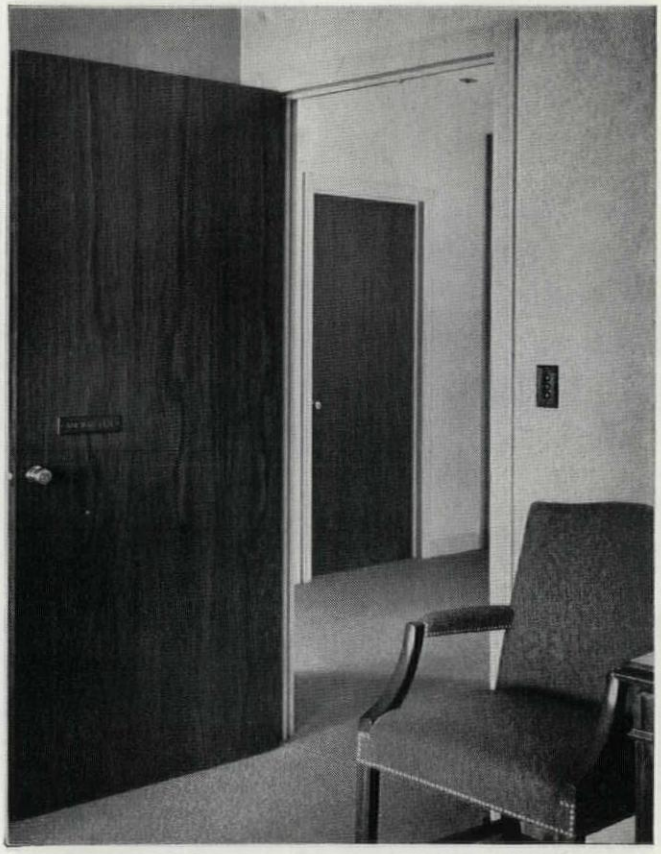
THE R. C. MAHON COMPANY • Detroit 34, Michigan
Sales-Engineering Offices in Detroit, New York and Chicago
Representatives in all Principal Cities

of Steel and Aluminum

MAHON



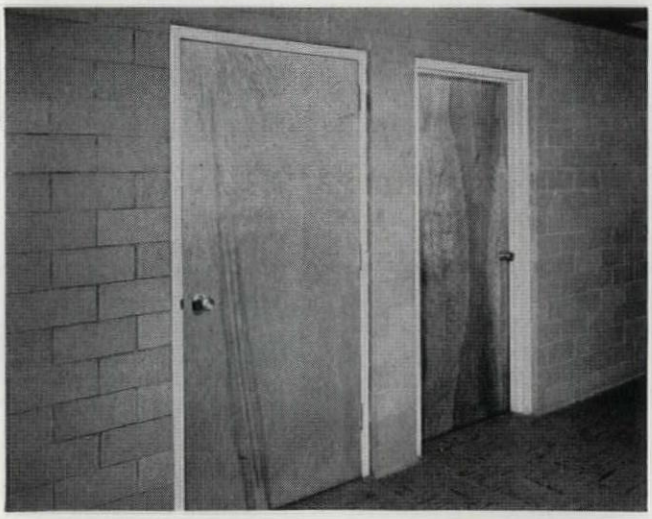
GOOD PUBLIC RELATIONS begin at the door. Here the traditional dignity of this walnut-faced Weldwood "Stay-Strate®" Door provides contrasting balance for the airy mood created by pastel colors and glass. "Stay-Strate" Doors—in a wide range of beautiful hardwood veneer faces—have inert, incombustible mineral cores of Weldrok®, and are unconditionally guaranteed to give completely satisfactory service. Guarantee includes replacement and all labor costs involved.



AS HANDSOME as they are effective, Weldwood Fire Doors are an effective fire barrier which protects against transmission of destructive heat. Doors come in many hardwood face veneers—such as birch, oak, walnut—over a solid mineral core of fireproof, heat-retarding Weldrok. Tested, approved, and labeled for all Class "B" and Class "C" openings by Underwriters' Laboratories, Inc., Weldwood Fire Doors carry the same guarantee as "Stay-Strate" Doors.

Architectural Doors by Weldwood . . .

beautiful complements to well-designed interiors



FOR SCHOOLS, office buildings, hospitals and single- and multi-residence dwellings, Weldwood Architectural Flush Doors provide distinctive good looks and structural integrity. There are numerous constructions for interior and exterior use: the Weldwood "Stay-Strate" Door with Weldrok mineral core, the Weldwood Staved Lumber Core Door, as well as Weldwood Hollow-Core Doors. For heavy-duty applications, the Custom Royal Door, made with Micarta® or other high-pressure laminate, or the Weldwood Evergrain Door, with protective overlaid faces, provide exceptional durability combined with handsome appearance.

The new Weldwood Sound Proof Door is a well-engineered product which combines handsome appearance with efficient sound control. We believe it to be the finest door of its type on the market.

All Weldwood Flush Doors can be supplied prefinished in standard or custom finishes, as desired.

WELDWOOD® DOORS

Products of **UNITED STATES PLYWOOD CORPORATION**
114 branch showrooms in United States and Canada

SEND FOR DETAILED BOOKLET

United States Plywood Corporation
55 West 44th Street, New York 36, N. Y. †PA10-58

Please send me Booklet No. 1765—"Weldwood Doors."

Name.....

Firm.....

Address.....

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

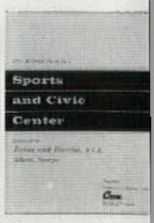
James and Harriss, a.i.a. design a

sports and civic center

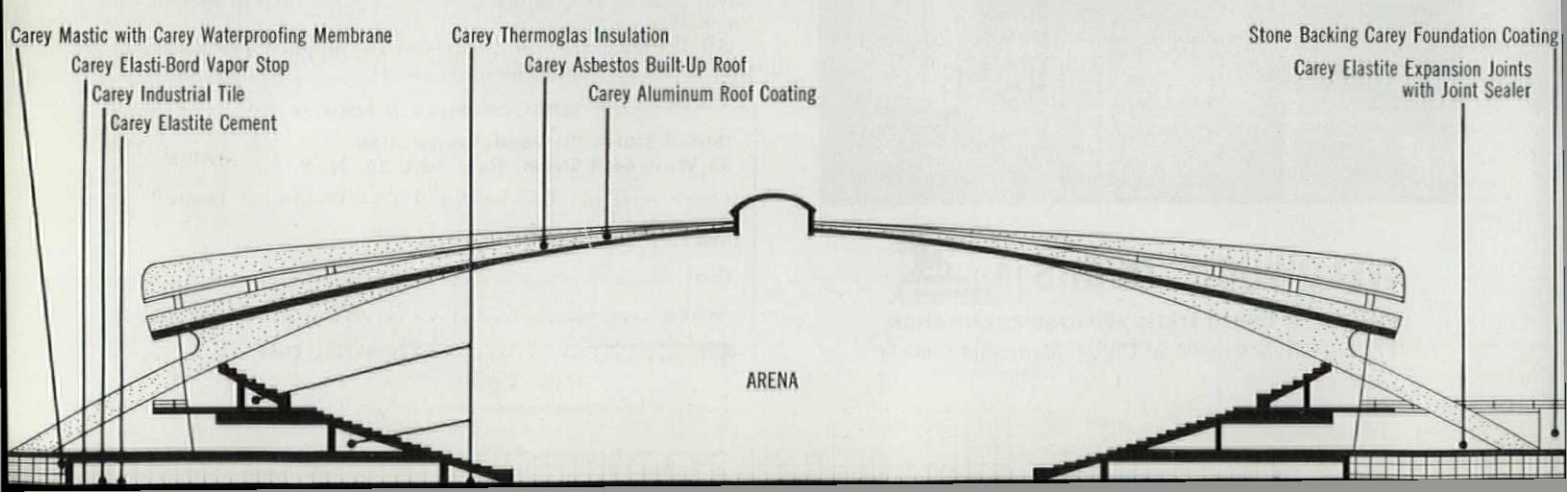
The growth of public interest in urban re-development, and of public willingness to accept the financial burdens involved, will be advanced by projects which have as their objective the greatest potential for public participation.

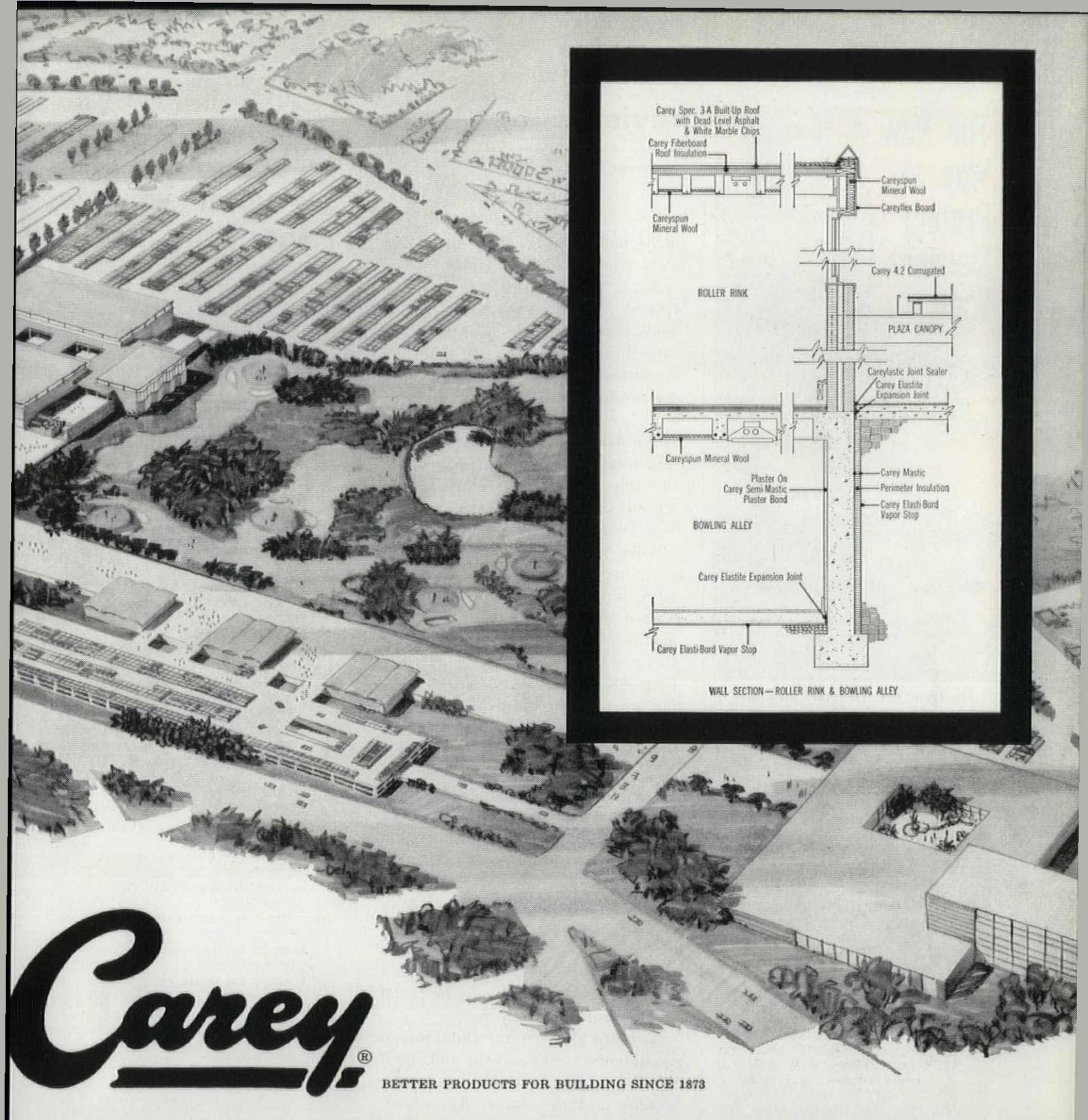
This SPORTS AND CIVIC CENTER is the kind of project which fulfills that objective by providing recreational and cultural opportunities for the entire community. Architects James & Harriss conceived this center as the focal project in a major urban re-development program.

The master renewal plan for the city of Atlanta, Georgia, provided the architects with a choice of sites. The center was planned on one of these as a design project, commissioned by The Philip Carey Mfg. Company.



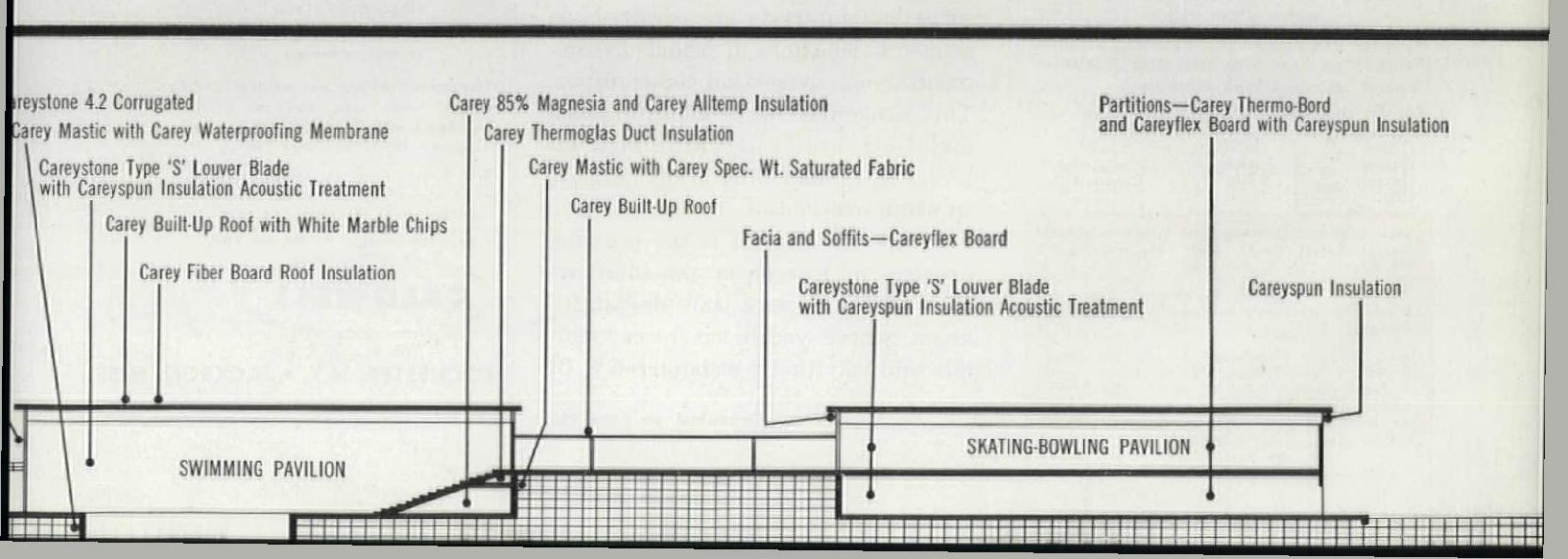
In the execution of their commission Messrs. James & Harriss utilized a number of Carey Building Products. Plan and detail sheets are available to architects and builders who may be interested in their design and application technique. Ask your Carey representative or write The Philip Carey Mfg. Company, Lockland, Cincinnati 15, Ohio. Dept. PA-1058.





Carey®

BETTER PRODUCTS FOR BUILDING SINCE 1873



reviews

(Continued from page 228)

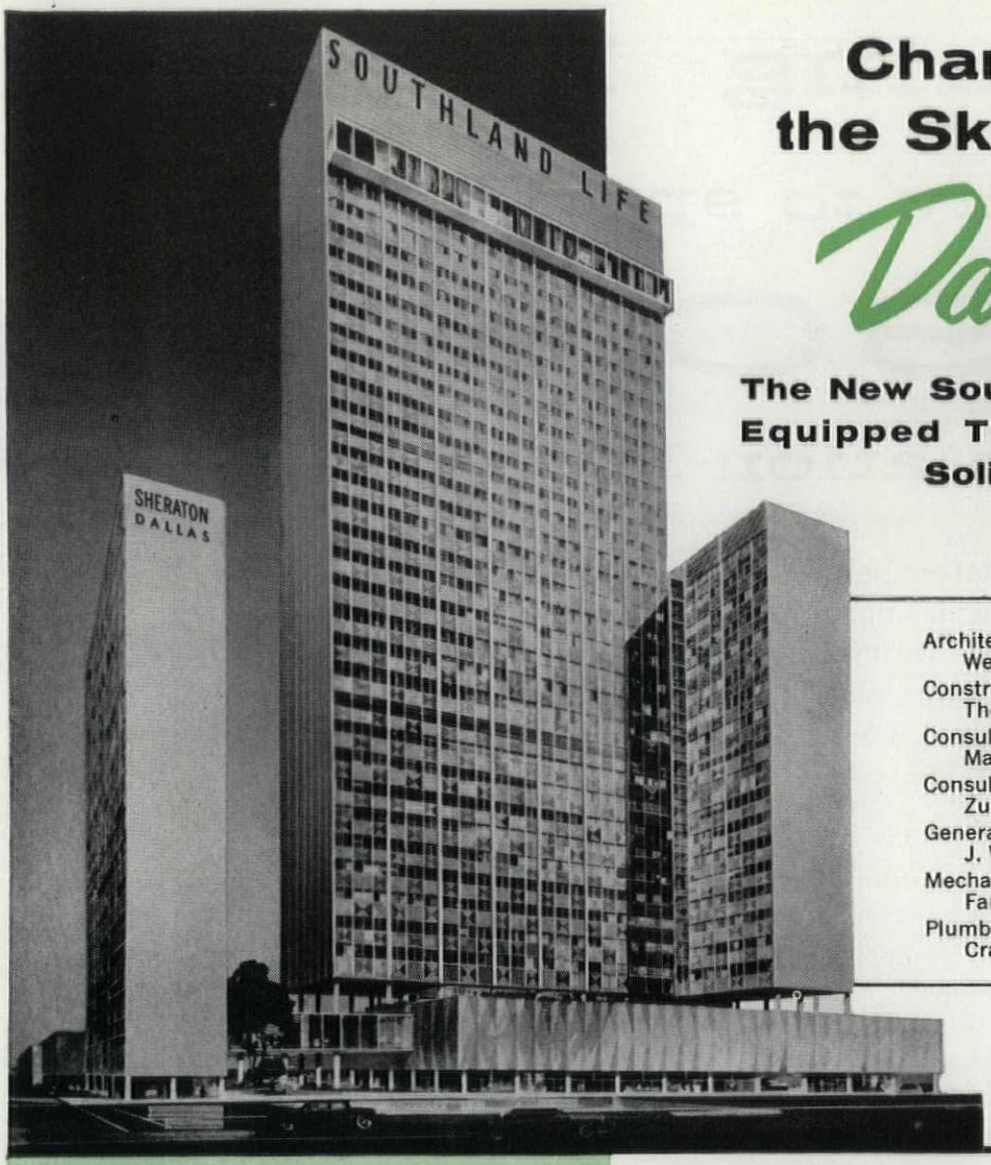
plans, and diagrams of recent schools in Northern and Continental Europe and in the British Isles and the United States. *The New School*, more than any other book that has come to my attention, points up the educational ideal of international understanding which has its roots in scholarship. Communications between democratic nations concerning this ideal have gathered momentum through the Bureau Internationale d'Education and UNESCO.

It is interesting to note that the schools described and illustrated in Scandinavia, Europe, the British Isles, and selected examples from the United States seem to reflect the modified-progressive type of education and the use of educational space, both indoors and outdoors, so familiar to us in this country. Especially in nursery and elementary schools, the classroom reflects the "natural security and intimacy" of home and demonstrates natural and man-made environments as a vital part of the child's education. The author points out that the problem of education naturally varies from one country to the next and that no general rules for the development of environment can be made. The author quotes Louis Sullivan's famous observation that "the solution can only be found in the problem itself."

Concern and love for children and the interest in the esthetic and moral education are evidently the prime lessons in these pages. These concerns and interests are involved too seldom in solutions of school environments in our American communities. This book may serve educators and architects well by renewing their interest in fundamental needs that are so often overlooked.

Of special interest is the pressing problem in Europe of the interruption of war years and devastated areas, where youth has been "morally and spiritually endangered." Of

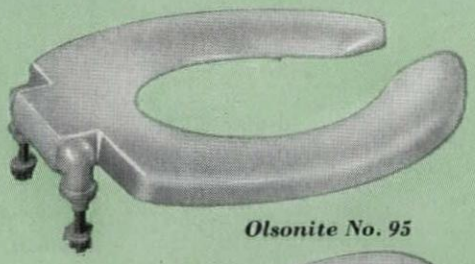
(Continued on page 244)



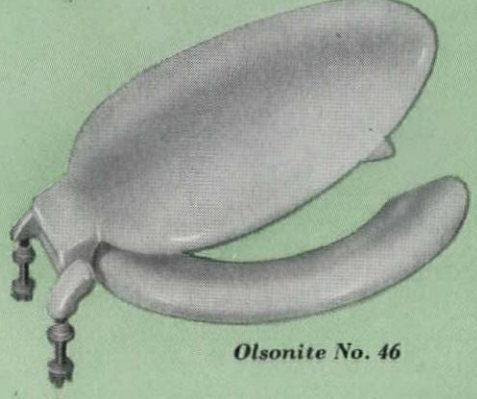
Changing the Skyline of *Dallas*

The New Southland Center... Equipped Throughout with Solid Olsonite Seats

Architects and Engineers
Welton Becket, FAIA & Associates
Construction Supervision
The Vanguard Corporation, Dallas
Consulting Architect
Mark Lemmon
Consulting Mechanical Engineers
Zumwalt & Vinther
General Contractor
J. W. Bateson Co., Inc., Dallas
Mechanical Contractor
Farwell-Wallace, Dallas
Plumbing Wholesaler
Crane Co.



Olsonite No. 95



Olsonite No. 46

The newest and one of the finest building groups in the South is Dallas' new Southland Center. This $35 million project combines a 42-story office building—Southland Life Tower—an ultra modern 600-room luxury hotel, and a 2,500-car daily capacity underground garage. Foundation provisions have also been made for a future 32-story office building.

Two important features guided the selection of office and hotel appointments: low maintenance and attractiveness. As a result—Olsonite No. 95 white seats were selected for the office building; Olsonite No. 46 white and plain colored seats for the hotel. Both Olsonite models are of one piece construction with no applied finish of any kind. For an Olsonite catalog, please write on your letterhead to:

SOLID *Olsonite* SEATS

SWEDISH CRUCIBLE STEEL COMPANY • 8801 Conant Avenue, Detroit 11, Michigan

ORIGINATORS OF THE SOLID PLASTIC SEAT

58-A2

Designing Industrial

Here's why to specify

FESCO®

Roof Insulation Board

For Favorable Insurance Rates: Because Fesco Board is formed of all-mineral perlite, it provides the ultimate in incombustibility, exceeding the maximum code ratings. Even under extreme temperatures Fesco Board remains physically stable, contributing importantly to fire containment. Fesco Board carries the label of Underwriter's Laboratories, Inc.

For Maximum Insulation: Because Fesco Board has no wick-like action (as do fibrous boards) it remains essentially dry on the job and in the job. Fesco Board absorbs only 1.5% water by volume on 24 hours total immersion. Remember, as moisture content goes up, insulation value goes down!

For Faster Laying: It is not uncommon for mechanized crews to place and cover, with 4 plys of roofing, 8 squares of Fesco per day per man. High in compressive strength and scuff resistance, Fesco withstands the weight and wear of high speed, mechanical roof application.

For Better Workmanship: Smaller (24″ x 36″) size permits easy handling, accurate placement. And Fesco Board cuts cleanly, quickly and evenly, for shaping to flashings, hatches, monitors, and other deck openings.

For Longer Roof Life: All-mineral perlite is chemically inert, and non-absorptive — will not rot, mildew, deteriorate. This permanent physical stability permits Fesco Board to withstand the heavy roof traffic normal to industrial occupancy. Fesco Board has a compression resistance of 174.8 P.S.I.

For Lighter Weight: Fesco Board weighs only nine ounces per board foot, yet will not expand, shrink or curl. Linear change at 100% R.H. at 10 days is only $+\frac{1}{5}$ of 1%.

Buildings?

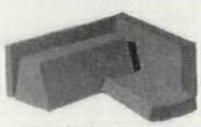
PROJECT: Edgar's Warehouses, Inc., Toledo, Ohio
ENGINEER: Campbell Engineering, Inc., Detroit, Michigan
GENERAL CONTRACTOR: H. F. Campbell Construction Co., Inc., Detroit, Michigan
ROOFING CONTRACTOR: Pranis Roofing Company, Detroit, Michigan
ROOF AREA: 225,080 square feet

F. E. SCHUNDLER & COMPANY, INC. 504 RAILROAD ST., JOLIET, ILL.

Eastern Office: Chatham Phenix Bldg., 29-28 41st Ave., Long Island City, N.Y.

RATED FIREPROOF MATERIALS-ACOUSTICAL & INSULATING

Developers and producers of incombustible mineral products including Ebbtone Acoustical Tile, Fesco Insulation Board, Coralux Acoustical Plaster, Coralux Perlite Aggregates, Mica Pellet Vermiculite, High Temperature Insulating Blocks and Insulating Cement.

 Fesco Board®	Insulating Cement	 Coralux® Acoustical Plaster	Mica Pellet Vermiculite
PERLITE INSTITUTE MEMBER	 153 High Temperature Insulation Blocks	Coralux® Perlite Aggregates	 Ebbtone® Acoustical Tile

120,000 SQ FT OF RADIANT CEILING saved AT&T approximately 30 per cent on initial costs. Temperature varies less than one degree between floor and ceiling, and the lightweight aluminum panels need little or no maintenance. 100,000 LBS OF ALCOA ALUMINUM were used in ductwork and outlet panels of radiant ceiling.

RADIANT ACOUSTICAL CEILING OF ALCOA ALUMINUM

tames weather, saves money for AT&T

Heating, cooling and ventilating problems are solved handily in American Telephone & Telegraph's Long Distance Switching Center. A radiant ceiling of Alcoa® Aluminum performs all three tasks, besides providing an acoustic buffer with a noise reduction coefficient up to 85 per cent. Integrated lighting troffers complete the picture of a handsome, contemporary, economical installation.

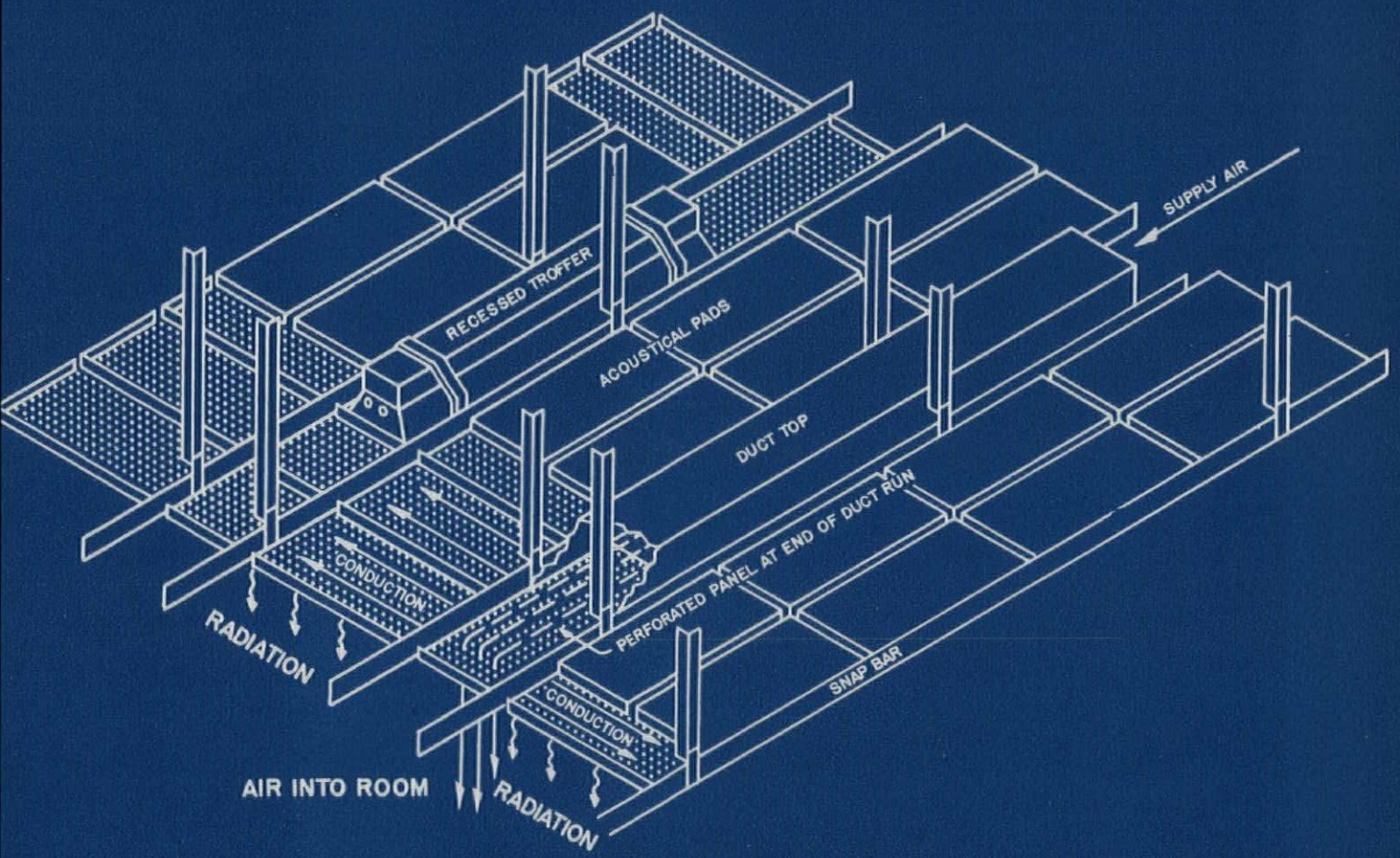
This versatile ceiling is possible because of aluminum. Mill-finished, it gives the tops and sides of the ceiling ducts a low emission rate. The bottoms, however, are anodized for a high emissivity factor. The perforated outlet panels are interchangeable in an infinite variety of patterns–they simply snap into place–to control air distribution and adapt to changing load requirements. Their permanent finish completely eliminates painting, and their light weight facilitates handling. AT&T is so pleased with the system–they saved approximately 30 per cent on first costs alone–that they have installed a similar one in their new building in Wayne, Pa.

A detailed drawing of this Simplex ceiling is shown on the opposite page.

Aluminum building materials and components offer architects maximum design freedom with the added rewards of economy and practicality. Your nearest Alcoa sales office will be glad to consult with you at any time. Or write: Aluminum Company of America, 1890-K Alcoa Building, Pittsburgh 19, Pa.

AMERICAN TELEPHONE & TELEGRAPH CO.

Detail of Radiant Acoustical Ceiling Installation



BUILDING — Long Distance Switching Center, White Plains, N.Y.

OWNER — American Telephone & Telegraph Co.

ARCHITECT — Lorimer & Rose, New York, N.Y.

CONSULTING ENGINEER — John D. Dillon, New York, N.Y.

ALUMINUM RADIANT ACOUSTICAL CEILING — Simplex Ceiling Corp., New York, N.Y.

ALUMINUM CEILING SUBCONTRACTOR — National Acoustics Corp., New York, N.Y.

(Continued from page 238)

the greatest importance, consequently, in these areas is careful education in healthy and inspiring environments.

Roth traces briefly the historic change of educational methods from the earliest public education of the 19th Century to the present day. Passive learning prescribed in the past caused the child to be the *object* of education. Due to the changing philosophy of educators and the great influence of psychologists like Freud, Adler, and Jung, among others, education now becomes more personal. The individual child is the *subject* of education, and the object of education is a grasp of the whole human being as it relates to a child's entire environment.

This latter-day attitude naturally leads to orientation of children to environment of good scale, refreshing color and texture, to visual delight, man-made or natural, and to multiple individual and group activities. The old, inflexible, institutional school plants cannot possibly provide this type of environment for our youth. American architects can benefit from this resume and can measure the success or failure of school projects in their communities. Thoughtful architects will perceive the affinity of the best modern teaching trends with good, modern architecture.

Despite the variety of approaches apparent in the examples of schools shown, many of them will have something of interest to the American architect in that they reflect the thoughtful, esthetic, and sometimes dedicated approach to the problem. However, the architectural content, some of which already seems dated in this rapidly developing design field, is less important than the statement of standards, ideals, and discussions of "pedagogy," past and present.

The last brief section of the book, a sort of epilogue, is stimulating and provocative as it relates the teachings of Pythagoras and Plato to the humanism of today. Their teachings recall the need for esthetics and careful education of youth. In the great Greek democracy, philosophers urged daily contact with beautiful things, exercises of the mind and body, and exercises for the soul.

Here is evidence of healthy recent development in school architecture, an architecture that respects the best standards of education that gives expression to the unity of the life and times of today. If this volume can help raise standards of schoolhouse design, it belongs in every school architect's office.

THORNE SHERWOOD
Sherwood, Mills & Smith
Stamford, Conn.

(Continued on page 246)

From our research and product development laboratory

AGITAIR®

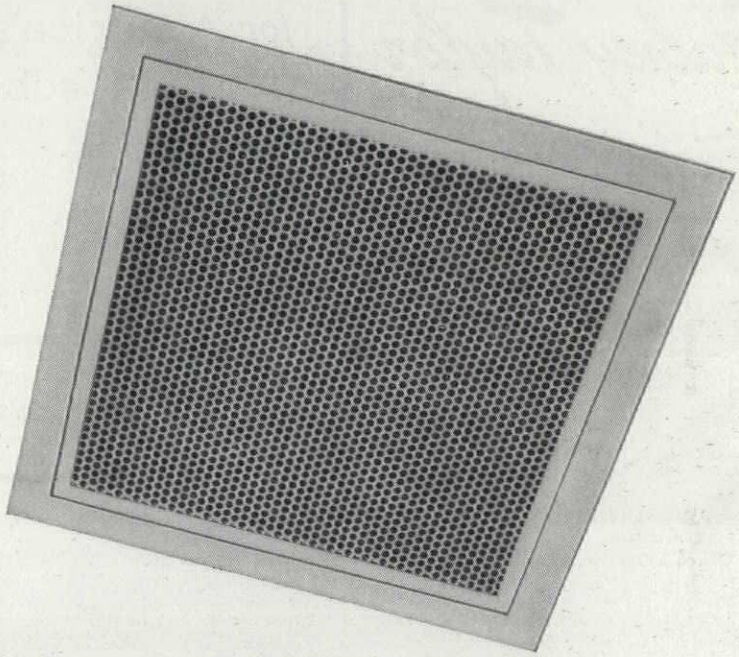
Perfair

SQUARE AND RECTANGULAR

PERFORATED AIR OUTLETS

WITH THESE PRACTICAL PERFORMANCE FEATURES

- Provide Uniform Ceiling Design
- Can Be Located Anywhere In Ceiling
- Interchangeable Diffusing Cores
- Unlimited Patterns
- Built-In Air Controllers
- Adjustable for 1-2-3-4 Way Blows
- No Blank-Offs Required
- Maximum Turbulence — Aspiration
- Quick Temperature Equalization
- Uniform — Draftless Air Distribution



THE ULTIMATE IN APPEARANCE AND VERSATILITY

AGITAIR PERFAIR air diffusers incorporate all the essential features to meet the architects and engineers requirements.

The architectural styling of PERFAIR, both supply and matching return units, conform to all interior designs. The interchangeable core feature and built-in air controllers permit the location of PERFAIR units in any part of the ceiling as desired by the architects.

Engineers can depend upon AGITAIR PERFAIR air diffusers to meet their every requirement — maximum turbulence...aspiration...quick temperature equalization . . . uniform air distribution ...noiseless...draftless operation.

For quick and easy installation of PERFAIR units, separate mounting frames are available for surface and tile applications.

Ask your AGITAIR representative for catalog P-200 or write direct to Air Devices Inc.

THERMOTANK AGITAIR

high velocity units • punkah louvers
air diffusers • filters • exhausters
registers and grilles

Sold exclusively by representatives for:

AIR DEVICES INC.

185 MADISON AVENUE, NEW YORK 16, N. Y.

reviews

(Continued from page 244)

labor of love

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

This book will prove a delight for amateur historians and a disappointment for architects. The authors, in a true labor of love, have collected the stories, histories, and anecdotes associated with a representative number of the famous and not-so-famous historic homes of Washington and Georgetown. These make the book a fascinating account of the area's society, from its first settlement to about 1850. This society was not without its eccentrics, and each of the houses studied by the authors gives us a new and varied insight into the times.

The authors have performed one real service. Their book calls attention to the many houses which no longer exist; and (more important) points to those which are still with us but are in urgent need of rescue. Our historic heritage in the nation's capital deserves a better fate than being demolished or being adapted for modern (?) usage by having a bar moved into the premises.

It is unfortunate that the book falls short from an architectural viewpoint. It contains little of the technical and pictorial information that architects require. The excellent photographs which it does contain are primarily limited to pictures of the façades of the buildings Photographs and measured drawings of interiors, details, and plans are virtually omitted.

After reading this book, one can only wish that the authors had intended it as an introductory volume to a comprehensive sociological and architectural history of Georgetown and Washington. It suggests a companion volume devoted to the architectural aspects of the buildings. It could also be expanded to include other historic buildings in the area and, perhaps even more important, to take in the adjacent geographical areas whose history is so closely linked with that of Washington proper.

DR. FREDERICK HERMAN
Department of Social Studies
College of William and Mary
Norfolk, Va.

novel illustrations

Art Always Changes. *Ray Bethers. Hastings House, 41 E. 50 St., New York, N. Y., 1958. 96 pp., illus. $3.95*

Art Always Changes is an attempt by author/artist Ray Bethers to prove the opposite: that art really does not change but continually grows out of the main stream of the

(Continued on page 250)

LAPIDOLITH

has case-hardened concrete floors in Ford Motor Co. Plants for over 40 years—

Since 1915, Ford Motor Co. has hardened millions of square feet of concrete floors with LAPIDOLITH!

The powerful hardening action of LAPIDOLITH makes concrete floor surfaces harder and denser—prevents crumbling and dusting.

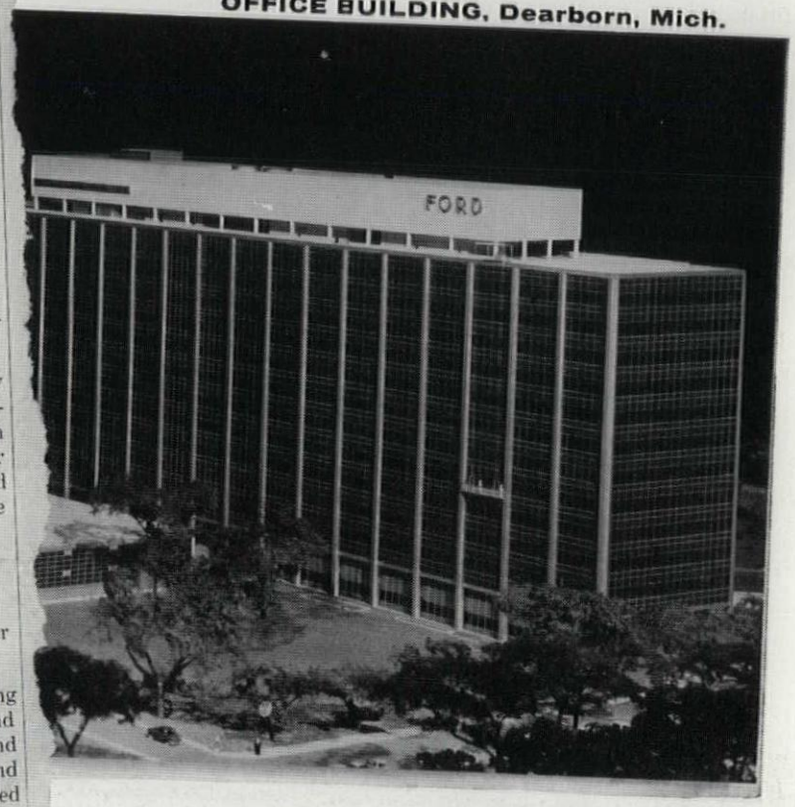
Treatment with LAPIDOLITH is easy and inexpensive. LAPIDOLITH penetrates deeply into concrete to harden in *depth* as well as on the surface. Superior penetration of LAPIDOLITH is confirmed by laboratory tests using radioactive tracers.

Bonded Guarantee:

LAPIDOLITH—the concrete hardener backed by a Bonded Guarantee!

When floors are lapidolized according to specifications they are hardened and rendered highly resistant to dusting and abrasion by traffic, production loads and equipment. This is guaranteed by a Bonded Guarantee issued by L. Sonneborn Sons, Inc. and backed by a nationally known Surety Company.

FORD'S CENTRAL STAFF OFFICE BUILDING, Dearborn, Mich.



LAPIDOLITH

A Product of **Sonneborn** RESEARCH

Since 1903 manufacturers of quality building products.

L. SONNEBORN SONS, INC.
Building Products Division— Dept. PA-108
404 Fourth Ave., New York 16, N. Y.

☐ Send complete information on Lapidolith and Bonded Guarantee.

☐ We would like a FREE floor inspection and recommendation by a Sonneborn Engineer. (Minimum floor area, 10,000 square feet.)

☐ Send FREE 128-page Building Construction and Maintenance Handbook.

NAME.....TITLE.....

FIRM.....

ADDRESS.....

CITY.....ZONE.....STATE.....

(Continued from page 250)

Penguin books, whose uncompromisingly high standards have the same ring among intellectuals as Fortnum & Mason has among gourmets.

The latest addition to this distinguished line is a survey of Chinese art that startles by its all-inclusiveness and delights by the clarity of its organization. For a total layman on the subject, as this reviewer, the profuse illustrations, the 43-page index, and the fluent and unstuffy text were sheer delight. The practicing architect would do well to keep these small, handy volumes in his reference library. Not only has the concern with decorative Chinese art objects survived all functionalist vogues; here is a treasure chest of ideas for Chinese art—from vases to silks and sculpture—that can be suggested to a civilized client without the embarrassment of insufficient art historical knowledge.

SIBYL MOHOLY-NAGY
School of Architecture
Pratt Institute
Brooklyn, N. Y.

illustrated instructions

Ceramic Decoration. *Lois Culver Long. American Art Clay Co., 4717 W. 16 St., Indianapolis, Ind., 1958. 60 pp., illus. $1 (paperbound)*

This well illustrated booklet describes many methods and combinations of methods possible for the decoration of ceramic pottery and sculpture. Beginning with a guide to preparation, list of required tools, and explanation of clay types, there follow step-by-step instructions for these processes: impressing and applique, cutting and carving, slips, engobes, spraying, stenciling, wax resist, sgraffito, trailing, inlay and mishima, underglazes, simple and special glaze techniques, etc.; and a section on ceramic mosaics. In conclusion are instructions for firing, a glossary, bibliography, and product list.

Those who are interested in the art of ceramics will be pleased to have this helpful guide to its decoration. "Pottery is the oldest of the arts, and the urge to decorate it is just as ancient." A.L.

widely used

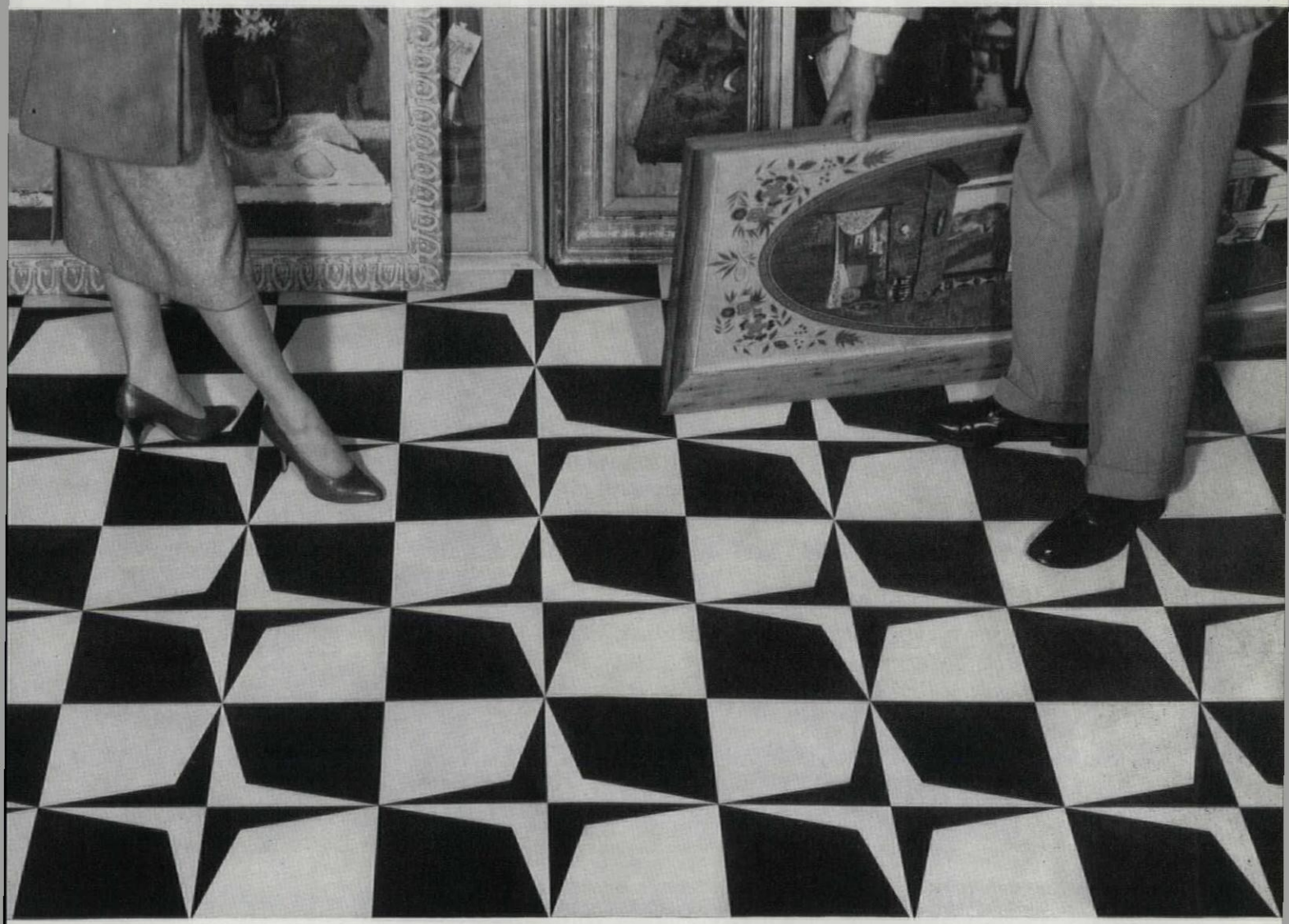
I Learn Our Basic Catholic Symbols. *Sister Mary Giovanni of Maryknoll. Maryknoll P.O., N.Y., 1957. illus. $3.50*

Forty-two boxed cards (8½" x 10") illustrate individually the most widely used Catholic symbols taken from primitive and medieval Christianity. A brief explanation of the meaning and origin of each motif is printed along with the symbol itself. A booklet giving a history of Catholic symbolism accompanies the cards. Written and illustrated by Sister Mary Giovanni of Maryknoll. F.J.S.H.

(Continued on page 258)

Bolta-Floor® Georama

FOR UNLIMITED CUSTOM DESIGNS . . . PRE-CUT . . . READY TO INSTALL



CHEVRON

SHOULDER

DIAMOND

Whether you prefer overall designs or special decorative highlights you are unlimited in the interesting effects you can create by merely combining the 3 basic shapes of Bolta-Floor Georama. Use "Georama" to accent certain floor areas or special furnishings. You'll find it lends an atmosphere of exceptional quality.

"Georama" black and white or in modern solid colors works beautifully with Bolta-Floor feature strips or patterned floor tile to give you the perfect pre-cut solution to your personal decorating plan. For complete information about low-cost, idea-creating "Georama" mail the coupon below.

Bolta Floor

GENERAL® PLASTICS
The General Tire & Rubber Company

By the makers
of famous
Bolta-Wall vinyl wall covering
Bolta-Top vinyl counter surfacing

THE GENERAL TIRE & RUBBER COMPANY • BUILDING MATERIALS DIVISION • AKRON 9, OHIO

You order only the pieces you need to fill the design you create.

The General Tire & Rubber Company
Building Materials Division, Akron 9, Ohio

Please send me your brochure of ideas on "Georama"

Name_____

Firm_____

Address_____

City_____ Zone____ State_____

(Please attach to letterhead or business card)

"KEYCORNER LATH

makes LATH and PLASTER an even better buy"

says **A. BERNARD OLSON,** president,
The Olson Lathing Co., Chicago, Illinois

"Nobody questions the superiority of lath and plaster where greater fire resistance, lower maintenance costs and lasting beauty are concerned," declares A. Bernard Olson, one of the country's leading lathing contractors.

"Keycorner helps make lath and plaster even better. Our job experience proves what tests* show—that Keycorner almost doubles crack resistance over other corner reinforcements," he explains. "We know the Keycorner ability to fight cracks."

"And Keycorner is easier to use. The preformed 4-foot lengths fit into place with no effort at all. There's no time lost, no waste. The open mesh of Keycorner makes it easy to plaster over —assures full bond with plaster and a better job.

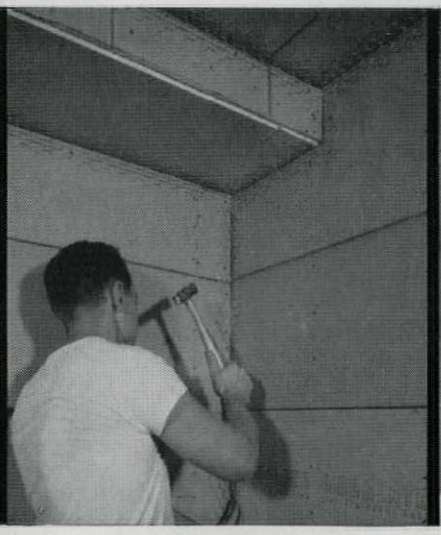
"Keycorner gives this extra protection, yet at a saving. That's why we use Keycorner exclusively!" Olson exclaims. "It lets us give greater satisfaction on every job."

**Tests with Keycorner, as well as other corner reinforcements, conducted by the Research Foundation, University of Toledo. Complete test reports FREE from Keystone Steel & Wire Company.*

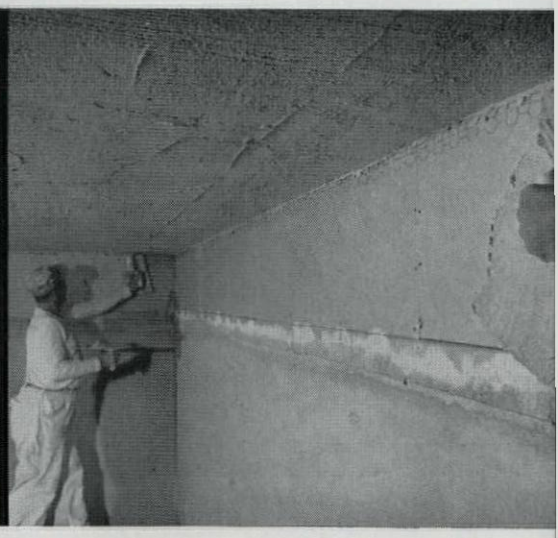
KEYSTONE STEEL & WIRE COMPANY Peoria 7, Illinois

Keywall • Keycorner • Keybead® • Keydeck • Keymesh® • Welded Wire Fabric • Non-Climbable Fence

A typical quality Olson Lathing job goes into this 17-flat apartment building in Chicago. Many builders are switching back to lath and plaster because of the increased fire resistance, lower maintenance and permanent beauty that plaster walls provide.



Keycorner is simple to handle and use. This fact assures better workmanship, which adds still further to the superior job you get with Keycorner.



Keycorner gives a better plaster job. The open mesh assures full bond with plaster and gives the strong reinforcement that provides maximum crack resistance. Keycorner is also galvanized to prevent rust.

A. Bernard Olson uses Keycorner because it's part of "A better job at a lower price."

reviews

(Continued from page 254)

encyclopedic essays

History of Technology. Vol III: From the Renaissance to the Industrial Revolution. Vol. IV: The Industrial Revolution. *Edited by Charles Singer, E. J. Holmyard, A. R. Hall, and Trevor I. Williams. Oxford University Press, 114 Fifth Ave., New York, N. Y., 1957, 1958. Vol. III: 804 pp., illus., 32 halftone plates; Vol. IV: 762 pp., illus., 48 halftone plates. $26.90 each.*

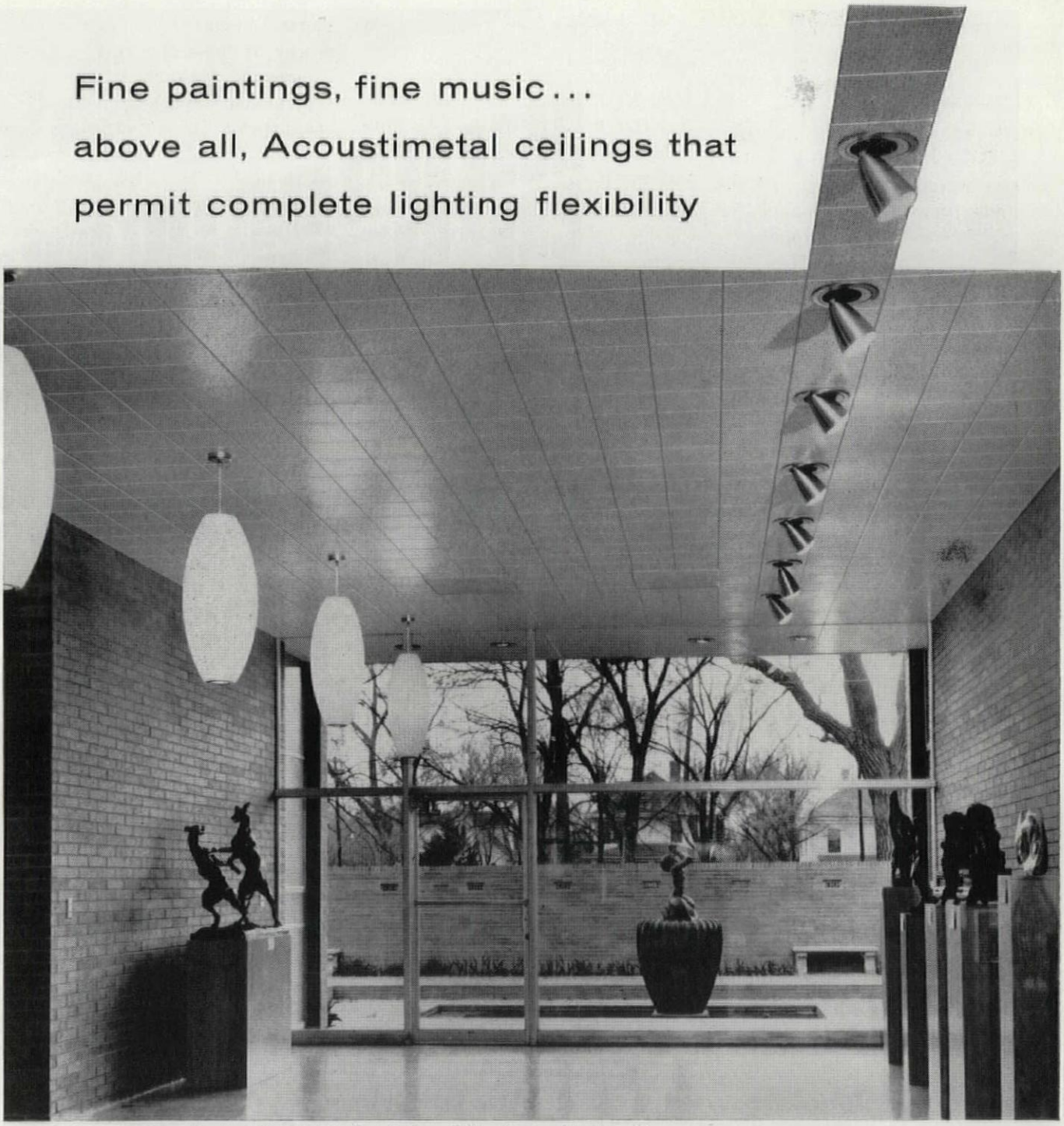
A statement made here (SEPTEMBER 1957 P/A) in reviewing the second volume of this monumental work holds equally true for the third and fourth volumes: "to review in detail a book of the scope of this general *History of Technology* would be a superhuman enterprise, as it is encyclopedic in length as well as coverage." The two new volumes, which deal with the development of technology from about 1500 to about 1750 and from about 1750 to about 1850, encompass again the most varied fields of technology—one might say, almost all of them. Experts cover the evolution and progress in "Spinning and Weaving," "Glass," "Fabrics," "Printing," even "History of Cartography," "Precision Instruments," and "Mechanical Timekeepers" (clocks), also "Building Construction," "Town Planning," and "Military Technology"—to mention only the main topics! As a matter of course, this reviewer does not pretend to be able to judge such accounts as those of "Invention in Chemical Industry," in "Military Technology," or of "Farm-Tools, Vehicles, and Harness," "Metallurgy," and many others. But of the 25 chapters of Volume III, two happen to be the topics of books by this reviewer. And it is these two chapters that justify an appreciation of the painstaking research and specific knowledge of material which seem so characteristic of the general level in this work.

Besides, chapters such as the "History of Glass," "The Calendar," "Spinning and Weaving," "Mechanical Timekeepers," "Cartography," and "Printing," are of such general historical and humanistic interest that the legitimate question of the readers of this periodical, "What is in it for us architects?" can be answered precisely: "Almost everything!"

This *History of Technology* represents simultaneously valuable contributions to the histories of science, of craftsmanship, of applied art, and of industrialization (all centered in Europe). After 1500, in contrast to the periods of antiquity and the first century of the Middle Ages, Europe was leading in those fields in spite of the special skills and greater

(Continued on page 262)

Fine paintings, fine music . . . above all, Acoustimetal ceilings that permit complete lighting flexibility



$200,000 Birger Sandzen Memorial Gallery, Bethany College Campus, Lindsborg, Kansas

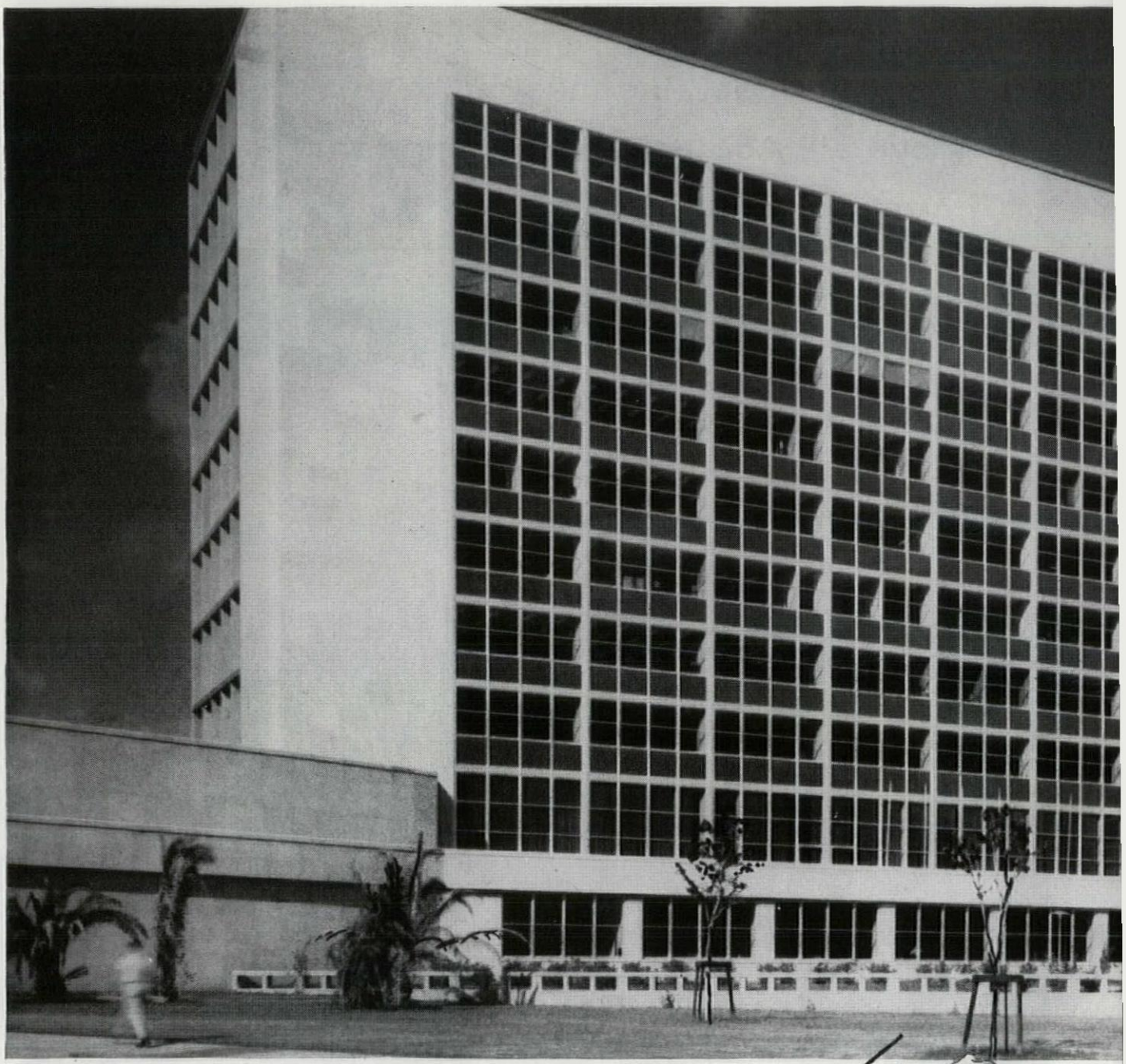
This handsome Acoustimetal ceiling gives the new Birger Sandzen Memorial Gallery complete flexibility of lighting, reduced general noise level, and excellent acoustics for music.

Each ceiling light is mounted in a Gold Bond Acoustimetal panel, which can be easily removed and snapped into place wherever needed. The lighting may be arranged for every exhibition.

For picture viewers, the Acoustimetal ceiling keeps gallery noise down to a murmur—Acoustimetal absorbs up to 90% of all noise that strikes it. This acoustical installation is so effective that the main gallery is used very successfully as a music room.

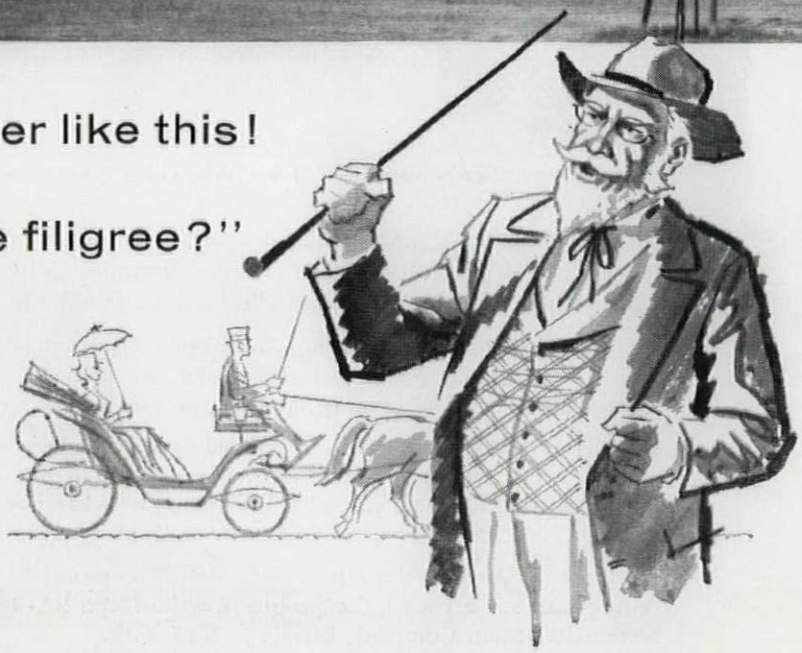
For more information about how Gold Bond® acoustical ceilings can solve your noise problems, write Dept. PA-108, National Gypsum Company, Buffalo 2, New York.

Gold Bond
BUILDING PRODUCTS
NATIONAL GYPSUM COMPANY



"New Orleans was never like this!

What happened to the filigree?"



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

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

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

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

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

PITTSBURGH GLASS

. . . the basic architectural material

75th ANNIVERSARY 1883—1958

SYMBOL OF SERVICE FOR SEVENTY-FIVE YEARS

PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

(Continued from page 258)

delicacy developed earlier in the East. The reasons for this superiority and technical proficiency are explained in the summarizing epilogue, written by Prof. A. R. Hall; as are the reasons for the gradual transition toward industrialization, compared with the earlier, cruder methods employed by village artisans and household workers, and equally in contrast to the often-complicated procedures of the earlier artisans and artists. "British manufacturers were constantly active in replacing skilled workers by machinery . . ." from about 1700.

While, in earlier times, art and technique were inseparable, as not only Plato and Aristotle but also the great Renaissance masters in the 15th Century and early 16th Century prove, technology became independent between 1500 and 1750. In each single field we can see how, contradicting the materialistic concepts of history, the great events of political, economic, and sociological history had only minor influence upon the development of methods and tools—far less than, for instance, on simultaneous works of art. Gradually the old technology of ancient and Eastern origin was fused with the newer technology in which the scientific element became more and more important. The histories of the calendar, of map-making, of ship building, and of many other fields prove this relative independence. In building construction, town planning, spinning and weaving, glass, printing, etc.—to mention only a few other technological activities—artistic factors balanced the scientific element; and the sense for form and color cannot be dismissed as inessential in that technological development.

In Volume IV, the accent has shifted: technology has now become one primary field of applied science, exactly like medicine. This development was especially strong during the 19th Century, when Britain led in industrialization which eventually was symbolized in the Great Exhibition in London (1851). The complexity of the new machines separated new technology from the traditional crafts-experience and artisanship which had still permeated the evolution of technology during the first part of the 18th Century. From this point the average reader, even the architect who is not a professional engineer, can only proceed very slowly and carefully in the study of this epoch. All the knowledge whch he may have of the instrumentation of applied arts cannot be of great help to him. The main topics of the third volume, as mentioned above, become less decisive for the development and the production of power, the progress of the

(Continued on page 264)

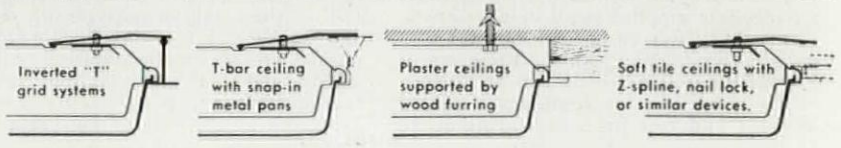
NEW Smithcraft SLENDEX

breaks the ceiling space barrier

BREAKS THE CEILING SPACE BARRIER! 100 SLENDEX 2' x 4' units, selected from the offerings of 14 manufacturers, installed in the testing laboratory of one of the nation's largest steel companies. Ceiling 7' 6" at lowest point; 1½" cavity depth.

SLENDEX solves tough ceiling problems . . . in acute ceiling space conditions . . . in low ceilings . . . in minimum cavities. Recesses only 1⅜" . . . SLENDEX is so shallow it handles like tile! Slender, sleek architectural styling is complemented by unique engineering features. Requires no extra depth for tilting . . . goes into the ceiling *flat*. Simplified installation and maintenance. Clean uniform lighting . . . no dark center streaks. Now — simplify your lighting job by using the new Smithcraft SLENDEX!

ADAPTS TO ALL COMMON CEILING TYPES



Write today for the complete Smithcraft Catalog, your buying guide to "America's finest fluorescent lighting."

Smithcraft
LIGHTING
CHELSEA 50, MASSACHUSETTS

(Continued from page 262)

steam engine, and the tremendous steps in the conquest made in chemical industry, which come to the fore in Volume IV.

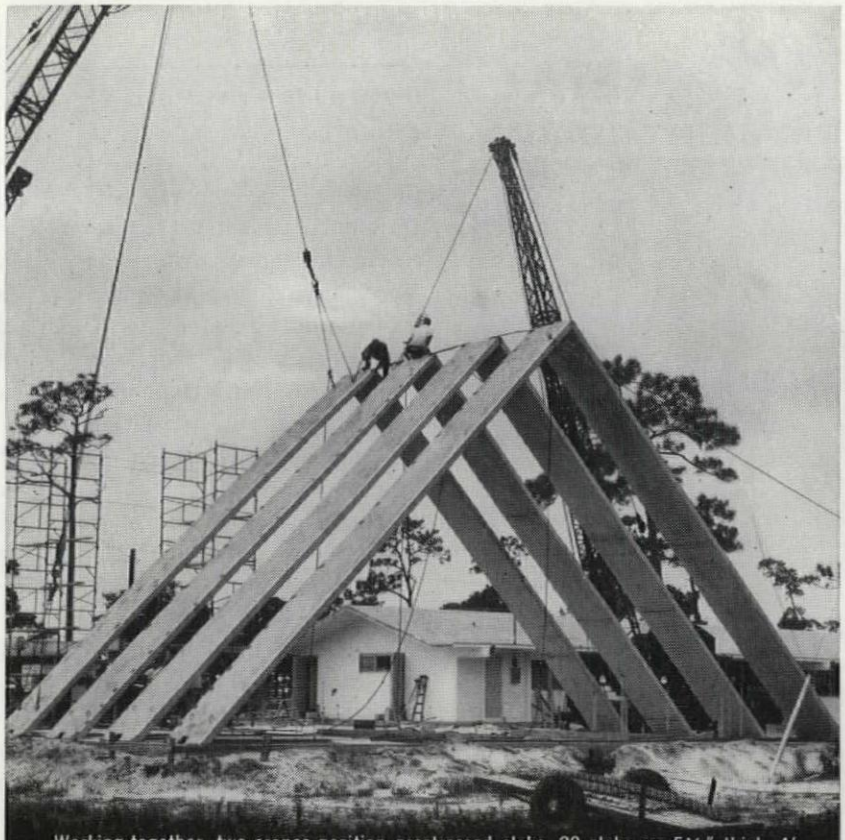
The earlier fields of technology, from glass and ceramics to textiles, precision mechanics, machine tools, building, and civil engineering construction, are by no means neglected, but dealt with in the same way as in the preceding volume. Some especially interesting new sideshows are offered in such chapters as "Fish Preservation," "Gas for Light and Heat," "Sanitary Engineering," "Dredging," and "Telegraphy."

This change in the foundation of technology led also to the creation of a new professional type, besides the former artists, artisans, engineers, and technical designers. It is what, in modern terms, one would call the "managerial class," which in the field of technology replaced the former master of the craft or the former plain foreman. This sociological change was prepared for by the decisive influence of science on technology; first by the work of the French encyclopedists and later on, most influentially, through the formation of the British Association for the Advancement of Science. But let us not forget, in the 19th Century, America had also entered the picture, and everyone knows the names of American pioneers in this field, from Fulton to Morse. Even in Central Europe it was an American, Count Rumford, who developed the most far-reaching proposals for technological-social progress, submitted to the Elector of Bavaria.

Comparing the individual stages of the various human endeavors dealt with in this anthology of encyclopedic essays, one could state quite generally that in all those fields where quantity, economic organization, and the relation of economic groups are decisive, technology progresed far more quickly than in those realms where esthetic qualities were important.

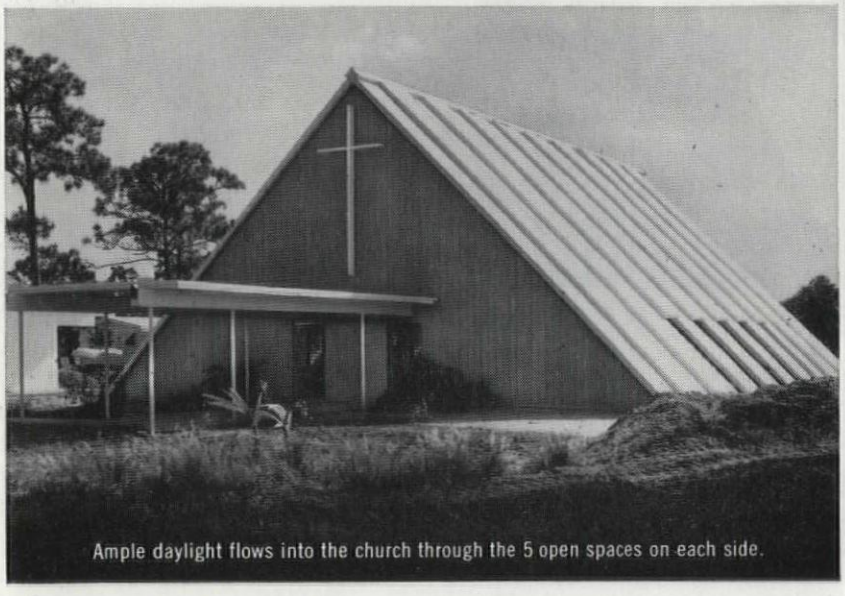
Generally one would suppose that such a collection of special essays, combined into two volumes, would have one underlying philosophy of history, as formulated, e.g., by Vico, Kant, Marx, or Toynbee. But no individual concept prevails: the authors differ in their basic approach. However, the reader is not aware of their diversities, he discovers it only indirectly from occasional remarks in the respective chapters; and this is probably the most positive element and the greatest merit of the editors. The amount of material and factual information is so great that it overshadows the variety of individual concepts. The technological change, in itself, is so dramatic in each field that the standpoint from which it is treated

(Continued on page 266)



Working together, two cranes position prestressed slabs. 20 slabs are 5½" thick, 4' wide and 38½' long; 8 slabs are 4" x 4' x 38½'; there are 10 shorter slabs 4" x 4' x 30'.

NEW CHURCH DESIGN SHOWS VERSATILITY OF **PRECAST, PRESTRESSED CONCRETE**



Ample daylight flows into the church through the 5 open spaces on each side.

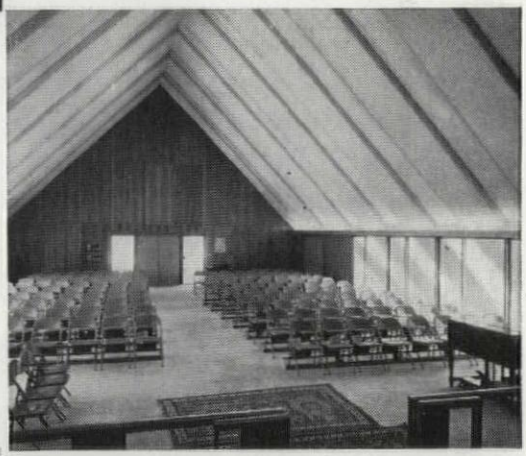
• The St. Ambrose Episcopal Church in West Fort Lauderdale, Fla. is another example of the almost unlimited possibilities of modern precast, prestressed concrete construction.

Just 38 prestressed slabs were required for this unique structure. Cast with plates imbedded at the ends and along the sides, slabs were fitted into slots in the footings, hoisted into place and welded together. The joints were coated with roofing material. That's all there was to it.

By eliminating conventional walls and roof, this technique resulted in substantial savings to the owner. The appearance of the completed job speaks for itself.

The prestressed slabs were made with Lehigh Early Strength Cement at the R. H. Wright & Son, Dearfield plant. Its use helps them save time and money in producing a variety of top quality concrete units.

On the interior, prestressed slabs were sprayed with an acoustical plaster.



ARCHITECT: Johnson and McAlpine, Ft. Lauderdale, Fla.
ENGINEER: H. J. Ross Associates, Ft. Lauderdale, Fla.
CONTRACTOR: Quick Quality Construction, Inc., Ft. Lauderdale, Fla.
PRECAST, PRESTRESSED CONCRETE UNITS MANUFACTURED BY: R. H. Wright & Son, Ft. Lauderdale, Fla.

- LEHIGH EARLY STRENGTH CEMENT
- LEHIGH PORTLAND CEMENT
- LEHIGH AIR-ENTRAINING CEMENT
- LEHIGH MORTAR CEMENT

LEHIGH PORTLAND CEMENT COMPANY
Allentown, Pa.

reviews

(Continued from page 264)

becomes less important. The non-speculative elements of science, experiment, observation, and experience, have found here their perfect expression, treated with all the humility of the true scholar who knows the limitations of his craft of historical reconstruction.

By this very absence of metaphysical speculation, the plain language of every chapter can definitely be understood by nonspecialists. And the facts narrated in each chapter are so interesting that—though it may sound paradoxical—the book becomes actually entertaining, highly readable, sometimes even full of suspense. This quality, of course, is merely a by-product, certainly not aimed at by the authors. Nevertheless, everyone who wishes to learn something about the roots of modern technical civilization will enjoy reading this great work.

Illustrations, maps, charts, and tables, often taken from sources unknown and hardly accessible to the general historian, represent the best possible visual help for understanding the technological development of the past and thus indirectly the suppositions of our technologically defined way of life today.

PAUL ZUCKER
Architectural Historian, Professor
New York, N. Y.

eminently practical

Design of Air Conditioning Systems. *F. W. Hutchinson. The Industrial Press, 93 Worth St., New York, N. Y., 1958. 336 pp. $7*

It must be confessed that this review was started under some slight apprehension: as some knowledge of the author's previous works left a rather strong impression that his technical explanations were apt to be overelaborate and that his approach was inclined to be on the academic, theoretical side rather than on a strictly practical engineering basis.

Fortunately, this initial view was

quickly dispelled. In fact, it may be said at once that, with a few exceptions, this is an eminently practical working-engineer's reference book, containing also a considerable amount of design text and theory in readable form.

The book is written to a format which provides, at the beginning of each chapter, theory and evolution of basic formulas, then translates these formulas to graphical form, and finally gives examples and their solutions by the use of the graphs so developed.

Each chapter (there are nine in all) handles a specific part of air-conditioning design, with the first chapter being a generally introductory one covering the over-all principles, and the second chapter dealing with "Psychometrics," i.e., the basic thermodynamic principles which specifically concern mixtures of dry air and water vapor. The remaining chapters deal with "Cooling Load," "Solar Energy," "Comfort Design Conditions," "Supply Air Conditions and Volume," "Air Flow Through Ducts and Fittings," "Noise," and "Panel-Cooling Design."

Chapter 2, on Psychometrics, does an admirable job of describing rather simply a very complex subject. It gives a good, detailed breakdown of what invariably winds up as the "complicated" psychometric chart. The relationship of the fundamental parts of the chart to the simple gas laws and to Dalton's law is explained most lucidly. In order to demonstrate the use of the chart, essential components are broken out and practical examples of solutions which may be obtained from their use are given. As an example, the required mean surface temperature of a cooling coil to cool air through a certain temperature range is quickly determined by the use of one of these break-out charts.

It is felt that Chapter 3, on the Cooling Load, has rather too long a preamble. This chapter, in common

(Continued on page 268)

reviews

(Continued from page 267)

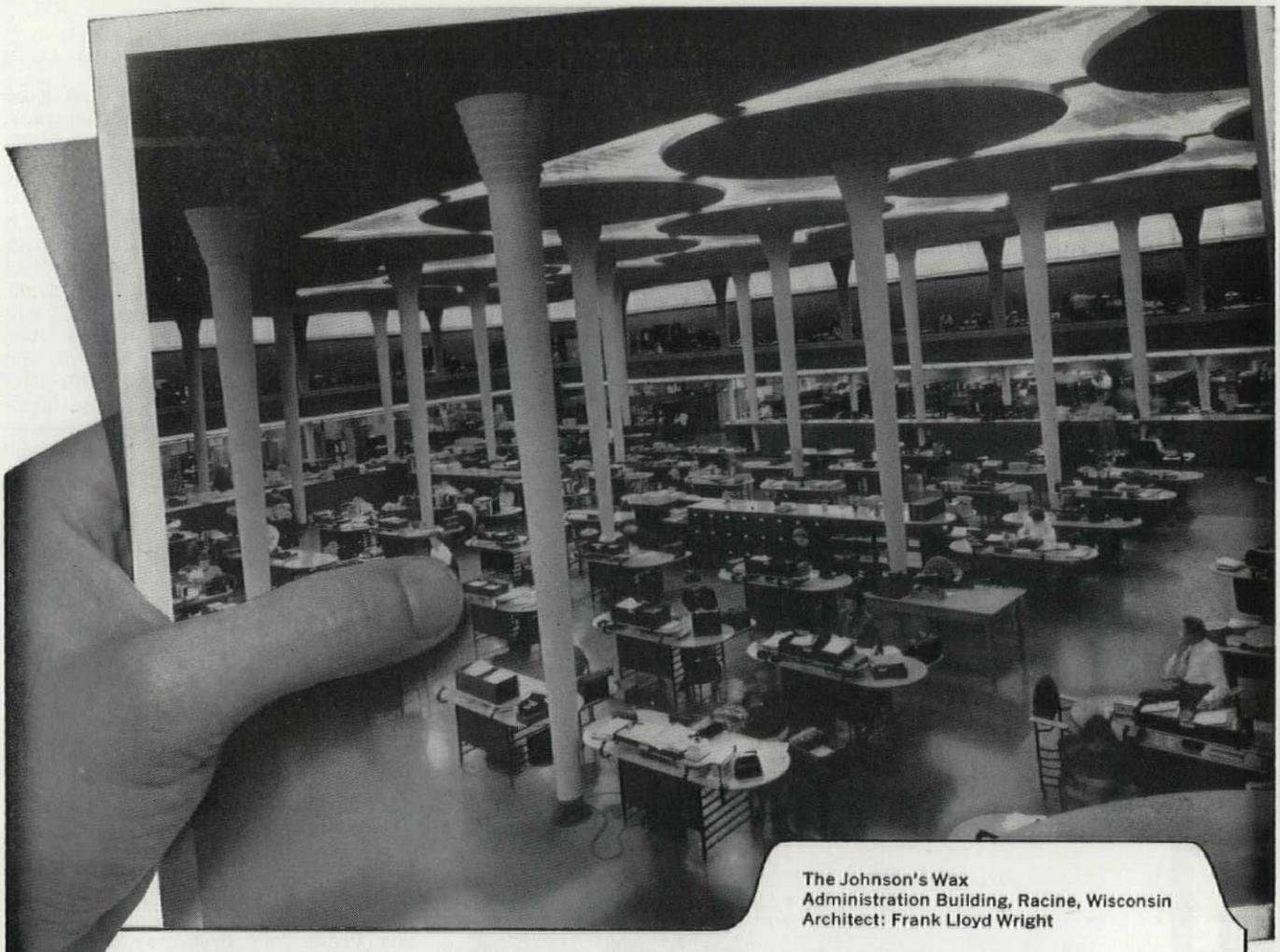
with Chapter 7, on Duct Design, and Chapter 8, on Noise, relies heavily for its source material on the American Society of Heating & Air-Conditioning Engineers' *Transactions* and *Guide*. This is no detriment, naturally, to the book, and, in fact, the author is most straightforward in acknowledging his indebtedness to these valuable sources.

Chapter 4, which deals with the questions of Solar Energy and Irradiation Rates and Protective Sheeting, contains the most thorough set of solar-irradiation curves yet encountered. However, it seems unnecessary to repeat on 16 consecutive pages the same equation, text reference, and special conditions, simply because the format of the book requires that these occur on the page facing each individual set of charts. Such repetition, unfortunately, occurs in other chapters, and possibly a slightly less cumbersome arrangement might have been worked out. This is not meant as a general criticism of the over-all principle of the book layout, which in all ways is excellent. However, improvement could have been achieved by slight rearrangement of the graphical-solution charts.

Chapters 5, 6, and 7 outline conventional theory and basic formulas for their subjects. All contain many useful charts, calculations, and examples. Chapter 7 deals with both high- and low-velocity air flow and, although short, is quite adequate in its subject coverage.

Chapter 8, on Noise in Air Distribution, while it is somewhat short, covers the subject reasonably thoroughly and presents a most practical approach to the solution of noise problems. It deals with fan, duct, and grill noise, and gives excellent examples of sound attenuation calculations. Altogether, it is one of the best short treatises on this subject which has yet come to the reviewer's attention.

(Continued on page 270)



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

HERE'S THE EVIDENCE

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

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

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

WRIGHT MANUFACTURING COMPANY

A Division of Mastic Tile Corporation of America
Houston, Tex. • Joliet, Ill. • Long Beach, Calif. • Newburgh, N. Y.

WA36

reviews

(Continued from page 268)

Summing up, it may be said that the book can be highly recommended for daily use by air-conditioning engineers. The graphical solutions presented represent an eminently practical approach to the long and elaborate calculations required in connection with any major air-conditioning installation, while the theory and formulas can be quickly assimilated and easily used for checkback purposes. Altogether, *Design of Air Conditioning Systems* is an excellent and practical publication which is sure to find favor in engineers' design offices.

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

BOOKS RECEIVED

At Home With Tomorrow. Carl Koch with Andy Lewis. Rinehart & Company, Inc., 232 Madison Ave., New York, N. Y., 1958. 208 pp., illus. $6.95

Bridges and Their Builders. David .B Steinman & Sara R. Watson. Dover Publications, Inc., 920 Broadway, New York, N. Y., 1958. 401 pp., illus. $1.95. Published in a revised paper-back edition, this volume, as its title indicates, deals with bridges, their history and makers, and the ideas and difficulties behind bridge engineering. It is interestingly written and will appeal to anyone who has ever crossed a bridge and wondered what holds it up, structurally *and* esthetically.

Contemporary Danish Architecture. Edited by Finn Monies and Bent Reugind; preface by Esbjeurn Hiort. Arkitektens Forlag, Bredgade 66, Copenhagen, Denmark, 1958. 88 pp., illus. $4.65

Dansk Form: Danish Design. Edited by Poul Erik Skriver. Arkitektens Forlag, Bredgade 66, Copenhagen, Denmark, 1958. 76 pp., illus., Danish text with English captions. $2.65

Protection of Cultural Property in the Event of Armed Conflict. A. Noblecourt. Published by UNESCO, Paris, France, 1958. Distributed by Columbia University Press, 2960 Broadway, New York, N. Y. 406 pp., illus. $7.50 (paperbound)

Samaria, The Capital of the Kingdom of Israel. Babylon and the Old Testament. Studies in Biblical Archeology No. 7 and No. 8. André Parrot. Philosophical Library, Inc., 15 E. 40 St., New York, N. Y., 1958. No. 7: 144 pp.; No. 8: 166 pp.; illus. $2.75 each

art

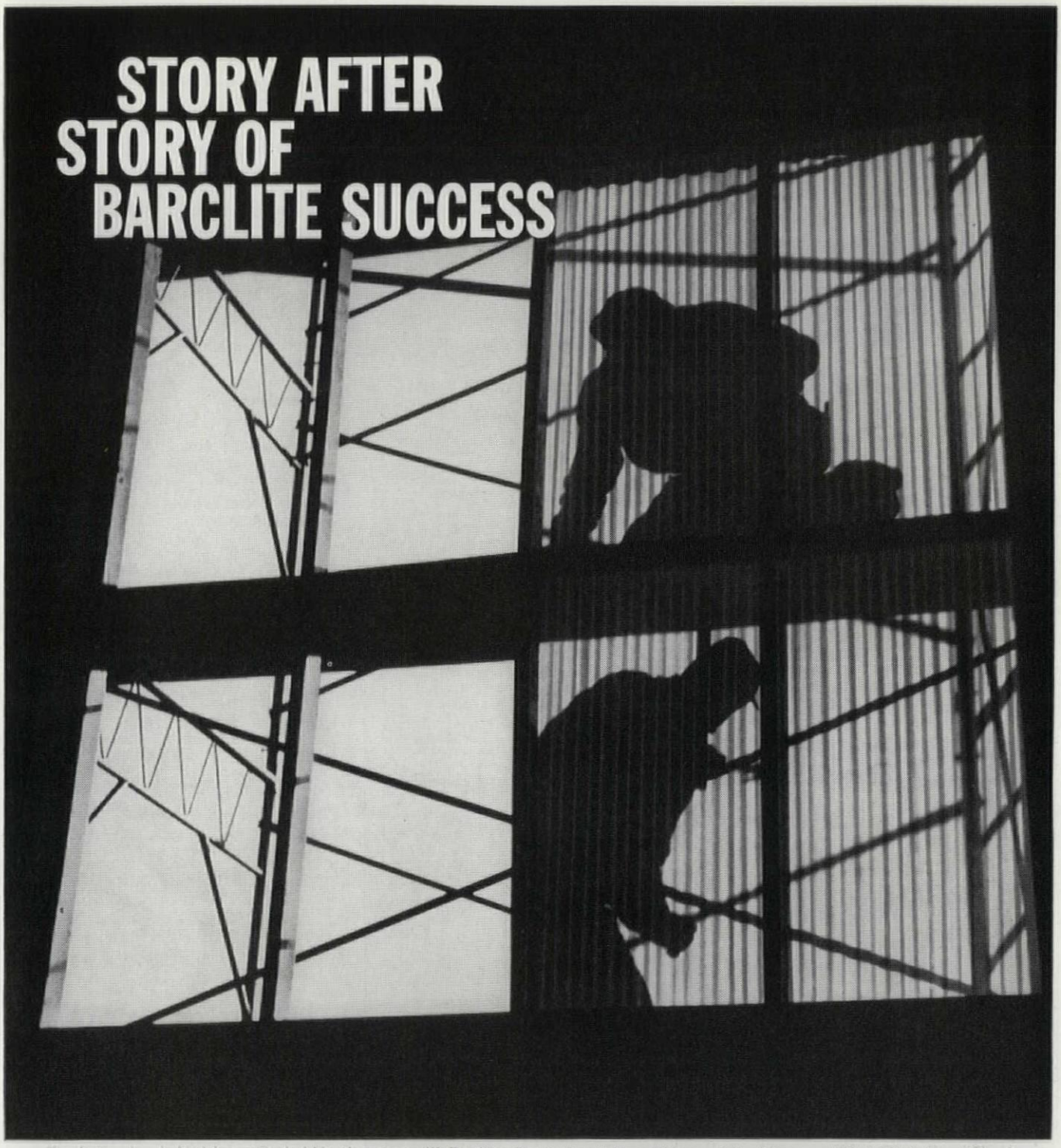
Cosimo Tura. Ebehard Ruhmer. Phaidon Press, 5 Cromwell, London, England, 1958. Distributed by Garden City Books, 575 Madison Ave., New York, N. Y. 184 pp., illus., 8 full-color plates. $12.50

The Folk Arts of Japan. Hugo Munsterberg. Distributed by The East & West Bookshop, 132 E. 61 St., New York, N. Y. 168 pp., illus., boxed. $6.75

On the Art of Drawing. Robert Fawcett. Watson-Guptill Publications, Inc., 24 W. 40 St., New York, N. Y., 1958. 136 pp., illus. $10

Watercolor: The Hows and Whys. Edgar A. Whitney. Watson-Guptill Publications, Inc., 24 W. 40 St., New York, N. Y., 1958. 142 pp., illus. $9.50

(Continued on page 272)



Here's the story behind Jersey Central Lines' success with Barclite. They had a window problem ... lots of them ... at their Elizabethport Diesel Shop. The wood-frame windows had deteriorated and were expensive to replace. What's more, with their high heat coefficient, they let in heat with the summer sunlight and radiated cold air in the winter. That's why they replaced every pane with translucent Barclite ... the shatterproof, reinforced fiberglass panels that diffuse light and heat ... that add color and beauty. The Chief Engineer, B. J. Minetti, says, "Rain beating against the corrugated surfaces keeps them cleaned off. Old glass panes got so dirty they cut out light. Cleaning was always a problem." That's just one in thousands of successful Barclite installations ... in homes or industry, for partitions, movable walls, room-dividers, dropped ceilings, so many interesting applications. For specifications refer to Sweet's Architectural Catalog, Sec. 7D, A.I.A., file 26 A-9. Write for free samples and consultations now!

BARCLITE CORPORATION OF AMERICA* Dept. PA-10, Barclay Building, New York 51

*an affiliate of Barclay Manufacturing Co., Inc.

Guaranteed by Good Housekeeping

No other standard fiberglass panel has earned all these seals!

reviews

(Continued from page 270)

furniture design

Modern Furniture. Revised Edition. Mario Dal Fabbro. Reinhold Publishing Corp., 430 Park Ave., New York, N. Y., 1958. 224 pp., illus. $6.95

School Furniture. London County Council. Room 113, County Hall SE 1, London, England, 1957. **Illus., 15s**

planning

Government and Housing in Metropolitan Areas. Edward C. Banfield and Morton Grodzins. McGraw-Hill, 330 W. 42 St., New York, N. Y., 1958. 226 pp., illus. $6.50

Neighborhood Conservation: A Pilot Study. Maurice Frank Parkins. Detroit City Plan Commission, City-County Building, Detroit, Mich., in co-operation with Urban Renewal Administration, Housing and Home Finance Agency, Washington, D. C., 1958. 284 pp., illus. (paperbound). This detailed study reports on Detroit's comprehensive plan for conservation of 55 middle-aged neighborhoods, which comprise one third of the city, from 1953 to the present. Included are 40 pages of reprints of Neighborhood Conservation information bulletins and pamphlets.

New York Building Laws. 1957-58 Manual. New York Society of Architects, 101 Park Ave., New York, N. Y., 1958. 704 pp. $7.50. 46th volume of the Year Book for the practicing architects in New York.

technical

Acoustics, Noise and Buildings. P. H. Parkin and H. R. Humphreys. Frederick A. Praeger, Inc., 15 W. 47 St., New York, N. Y., 1958. 332 pp., illus. $15

Adhesives and Sealants in Building. Building Research Institute. Publications Office, National Academy of Sciences, 2101 Constitution Ave., Washington, D. C., 1958. 160 pp., illus. $5

Design of Air-Conditioning Systems. F. W. Hutchinson. The Industrial Press, 93 Worth St., New York, N. Y., 1958. 336 pp. $7

Earth Pressures and Retaining Walls. Whitney Clark Huntington. John Wiley & Sons, Inc., 440 Fourth Ave., New York, N. Y., 1957. 550 pp. $11.50

notices

new offices

SAMUEL H. BECK, JR., Architect, 1306 Branch Ave., S.E., Washington 20, D. C.

HAROLD KEENEY, JR., Architect, 13251 132 Ave., N.E., Kirkland, Wash.

ROGER LELIWA, Architect, 120 E. 56 St., New York 22, N. Y.

DONALD GRIER HANNUM & WILLIAM ARTHUR WHIFLER, Architects, 153 University Ave., Palo Alto, Calif.

HAROLD EDELMAN, Architect, 124 Washington Pl., New York 14, N. Y.

FRANCIS E. CSENDES, Civil Engineer, Suite 1500, 11 W. 42 St., New York 36, N. Y.

MARTHA CRAWFORD & ASSOCIATES, Interior Designers, 44 W. 56 St., New York 19, N. Y.

DARRELL LANDRUM ASSOCIATES, Design Consultants/Furniture/Interiors, 227 E. 67 St., New York 21, N. Y.

WARREN D. SEGRAVES, Architect, Suite 205, Eason Bldg., Fayetteville, Ark.

MARTIN M. LAIBOW, Architect, 8 Burning Bush Lane, Levittown, Pa.

JOHN YELLOTT ASSOCIATES, Consultants in Mechanical Engineering, 901 W. El Caminito, Phoenix, Ariz.

KEITH M. KELLY, Architect, 505 S. Harbor Dr., Venice, Fla. (Mail, c/o General Delivery.)

PAUL CONRAD ASSOCIATES, Interiors, 144-17 78 Ave., Flushing 67, N.Y.

STRANDGAARD & BRUMMETT, Architectural Office, and TORBEN STRANDGAARD, Designer, 478 Jackson Sq., San Francisco 11, Calif.

THE OFFICE OF WM. CRAMP SCHEETZ, JR., Architect, 1500 Walnut St., Philadelphia 2, Pa., has acquired the business and offices of SAVERY, SCHEETZ & GILMOUR, now dissolved.

(Continued on page 276)

What are your Parking Problems?

SOLVE THEM QUICKLY AND EASILY WITH THIS FORWARD-LOOKING HANDBOOK; JUST PUBLISHED

PARKING

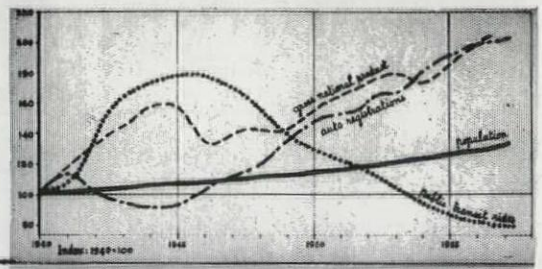
by GEOFFREY BAKER and BRUNO FUNARO

See how completely the subject is covered.

Why is there a parking problem?

The registration of cars has increased faster than the population. At the same time the use of public transportation has consistently decreased.

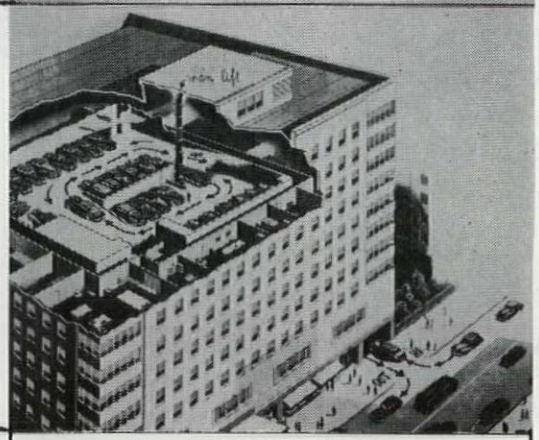
This is just one of the many questions you will find answered in PARKING.



Where should the cars be put?

"*Park at your desk*" is the slogan which has carried the Cafritz office building to success in Washington, D. C. The core of this building, interior space which lacks daylight, is occupied by a continuous ramp garage through the whole height of the ten story building.

You will find this and many other solutions in PARKING.



How much parking space is really necessary?

In this table are what we believe to be reasonable zoning requirements for parking space. They are based on existing regulations modified by experience. They assume a continuing increase in automobile ownership and use to 1970-75, when there should be approximately 200 million people and 100 million cars.

Just one of the many helpful tables you will find in PARKING.

ZONING FOR PARKING

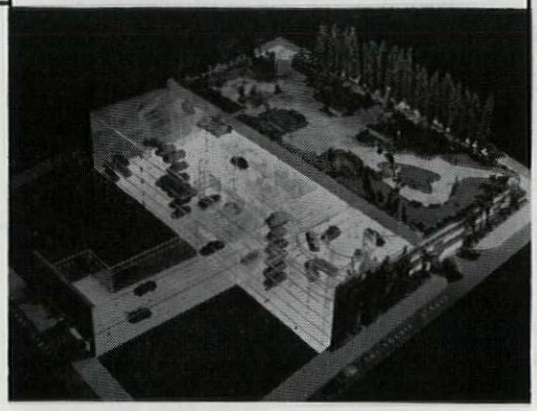
	Number of Car Spaces (Class I*)	(Class II*)	per
Private House	1½	2	dwelling
Apartment House	1¼	1¾	dwelling
Residential Hotel	1	1½	unit
Downtown Hotel (room units only) (add restaurants and assembly rooms extra)	½	½	unit
Motel or Trailer Park	1	1	unit
Hospital	½	¾	bed
Theater or Auditorium (including school auditoriums)	¼	½	seat
Assembly Hall	1	1½	100 sq. ft.
Church, Funeral Parlor	½	¾	seat
Restaurant	½	¾	seat
Stores	¾	1	100 sq. ft.
Offices	¼	½	100 sq. ft.
Manufacturing and Warehousing	½	¾	employee

*1958 suggested division: Class I areas where car ownership averages more than 3 persons per car; all other areas (i.e. those with higher car ownership) in Class II.

What sort of parking space will serve your particular needs?

Underground garages are no longer a novelty in San Francisco. Here's a transparent model of a second garage built beneath a public park. It has six levels with a capacity of 282 cars.

You will find many other solutions in PARKING.



notices

(Continued from page 273)

new offices

KENNETH D. JENNINGS, Architect, R.F.D. #2, Urbana, Ill.

FRANCIS GASSNER, Architect, 669 Jefferson Ave., Memphis 5, Tenn.

DANIEL KOFFLER & ASSOCIATES, Structural-Mechanical-Sanitary Engineers, DuPont Blvd. & Washington Ave., New Castle, Del.

BRIGHAM & ELDREDGE, Architects, 1 Acorn St., Boston 8, Mass.

ELKEN & CLARK, Architects, Professional Bldg., 702 First Ave. S., Fargo, N. Dak.

ELLIOT SALTZMAN, Architect, 356 Fulton St., Brooklyn 1, N. Y.

WALTER C. BOWMAN, E. LESTER SWANSON, J. W. HIESTER, Partners in the firm of BOWMAN, SWANSON, HIESTER, Architects-Engineers, 1220 W. Harrison St., Harlingen, Tex., and 1801 Central Blvd., Brownsville, Tex.

HERBERT R. KAMEON, Architect, 8332 Livingston Way, Los Angeles 46, Calif.

LEONARD BROOKER, Architect-Landscape Architect, 13543 Ventura Blvd., Sherman Oaks, Calif.

WILLIAM COBB MATTHEWS, Architect, 483 College St., Macon, Ga.

HI-FREQUENCY SYSTEMS, INC., Electrical, Lighting Engineers, Vermilion, Ohio.

VLASTIMIL KOUBEK, Architect, 810 18 St., N.W., Washington 6, D.C.

new addresses

RICHARD BOONE ROGERS, Architect, 516 E. Central Ave., Orlando, Fla.

FEAGINS, KIRSCH & FEAGINS, Architects-Engineers, 301 Laura, Wichita, Kans.

GIBBONS & HEIDTMANN, Architects, 55 Church St., White Plains, N.Y.

ELMER J. GURAN, Architect, 134 Thornton St., Akron 11, Ohio.

S. THOMAS STATHES, Architect, 1217 H St., N.W., Washington 5, D.C.

BECK, SIMON & MANTEL, Structural Engineers, 921 Bergen Ave., Jersey City 6, N.J.

BROAD & NELSON, Architects-Engineers-Planners, 1807 Commerce St., Dallas, Tex.

JOHN MACWILLIAM, Architect, 495 Main St., Metuchen, N.J.

BOLT, BERANEK & NEWMAN, INC., Consultants in Acoustics, Western office at 8271 Melrose Ave., Los Angeles 46, Calif.

LEON GORDON MILLER, Designer-Sculptor, 1220 Huron Rd., Cleveland 15, Ohio.

PHILIP JOHNSON ASSOCIATES, Architects, 375 Park Ave., New York 22, N. Y.

CHARLES E. SLEEPER, Architect, 5 Nisbett Block, Big Rapids, Mich.

MOSAIC HOUSE, INC., Designers-Manufacturers, 212 E. 51 St., New York 22, N. Y.

ALPER & ALPER, Architects, 30 W. Washington St., Chicago, Ill.

FELIX AUGENFELD, Architect, Architectural, Industrial & Interior Design, 48 E. 66 St., New York 21, N.Y.

AMERICAN INSTITUTE OF DECORATORS, N.Y. CHAPTER, 231 E. 51 St., New York 22, N.Y.

ALFREDO VARELA C., Engineer, Ave. Lafayette 123, Guadalajara, Jal., Mexico.

CURTIS & DAVIS and Associated Architects-Engineers, 2475 Canal St., New Orleans, La.

ECKBO, ROYSTON & WILLIAMS, Landscape Architects-Planning Consultants, 1136 Clement St., San Francisco, Calif.

THE EDWIN T. REEDER ASSOCIATES, Architects, No. 1 Miami Bldg., Miami, Fla.

(Continued on page 279)

p/a jobs and men

situations open

ARCHITECTURAL DESIGNER—Large commercial firm with long range building program has a stimulating position for a designer in contemporary architecture. Skills in interiors and color combinations important. This is a top job. Salary is not an issue. Washington, D. C. location. Reply giving full details on experience and personnel data. Box 677 PROGRESSIVE ARCHITECTURE.

ARCHITECTURAL DRAFTSMEN—Good opportunity to grow with a growing organization that presently is enjoying a large volume of work. The majority of the present employees are young, progressive men, flexible and interested in doing a good job. If you are interested in being a member of this fine association, please give full details on experience, starting salary and age. Write to Box 678 PROGRESSIVE ARCHITECTURE.

situations wanted

ARCHITECT—NCARB, B.Arch. MIT 50, early schooling in Europe, speak French, east and west coast professional experience. Desires contemporary design team position with American firm doing work overseas. Age 35, family, resume and references on request. Box 679 PROGRESSIVE ARCHITECTURE.

ARCHITECT—36, N. Y. registration, NCARB. Interested in relocating to Southwest area, preferably Arizona. 16 Years varied experience in top N. Y. offices, presently employed. Married with family. Seeking responsible position leading to eventual partnership or associateship. Resume on request. Box 680 PROGRESSIVE ARCHITECTURE.

ARCHITECT—45, married, university graduate, thoroughly experienced designer, capable of handling large scale projects—institutional, industrial, housing desires permanent position of responsibility with firm doing challenging contemporary work and demanding superior design. Presently working in N. Y. City. Will relocate if interesting. Finest references. Resume on request. Box 681 PROGRESSIVE ARCHITECTURE.

Advertising Rates

Standard charge for each unit is Five Dollars, with a maximum of 50 words. In counting words, your complete address (any address) counts as five words, a box number as three words. Two units may be purchased for ten dollars, with a maximum of 100 words. Check or money order should accompany advertisement and be mailed to Jobs and Men, c/o Progressive Architecture, 430 Park Avenue, New York 22, N. Y. Insertions will be accepted not later than the 1st of the month preceding publication. Box number replies should be addressed as noted above with the box number placed in lower left hand corner of envelope.

ARCHITECTURAL DESIGNER—age 29, single, with twelve years experience desires to associate with building or architectural firm doing luxury homes. Well qualified in traditional and contemporary designing, building, decorating and estimating. Box 682 PROGRESSIVE ARCHITECTURE.

CONSTRUCTION PROJECT MANAGER — eight years project manager Veterans Administration projects, resident engineer and special assignments corps of engineer projects and project engineer Federal Works Agency. Over ten years experience with present employer in private hospitals, schools, multi-story, industrial, institutional construction. Detailed resume at interview. Southwest or West preferred. Box 683 PROGRESSIVE ARCHITECTURE.

ENGLISH REGISTERED ARCHITECT—single, 33, seeks post anywhere in U. S. 10 years wide experience design, working drawings, administration, supervision of works, client contact, business methods. All replies answered. Write to Lawrence Crookall, B. Arch., A.R.I.B.A., c/o, Westminster Bank, Bloomsbury Branch, London, W. C. 1.

SPECIFICATION WRITER — long experience, schools, hospitals, industrial, institutional and multi-story construction. Thorough knowledge construction details, field supervision, contract documents and project management.

(Continued on page 280)

notices

(Continued from page 277)

O. W. MOTZ & ASSOCIATES, Consulting Engineers, 2516 Park Ave., Cincinnati 6, Ohio.

MURPHY & MACKEY, Architects, 6124 Enright, St. Louis 12, Mo.

SMITH & WILLIAMS, Architects-Community Facilities Planners, 1136 Fair Oaks Ave., South Pasadena, Calif.

p/a congratulates . . .

F. L. MCCORMICK, new Chief of Product Development and Improvement for DAVIDSON ENAMEL PRODUCTS, INC., Lima, Ohio, subsidiary of FENESTRA, INC., Detroit. New fasteners for porcelain facing panels and all-porcelain "window surround" are two of the company's recent accomplishments.

New Committee Chairman of the Metal Curtain Wall Division, NATIONAL ASSOCIATION OF ARCHITECTURAL METAL MANUFACTURERS, announced by Division President, RALPH L. MCKENZIE: JACK M. ROEHM, KAWNEER COMPANY, Research & Development Committee; WILLIAM H. WITHEY, ARMCO STEEL CORPORATION, Market Development Committee; RICHARD A. BIGGS, ELECTRO METALLURGICAL COMPANY, Consultation Committee; DONALD A. NEWMAN, NEWMAN BROTHERS, INC., Legislative Committee; RICHARD D. HICKMAN, A. F. JORSS IRON WORKS, INC., By-Laws Committee; DAVID MILLER, KAWNEER COMPANY, Membership Committee; and EMIL M. POLLACK, ILLINOIS BRONZE WORKS, INC., Labor Relations Committee.

new merger

SHEPARD WARNER ELEVATOR CO. is being merged into DOVER CORPORATION, Washington, D. C., and will be known as SHEPARD ELEVATOR CO., Division of DOVER CORPORATION, for manufacture of traction elevators. The ROTARY LIFT CO., Memphis, Tenn., operating Division of DOVER, also builds elevators, of oil-hydraulic type only.

p/a jobs and men

(Continued from page 278)

Executive ability. Eleven years present employer. Detailed information at interview. Prefer Southwest or West. Box 684 PROGRESSIVE ARCHITECTURE.

TOP—all around man, 20 years experience, licensed, also N.C.A.R.B., sensitive designer-planner and creative artist. Experienced in engineering and superintending, liaison with clients and government. Pleasant, fast, reliable and married. Wish to locate in northern states. Associate as principal with others. Could purchase interest. Box 685 PROGRESSIVE ARCHITECTURE.

SENIOR STRUCTURAL ENGINEER—with thorough supervisory experience with leading engineering and construction firms. Large industrials, power plants, waterfront structures, dams, airfields, bridges, etc. Excellent estimator and spec. writer. Desire position with architectural, consulting or industrial firm. Box 686 PROGRESSIVE ARCHITECTURE.

miscellaneous

ARCHITECTURAL & DESIGN PERSONNEL AGENCY—a personalized placement service for top-level architects, designers, engineers, draftsmen, estimators, and interior designers; selective contacts arranged in a confidential and professional manner. Interviews by appointment. 58 Park Avenue, New York. MUrray Hill 3-2523.

CAREER BUILDERS PLACEMENT SERVICE—for Architects, Architectural Designers, Interior Designers, Industrial Designers, Draftsmen and Office Personnel. Interviews by appointment. PLaza 7-6385, 35 West 53rd Street, New York 19, N. Y.

HELEN HUTCHINS PERSONNEL AGENCY—Specialist Architectural, Industrial, Interior, Design; Decorative Arts and Trades; Home Furnishings Field, Architects, Designers, Draftsmen, Administrative Personnel. Interviews by appointment. 767 Lexington Ave., New York 21, N. Y. TE 8-3070.

INTERIOR DECORATION HOME STUDY—Announcing new home study course in Interior Decoration. For professional or personal use. Fine field for men and women. Practical basic training. Approved supervising method. Low tuition. Easy payments. Free booklet. Chicago School of Interior Decoration, 835 Diversey Parkway, Dept. 3047, Chicago 14, Ill.

BUY—Tolo precision metal castings for your scale models—many items in stock—any component can be made—any scale—any color—any quantity. Write to: Tolo Industries, 30 E. 21st St., New York 10, New York.

HAVE—client who is seeking to purchase a drafting company. Present earnings not important. Box 687 PROGRESSIVE ARCHITECTURE.

MODELS—Architectural and industrial scale models of all types and materials. Excellent work at sensible prices by experienced modelers. On time delivery. For prompt estimate, at no charge, submit requirements to Frank L. Peters, 129 Beverly Ave., Floral Park, New York.

PROFESSIONAL MODELS—made from your plans and specifications by experienced model makers. Estimates given prior to acceptance. All inquiries answered. Write to Architectural Scale Models, 525 Crestland Drive, N. E. Roanoke, Va.

Directory of product advertisers

430 Park Avenue, New York 22, N. Y. MUrray Hill 8-8600

BRAD WILKIN, *Vice-President & Publisher*

H. VICTOR DRUMM, *Advertising Sales Manager*

JOSEPH M. SCANLON, *Production Manager*

NEW YORK OFFICE:

WILLIAM R. EVANS, *New York State District Mgr.*
ROBERT L. BASSINETTE, *New England District Mgr.*
DONALD W. THOMPSON, *District Mgr.*
JAMES T. BURNS, JR., *Research & Promotion Mgr.*

CLEVELAND OFFICE:

815 Superior Ave., N.E., Cleveland 14. PRospect 1-5583
JOHN F. KELLY, *District Manager*
ALBERT E. McCLIMANS, *District Manager*

CHICAGO OFFICE:

111 W. Washington St., Chicago 2. RAndolph 6-8497
ARTHUR W. GORHAM, *District Mgr.*
CHARLES A. ULLRICH, *District Mgr.*
RALPH E. PETERSEN, JR., *District Mgr.*

SOUTHERN ADVERTISING REPRESENTATIVES

Atlanta, Georgia—Blanchard-Nichols-Osborn
75 Eighth Street, N. E. TRinity 5-7995

WEST COAST ADVERTISING REPRESENTATIVES

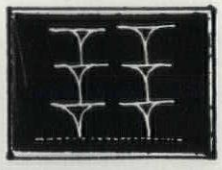
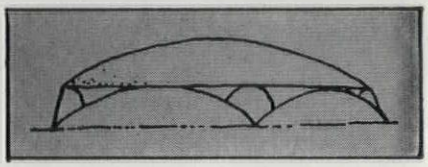
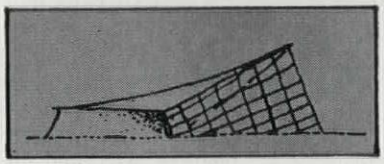
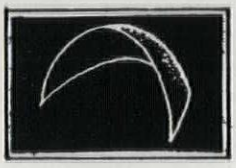
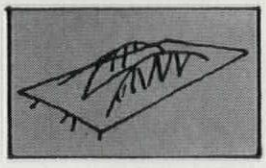
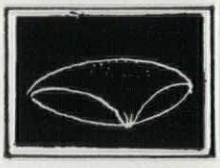
San Francisco, Calif.—Duncan Scott & Co., 85 Post St., GArfield 1-7950
Los Angeles, Calif.—Duncan Scott & Co., 1901 West 8th Street, DUnkirk 8-4151

LONDON ADVERTISING REPRESENTATIVE:

R. A. Butler, Butler's Advertising Service, 22 St. Giles High St.
London W. C. 2, England, TEMple Bar 5905

Not in thirty years has there been a book like this

REINFORCED CONCRETE IN ARCHITECTURE

aly ahmed raafat

With 240 pages and more than 450 illustrations this new book is the only available bridge between architectural creative design and recently developed engineering know-how in reinforced concrete.

Although REINFORCED CONCRETE was discovered over a century ago it gained architectural recognition only at the turn of the century. Today it is a revolutionary building material, used in all corners of the world for new structural forms, which has created new aesthetics in architecture.

Ever since the publication in 1928 of THE FERRO-CONCRETE STYLE by Francis S. Onderdonk there has been a need for a book which would show how in recent years new technical knowledge of Reinforced Concrete has affected the design and cost of contemporary architecture.

This new book REINFORCED CONCRETE IN ARCHITECTURE by Aly Ahmed Raafat does just this. *It discusses the aesthetic and technical manifestations of a promising and revolutionary new material.*

REINFORCED CONCRETE IN ARCHITECTURE explains the impact made by recently developed engineering principles upon architectural design. This is done through a new and unique approach—by presenting today's development as a phase in the whole cycle of growth. A concise historical survey is made of early approaches to the material. Of particular interest is the analysis of the long neglected American contribution to the earlier history of reinforced concrete.

Today's use of reinforced concrete is shown through examples of thin shell construction, such as surface-resistant forms, single-curvature forms, double-curvature forms, prefabricated and prestressed units as developed by Nervi, Caudela, Niemeyer, and others all over the world.

Reservation Certificate

REINHOLD PUBLISHING CORPORATION, Dept. 5290
430 Park Avenue, New York 22, N. Y.
In Canada: BURNS & MACEACHERN
12 Grenville Street, Toronto, Ontario, Canada

Please send me as soon as it comes off the press—a first edition of **REINFORCED CONCRETE IN ARCHITECTURE by Aly Ahmed Raafat.** If after I have used it for 10 days I am not completetly delighted I may return the book and owe nothing. Otherwise you will bill me at the price of $15.00 plus postage.

NAME .....

COMPANY .....

ADDRESS .....

CITY..... ZONE..... STATE.....

SAVE MONEY! You save postage and delivery charges by sending payment with order. (No Cash. Check or Money Order only) Same return privilege guaranteed. Include 3% sales tax on N.Y C. orders. 10 DAYS FREE EXAMINATION.

P.S.

whose esthetic judgment?

There are many ways to approach the evaluation of architecture. The least good way is the personal, subjective, look-what-good-old-Pete's-done-now method. "Have you seen Pete Stalwart's latest job for the State Department?" some one says over a drink at the Architectural League, where people are drinking again now that Morris Ketchum is revitalizing the place. "Good old Pete's really off on a checkerboard-panel kick, isn't he . . . what that boy can think of!" And some around the bar like it and some don't, and it's all because old Pete is a lovable character who is always willing to try something different (last year it was the extra umbrella roof he was putting over buildings), and sometimes they come off. But if the building under discussion had been designed by someone named Elbert Q. Percival from South Bend, whom no one at the League bar knew personally, it wouldn't have been a matter of liking it or disliking it. It would just have been another building in the magazine to pass over quickly or to stop at long enough to get an idea (excuse; inspiration) from.

I suspect that most of us like or dislike a building (most of us having very undeveloped objective-criticism faculties) when we associate it with a person or an idea that we already like or dislike.

(I have a letter from a freelance writer whose suggested contribution to the magazine I had turned down. He is very upset and tells me right out that my reasons for saying *no* to him are "stupid" and then ends up by writing: "I'll bet you're a rabid foreign-aid fan; your kind generally is." He is associating an idea he doesn't like with a person he has reasons to dislike; it seems to work either way.)

I have had someone come into my office and look at something in the way of architectural photographs lying on my desk and toss them aside with no comment to make room for his own brochure, and then when I said, "Pete Robust did that," the response was: "Oh, really; well, I like *that*" (or, "Well, he sure does corn 'em up, doesn't he?"). Meaning: since old Pete did it it is to be expected that it is nice (or, awful), and I apologize for not having reacted sooner.

We editors are criticized occasionally—quite unfairly, I think—for publishing the work of a small group of people, presumably our personal friends, presumably good-old-Petes whose work we would publish no matter how excellent or how dismal it was. Nothing is further from the truth (or at least from our wishes). We are happiest when a new Joe we've never heard of turns up (or is discovered on a trip we make) doing first-rate, highly publishable work. Actually, the more experienced, sophisticated, and *professional* a judgment is, the more likely it is to be objective and based on critical criteria rather than good-old-Peteism. Editors have seen a lot of architecture and they get tired of looking at the product of a few people; they like to freshen the vision with new work by unknown hands. Jurors—those on national, well run competitions, and those experienced on Awards programs—also find themselves thinking in more objective what-is-good-or-bad-about-it terms. I have watched many Juries work, comparing projects or photographs of actual buildings, without even asking or wondering what architectets are involved until a quite solid opinion has been reached. (Then, at a certain point—but *after* the judgment has been formed—the curiosity becomes insatiable. I suppose this is the "what have I done to good old Pete" reaction.) But again, there is no greater joy in the competition Jury room than when the torn-open envelope is found to carry an unknown name.

You might almost twist this thesis, which started by deploring the critical attention given to *known* names, to the conclusion that under certain circumstances (competitive appraisal) a good-old-type name is a handicap. And Juries, as I shall point out in a minute, do not all have similar esthetic-judgment standards, even when they lean over backwards to be "objective."

There is another critical reaction similar to this. It is, I think, related to the name-dropping tendency of many of us. When we don't actually know Peter L. Forcible personally we can't use the good-old-Pete criterion, but we can still employ a version we might call the uh-Pete standard. For example, there are many people who are a bit ashamed of calling our President by his first name because they have never been invited to the White House, but it would go against the grain to refer to him as Mister or General or President Eisenhower. He is Ike, as he is in the *Daily News* headlines; but our subject reads *The New York Times* and therefore hesitates a second before the familiarity—as though to imply: "You know, I'm just sort of kidding about this Ike stuff"—and it comes out uh-Ike (or even uh-Adlai). Most architects discussing Ronchamps Chapel call its author uh-Corbu; there are well known characters in the profession named, to thousands of their non-acquaintances, uh-Eero, uh-Mies, uh-Frank (often uh-Frankie).

So there are still subjective, friendship-implied judgments though no friendship exists. "Oh, did uh-Grope do that? It's pretty nice, isn't it?; boy, he's still cooking," says a man who has never met Walter Gropius. And even some of the younger new-familiars are treated to the "oh, yes, him . . ." type of critique: "Well you must admit that uh-Paul always comes up with something new and original, anyway. . . ."

•

As a matter of fact, I've been doing a lot of thinking and writing about architectural criticism recently (I got invited to do several high-level-type lectures, and had to do some research) and I find this matter subjectivity of value judgments a really puzzling one. No matter how objectively one sets critical check points; no matter how philosophical the system one attempts to use, it is impossible to avoid (or to deny the existence of) the "I just don't like it," or the "Maybe it isn't good, but *I* like it" reaction.

For instance: I have been re-reading the booklet *Planning and Community Appearance* published by the Joint Committee on Design Control of the New York Chapter, AIA, and the New York Regional Chapter, AIP. It was described and recommended by Arthur Holden at the recent AIA Convention, and has been generally applauded. Charles Magruder wrote a questioning review for us (REVIEWS, JULY 1985 P/A) and I have been going through it again because some readers have questioned Charlie's questioning.

The text is largely written by Henry Fagin and Robert Weinberg. The principal point is the recommendation of a technique known as Design Plan and Program. The Design Plan is to assist in the formation of a "general esthetic framework" for a community to be implemented by necessary regulations and administered by "an officially designated body of experts qualified in esthetic judgment. . . ."

Well, I couldn't help thinking as I read these recommendations written by Bob Weinberg (good-old-Bob, to me; not even uh-Bob) that "esthetic framework" and "qualified in esthetic judgment" are rather subjective terms. I remembered, in fact, a judgment of a Pratt Institute town-planning thesis recently. I was on the Jury (the other members were, in my opinion, "qualified in esthetic judgment") and after the judgment a number of architects—including Bob Weinberg—were invited to see the results. Bob came in the room, looked at all the projects, and came over to me, assuming that I was another late-invitee. "Frightful, isn't it?," Bob said to me. "What could the Jury have been thinking of? They picked just about the worst one for the first award."

From this I wonder whether Bob's idea of a body of experts "qualified in esthetic judgment" would be the same as mine.

Thomas H. Creighton