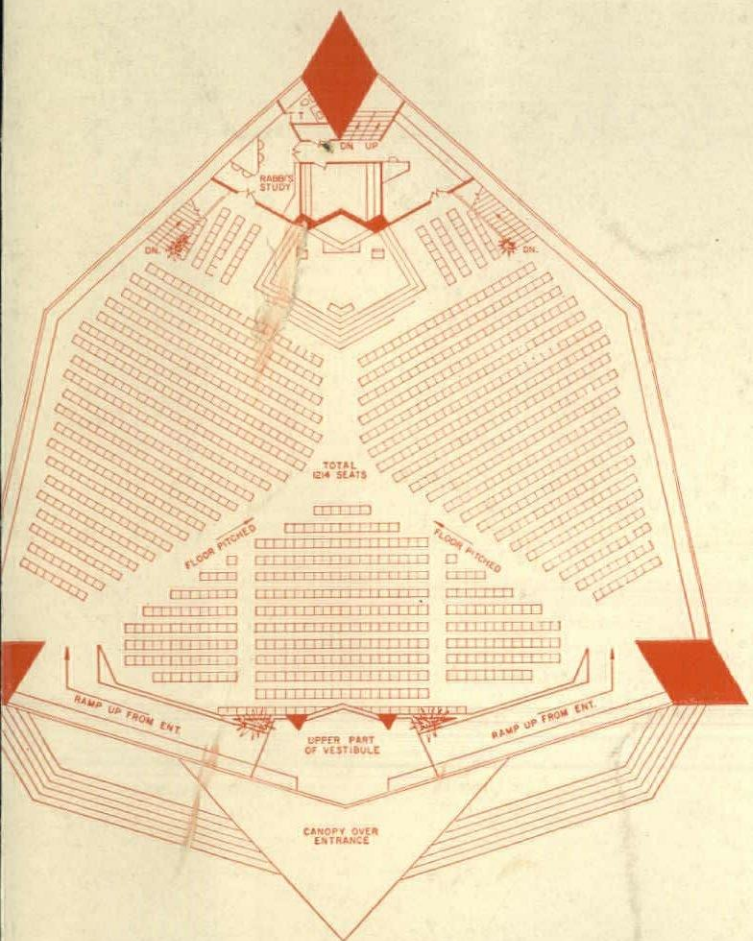
ARCHITECTURAL RECORD

5 *May 1958*

Building Types Study: Schools 213

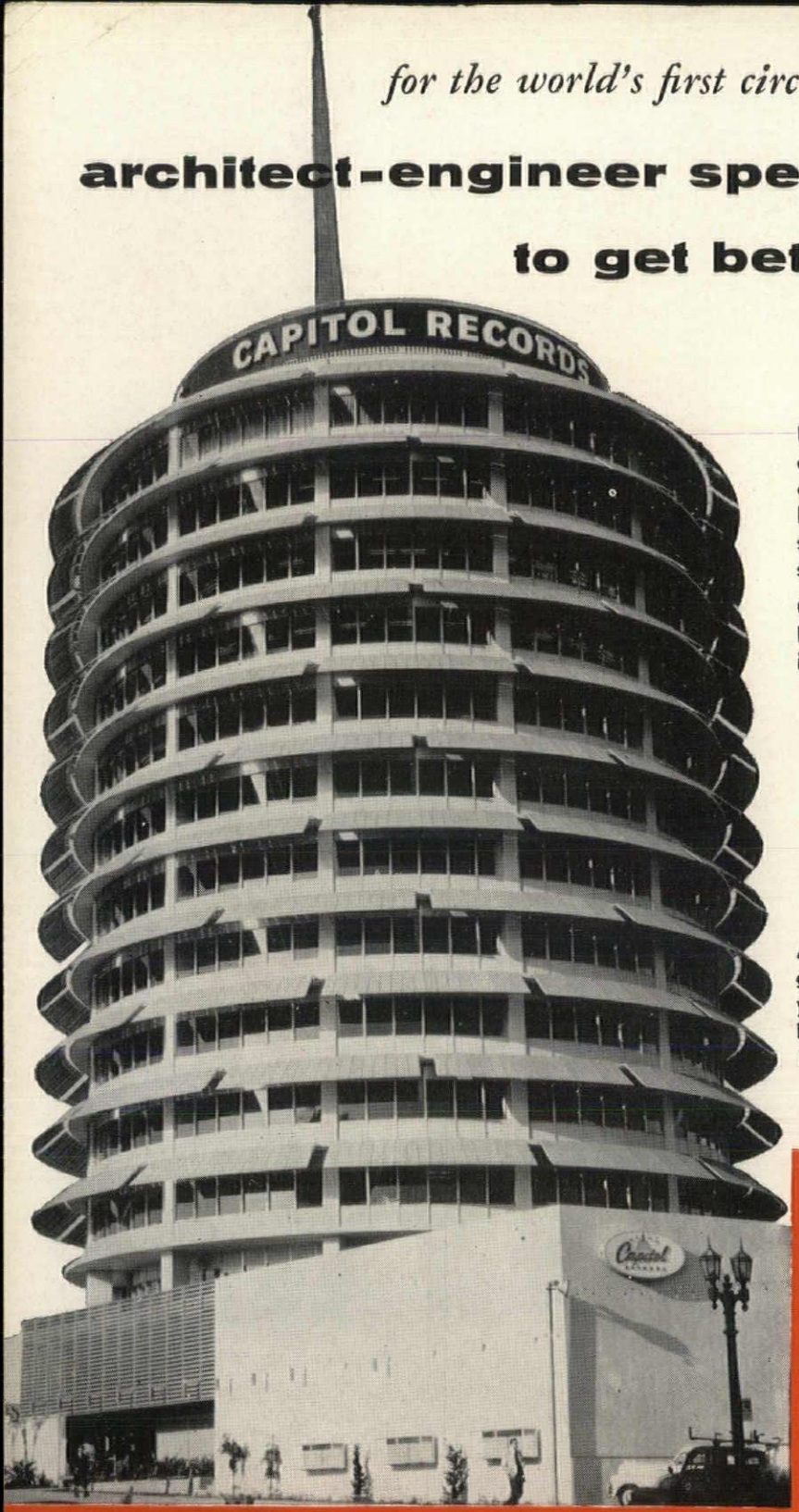
New Work of Frank Lloyd Wright 167

Hospital for Rehabilitation 199



for the world's first circular office building...

architect-engineer specifies POZZOLITH to get better quality concrete



Here, as in many other architectural concrete buildings constructed since 1932, Pozzolith was employed to help avoid honeycombing and other segregation defects. A better surface was obtained because of improved cohesiveness and plasticity... even when water was substantially reduced.

Other concrete requirements are also met best with Pozzolith. This is because Pozzolith with its adaptations is key to the control of:

1. ***Water content***... makes possible lowest unit water content for a given workability.
2. ***Entrained air***... provides optimum air content without sacrificing other desired qualities.
3. ***Rate of hardening***... gives desired handling and finishing time under widely varying job conditions.

Any one of our more than 100 skilled field men will be glad to demonstrate the full benefits of Pozzolith for your project, and to advise of the availability of Pozzolith Ready-Mixed Concrete through more than 1000 qualified producers.

Capitol Records Office Building, Hollywood, California
Architect-Engineer: Welton Becket, F. A. I. A., and Associates, Los Angeles
Structural Engineer: Murray Erick Associates, Los Angeles
General Contractor: C. L. Peck, Los Angeles
Pozzolith Ready-Mixed Concrete Supplied by
Transit-Mixed Concrete Co., Pasadena

MASTER BUILDERS PRODUCTS

THE MASTER BUILDERS CO.

Division of American-Marietta Company

Cleveland 3, Ohio—Toronto 9, Ontario Cable Address, Mastmethod, N. Y.

ARCHITECTURAL RECORD (Vol. 123, No. 5, May 1958) is published monthly, except May 1958 when semi-monthly, by F. W. Dodge Corporation, 10 Ferry Street, Concord, N. H. Editorial and executive offices: 119 West 40th Street, New York 18, New York
(Regular Edition) $5.50 per year in U. S., U. S. Possessions and Canada: Second-class mail privileges authorized at Concord, N. H.

When you write Goodyear into the specs

In the final analysis, it is the long-term performance of a building material which bears out the wisdom of the architect's choice.

Let this be said here:

When you write the phrase "Goodyear *true* Vinyl Flooring" into the specifications, you are giving the job the best long-term flooring investment the money can buy on the market today.

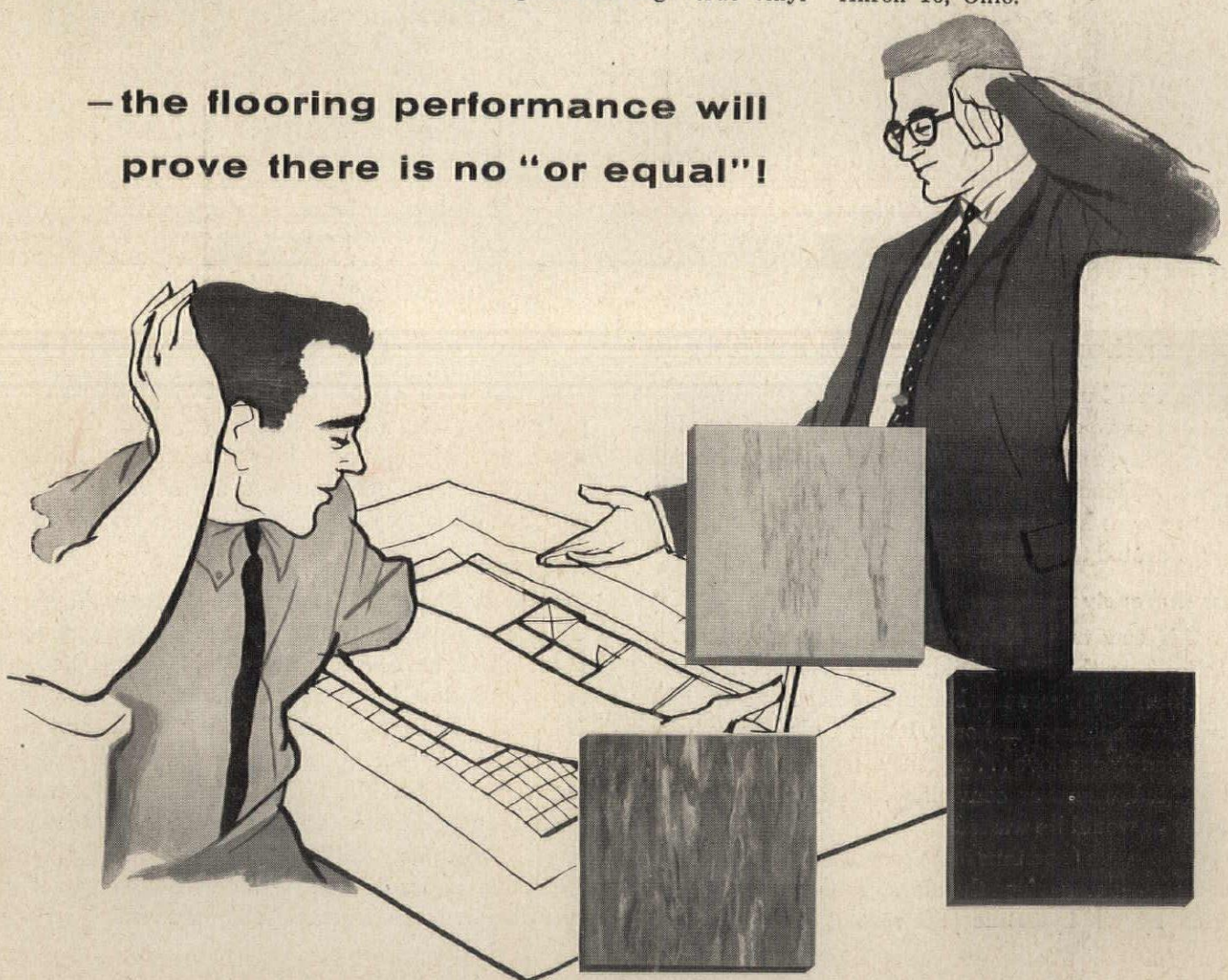
Proved in countless installations, Goodyear *true* Vinyl offers the highest quality construction in the vinyl field. There are no substitute materials which are often found in the part-vinyl constructions of many so-called "vinyl" floorings. Goodyear *true* Vinyl Flooring is as its name implies – a through-and-through true vinyl constructed product!

The result is a flooring of marvelous density–possessing a smooth, naturally lustrous surface which guarantees maximum freedom from care and maintenance savings.

Styling is stunning – actually 28 attractive marbleized colors–and you can select from homogeneous construction in a variety of gauges.

There are solid reasons you can be sure there is no "or equal" when you write Goodyear *true* Vinyl into the specs. And years of service satisfaction will testify to the wisdom of your judgment. It's *built into* the material! For details, drop a card to: Goodyear, Flooring Dept. Q-8111, Akron 16, Ohio.

–the flooring performance will prove there is no "or equal"!



true Vinyl flooring by

GOODYEAR

For Floors • Walls • Counter Tops–By Tile or full 45"-wide Roll

New trend to multi-story downtown motels calls for Rotary Oildraulic® Elevators

No-penthouse elevator aids building design, helps economize on construction costs

The vertical building has arrived in the motel field. As locations move downtown, toward the heart of city business activity, multi-story motels become a familiar sight.

Two outstanding mid-town motels are illustrated here. Others rise as high as six stories, often with the first two levels devoted to parking areas.

Less expensive construction

For this new trend in motels there's no elevator more practical than the Rotary Oildraulic. This modern elevator aids exterior appearance because it needs no unsightly elevator machinery penthouse. It's pushed up from below, not pulled from above . . . and the compact power unit can be located wherever convenient, often in a space that otherwise would be wasted.

Less massive (and thus more economical) elevator shaft sidewalls are used since the elevator and its load are supported by the hydraulic jack resting on the pit floor.

In other respects, too, Rotary Oildraulic Elevators are particularly suited to motel use. They're quiet, dependable, economical, with fewer moving parts and less maintenance required. Modern operatorless control systems are available, and distinctive cabs to harmonize with any interior.

Rises to 60 feet

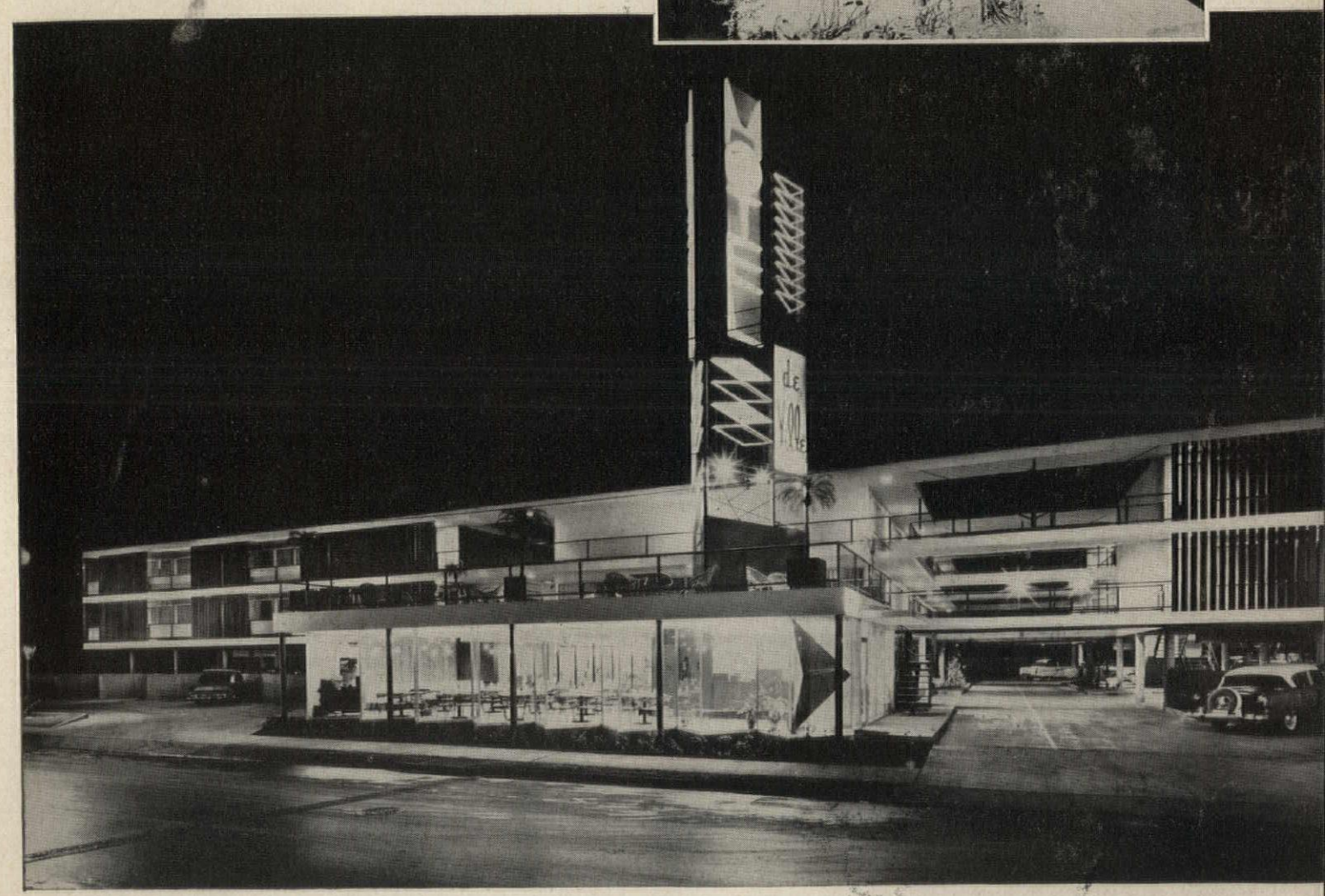
For any building to six stories, the modern oil-hydraulic elevator as perfected by Rotary Lift Company offers the finest in efficient, economical vertical transportation, with many exclusive design and operation features. Rotary Oildraulic Elevators are sold, installed and serviced by franchised elevator contractors who employ factory-trained personnel. The Rotary organization is available for assistance on elevator plans and specifications. For more information, mail the coupon or look for "Rotary Oildraulic" under "Elevators" in the yellow pages of your phone book. *See our catalog in Sweet's.*

Rotary® **Oildraulic®**

Passenger and Freight—the modern elevator for modern buildings

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

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



Elevators

ROTARY LIFT COMPANY
Division of Dover Corporation
Memphis, Tenn.—Chatham, Ontario
First name in oil-hydraulic passenger and freight elevators—industrial lifting devices—auto lifts.

MAIL FOR DATA FILE

Rotary Lift Company
1103 Kentucky, Memphis 2, Tenn.
Please send data file on passenger ☐ freight ☐ elevators to:

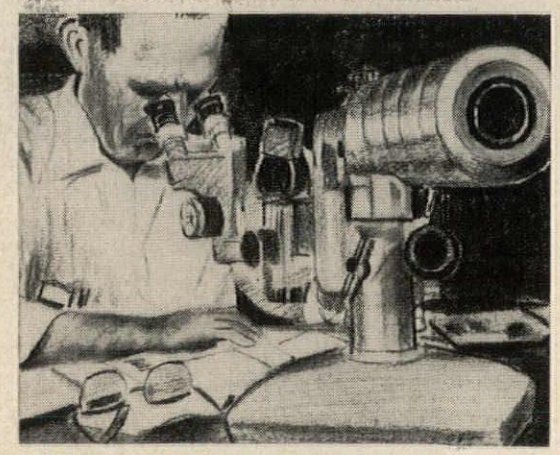
Name_____

Address_____

A Byers field service representative can relate new 4-D Wrought Iron test results to the specifier's corrosive applications.

Laboratory and field test results lend added support to 4-D Wrought Iron specs

Our metallurgical staff compiles and analyzes great funds of data on corrosion-resistant materials.



With some products, a company representative's natural enthusiasm is often *tempered* by actual test results in the laboratory.

Not so however, with new 4-D Wrought Iron. Byers field service engineers can present research facts which confirm the increased corrosion-resistance of this new product.

Comparative testing with standard Wrought Iron, as well as many ferrous substitutes, proves new 4-D Wrought Iron a decidedly superior deterrent to corrosion. So the wisdom of standard Wrought Iron specifications may now be further enhanced by specifying new 4-D Wrought Iron.

Byers field service engineers are lending even more credibility to this story with their own knowledge of corrosive infighting. The Byers representative will welcome an opportunity to relate these test results to your corrosive applications. Call him soon. Or, write us for helpful literature on new 4-D Wrought Iron. A. M. Byers Company, Clark Building, Pittsburgh 22, Pa.

BYERS WROUGHT IRON

ARCHITECTURAL RECORD

May 1958

THE RECORD REPORTS:

Perspectives 9

Buildings in the News 10

Architecture Abroad 16, 18

Meetings and Miscellany 21

A Washington Report by Ernest Mickel 32

News from Canada by John Caulfield Smith 36

Washington Topics by Ernest Mickel 48

Construction Cost Index 56

Required Reading 60

Calendar and Office Notes 338

Current Trends in Construction 416

FRANK LLOYD WRIGHT 167

Dallas Theater 168

Monona Terrace Project 170

Music Building for Florida Southern College 172

A Motor Hotel 174

Two Churches 176

A Synagogue 178

The Solomon R. Guggenheim Memorial 182

Guggenheim Museum in Progress 185

HAVING TO DO WITH SWIMMING

Wildwood Pool and Bath House, Kings Point, L. I. George Nemeny, Architect 191

Harbor Hills Pool and Bath House, North Hempstead, L. I. George Nemeny, Architect 192

Municipal Pool, St. Bernard, Ohio Charles Burchard, Architect 194

Design for a Beach House and Studio by Hanford Yang 196

TRIPARTITE HOSPITAL FOR CHRONICS

John J. Kane Hospital, Pittsburgh, Pa. Button and McLean—Mitchell and Ritchey, Architects 199

AMPHITHEATERS

Olympic Arena, Rome, Italy Annibale Vitellozzi, Architect, Pier Luigi Nervi, Engineer 207

College Arena, Assembly Hall, University of Illinois, Champaign-Urbana, Ill. Harrison & Abramovitz, Architects 210

Civic Arena, Los Angeles, Cal. Welton Becket & Associates, Architects 212

BUILDING TYPES STUDY 258: *Secondary Schools*

Introduction by Emerson Goble 213

Check List for Site Planning by John Simonds 214

Lodi Union High School, Lodi, Cal. Falk & Booth, Architects 218

Olympic View Junior High School, Mulkiteo, Wash. Waldron & Dietz, Architects 222

Puyallup Junior High School, Puyallup, Wash. Robert Billsbrough Price, Architect 226

Catalina High School, Tuscon, Ariz. Scholer, Sakellar & Fuller, Architects 230

Key West High School, Key West, Fla. William H. Merriam, Architect 234

Northeast Junior High School, Minneapolis, Minn. Thorshov & Cerny, Architects 238

Bogalusa High School, Bogalusa, La. Burk, Lebreton & Lamantia, Architects 242

ACCENT: ENGINEERING

Industrial Floor Slabs: Design and Construction by Jack L. Staunton 245

TECHNICAL ROUNDUP 250

PRODUCT REPORTS 253

OFFICE LITERATURE 254

TIME-SAVER STANDARDS: *Industrial Floor Slabs—1, 2 & 3* 257

INDEX TO ADVERTISING 418

Cover:
Above: Plan of the Beth Sholom Synagogue by Frank Lloyd Wright. Below: Photograph of Puyallup Junior High School, Puyallup, Wash. Robert Billsbrough Price, Architect. Dearborn-Massar photo

ARCHITECTURAL RECORD
May 1958 Vol. 123 No. 5

Copyright 1958
by F. W. Dodge Corporation,
with all rights reserved.

ARCHITECTURAL RECORD
(combined with
AMERICAN ARCHITECT and
ARCHITECTURE)
is published monthly,
except May 1958
when semi-monthly,
by F. W. Dodge Corporation,
10 Ferry Street,
Concord, New Hampshire.
Editorial and executive offices:
119 West 40th Street
New York 18, New York.
Western editorial office,
2877 Shasta Road,
Berkeley 8, California.

Coming in the Record

BUILDING TYPES STUDY: RELIGIOUS BUILDINGS

Next month the study topic is religious buildings, a type which continues strong in Dodge reports of activity all over the country. A strong group of churches is in preparation, generally showing an effort to find new expressions of inspirational themes.

WATER AND ARCHITECTURE

Through the ages water has been an important architectural element, even if in recent times architects have tended to neglect its possibilities. But as they are becoming more and more conscious of their buildings as part of a larger entity, we are beginning again to see pools and fountains. A famous author has done a major feature on water and architecture in past eras and in contemporary designs.

NEW OFFICE BUILDING IN CLEVELAND

One new building that will be visited by A.I.A. members convening in Cleveland is Carson and Lundin's Cleveland Illuminating Building, one of very few modern things to be available. A full story is coming, with special coverage of high-intensity lighting.

OTHER F. W. DODGE SERVICES: Dodge Reports—Dodge Construction Statistics—Sweet's Catalog Services—Dodge Books—Dodge Mailing Service—The Modern Hospital—The Nation's Schools—College and University Business—Hospital Purchasing File—Chicago Construction News—Daily Pacific Builder—Denver Daily Journal—Real Estate Record & Builders Guide.

Members of Audit Bureau of Circulations and Associated Business Publications. ARCHITECTURAL RECORD is indexed in Art Index, Industrial Arts Index and Engineering Index.

Every effort will be made to return material submitted for possible publication (if accompanied by stamped, addressed envelope), but the editors and the corporation will not be responsible for loss or damage.

Subscription prices: Published monthly except May 1958 when semimonthly. U. S., U. S. Possessions and Canada: $5.50 per year; other Western Hemisphere countries, Spain, to those who by title are architects and engineers, $9.00 per year. Single copy price except Mid-May 1958 issue $2.00; Mid-May 1958 issue $2.95. Beyond Western Hemisphere, excluding Spain, to those who by title are architects and engineers, $9.00 per year for 12 monthly issues not including Mid-May 1958 issue. Subscriptions from all other outside U. S., U. S. Possessions and Canada for 12 monthly issues, not including Mid-May issue, $24.00 per year. Change of address: subscribers are requested to furnish both the old and new address, sending if possible stencil impression from magazine wrapper; allow four weeks for change.

Staff of Architectural Record

MANAGING EDITOR
Emerson Goble

CONSULTING EDITOR
John E. Burchard

SENIOR EDITORS
James S. Hornbeck, A.I.A., *Features*
Elisabeth Kendall Thompson, A.I.A., *West*

ASSOCIATE EDITORS
Robert E. Fischer, *Engineering*
Florence A. van Wyck, *Production*
Jeanne M. Davern, *Assistant to Managing Editor*
Herbert L. Smith, Jr., A.I.A., *Houses*
Mildred F. Schmertz, *Design*
John T. Weeks

CONTRIBUTING EDITORS
Ernest Mickel, *Washington*
Dan Street, *Washington*
John Caulfield Smith, M.R.A.I.C., *Canada*

ASSISTANT EDITORS
Margaret R. Fuerst, *Engineering*
Dianne Thomas

EDITORIAL ASSISTANTS
Helen E. Cook, *Production*
Pamela C. Forcey

DESIGN
Eugene H. Hawley, *Director*
Burt Kramer
Mary Ann Godfrey

CONSULTANTS
Thomas S. Holden, *Industry Relations*
George Cline Smith, *Economics*
Clyde Shute, *Statistical*
Clifford Dunnells, Jr., *Field Research*
Daniel J. Howe, Jr., *Public Relations*
Sigman-Ward, *Drafting*

PUBLISHING DIRECTOR
H. Judd Payne

GENERAL MANAGER
Robert F. Marshall

CIRCULATION MANAGER
Marshall T. Ginn

Officers of F. W. Dodge Corporation

CHAIRMAN OF THE BOARD
James McV. Breed

VICE CHAIRMAN OF THE BOARD
Paul Abbott, Thomas S. Holden

PRESIDENT
Howard Barringer

EXECUTIVE VICE PRESIDENTS
Irving W. Hadsell, Chauncey L. Williams

VICE PRESIDENT AND TREASURER
Howard M. Thompson

VICE PRESIDENTS
Julius T. Little, Robert F. Marshall, T. Oliver Morgan, O. O. Paulsell, H. Judd Payne, George Cline Smith

REGIONAL VICE PRESIDENTS
Carl S. Bennett, Clinton C. Bennett, Ralph M. Hairston, Roy J. Hard, Arthur D. Prior, Richard H. Ray, William H. Hatch

ASSISTANT VICE PRESIDENT AND COMPTROLLER
Edwin H. Freed

ASSISTANT VICE PRESIDENTS
Walter F. DeSaix, Clifford G. Dunnels, Jr., Gault Eastman, Clyde Shute, Marc Wayne

SECRETARY
Sanford D. Stockton, Jr.

ASSISTANT SECRETARIES
William C. Breed, Jr., George W. Morgan

ASSISTANT TREASURER
Irving B. Satin

Weldwood walnut paneling—adds distinctive spirit to this office in Investors' Planning Corp., New York. Architects: Joseph & Vladeck

A wood-paneled office speaks worlds about its owner—and its designer

Especially in business, first impressions *do* count. And for a wonderful first impression that will last, nothing does so much for an office as luxurious real wood paneling—guaranteed for life by Weldwood.

Here are three ways Weldwood helps you give offices the warmth and beauty of wood paneling—warmth and beauty that grow through the years, with only an occasional waxing.
Weldwood Paneling—over 70 types and finishes of choice woods in big panels that make installation quick and easy.
Weldwood Flexwood®—real wood veneers, cloth-backed, that can be hung on any smooth surface—curved or straight.
Weldwood Movable Partitions—give the advantages of wood paneling, yet permit you to change office layouts overnight.

FREE WELDWOOD BOOKLET with more than 100 photographs . . . "Functional Beauty for Business and Institutional Interiors." Write for your copy. We will be glad to have a Weldwood Architects' Service Representative consult with you—no obligation. United States Plywood Corporation, Dept. AR 5-58, 55 W. 44th St., New York 36, N. Y.

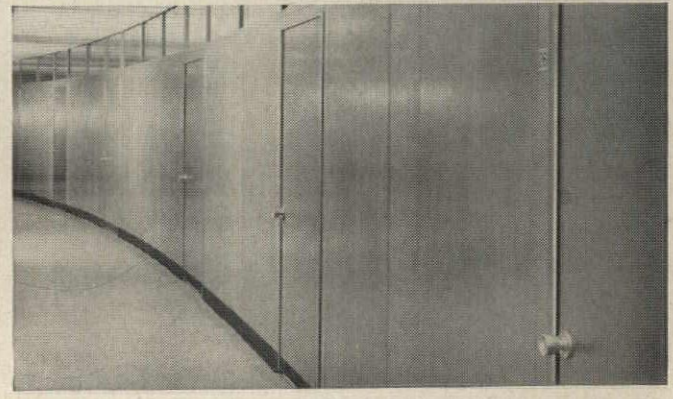
Weldwood®

PANELING • FLEXWOOD • PARTITIONS

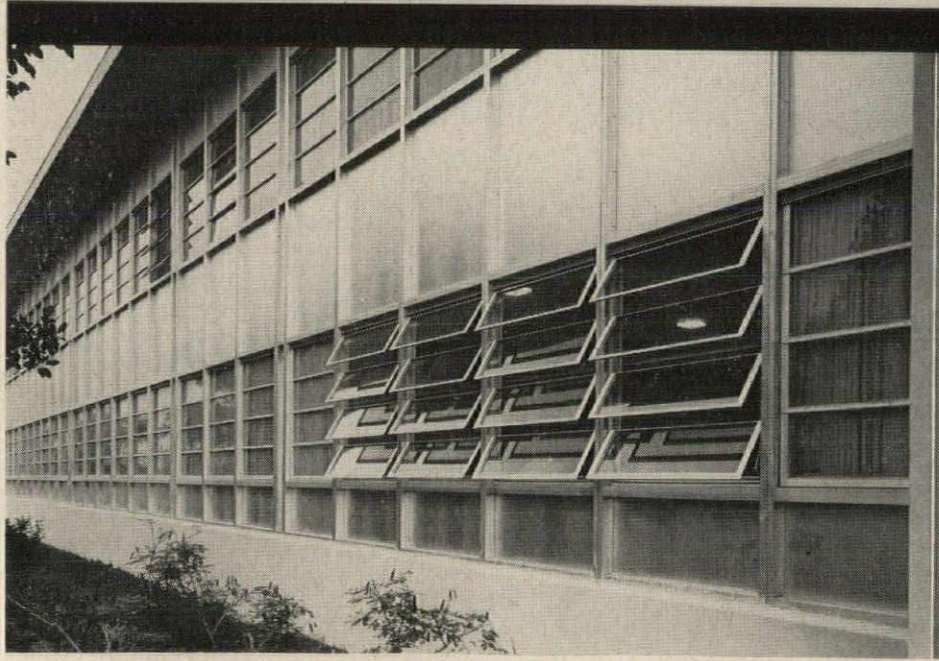
Offices in 111 principal cities in the United States and Canada

Weldwood Nakora® paneling (Oriental ash) lends a friendly atmosphere to interiors of new Howard Johnson motor lodge at the Breezewood Interchange of the Pennsylvania Turnpike. Architect: Carl Koch & Associates.

Weldwood birch movable partitions, installed with ½-inch clearance below luminous ceiling, follow the curve of this corridor in the new home office of Medusa Portland Cement Company, Cleveland, Ohio. Arch.: Ernest Payer.



Winter snows...



...or tropic heat?

WEATHERTIGHT

Curtain · walls by WARE

ARE CUSTOM-DESIGNED TO MEET YOUR SPECIAL NEEDS

Weathertightness, simplified installation, and flexibility of application are key features of Ware curtain walls. Our experienced engineering department is ready to help you meet the most challenging requirements. Why not write for our New curtain wall Brochure, today? Address Dept. AR-5.

MEMBER

Aluminum **WARE** *Windows*

Ware Laboratories, Inc., 3700 N.W. 25th St., Miami, Florida

American Dream at Brussels

Let it be said immediately that the U.S. Pavilion is the handsomest building at the Fair. By day and by night it is enchanted architecture in a 500-acre world of structural pyrotechnics; it loves its neighbors enough to give nearly one half its 11½-acre site to a great plaza which, in the first week of the Fair, had already become, with its pool and fountains and apple orchard, a favorite rendezvous and promenade. Americans can credit architect Edward D. Stone, the American Institute of Architects committee which selected him, and the U.S. State Department with an architectural and diplomatic triumph. And in its exhibits (though they appear to have been designed for some other building), the U.S. has resisted the temptation to tell the world again what all the world knows: that it is the richest nation on earth with the most advanced standard of living on earth. It leaves to the Russians and their satellites the exhibits of Sputniks and motorcars, power plants and refrigerators, and shows instead—in the words of the title of one of the exhibits—"the face of America": in terms of everything from voting machines and campaign buttons to a section of a giant redwood from California and wheat from Kansas, to a "streetscape" of store windows and a soda fountain that could be Anyplace, U.S.A., to room settings and color television and fashion and Steinberg drawings. *And* architecture. (More on all of this next month.) Aside from the pavilion itself, the smash hit of the U.S. exhibit seems sure to be "Circarama," the new Disney movie which, on a 360-deg screen in a small circular theater adjacent to the main pavilion, surrounds the spectator with panoramic views in sound and color of *many* faces of America. The 19-minute film, which has the effect of putting the viewer in the center of the scenes shown, was produced for Brussels with the aid of a $250,000 contribution from the Ford Motor Company. Like the U.S. pavilion itself, it constitutes a stunningly effective salute to America the Beautiful.

How Modern Is "Modern?"

Not very, asserts an editorial in a recent issue of the British weekly *The Architects' Journal*. " 'Modern' architecture is now the accepted style, but the real meaning of functional architecture is beyond anything so ephemeral, inconsequential and transitory as a 'style.' The real spirit behind the modern movement has hardly begun to be understood." Nor will be, the *Journal* suggests, until architectural curricula are revised to include training in the science of management. "The schools today," as the *Journal* puts it, "largely teach by lectures and by setting 'design subjects.' The more senior the student the larger the building to be designed. He designs in a term what, in reality, it would be a rush to design in a year and thus enters practice with too superficial an idea of his responsibilities. But the architect's job today is not normally one of expressing his probably rather ordinary soul at the client's expense. The vast bulk of the work consists of making full use of science technical skills, labor, mechanization and materials to produce the best possible environment in which *all* his fellow men can live and work. The best use of resources can be achieved only when architects have the fullest possible control over them. The means of obtaining control can only properly be learnt through a sound scientific training at schools of architecture in the fundamentals of research, the design process, and of management and its corollaries, cost control and programming. The teaching of these has hardly begun anywhere, but the development of functional architecture will not progress at any speed until these subjects are commonplace at all architectural schools and therefore commonplace in practice."

"Surrealism" for Preservation

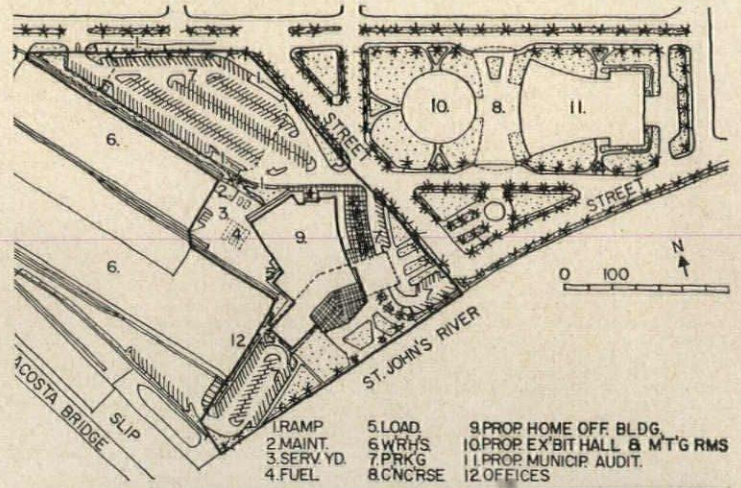
Extreme change of use or extreme unexpectedness in the relationship between a monument and its surroundings may sometimes be the most effective way of handling a problem of fitting old and new together, Jan Nairn argued at a recent international congress in Milan on "present use of monuments and ancient settings." This approach of putting the familiar in an unfamiliar setting Mr. Nairn calls "urban surrealism" and he says "the more violent the change, if it is rightly used, the more real and vivid the monument will become." Mr. Nairn acknowledges "respect and careful integration into the pattern" as "undoubtedly the most important means of treating the past," and suggests only that in special circumstances other possibilities ought to be considered. "In particular, if an urban planner or architect is faced with making a big alteration to the surroundings of a monument he must first clearly assess what the total effect of the change will be. If it can still be expressed in terms of the existing pattern then it is his duty to do so; but if it is clear that something quite new is going to happen he must not try to equivocate or compromise, but must acknowledge the fact and create something entirely different with the aid of this surrealist technique. Whatever happens, he must be fearless and not afraid of radical changes. Monuments are like wild animals: they thrive on being treated firmly if beneath the firmness is a basic sympathy, but they can be killed with kindness as well as with outright brutality."

Frontiers

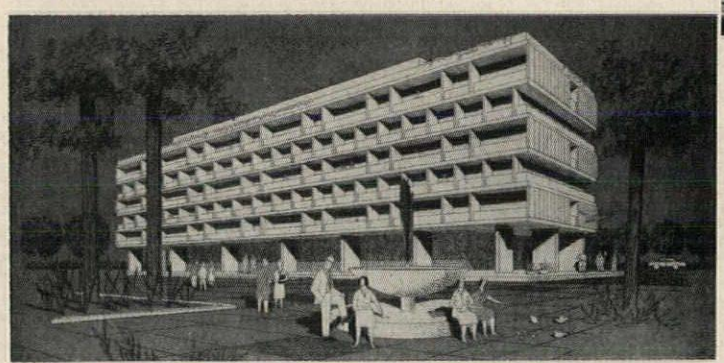
The president of the National Association of Real Estate Boards, H. Walter Graves of Philadelphia, cites five current "frontiers of opportunity": the impending (within perhaps ten years) development of the Southwest deserts through the piping of distilled sea water; the growth of industrial parks; the national highway program; the vast upsurge of urban rehabilitation; and the application of new ideas to the development of "the perfect shopping center."

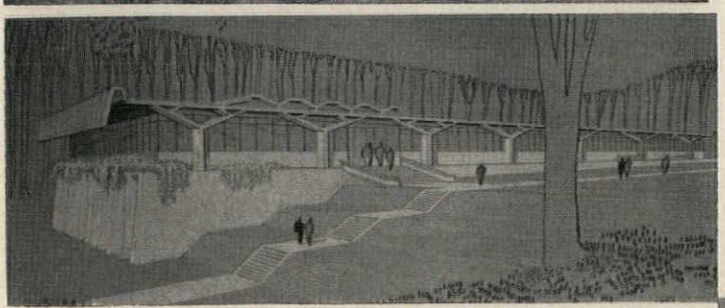
Buildings in the News

The V-shaped tower planned for the headquarters of the Atlantic Coast Line Railroad's new headquarters in Jackson, Fla., is a solution imposed by a site limited by existing warehouses; the angling permitted the architects to fit onto the lot a building containing some 475,000 sq ft of space. The V offered two other advantages, too, say the architects: with the point of the V facing north, the problem of sun control on the outer walls was simplified; and the "panoramic" view of St. Johns River and of the city was extended. The railroad will occupy ten floors of the building; the 16th and 17th floors, set back, will house machinery, and the remainder of the building will be available for rental. Exterior construction of the building will be of precast concrete panels, finished in blue and green glass mosiac; the ends of the building will be buff limestone. Scheduled for 1960 occupancy, the building represents part of the building up of Jackson's blighted waterfront: across the river is the Prudential building, and sharing Atlantic Coast's site will be the projected City Auditorium. Architects for the new headquarters are Kemp, Bunch & Jackson

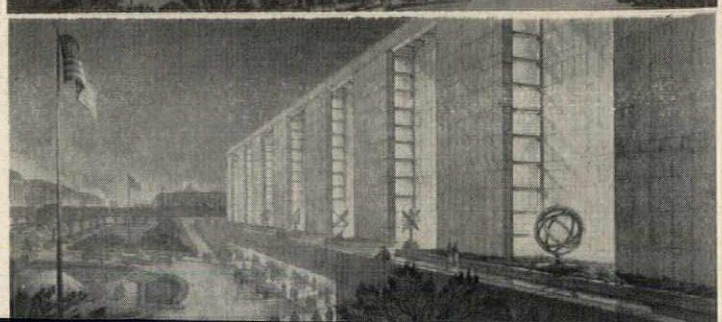


The six-story woman's hospital being built at Baton Rouge will be a load-bearing structure of precast concrete panels. To cost $2.5 million, the building will house 150 beds, 60 per cent of them in single rooms, the rest in doubles; there will be no wards. The ground floor will contain receiving and office facilities, the top floor operating rooms and laboratories; the intervening floors will be devoted strictly to patients' rooms. Each room will have its own balcony, provided partly for sun control, partly for the use of convalescing patients. The designers are A. Hays Town, Architect and Hanford Yang, associate

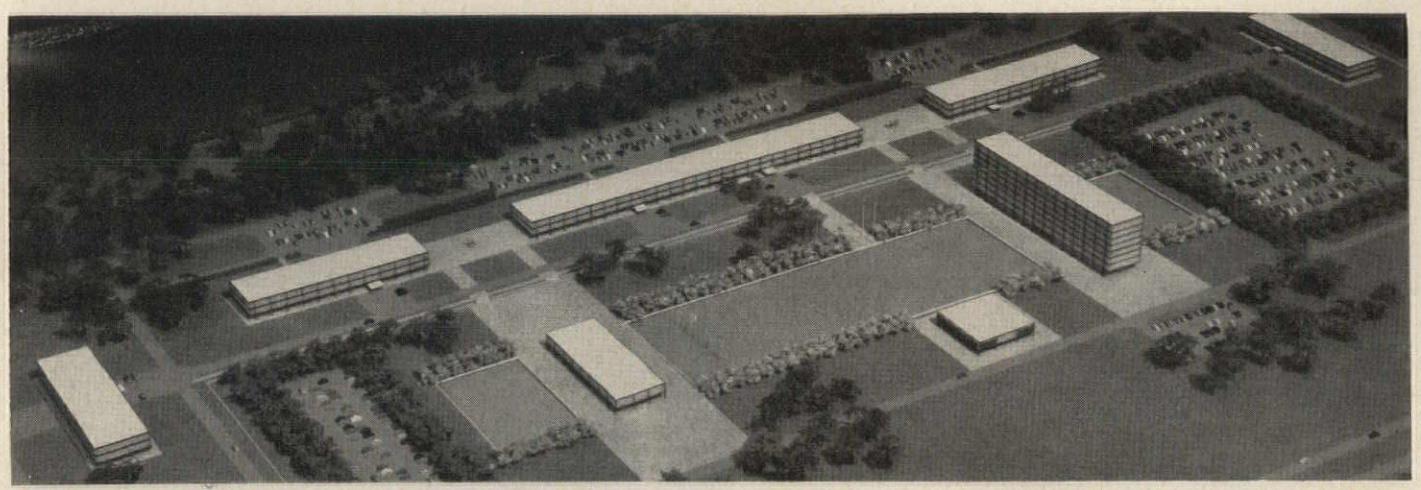


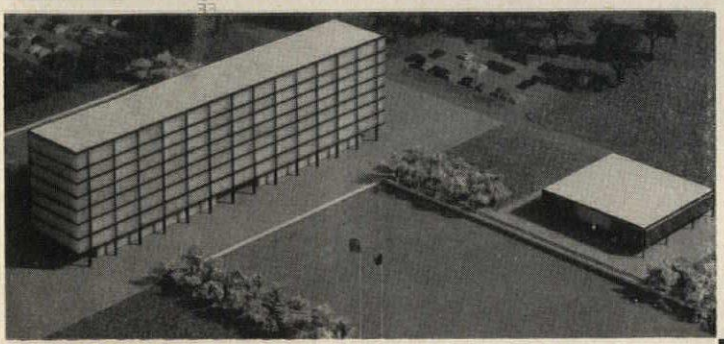


Now under construction, the William B. Greely Memorial Laboratory is the first building to be erected by Yale University's School of Forestry in 25 years; the architect is Paul Rudolph, head of Yale's Department of Architecture. The building will contain labs for research in wood technology, forest ecology and genetics, tree physiology; the greenhouse adjacent will be used for studies in forest biology. Occupancy is scheduled for next September; construction will cost an estimated $575,000

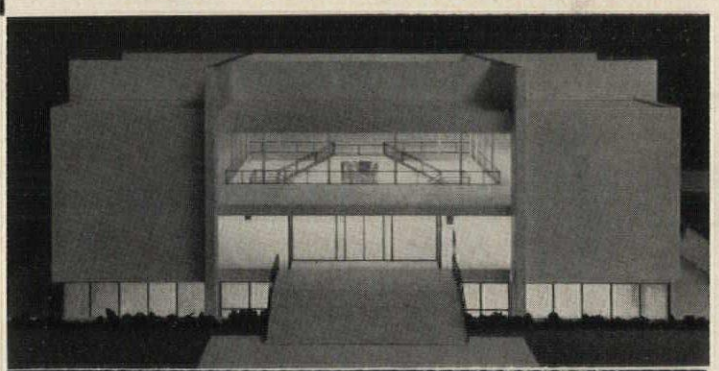


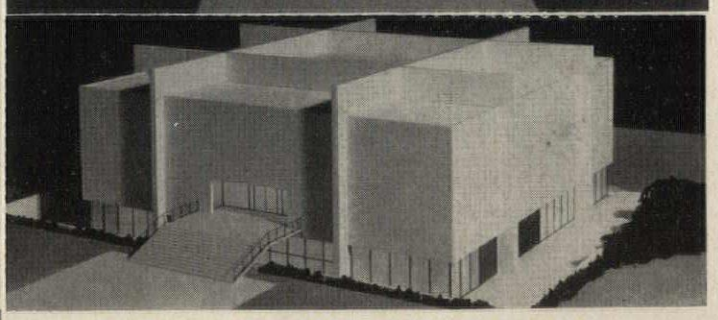
Plans for the Smithsonian Institution's projected Museum of History and Technology, to be built on Constitution Avenue between 12th and 14th Streets in Washington, have been approved by the National Capital Planning Commission and The Commission of Fine Arts, and funds have been appropriated for it by Congress. The new building will house the Institution's extensive collection of science and engineering exhibitions and of American civil and military memorabilia. McKim, Mead & White are the architects



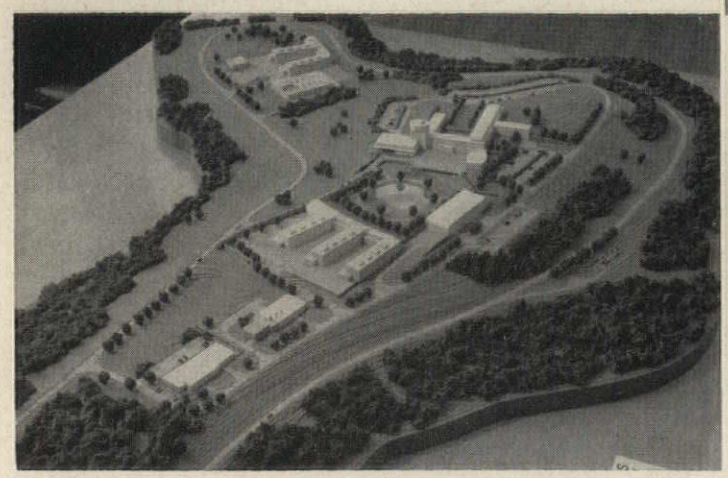


Mead Johnson Park, an industrial development planned by a manufacturer of nutritional and pharmaceutical products, will be built, over a five to 15 year period, on a master plan evolved by architects Skidmore, Owings & Merrill. The 650-acre site near Evansville, Ind., is divided by a major state highway; plans call for eight research and administration buildings on one side of the road, shopping and warehousing facilities on the other. In the initial phase, the buildings to be constructed include the seven-story headquarters, two laboratories, a cafeteria and reception building (at opposite end of reflecting pool from headquarters) and a building for employe training and development (next to office building on pool). Structure will be glass with metal frame



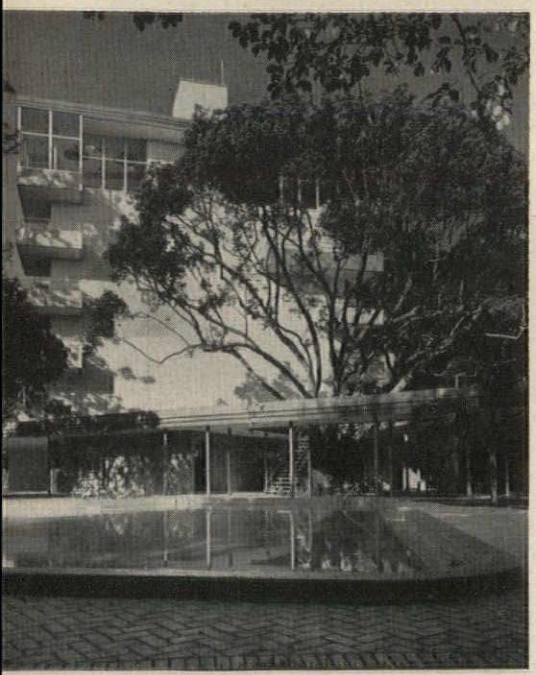


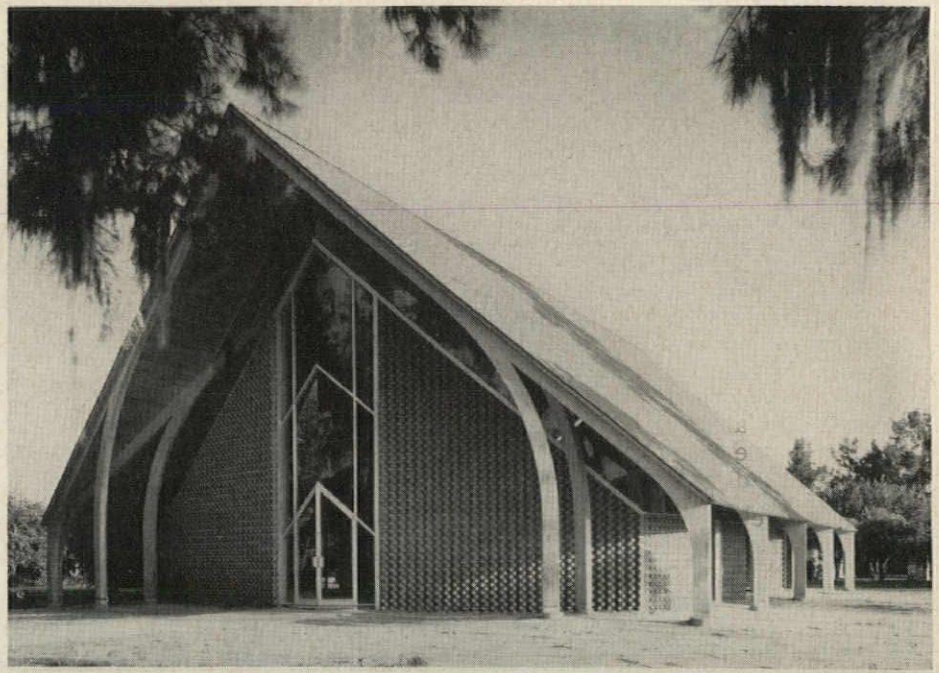
Philip Johnson's design for a new museum for the Munson-Williams-Proctor Institute in Utica, N. Y., involves a corridorless interior effected by the cantilevering of the floors from eight concrete piers; the walls will be supported by these piers, and the ceiling hung from four cross-beams. The three-story building will house not only the institute's art collection, but a large music program sponsored by it; for this, the main floor is equipped with movable walls to enlarge space for anything up to a full-scale symphony performance. Construction, scheduled to get under way in April of this year, will cost an estimated $2 million

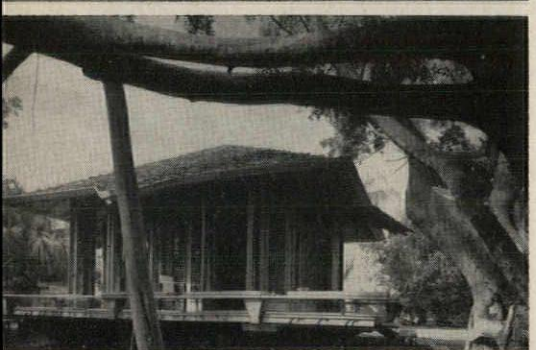


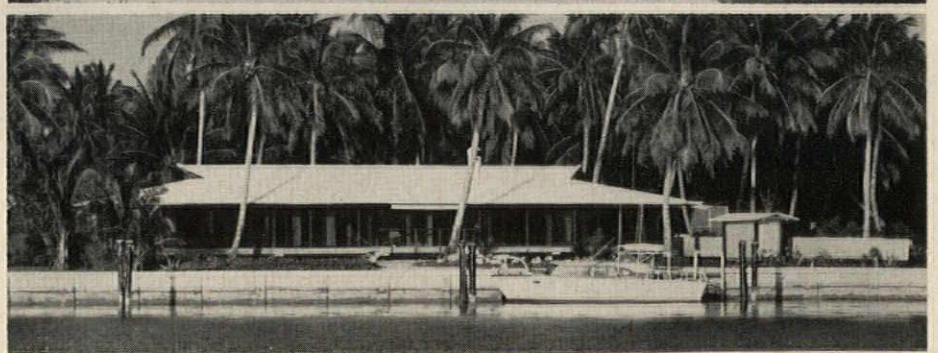
Bethlehem Steel Company has announced its plans for a campus-type research center to be built on a 1000-acre site, situated on a mountain, which offers a 50-mile view of Bethlehem and the Delaware Valley. With clearing and grading currently under way, construction is scheduled to begin the middle of this year, the first frames to be completed late this year or early in 1959. The structure will, not unnaturally, be steel frame; steel will be used also for movable partitions, but exterior facing will be granite veneer. Architects are Voorhees Walker Smith and Smith

FLORIDA ARCHITECTS BESTOW ONE HONOR AWARD, SEVEN MERITS









At its convention last November, the Florida Association of Architects singled out Victor Lundy's Bee Ridge Church in Sarasota (top, right) for a first honor award. Awards of merit went to (left, top to bottom) the Langford Hotel—William B. Harvard Jr., architect; Assembly Building, Lake Wales Lutheran Church—Gene Leedy; house for the architect's mother—Alfred B. Parker; merchant house, Craney Homes, Bartow—Gene Leedy; (right, top to bottom) Teachers Credit Union, Tampa—Robert Wielage; Miller House, Miami Beach—Nims & Browne; McClave House, Key Biscayne—Robert B. Browne. Jury members: Wiley J. Tillman Jr. of the University of Florida, R. Buckminster Fuller, and the late John Knox Shear, editor of ARCHITECTURAL RECORD

An Actual Case History

"Where did the water come from?" asked the harassed owner. All winter water had been actually dripping from the rafters and roof-boards in the insulated attic of the new wing of her fine New England home. Things stored in the attic, even inside trunks, became wet and mildewed. Windows downstairs were often wet.

The wetness had persisted even during long spells of dry weather, which ruled out a leaky roof and rain as a cause.

We hunted for vapor. The floor in the crawl space underneath the wing seemed dry. The bulky insulating material, with an asphalt-impregnated paper facing the ground, which had been installed between the floor joists in the crawl space, also seemed dry. There were no leaky pipes.

The two occupants were professional people, away most of the day. Use of the laundry, kitchen, etc. was minimal. All combustion, vapor-forming appliances were properly vented.

"What should we do?" the owner asked.

THE SOLUTION

It was proposed that scientific multiple aluminum insulation (which is long and continuous and has almost zero vapor permeability,) be installed beneath the floor joists along the entire crawl space, and that ventilation be provided to the crawl space.

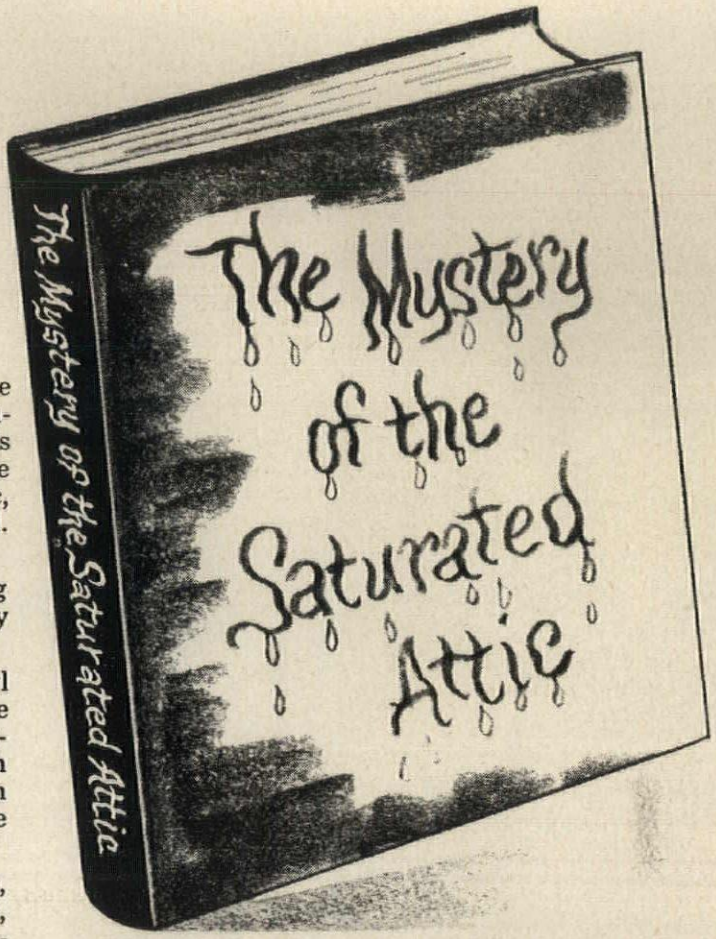
The results were magical. In a short time the *attic was dry, the downstairs windows clear.*

"WHO DUNNIT"

This indicated that the source of the trouble had been a flow of water *vapor*, (which is a gas) from the seemingly dry ground, through the asphalt paper and other materials between the joists to the room above, where some of it condensed on the cold window panes. Also a flow thru wall stud spaces, past the ceiling, and finally into the cold attic where it also condensed.

The ground under some buildings gives off as much as 96 lbs. of vapor a day per 1,000 sq. ft. It is invisible and harmless, until it condenses.

Two excellent publications are almost indispensable for those interested in problems of condensation and heat and vapor flow. One is an official study of the control of condensation in crawl spaces, with special reference to the effect of aluminum insulation, based on National Bureau of Standards tests. It is the National Housing Agency's "Technical Bulletin No 38." The other is "Heat Flow by Radiation in Buildings, Simplified Physics," by Alexander Schwartz. He discusses theoretical, practical, and commercial phases of the subject in highly readable style, in a profusely illustrated pamphlet. *Both* may be obtained by checking the coupon.



THERMAL VALUES*, INFRA RECTANGULAR INSULATIONS
Non-metallic Insulation Equivalents†

	UP-HEAT	DOWN-HEAT	Cost, Installed‡
TYPE 3	C .143=2⅓"	C .049=**6¾"**	6¢ sq. ft.
TYPE 4	C .105=**3⅕"**	C .038=**8⅔"**	8¢ sq. ft.
TYPE 5	C .081=4"	C .034=9½"	9¢ sq. ft.
TYPE 6	C .068=4⅘"	C .034=9¾"	10¢ sq. ft.
TYPE 9	C .043=**7¾"**	C .029=**11¼"**	15¢ sq. ft.

Types 1, 2, 7, 8 also available

*Determined by method of National Bureau of Standards in H.H.F.A. Research Paper 32.
†Calculated on basis of limiting thermal values cited in Fed. Specs. LLL-f-321b; HH-I-585; HH-I-521c; HH-I-551a.
‡Approximate cost, material and labor, new construction between wood joists.

CAN BE PURCHASED THROUGH YOUR PREFERRED LOCAL DEALER

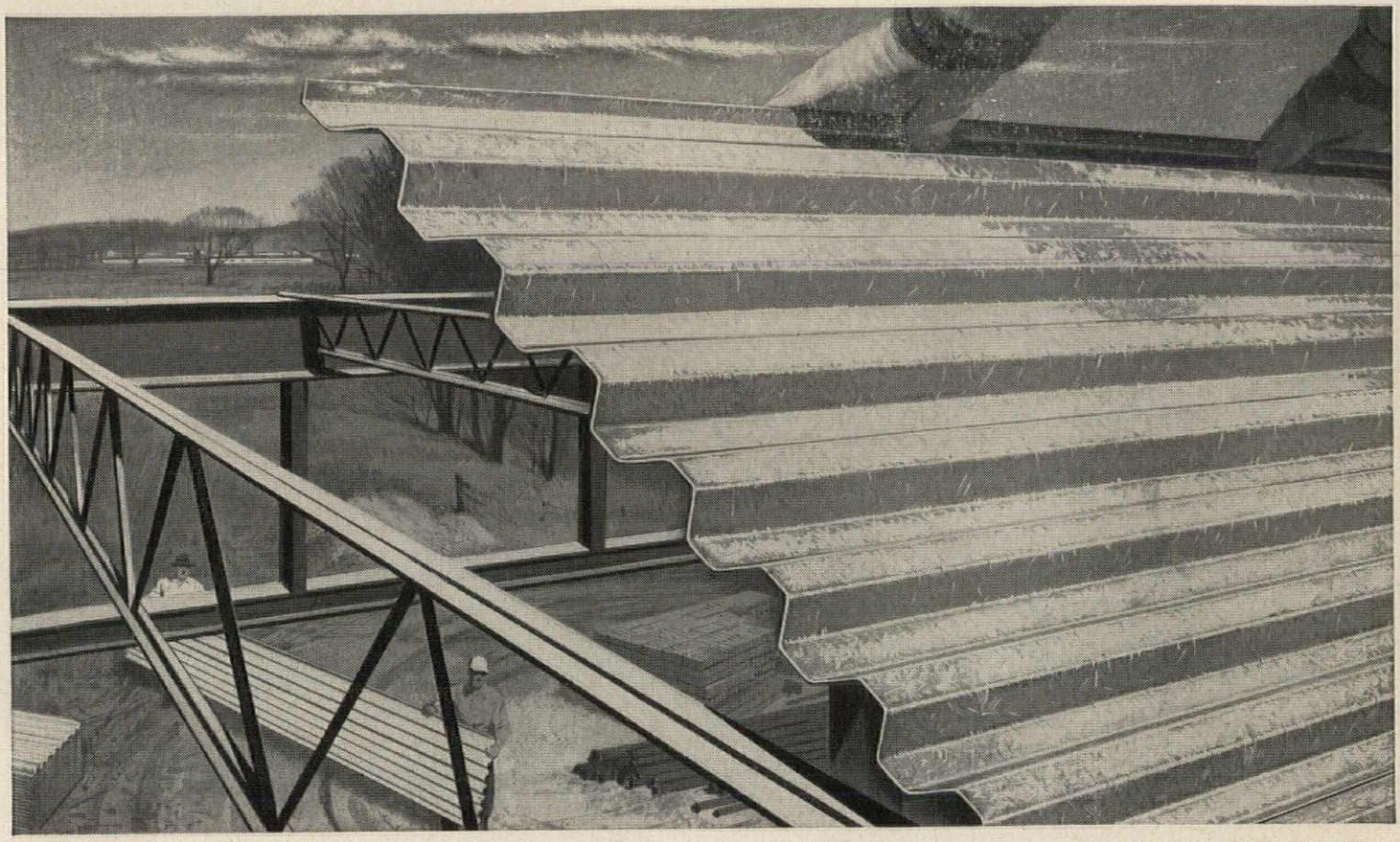
Infra Insulation Inc., 525 Bway., N. Y., N. Y. Dept. R-5
Send ☐ "Technical Bulletin No. 38."
☐ "Heat Flow by Radiation in Buildings."

NAME_____

FIRM_____

KIND OF BUSINESS_____

ADDRESS_____



GRANCO RE-DESIGNS OFFERS NEW ECONOMY

"New-pattern" Tufcor is 25% stronger . . . 50% longer! Completely re-styled tough-temper steel deck for insulating concrete offers greater economy in roof construction.

TUFCOR sheets enable you to space purlins farther apart, help you save on structural framing costs. Longer sheets speed building erection and lower field costs. Tufcor deck with insulating concrete offers a better roof system to designers, builders and owners. Here's why:

GREATER STRENGTH—Fabricated from 80,000-psi steel, new Tufcor supports greater loads, takes construction abuse. Galvanized Tufcor chemically bonds with insulating concrete to form a structural composite deck assembly, has a safety factor of 5 to 10 times live load.

Tufcor roofs are so strong they are approved by the International Conference of Building Officials as diaphragms to resist *earthquake* forces.

LIGHTWEIGHT—Tufcor plus insulating concrete weighs about 7 psf, which is *4 to 6 psf less than many deck systems!* Incorporating the dead load of a Tufcor system in your building design offers savings in cost of framing.

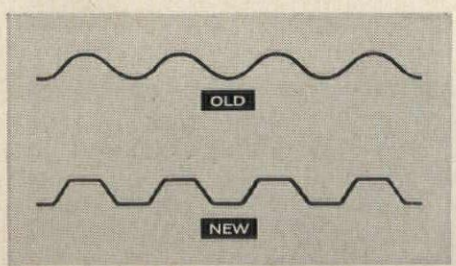
EFFECTIVE INSULATION—Insulating concrete provides excellent resistance to heat. To obtain desired "U" factor, you merely vary the thickness of concrete fill. Slopes for drainage are easily provided. Tufcor's vapor barrier action keeps moisture out of fill, keeps insulation effective.

FIRE-RESISTANT—Exposed deck has UL fire resistance rating. Neither Tufcor nor insulating concrete supports combustion. System saves on insurance rates and on cost of sprinkler system.

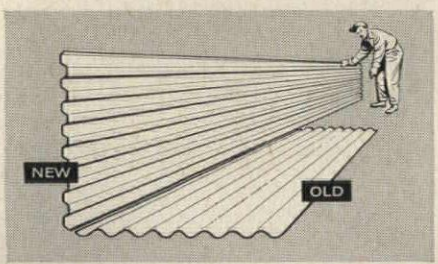
AVAILABLE COAST TO COAST—Investigate Tufcor *now!* For more facts, consult your Granco district office or mail coupon.

TUFCOR® ROOF DECK, IN ROOF CONSTRUCTION!

Our catalogs are filed in Sweets!



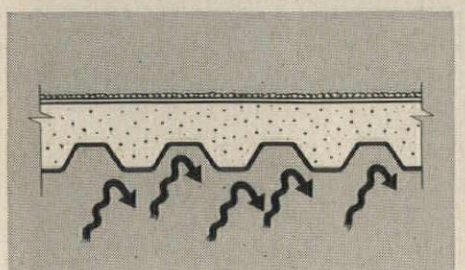
STRONGER CORRUGATION—New angular Tufcor pattern increases sheet strength 25%, and, with longer length, ups effective span range from 7′ to 10′.



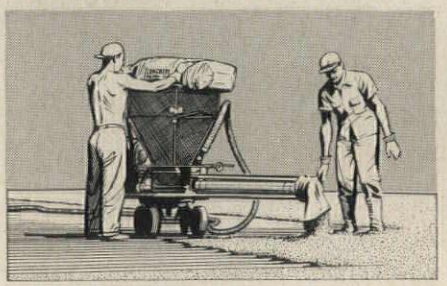
LONGER SHEETS—Now up to 21′6″ long! Sheets cover greater area—up to 56 sq. ft. per sheet. Fewer laps, fewer welds mean faster construction!

GRANCO®

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



POSITIVE VAPOR BARRIER—By preventing penetration of warm, moist air, Tufcor keeps insulating concrete dry and effective, reduces heating costs.



LOWER COSTS—Comparing "U" values, dead load savings, maintenance, and vapor barrier action, Tufcor is the lowest-cost roof system available.

A Subsidiary of
GRANITE CITY STEEL CO.
Granco Distributors in 86 Principal Cities

SINCE GRANITE CITY STEEL 1878

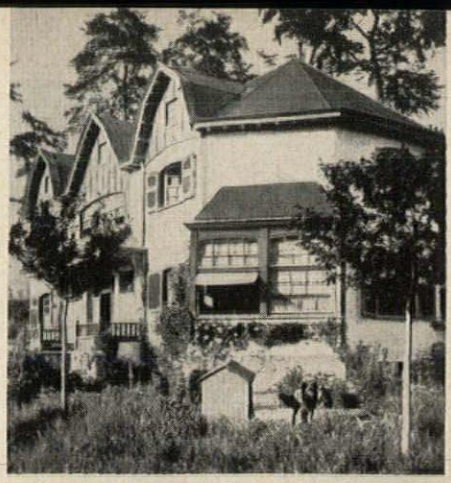
FREE! NEW TUFCOR PRODUCT MANUAL!

Just sign this coupon . . . clip it to your company letterhead . . . and mail to Granco address shown above. Attention: Department R-85.

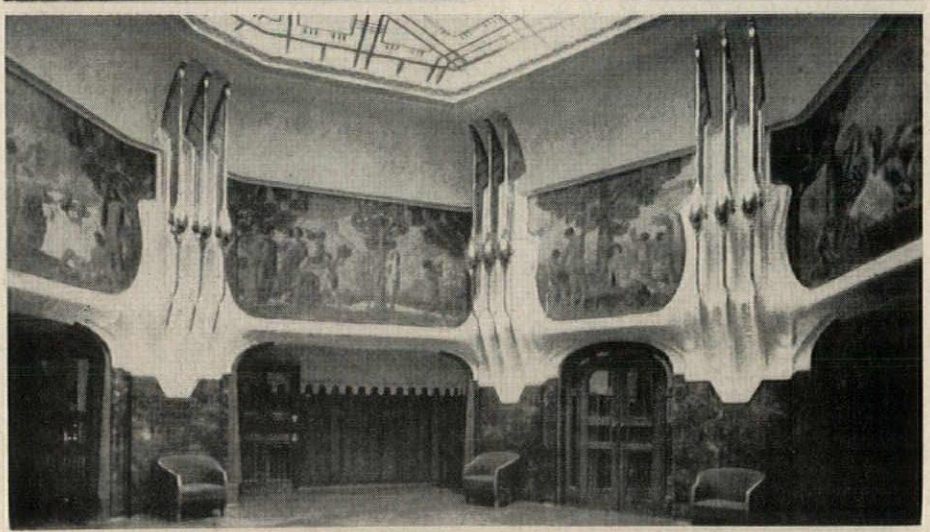
News of Architecture Abroad

VAN DE VELDE: A FOUNDER OF THE MODERN MOVEMENT

Henry van de Velde, a pioneer of modern architecture, died late last year at 94. His most striking contributions to the development of 20th century architecture included his talents as a writer of esthetic polemics, and the *Kunstgewerbeschule,* which he founded, and which later became the Bauhaus under the direction of architect Walter Gropius.

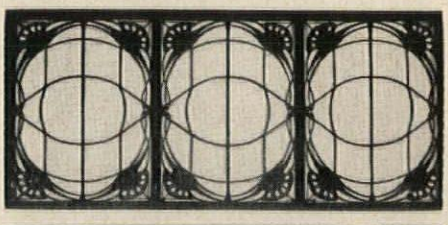


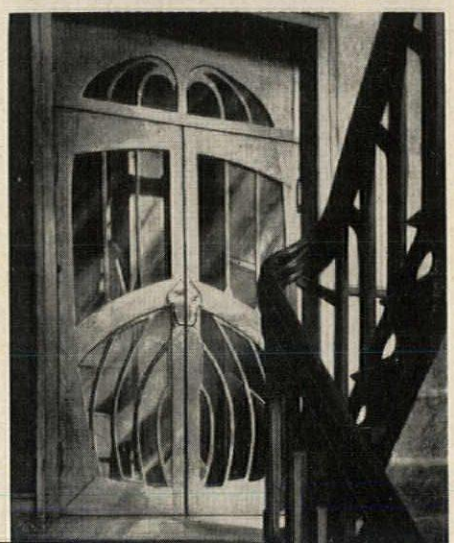
At right: van de Velde's first essay in architecture was his own house at Uccle, Belgium, built in 1895, and notable for the frank use of materials and the "empty" interiors. There is only a hint here of his later use of the curved line



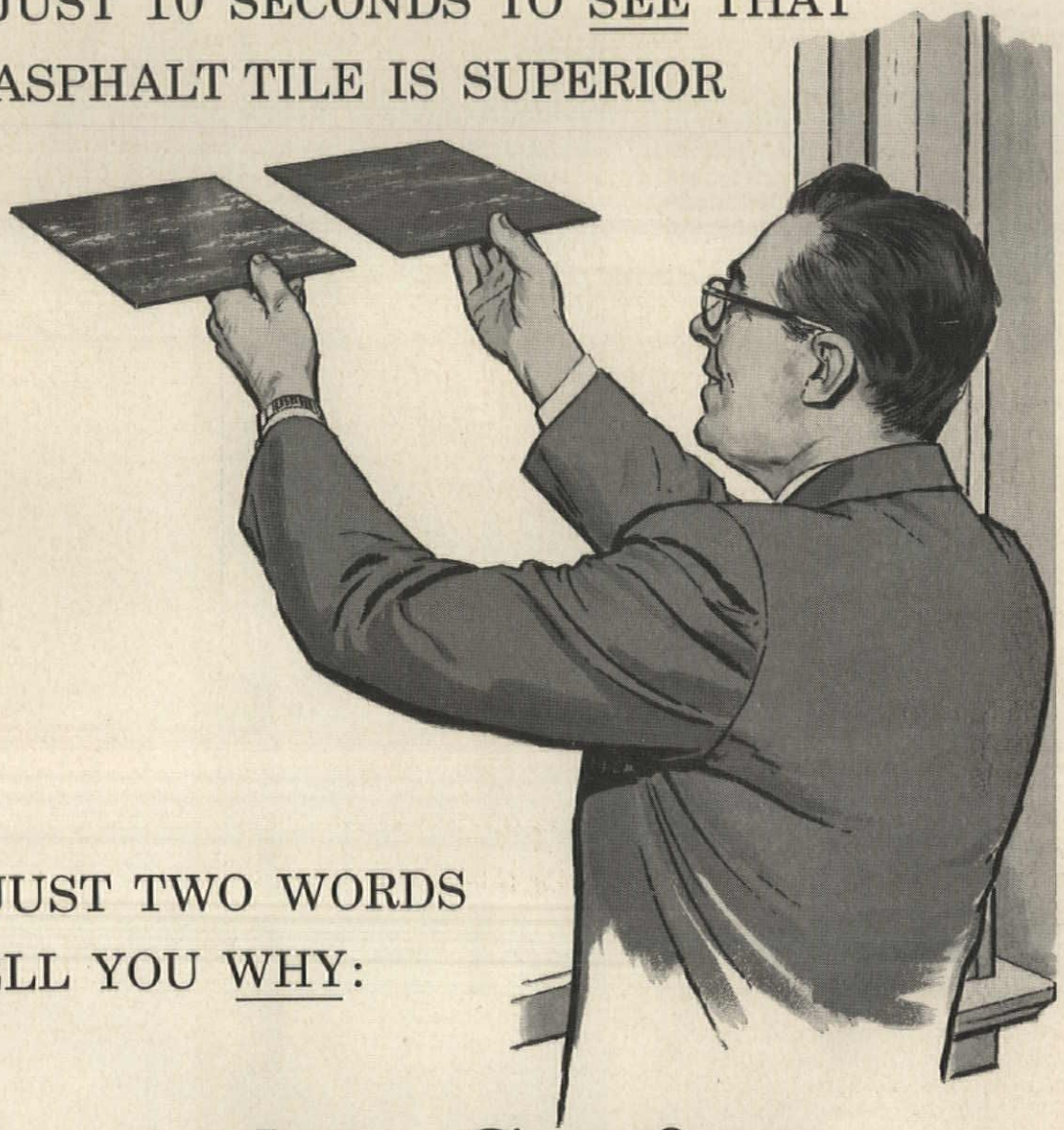
At left, top: van de Velde's design for a lounge in the New Style at the 1897 Dresden Fair set off an artistic chain reaction in Germany. Center: the museum hall at the 1906 Dresden Fair was van de Velde's last great effort in Art Nouveau. Bottom: "La Maison Nouvelle," built in 1927, was later result of van de Velde's seeking to establish an absolute relation of building to material, function and environment

Below: details from the Museum Folkwang, thought by some to be van de Velde's definitive work in Art Nouveau style; at top, a skylight in one of the exhibition rooms; below, stairs and door





IT TAKES JUST 10 SECONDS TO SEE THAT KENTILE® ASPHALT TILE IS SUPERIOR



AND JUST TWO WORDS TO TELL YOU WHY:

Smoother Surface

For a simple but convincing demonstration that all asphalt tile is *not* alike, try this: Hold any new KENTILE Asphalt Tile and *any other* asphalt tile up to strong natural light. Compare the surfaces.

You see at a glance that the KENTILE surface is much smoother. That's why KENTILE Asphalt Tile collects and holds less dirt; is easier to clean; retains its beauty; wins and keeps client satisfaction.

KENTILE does it with a recently installed *special calendering process.* This process is also used in making KENTILE Vinyl Asbestos Tile smoother than any other make. Make a note now to remind yourself of this important difference the next time you specify flooring of asphalt tile or vinyl asbestos tile.

KENTILE FLOORS

AVAILABLE IN ASPHALT TILE • SOLID VINYL • VINYL ASBESTOS • RUBBER AND CORK TILE . . . OVER 175 DECORATOR COLORS!

58 Second Ave., Brooklyn 15, N. Y. • 350 Fifth Ave., New York 1, N. Y. • 3 Penn Center Plaza, Philadelphia 2, Pa. • 1211 NBC Bldg., Cleveland 14, Ohio • 900 Peachtree St., N. E., Atlanta 9, Ga. • 1016 Central St., Kansas City 5, Mo. • 4532 So. Kolin Ave., Chicago 32, Ill. • 2834 Supply Ave., Los Angeles 22, Cal.

Reinforced Concrete Church Stands On Swedish Coast

Sweden's first reinforced concrete church was recently completed near the port city of Oxelösund, about sixty miles southwest of Stockholm. It is the Church of St. Botvid, designed by a Stockholm architect, Rolf Bergh.

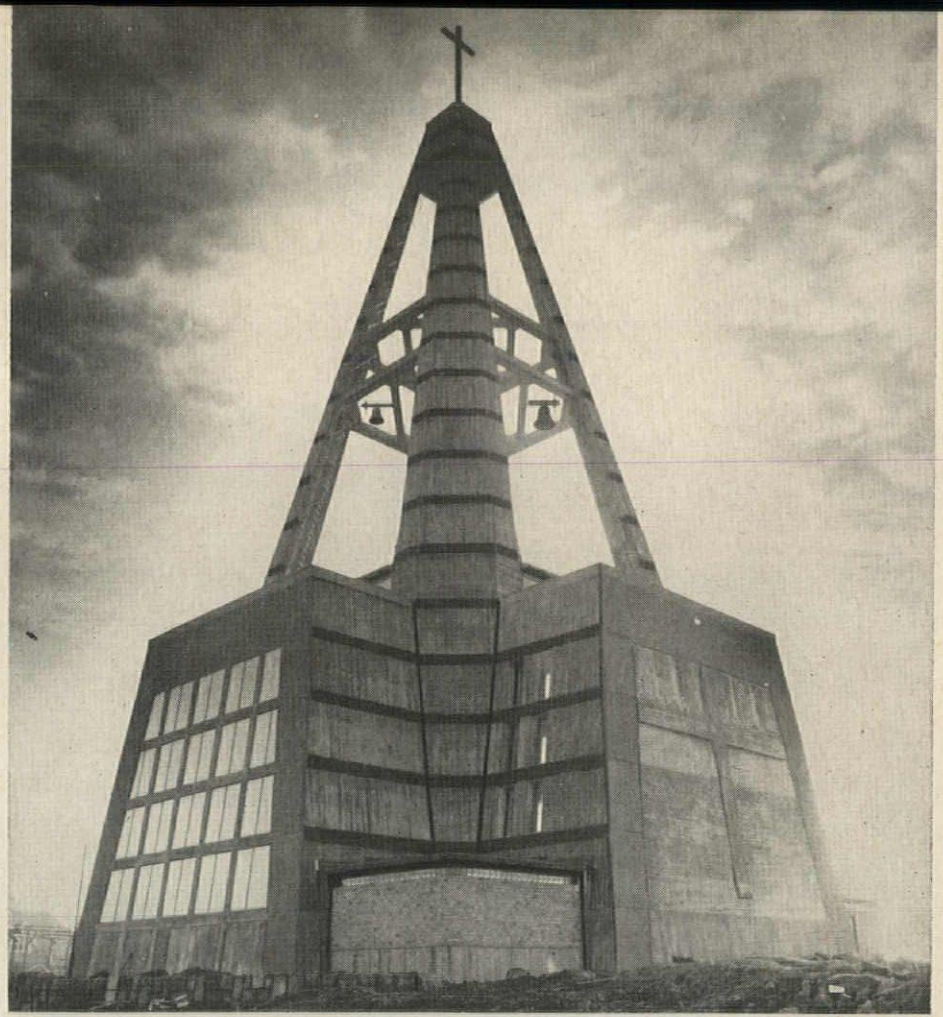
The architect was given a dramatic site: the church is on a rocky promontory jutting out into the Baltic Sea; due east across the water is Estonia. The building can be seen at a distance from both land and sea.

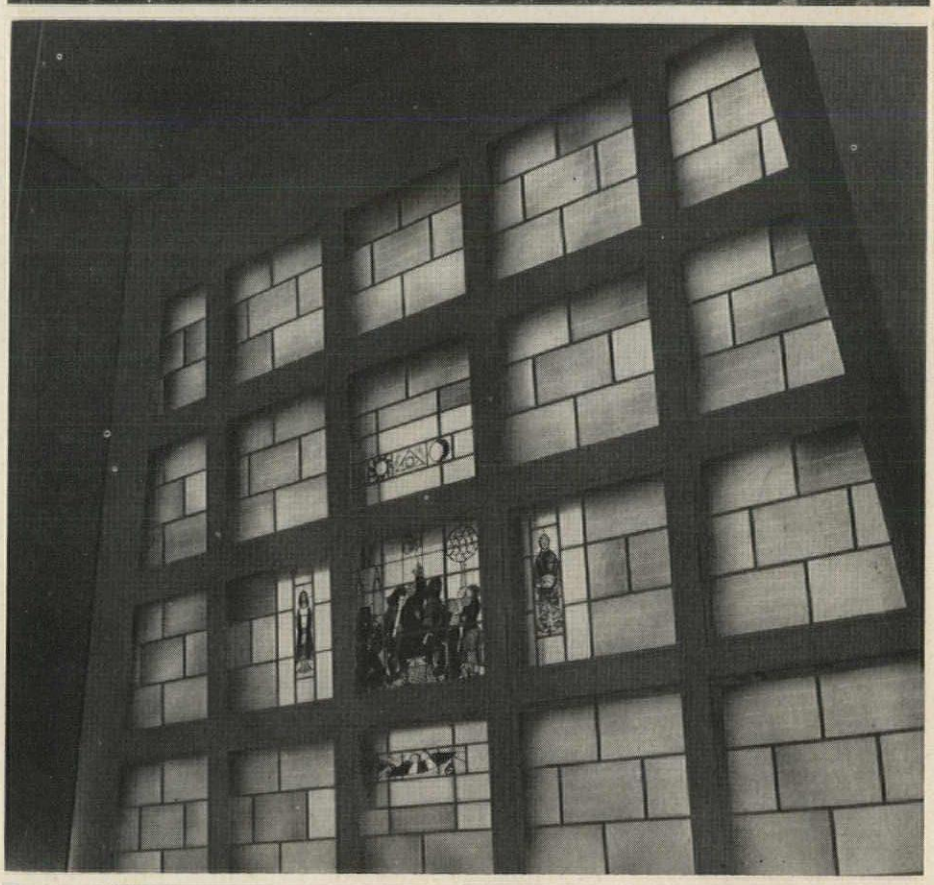
Mr. Bergh explains his design concept in terms of the material. "This construction," he says, "could not have been made possible in any other medium than reinforced concrete. . . . We have tried to extract from the concrete its own inherent qualities and to follow its own laws. . . . The concrete was poured in wooden forms. On the finished, hardened concrete surface, the joints between the planks, as well as the structure of the wood, with its veins and knots, are plainly visible. On the facades and on the tower supports the plank pattern shows vertically. By means of a special treatment of the mold boards before pouring the concrete, it was possible, after the concrete had set, to 'wash away' the very outermost surface, thereby showing the inner structure of the material. The big frames around the nave windows were made in this way. Here we are able to see what the concrete mass actually looks like: the reddish local sand, mixed with the cement.

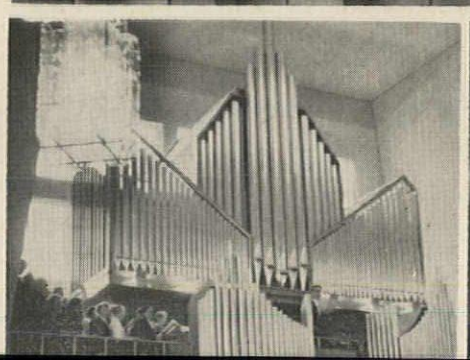
"The bands that divide the church horizontally consist of black gneiss and green marble. . . . Because the outer walls of the church incline inward, it is sensitive to the dampness in the air, and this means that the concrete changes color. On a sunny day, for instance, the concrete has a shining, gray-green quality."

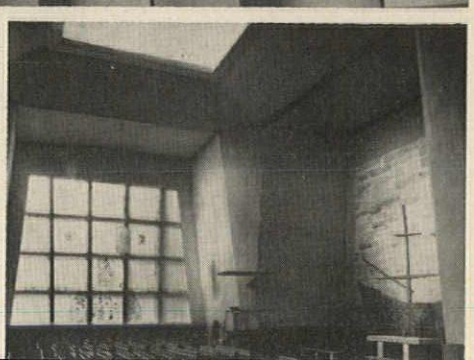
The tower is an independent construction from its rock foundation to its top. The walls and the visible base of the tower were poured of concrete almost 14 in. thick. The naves are 39 ft high, the tower rises 135 ft from the entrance door, and the cross is 24 ft high. The angles of the base walls and tower walls are, respectively, 12:1 and 8:1.

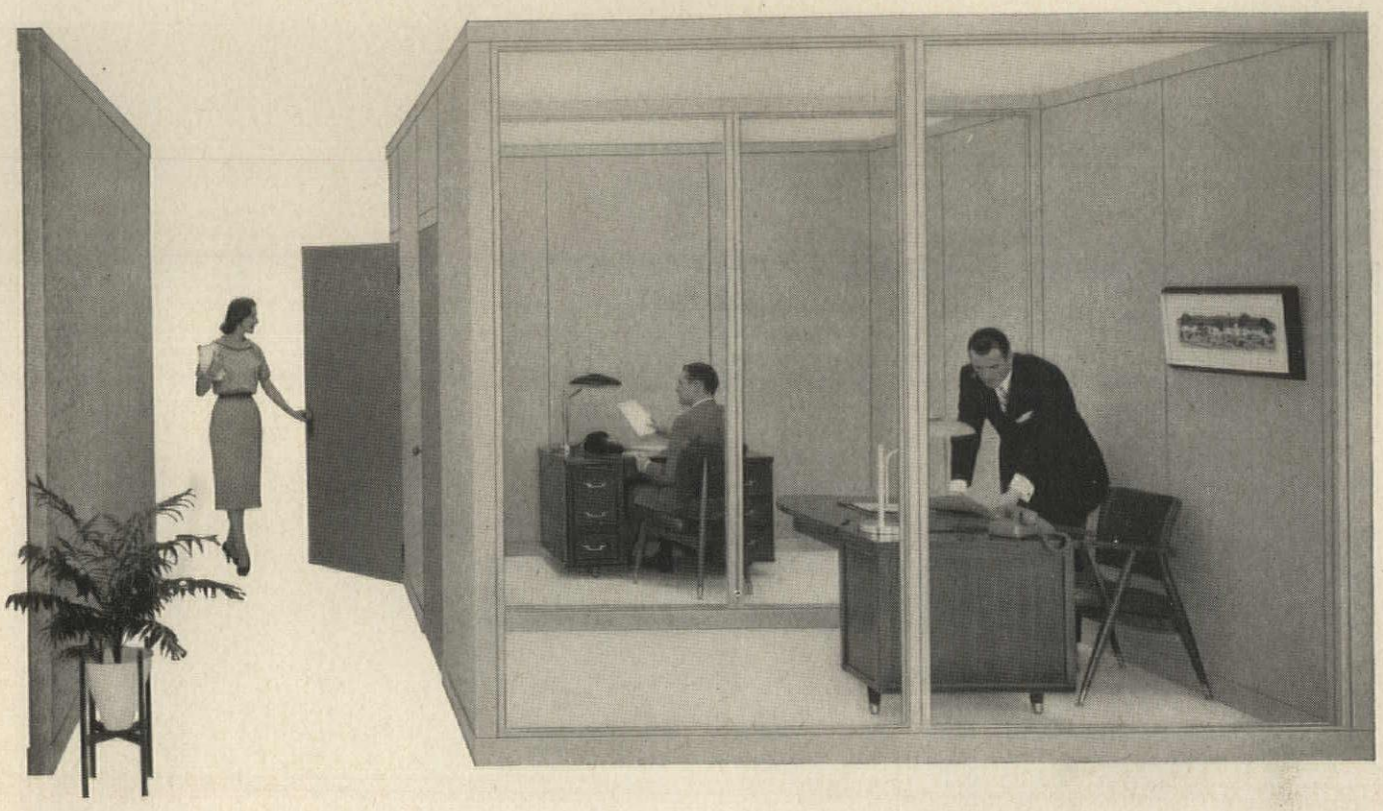
St. Botvid, patron saint of the district, was killed by a heathen slave in the twelfth century.











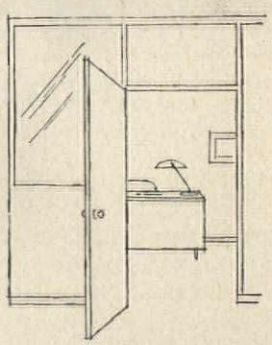
new low cost Hauserman Walls
meet space division requirements handsomely

Low initial cost, streamlined appearance, complete re-usability and easy access to utilities... these are outstanding features of the newest addition to HAUSERMAN'S complete line of movable interior walls.

This entirely new wall system presents a perfectly flush appearance with thin single-line joints between panels. Its beauty is enhanced by trim 3" thickness, proportioned 4" base and slim 2½" posts between glass lites. You have your choice of baked-enamel colors, as well as clear and obscure glass patterns.

Precision engineering and manufacturing insure complete re-usability when new floor plans are desired. Rapid delivery to your job site with fast installation by expert HAUSERMAN erection crews insures early occupancy.

Consult your nearby HAUSERMAN representative for the complete story on this new low-cost wall system. He's listed in the Yellow Pages (under PARTITIONS).



42" CHAIR RAILS with glass above are offered in addition to floor to ceiling wall panels and full-lite glass panels.

A complete line to meet every space division need

MOVABLE HAUSERMAN INTERIOR WALLS

THE E. F. HAUSERMAN COMPANY
7493 Grant Avenue, Cleveland 5, Ohio
Hauserman of Canada Ltd.
91 Yonge Street, Toronto, Ontario

Please send your new partition literature to:

Free Booklet

Name_____

Company_____ Title_____

Street_____

City_____ Zone____ State_____

Architect-Owner says:

"I chose Chase copper tube over any other plumbing for the Nautilus Motor Inn"

New Cape Cod Motel 100% Equipped with Chase® Copper Tube for Water Supply and Drainage Lines

The Nautilus Motor Inn, Woods Hole, Massachusetts is one of the newest vacation spots on Cape Cod. Uniquely, perhaps, it is owned and operated by the architect who designed it—E. Gunnar Peterson. For his own property, Mr. Peterson could have chosen any material for the plumbing—*but he chose Chase copper tube over any other pipe!*

The Chase tube was used in underground supply lines, all interior drainage, and hot and cold domestic water lines, to make another outstanding installation that is 100% Chase-equipped.

Wherever longer, better water and waste line service is important—and that is in every job you plan—Chase LIFELINES® of Copper Tube will far outlast any rustable metal piping. Copper never rusts, won't clog—**and costs no more than pipe that will cause you trouble.** Ask your Chase wholesaler for details.

Nautilus Motor Inn, Woods Hole, Massachusetts, 100% equipped with LIFELINES of Chase Copper Tube. Architect-Owner, E. Gunnar Peterson; Plumbing by Thomas Wood, Falmouth, Mass.; Chase Copper Tube supplied by R. B. Corcoran Co., Hyannis.

Chase®

BRASS & COPPER CO.

WATERBUR Y20, CONNECTICUT
SUBSIDIARY OF
KENNECOTT COPPER CORPORATION

MADE IN U.S.A. TO THE STANDARDS OF AMERICAN INDUSTRY

The Nation's Headquarters for Brass, Copper and Stainless Steel

Atlanta Baltimore Boston Charlotte Chicago Cincinnati Cleveland Dallas Denver Detroit Grand Rapids Houston Indianapolis Kansas City, Mo. Los Angeles Milwaukee Minneapolis Newark New Orleans New York (Maspeth, L.I.) Philadelphia Pittsburgh Providence Rochester St. Louis San Francisco Seattle Waterbury

Meetings and Miscellany

—Drawn for the RECORD by Alan Dunn

"For one thing, *you're* not Frank Lloyd Wright—"

The State of Construction

With a total figure just under $2 billion, construction contracts in February, for the second straight month, fell 10 per cent below last year's figure for the period. The heavy engineering category was the only one in which a gain—of two per cent—was marked; residential contracts fell 17 per cent, non-residential eight per cent. For details, see page 416.

20 Elevated to Fellowship

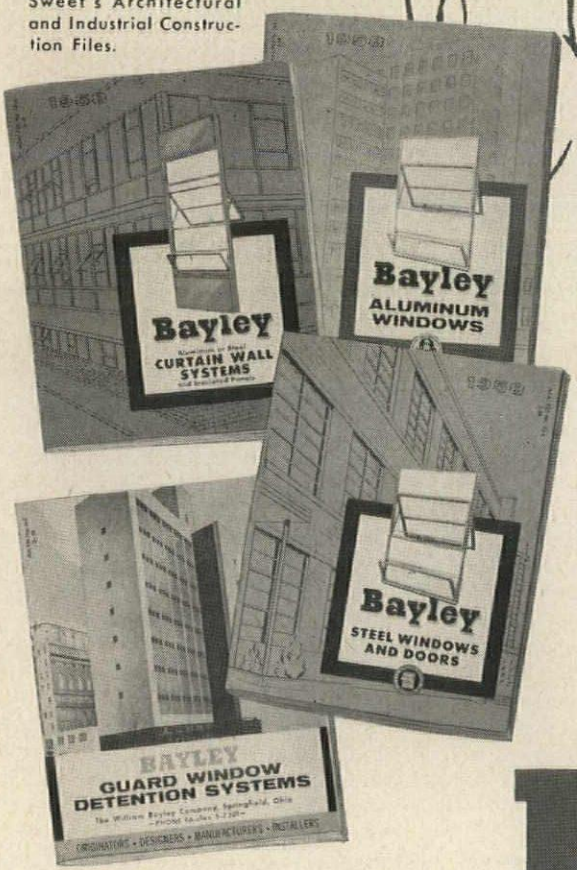
The Jury of Fellows of the American Institute of Architects has announced the election of 20 members of the Institute to Fellowship. The new fellows, who will be inducted at the A.I.A. convention in July, include: Nelson Wilmarth Aldrich, Boston—for Public Service; William Clement Ambrose, San Francisco—Service to the Institute; Herbert Lynes Beckwith, Cambridge, Mass.—Education; Marcel Lajos Breuer, New York—Design; Gordon Bunshaft, New York—Design; Robert Carson, New York—Design; Angelo Robert Clas, Washington, D. C.—Public Service; George Leighton Dahl, Dallas—Design; Donald Q. Faragher, Rochester, N. Y.—Service to the Institute; Theodore Reed Griest, Topeka—Public Service; Carl Frederic Guenther, Cleveland—Design; Louis Clifton Kingscot . Kalamazoo—Public Service; William Leonard Pereira, Los Angeles—Design; Llewellyn William Pitts, Beaumont, Tex.—Design and Public Service; John Leon Rex, Los Angeles—Design; Malcolm Dames Reynolds, Oakland, Cal.—Service to the Institute; George Vernon Russell, Los Angeles—Design; Preston Standish Stevens, Atlanta—Design; Edward Stone, New York—Design; and George Cannon Young, Salt Lake City—Service to the Institute.

Engineers Council Grows

Meeting May 1-3 in San Francisco, 19 members of the Board of Directors of the Consulting Engineers Council, representing 1013 engineers, reflect a doubling of the organization's membership in less than two years—at the last meeting 10 delegates served to represent less than 500 members. The Council is a federation of 19 state and regional engineering groups, whose current program includes, according to executive secretary Larry N. Spiller, "(1) sponsoring an engineers' errors and omissions insurance program; (2) actively opposing such practices as requesting bids, 'package deals,' contractors providing engineering services, 'free engineering'; (3) completing a membership-wide study of fee and contract negotiations with various state and Federal agencies; (4) endorsing the Jenkins-Keogh bill; (5) cooperating with the Producers' Council in the preparation of a manufacturers' index of products; (6) collecting various association specifications codes, fee schedules and contract forms for use by individual members; and (7) promoting public recognition of the consulting engineer." Two of its primary efforts include an attempt to form a Joint Consulting Engineers' Council-American Institute of Architects Committee, an effort so far unsuccessful; and moves to prepare, with the A.I.A., the American Society of Civil Engineers and the National Society of Professional Engineers, a standard form of agreement between architect and engineer—this is still hanging fire. The organizations participating in the Council include the Consulting Engineers Association of California, the Chicago Association of Consulting Engineers, Cincinnati Association of Consulting Engineers, Consulting Engineers Association of Colorado, Consulting Engineers Association of Georgia, Gulf Institute of Consulting Engineers, Illinois Association of Consulting Engineers, Intermountain Institute of Consulting Engineers, Iowa Association of Consulting Engineers, Minnesota Association of Consulting Engineers, Missouri Association of Consulting Engineers, Consulting Engineers Association of New Mexico, New York Association of Consulting Engineers, North Dakota Consulting Engineers Council, Consulting Engineers Association of Oklahoma, Consulting Engineers Association of Oregon, Consulting Engineers Association of Texas, and the State of Washington Association of Consulting Engineers. Elected to serve as officers of the Council for the coming year: Charles C. Pate, Tulsa—president; L. K. Crawford, Springfield, Ill.—first vice president; Ralph M. Westcott, Los Angeles—second vice president; Hueston M. Smith, St. Louis—secretary; and B. M. Dornblatt, New Orleans—treasurer.

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

This new branch bank office in Philadelphia has completely luminous facade and oval signs with maroon PLEXIGLAS *faces and white* PLEXIGLAS *letters. Architects: Thalheimer & Weitz.*

Best way to sign a name... Plexiglas

A sign can be both powerful and dignified . . . designed for pleasing appearance, architectural appeal, and harmony with the nature of a business. PLEXIGLAS® acrylic plastic makes such signs possible because it permits sign designers to work with large areas of color and light, use distinctive letter styles and completely luminous backgrounds. What's more, PLEXIGLAS, the outdoor plastic, resists weathering and breakage. The best way to put a name on a building is to sign it in PLEXIGLAS.

This new full color brochure tells what PLEXIGLAS signs do, and how the material has led to new concepts of sign appearance and performance. We will be pleased to send you a copy.

Chemicals for Industry

ROHM & HAAS COMPANY

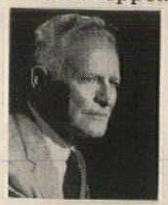
WASHINGTON SQUARE, PHILADELPHIA 5, PA.

Representatives in principal foreign countries

Canadian Distributor: *Crystal Glass & Plastics, Ltd., 130 Queen's Quay East, Toronto, Ontario, Canada.*

Foley, Sleeper Appointed

To fill two vacancies created by an expansion of the city's Board of Standards and Appeals, New York's Mayor Wagner appointed as commissioners Harold R. Sleeper, F.A.I.A., (left), known for his work in the area of specifications writing, and Max Foley, A.I.A., (right), formerly of the firm of Voorhees Walker Foley and Smith.



The Board of Standards and Appeals is the city agency which rules on the suitability of building projects in respect to zoning regulations.

44th Conventiton for M.S.A.

On March 12-14, the Michigan Society of Architects held its 44th annual convention at the Hotel Statler in Detroit. With its main interest in the general area of the future, the association's two main panels covered "The Home of Tomorrow" and "The City of Tomorrow"—the moderators were Clifford N. Wright, A.I.A., and Earl G. Meyer respectively. The banquet address, "Architecture, Going and Coming," was delivered by editor Thomas Creighton of *Progressive Architecture*. Among the highlights of the convention: the awarding of the society's Gold Medal to Talmage C. Hughes, long-time executive secretary of M.S.A. and editor of its *Monthly Bulletin*.

Education Notes

Massachusetts Institute of Technology has announced the establishment of a program leading to the degree of Ph.D. in City and Regional Planning. A limited number of students will be admitted to the program in September of this year; information is available from the Head of the Department of City and Regional Planning, M.I.T., Cambridge 39, Mass. . . . A one-year graduate program for the degree of Master in City Design at Miami University will be open to architecture and planning graduates; applications, due June 1, will be received by Prof. Rudolf Frankel, Department of Architecture, Miami University, Oxford, Ohio. . . . Another graduate program in city and regional planning was initiated this winter by Virginia Polytechnic Institute; queries should be directed to the Professor of Planning, Department of Architecture, V.P.I., Blacksburg, Va. . . . At the School of Architecture of the University of Virginia, two curricula have been added: a four-year program awarding the degree Bachelor of Architectural History, and a five-year program giving the degree Bachelor of City Planning. Information can be obtained from Dean Thomas K. Fitz Patrick, School of Architecture, University of Virginia, Charlottesville, Va.

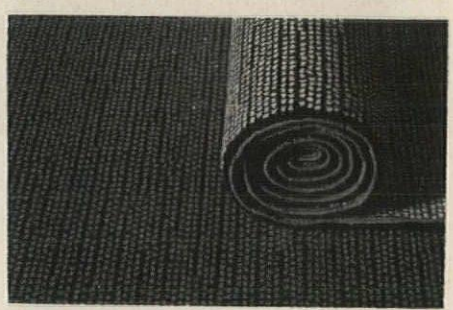
For his "many contributions to the concrete masonry industry," Frank Lloyd Wright received a medal from the National Concrete Masonry Institute. Mr. Wright is seen here with his son David (at right) and William P. Markert of the association

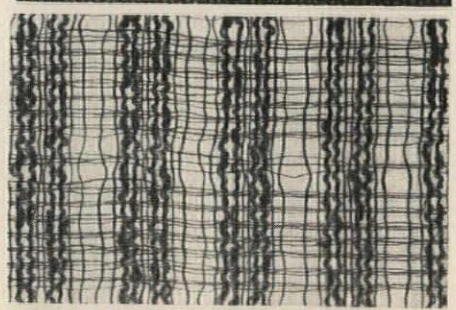
School Needs: A Survey

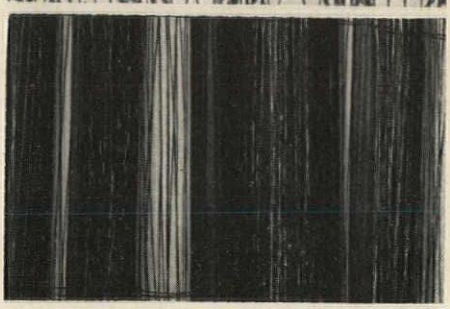
That the nation lacks adequate classroom housing is a fact few deny. What school officials lack, according to the findings of a recent ARCHITECTURAL RECORD survey, are accurate standards to determine the exact range of the nation's classroom needs. Figures released by the U.S. Office of Education, following its 1957 Fall Survey of classroom requirements, showed a nationwide shortage of 140,400 classrooms. This estimate indicates an apparent 51 per cent cut in classroom needs during the five years since the Office's intensive 1952 study—a decline which would not seem to be explained by the reported rate of classroom construction or by school district reorganization. Prompted by the thought that part of this discrepancy might lie in the changing criteria used by the states to estimate their needs, ARCHITECTURAL RECORD conducted its own survey of the top state school officers, asking them for definitions of criteria used in reporting figures on "additional classrooms needed." On the basis of the 35 replies received, it would seem that the standards did indeed differ: to a considerable extent, interpretations of "normal capacity," "accessible" school plants in use and "unsatisfactory" facilities needing replacement were made at the local level, without the aid of standard criteria. As one state official commented, "Since data were obtained from local superintendents, it must be assumed that each used his own criteria." A second con-

At Michigan architects' meeting, top: on the occasion of the Building Industry Banquet, left to right—Marvin J. Brokaw, of F. W. Dodge Corporation; John N. Richards, F.A.I.A.; Frederick E. Wigen, president of M.S.A. Bottom: with model of downtown Detroit—Mr. Wigen; Charles A. Blessing, Detroit's Director of Planning; William P. Lindhout, convention chairman

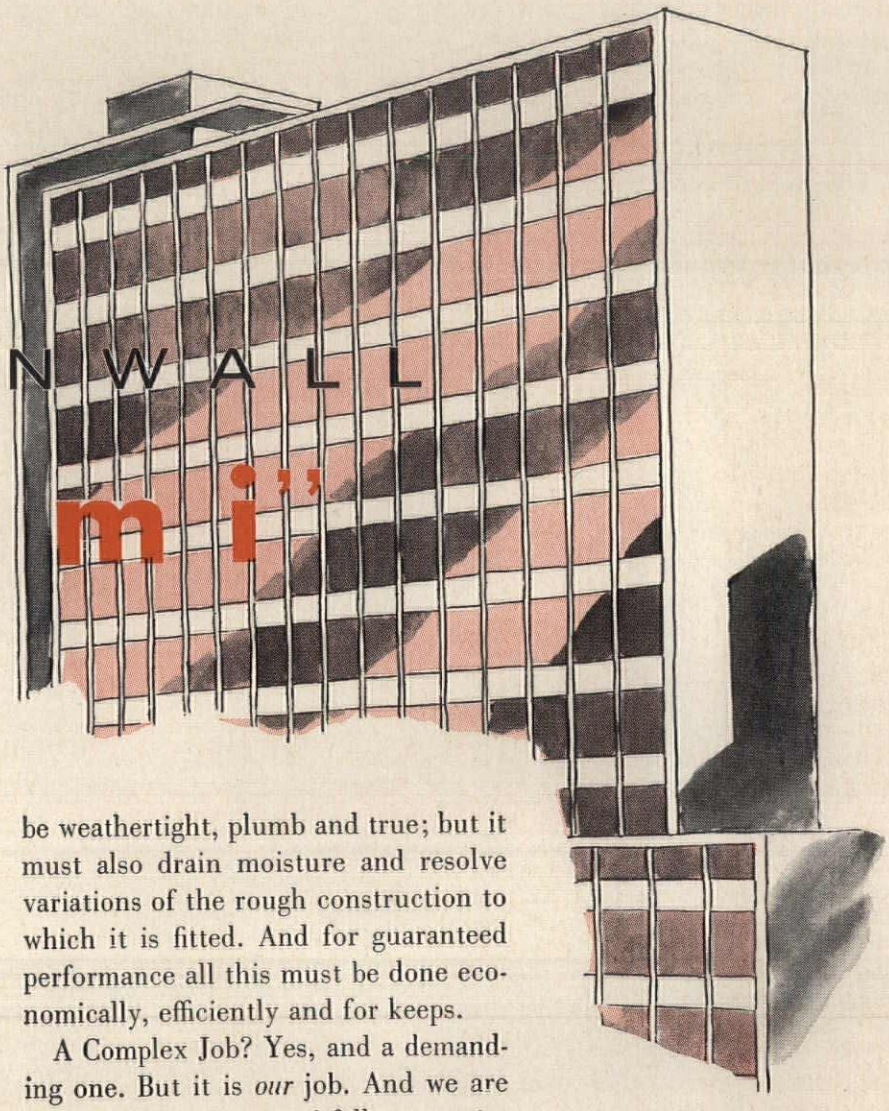
Below: three examples from the Smithsonian Institution's exhibit "Swedish Textiles Today," currently on view in Washington, shortly to embark on a nationwide tour







CURTAIN WALL BY "miami"



It Means Experience —from Engineering to Installation

Curtain wall construction is achieving near-miracles of economy, structural efficiency and erection; every one is evidence that solutions to many problems have been found. Every successful curtain wall installation points up the fact that performance which can be guaranteed doesn't come by accident.

Such performance is the polished result of engineering a design so that every detail of its fabrication measures up precisely to carefully calculated standards of quality and use.

A curtain wall must insulate and protect, as well as provide a finished surface for the building of which it is a part. It must be anchored positively; but it also must be designed to allow movement under force of air pressures or temperature changes. Installation must be weathertight, plumb and true; but it must also drain moisture and resolve variations of the rough construction to which it is fitted. And for guaranteed performance all this must be done economically, efficiently and for keeps.

A Complex Job? Yes, and a demanding one. But it is *our* job. And we are good at it. We know its pitfalls, recognize its possibilities, are busy developing its potentials.

Because of these facts we can help you engineer a design. We can fabricate that design to your most exacting specifications. And we can install the resulting curtain wall with the combination of skill, experience and service needed to provide the guaranteed performance you and your client have a right to expect.

NO. 1 OF A SERIES

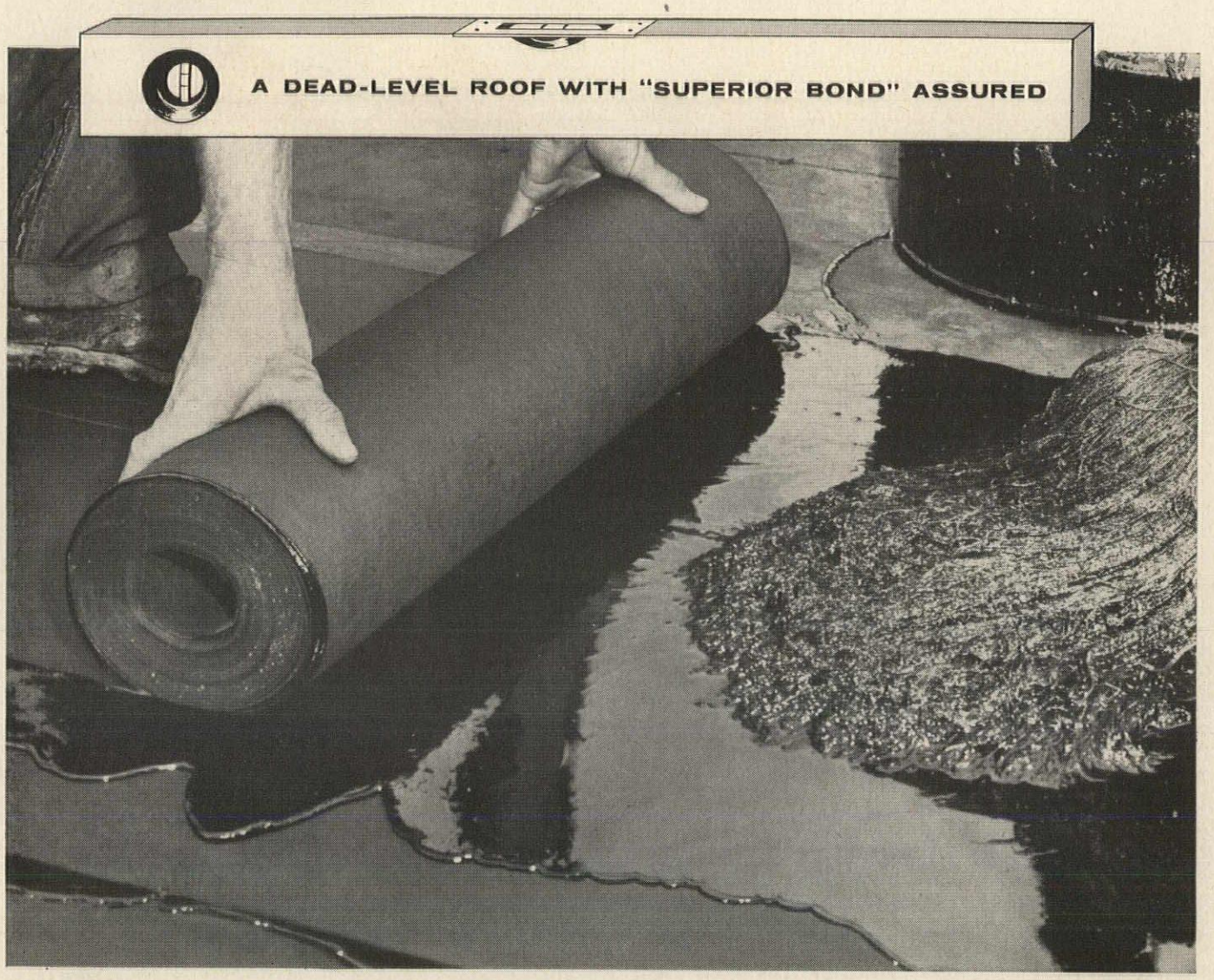
These advertisements have been developed as suggestive guides to more economical and efficient contemporary construction. Others will deal with special design and structural factors of curtain walls. Please call us for answers to any technical questions on curtain wall construction or for any engineering data you might find helpful on any aspect of curtain wall design.

REMEMBER:

It's the quality of skill, knowledge and experience behind any product that's the measure of its satisfactory performance. For Curtain Walls, Awning Windows, Projected Sash — in any type of building, anywhere — your specification can't be better than Miami Window . . .

miami window corporation

P.O. BOX 877, INTERNATIONAL AIRPORT BRANCH, MIAMI 48, FLORIDA



Johns-Manville *Aquadam* Built-Up Roofs

pay off in longer roof life and maximum protection

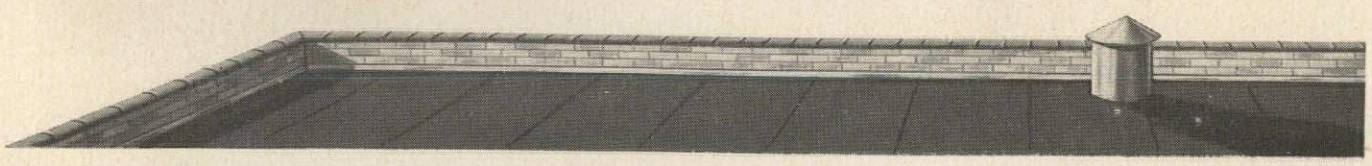
AQUADAM ROOFS take their name from a superior cementing agent developed by Johns-Manville. This unique bitumen, Aquadam, possesses the best features of coal tar pitch and of asphalt without their weaknesses. It is the best bitumen on the market for roofs with inclines from dead-level to ½ inch per foot. It is used for both smooth-surfaced asbestos roofs and gravel- or slag-surfaced roofs.

The picture above shows how Aquadam spreads, wets and saturates the roofing felts uniformly. And, as the felts are mopped and broomed-in, the exceptional adhesiveness of Aquadam assures a thorough bonding together of the plies.

Besides this "superior bond," an Aquadam roof provides these other advantages: excellent self-healing properties; exceptional ability to expand and contract with normal deck movement; ability to withstand water when a downpour floods the roof; and proven weather resistance under wide-ranging climatic conditions.

To give your clients the best roof protection, specify Johns-Manville Aquadam Built-Up Roofs—and be sure. For a copy of booklet "J-M Aquadam Built-Up Roofs" write to: Johns-Manville, Box 158, New York 16, New York. In Canada, write 568 Lakeshore Road East, Port Credit, Ontario.

JOHNS-MANVILLE



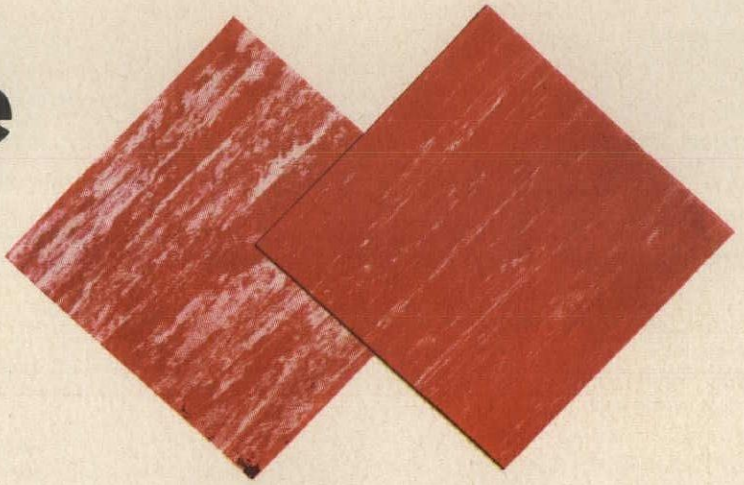
Compare

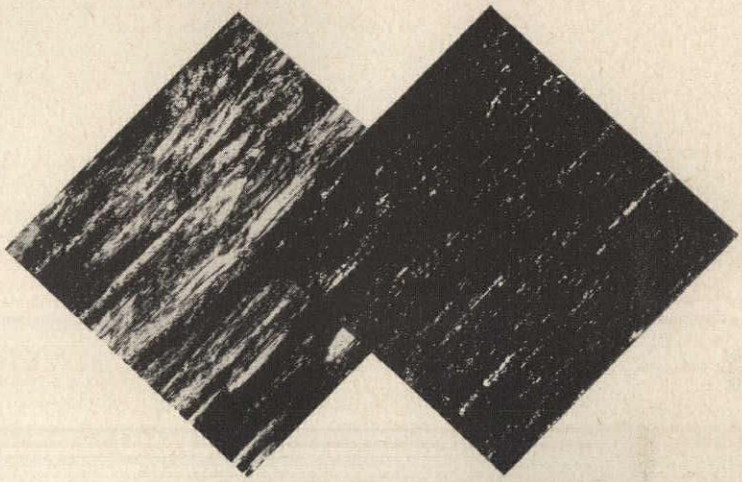
Micromatic Veining

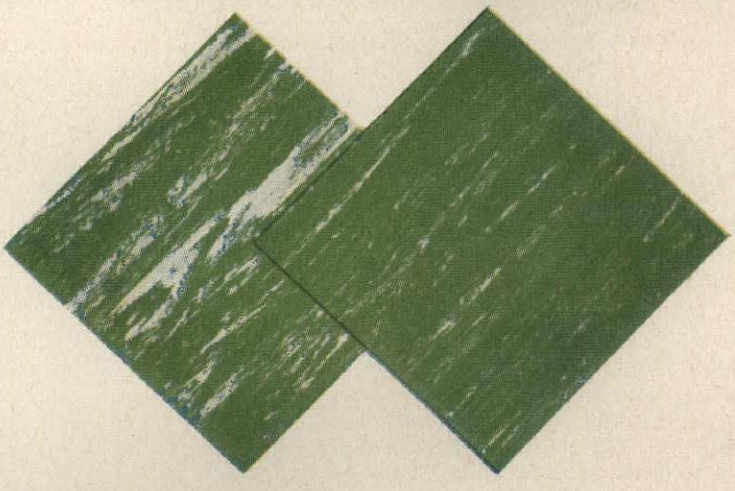
in *Vina-Lux*®

with

CONVENTIONAL MOTTLING







▲ Conventional Mottling

▲ Micromatic Veining

Here is visual evidence why Vina-Lux with *Micromatic veining* is preferred! Note the delicate, artistic striation of color in Vina-Lux – compare it with the irregular blotchiness of conventional mottling! Vina-Lux not only looks better – but it helps you achieve important floor design objectives.

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

AZROCK FLOOR PRODUCTS DIVISION

UVALDE ROCK ASPHALT CO. | 513A FROST BANK BLDG. • SAN ANTONIO, TEXAS

AZROCK FLOORING PRODUCTS

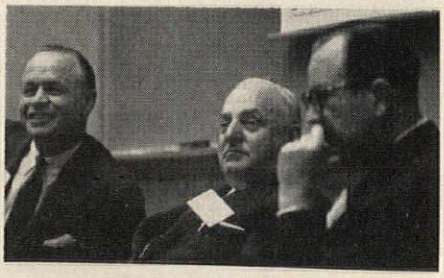
MAKERS OF VINA-LUX • AZROCK • AZPHLEX • DURACO

clusion which might be drawn from the survey replies is that factors other than need have to some extent entered into the estimates. "I'd suspect," one official says, "that local versions of ability and willingness to finance played a considerable role." Another felt that the 1952 estimates were sometimes "exaggerated" by local boards "in order to get Federal help." Following is a summary of replies to specific questions asked by the RECORD: "Was there a uniform definition of 'normal capacity' for all school districts in your states?" Nineteen of the states replied "yes," that definitions had been supplied by the state board; 8 states said "no," that definitions had been determined locally; 8 states did not answer. "Was there a uniform definition of 'accessible publicly-owned school plants'?" Yes—6; no—18; no answer—11. "Was there a uniform definition of 'unsatisfactory facilities' for all school districts in your state?" Of the 15 states which answered yes to this question, seven noted that they used only the U.S. Office of Education's definition— a facility "which should be abandoned because its condition or location is such that it cannot be made satisfactory with any reasonable expenditure." Twelve states reported no definition of "unsatisfactory facilities," eight did not reply. The RECORD questionnaire also listed a number of criteria which conceivably would be used to judge "satisfactory" classrooms—size of site, classroom floor space per pupil, number of pupils per classroom, fire and structural safety, etc.—and asked the states to indicate which were used, and which of those were applied according to state standards, local standards, or primarily local judgment in determining whether or not a facility was satisfactory. Published state standards were applied in only six states. "In your opinion, were estimates of school needs in your state in any way conditioned by a realistic appraisal of ability to finance additional school plant at this time?" Yes—10; no—14; no answer—11. The real lack of reliable standards for judging the nation's classroom requirements was summed up by a Florida official: "I think [the Office of Education] is doing a very good job with the data made available to them by the states. If they asked for more detailed data I doubt that many of us would have it available to send and would resort to estimates of even more doubtful validity."

Architecture for Business

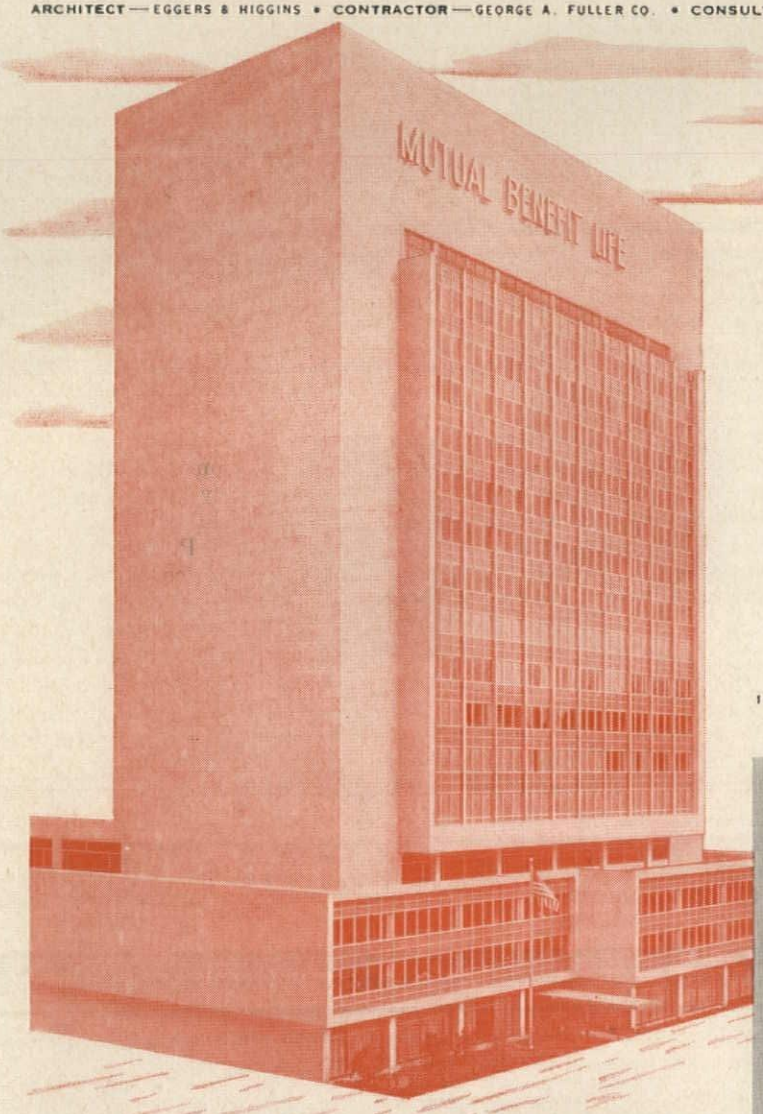
"Environment for Business and Industry" was the subject of a meeting of the Princeton University Conference held March 4-5 at Princeton under the direction of Robert W. McLaughlin Jr., director of the School of Architecture. "The Princeton University Conference," which has had some notable sessions over the years, is described as "a program for the exchange of ideas . . . designed to provide wider opportunities for members of the Princeton faculty to meet with representatives of member organizations to consider questions of mutual interest. Princeton's primary objective is to improve access to basic ideas, whatever their source, and to stimulate communication between the interdependent elements of society." For this session, some 90 leading businessmen, city planners, and architects—with the businessmen heavily in the majority—were gathered, as Mr. McLaughlin said in opening the meeting, "to explore some of the important experiences of American business and industry as decisions have been made, to discuss some of the implications and ramifications of those decisions, and perhaps to arrive at an understanding of the broad business and industrial statesmanship which forms the basis of architecture in its broadest sense." Thus the assemblage heard from Frazar B. Wilde of the Connecticut General Life Insurance Company about the considerations which impelled Connecticut General to its famous move to the country ("Today, just ten months after we moved, we can report no regrets"); from Adolph W. Schmidt of T. Mellon and Sons about the equally famous renaissance of the central city achieved by Pittsburgh; from S. Westcott Toole of the Prudential Life Insurance Company about the thinking which has led Prudential, in developing its decentralization program, to select only in-city sites for its new office buildings; from Laurence C. Plowman of Textron Inc. about the problems created by such industrial shifts as the textile industry's move to the South; and through a film of industry's "move to a new frontier" in the U.S. Steel Orinoco Valley project in Venezuela. At the final session, David Scribner of Joseph P. Day Inc. discussed the importance of economic analysis as a basis for industrial site decisions; and the meeting concluded with a panel of Princeton faculty speakers—Jean Labatut, professor of architecture; Richard A. Lester, professor of economics; John F. Sly, professor of politics; and Harold Stein, visiting lecturer in public and international affairs. Throughout the sessions, the emphasis tended to be on economic and social rather than physical or psychological aspects of environment, although there was unanimous and notable recognition of the impact of environment on the labor recruitment problem.

Conference participants had a buffet lunch in the School of Architecture, where student work in city planning project was displayed. Right: Director McLaughlin as spectator



Left: Architect Robert W. Cutler of Skidmore, Owings and Merrill, moderator, and panelists S. Westcott Toole and Laurence C. Plowman listening to repartee from their audience. Right: the conferees in Woodrow Wilson Hall, setting for sessions

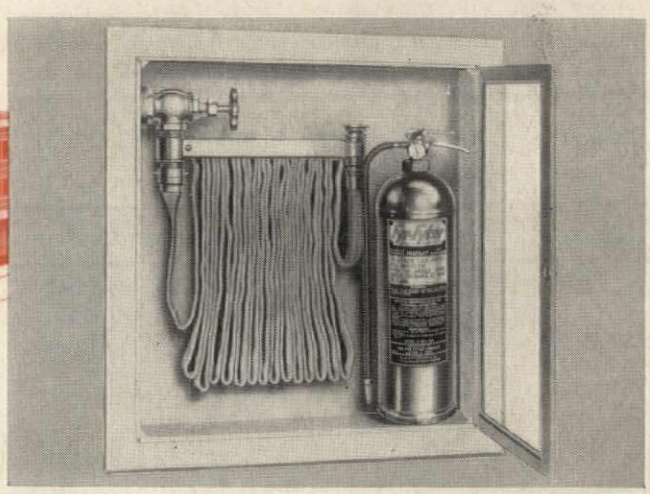
ARCHITECT — EGGERS & HIGGINS • CONTRACTOR — GEORGE A. FULLER CO. • CONSULTING ENGINEER — SYSKA & HENNESSY, INC. • PLUMBING — MANCE CORP.



Fyr-Fyter's

Two-Piece Cabinets simplified installation in Mutual Benefit's New Home Office

1957 OFFICE-OF-THE-YEAR AWARDED BY OFFICE MANAGEMENT MAGAZINE



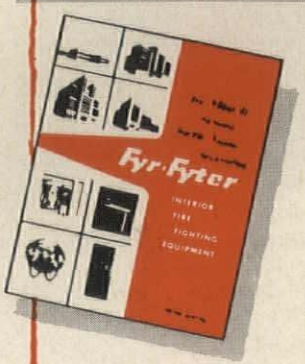
Two-piece construction of Fyr-Fyter's handsome, recessed fire hose and extinguisher cabinets allows more room to work during installation. Plumbing connections are more accessible, and there is less weight and bulk to handle.

One man can quickly, easily and accurately install Fyr-Fyter two-piece cabinets. After cabinet box is anchored, the angle valve, hose rack, fire hose and extinguisher can be properly positioned quickly. The removable door-and-trim assembly is then taken "factory-fresh" from the carton and secured to the box. There's positively no chance of damage from bumps, scratches or broken glass, and decorative color finish can be applied at the factory, if desired.

Sixty-two of the two-piece cabinets are installed in Mutual Benefit's new home office. The magnificent 20-story headquarters, located in Newark, New Jersey, contains 485,000 sq. ft. of floor space completely protected by Fyr-Fyter equipment against all fire hazards.

FYR-FYTER EQUIPMENT AT MUTUAL BENEFIT LIFE INCLUDES:

42 combination hose and extinguisher cabinets • 20 single extinguisher cabinets • 5250 ft. linen hose with chrome couplings, nozzles • 126 water extinguishers (for cabinets or wall racks) • 28 CO_2 extinguishers to protect utility rooms and kitchen



✳

Fyr-Fyter offers a complete line of architecturally designed hose and extinguisher cabinets, including conventional one-piece welded units, for schools, hospitals, office buildings and institutions. See Fyr-Fyter's 16-page insert in Sweets Catalog, or write today for descriptive literature on Interior Fire Fighting Equipment.

Fyr-Fyter sales and service representatives can furnish you *today* with detailed Specification Sheets indicating exact "roughing-in" dimensions etc.

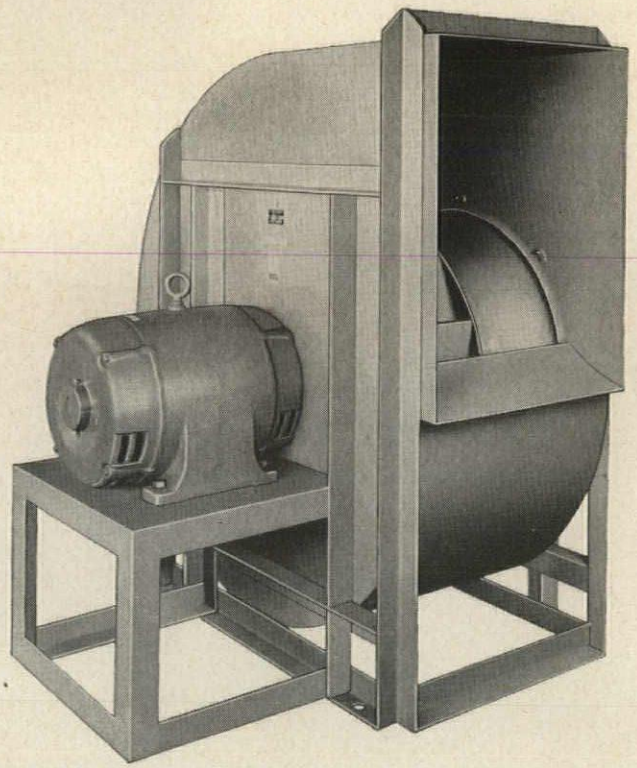
Fyr-Fyter

DIVISION OF THE FYR-FYTER COMPANY

221 CRANE STREET, DAYTON 1, OHIO

Branches: *New York, Boston, Philadelphia, Chicago, Atlanta, Dallas, San Francisco, Los Angeles, Portland, Seattle*

REPRESENTATIVES IN PRINCIPAL CITIES



CERTIFIED RATINGS
AUTHORIZED BY AMCA

WHEN DIRECT DRIVE VENTILATION EQUIPMENT IS DESIRED . . .

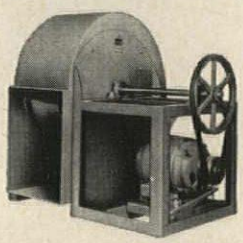
Specify Peerless-Electric® Non-Overloading Direct Drive Blowers

Tested and rated to AMCA specifications. All-welded wheels statically and dynamically balanced. Motor base, frame and housing completely welded together for added strength on larger sizes. 12½" to 36½" wheel diameters. 1,110 to 24,560 c.f.m.

No obstruction at inlet. Air enters blower wheel through smooth, spun venturi, passes quietly through wheel and discharges over airfoil cutoff. Peerless-built, self-limiting horsepower motor prevents overloading at any condition.

Write for catalog No. 215 today

Peerless-Electric® NON-OVERLOADING BELT DRIVE UTILITY BLOWERS

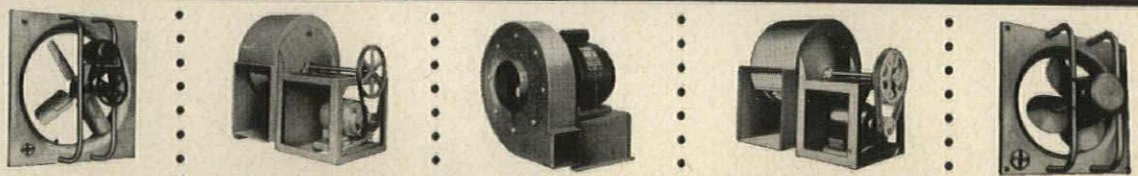


Designed for efficient, continuous, quiet duty in air conditioning systems in schools, labs, public buildings, industrial and commercial installations.

Simplicity of construction and sound engineering assure years of highly efficient, low noise level operation. 12½" to 36½" wheel diameters . . . 686 to 26,044 c.f.m.

Write for catalog No. 200

A COMPLETE LINE OF AIR MOVING EQUIPMENT



Charter Member of the Air Moving and Conditioning Association, Inc. (AMCA)

Peerless-Electric®

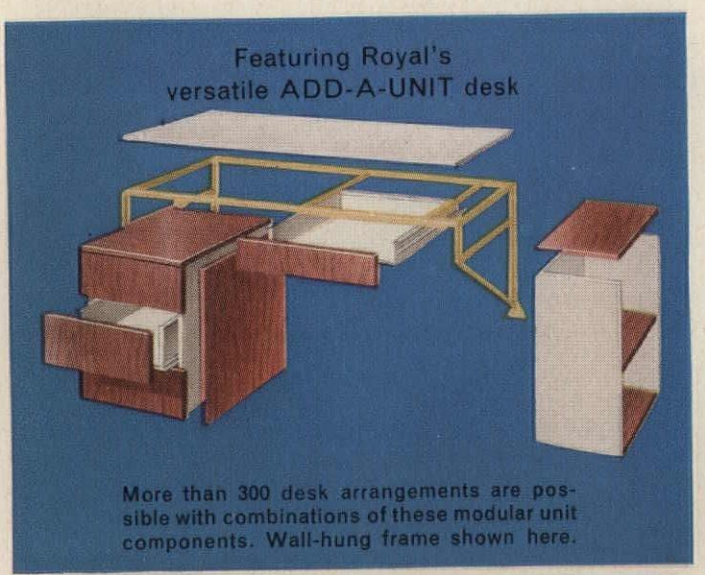
FAN AND BLOWER DIVISION
THE Peerless-Electric® COMPANY
1448 W. MARKET ST. • WARREN, OHIO
FANS • BLOWERS • ELECTRICAL MOTORS

Locate Your Nearest Representative in the "Yellow Pages"

SEE OUR CATALOG IN SWEET'S

Furniture shown in Fiberesin with Cherrywood panels and white tops. Free-standing Add-A-Unit desk illustrated.

another dream of a dorm with WOODRIDGE



More than 300 desk arrangements are possible with combinations of these modular unit components. Wall-hung frame shown here.

Royal ADD-A-UNIT desks offer virtually unlimited flexibility. Three-drawer storage units, and single or double bookcase, may be hung inside or outside of frame. Bookcases may be wall-hung separately.

by Royal®

The Beauty of Fiberesin . . . the Strength of Steel

WOODRIDGE dormitory furniture imparts a friendly, homelike atmosphere to student quarters that is truly conducive to study and relaxation. WOODRIDGE combines the natural warmth of wood-grained Fiberesin with sturdy steel inner-construction for gracious appearance and unmatched durability. Panels and tops, in a variety of beautiful finishes and colors are available in natural wood or virtually indestructible Fiberesin. All are individually replaceable for simplified maintenance and lifetime economy.

Write for information and literature

ROYAL METAL MANUFACTURING COMPANY
One Park Avenue, New York 16, Dept. 20-E

Dealers and Showrooms Coast to Coast

A Washington Report *by Ernest Mickel*

HOUSING FOR THE AGED: FEDERAL AID PROGRAM MAKES PROGRESS SLOWLY

Current figures in the Federal Government's program of aids for housing the elderly do not look too imposing when viewed in the light of the 18 months of effort put into the plan, but they deceive in not representing a potential volume of contemplated projects for which applications will be received in the near future.

Through the first quarter of this year, Federal Housing Administration had received 21 applications in total amount of $21,220,400 for housing for the elderly involving 2563 units.

Just behind these 21 active projects in FHA's administration of mortgage insurance were 26 more projects involving 2789 units. Officials termed these firm proposals and expect that the large bulk of them will turn into applications. Still further back in the program stream were at least 100 contemplated projects known to FHA officials but not yet developed to the point of firm proposals to the agency. In addition, those responsible for carrying out the loan insurance program in Washington are watching closely the announced intentions of the AFL-CIO to construct more than 50 projects for their retirees.

All this would indicate that the program is not too far away from a point of breakthrough where it becomes a systematic process of handling applications and the Federal government will no longer need to sell its merits and explain its detailed functions as is done today.

Twenty-three states now are represented in the proposals, indicating a fairly widespread range of interest. But the action side of the program, represented in commitments issued, remains relatively small with 16 in that status and only five mortgages insured.

Construction had been completed on two of the projects at the end of the first quarter of 1958, representing a total of 690 units. The other 14 where commitments had been issued involved 1373 units and construction was to get underway as soon as final details could be cleared.

The authorization for this operation lies in the National Housing Act as amended in August of 1956. This established specific administrative authority for the loan insurance programs in Sections 203 and 207, the governing sections for FHA sales and rental housing. Congress now is being asked by the Administration—in the omnibus housing bill for 1958—to break the assistance program for housing for the elderly out of Section 207 and establish an independent section dealing with the rental phase of this type of shelter.

FHA authorities say it would be much easier to administer and less confusing to applicants if housing for the aging had its own section in the law.

Virtually all the activity to date has been under the rental section. Persons of 60 years and over have been purchasing FHA-insured homes; but as a separate program, using the special benefits established in the law for the elderly buyer, there has been no interest that could be considered significant.

The only special inducement in the current law is that providing that buyers may borrow for the down-payment.

The greater attractions in the 207 program lie in the offer of 90 per cent of replacement cost for a term of 40 years plus special assistance through Federal National Mortgage Association purchase of these FHA-insured mortgages. (The recently enacted emergency housing bill provided for an additional $50 million to be used by FNMA for the purchase of FHA-backed mortgages on homes for the aging.)

Most of the agency's inquiries to date have come from religious groups already operating homes for the elderly and its lists of proposals show a preponderance of intended sponsors of this kind. It reports that individuals owning property which they wish to sell to non-profit sponsors also have accounted for a great number of inquiries. And labor unions are coming into it in greater numbers.

Most of the buildings in the going rental program are of the high-rise, non-housekeeping type, and most have been financed through FNMA's secondary market operation.

The heaviest problem that FHA continues to face in the administration of this program is that of housing cost. The elderly citizens for whom the scheme was devised constitute a lower income group and the lending risk is for the most part greater than where younger wage earners are involved.

It is hoped that as the program continues, it can attract sponsors who will construct housing for the elderly in smaller communities. Most of the results so far have centered in larger population areas. There appears to be a great need for housing for the aging in the smaller towns where FHA officials believe a garden-type or motel-type multi-unit building would be appropriate.

Here are the benefits the law presently offers:

Section 203 allows elderly individuals (60 or over) to buy for their own occupancy on a 30-year term at five and a quarter per cent interest plus the one half per cent mortgage insurance premium. It also permits him to borrow the down-payment and closing costs. There is a $20,000 limitation on the mortgage.

Section 207, multi-family rental, allows the FHA to insure eight or more living units for a 40-year term at four and a half per cent interest plus the one half per cent premium, and up to 90 per cent of the replacement cost. There is an $8100 limit per living unit—$8400 for elevator types. The whole project must be specifically designed to meet the needs of the elderly, and there is a mortgage limitation of $12.5 million per contiguous project. Sponsorship is limited to non-profit organizations.

An industry advisory committee to FHA met in Washington just a year ago to consider the problems in this program which then was very new indeed. The nine-man group tackled all phases of housing for the elderly and out of the deliberations came a report which has guided officials to some extent. This report states, on Type of Structure:

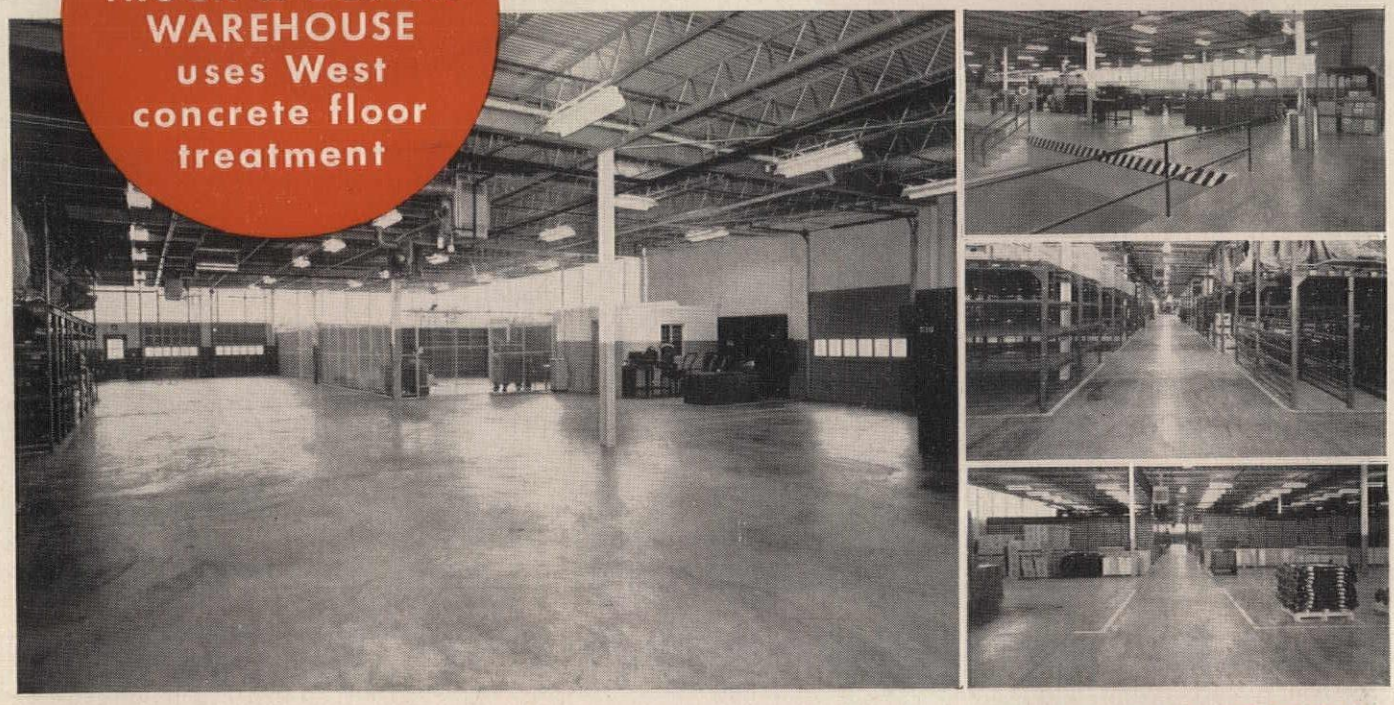
"It was suggested that many retired people prefer to live in cottages until they are too old to care for themselves, and then prefer to move to a central building where nursing care is available. In such an instance, the central building preferably should be multi-story with elevator service, reducing walking distances to and from dining and other facilities. While a number of the committee members favored multi-story buildings because they were less expensive to operate than a single-story building, it was the experience of one partici-

continued on page 406

Still another GMC TRUCK & COACH WAREHOUSE uses West concrete floor treatment

As in several previous GMC warehouses this **"one application treatment"** is exhibiting exceptionally fine durability to heavy duty service. Plans are to specify WEST Concrete Floor Treatment for all new warehouses — and apply it under the supervision of the WEST Representative.

At GMC Truck and Coach Division parts warehouses construction is under the direction of Mr. John J. Wygzoski, National Field Warehouse Manager, General Motors Truck and Coach Division, General Motors Corporation, Pontiac, Mich.



ONE APPLICATION OF ONE CONCRETE FLOOR TREATMENT

CURES · HARDENS · SEALS CONCRETE SURFACE

WEST Concrete Floor Treatment is a proven time-saving, labor-saving product that 1) Cures 2) Hardens 3) Seals newly-laid concrete surfaces with *one* application. It is a rubber based formulation with a quick drying solvent. Formerly as many as three separate products and applications were needed to obtain the same results.

WEST Concrete Floor Treatment can be applied immediately after horizontal surfaces have been troweled or as soon as the concrete can be walked on. Usually in *one* to *eight* hours. It is applied quickly and easily with a lamb's wool applicator. All the labor formerly required for cleaning the concrete surface after delayed concrete drying, and between the use of as many as three separate products and applications is eliminated.

WEST Concrete Floor Treatment is applied immediately after troweling. Its fast drying permits subsequent building operations to be speeded. It also dustproofs as it seals. This speeds the final cleaning. All foreign matter is easily flushed off the surface.

WEST Concrete Floor Treatment enables newly-laid, wet concrete to retain 95% of its moisture. This permits it to cure and harden while sealing the surface against acids, oils, greases and other foreign matter. This incongruous aspect of holding back most of the moisture while permitting some moisture to escape slowly is the key to this product's amazing success.

WEST Concrete Floor Treatment is colorless and will not alter the color of the poured mix. It goes on evenly and spreads quickly without streaks. One gallon covers from 300-350 sq. ft.

WEST Concrete Floor Treatment is fully attested, fully proven across the United States and Canada. Full details and samples are available immediately from any of WEST's 400 specially trained representatives from coast to coast. Write, phone or wire your nearest WEST office.

ALBANY, N. Y.
ALBUQUERQUE, N. M.
ATLANTA, GA.
BALTIMORE, MD.
BIRMINGHAM, ALA.
BOSTON, MASS.
BUFFALO, N. Y.
CHICAGO, ILL.
CINCINNATI, OHIO
CLEVELAND, OHIO
DALLAS, TEXAS
DENVER, COLO.
DES MOINES, IOWA
DETROIT, MICH.
FT. WORTH, TEXAS
FRESNO, CALIF.
HARTFORD, CONN.
HOUSTON, TEXAS
INDIANAPOLIS, IND.
KANSAS CITY, MO.
LOS ANGELES, CALIF.
MEMPHIS, TENN.
MILWAUKEE, WIS.
NEWARK, N. J.
NEW ORLEANS, LA.
OAKLAND, CALIF.
OKLAHOMA CITY, OKLA.
OMAHA, NEBR.
PHILADELPHIA, PA.
PHOENIX, ARIZ.
PITTSBURGH, PA.
PORTLAND, ORE.
PROVIDENCE, R. I.
RENO, NEVADA
RICHMOND, VA.
ROCHESTER, N. Y.
ST. LOUIS, MO.
ST. PAUL, MINN.
SACRAMENTO, CALIF.
SALT LAKE CITY, UTAH
SAN ANTONIO, TEXAS
SAN DIEGO, CALIF.
SAN FRANCISCO, CALIF.
SAN JOSE, CALIF.
SEATTLE, WASH.
SPOKANE, WASH.
STOCKTON, CALIF.
SYRACUSE, N. Y.
TULSA, OKLA.
WASHINGTON, D. C.
YORK, PA.

CANADA

CALGARY, ALTA.
EDMONTON, ALTA.
HALIFAX, N. S.
MONTREAL, QUE.
REGINA, SASK.
SASKATOON, SASK.
TORONTO, ONT.
VANCOUVER, B. C.
WINNIPEG, MAN.

WEST CHEMICAL PRODUCTS INC.
42-16 West Street, Long Island City 1, N. Y.

New dimensions

Interior by Backus Brothers Co.

A full color idea book on Formica Interiors is yours for the asking. Write Formica, 4603 Spring Grove Ave., Cincinnati 32, Ohio. Formica regional offices now have a color slide film "Decorative Art in Formica" illustrating a wide variety of Formica wall treatments and application methods as described on the facing page. A showing can be arranged at your convenience by calling your local Formica office.

in Formica®

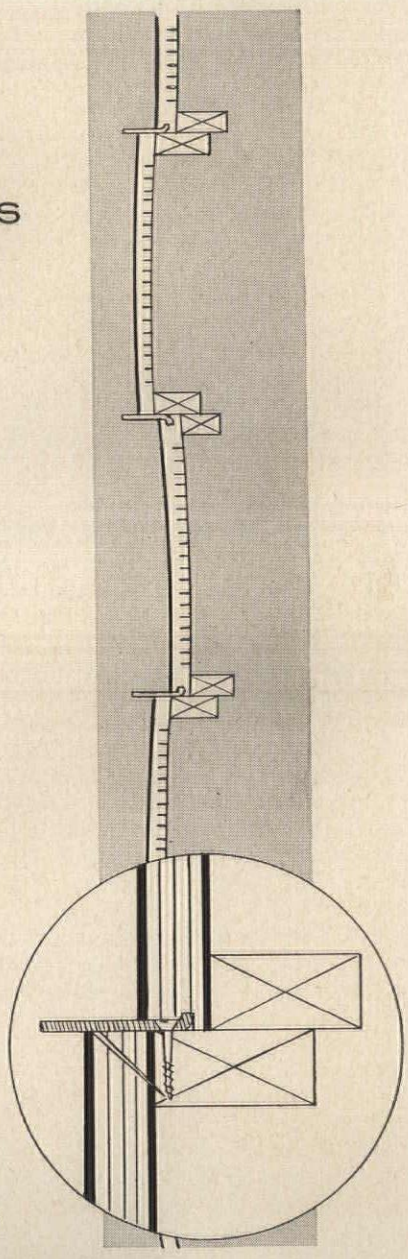
A Wall of Distinction with FORMICA AND BRASS

This serpentine wall is made up of 4′ panels of plywood scored or kerfed from the back for bending to proper radii. Using Formica Fast Dry Contact Bond Cement, 1/16″ decorative Formica and Formica backing sheet were veneered to either side of the formed plywood. The panels were shop assembled in sections and screwed and glued to vertical and horizontal framing.

Standard grades of Formica are completely satisfactory for any large radius of this type and no heating is required.

The brass divider strips were handled in accordance with the detail drawings.

A wide variety of Formica wall treatments can be obtained either through shop veneering or on-the-job application. Multicolor effects in random planking or geometric designs can be done with standard material.



New Decorative Art in FORMICA

For the first time in the laminated plastic field, a new kind of decorative art is available. Formica can duplicate your paintings and murals or execute original art pictures of your ideas. The art is sealed in the Formica sheet, thereby protecting it from dirt, fading and damage. In addition, nearly any pattern, trade mark or repetitive design can be produced in Formica via silk screen printing.

There is a Formica district representative near you who is well qualified to provide technical assistance. If you would like technical specifications on Formica wall surfacing, write Formica, 4603 Spring Grove Ave., Cincinnati 32, Ohio, ask for spec. bulletins 114A and 105A.

This mark certifies genuine

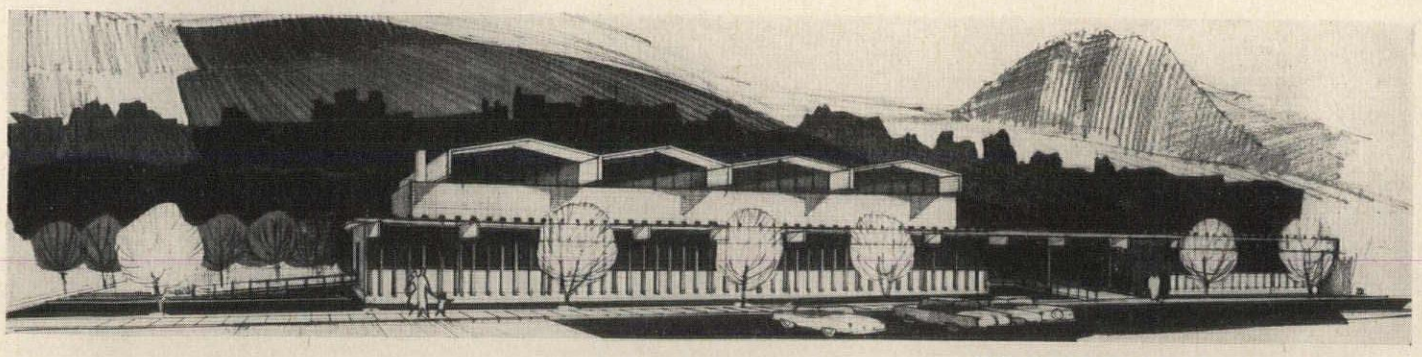
Be sure you get genuine Formica. Look for this wash-off registered trade mark on the surface.

FORMICA® Laminated Plastic

Guaranteed by Good Housekeeping

product of CYANAMID

News from Canada by John Caulfield Smith



FIRST PRIZE scheme by R. A. D. Berwick. Character was especially praised

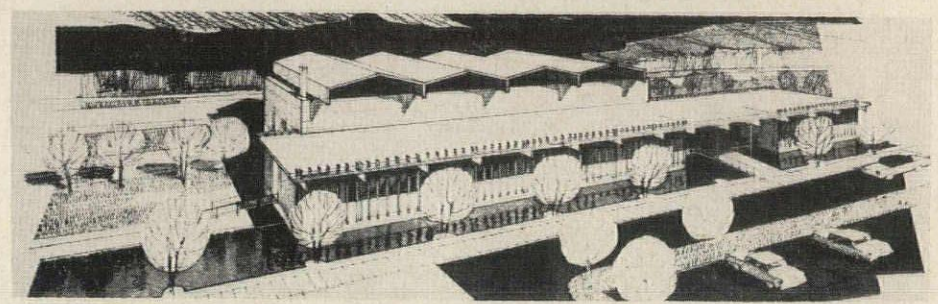
WINNERS NAMED IN COMMUNITY CENTER COMPETITION

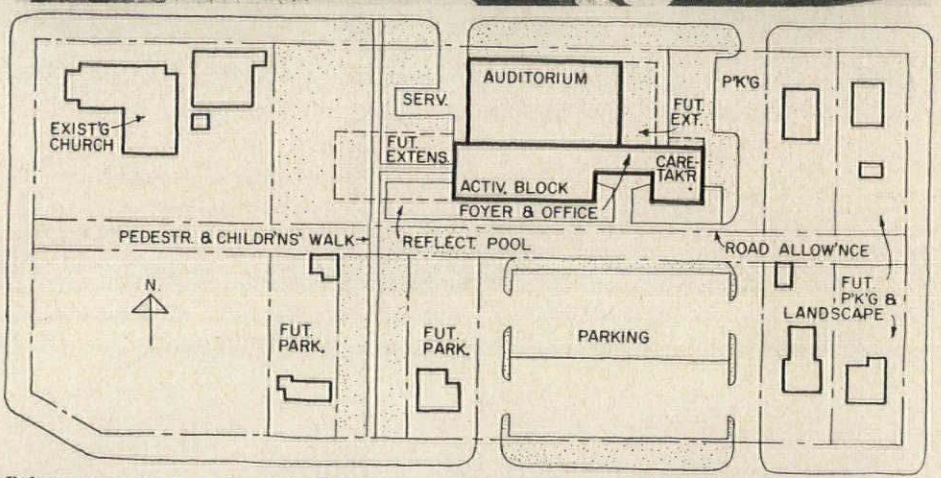
R. A. D. Berwick of Thompson, Berwick & Pratt, Architects, has been named winner of the competition for a community center for West Vancouver. He will receive the commission to provide complete architectural service for the building.

Second prize of $500 goes to Lund, King and Associates. Recipient of the third prize of $250 was A. K. Hanson.

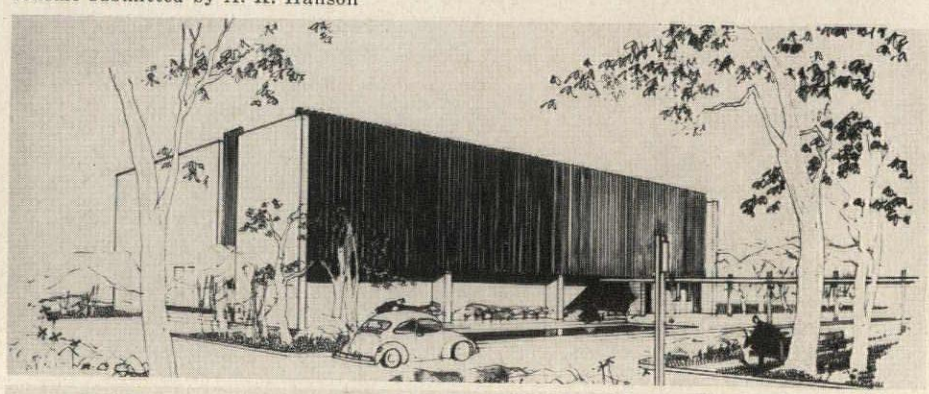
The report of the Board of Assessors appointed by the sponsoring Corporation of the District of West Vancouver stated that 36 entries were received from architects eligible to compete—i.e., those residing in the Vancouver metropolitan area. The assessors said they had been impressed by the high standard of work represented and the great amount of time and skill spent on the drawings. Prof. Fred Lasserre, director of the School of Architecture of the University of British Columbia, was the professional adviser and chairman of the Board of Assessors. Members of the Board were Peter M. Thornton and H. W. Pickstone, both architects; Mrs. Margaret Fraser, chairman of the West Vancouver Community Association; and Reid Mitchell, chairman of the West Vancouver Recreation Commission.

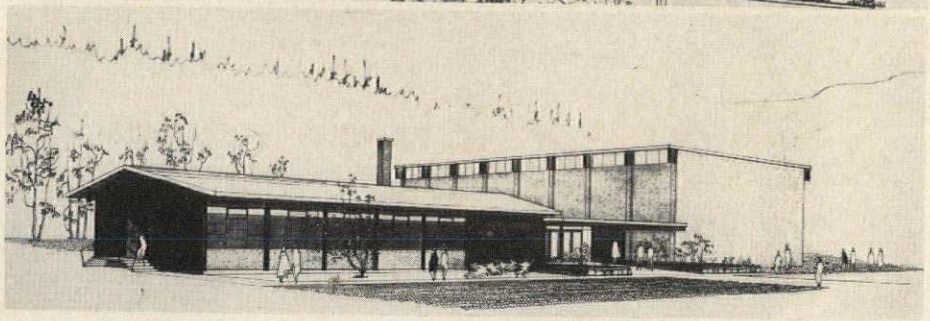
In their report, the assessors recommended that "the winning architect be commissioned immediately to proceed with the further development of the design. No major deviation in his scheme should be permitted which would detract from the pleasant appearance of the building as submitted and which was considered by the assessors to be very appropriate to West Vancouver, blending well with the residential character of the municipality. This building would exercise a most satisfactory controlling influence on the design of future buildings in the development of the center."

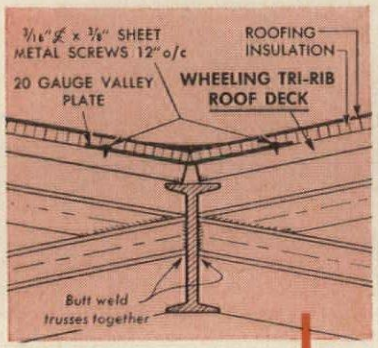




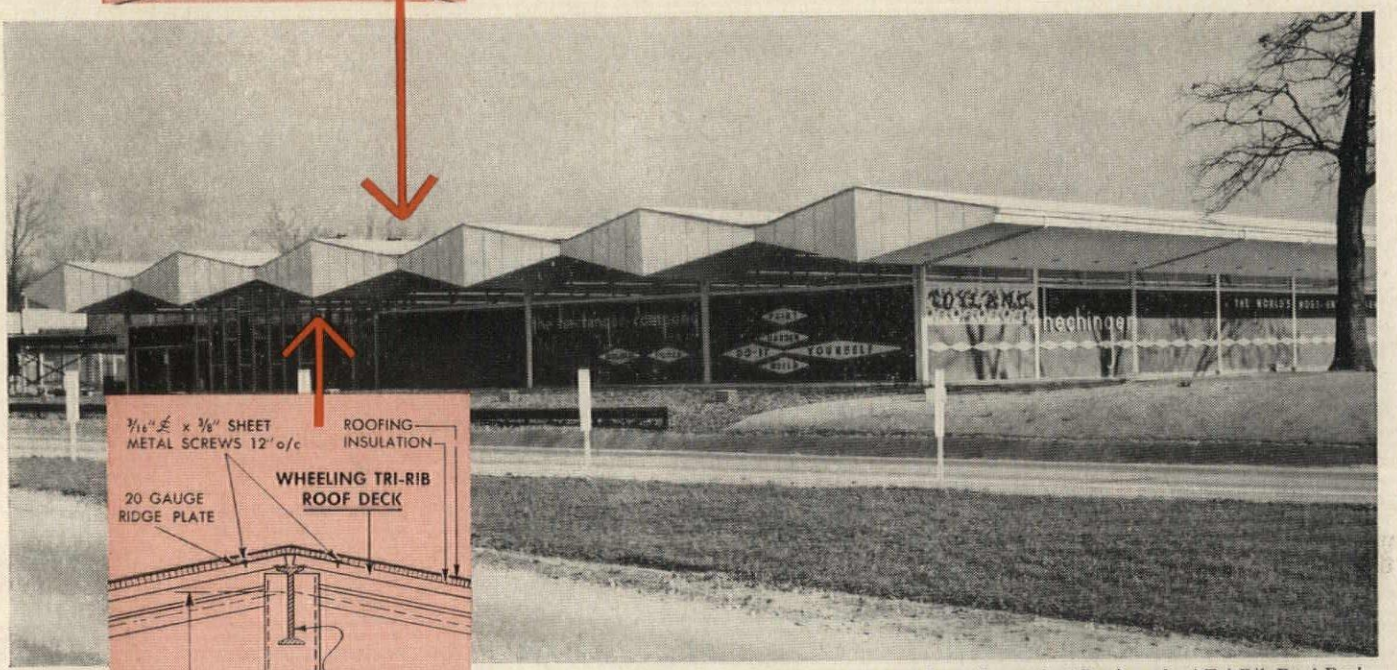
Below: second-prize scheme by Lund King and Associates and (at bottom) the third prize scheme submitted by A. K. Hanson



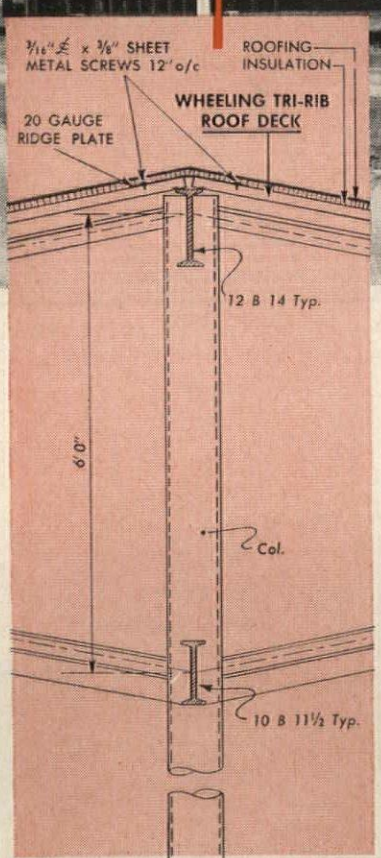


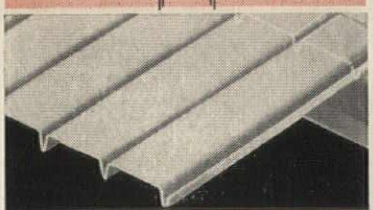


Unique Building Supply Center features roof of quickly installed Tri-Rib Roof Deck



Hechinger customers can forget about the weather! Roof, made of Tri-Rib Roof Deck, extends out 15 feet over walks on all sides to serve as an all-weather canopy.





Wheeling Tri-Rib Roof Deck is designed in accordance with specifications adopted by A.I.S.I. Light Gauge Cold-Formed Steel Design Manual, 1956 Edition.

Featuring a roof using a series of rhomboid-shaped umbrella trusses joined together and constructed of Wheeling Tri-Rib Roof Deck, the Hechinger Company's Rockville, Md., store is one of the world's most modern building supply centers.

Ideal for many types of construction, Tri-Rib is made of Wheeling Cop-R-Loy® steel – the famous copper-bearing steel that has proved its long-lasting qualities through years of actual field use! And – because Tri-Rib is light and strong – it requires fewer and lighter columns, shallower footings and eliminates the subpurlins required by many other types of roof construction.

On the installation shown above, Mr. Frank Wolfsheimer, president of Hechinger Engineering Corp., builders of the center, reports, "We were very pleased with the way Tri-Rib went on, especially with the speed of installation and the way Tri-Rib and Tri-Rib Accessories are engineered to work so perfectly together."

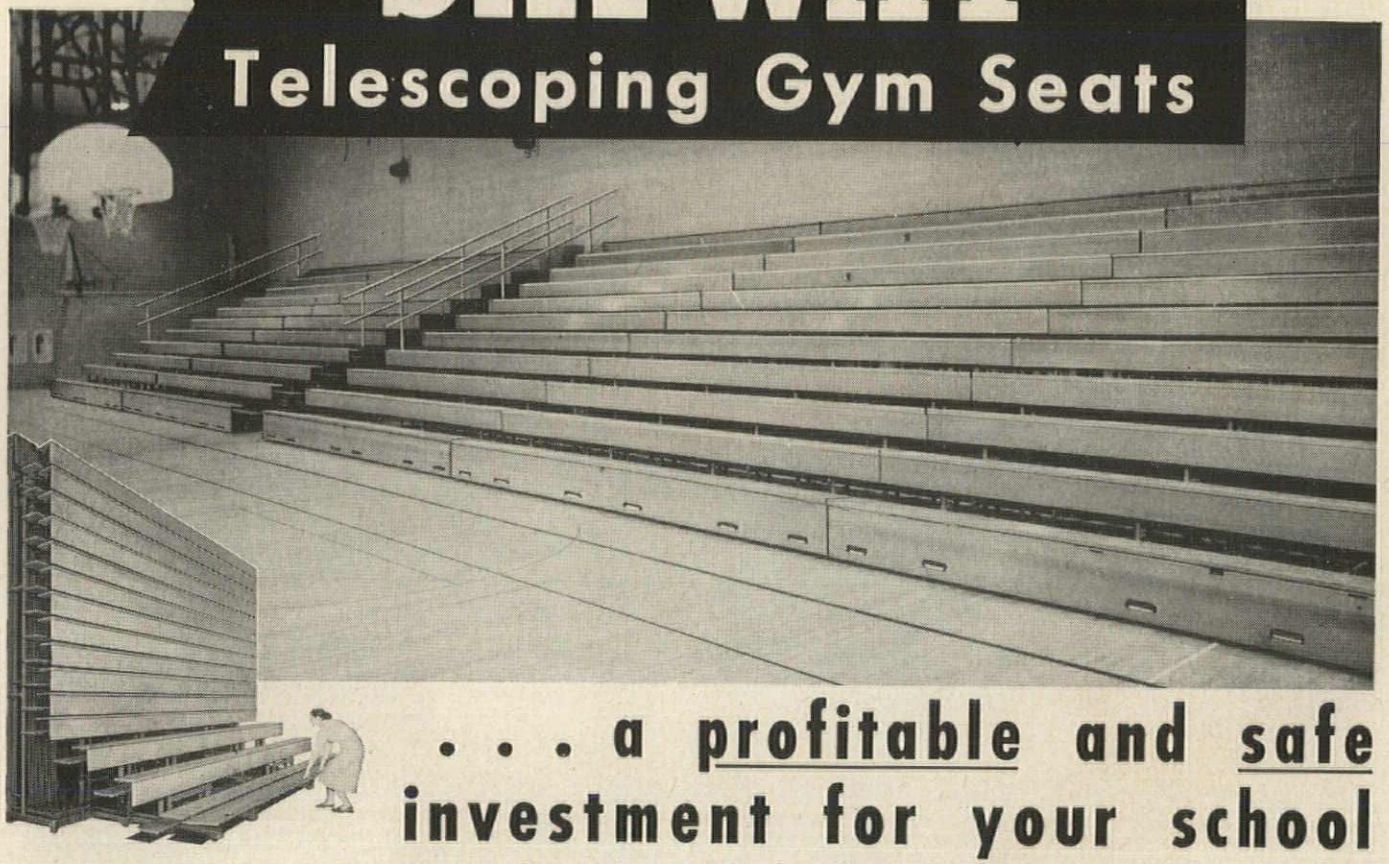
Find out how Wheeling Tri-Rib Roof Deck can help you, too. See Sweets, or contact our nearest representative. Wheeling Corrugating Company, Wheeling, West Virginia.

WHEELING CORRUGATING COMPANY
IT'S WHEELING STEEL

Wheeling CORRUGATING COMPANY

WHEELING WAREHOUSES: *Boston, Chicago, Columbus, Detroit, Kansas City, Louisville, Minneapolis, New Orleans, New York, Philadelphia, Richmond, St. Louis.* **SALES OFFICES:** *Atlanta, Houston.*

SAFWAY
Telescoping Gym Seats



. . . a profitable and safe investment for your school

YOU'LL GET profitable *full-time use* from your gymnasium—planned or existing—when you install Safway telescoping bleachers.

With the seats extended over the floor, you provide superior vision and comfort for spectator events such as basketball. Nest the seats back into their "cabinet" and you instantly clear the floor for daily gym work.

And with only one or several rows locked open, you can set up convenient sideline seating for athletic practice, dancing parties or other gym floor activities.

Safway's advanced gym seat design also gives you these important benefits:

STRONG, SAFE CONSTRUCTION—8 steel columns under every row; uniform load distribution through vertical and horizontal steel bracing; 3 automatic locking devices.

SIMPLE, EFFICIENT DESIGN — Minimum of moving parts. Stable support with extra-long wheel carriages and 8 self-lubricating wheels under each row.

SMOOTH, EASY OPERATION — Minimum metal-to-metal friction. No costly power equipment needed.

HANDSOME, FURNITURE-LIKE APPEARANCE—Seat and foot boards have rich, glossy Golden Oak finish.

SAFE AUTOMATIC LOCKING

Safway's exclusive gravity latch automatically locks each row in relation to every other row (see three photos below).

(1) LOCKING OPEN. As each row is extended, latch drops behind lock bar on carriage ahead to prevent movement between rows.

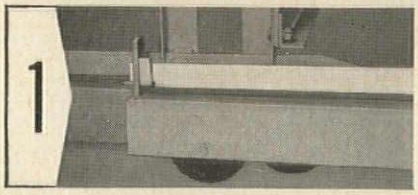
(2) RELEASING LATCH. After unlocking the cylinder lock, pushing seats inward forces tapered end of latch against unlocking bar, raising notched front end and freeing row ahead.

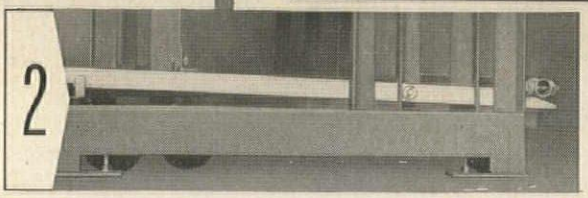
(3) LOCKING SHUT. With all rows nested, brake pads are lowered and hooks engage brackets on unlocking bar.

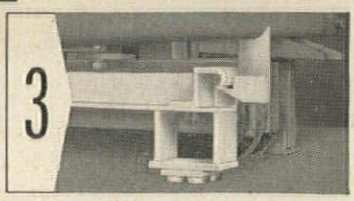
Ask for engineering help!

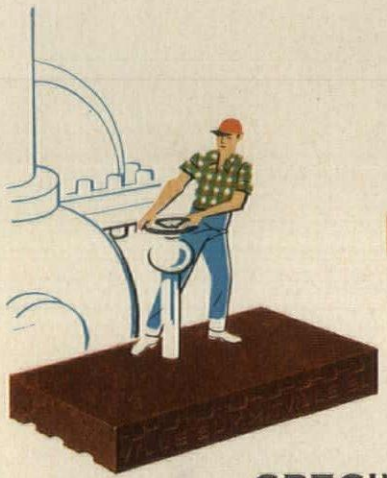
Submit your seating requirements for recommendations by experienced Safway engineers. There is no charge for this service. And write today for your free copy of the new Catalog 165.

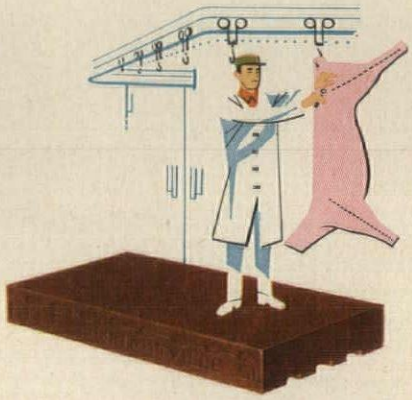
SAFWAY
STEEL PRODUCTS, INC.
6237 W. State St., Milwaukee 13, Wis.

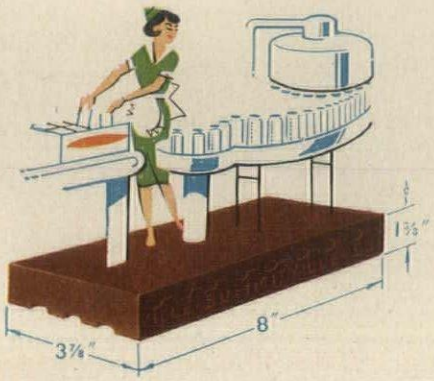












WHERE ALL OTHER FLOORS FAIL···

SPECIFY *Summitville* HEAVY-DUTY ACID-RESISTANT FLOOR BRICK

Floor failure is caused by many things . . . traffic, acids, oils, caustics, vehicles, sanitation maintenance and chemicals all take their toll.

Summitville heavy-duty floor brick is the answer to all these floor problems. In food processing plants, dairies, meat packing plants, bakeries, breweries, institutions, power houses, etc. all over the world, over 30 million sq. ft. of Summitville floor brick have provided years of trouble-free service.

Summitville heavy-duty floor brick is available in five floor surfaces to answer any requirement.

Consult your local ceramic tile contractor or write for the full story of Summitville's acid-resistant floor brick, quarry tile, glazed quarry tile, large unit 12-veneer.

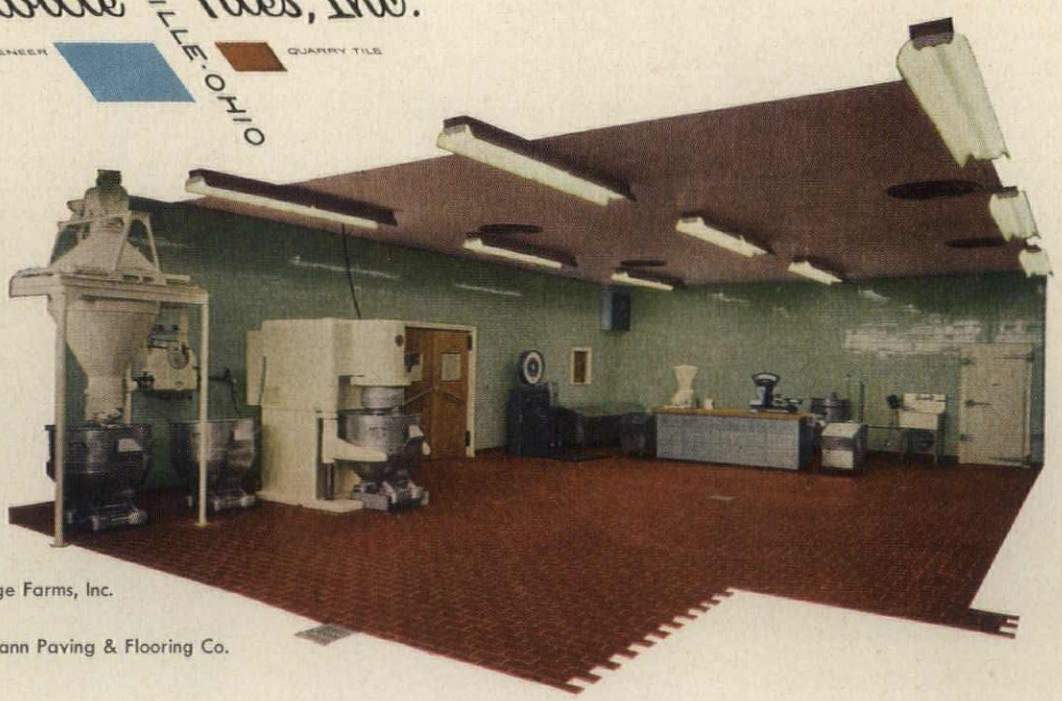
Write for new full-color Catalog Dept. R.

GLAZED QUARRY TILE — FLOOR BRICK

SUMMITVILLE, OHIO

Summitville Tiles, Inc.

12" VENEER — QUARRY TILE



Bakery: Pepperidge Farms, Inc.
Downingtown, Pa.

Contractor: Drehmann Paving & Flooring Co.
Philadelphia, Pa.

Ontario Architects Approve New Code of Ethics

About 350 members, many accompanied by their wives, attended the 67th annual meeting and convention of the Ontario Association of Architects, held at the Royal York Hotel, Toronto, February 28–March 1.

Unanimous approval was given to a code of ethics prepared by a committee chaired by Norman H. McMurrich. This document, spelling out the architect's responsibilities to his clients, covers such points as moral obligations, firm names, partial services, remuneration, criticism of other architects' work, solicitation of commissions, and interpretation of construction contracts.

The new code is intended to supplement but not to replace the regulations of the registration board.

Two seminars were held at this year's convention, one on "Older People in the City," the other on "Thin Shell Concrete."

Speaker on the latter subject was Dr. Mario G. Salvadori, professor of civil engineering at Columbia University.

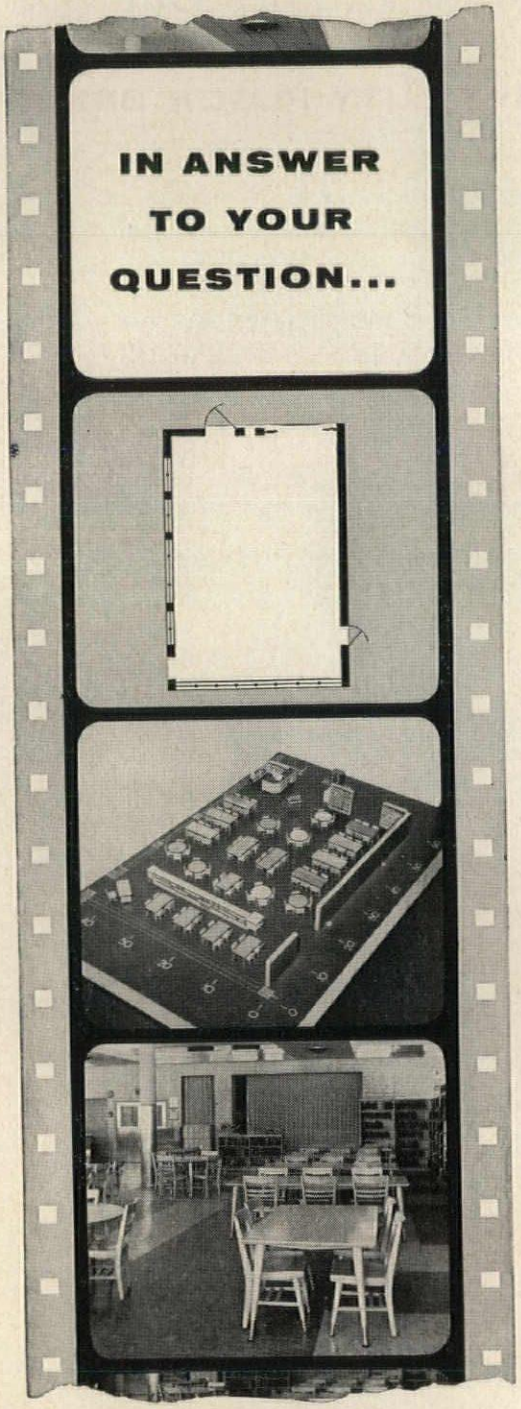
The new president greets the old. At left, G. Everett Wilson, Toronto, incoming O. A. A. president, is congratulated by retiring president E. C. S. Cox, also of Toronto, at annual dinner

There were three hurdles to pass, Professor Salvadori asserted, in achieving the use of thin shell concrete. The first was convincing building department officials and city engineers that it was practicable, sensible and, above all, safe. The second was convincing the contractor that such construction is possible. The third was cost.

To meet the cost problem, he advocated scaffolding and forms that can be used over and over again, as many as ten or fifteen times. It is possible, he said, to project continuing planes and shapes of thin shell concrete through the use of standardized forms. He also advocated building the shapes on the ground and then raising them into place. The only limiting factor was availability of cranes of sufficient size. But, Professor Salvadori stated, one could well consider the feasibility of using precast elements of "between 20 and 40 tons" which could be set into place.

Further on the question of cost, weatherproofing has been a prob-

Warnett Kennedy of Vancouver and William S. Goulding of Toronto (above) were participants in panel session at O. A. A. meeting. Below: Prof. Mario Salvadori (right) of Columbia, another panel speaker, with John C. Parkin of Toronto



How will it look when it's finished? That's always the question in everyone's mind when planning a new (or refurnishing an old) library. With Sjöström's "LIFE LIKE" Planning Service, this question is answered photographically, even before plans are drawn up. Sjöström's Planning Department uses ½" scale models, photographs the set-up, and sends the photo to you upon request. This service plus our complete collection of library furniture, with many exclusives, will solve your library problems from the start.

SJÖSTRÖM OF PHILADELPHIA

Designers and Manufacturers of

New Life LIBRARY FURNITURE

JOHN E. SJÖSTRÖM COMPANY, INC. • 1717 N. TENTH STREET • PHILADELPHIA 22, PA

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.

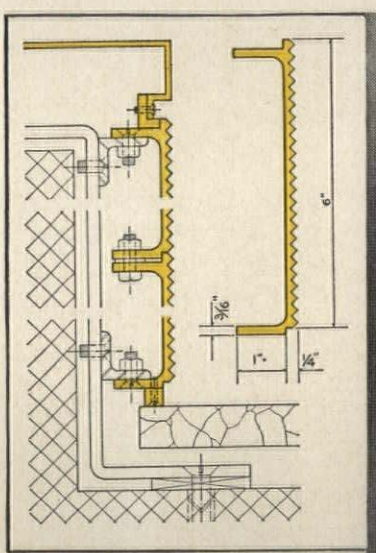
As a leader and pioneer in producing architectural metals of copper alloys, The American Brass Company has accumulated the experience that can help you achieve outstanding designs in Copper, Red Brass, Architectural Bronze, Yellow Brass and Nickel Silver. For assistance, write: Architectural Service, 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**

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

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

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

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

CERAMIC TILE
American Olean

AMERICAN-OLEAN TILE COMPANY • EXECUTIVE OFFICES: 1353 CANNON AVE., LANSDALE, PA.
Factories: Lansdale, Pa. • Olean, N.Y. • Member: Tile Council of America • Producers' Council

MEXICO ELEMENTARY SCHOOL, MEXICO, NEW YORK

Ketcham-Miller-Arnold, Architects. Stearns & Bergstrom, Inc., Tile Contractors

For Better Looking . . . Longer Lasting Schools

AMERICAN-OLEAN TILE

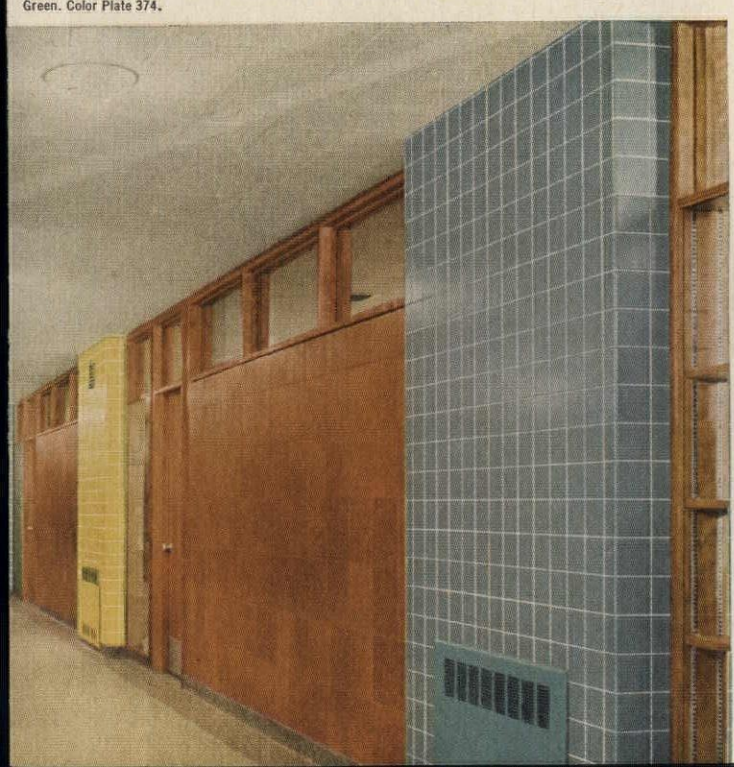
Inside and Out

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

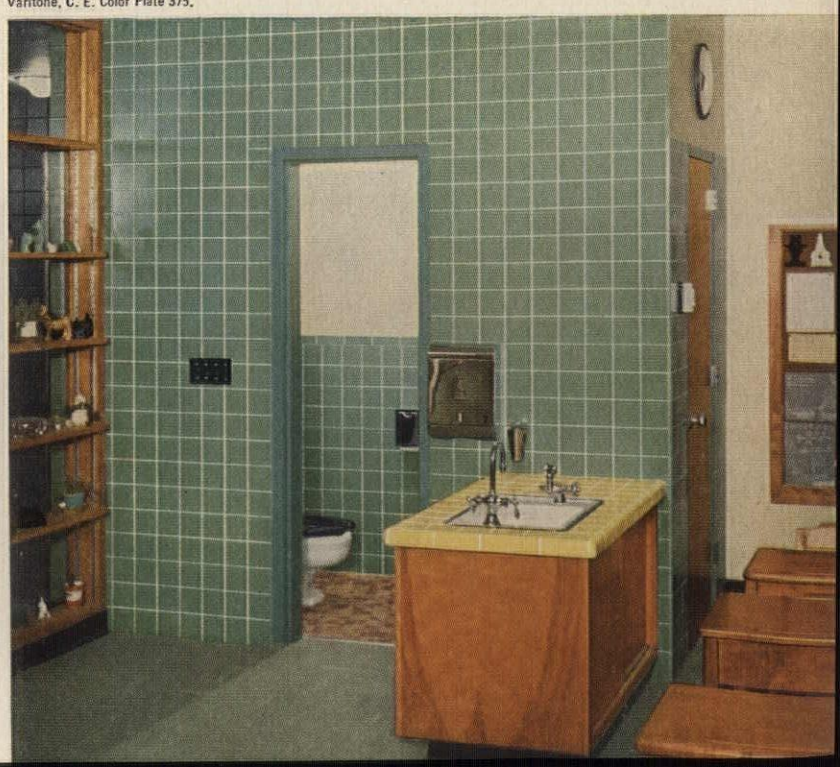
Mr. Albert H. Arnold, of Ketcham-Miller-Arnold, sums it up this way. "Our reasons for specifying American-Olean Tile are simple enough: the beauty and quality of the product, plus the type of service rendered."

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

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



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



lem, Professor Salvadori said. Until recently it has been expensive—up to 30 cents a sq ft. But through the development of new materials—he cited several which had been used successfully—it is now possible he said, to weatherproof for as low as five cents a ft, including the cost of color, if desired.

Discussion on older people and their urban environment was led by a three-man panel composed of Michael M. Sumner, president of the Institute of Physical Medicine and Rehabilitation, Windsor; James Govan, one of Toronto's leading authorities on hospital design; and Warnett Kennedy, Vancouver architect.

Mr. Sumner outlined the problems encountered in housing programs for the aged, and described the solution arrived at in his own city of Windsor. "We were the first," he said, "to build senior citizens' homes spread throughout the community for those with limited incomes."

After recounting achievements of Windsor's Riverview Hospital in the field of geriatrics, Mr. Sumner stated that a new, homelike institution would shortly replace the 19th century "Home of the Friendless" in his city. "Keynote of our program," he declared, "is creation of an aged center which will be for old people what the YMCA is for young people. Here will be a bridge for people discharged from active treatment at Riverview and others who, for whatever reason, require a new pattern of living and a period of adjustment in order to achieve it.

"Even more important, the new institution will be the gathering place for all the old people of the community. It will provide a complex of social, economic, recreational and educational services on which every aged person can draw."

Mr. Govan spoke principally on the requirements of elderly persons confined in hospitals.

Warnett Kennedy, in addition to practicing architecture, is the executive director of the Architectural Institute of British Columbia. As well as taking part in the panel discussion on older people, he was a luncheon speaker.

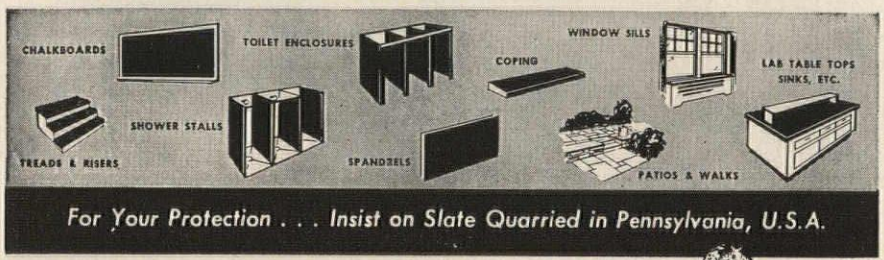
"Architecture is in danger of becoming a mechanical function, and if it does, the profession may degenerate into a branch of industrial de-

Two of the convention guests (above), at the O. A. A. Council reception—Mrs. G. E. Wilson of Toronto, wife of O. A. A.'s new president, and Mrs. Paul Pentland. Below: the oldest living past president of the Ontario Association of Architects, C. P. Meredith, now in his eighties, receives gift in recognition of his services to the Association from President Cox.

Slate Chalkboards Are Standard Equipment At Brooklyn, New York's Ultra-Modern General George W. Wingate High School . . . the "Banjo-Type" School . . . One Of The Many Modern Schools Specifying Slate Chalkboards.

KELLY & GRUZEN Architects - Engineers

Of all chalkboards, slate communicates best. White chalk on slate produces the desired high contrast to permit the student to grasp the written message instantaneously! The writing surface of slate, too, is so superior that it is the standard to which the writing qualities of all other substitutes are compared! Easy to clean . . . virtually indestructible . . . slate is lowest in maintenance costs under normal usage conditions. For timeless beauty and durability, compare before you install . . . inquiries welcomed on specific properties of slate.



For Your Protection . . . Insist on Slate Quarried in Pennsylvania, U.S.A.

NATURAL SLATE BLACKBOARD CO.
STRUCTURAL SLATE CO.
PEN ARGYL PENNSYLVANIA

natural slate . . . 500 million years in the making

Bolta-Floor® Solid Vinyl

modern long-wearing beauty . . . COSTS LESS TO MAINTAIN

Wherever flooring must withstand a beating, day-in day-out, Bolta-Floor solid vinyl is being specified. Here's why. Bolta-Floor's natural lustre, rich color and pattern run the full depth of each tile. Its smooth non-porous surface resists the wear and tear of heavy traffic . . . is easier to keep fresh and new-looking. Bolta-Floor is dimensionally stable . . . eliminates unsightly seams that shrink, catch dust and dirt. Bolta-Floor is resilient, recovers quickly from indentation, is quiet and comfortable underfoot. Before you specify flooring compare Bolta-Floor with any other. For complete information write:

THE GENERAL TIRE & RUBBER COMPANY • FLOORING DIVISION • AKRON, OHIO

Bolta Floor

GENERAL® PLASTICS
The General Tire & Rubber Company

In addition to "Classic" Terrazzo shown above, ***Bolta-Floor®*** *is available in a full range of colors, patterns, gauges, tile sizes and roll widths. See Sweet's Architectural file 13i/Ge.*

The finest quality flooring for

■ Stores ■ Restaurants ■ Motels
■ Hospitals ■ Offices ■ Homes

"CERAMIC TILE...COLORFUL...A VERSATILE, PERMANENT SURFACE"

KETCHUM, GINÁ & SHARP

per J.S.L.

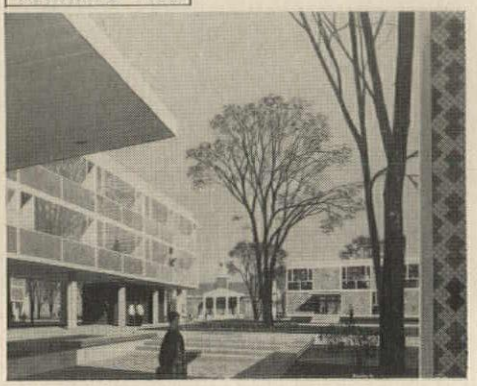
This Ketchum, Giná & Sharp design for a college campus is a striking example of modern architecture's mating of beauty and function . . . with broad walks and an open feeling for the dignified handling of today's thronging student bodies. Ceramic tile in varied colors and units helped the architects achieve permanent, uniquely designed exterior surfaces.

Ketchum, Giná & Sharp wove flexible ceramic tile into areas where handsome focal points were indicated . . . flat planes or columns where subdued, one-tone colors were needed . . . and walks where sturdy ceramic tile units paved the surfaces and topped the copings.

Any educational institution would be glad to get ceramic tile's other long-range benefits, too: walls needing no upkeep or replacement, walks which will stand up indefinitely under heavy student traffic, and fireproof surfaces wherever ceramic tile is used.

The Modern Style

CERAMIC TILE



Design for a Modern College Campus
by Ketchum, Giná & Sharp

The multiple benefits of ceramic tile will pay off handsomely for yourself and your client on any residential, institutional or commercial project you undertake. See your local tile contractor for up-to-date information—including all the details on the new lower-cost installation methods and the new dry-curing, thin-setting bed mortars.

PARTICIPATING COMPANIES

American Encaustic Tiling Co., Inc.
Atlantic Tile Mfg. Co.
Cambridge Tile Mfg. Co.
Carlyle Tile Co.
General Tile Co.
Gladding, McBean & Co.
Jordan Tile Mfg. Co.
Lone Star Ceramics Co.
Monarch Tile Mfg. Inc.
Mosaic Tile Co.
Murray Tile Co., Inc.
National Tile & Mfg. Co.
Olean Tile Co.
Pacific Tile and Porcelain Co.
Pomona Tile Mfg. Co.
Ridgeway Tile Co.
Robertson Mfg. Co.
Sparta Ceramic Co.
Stylon Corp.
Stylon Southern Corp.
Summitville Tiles, Inc.
Texeramics, Inc.
United States Ceramic Tile Co.
Wenczel Tile Co.
Winburn Tile Mfg. Co.

TILE COUNCIL OF AMERICA, INC.
800 Second Avenue, New York 17, N. Y.,
Room 933, 727 West Seventh St.,
Los Angeles 14, Calif.;
Room 220, 3409 Oak Lawn Avenue,
Dallas, Texas

CERAMIC tile

News from Canada

sign," Mr. Kennedy declared. "What is needed is the placing of greater value on faith and less on intellect."

Past Presidents Honored

At the annual dinner, 17 past presidents of the O.A.A.—from Hamilton, Windsor, Ottawa, Montreal and Toronto—were recipients of engraved sterling silver bowls testifying to their contributions to the profession. Senior among those so honored was C. P. Meredith of Ottawa, now in his eighties, who served his term of office in 1912.

Four students, all from Toronto, also figured in the presentation of O.A.A. awards. Peter Rasins won a $200 scholarship, Garfield A. MacInnis and Frank A. Cheop each received $100 prizes, and John Sievenpiper was this year's winner of the Architectural Guild Medal.

Over 65 exhibitors participated in the annual display of new building materials and methods.

G. Everett Wilson Elected

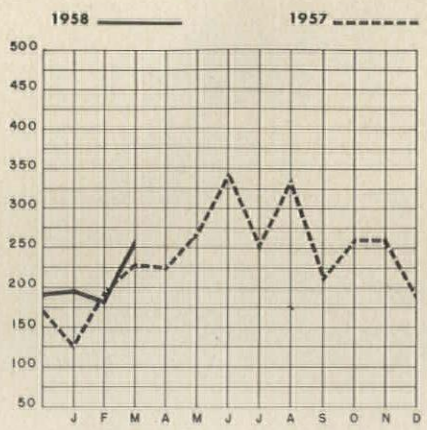
Heading the O.A.A. for 1958 is G. Everett Wilson of Toronto. He succeeds E. C. S. Cox, during whose tenure membership of the organization grew from 785 to 853.

Other new officers are: vice president, Lynden Y. McIntosh, Fort William; treasurer, Norman H. McMurrich, Toronto; chairman of the registration board, Eric W. Haldenby, Toronto; and vice chairman of the registration board, W. R. Souter, Hamilton. John D. Miller continues as secretary of the Association and of the registration board.

Robert A. Servos was this year's convention chairman.

Contracts Awarded: Comparative Figures

(in $ million)



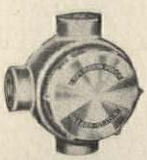
*Compiled by the Editor and staff of *The Building Reporter*, from information collected by Maclean Building Reports

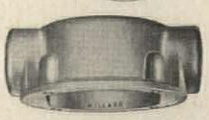
this couldn't have happened...

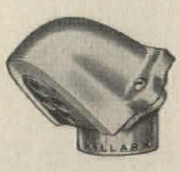
If the plans had called for

KILLARK electrolets
the all-aluminum electrical fittings

- Entrance fittings
- Flush switch fittings
- Conduit bodies
- Vapor-proof fittings and fixtures
- Explosion-proof fittings and fixtures
- Dust-tight fittings and fixtures
- Explosion-proof plugs and receptacles
- Outdoor lighting fixtures







Killark ELECTRIC MANUFACTURING CO.

School Aid Supporters Muster for New Push on Legislation

Supporters of Federal aid for school construction were hopeful that the House Education and Labor Committee would take up bills in this field following the Easter recess which ended April 14. Pressure for consideration of the legislation had been mounting as the group continued hearings on plans for government assistance to colleges and universities in the areas of science and mathematics teaching and in scholarships for students.

At a subcommittee hearing on this subject, the National Education Association, the Americans for Democratic Action, and the American Parents Committee were among the organizations pleading for Congressional consideration of a school construction bill.

This type of legislation should be enacted not only to help meet the classroom shortages, these witnesses argued, but to bolster the economy as well in this time of slack employment in some regions.

Ruth Stout of Topeka, Kan., N.E.A.'s vice president, expressed the sentiment this way: "The American people will and should question the Congress authorizing the construction of roads, post offices, buildings, and other public works while the school building needs of boys and girls are ignored." Several of the witnesses urged that school building programs be ranked ahead of post offices, roads, and other public works measures being rushed through Congress in the emergency category.

What could prove to be the nucleus of a new Federal aid to school construction drive was the $1.8 billion measure introduced late in March by Rep. Peter Frelinghuysen Jr. (R-N.J.), a member of the committee. The drafters of this proposed legislation purposely skirted some of the controversial features of last year's bedeviled H. R. 1 which failed of passage in the House on a narrow (five-vote) margin.

Loan considerations are out of the Frelinghuysen bill as are the bond and finance agency provisions of H. R. 1. This eliminating of certain features considered major in last year's effort was aimed at characterizing the 1958 measure as an emergency bill capable of quick enactment to provide jobs for unemployed as well as classrooms for overcrowded pupil bodies.

Here are the features:

—Grants of $600 million each year for three fiscal years starting July 1 would be provided. These grants would go to states on a 50-50 matching basis. The money could be combined with either state or local funds or a combination of both. The proposed law would make the allotments available for one year only, but it would specify that unused portions could be reallotted in succeeding years.

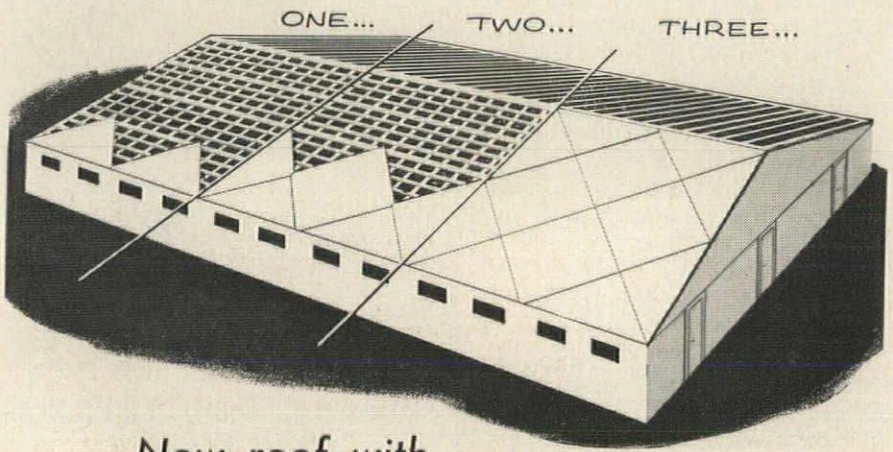
—Distribution of the Federal money would be on a school age population basis with no attempt to equalize allowances through attention to states' economic levels.

—The U.S. Commissioner of Education would be authorized to relax state plan requirements. Purpose of this new provision, it was explained, is to permit states to apply for grants immediately upon enactment of the bill even before their overall school construction programs might be planned in final detail. Again, it was an attempt to achieve quick application of benefits.

—Any project with costs incurred after April 1, 1958, would be eligible.

continued on page 382

ANOTHER HOMASOTE FIRST



Now roof with

8' x 8' "shingles"

WITH THE HAGERMAN "88" METHOD AND 8' x 8' WEATHERPROOF HOMASOTE PANELS— YOU ARE DOLLARS AND HOURS AHEAD

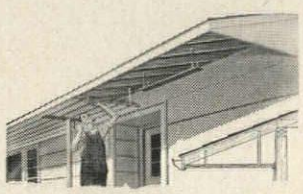
(ONLY ⅔ LABOR-HOUR PER SQUARE)

Consider the above building—planned to be about 60' long and 40' wide. The Hagerman "88" Specifications Sheet shows that the nearest economical length is 64'—the width 40' at the eaves—the pitch 5". The rafters should be 2 x 10's if 24" o.c.

The Hagerman "88" Tables then show that 48 panels of Homasote, each 8' x 8', make the complete roof.

These 48 panels of Homasote are applied in a "diamond" pattern. Rafters are strapped 16" o.c. Some of the panels are cut in two diagonally (at the eaves, sides and ridge)—all according to specifications supplied. Succeeding rows of panels overlap 5½", fully weather-tight. *Weatherproof* Homasote requires no further finishing of either the surface or the joints (although for appearance painting is desirable).

Hagerman "88" roofs are in use on all types of warehouses, utility buildings, farm buildings, poultry houses—wherever fast, cost-conscious structures are needed. For garages and other small structures, use 4' x 4' Homasote panels. Mail the coupon for data on this and other Homasote Products—and for your copy of the 72-page Homasote Handbook.



SOFFITSOTE

—the ideal soffit material—comes in 8' lengths and handy 12", 16", 24", 32" and 48" widths. Grooves—8" apart—run the length of the soffit—match the modern design of large overhangs. Groove-lap ends and sides assure true-line joining. Available primed or unprimed. The Wilson Air-Float construction method saves all the labor and time of boxing the rafters to support the soffit material.

HOMASOTE COMPANY

In U. S., kindly address Trenton 3, New Jersey.
In Canada: Toronto, Ont.—P.O. Box 35, Station K • Montreal, P. Q.—P. O. Box 20, Station N

SEE OUR CATALOG IN SWEET'S

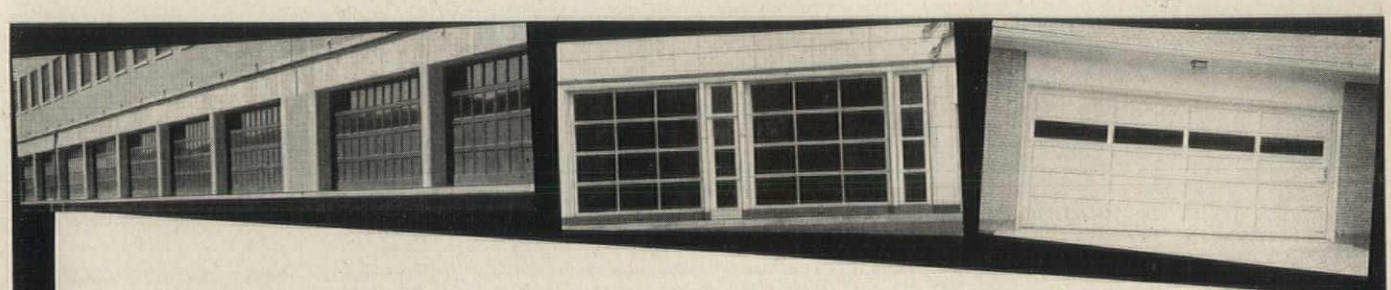
Send the literature and/or specification data checked:

☐ Hagerman "88"
☐ Soffitsote
☐ Wilson Air-Float Construction
☐ Panl-Tile (on 4' x 8' panels)
☐ Grooved Vertical Siding
☐ Homasote (72-page) Handbook

NAME.....

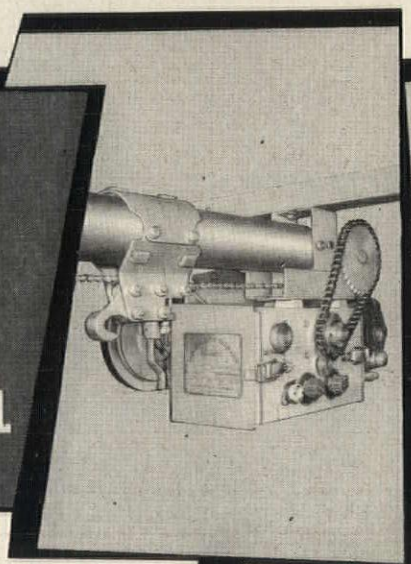
ADDRESS.....

CITY.....ZONE.....STATE.....E-21

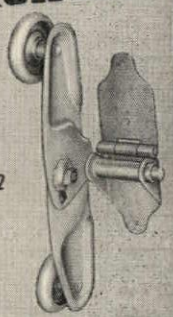


SPEED LAYOUT TIME...

with the NEW McKEE ARCHITECTS MANUAL



EXCLUSIVE
McKEE
"TWIN-ROLLORS"



4 rollers at each section joint instead of only 2

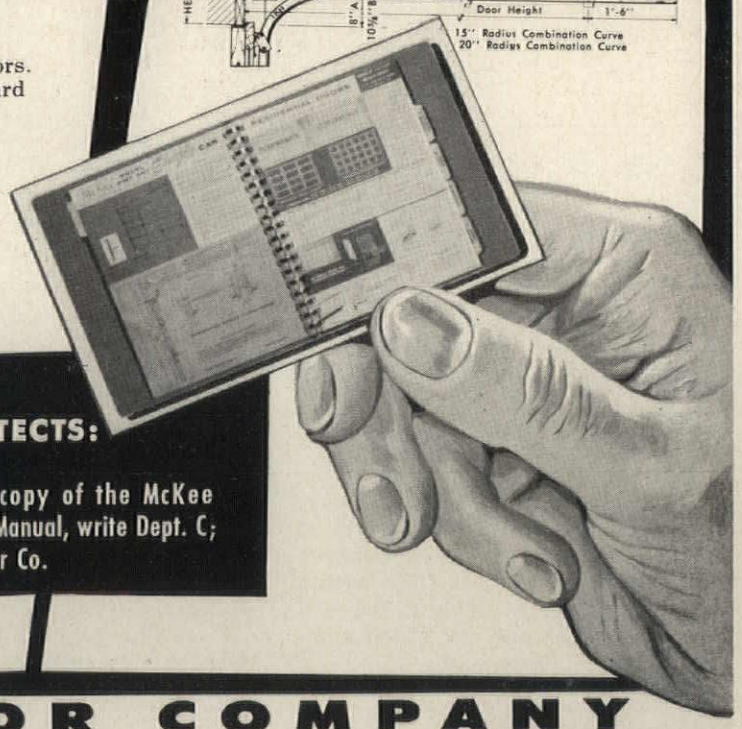
TWICE THE VALUE AT NO EXTRA COST!

More productive board time with McKee Door Company's new Architects Manual. All the facts at your fingertips.

END GUESSWORK! Bigger, complete double page spreads for each size range of Residential, Commercial-Industrial and Service Station Overdoors. Covers dimensions, track recommendations, standard and optional equipment, with photographs and diagrams. Sections on Overdoor Accessories and Operators.

END WORRY! McKee design and engineering means more in every McKee Overdoor. When you specify: ***"McKee Overdoors with Twin-Rollers and Wedge-Closing"***, your recommendation is backed by more than 3 decades of proven product performance.

ENDS CALLBACK EXPENSE! McKee Doors are guaranteed for a full year. Sold—Installed—Serviced by the local McKee Door distributor.



ARCHITECTS:

For your copy of the McKee Architects Manual, write Dept. C; McKee Door Co.

McKEE DOOR COMPANY

85 HANKES AVENUE • AURORA, ILLINOIS

Construction Cost Indexes

Presented by Clyde Shute, Director of Statistical Policy, Construction News Div., F. W. Dodge Corp., from data compiled by E. H. Boeckh & Assoc. Inc.

Labor and Materials: U.S. average 1926-1929=100

NEW YORK

PERIOD	RESIDENTIAL Brick	RESIDENTIAL Frame	APTS., HOTELS, OFFICE BLDGS. Brick and Concrete	COMMERCIAL AND FACTORY BLDGS. Brick and Concrete	COMMERCIAL AND FACTORY BLDGS. Brick and Steel
1930	127.0	126.7	124.1	128.0	123.6
1935	93.8	91.3	104.7	108.5	105.5
1939	123.5	122.4	130.7	133.4	130.1
1946	181.8	182.4	177.2	179.0	174.8
1947	219.3	222.0	207.6	207.5	203.8
1948	250.1	251.6	239.4	242.2	235.6
1949	243.7	240.8	242.8	246.6	240.0
1950	256.2	254.5	249.5	251.5	248.0
1951	273.2	271.3	263.7	265.2	262.2
1952	278.2	274.8	271.9	274.9	271.8
1953	281.3	277.2	281.0	286.0	282.0
1954	285.0	278.2	293.0	300.6	295.4
1955	293.1	286.0	300.0	308.3	302.4
1956	310.8	302.2	320.1	328.6	324.5
1957	318.5	308.3	333.1	345.2	339.8
Dec. 1957	319.9	309.4	336.6	348.9	344.7
Jan. 1958	321.5	310.1	339.2	352.9	347.8
Feb. 1958	320.9	309.3	339.4	353.3	348.1
	% increase over 1939				
Feb. 1958	159.8	152.7	159.7	164.8	167.6

ATLANTA

PERIOD	RESIDENTIAL Brick	RESIDENTIAL Frame	APTS., HOTELS, OFFICE BLDGS. Brick and Concrete	COMMERCIAL AND FACTORY BLDGS. Brick and Concrete	COMMERCIAL AND FACTORY BLDGS. Brick and Steel
1930	82.1	80.9	84.5	86.1	83.6
1935	72.3	67.9	84.0	87.1	85.1
1939	86.3	83.1	95.1	97.4	94.7
1946	148.1	149.2	136.8	136.4	135.1
1947	180.4	184.0	158.1	157.1	158.0
1948	199.2	202.5	178.8	178.8	178.8
1949	189.3	189.9	180.6	180.8	177.5
1950	194.3	196.2	185.4	183.7	185.0
1951	212.8	214.6	204.2	202.8	205.0
1952	218.8	221.0	212.8	210.1	214.3
1953	223.0	224.6	221.3	221.8	223.0
1954	219.6	219.1	233.5	225.2	225.4
1955	225.3	225.1	229.0	231.5	231.8
1956	237.2	235.7	241.7	244.4	246.4
1957	241.2	239.0	248.7	252.1	254.7
Dec. 1957	242.1	239.3	251.6	255.4	258.4
Jan. 1958	244.0	240.7	254.1	259.4	260.4
Feb. 1958	242.6	238.9	253.8	259.2	260.0
	% increase over 1939				
Feb. 1958	181.1	187.5	166.9	166.1	174.6

ST. LOUIS

PERIOD	RESIDENTIAL Brick	RESIDENTIAL Frame	APTS., HOTELS, OFFICE BLDGS. Brick and Concrete	COMMERCIAL AND FACTORY BLDGS. Brick and Concrete	COMMERCIAL AND FACTORY BLDGS. Brick and Steel
1930	108.9	108.3	112.4	115.3	111.3
1935	95.1	90.1	104.1	108.3	105.4
1939	110.2	107.0	118.7	119.8	119.0
1946	167.1	167.4	159.1	161.1	158.1
1947	202.4	203.8	183.9	184.2	184.0
1948	227.9	231.2	207.7	210.0	208.1
1949	221.4	220.7	212.8	215.7	213.6
1950	232.8	230.7	221.9	225.3	222.8
1951	252.0	248.3	238.5	240.9	239.0
1952	259.1	253.2	249.7	255.0	249.6
1953	263.4	256.4	259.0	267.0	259.2
1954	266.6	260.2	263.7	273.3	266.2
1955	273.3	266.5	272.2	281.3	276.5
1956	288.7	280.3	287.9	299.2	293.3
1957	292.0	283.4	295.2	307.1	302.9
Dec. 1957	296.2	286.8	302.6	315.3	310.6
Jan. 1958	295.1	286.1	301.2	313.3	309.6
Feb. 1958	293.7	285.0	300.5	312.8	309.0
	% increase over 1939				
Feb. 1958	166.5	166.4	153.2	161.1	159.7

SAN FRANCISCO

PERIOD	RESIDENTIAL Brick	RESIDENTIAL Frame	APTS., HOTELS, OFFICE BLDGS. Brick and Concrete	COMMERCIAL AND FACTORY BLDGS. Brick and Concrete	COMMERCIAL AND FACTORY BLDGS. Brick and Steel
1930	90.8	86.8	100.6	104.9	100.4
1935	89.5	84.5	96.4	103.7	99.7
1939	105.6	99.3	117.4	121.9	116.5
1946	159.7	157.5	157.9	159.3	160.0
1947	193.1	191.6	183.7	186.8	186.9
1948	218.9	216.6	208.3	214.7	211.1
1949	213.0	207.1	214.0	219.8	216.1
1950	227.0	223.1	222.4	224.5	222.6
1951	245.2	240.4	239.6	243.1	243.1
1952	250.2	245.0	245.6	248.7	249.6
1953	255.2	257.2	256.6	261.0	259.7
1954	257.4	249.2	264.1	272.5	267.2
1955	268.0	259.0	275.0	284.4	279.6
1956	279.0	270.0	288.9	298.6	295.8
1957	286.3	274.4	302.9	315.2	310.7
Dec. 1957	287.6	274.4	307.0	319.9	316.0
Jan. 1958	288.2	274.4	307.8	321.9	316.5
Feb. 1958	287.3	272.8	308.0	322.1	316.8
	% increase over 1939				
Feb. 1958	172.1	174.7	162.4	164.2	171.9

Cost comparisons, as percentage differences for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.:

index for city A = 110
index for city B = 95

(both indexes must be for the same type of construction).

Then: costs in A are approximately 16 per cent higher than in B.

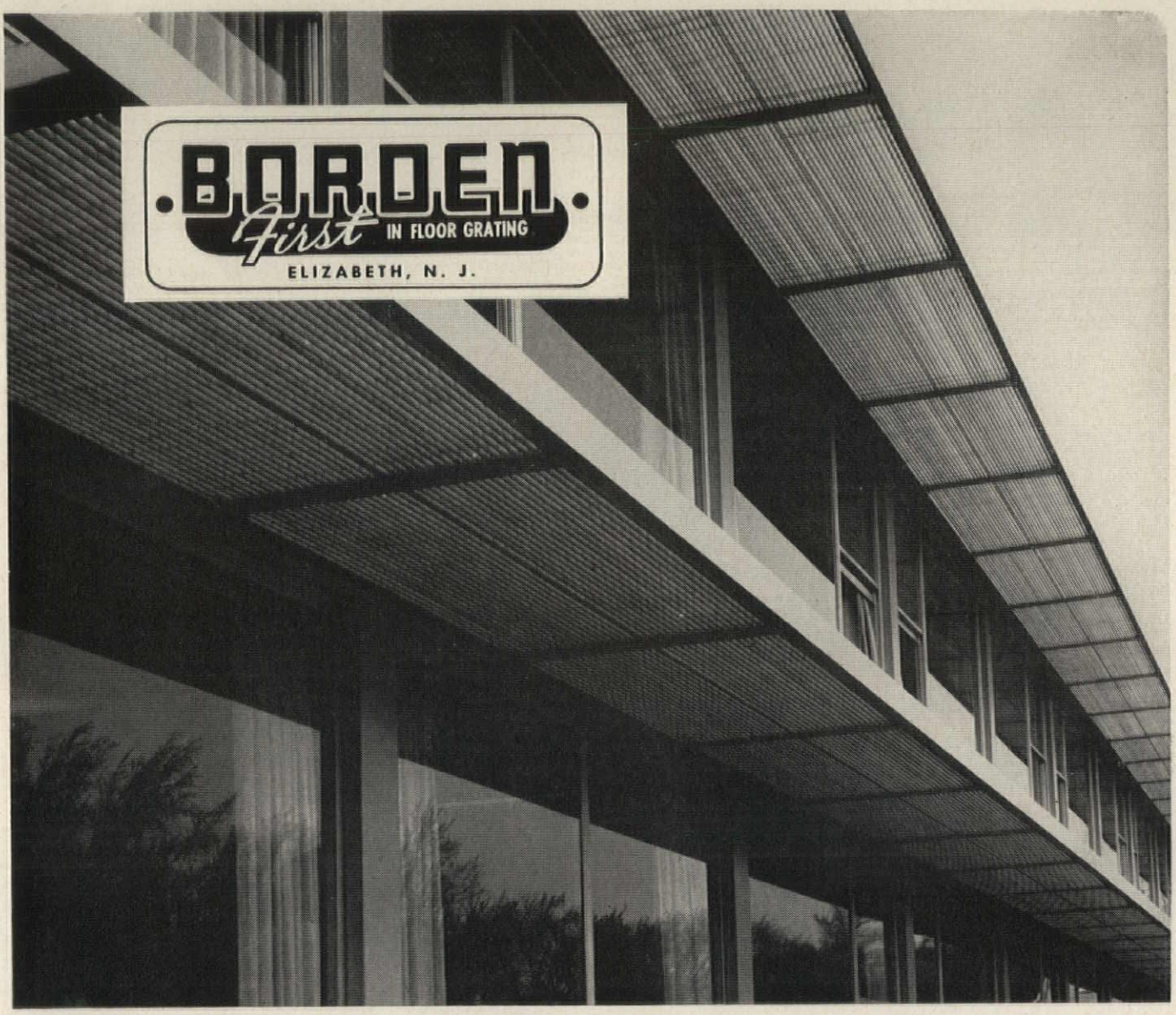
$$\frac{110-95}{95} = 0.158$$

Conversely: costs in B are approximately 14 per cent lower than in A.

$$\frac{110-95}{110} = 0.136$$

Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926-29.

Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs.



NEW USE FOR GRATING -- SUN SHADES FOR MODERN SCHOOLS

Light aluminum grating for SUN SHADES on schools is in perfect harmony with modern school design — allows 80% passage of light and air without the accompanying penetrating rays of the sun. Because they are aluminum they are maintenance-free. Furthermore, they provide a permanent working platform for easy access to windows.

Only the finest precision manufacturing would satisfy the architect who designed the school shown here. BORDEN is recognized as a leader in quality custom-manufactured gratings, in ferrous and non-ferrous metals.

Other uses for grating in school design: Areaways, boiler rooms, laboratories, gridiron catwalks in auditoriums and gymnasiums, footscrapers and window guards.

Write for complete
information on BORDEN
All/Weld, Pressure Locked, and Riveted Floor
Gratings in this FREE 8-page catalog

BORDEN METAL PRODUCTS CO.

822 GREEN LANE ELizabeth 2-6410 ELIZABETH, N. J.
SOUTHERN PLANT—LEEDS, ALA. — MAIN PLANT—UNION, N. J.

BORDEN METAL PRODUCTS CO. W-S

Gentlemen:

Please send me BORDEN Catalog

NAME .....

TITLE .....

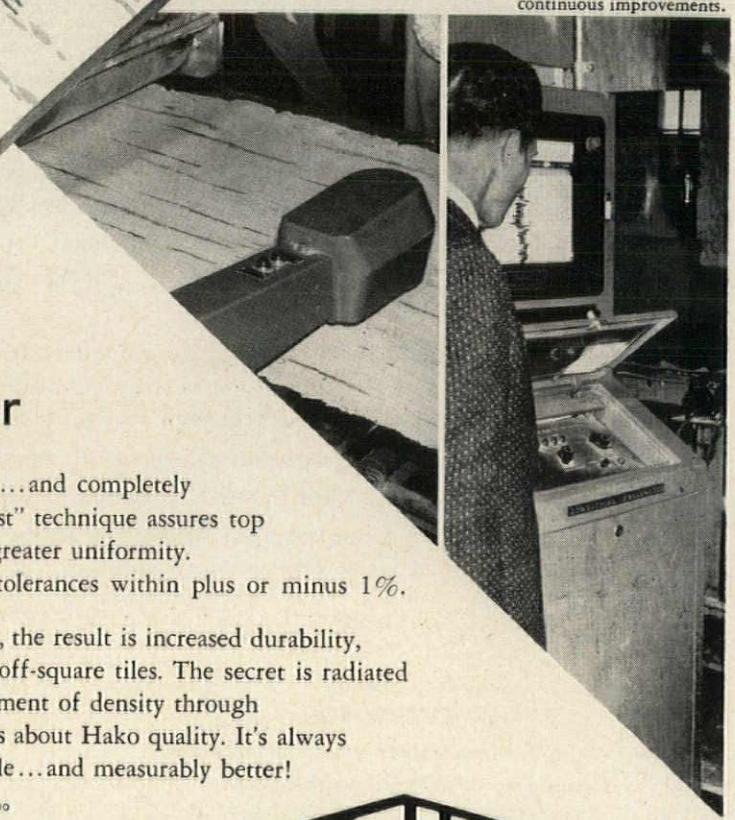
COMPANY NAME .....

ST. AND NO. .....

CITY AND STATE .....

out of nuclear research . . .
a new standard of
TILE QUALITY

AccuRay's recorder panel gives Hako engineers instantaneous reports of production progress, makes possible continuous improvements.



now
AccuRay®
makes
HAKO
measurably better

Now AccuRay makes Hako's quality visible...and completely controllable! The automatic "check and adjust" technique assures top dimensional stability, smoother texture and greater uniformity. AccuRay actually measures quality...keeps tolerances within plus or minus 1%.

With production master-minded by AccuRay, the result is increased durability, improved appearance and the prevention of off-square tiles. The secret is radiated electrons which provide an accurate measurement of density through degree of absorption. You don't have to guess about Hako quality. It's always been visible but AccuRay makes it measurable...and measurably better!

AccuRay T.M. REG. BY INDUSTRIAL NUCLEONICS CORPORATION, COLUMBUS, OHIO

HAKO BUILDING PRODUCTS

HAKO

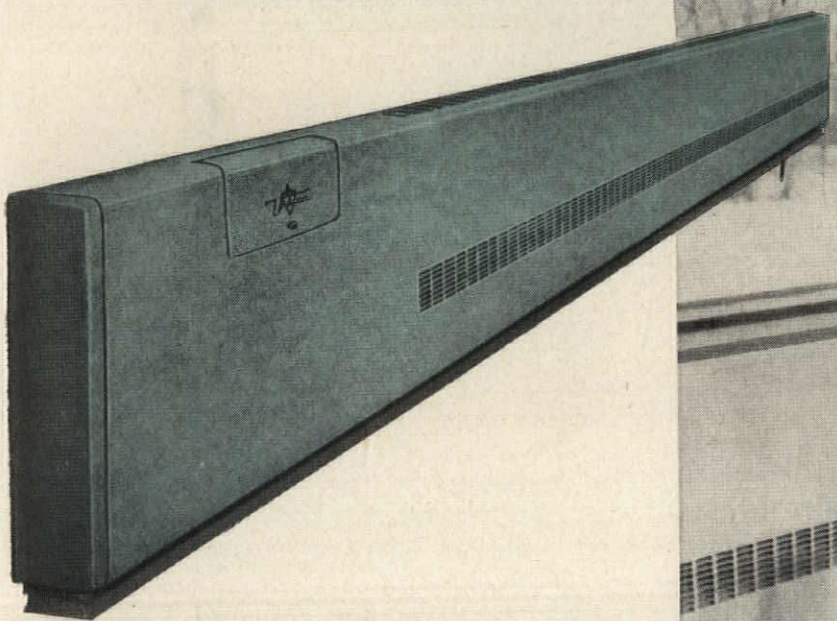
HA 17

Division of Mastic Tile Corporation of America
Houston, Tex. • Joliet, Ill. • Long Beach, Calif. • Newburgh, N. Y.
Asphalt Tile • Vinylflex • Polykrome • CorkAtile • Coronet Plastic Wall Tile

New! Low Cost Classroom

HEATING-VENTILATING SYSTEM

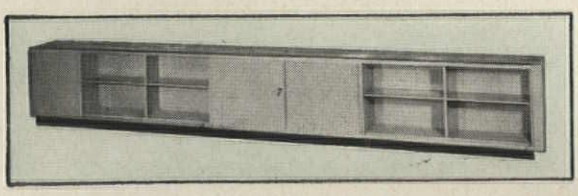
Vulcan LINOVENTILATOR *



The LINOVENTILATOR System meets the exacting requirements for schoolroom heating-ventilating as established by recognized authorities.

It has been designed for economy, efficiency and functional beauty, with remarkable savings in installation and operating costs. This has been made possible by unique Vulcan engineering that introduces an entirely new concept in heating and ventilating.

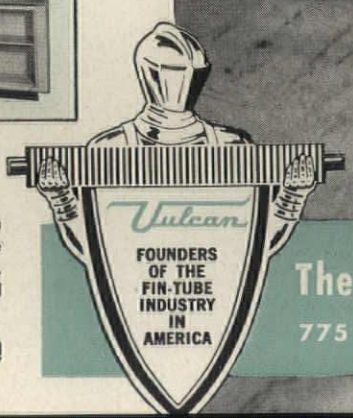
- NO DAMPERS REQUIRED
- LOW INSTALLATION AND OPERATING COSTS
- ELIMINATES NEED FOR AUXILIARY RADIATION
- SIMPLIFIED AUTOMATIC CONTROLS
- LOW MAINTENANCE COST
- NO WIND "BLOW-THROUGH"



Attractive, Economical, Rugged
VULCAN UTILITY CABINETS

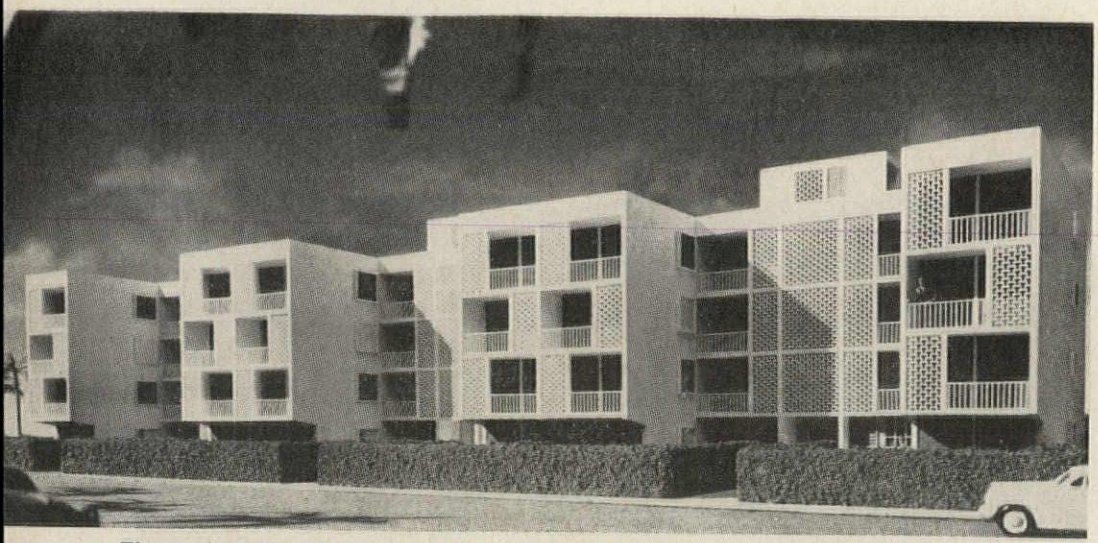
Vulcan Utility Cabinets can be used with Linoventilator or Linovector Radiation. Can be installed in individual units or wall-to-wall. Choice of 8 standard Vulcan baked enamel colors with matching inlaid Formica tops.

Write For Catalog LV-400 . . . Today!



The VULCAN Radiator Company
775 CAPITOL AVENUE HARTFORD 6, CONN.

*Trademark Reg.



The perforated walls of this group of apartment houses in Havana by Wiener, Sert, and Schultz secure ventilation as well as shading from the hot Cuban sun.

Design Research On Sun Control

By Seymour Howard

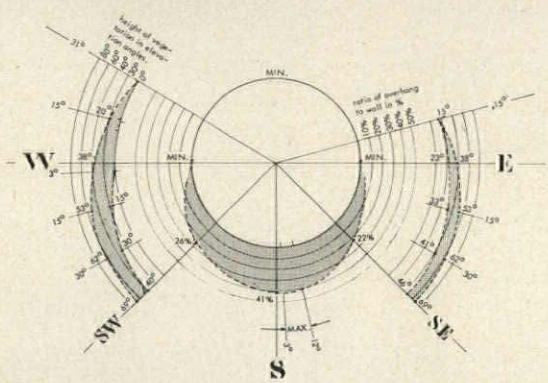
The sun is the source of life, but its uncontrolled glare and heat are often unbearable. When architects took advantage of modern structural framing to allow sunlight to flood the interior of their buildings, many previously minor problems suddenly became of major importance.

The technical aspects and the aesthetic implications of these problems have been analyzed by the Olgyay brothers in this book. Their basic philosophy is the functionalist one, in its correct interpretation. Rich variety of architectural form must have its roots in the correct solutions of real problems. "Intuition and fantasy," they write, "can really help us in achieving the essential goal (of architecture) if they are instinctive disciples of clear thinking. Subjective interpretations and ad libitum emotional solutions can be valid only after the fulfillment of intellectual obligations, for within the balance of knowing and feeling a work can truly fulfill its creative role."

The research accomplished by the Olgyays is a model of what architectural research should be. They have developed procedures for analyzing the sun problem and for designing correct solutions. They found the most useful method for graphical plotting of the sun's movement to be the "Sun Angle Calculator", an equidistant projection of the celestial sphere, published by the Libbey-Owens-Ford Glass Co. For model work they invented a simple device called the "Shade Dial". This enables the sun itself to be used as a source of parallel light rays on the model; the model can be turned so that the light falls at the correct angle for any hour of any day at any

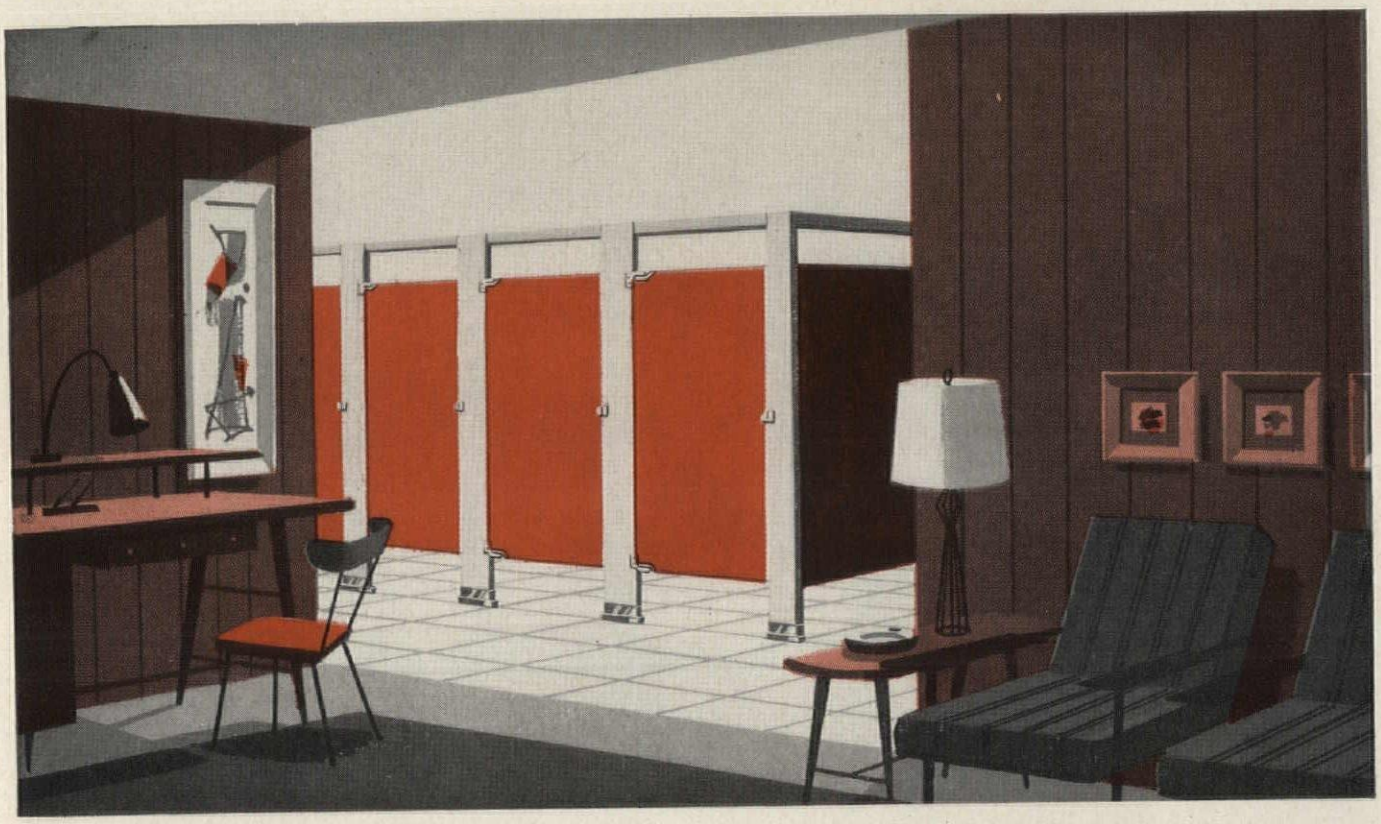
continued on page 64

Solar Control & Shading Devices. By Aladar Olgyay and Victor Olgyay. Princeton University Press (N. J.), 1957. 201 pp., illus. $12.50.



CUTLER Toilet Compartments

A NEW PERSPECTIVE ON QUALITY . . AT A COMPETITIVE PRICE

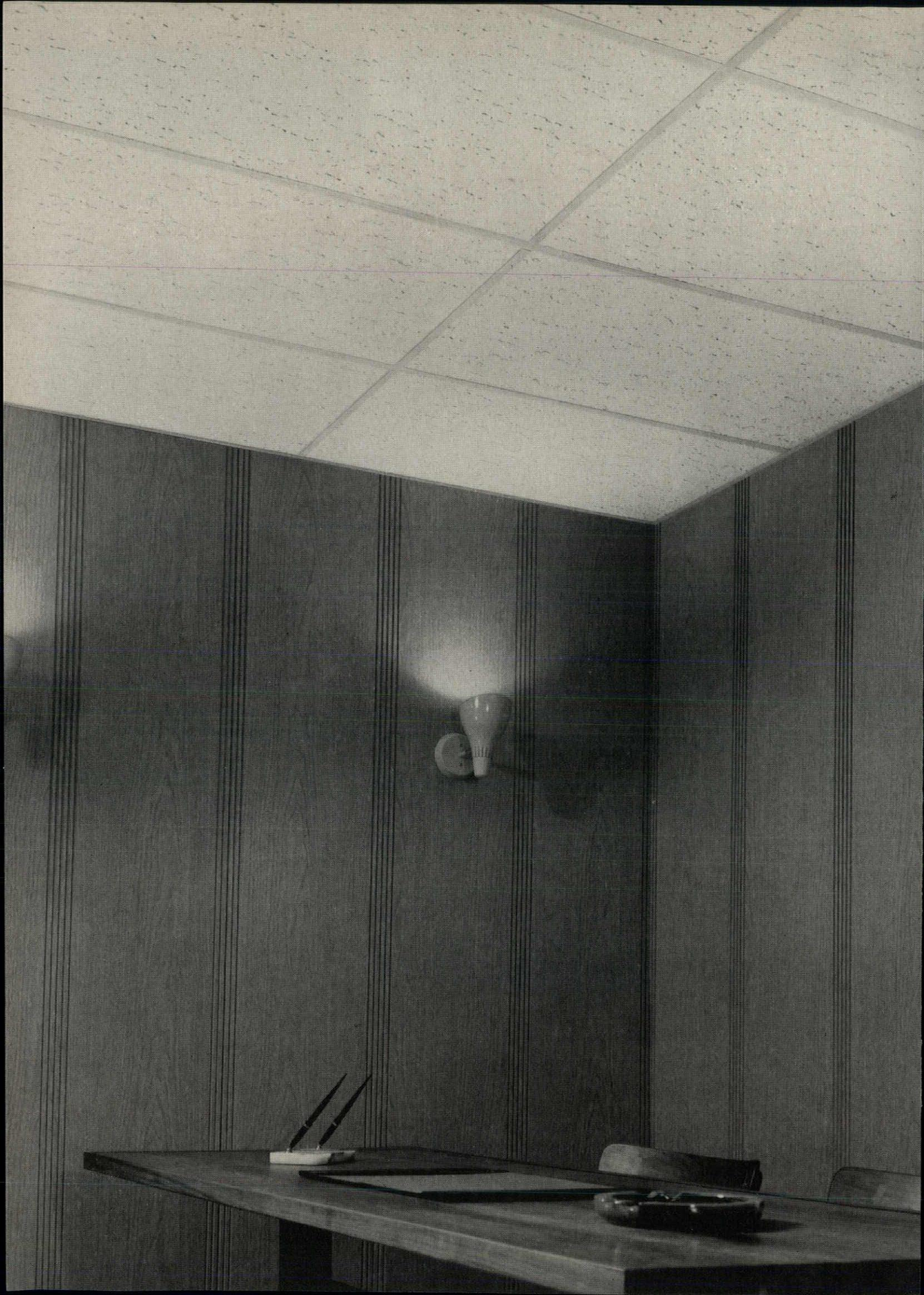


WHAT'S YOUR CONCEPT OF QUALITY in toilet partition construction? Quality Materials? Workmanship? Styling? Examine Cutler Toilet Partitions from any critical point of view: rigidity, durability, adaptability, ease of assembly, color finishes, corrosion resistance, hardware and fittings, and we think you'll agree they provide a new perspective on quality *at a competitive price.*

HOW CAN CUTLER METAL DO IT? Cutler Metal Products Company was founded and has been built upon the ideal of integrity in product design, in workmanship, in service. Over 40 years of metal engineering know-how goes into the construction of Cutler Toilet Partitions, know-how that is serving such outstanding leaders of U.S. Industry today as RCA, CBS, G-E, Westinghouse, Yale & Towne, Ingersoll-Rand, and many others.

RESULT: If you're interested in the maximum in quality at a price that meets your needs specify *Cutler Toilet Partitions* — there are none finer available today. Models for every type of installation. Complete engineering advisory service. Immediate and safe delivery to any job-site in the U.S.A. Catalog in Sweet's Architectural file or yours for the asking. Complete specification sheets available for your use.

WRITE Building Products Division CM CUTLER METAL PRODUCTS CO.
1026 LINE STREET, CAMDEN 3, NEW JERSEY



Now you can specify fissured ceiling beauty in an incombustible lay-in unit

New Armstrong Fissured Minaboard gives you, for the first time, the traditional beauty of a fissured acoustical ceiling in a large, incombustible lay-in unit.

Distinctive Fissured Surface. Armstrong Fissured Minaboard provides a luxurious—yet subtle—ceiling effect.

Eliminates Breathing. Unlike lighter materials that are subject to air infiltration, Armstrong Minaboard resists movement of air through the board. Dust and dirt do not build up on its surface.

Reduces Sound Transmission. The special density and composition of Armstrong Minaboard provide excellent resistance to sound transmission—much more than that offered by low-density ceiling boards.

Inexpensive, Incombustible Ceiling. Armstrong Minaboard is rated Class A (Incombustible) under Federal Specifications SS-A-118b and carries the Underwriters' Label. Large units reduce installation costs.

Cuts Maintenance Expenses. Armstrong Fissured Minaboard can be easily cleaned with a vacuum cleaner or damp cloth. It can be repainted by conventional methods without loss of acoustical efficiency.

Easy Accessibility. Each 24″ x 48″ unit is removable for easy accessibility to pipes, ducts, and electrical fixtures.

For further information and complete specifications, contact your Armstrong acoustical contractor, your nearest Armstrong District Office, or write directly to the Armstrong Cork Company, 4205 Rock Street, Lancaster, Pennsylvania.

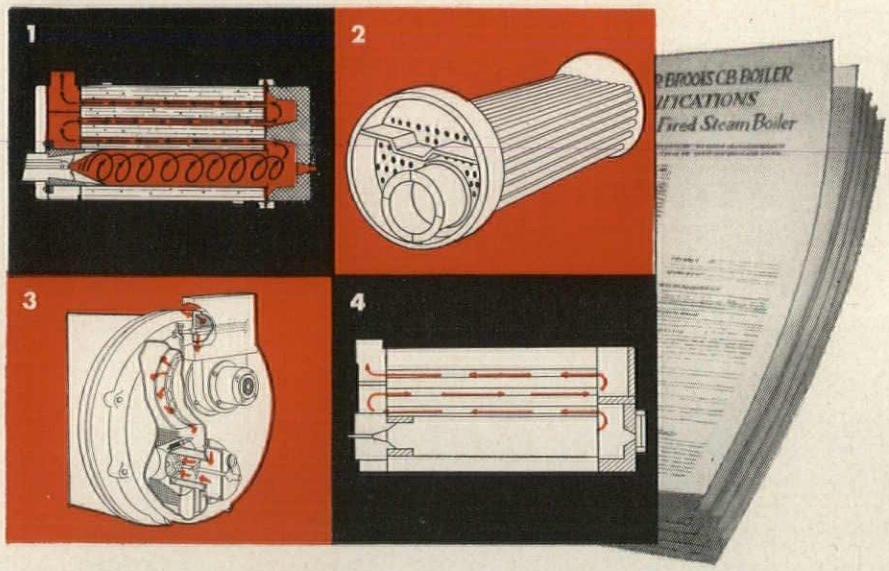
Armstrong

ACOUSTICAL CEILINGS

Cushiontone Travertone Arrestone Minatone

Corkoustic Crestone Minaboard

Before you specify any boiler consider how Cleaver-Brooks standards of quality . . .



Assure performance that satisfies clients

1 **Four-pass,** fire tube construction. Longer gas travel scrubs more heat from flame, assures high heat transfer and lower fuel costs.

2 **Five square feet** of heating surface per boiler horsepower makes possible many years of uniformly high operating efficiency, low maintenance.

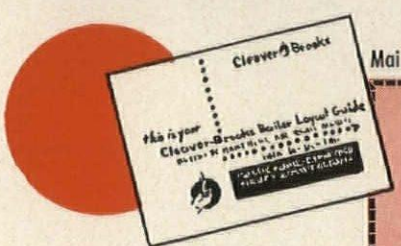
3 **Forced draft,** controlled combustion maintains proper fuel-air ratios, highest efficiency regardless of wind or weather... requires less maintenance than other air-control methods.

4 **Updraft construction,** low furnace location places hot combustion gases low in boiler for greater safety.

These design standards are the basis for peak operating efficiency and greater safety. What's more, Cleaver-Brooks boilers save installation time and money. These fully packaged boilers arrive fully assembled, ready to install. Each boiler is fully fire-tested at the factory under load, tuned to peak economy. Starting service and on-the-job operator training by authorized field engineers further decrease overall costs, promote customer satisfaction.

Consider all the advantages; you'll see why it pays to specify a Cleaver-Brooks. Choose from 19 sizes, 130 models, 15 to 600 hp, oil, gas and combination oil/gas fired, steam or hot water.

See your Cleaver-Brooks agent for additional information, or write Cleaver-Brooks Company, Dept. F, 362 E. Keefe Ave., Milwaukee 12, Wisconsin.



Mail coupon for free Boiler Layout Guide

CLEAVER-BROOKS COMPANY
Dept. F, 362 E. Keefe Avenue
Milwaukee, Wisconsin

Please send me your CB Layout Guide

Name .....
Firm .....
Street & No. .....
City ..... State .....

Cleaver Brooks®

Required Reading

Continued from page 60

latitude. They have also developed simple methods for the accurate calculation of the total flow of heat or light from the sun onto any surface, using their "Radiation Calculator". These methods also enable an accurate determination to be made of the cost of a shading device as compared with the cost of extra air conditioning if the shading device were omitted.

The summary of their analysis is shown in a "Regional Shading Chart" which gives the recommended length of overhangs and height of vertical shading devices on the various facades of a building in a given area. The information from this simple chart can be used directly as the basis for adequate preliminary architectural design. For more detailed studies a "Mask Protractor" can be prepared by the architect and sun control devices designed to provide exactly the amount of shading desired. The efficiency of the shading devices can be proved numerically by calculating the B.T.U. saving with the "Radiation Calculator".

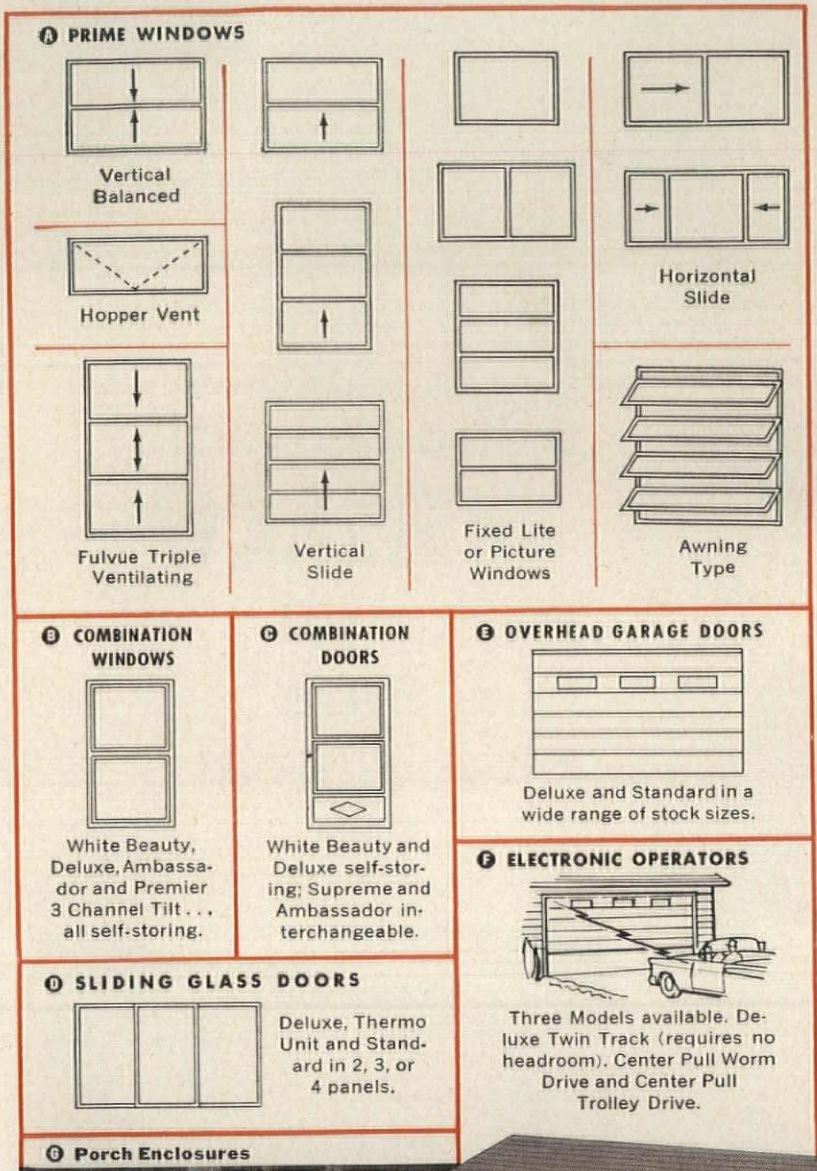
A complete vocabulary of architectural shading devices, movable and fixed, is shown in plan, elevation and "Shading Mask" for each one. The great value of vegetation is properly emphasized. Though their effectiveness is limited to relatively low buildings, trees are the ideal shading device.

Finally, the authors present about a hundred examples of sun control devices as designed by modern architects throughout the world, each complete with photographs, details and "Shading Mask". These pictures indicate how rich and varied the forms of functional architecture can be.

A few points have been neglected. The problem of excessive insolation may exist even in the winter. Shutters or louvers, provided for sun protection, may also have value in reducing heat loss at night in winter, in protecting large glass areas from breakage and in giving a feeling of security during storms. The relation of sun control to other problems of regional and micro-climate could be developed further.

It would have been helpful to find in the book a complete description of equidistant projection and a method of constructing the diagrams based on it, particularly since the diagrams in the book are reproduced at too small a scale for use and are even difficult to read. The authors should

continued on page 410

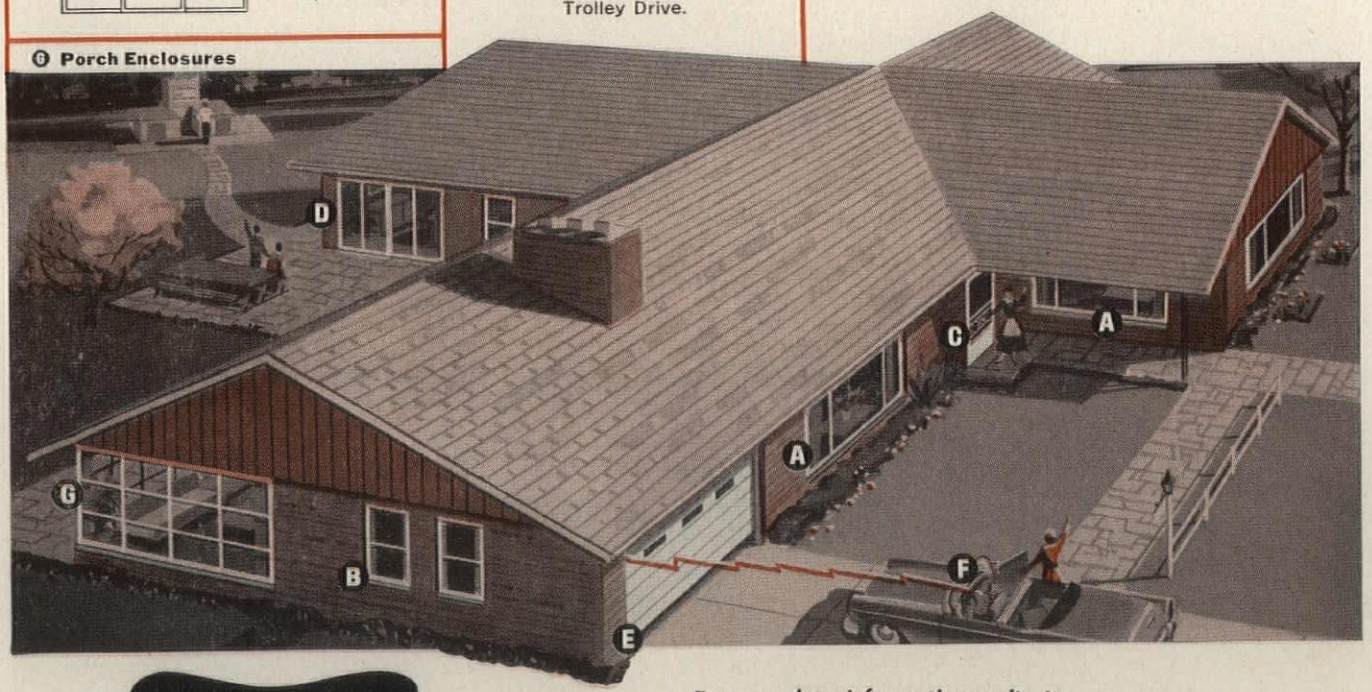


For Greater Design Freedom . . .

Specify

RUSCO

Rusco's 6 full lines afford you unlimited design possibilities . . . a window and door in every style, size and price range . . . to meet every architectural requirement. Available in rugged hot-dipped galvanized tubular steel finish-painted with sparkling baked-on enamel, or satin smooth extruded aluminum. Rusco windows and doors give your clients the kind of quality that has already satisfied over 20,000,000 users . . . smooth trouble-free operation . . . weathertightness . . . easy maintenance . . . and clean design that lends spaciousness and beauty to any style of home.



"Always one step ahead of the weather" with RUSCO

For complete information write to:

The F. C. RUSSELL COMPANY

Dept. 6-AR-58, Columbiana, Ohio. In Canada: Toronto 13, Ontario

See our insert in Sweet's Architectural File

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

Schools with RILCO are Beautiful Fire Safe Economical

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

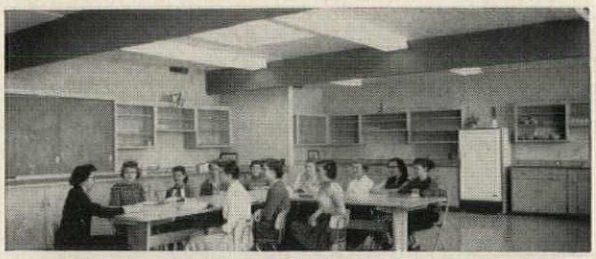
Rilco arches, beams and trusses help reduce erection time and costs — delivered carefully wrapped for protection—drilled for furnished hardware, they go up *fast* with regular job-site labor. Maintenance free — laminated wood is not subject to chemical change, rust, corrosion, splitting or warping.

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

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

RILCO
works wonders with wood

RILCO LAMINATED PRODUCTS, INC.
W818 FIRST NATIONAL BANK BUILDING, ST. PAUL 1, MINNESOTA
District offices: Newark, N. J. • Fort Wayne, Ind. • Tacoma, Wash.



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

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

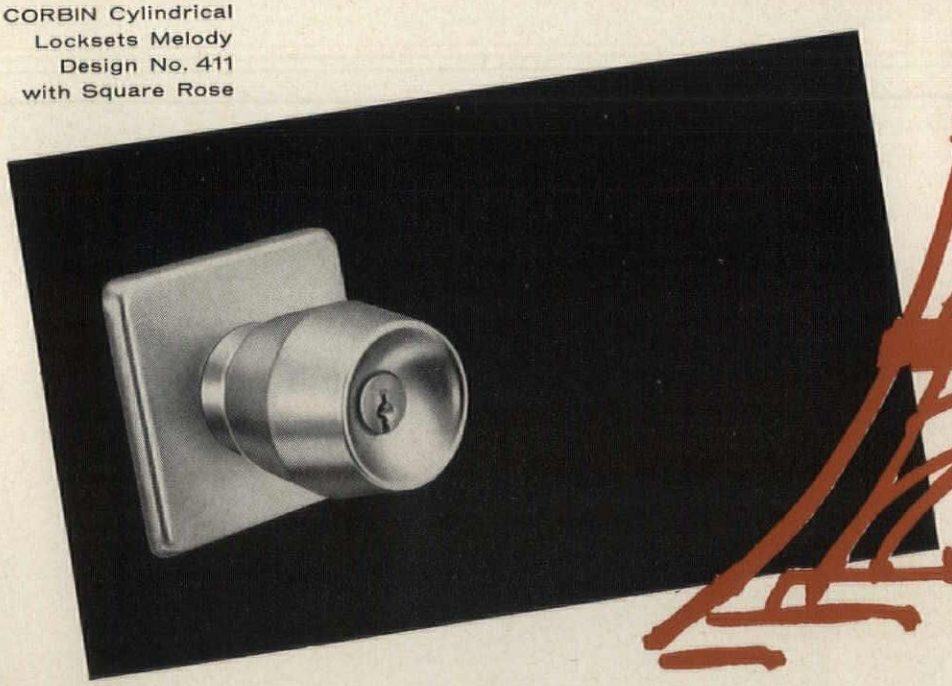
Gymnasium of Kiowa Elementary School, Kiowa, Colorado. School was built at a cost of $7.30 sq. ft. Architect: Robert W. Ditzen; Contractor: Broadway Construction Co.

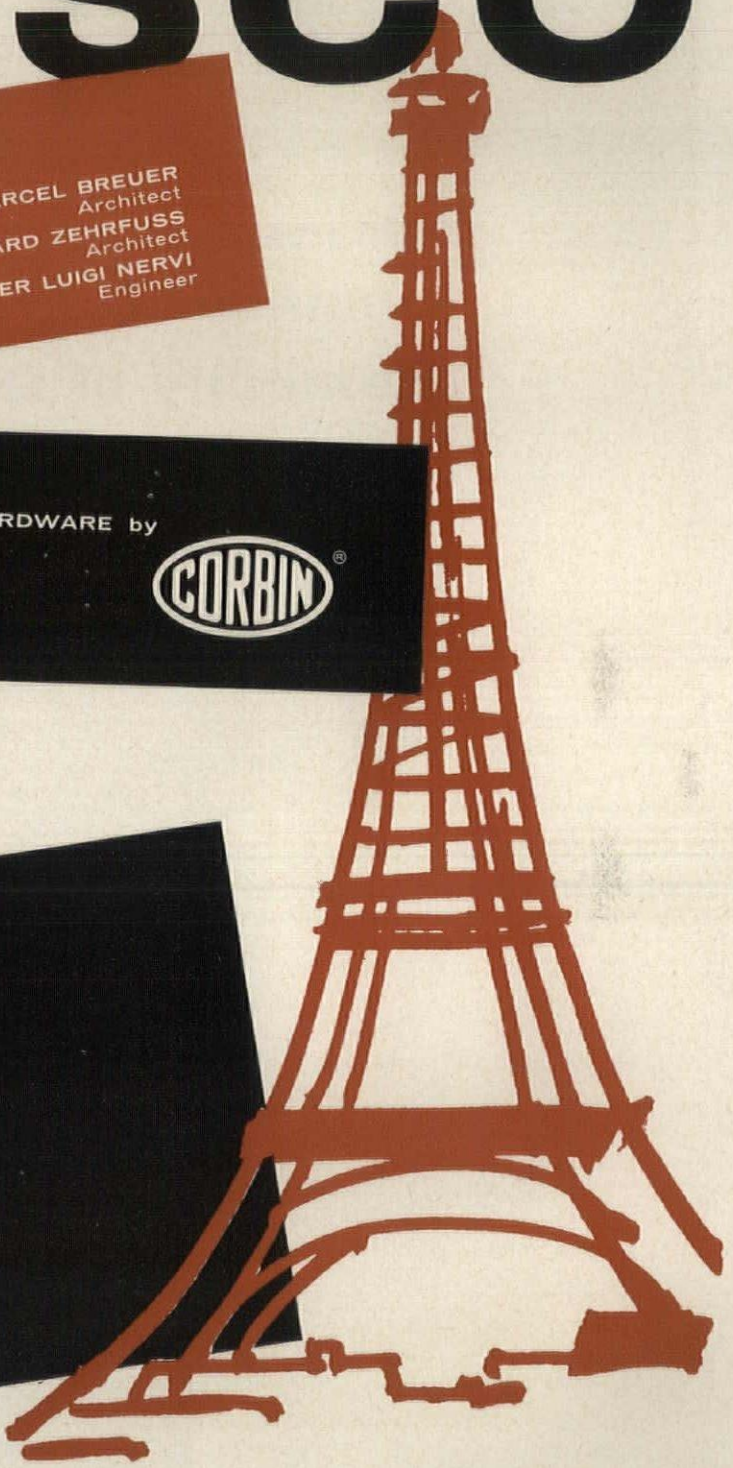
UNESCO

UNESCO by
MARCEL BREUER
Architect
BERNARD ZEHRFUSS
Architect
PIER LUIGI NERVI
Engineer

BUILDERS' HARDWARE by CORBIN®

CORBIN Cylindrical
Locksets Melody
Design No. 411
with Square Rose





● Corbin is the first to bring the "new world" look in builders' hardware to tradition-steeped Paris. ✓ ✓ ✓ Selected *exclusively* to complement the ultramodern design of the new UNESCO Headquarters . . . Corbin locksets were installed throughout both main buildings, the Y-shaped Secretariat and the Conference-Assembly building. Also, Corbin "400" door closers, surface door closers, push-pull hardware, exit fixtures, kick plates, and flush bolts for doors. ✓ ✓ ✓ Today's most widely used builders' hardware, Corbin is *first choice* for tomorrow's most outstanding buildings. P & F CORBIN Division, The American Hardware Corporation, New Britain, Connecticut.

CORBIN "400" Door Closer

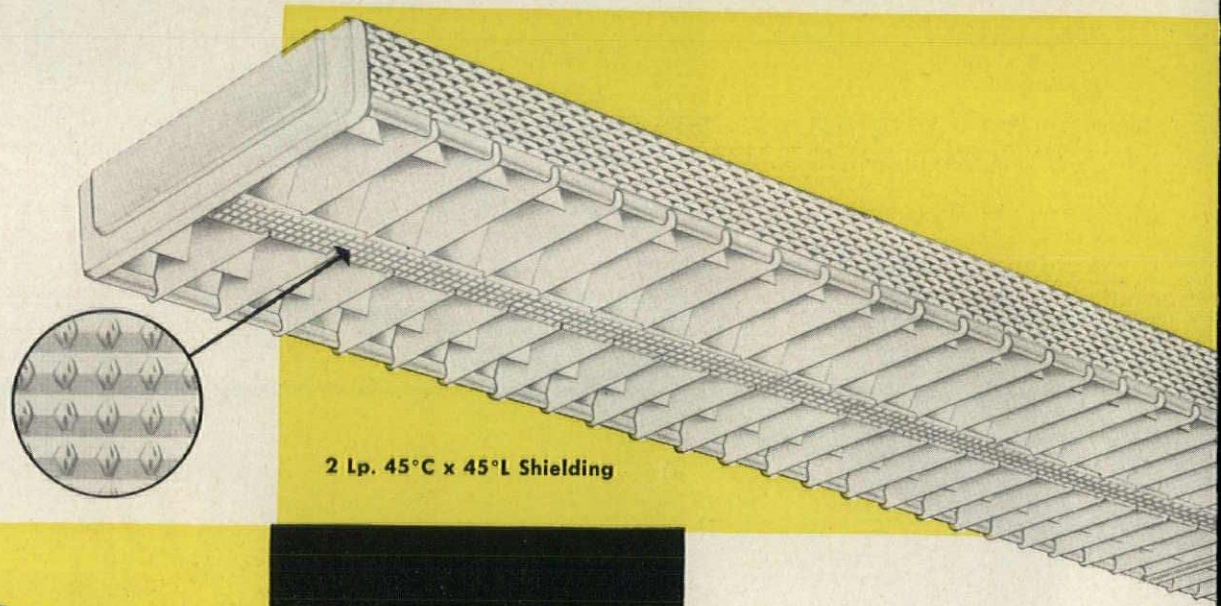
GOOD BUILDINGS DESERVE CORBIN HARDWARE

THE NEW miller RICHMOND

featuring...

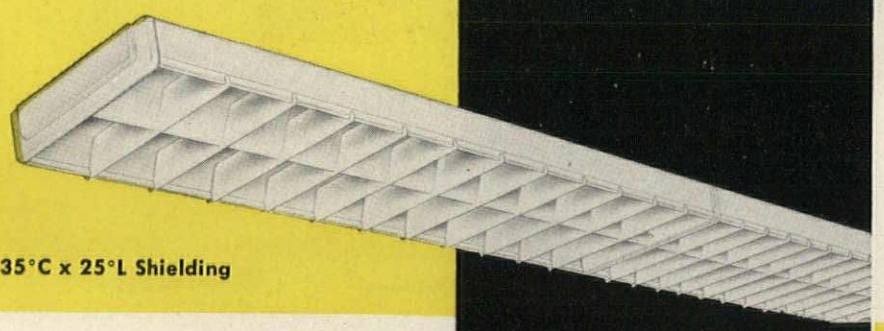
- **Luminous Texture-Lite Side Panels**
- **Flexibility of Design and Application**

for SCHOOLS • OFFICES • STORES

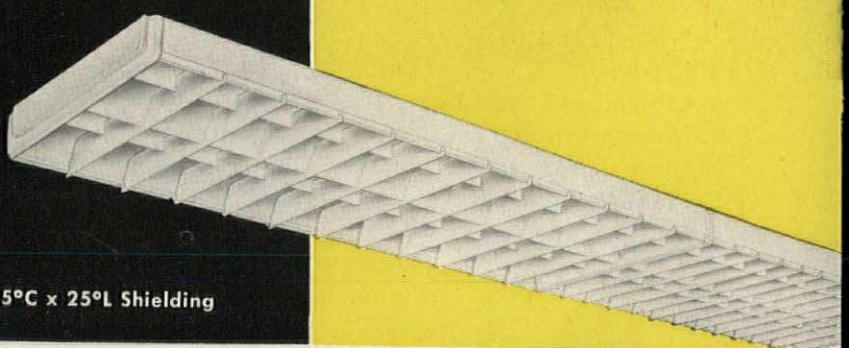


Prismatic plastic strip provides 45° crosswise shielding without added depth. Subtle sparkle gives decorative effect.

2 Lp. 45°C x 45°L Shielding



2 Lp. 35°C x 25°L Shielding



4 Lp. 35°C x 25°L Shielding

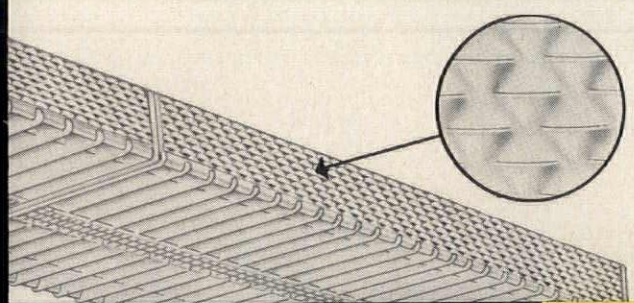
Miller's new Richmond Series offers an exciting and unique combination of features to meet both aesthetic and functional lighting design needs for schools, offices, and stores. Shallow, straight-sided, and cleanly styled — these fixtures provide wide flexibility of design and application. Richmonds are well engineered, sturdily built, and *attractively priced.*

Truly coordinated design throughout any installation is made possible by a choice of: Decorative Texture-Lite, Opaque Metal, or Plastic Side Panels; two different shielding assemblies; and 2 or 4-Lamp units in 4 or 8-ft. lengths.

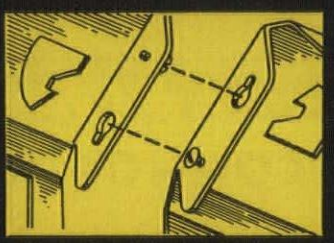
And these new fixtures can be suspended, close ceiling mounted, or surface mounted in continuous rows, patterned groups, or as individual units depending on their application.

For complete catalog information and performance data on the new Richmond contact your Miller Representative or write Dept. R-558, The Miller Company, Meriden, Conn.

Unique, new decorative effects are possible with Texture-Lite side panels, a Miller exclusive, optional with Richmond. Open top lancings in the metal sides provide surface interest while shielding the lamps from direct view. Texture is accentuated and "brought to life" as light filters through the hooded openings. Appearance is softly luminous, subtle, and ever-changing. And with Texture-Lite the Richmond's clean, shallow styling is greatly enhanced.

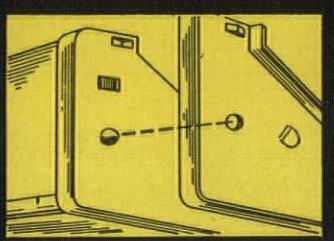


These Richmond Exclusives Simplify Installation and Maintenance

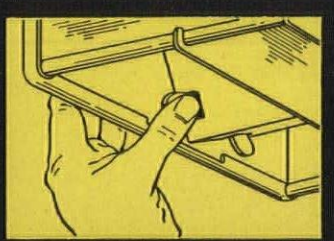


BUILT-IN CHANNEL CONNECTOR FOR 2 LP. UNITS . . . makes continuous row installation easy. No separate connector needed and no loose hardware to handle. Sturdy steel connector is part of socket strap and has key slot and captive screw for aligning and joining abutting channels.

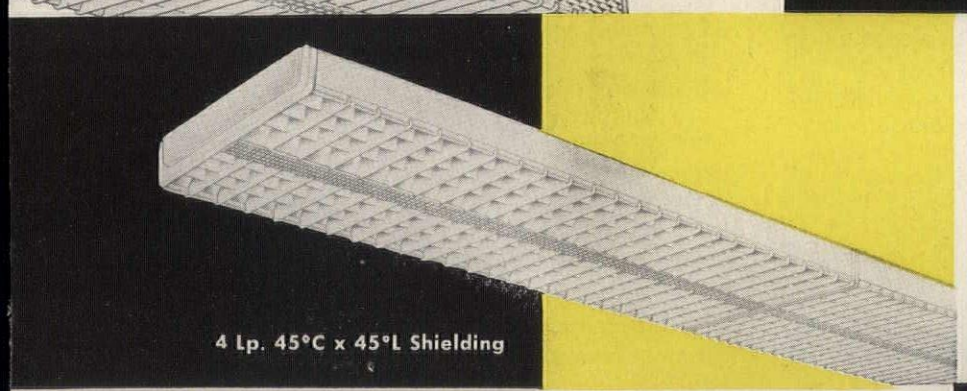
"U" SHAPED, TRANSLUCENT PLASTIC SIDE RAILS . . . provide continuous snug seating for side panels and lock with ends of cross louvers to keep shielding assembly rigid and rattle-free . . . permit cleaning of louver and side panels as assembled unit or individually as desired. Translucency of side rails gives side panels luminous bottom edge with no dark strips to mar appearance.



AUTOMATIC ALIGNER CLIPS . . . assure fast, accurate alignment of shielding assemblies. No adjustments needed. Bump on spring steel clip attached to each end plate lines up with hole in adjoining end plate.



"TWIN" THUMB LATCHES . . . at each end provide easy accessibility from either side of fixture. Slight finger pressure on latch releases shielding assembly on support chain at either end. Reattachment is quick and easy, too—spring loaded latches automatically engage rugged support arms on socket brackets to hold shielding assembly securely in place.



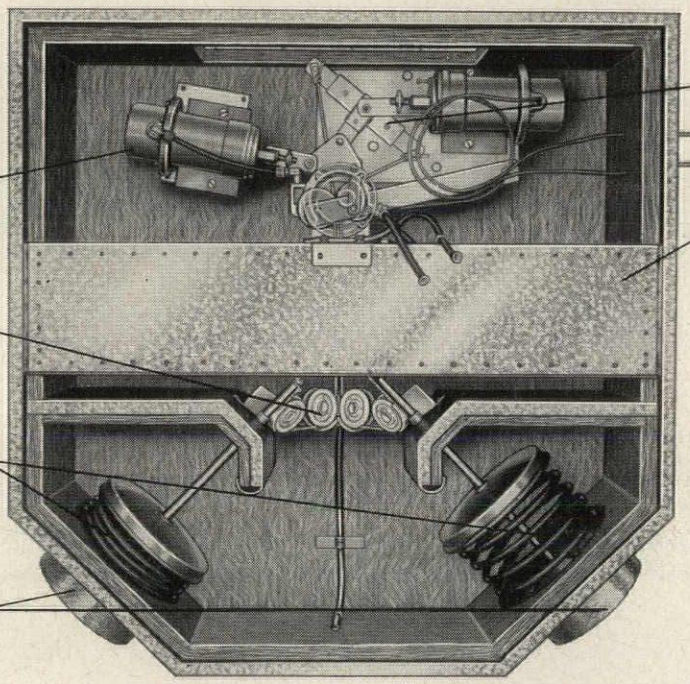
THE miller COMPANY, MERIDEN, CONN.

In Canada: CURTIS LIGHTING OF CANADA LTD., TORONTO

miller
SINCE 1844

7 ENGINEERING REASONS *Why*

TO SPECIFY *NEW* CONNOR KNO-DRAFT HIGH VELOCITY VALVE ATTENUATORS



SHOWN HERE are seven sound reasons why new Kno-draft "Series 45" Valve Attenuators meet every test of high velocity systems . . . assuring better balanced air delivery and constantly controlled air diffusion.

CONSTANT VOLUME CONTROL insures constant air volume despite static air fluctuations. Single adjustment of pressure regulator balances total air volume. All constant volume units use standard components of control manufacturers actuated by 15 psi air pressure.

HIGH QUALITY COMPONENTS: galvanized steel casing, vinyl coated acoustical absorbing material, nylon pulleys, stainless steel aircraft type cable.

PATENTED HELICAL NEOPRENE SPRING DAMPER positively assures complete close-off . . . full heating and cooling realized because damper shuts with less than 2% leakage.

45° INLETS mean fewer elbows required in take-off ducts, reducing static pressure losses and installation costs.

UNITIZED LINKAGE MECHANISM reduces friction, eliminates control lag, insures precise temperature regulation, permits easy servicing.

CHOICE OF SOUND BAFFLES: internal flat plate for quiet operation; patented sinuous baffle for use when maximum sound attenuation is demanded.

MODELS FOR EVERY REQUIREMENT: Open End, Diffuser, Integral Grille, Linear Diffuser, Under-Window.

The outstanding performance of the "Series 45" can only be matched by using its features.

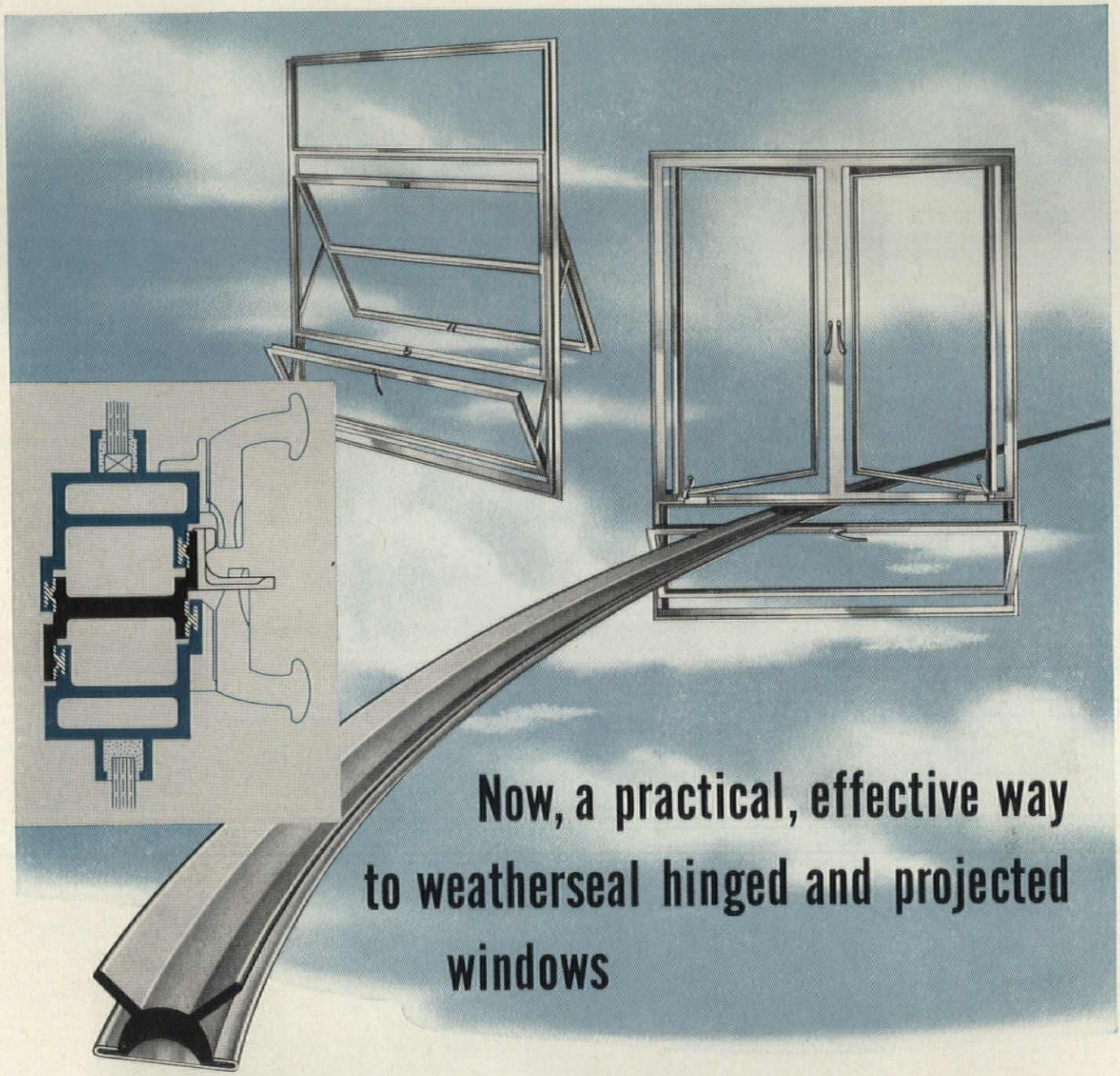
CONNOR... for Constant Comfort Conditions

CONNOR ENGINEERING CORPORATION

82 SHELTER ROCK ROAD • DANBURY • CONNECTICUT

CONNOR ENGINEERING CORPORATION **kno·draft®**

high velocity air diffusers



NEW DRAFTITE COMPRESSION SEAL

This newly developed compression seal is a metal-backed vinyl extrusion that provides a positive weather-seal and improves efficiency of casement windows, projected and hopper vent and awning-type windows. No more metal-to-metal contact . . . no more drafts.

DraftTite* Compression Seal gives two perfect seals . . . each lip of the vinyl arch compresses, gives airtight insulation. Tested under simulated hurricane conditions with excellent results.

It is durable, low-cost, easy-to-install . . . designed to slide into retainer slot . . . locked in so that it will not pull out under any conditions. Provides superior resistance to temperature changes, oxidation, abrasion.

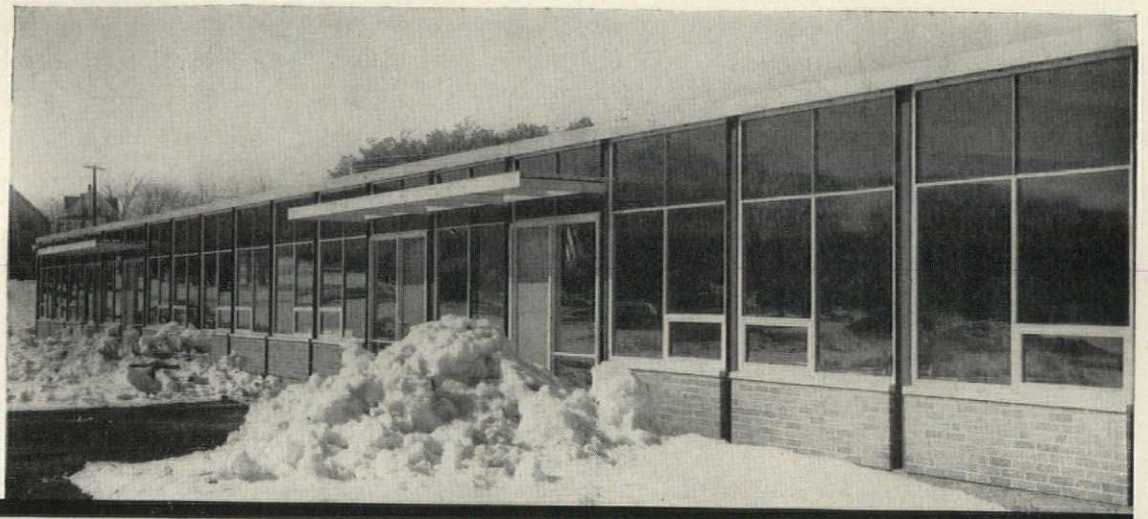
Available with either aluminum or stainless-steel core. Non-migrating vinyl, aluminum gray or off-white, can be lacquered with rest of window.

For details on new DraftTite Compression Seal, call or write Sales Office: 316 Fisher Bldg., Detroit 2, Mich.

*Trademark

The Standard Products Company

BUILDING PRODUCTS DIVISION • Plants: Lexington, Kentucky; Port Clinton, Ohio; Fullerton, Calif.



SNOW GLARE *is softened by Lustragray sheet glass. Grafton Elementary School, Grafton, Mass.* **Architects:** *Hugh A. Stubbins Associates, Cambridge Mass.* **Glazier:** *Perfection Glass Company, Dorchester, Mass.*

american LUSTRAGRAY SHEET GLASS solves GLARE problems in all climates

SUN GLARE *is subdued in Security First National Bank Building, Riverside, Calif., by Lustragray.* **Architects:** *Art L. Jacobsen, AIA.* **Glazier:** *Olson Glass Company.*

The glare of sunlight, both direct and reflected, is a problem in all sections of the country and during all seasons of the year. AMERICAN LUSTRAGRAY sheet glass is reducing this excessive brightness in all types of buildings. The occupants enjoy controlled daylighting and maximum viewing pleasure—eyestrain and fatigue are minimized.

This neutral gray sheet glass provides the bonus benefit of added comfort by reducing a significant amount of solar heat. From a design standpoint, AMERICAN LUSTRAGRAY permits additional emphasis on the fenestration pattern. When viewed from the exterior, it has sufficient opacity to give a skin wall effect to the building and affords greater privacy to the occupants.

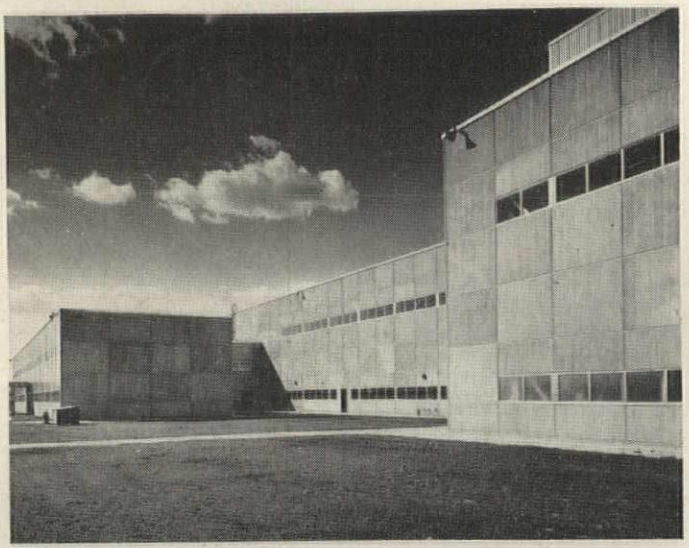
AMERICAN LUSTRAGRAY is produced in 3/16″, 7/32″ and ¼″ thicknesses up to a maximum size of 6′ x 10′. This economical, glare-reducing glass is available through more than 500 distributors and glazing contractors. Check your classified phone directory for listing. For technical data, consult your Sweet's Catalog or write to our Architectural Promotion Department.

CLEAR GLASS for Maximum Daylighting
GRAY GLASS for Controlled Daylighting

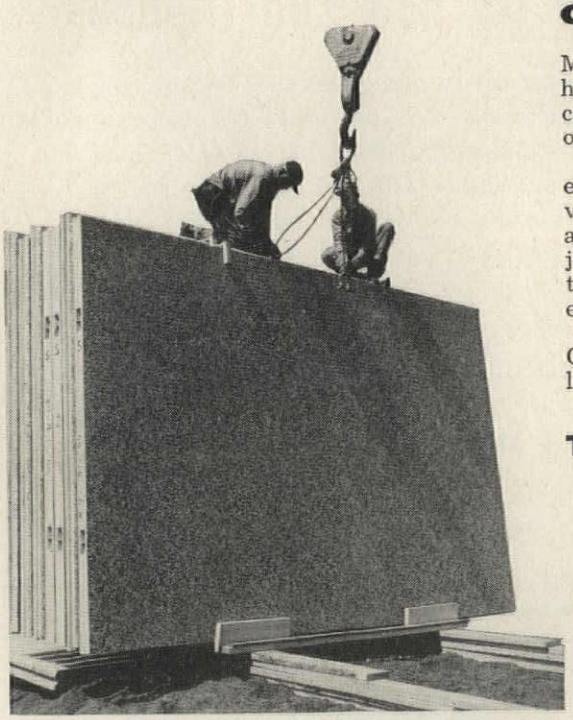
american WINDOW Glass COMPANY
PITTSBURGH, PA.

PLANTS: ARNOLD, PA. • ELLWOOD CITY, PA. JEANNETTE, PA. • OKMULGEE, OKLA.

WSW-7141



MARIETTA Precast Concrete Panels achieve beauty... permanence... economy... in buildings of every type



Modern, clean line design... attractive textured finishes... complete harmony with other building materials. That's how MARIETTA Precast Concrete Panels help achieve architectural beauty in buildings of every type.

These panels come in a variety of standard shapes and sizes, either solid or with an insulation core making them superior in "U" value to a 12" masonry wall. Cast-in metal inserts make erection a simple bolting job any month of the year. Tongue and groove joints go smoothly together forming a maintenance-free wall. And the thin 5" thickness of Marietta Concrete Panels adds valuable extra floor space to interiors.

Write for complete information now on how you can use Marietta Concrete Wall Panel construction to achieve functional beauty at low cost.

Custom precast and prestressed concrete components for any architectural requirement. Write for engineering assistance on any design problem.

THE Marietta CONCRETE CORP.
MARIETTA, OHIO

BRANCH OFFICES: 501 Fifth Ave., New York 17, N. Y.
Pulaski Hwy. at Race Rd., Baltimore 21, Md.
411 Foster St., Nashville, Tenn.
Box 592, Jamestown, N. Y.

INGALLS

FABRICATED STRUCTURAL STEEL ...

helps progressive Wichita build its new courthouse

Over 3,050 tons of Ingalls fabricated structural steel will frame the new Sedgewick County Court House and Welfare Building in Wichita, Kansas.

This smartly-designed twelve-story structure is typical of hundreds of office and commercial buildings, plants and warehouses to which Ingalls has furnished the strength and economy of fabricated structural steel.

With skill and knowledge acquired through long experience, and expanded production facilities, Ingalls is prepared to offer *plus* advantages in both service and quality. When your need is for fabricated structural steel, Ingalls is ready to serve you ... *better*. Call or write for complete information.

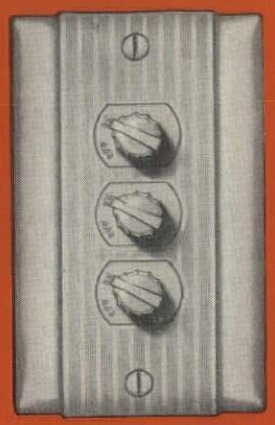
Architects: *Thoma-Harris-Calvin & Associates*
Structural & Consulting Engineers: *G. Hartwell & Associates*
General Contractor: *Martin K. Eby*
Fabricated Structural Steel: *The Ingalls Iron Works Co.*

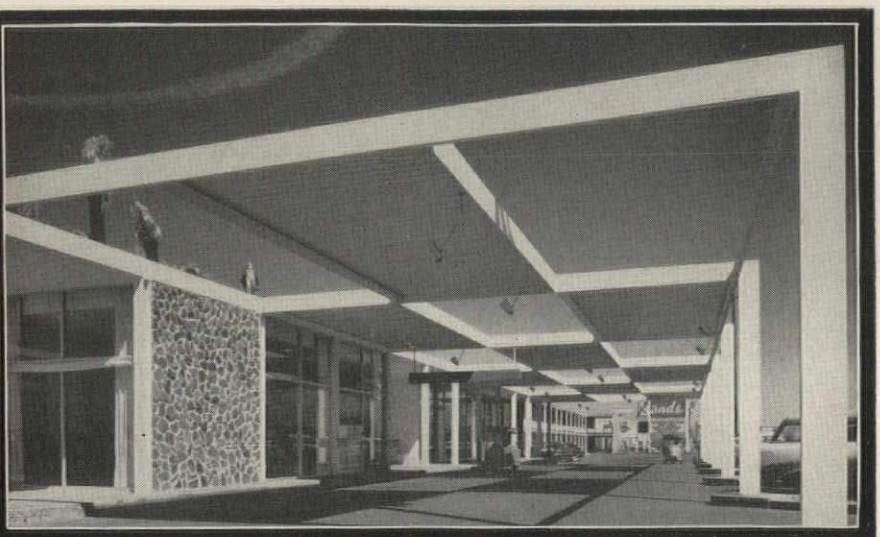
AISC — American Institute of Steel Construction — Founded 1921

Steel Plate Fabricators Association — Founded 1933

THE INGALLS IRON WORKS COMPANY
Executive Offices
BIRMINGHAM, ALABAMA

INGALLS INDUSTRIES ARE:
The Ingalls Iron Works Company, Sales Offices: New York, Pittsburgh, Chicago, Houston, New Orleans, Atlanta • **The Ingalls Steel Construction Company,** Sales Offices: New York, Chicago, New Orleans, Pittsburgh, Houston, Atlanta • **Birmingham Tank Company,** Sales Offices: New York, Pittsburgh, Chicago, Atlanta, New Orleans, Pascagoula **The Ingalls Shipbuilding Corporation,** Shipyards: Pascagoula, Mississippi; Decatur, Alabama Sales Offices: New York, Chicago, Washington, Houston, New Orleans, Atlanta.





Sands Hotel

TUCSON, ARIZONA

HAUSNER & MACSAI
ARCHITECTS ENGINEERS

WEECO CONTRACTORS, INC.
ELECTRICAL CONTRACTOR

for appearance PLUS PERFORMANCE specify ROTO-GLO®

Without question, when the right product is specified, it helps to establish your reputation. A good reason, then, for always selecting Roto-Glo.

In the beautiful new Sands Hotel, Tucson, Arizona, for example, Roto-Glo's whisper-quiet action and luminous glow in the dark feature not only add to the beautiful interior, but also guarantee uninterrupted service.

Roto-Glo is Pass & Seymour's answer to the need for a dependable switch with clean-lined modern appeal.

- Operates with quiet feather-light quarter turn.
- Soft, luminous glow in the dark.
- Full 15-Ampere rating for fluorescent and incandescent loads.
- Screwless terminals for quick, easy installation.
- Extra heavy construction . . large, non-oxidizing silver alloy contacts.

Write for catalog or full information on P&S quality wiring devices Dept. AR558

No. 1591-I
Strap Type
Roto-Glo
15 A., 120 V., A.C.

No. 1581-I
P&S Despard
Type
Roto-Glo
15 A.,
120/277 V., A.C.

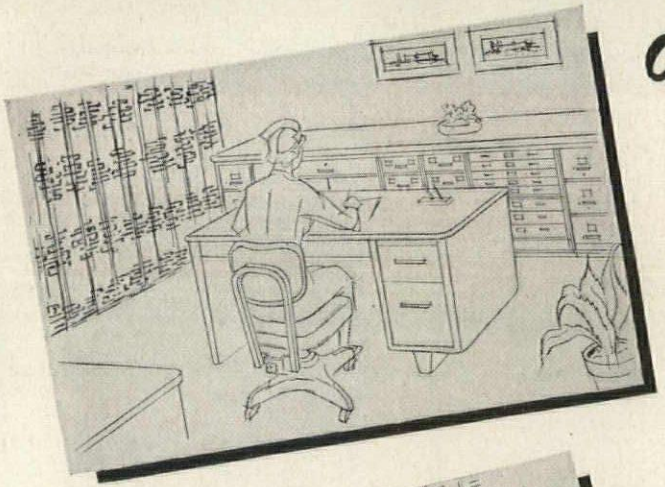
P&S 1500-I
Duplex Outlet
is the ideal
complement
to ROTO-GLO

P&S®

PASS & SEYMOUR, INC.
SYRACUSE 9, NEW YORK
60 E. 42nd St., New York 17, N.Y. 1440 N. Pulaski Rd., Chicago 51, Ill.
In Canada; Renfrew Electric Limited, Renfrew, Ontario

MAKE THE COMPLETE JOB COMPLETELY P&S

Again...

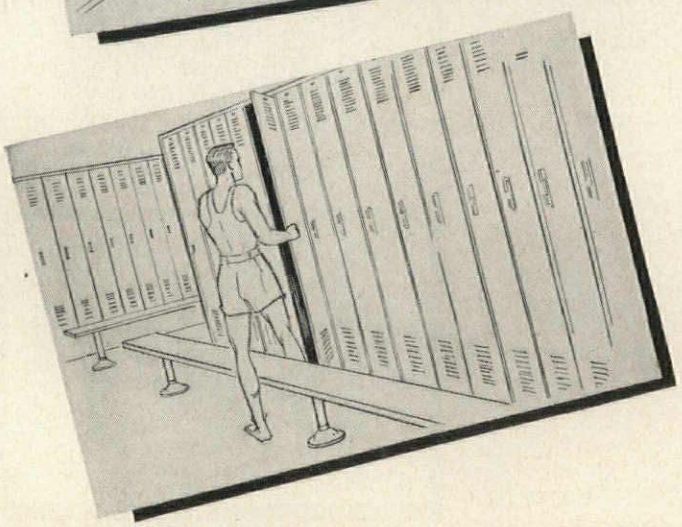


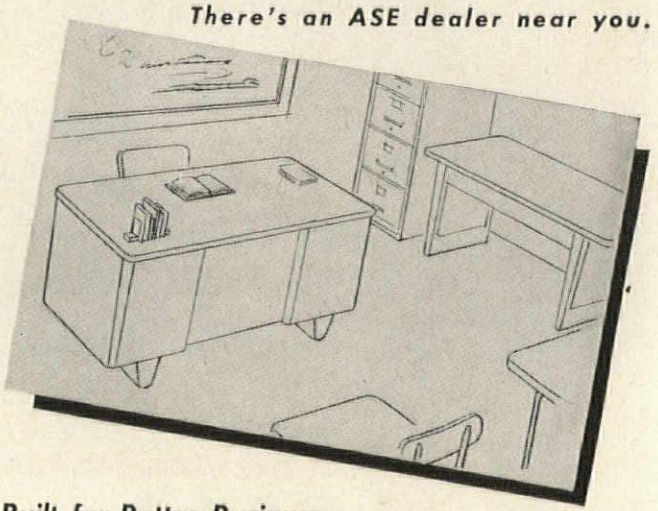
and Again...

ARCHITECTS WISELY CHOOSE ASE STEEL FURNITURE

Today, more ASE Steel Furniture is specified in offices, schools, hospitals and institutions than ever before. Durable...flexible...beautiful...trend-setting ASE Steel Furniture has the qualities which find increasing favor with architect and client alike.

There's an ASE dealer near you.



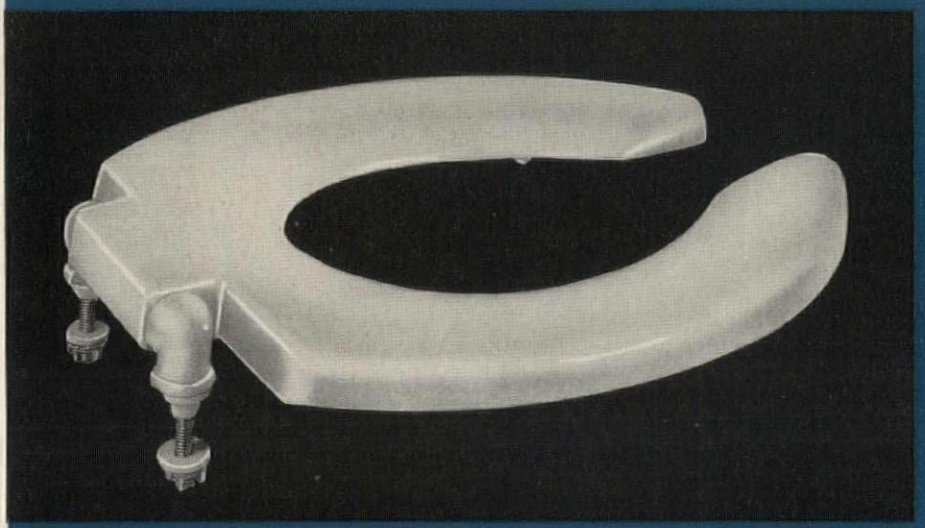


Better Built for Better Business

ALL-STEEL EQUIPMENT INC.

Aurora, Illinois

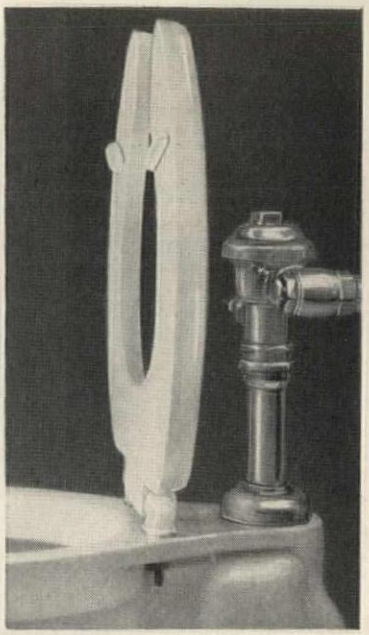
new shockproof 95 Olsonite seat



Extra strength No. 95 Olsonite includes lock nuts and washers that allow permanent installation with finger pressure alone.

Extra heavy construction with a full 1¼ inches of high impact Olsonite material.

Snap-in vinyl bumpers with the resiliency of rubber have no metal to corrode. Vinyl will not yellow—has 8 to 10 times the life of rubber bumpers.



Concealed check hinge prevents seat from rising more than 11° past vertical. It's standard on all Olsonite No. 95's and 97's.

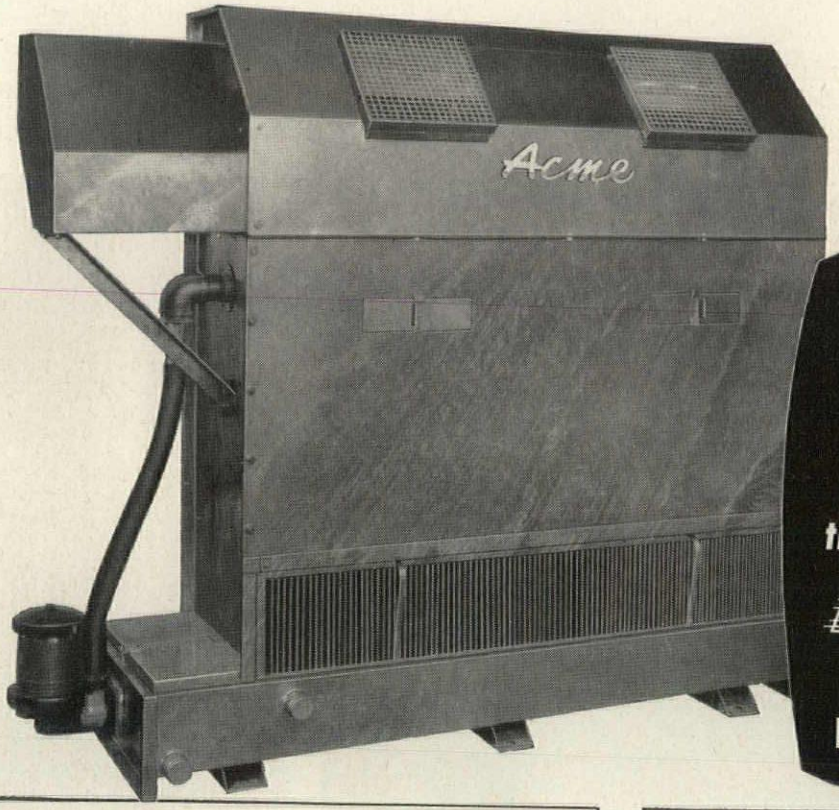
Additional strength is provided by the durable heavy-duty brass reinforcing plate. No wood filling to crack.

SOLID Olsonite SEATS

High impact construction and extra strength design makes it ideal for all non-residential installations

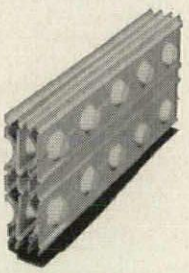
Never before has any manufacturer offered a seat more able to "take it" and remain sanitary and attractive. Extra strength, high impact material has been combined with a tough, shock absorbing, brass reinforcing plate to make the Olsonite No. 95 an incomparable choice for all non-residential installations. The Olsonite 95 will not discolor—it looks sanitary and *stays* sanitary. Available in white or black only, the Olsonite No. 95 is for elongated bowls. No. 97 fits regular bowls.

SWEDISH CRUCIBLE STEEL COMPANY, *Plastics Division*
8801 CONANT AVE., DETROIT 11, MICH. 58-A1
ORIGINATORS OF THE SOLID PLASTIC SEAT



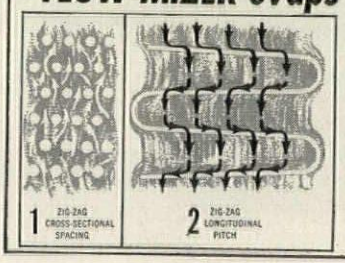
6 GOOD REASONS WHY you should specify the NEW Acme FLOW-MIZER® COOLING TOWERS and EVAPORATIVE CONDENSERS

1 New Plastic Pak weighs 90% Less in FLOW-MIZER TOWERS!



The new all-plastic Acme-Pak makes Acme towers lighter, more economical than ever. In an average unit (100-ton), the entire pack now weighs only 180 lbs as against 2300 lbs for a comparable steel pack! This means real savings on installations and on freight. Better still, it can never rot nor rust . . . . is cleaned more quickly, less frequently. Total savings are two-fold: lower installed cost, lower maintenance cost.

2 Zig-Zag coil spring means greater capacity, less HP in NEW FLOW-MIZER evaps



Acme's zig-zag spacing improves coil efficiency in two ways. (1) By staggering the tubes, air and spray water travel a longer zig-zag path, effecting greater turbulence and better heat transfer. (2) By sloping the tubes longitudinally, spray water remains in longer contact with each tube. Also, the condensed refrigerant drains more rapidly. The result is more efficient evaporation . . . which means more capacity in less space with less blower hp.

3 Twice as much surface protection

Acme's hot-dip galvanizing *after* fabrication deposits twice the thickness of zinc that ordinary electroplating does. This double protection against rust leaves no surface exposed. Units never need painting.

4 Easily serviced external sump

On both cooling towers and evaps, Acme's external sump provides quick easy access. Sediment screen, float valve, and water treatment facilities are reached by lifting the cover.

5 Full access to coil or pak

For fast, easy maintenance, the new Acme units offer convenient access to nozzles, eliminators, pack or coil by removal of full-width panels front and rear. Sliding doors provided for quick inspection.

6 Balance where it counts

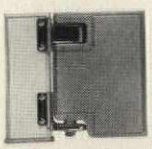
After final assembly, All Acme blower units are now electronically balanced to assure quiet, smooth operation at all times . . . less wear on blower bearings . . . greater efficiency . . . longer trouble-free service.

New Acme Catalogs, Nos. 311 and 361 give full details. Write for them today.

ACME AIR CONDITIONING REFRIGERATION

Acme INDUSTRIES INC. Jackson, Michigan

Manufacturers of Quality Air Conditioning and Refrigeration Equipment since 1919



. . . 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

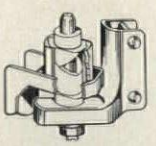
BRANIFF AIRWAYS MAINTENANCE HANGAR, DALLAS, TEXAS
Architect: Mark Lemmon / Pereira & Luckman—
Contractor: J. W. Bateson Co.

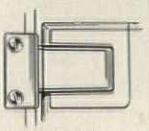
SHOPPING CENTER, GRETNA, LOUISIANA
Architect: August Perez & Associates—
Contractor: Keller Construction Corp.

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.

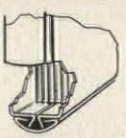
NEW NYLON LOWER HINGE–Concealed within the door, this quiet hinge never needs lubrication, never wears out. And, it is "in line" with bottom door edge for clean appearance. May be simply adjusted so door will automatically close or stand ajar at any point within its swing.





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-2105, Weisteel Bldg., Elkhart, Indiana

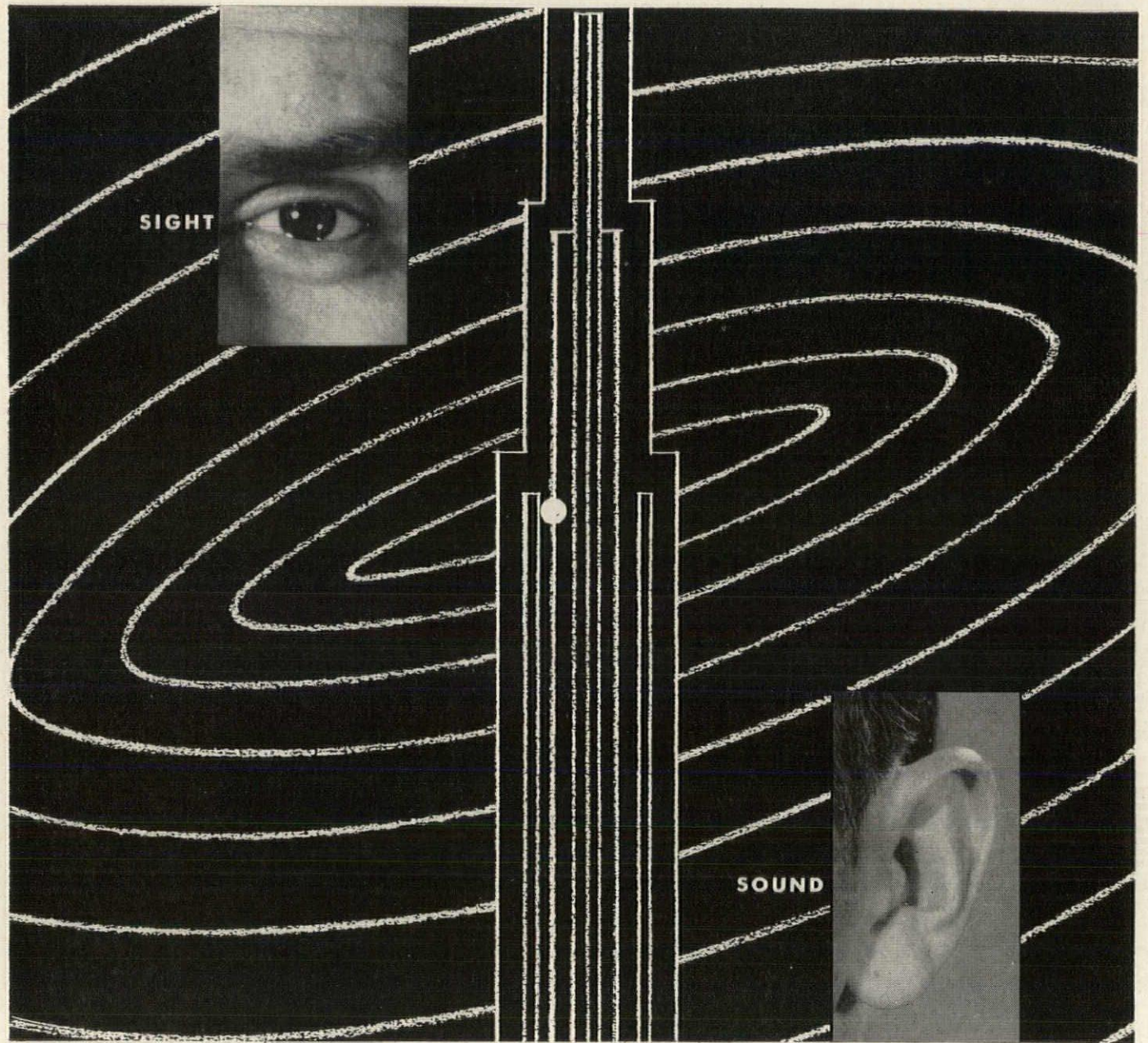
Gentlemen: Please have your sales engineer demonstrate new Weis toilet compartment features.

name

firm

address

city, state



our business is communications

...a gentle chime...a blasting horn...
or a complete audio-visual communication system

Sperti Faraday leads in the instant sound or sight communication systems that speed today's business or institutional contacts. Whatever your problem, whether simple or complicated our engineers are at your service to assist you in designing the system that suits your needs.

This service is available to architects without obligation. Simply call your nearest Sperti Faraday representative or write to Sperti Faraday, Inc., Adrian, Mich. In Canada, write Sperti Faraday, Ltd., Montreal.

Specialists in:

Fire Alarm Systems
Electrical Clock Systems
Hospital Systems
Hospital Patient Observation (Closed Circuit TV)
Audible Signals
Annunciators
Coded Paging Systems
Synchronous Clocks
Transformers
Contact Devices

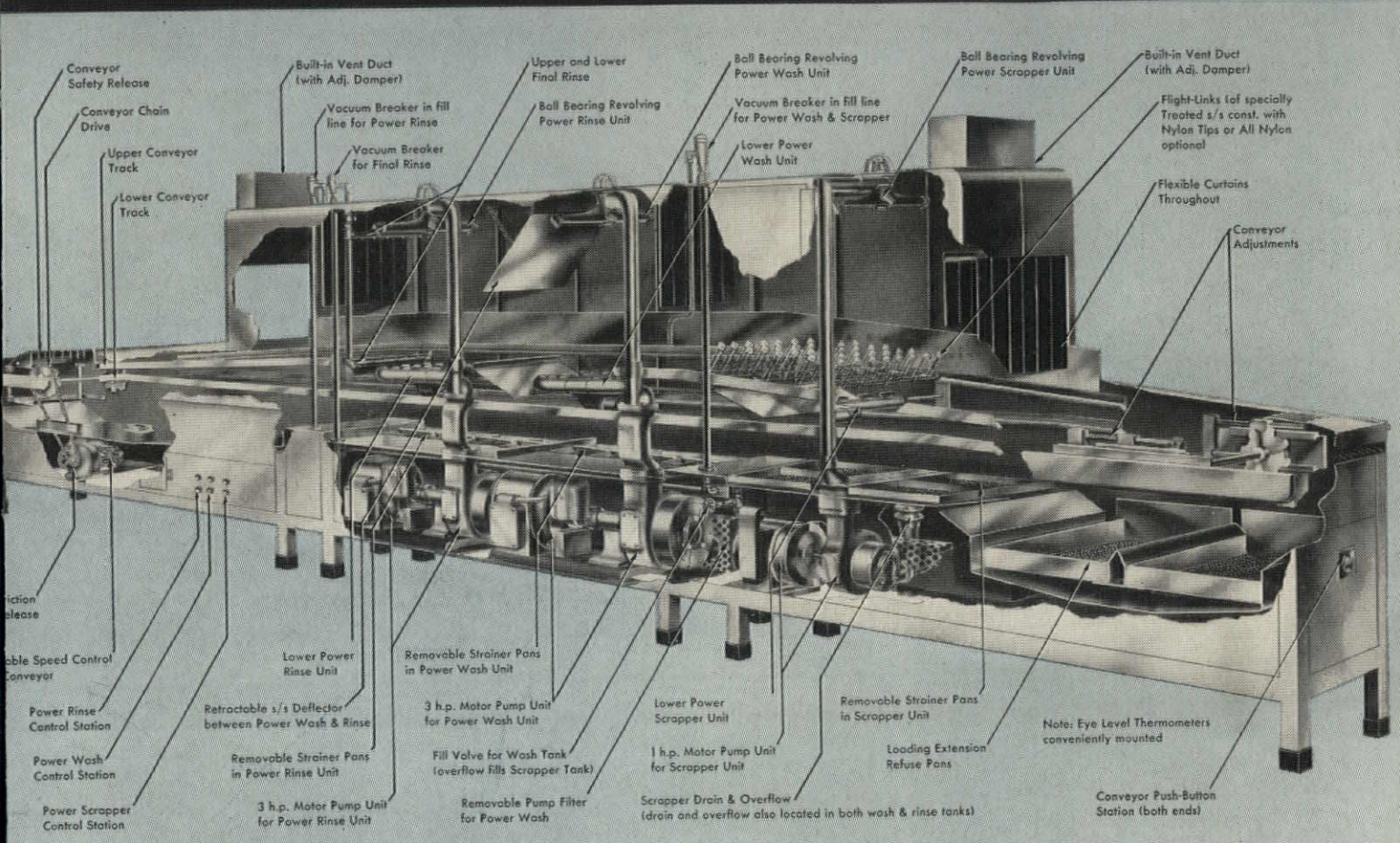
Sperti Faraday Inc.

SINCE 1875 DESIGNERS AND PRODUCERS OF VISUAL AND AUDIBLE SIGNALS

ADRIAN, MICHIGAN

37 reasons

why your kitchen layouts work with Hobart



In kitchens where speed and capacity are demanded, a Hobart flight-type dishwasher is the complete answer for making your kitchen layouts work economically and efficiently. Completely automatic fresh water scraping, power washing and rinsing...dishes are racked in the conveyor in one amazingly fast operation...no need for constant supervision. Flight-type sizes range from 12 to 26 feet long, with conveyor speeds from 5 to 12 feet per minute. Check the features above that assure you of trouble-free operation. In the complete line of Hobart dishwashers there are over 50 different models...*one* is exactly right for *any* operation, regardless of size or volume.

You, as an architect, can readily appreciate the flexibility and adaptability of the Hobart line as well as the nation-wide sales and service organization that backs all Hobart products. The best kitchen layout is not efficient unless the machines you specify are dependable. Check Sweet's Architectural File for specifications on all Hobart kitchen and dishwashing machines or send in the coupon.

Hobart

machines

The World's Largest Manufacturer of Food, Kitchen and Dishwashing Machines

The Hobart Manufacturing Co., Dept. HAR, Troy, Ohio

Please send information and complete specifications on Hobart continuous racking dishwashers ☐, semi-automatic ☐ or dual-drive automatic dishwashers ☐, kitchen machines ☐.

Name of Firm.....

My Name.....

Address.....

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

100

Meet New York's next big office building

Cost: $28 million

Floor Area: one million sq. ft.

Concrete Reinforcement: USS **American Welded Wire Fabric**

100 Church Street is a brand-new twenty-story building now going up in Manhattan. It's an example of modern architecture—simple beauty, efficient design, and permanent construction. Progressive building ideas went into this job, too: a fireproof structural steel frame, short-span floors and USS American Welded Wire Fabric Reinforcement.

Short-Span Floors—At 100 Church Street, closely spaced beams support concrete floor slabs of minimum thickness. That's short-span construction-strong, lightweight, economical. Short-span floors save money because less concrete, less time, and less labor are needed for installation. But you couldn't have these advantages without wire fabric.

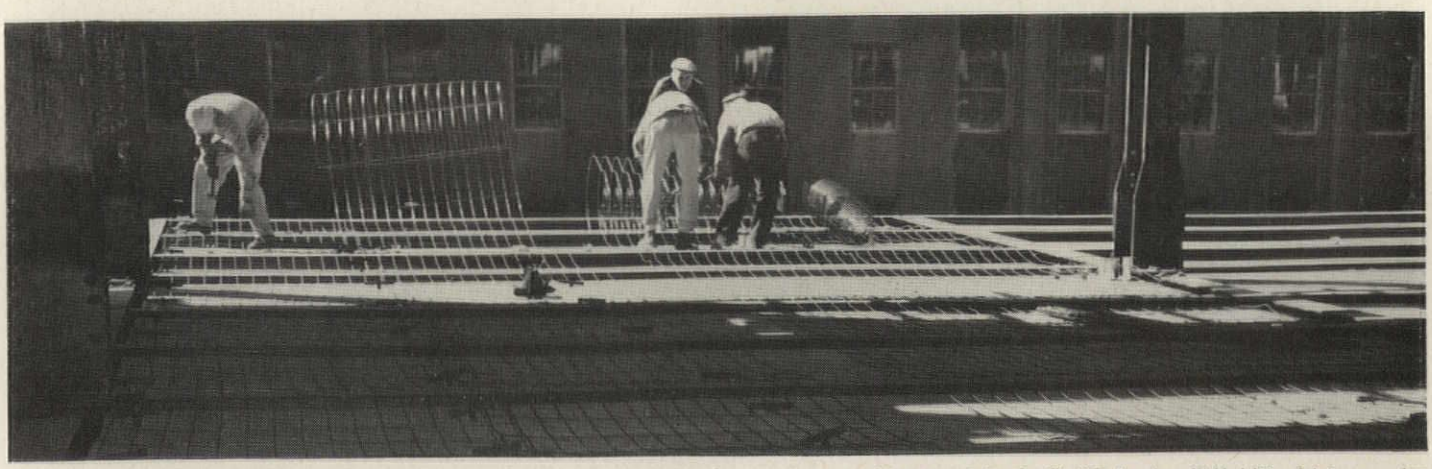
USS American Welded Wire Fabric makes short-span floors possible because it can be drooped continuously over supporting beams. (ACI Code: Sec 505G) It has an allowable working stress of 28,000 lbs. per sq. inch. The New York skyline reveals many short-span-floor skyscrapers such as the Empire State Building, the RCA Building, and the new Socony-Mobil Building. And they're all reinforced with USS American Welded Wire Fabric.

Specify USS American Welded Wire Fabric. It's available in a wide variety of styles, sizes, lengths, widths, and finishes . . . in wire gauges from #7/0 to 16 and in longitudinal or transverse wire intervals of 2″ to 16″. To get complete technical data on USS American Welded Wire Fabric, send for our free catalog. Write today: American Steel & Wire, Rockefeller Building, Cleveland 13, O.

USS and American are registered trademarks

American Steel & Wire Division of USS **United States Steel**

Columbia-Geneva Steel Division, San Francisco, Pacific Coast Distributors • Tennessee Coal & Iron Division, Fairfield, Ala., Southern Distributors
United States Steel Export Company, Distributors Abroad

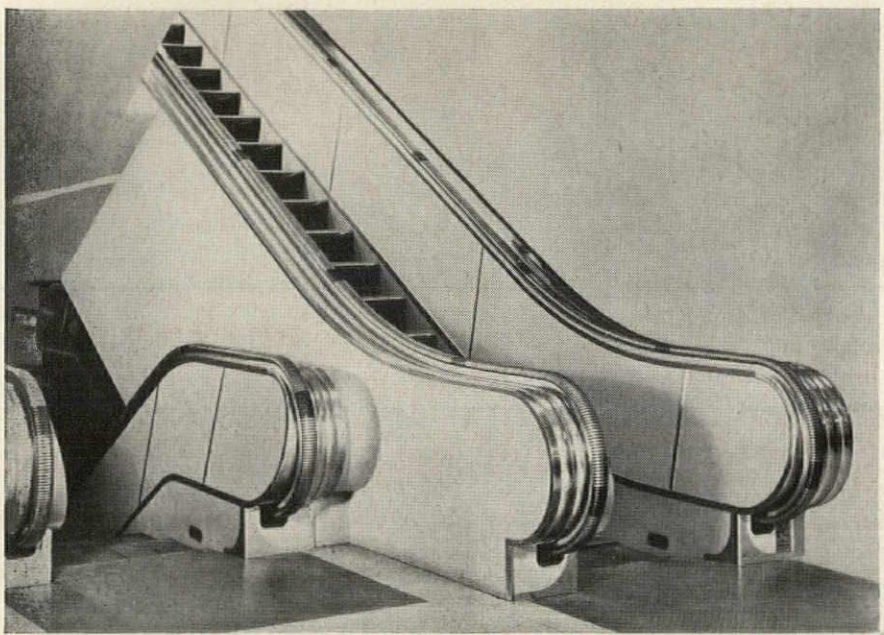


An Architect's Conception of 100 Church Street. These people are building it:
Architect: Emery Roth & Son, New York
Structural Engineer: James Ruderman, New York
General Contractor: Diesel Construction Co., Inc., New York
Subcontractor on Concrete: Rizzi Construction Co., Inc., New York
Welded Wire Fabric Distributor: Fireproof Products Co., Inc., New York

Short-Span Floors, reinforced with USS American Welded Wire Fabric, are a key feature of 100 Church Street. USS American Welded Wire Fabric is prefabricated for quick, easy, economical installation in any permanent concrete work.

Remember, buyers will ask, *"is it Reinforced"*

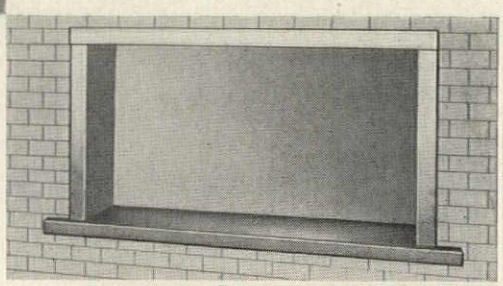
MANY FINE NEW SCHOOLS USE PEELLE-RICHMOND PRODUCTS



PEELLE MOTORSTAIRS

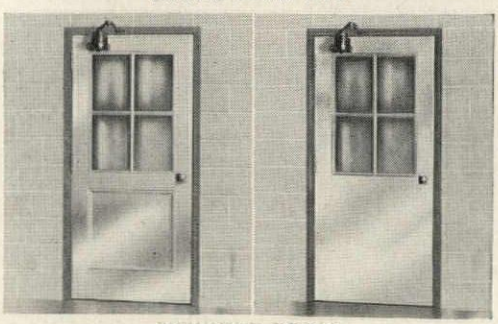
The New York City Board of Education has become the largest user of moving stairways in the school field. It has ordered 38 Peelle Motorstairs to be divided among the New York City schools as follows: Aviation Trades School, 12 Motorstairs; New York School of Printing, 12 Motorstairs; Fashion Institute of Technology, 14 Motorstairs.

PEELLE-RICHMOND PASS WINDOW — The Peelle-Richmond Pass Window is being used by many prominent schools. The pass window, consisting of an integral door and frame, requires only the installation of the frame, thereby reducing installation costs. The solid panel and integral rail and frame design eliminate dirt collecting crevices and maintenance. Pass window units can be provided in either stainless steel or plain steel construction. For low overhead conditions use the Peelle-Richmond "Telco" Pass Window.



DINING ROOM SIDE

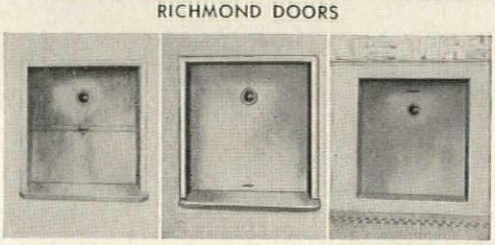
RICHMOND HOLLOW METAL DOORS AND RICHMOND KALAMEIN DOORS—New manufacturing methods make it possible to furnish quality Richmond Hollow Metal Doors at competitive prices. These doors are still custom made to suit the desired opening sizes. The sturdy Richmond Door has quiet and easy action essential for school use. Richmond continues to manufacture the top quality kalamein door and both hollow metal and kalamein doors can be furnished with the necessary Underwriters' Laboratories labels.



RICHMOND DOORS

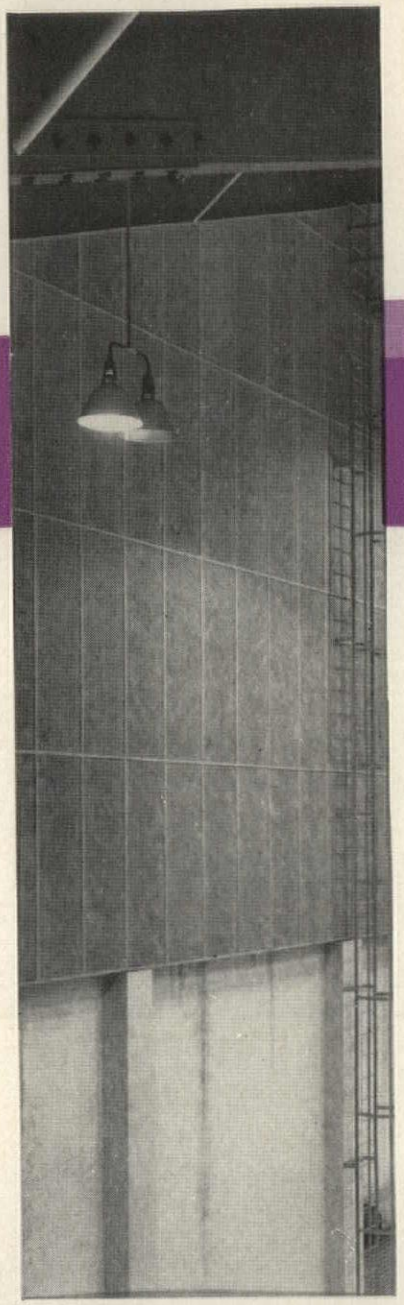
PEELLE DUMBWAITER DOORS — Peelle Dumbwaiter Doors should be specified in stainless steel construction or with stainless steel sills if plain steel units are desired.

See our Catalogs in Sweet's or write for further details



BY-PARTING SLIDE-UP SLIDE-DOWN

THE PEELLE COMPANY, 47 Stewart Avenue, Brooklyn 37, N.Y.
THE RICHMOND FIREPROOF DOOR CO., Richmond, Indiana



Handsome modern Insulrock walls add beauty and sound-silencing efficiency to the best form of modern building designs

Good thing for Joshua that INSULROCK *had not been invented*

Why did those walls of Jericho come tumbling down when Joshua's loud trumpets blasted?

Suppose the sounds shook the walls to pieces? They couldn't absorb sounds, maybe?

What if those walls had been made of Insulrock Slabs, that absorbed Joshua's shattering sounds? Joshua might not have been famous.

Insulrock absorbs sounds. The air spaces that honeycomb Insulrock Building Slabs—used as walls, non-bearing partitions and exposed acoustical ceilings—trap and deaden up to 85% of clashing, disturbing surface-reflected noises in factory, office, assembly, and school rooms, and in hallways.

Ceilings are a bonus.

Insulrock exposed acoustical ceilings *cost nothing* when roofs have been decked with Insulrock Slabs, laid easily, speedily, economically, in year 'round weather, on wood or steel framing. The underside of the same Insulrock Roof Decking makes the free ceiling—off-white, good-looking "as is," random-textured, simple to paint and keep clean. So the ceiling really *is* free, you see.

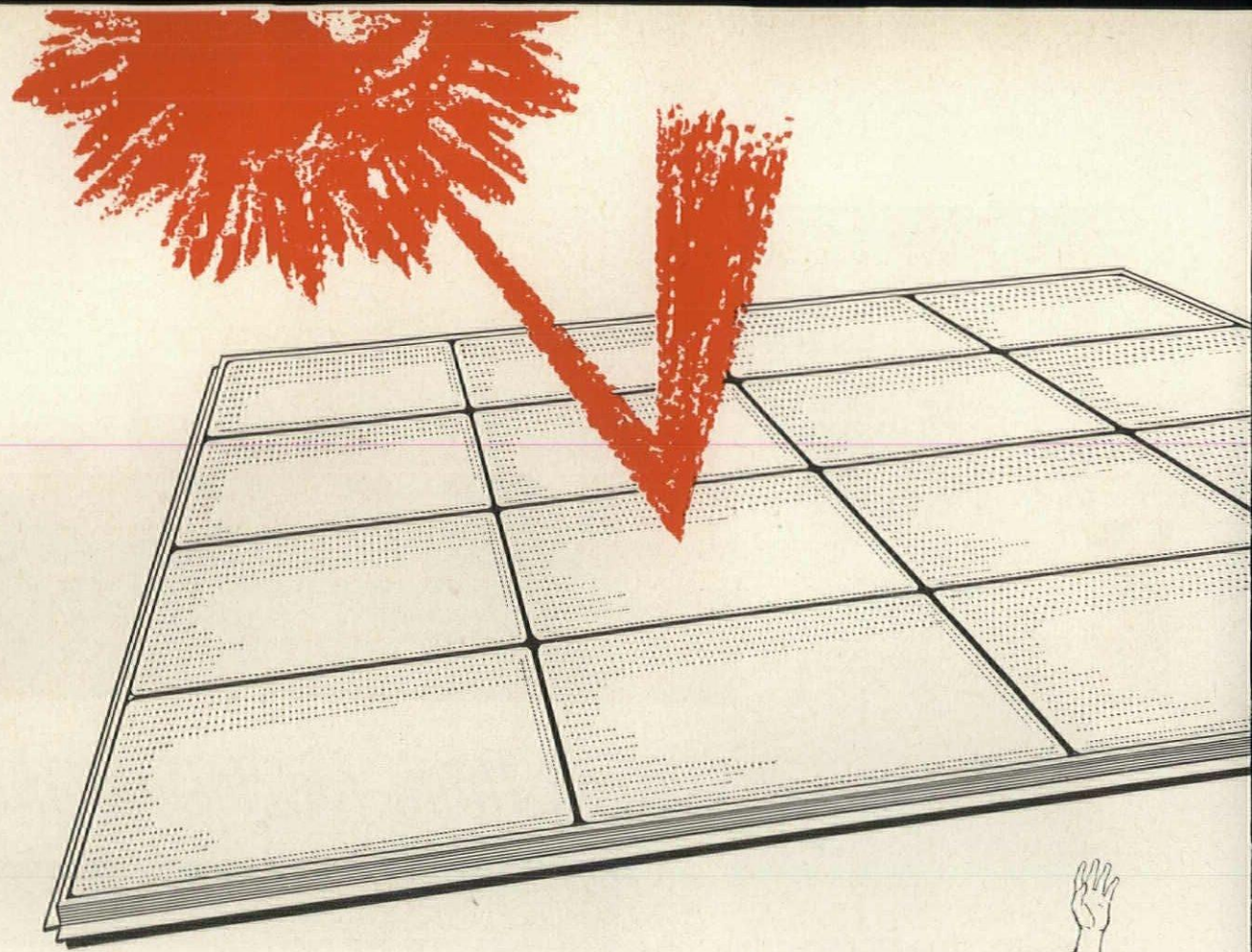
Insulrock Building Slabs are made of special long fibers pressure-bonded with portland cement into pre-cut short or long slabs quickly applied to wood or steel framing. Incombustible. (Listed by Underwriters' Laboratories.) Resistant to all weather wear, insects, fungi. Effective insulation advantages that cut heating and air-conditioning costs. Practical, economical base for built-up roofing—for quickly installed non-bearing walls—for exposed acoustical ceilings.

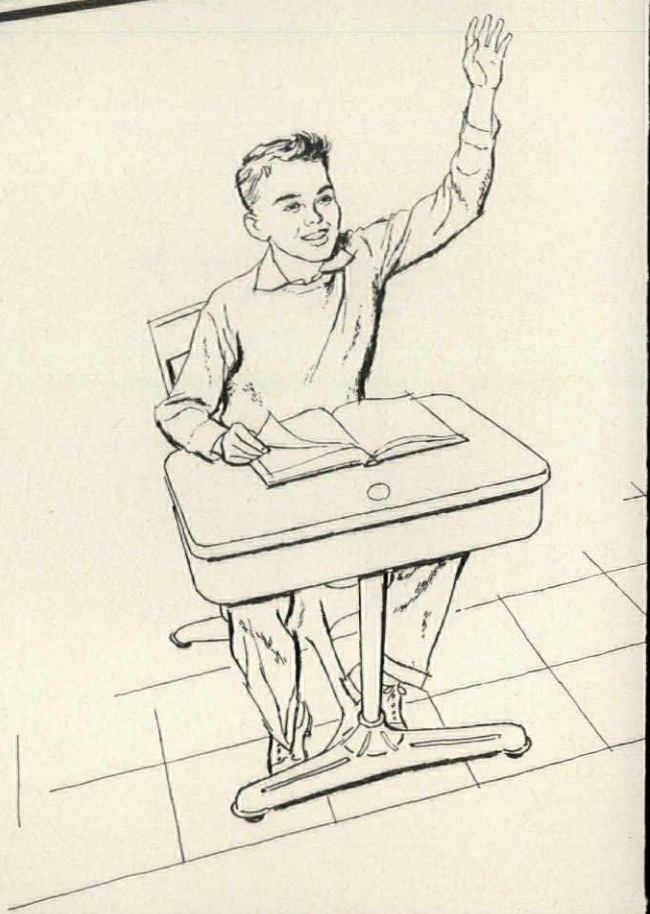
Send for the Insulrock catalogue

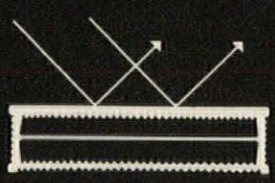
Insulrock®

Division of The Flintkote Company

INSULROCK COMPANY
Sales Office: EAST RUTHERFORD, NEW JERSEY
Plants: LINDEN, NEW JERSEY • RICHMOND, VIRGINIA • NORTH JUDSON, INDIANA







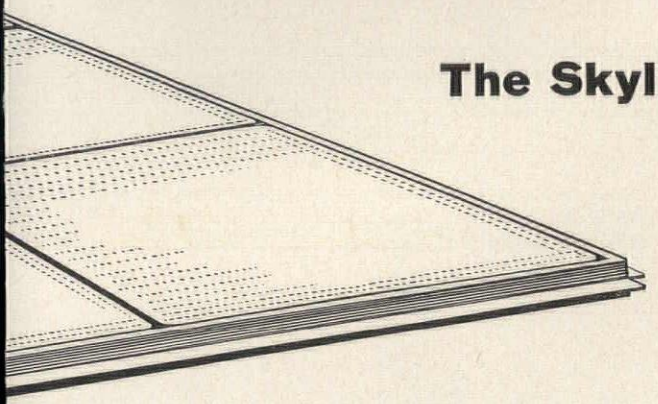
BUILT-IN PRISMS accept cool North light and low-angle winter sun, reflect hot, high-angle spring and summer rays.

O-I 80-F GLASS BLOCK provide the same solar heat-controlling advantages to sidewall daylighting.

NOW!...SAVE AS MUCH AS 30%

ON FAMOUS TOPLITE...

The Skylight that reflects the HOT SUN!



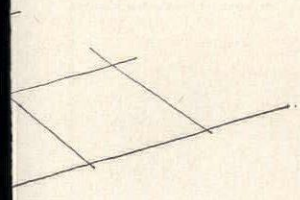
- **Improved Performance**
- **Lower Installation Cost**
- **Fits Flat on Roof**
- **Thiokol-type Weather Seal**

Now you can have even greater performance, strength and durability in Toplite Roof Panels—at up to 30 per cent saving in price!

The substantial price reduction on these improved glass panels has been made possible by the development of a revolutionary new concrete. This new concrete is used to form the thin-ribbed grid which supports the light-transmitting glass units.

A specially designed perimeter cuts installation costs, too—because these new panels need *no expensive curb*. They project only 3" above the roof. A new O-I Thiokol-type sealant assures weather protection.

Built-in, light-selective prisms in O-I Toplites readily transmit cool North light and low winter sun, reject most of the light and heat from the high, hot summer sun. Result: a building's occupants are insulated from solar heat . . . daylight is more uniformly distributed throughout the year.



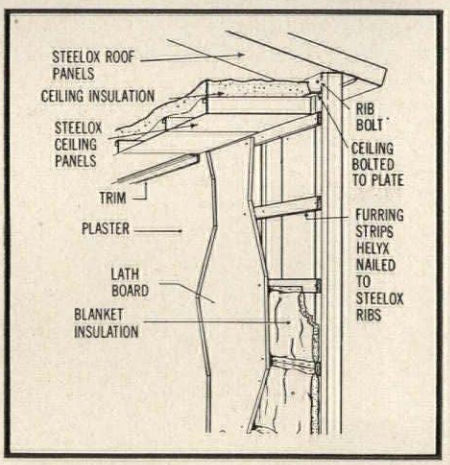
- *Write for NEW, LOW PRICES*
  and full information: Kimble Glass Company, subsidiary of Owens-Illinois, Toledo 1, Ohio

GLASS BLOCK AND TOPLITE PANELS
TWO (I) PRODUCTS

OWENS-ILLINOIS
GENERAL OFFICES · TOLEDO 1, OHIO

Warmth and Freedom of Expression are Easy to Gain with an Armco Steel Building

Ease of insulation and freedom of interior finish are two plus factors you gain when you design with Armco Steel Buildings. Unique, interlocking STEELOX Panel wall construction forms regular framework (16-inch module) on which to build the finish.

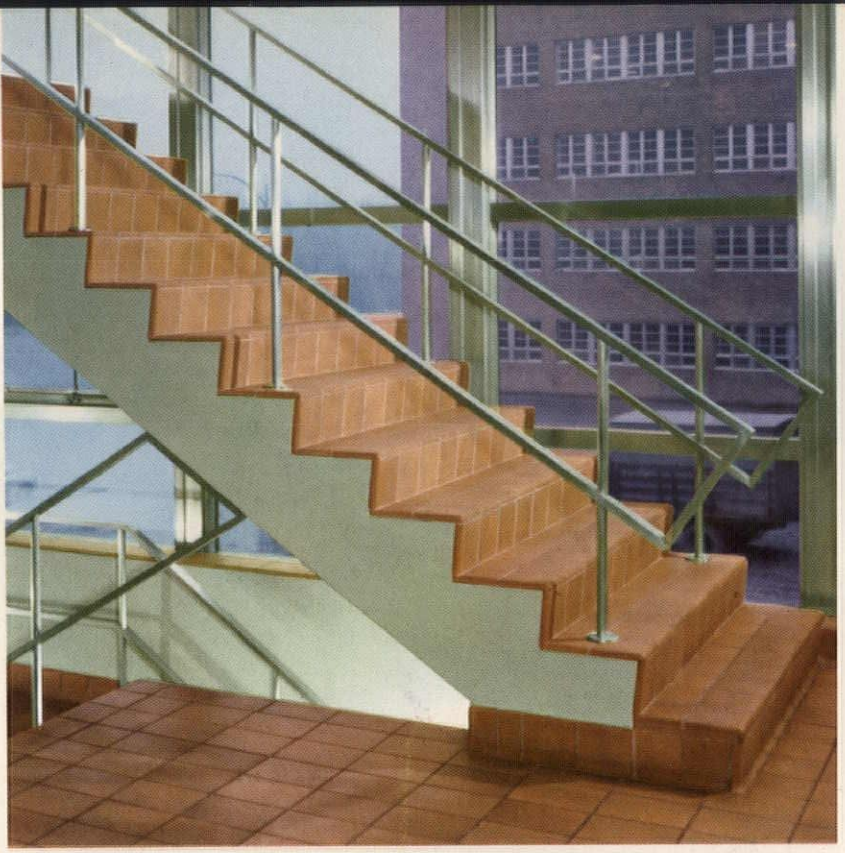


Here are steel buildings that provide the freedom of design you need, coupled with the economy of construction that your client wants! You get these combined advantages in Armco Steel Buildings—featuring the STEELOX® Panel method of construction. These unique panels provide a smooth exterior wall surface. There are no exposed, unsightly fasteners or holes. And, more important, panel construction is readily integrated with brick, stone, wood, plastic, glass—any other material.

Inside, you'll find even more advantages. Furring strips can be Helyx-nailed to the interlocking panel ribs to give you a convenient base for insulation and interior finish. Write us today and learn more about the big difference in these steel buildings. Armco Drainage & Metal Products, Inc., 5128 Curtis Street, Middletown, Ohio. Subsidiary of Armco Steel Corporation. In Canada: write Guelph, Ontario. Export: The Armco International Corporation.

ARMCO STEEL BUILDINGS

MOSAIC



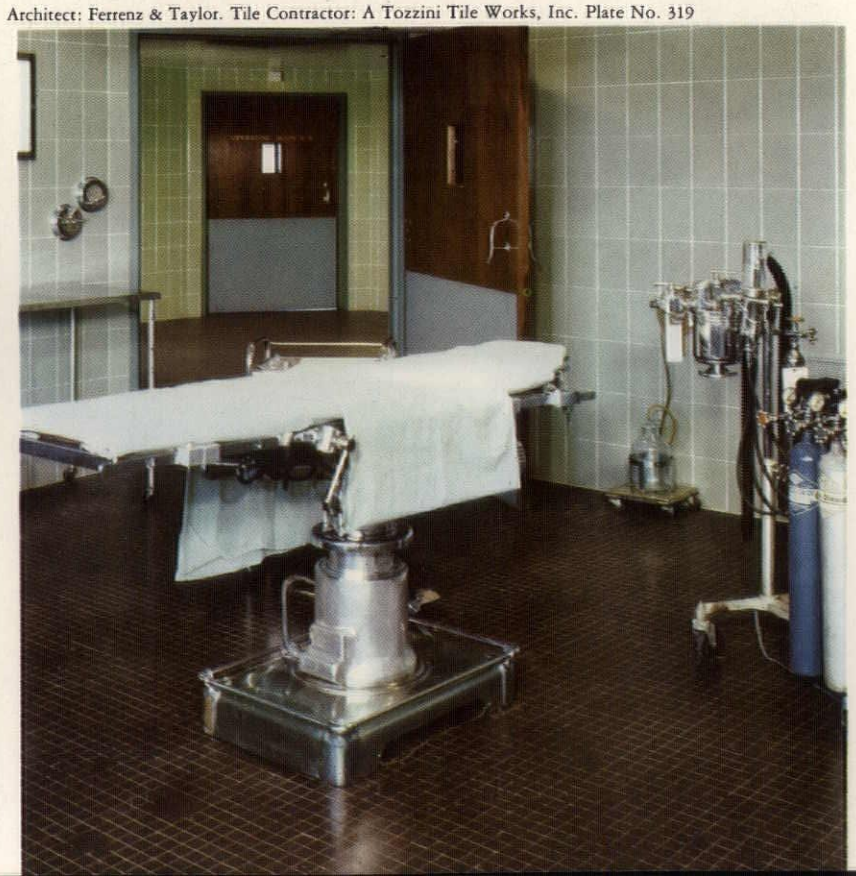
Architect: O'Dell, Hewlett & Luckenbach. Tile Contractor: Palombit Tile Co. Plate No. 266

Mosaic Ceramic Tile
IN HOSPITALS

AMERICA IS ENTERING THE CERAMIC TILE AGE

Architect: David H. Horn & Marshall D. Mortland. Tile Contractor: Fresno Marble & Tile Co. Plate No. 511

Architect: Ferrenz & Taylor. Tile Contractor: A Tozzini Tile Works, Inc. Plate No. 319



THE MOSAIC TILE COMPANY

CERAMIC TILE IN HOSPITALS

A. I. A. FILE NO. 23-A

Mosaic Ceramic Tile
IN HOSPITALS

Safety, sanitation, savings, style

To the designer, the hospital is the supreme opportunity to practice psychology in architecture. A constructive psychology of plan, design, pattern and color. A visual encouragement to patients and visitors; a pleasant working atmosphere for staff personnel.

Equally important, of course, is utility. In selecting materials, permanence, sanitation and ease of maintenance are prime considerations. This makes ceramic tile the logical choice in many important areas. Corridors, surgical suites, cafeterias, utility rooms, kitchens and laundries are better investments when floors and walls are ceramic tiled. In entrance areas and lobbies, ceramic tile is unaffected by heavy traffic and can do much to enrich and preserve architectural effect.

Only Mosaic brings the designer *all* forms of ceramic tile from which to choose exactly the right tile for each area. Glazed tile for walls, quarry tile for heavy-use floors, electrically-conductive floor tile for surgical suites and anesthetizing areas, ceramic mosaics for decorative applications, indoors and out.

Besides the satisfaction of working with the material he wants, the designer derives another important benefit from a Mosaic tile specification. He knows that the architectural spirit he creates will remain faithfully unchanged for the life of the structure.

Good Ceramic Tile Service—A broad selection of tile is carried in stock locally in the Mosaic Warehouses listed below. You, your clients and your tile contractors are welcome to make full use of our Showrooms.

The complete Mosaic ceramic tile line offers: wall tile in Harmonitone and Bright Glaze; Everglaze; ceramic mosaics in Harmonitone, Velvetex, Granitex, Conductive, Undulatile, Everglaze, Faience, Formfree, Medley and Byzantile patterns; Carlyle quarry tile; Decorated glazed tile; Faience; All-Tile Accessories.

The Mosaic Tile Workbook for Architects, Form No. 226, is in Sweet's. For additional data, write The Mosaic Tile Company, Dept. A, Zanesville, Ohio, or The Mosaic Tile Company, Dept. A, 829 N. Highland Ave., Hollywood 38, California.

THE MOSAIC® TILE COMPANY

America's largest ceramic tile manufacturer

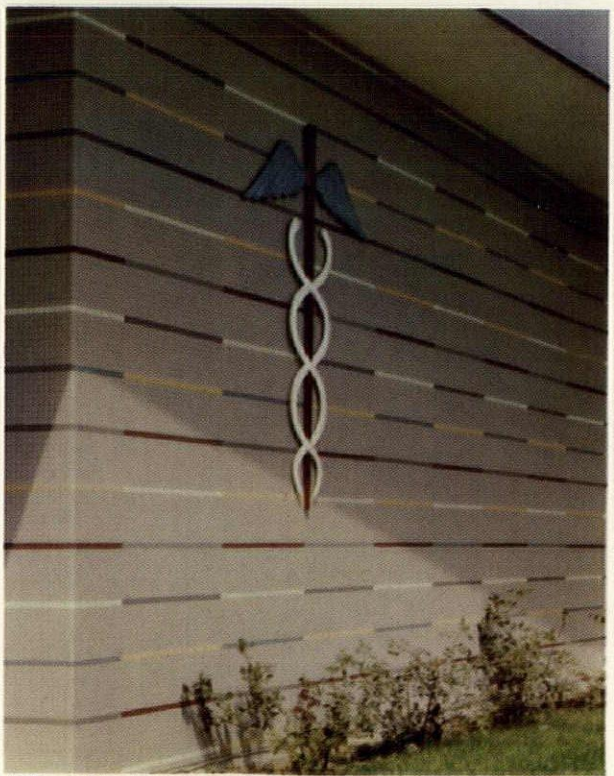
Member—Tile Council of America, Inc. and The Producers' Council, Inc.

Showroom-Warehouses: Atlanta, Baltimore, Boston, Buffalo, Chicago, Cleveland, Corona, Cal., Dallas, Denver, Detroit, El Segundo, Cal., Fresno, Greensboro, E. Hartford, Hempstead, L.I., N.Y., Hollywood, Ironton, Ohio, Jackson, Miss., Little Rock, Matawan, N.J., Miami, Milford, Conn., Milwaukee, Minneapolis, New Orleans, New York (Showroom only), Philadelphia, Portland, Rosemead, Cal., Salt Lake City, San Antonio, San Diego, San Francisco, Santa Clara, Cal., Seattle, Tampa, Washington, D.C., Zanesville, Ohio.

Representatives: Kansas City, Memphis, Oklahoma City, Pittsburgh, St. Louis.

Factories: Zanesville and Ironton, Ohio; Matawan, N.J.; Little Rock, Ark.; Jackson, Miss.; Corona and El Segundo, Cal.

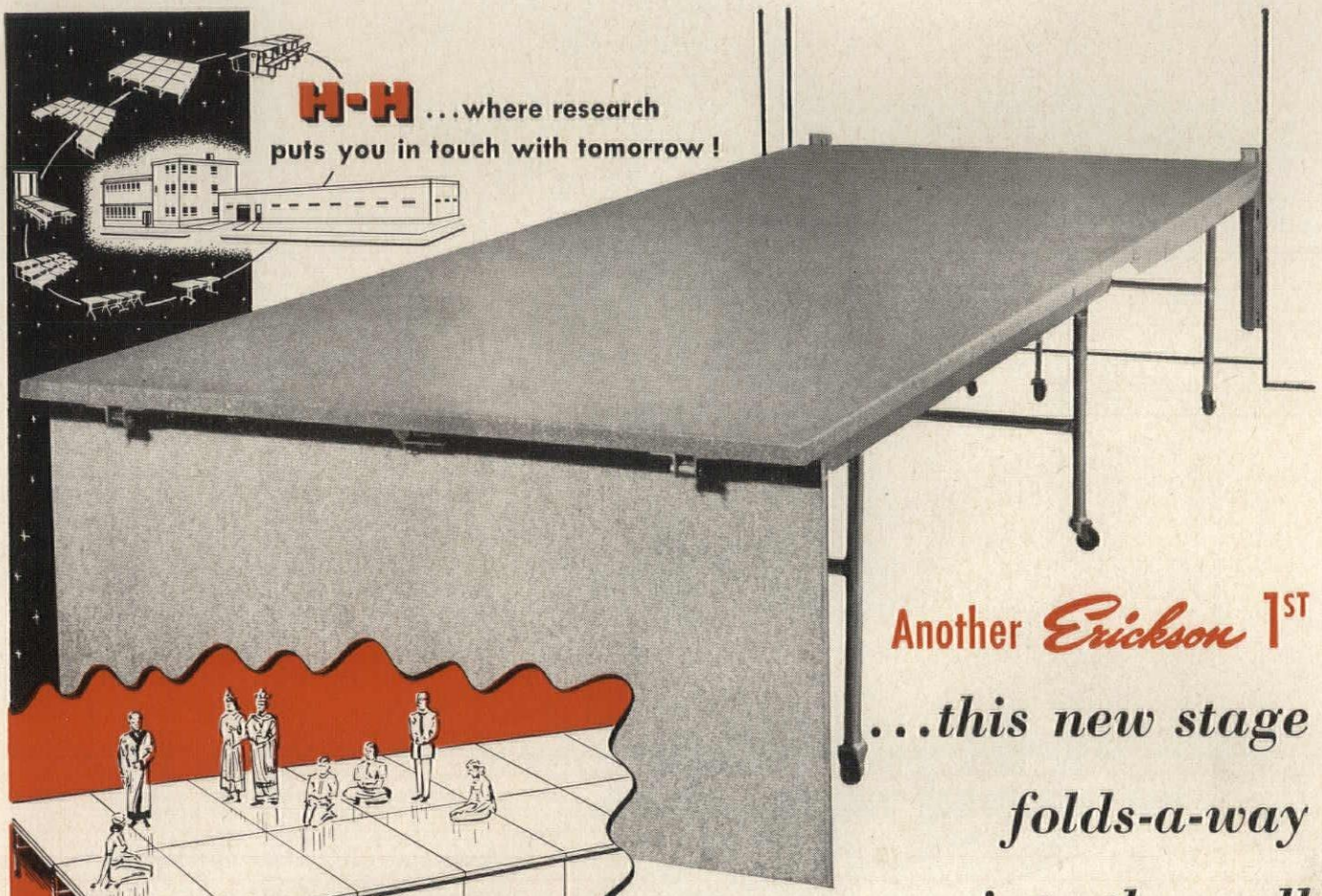
Architect: Maguolo & Quick. Tile Contractor: Weiffenbach Marble & Tile Co.
Plate No. 162



Architect: Thorshov & Cerny. Tile Contractor: Twin City Tile & Marble Co.
Plate No. 442

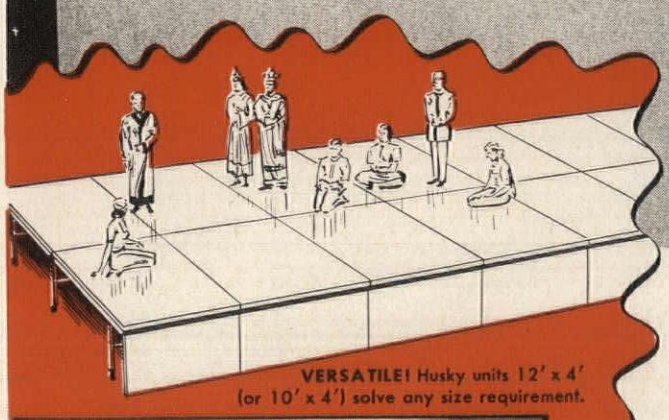
For free estimates on Mosaic Tile, see the yellow pages for your Tile Contractor, Ceramic

H-H ...where research puts you in touch with tomorrow!



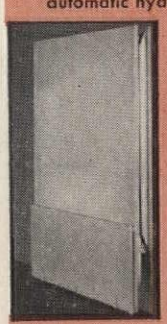
Another *Erickson* 1ST

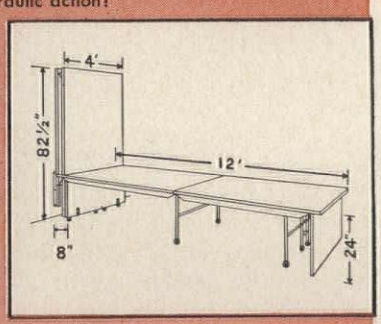
...this new stage folds-a-way into the wall out of the way!



VERSATILE! Husky units 12′ x 4′ (or 10′ x 4′) solve any size requirement.

AUTOMATIC! Each unit sets up by itself thanks to automatic hydraulic action!





COMPACT! Each unit folds-a-way into shallow recess only 8″ deep, or may be mounted on wall. Drawing shows stage folded and unfolded.

Erickson FOLD-A-WAY PRODUCTS FOR MULTI-USE OF SPACE

This new stage unfolds out of the wall in seconds . . . ready for use. When not needed this new stage quickly folds-a-way . . . out of the way . . . giving you use of *all* the floor space in your gym or multi-use room.

Owen King

HALDEMAN HOMME MFG. CO.

Dept. AR-5 2580 University Ave., St. Paul 14, Minn. • Midway 5-6465

Gentlemen:
Please send complete information on your new Erickson in-wall fold-a-way stage.

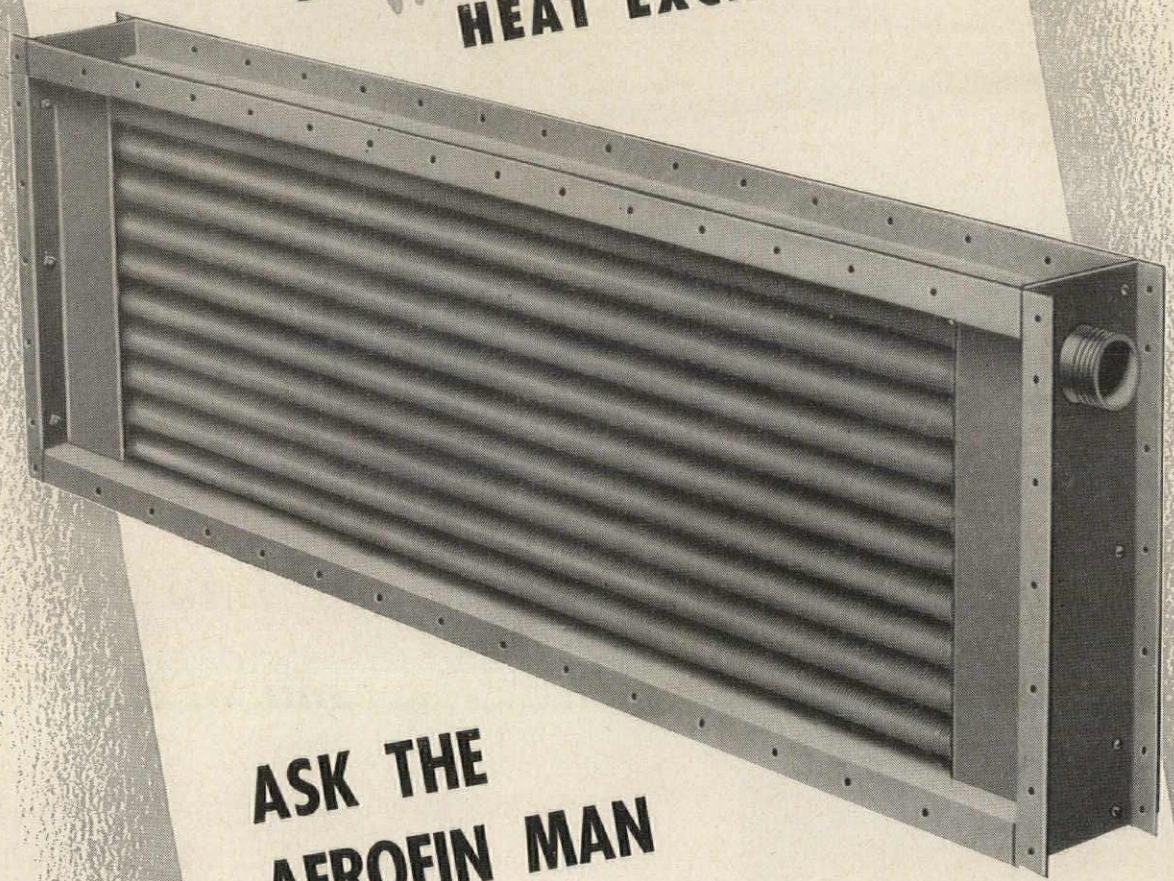
NAME_____ TITLE_____

SCHOOL_____

ADDRESS_____

CITY_____ STATE_____

*FIRST LINE *Extended-Surface* HEAT EXCHANGERS



ASK THE AEROFIN MAN

Specify Aerofin and you specify high efficiency, long service life and low maintenance and service costs.

Take advantage of Aerofin's unequalled experience, production facilities, and materials-testing and design research—of Aerofin's complete engineering service at the plant and in the field.

Ask the Aerofin man.

* Aerofin makes extended heat surface exclusively — not as a by-product, not as a side-line. Sold only by manufacturers of fan-system apparatus. List on request.

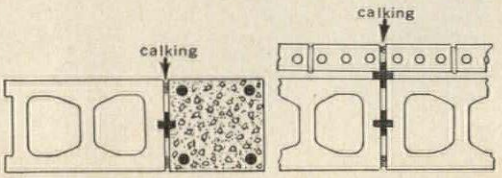
AEROFIN CORPORATION

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

The New Way to Protect and Strengthen Masonry Walls

BLOK-JOINT
Pat. Pend.

For Control Joints



BLOK-MESH

Deep Swedged Reinforcing

SIDE VIEW

Write For This FREE BLOK-JOINT Sample

and detailed literature on both Blok-Joint and Blok-Mesh "2-Point" Masonry Wall Protection.

BLOK-JOINT Permits Contraction AND Expansion In Control Joints

BLOK-MESH Reinforcing Has Deep Swedges For Better Mortar Bond

Today's accepted method of building masonry walls includes reinforcing and control joints. Control joints relieve stresses and strains and reinforcing adds strength and resistance to cracking. Use both to provide maximum strength and protection.

BLOK-JOINT is a cross shaped rubber extrusion for making fast, effective control joints in masonry walls. It is used with ordinary metal sash blocks. No special blocks or building paper and mortar fill is needed. Blok-Joint forms a secure interlock for lateral stability —allows *both* contraction and expansion. It can be used in single walls, block walls faced with other masonry, cavity walls and at pilasters or columns. Molded of "100-year life" rubber, Blok-Joint meets ASTM and Federal specifications.

BLOK-MESH is the masonry reinforcing with the exclusive deep swedged deforming. The well-defined, squared notches give more gripability with the mortar than conventional reinforcing with superficial nicks or burrs. Blok-Mesh provides effective dovetailing—yet requires no more area in the joint than other types.

For Further Information See

4h / Car Architectural File

3c / Car Industrial Construction File

CONSTRUCTION MATERIALS
CARTER-WATERS
KANSAS CITY MISSOURI

Blok-Joint and Blok-Mesh are products of The Carter-Waters Corp., 2440 Pennway, Kansas City 8, Missouri.

Available in the U. S. through Concrete Block Manufacturers and Building Material Dealers.

Blok-Joint is distributed in the Canadian Provinces of Alberta, Saskatchewan and British Columbia by CONSOLIDATED CONCRETE INDUSTRIES, Ltd., 9th Ave. & 24th St. East, Calgary, Alberta, Canada.

The Finishing Touch that ASSURES CLIENT APPROVAL!

specify HILLYARD Floor Treatments for heavy-duty wear, simplified maintenance.

When you design a concrete floor, specify modern specialized treatments which will

- bring the floor successfully through the curing period, with least inconvenience;
- build up a hard, dense, dust-free, *smooth* surface that wears like iron, is easy and economical to maintain;
- bring out the full potential of appearance to please the client, encourage good housekeeping.

Specify sealing the newly-laid floor with Hillyard CEM-SEAL. It acts as a cap or dam to hold moisture for complete 28-day cure. Effectively seals out water, grease, dirt, plaster stains, etc. Replaces building paper or other covering. Eliminates dusting. Conditions floor for any finish treatment without acid etching.

Specify heavy-duty finish with Hillyard SURF-COAT (neutral), or Hillyard COLORTONE (choice of colors).

The Hillyard "Maintaineer®" in your area is a trained specialist who will gladly serve—without charge or obligation—as your own consultant on floor treatment problems. Ask him to survey the floors on your boards, in order to recommend treatments; and to serve as your "Job Captain".

Write or call collect for Hillyard AIA numbered files. Contain Architect's information on treatment for each type of floor, and detailed step-by-step treatment instructions for use by your contractor.

FLOOR HILLYARD TREATMENTS

Dept. A-2

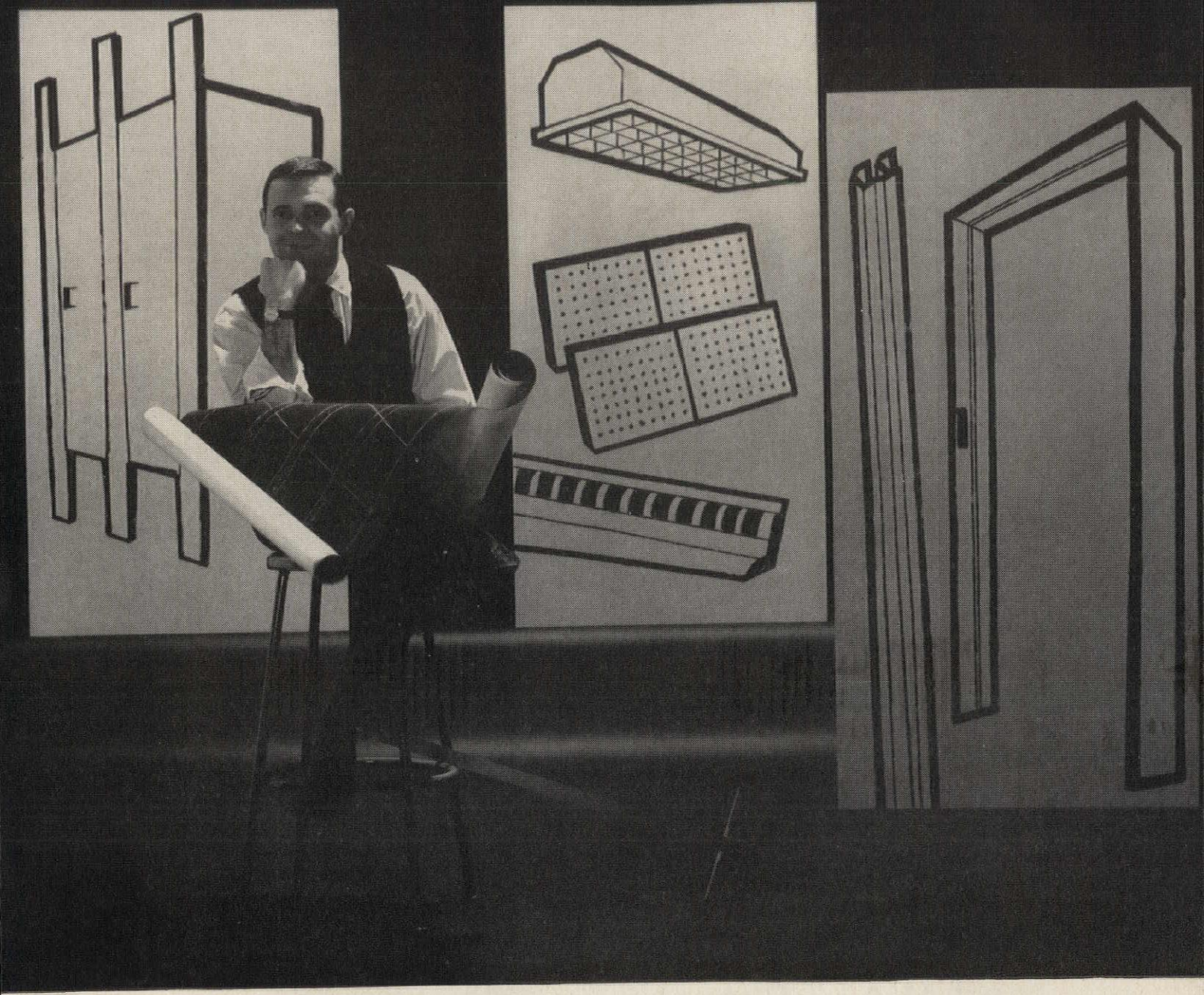
ST. JOSEPH, MO.
U.S.A.
Passaic, N. J.
San Jose, Calif.

Branches and Warehouse Stocks in Principal Cities

PRODUCERS COUNCIL

The Hillyard Maintaineer is "On Your Staff, Not Your Payroll"

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



HOW ELECTROLYTIC ZINC-COATED STEEL
KEEPS BUILDINGS–AND ARCHITECTS–LOOKING YOUNG

Today, it's almost axiomatic that the more electrolytic zinc-coated steel you put to work for you, the more freedom your buildings will have from rust—and the more freedom you'll have from client kicks about rust and rust-caused maintenance costs.

That's why it pays to get electrolytic zinc-coated steel in the things you want fabricated (such as wall partitions) and in the manufactured products you specify (such as light troffers, metal ceiling tiles, baseboard heating units, etc.).

Look at the paint adherence, for example. Electrolytic zinc-coated steel surfaces can be factory-treated to let paint dig in and hold its unbroken smoothness for keeps. How about formability? The tight coating stays tight through the severest fabrication operations. How about rust prevention? It's long-lived, uniform, relentless. First cost is low. Maintenance costs are nil. And the results are a lasting credit to your building and your reputation.

In electrolytic zinc-coated steel, there are Weirton Steel Company products that stand for bonus performance. Let us show you how Weirton's electrolytic zinc-coated steel sheets will keep your buildings—and you—looking young.

Write for informative brochure today. Weirton Steel Company, Dept. Q-3, Weirton, West Virginia.

WEIRTON STEEL COMPANY

WEIRTON STEEL COMPANY

WEIRTON, WEST VIRGINIA

a division of

NATIONAL STEEL CORPORATION

On chairs, booths... and WALLS, too!

ELASTIC FABRIC BACK

Masland Duran adds beauty and reduces upkeep.

Here's versatility in vinyl—all-round beauty in Masland Duran, the most practical, colorful vinyl money can buy. So easy to keep clean. Stubborn food stains wash off readily, making it the ideal upholstery covering. Sticky finger marks wipe off easily too—something worth remembering when you are considering wall re-decoration. Write for samples of durable Masland Duran vinyl upholstery —and also information on how Masland Duran wall covering is applied with primer and adhesive.*

Elastic fabric back quality recommended for adhering to wall areas.

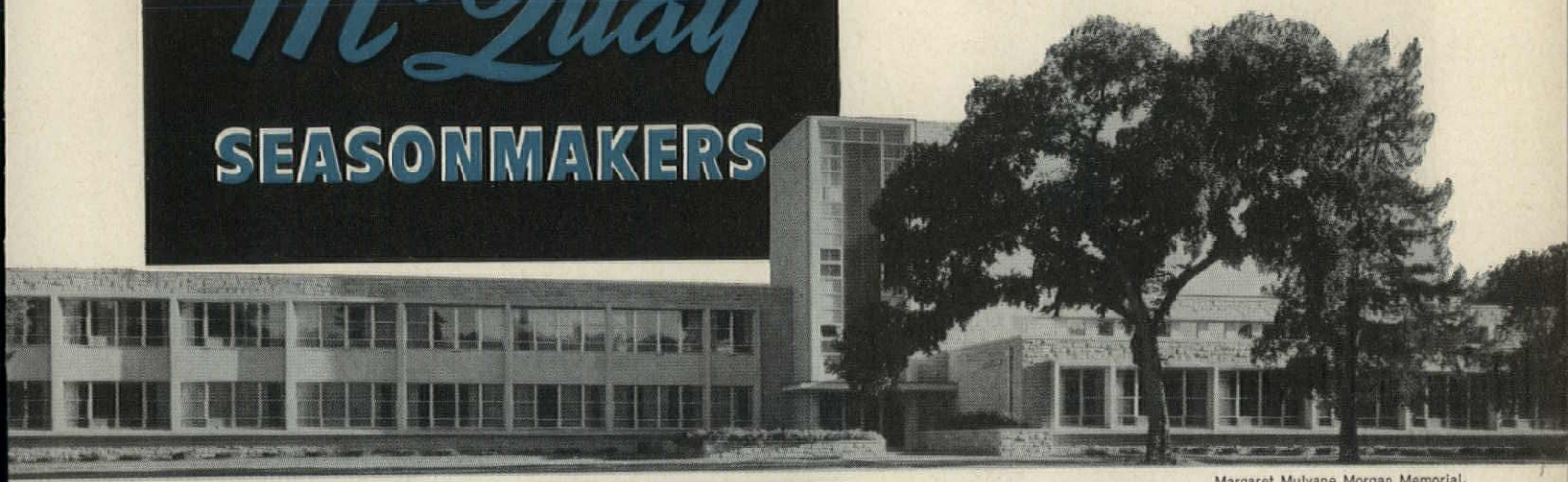
ELASTIC FABRIC BACK
Masland Duran on Walls, Chairs and Booths in Ratner's Restaurant, New York, N.Y.

The Masland Duraleather Company, Dept. 36, Philadelphia 34, Pennsylvania

Comfortable students are better students at Washburn University

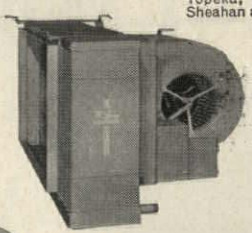
air conditioned by McQuay SEASONMAKERS

Comfortable students are receptive, alert students eager to learn. The New Margaret Mulvane Morgan Memorial is air conditioned by 112 McQuay floor type Seasonmaker units to provide the finest low cost and economical year 'round comfort. There is a McQuay unit especially designed for every type and every size heating and air conditioning job—old or new, large or small. Each has the inherent built-in quality and dependability for which McQuay has been famous for more than a quarter century. Consult your McQuay representative or write McQuay, Inc., 1605 Broadway St. N. E., Minneapolis 13, Minn.



Margaret Mulvane Morgan Memorial, Washburn University, Topeka, Kansas
Architects: Thos. W. Williamson and Victor H. Loebsack & Assoc., Topeka
General Contractor: M. W. Watson, Topeka; Plumbing and Heating: Sheahan and Degan, Topeka

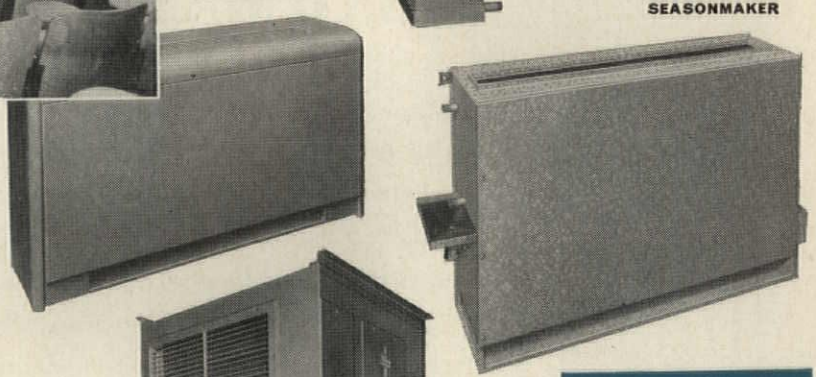
Typical classroom, showing McQuay floor type Seasonmaker air conditioning units.



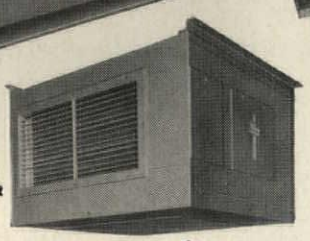
HIDEAWAY TYPE SEASONMAKER

FLOOR TYPE SEASONMAKER

BASIC TYPE SEASONMAKER



CEILING TYPE SEASONMAKER



FLOOR TYPE SEASONMAKER—for free standing floor mounting. four sizes, 200 to 600 cfm, ½ to 2 ton nominal cooling capacity. Both thermally and acoustically insulated. Choice of three air discharge grilles.

HIDEAWAY TYPE SEASONMAKER—for concealed, suspended mounting in closets, attics or furred spaces. Seven sizes, 200 to 2000 cfm, ½ to 5 ton nominal cooling capacity. Insulated drain pan.

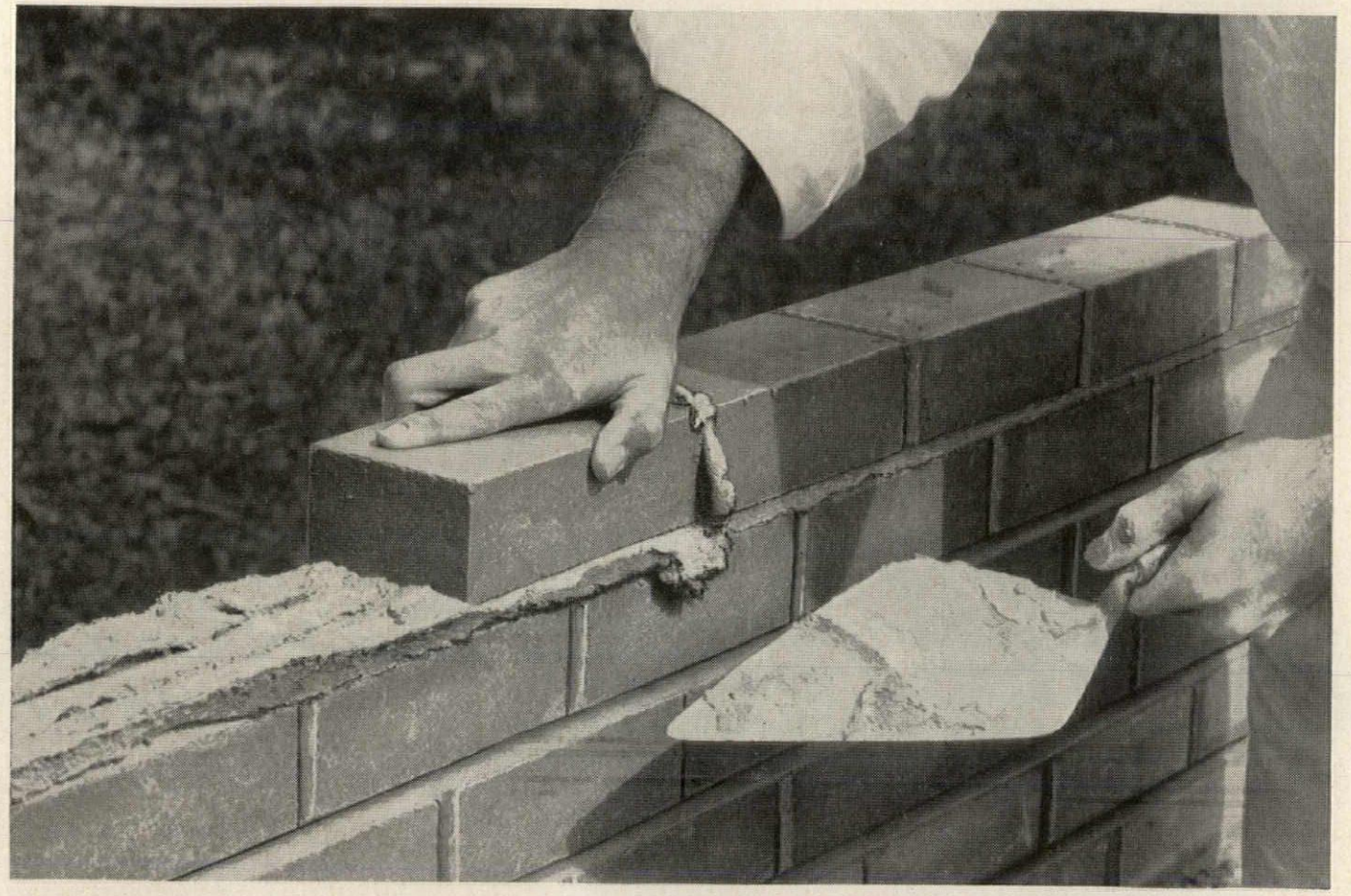
CEILING TYPE SEASONMAKER—for suspended mounting. Seven sizes, 200 to 2000 cfm, ½ to 5 ton nominal cooling capacity. Thermally and acoustically insulated.

BASIC TYPE SEASONMAKER—for fully recessed built-in wall installations. Four sizes, 200 to 600 cfm, ½ to 2 ton nominal cooling capacity. Thermally and acoustically insulated.

McQuay Means Quality

McQuay INC.

AIR CONDITIONING
HEATING
REFRIGERATION



HOT AND DRY, or COOL AND MOIST...

masonry jobs are easier, better, faster, with "climate-blended"

IDEAL MASONRY CEMENT

"Climate-Blended" Ideal Masonry Cement provides uniform mortar of excellent plasticity, strength, and water repellence regardless of the climate, weather, or area of the country where it is used. Easy workability and high yield are assured by the fact that the cement is made by Ideal's plants right in the areas where you use it—is tailored to the climate requirements of your location.

For the best mortar for all working conditions, always specify "Climate-Blended" Ideal Masonry Cement for your masonry jobs.

IDEAL CEMENT COMPANY

DENVER, COLORADO

PORTLAND IDEAL CEMENT

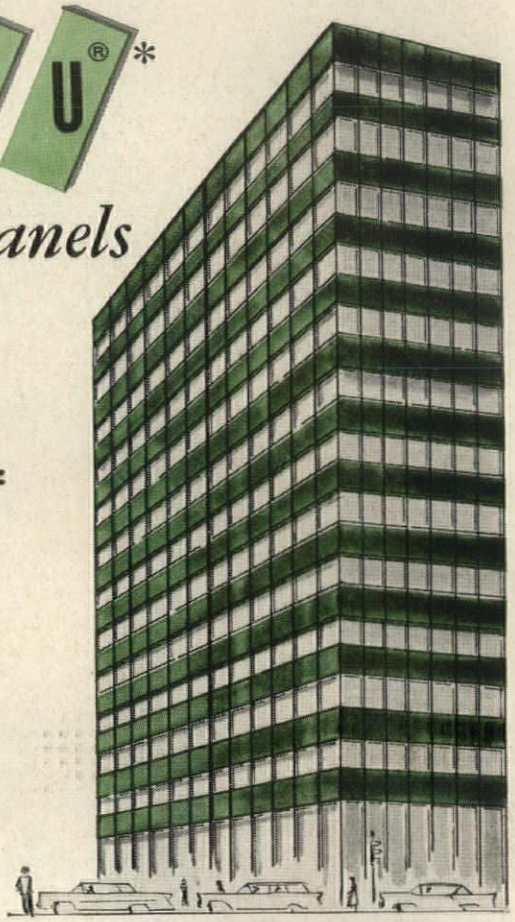
15 Plants and 4 Terminals Serving Some of the Most Rapidly Growing Areas of the Nation.

Announcing . . .

CUSTOM-U®*

Architectural Laminated Panels

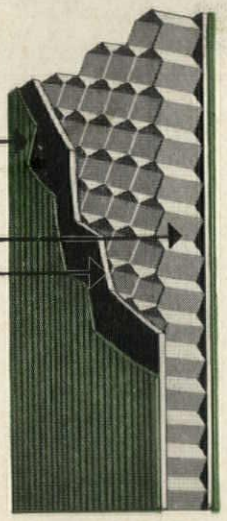
by ALUMILINE



Now, U-Factor and Panel Selection reduced to a simple formula:

Custom U® Panel Program allows you to select architectural panels that have been manufactured to *your* predetermined U-Factors: the right combination of laminating materials joined together to meet the specific U-Factor requirements for your job. With Alumiline Custom-U laminated panels you buy *more* than just panels—you buy panels which you *custom-design* yourself.

Custom U® Panel Program is a product service launched and offered only by Alumiline Corporation. It enables architects and architectural engineers to select and design panels with *ease and confidence*: a truly custom service incorporated in our standard manufacturing procedures. Alumiline's wide range of component materials and Custom-U service give you laminated panels to meet the specifications of any job, interior or exterior.



FACE MATERIALS: Porcelainized steel • Porcelainized aluminum • Color anodized aluminum Clear anodized aluminum • Green alodized aluminum • Vinyl cloth covered aluminum Formica and Micarta • Stainless steel • Galvanized steel

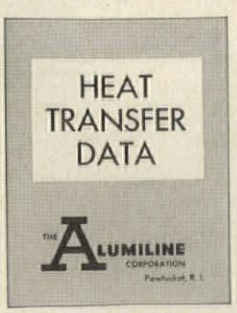
CORES AND BACK-UP MATERIALS: Resin impregnated Kraft paper honeycomb Aluminum honeycomb • Plywood • Fiberglass • Styrofoam • Asbestos cement board Foamglass • Transitop • Fesco Board • Tempered hardboard

EDGES: Vinyl tape • Pan shapes • Tray edges • Special

COLORS: Custom-U—Panel Program also offers you the widest range of color facing materials—Architectural colors: Gold-Lite, Blue-Lite and Black-Lite, Architectural Alodine (Green) and Porcelain on Aluminum or Steel.

Alumiline is a pioneer in the research and development of aluminum colors and finishes.

Write Dept. HTF for: Heat Transfer Data



*Custom U®

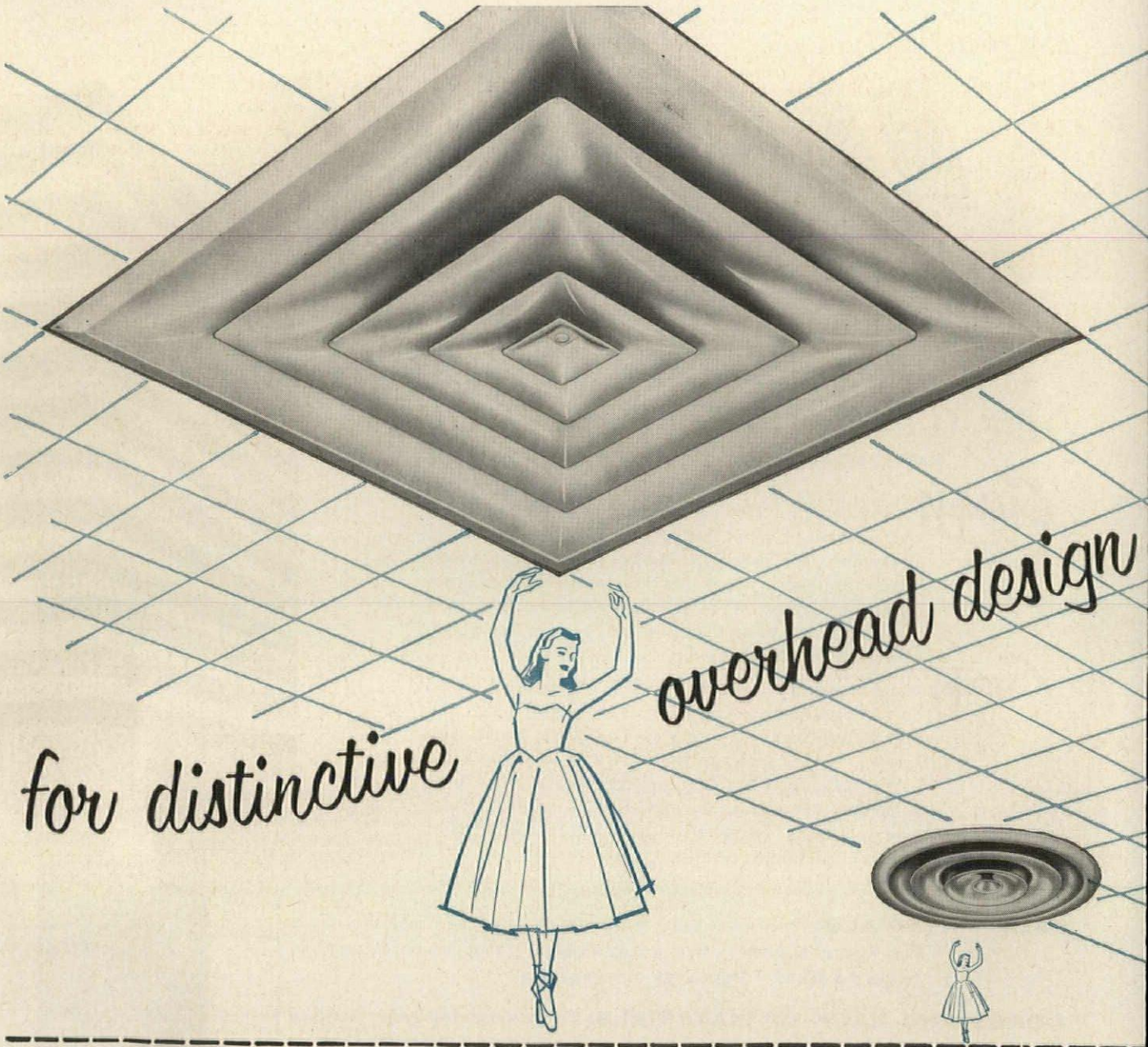
The *Alumiline Corporation's* built-in service which enables Architects and Engineers to easily determine the U-Factor of laminated panels.

Our Custom-U Panel Program is based on technical Heat Transfer data compiled by our engineers and reduced to a simple formula. This data is available, on request, to architects and architectural engineers as an aid for quick U-Factor calculation.

THE ALUMILINE CORPORATION — Pawtucket, R. I.

"See us in Sweets' Catalog"

430-8



CEILING DIFFUSERS

designed by **TITUS**

● SUPERB ULTRA MODERN STYLING

...These new ceiling diffusers give any room a dignified "room of tomorrow" look! All Titus ceiling diffusers—regardless of type—size—or shape—are so styled and proportioned that they blend harmoniously with each other and with room surroundings.

● SUPERIOR DIFFUSION PERFORMANCE

...New exclusive *curved contour cone design*—plus extreme adjustability—make these outstanding precision air diffusion outlets EQUALLY EFFICIENT FOR HANDLING EITHER COOLED OR HEATED AIR.

● UNIFORM APPEARANCE

...Regardless of air pattern setting—Titus Ceiling Diffusers always present a uniform appearance because 3 center cones move in unison and retain same relative position.

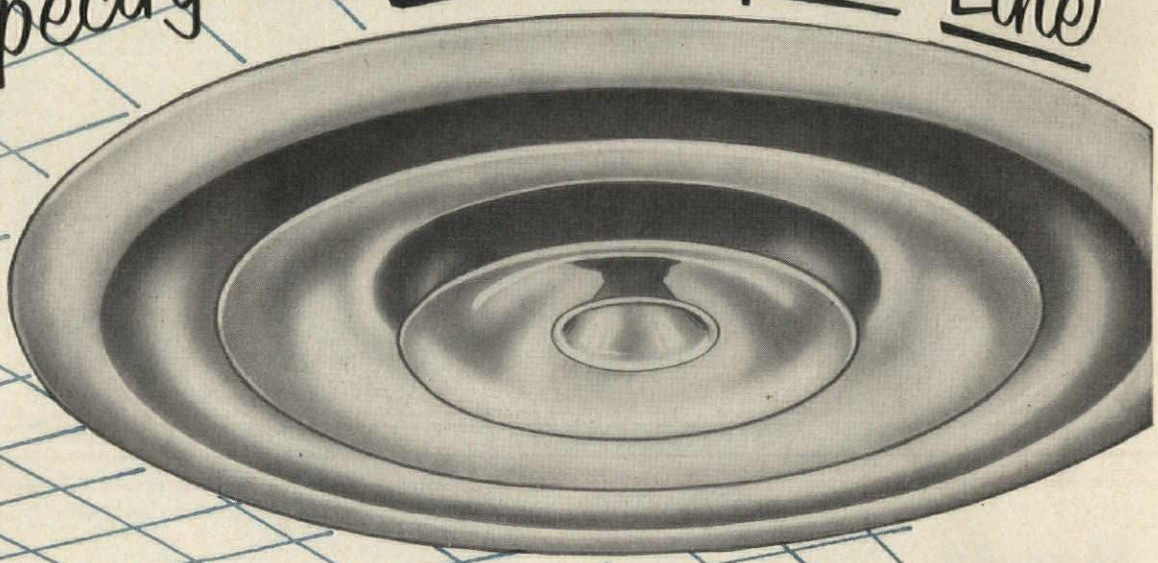
● SIMPLE TO INSTALL-ADJUST

...Ingenious spring lock arrangement for quick, easy installation or removal—saves time and labor. Adjustable at the factory—or on the job. On Titus adjustable round diffusers, simply turn small center cone to adjust to any air pattern.

● A COMPLETE LINE

...Titus Ceiling Diffusers are available in round, square and half round models in all standard sizes. Rigid steel construction—beautiful metalescent aluminum finish. Also a complete line of accessories—including ceiling cones, radial volume control dampers and plaster mounting rings.

...specify the New Complete Line



TODAY'S OUTSTANDING AIR CONDITIONING ACHIEVEMENT

FOR HANDLING OVERHEAD AIR *Gracefully* WITH PRECISION

FREE CATALOG

TITUS MFG. CORP. WATERLOO, IOWA

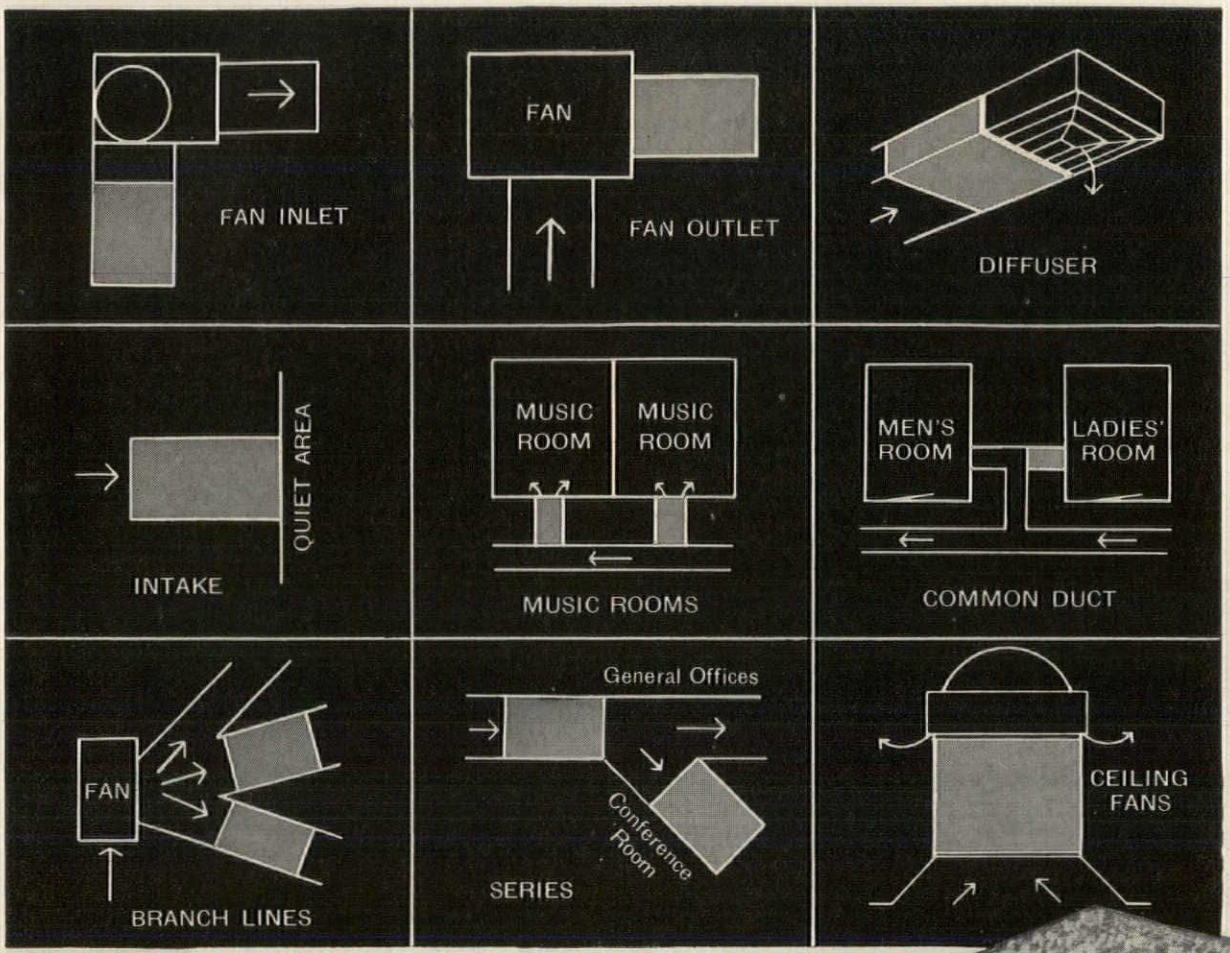
Gentlemen: I am interested in full details (engineering data, prices) on your new complete line of Ceiling Diffusers and Accessories. RUSH NEW, FREE CATALOG.

Name

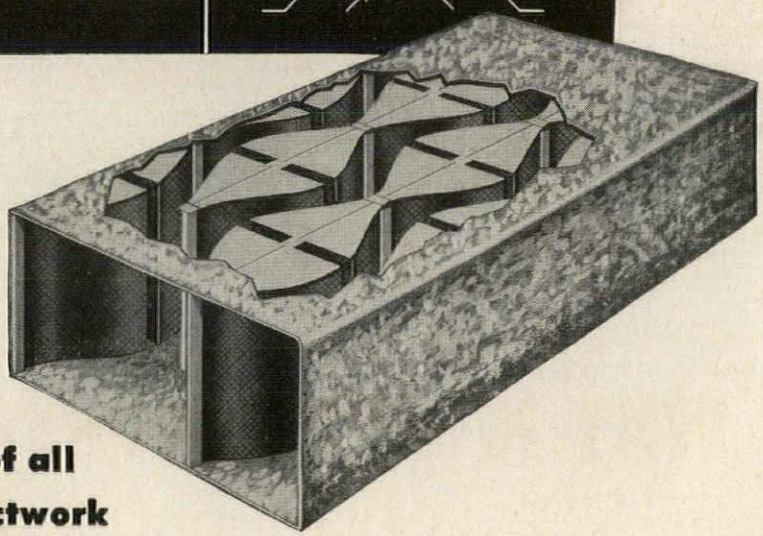
Company

Address

City State



Every Building Needs Aircoustat® Sound Traps



AIRCOUSTAT silences all noise of all frequencies traveling through ductwork

Eliminate disturbance, distraction and irritation caused by noises escaping from one area to another through ductwork.

Install AIRCOUSTAT Sound Traps. AIRCOUSTAT eliminates guesswork, wasted space and unnecessary expense of duct lining. You can guarantee your client trouble-free performance. You can estimate with complete confidence the performance of particular applications. If AIRCOUSTAT fits geometrically, it fits acoustically.

AIRCOUSTAT saves you space. Its greater effectiveness permits smaller-sized ducting. It eliminates bulky mufflers.

For more details, write to KOPPERS COMPANY, INC., Industrial Sound Control Dept., 6605 Scott Street, Baltimore 3, Md.

KOPPERS

INDUSTRIAL SOUND CONTROL

Engineered Products Sold with ***Service***

BRIXMENT

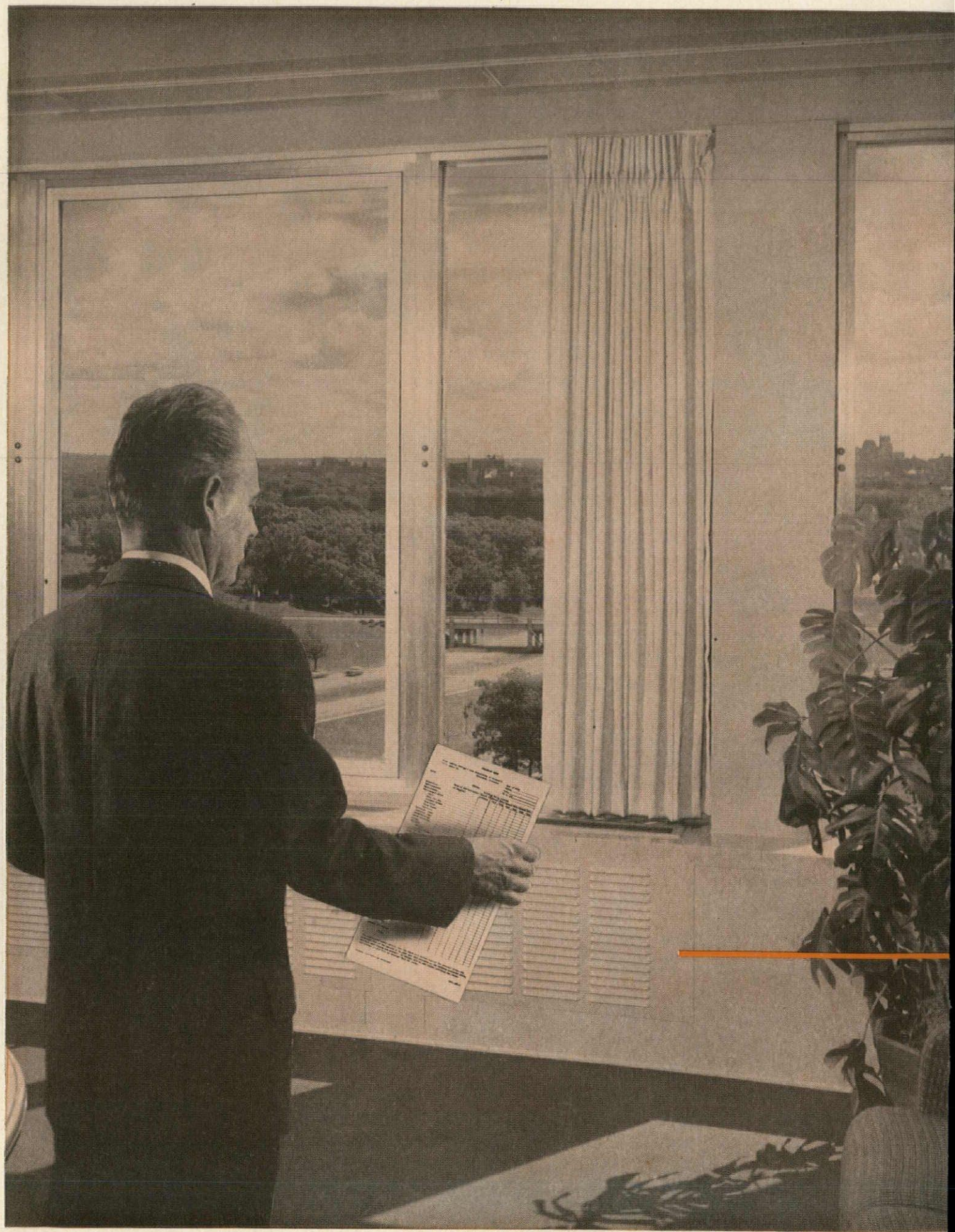
Better Mortar for Blocks

WHY IS GOOD MORTAR IMPORTANT?

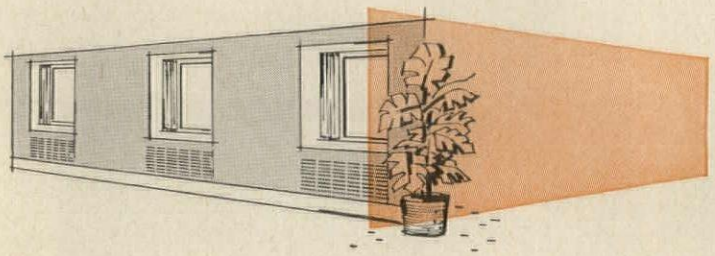
Because of their size and weight, concrete blocks require mortar with "body", plasticity and water-retaining capacity. Brixment meets all these requirements. It has the *body* necessary to support the weight of the unit and hold it up to the line. It has the *plasticity* necessary to prevent the mortar from falling off the long head joint, while the block is being placed in the wall. It has high *water-retaining capacity*, which gives the bricklayer more time to shift and adjust the block to its final position before the mortar stiffens.

It is the combination of these characteristics that makes Brixment the leading masonry cement for concrete block as well as for brick.

Louisville Cement Company . . . Louisville 2, Kentucky



Milcor Wall Unit installation in
Prudential Building, Minneapolis, Minn.



How to limit the cost of concealing convectors – without limiting design

Milcor Convector Enclosure Wall Units provide custom appearance with production-line economy

Only your imagination and the requirements of your job limit the way you can use Milcor Convector Enclosure Wall Units.

They are fabricated to individual job details — as (1) enclosures for mechanical heating and air-conditioning equipment; (2) convector enclosures with window jamb and head sections; (3) integrated metal interiors with convector enclosures, window trim, and matching wainscot panels. You can specify width, height, depth . . . gauge of steel (Ti-Co galvanized or cold-rolled) . . . and front panel-construction required for free air circulation and accessibility.

A sales engineer from our nearest branch can help you solve problems in this specialized field. See Sweet's, section 30h/In — or write for catalog 105.

MILCOR® **Convector Enclosure Wall Units**

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

MILCOR ROOF DECK	MILCOR CELLUFLOR	MILCOR RIBFORM	MILCOR WALL PANELS	MILCOR METAL TRIM
Sweet's, section 2f/InL	Sweet's, section 2a/In	Sweet's, section 2h/In	Sweet's, section 3b/In	Sweet's section 12b/In

INLAND STEEL PRODUCTS COMPANY Member of the INLAND Steel Family

DEPT. E, 4033 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.

A continuing series of distinguished office buildings, schools,
churches, hospitals and industrial structures using NORTON DOOR CLOSERS.

1800 DOORS EQUIPPED WITH NORTON CLOSERS IN NEW EQUITABLE LIFE BUILDING...SAN FRANCISCO

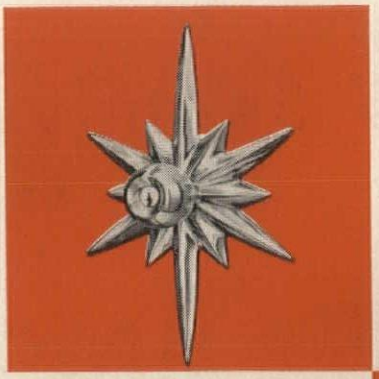
Trouble-free service for years to come is assured in this striking ultramodern building by the use of Norton Door Closers throughout. Both INADOR® and surface-applied NORTON closers are used, the latter on doors where concealment is not essential. Every Norton Door Closer is built to last longer with minimum maintenance and long range economies so essential in all public buildings. For full details, see current Norton catalog. Write for one today if you don't already have a copy.

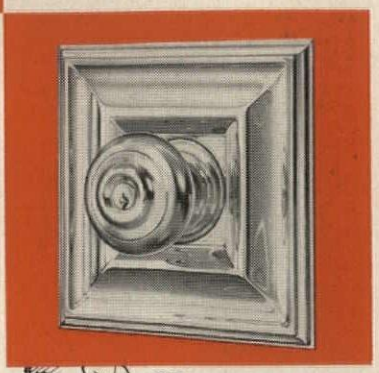
NORTON DOOR CLOSERS, Dept. AR-58, Berrien Springs, Mich.

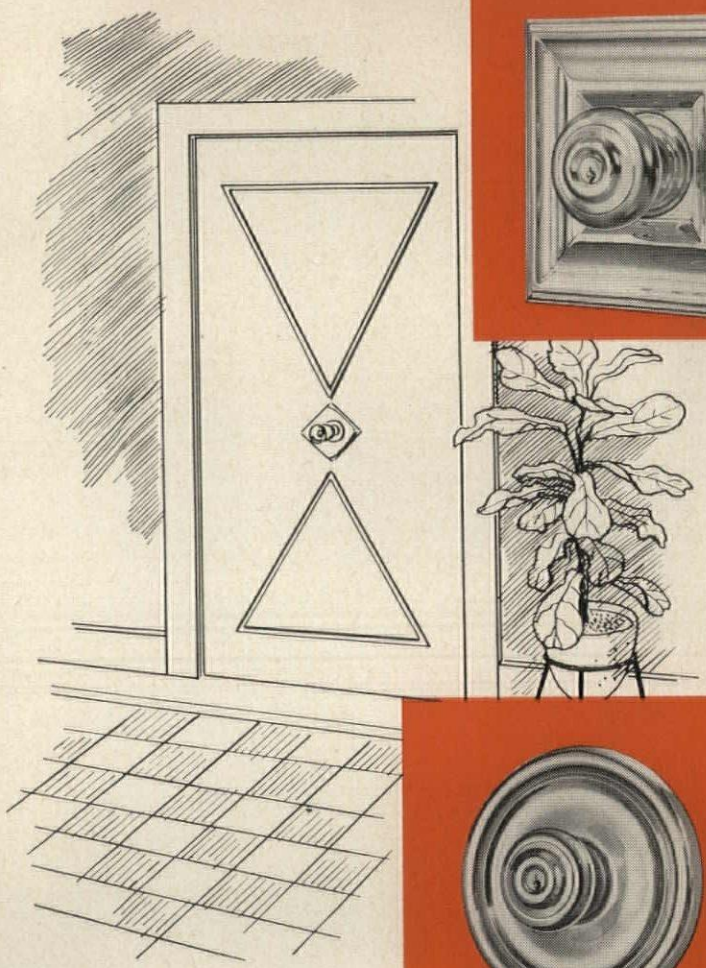
NORTON *INADOR*

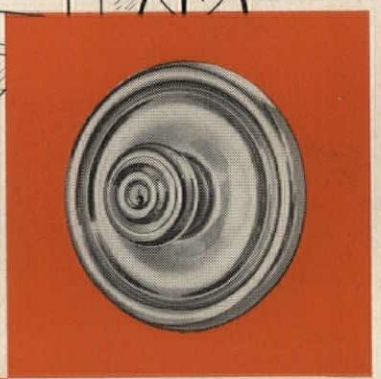
For Streamlined Modern Design

Available with
(A) regular arm and
(B) holder arm
4 sizes to meet all
standard requirements.







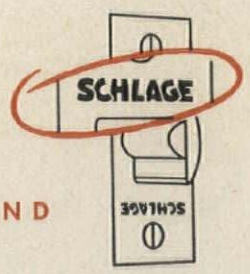


SCHLAGE CYLINDRICAL LOCKS HELP YOU EXPRESS YOUR ORIGINALITY

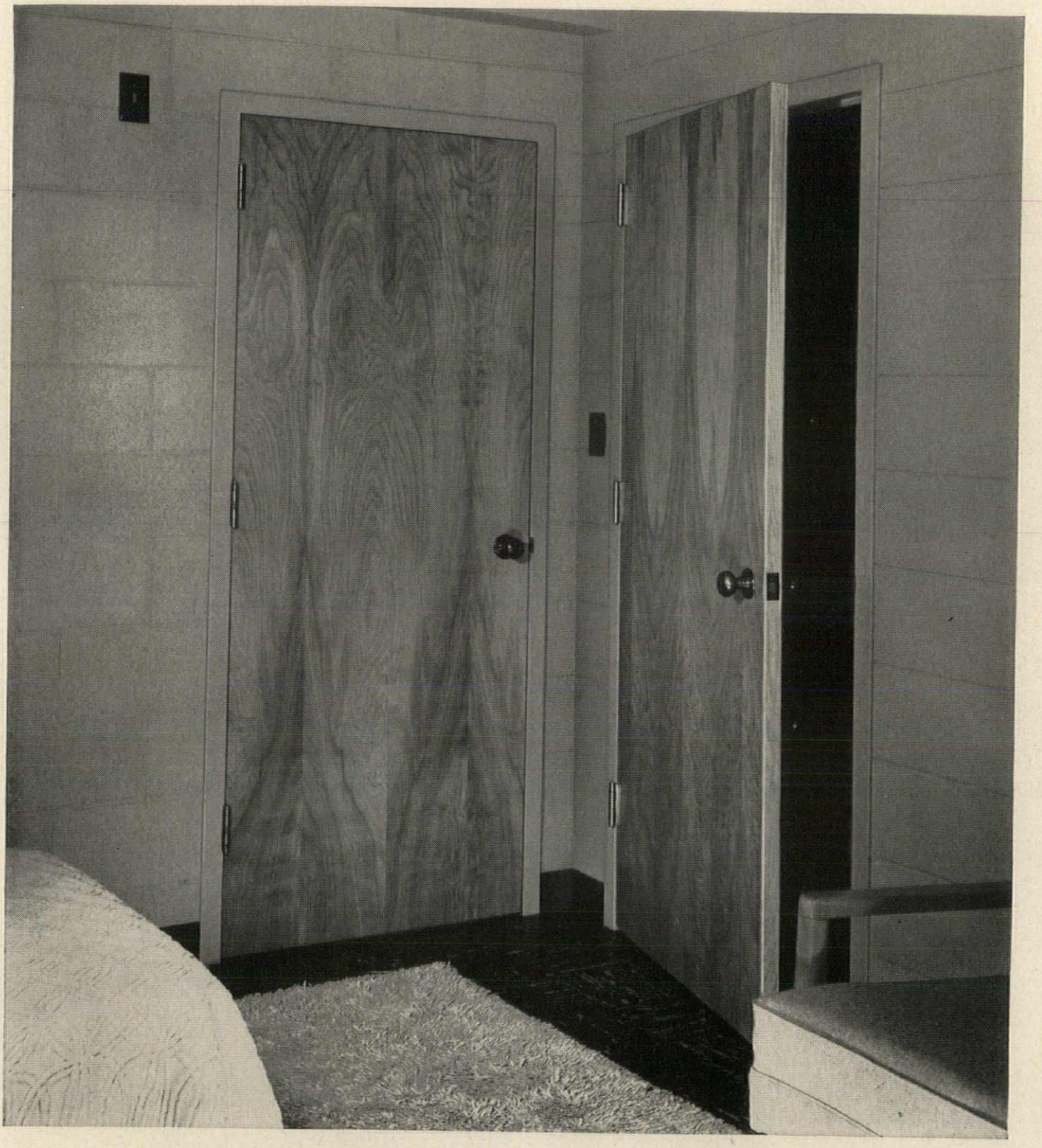
Long backsets, versatile escutcheons, compact units give you flexibility

Whatever motif you create for a new building, there are Schlage-designed locks that will complement it. Schlage's range of styles and finishes gives you unfettered freedom to create eye-catching doorways.

In addition to beauty, Schlage gives you these advantages of cylindrical lock design: easy installation with two drilled holes, pushbutton security, minimal maintenance, one-hand unlocking with the Schlage key-in-knob feature. Schlage Lock Company . . . San Francisco . . . New York . . . Vancouver, B.C.



AMERICA'S MOST DISTINGUISHED LOCK BRAND



The exceptional beauty of Curtis New Londoner hollow-core flush doors is readily apparent in this close-up view of one of the rooms in Dinkmeyer Hall, a girls' dormitory for Elmhurst College in Elmhurst, Illinois. Note the beautifully grained patterns—each a "picture in wood." Quality—inside and out—distinguishes these fine doors. Dinkmeyer Hall was designed by Benjamin Franklin Olson, architect, Chicago.

CURTIS

WOODWORK *heart of the home*

1865 CURTIS NEW LONDONER HOLLOW-CORE FLUSH DOORS

Found in the finest public buildings Curtis New Londoner flush doors

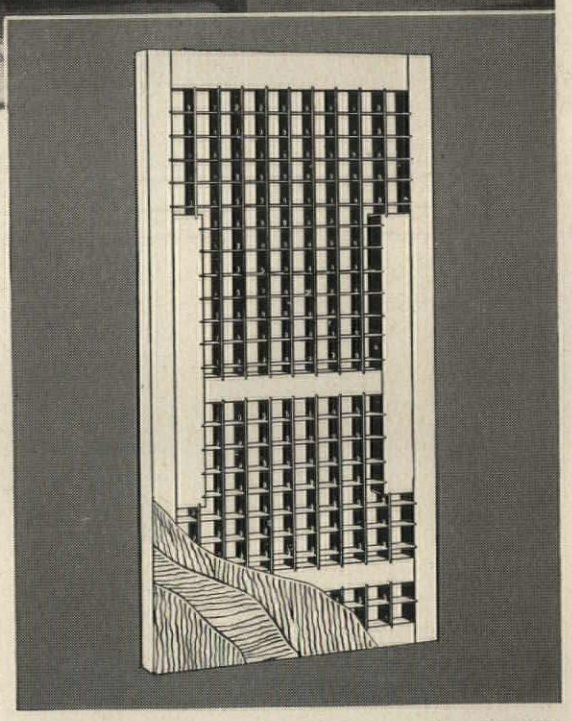
Exterior view of Dinkmeyer Hall, Elmhurst College, Elmhurst, Ill.

An excellent indication of the quality of any building product is the architectural company it keeps. Curtis is justifiably proud of the fact that many of America's most distinguished architects constantly specify Curtis New Londoner hollow-core flush doors and Curtis American solid-core doors for the finest public buildings—schools, hospitals, churches and others.

These superior flush doors have an exterior beauty that places them in a class by themselves. Each door is a masterpiece of fine grain design in native woods. No two doors are alike in pattern—yet all harmonize to create a distinguished decorative note.

Extra strength is built into every detail of New Londoner door construction. The all-wood grid is *locked into* the extra heavy stiles and rails. These doors are dimensionally stable under all weather conditions. They're proof against the abuse they must take in a lifetime of public service.

Complete information about Curtis New Londoner hollow-core flush doors and Curtis American solid-core flush doors is yours for the asking. Mail the coupon!



Curtis New Londoner institutional doors combine the light weight and economy of hollow-core construction with extra heavy stiles, rails and crash and kick plate rails. Doors accommodate all types of institutional hardware.

Curtis Companies Service Bureau AR 5-58
200 Curtis Building
Clinton, Iowa

Please send me information about Curtis New Londoner and Curtis American flush doors.

Name.....

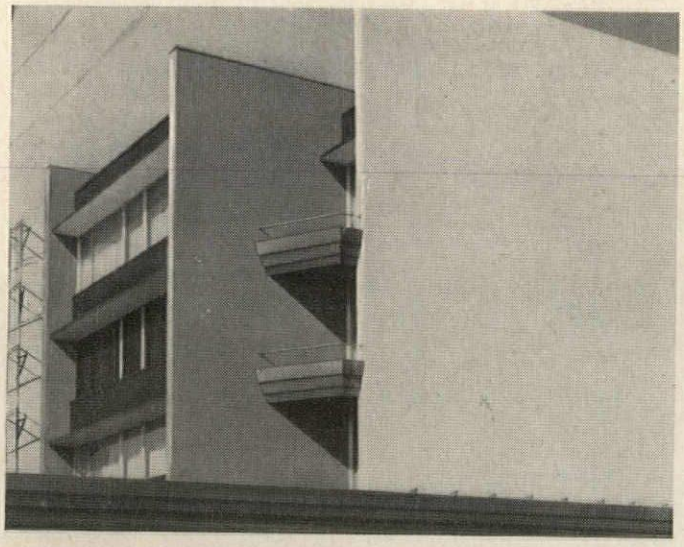
Address.....

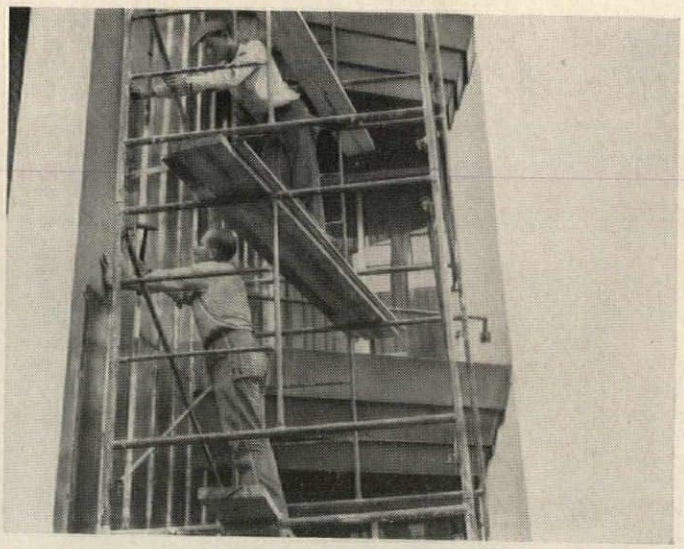
City.....*State*.....

CURTIS

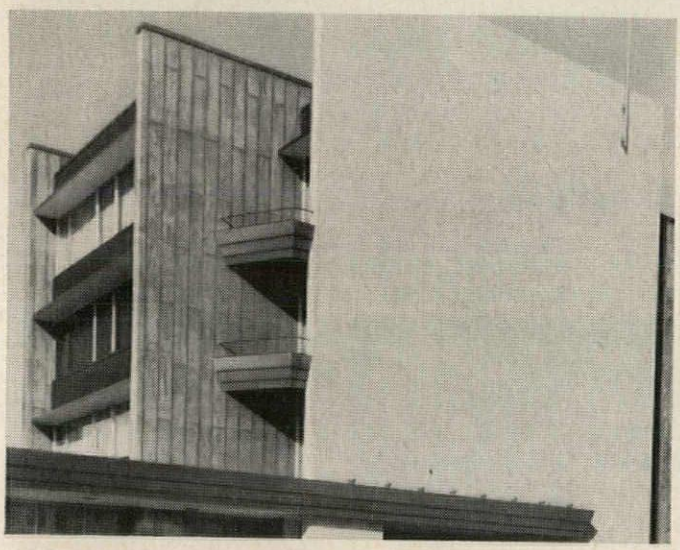
WOODWORK *heart of the home*

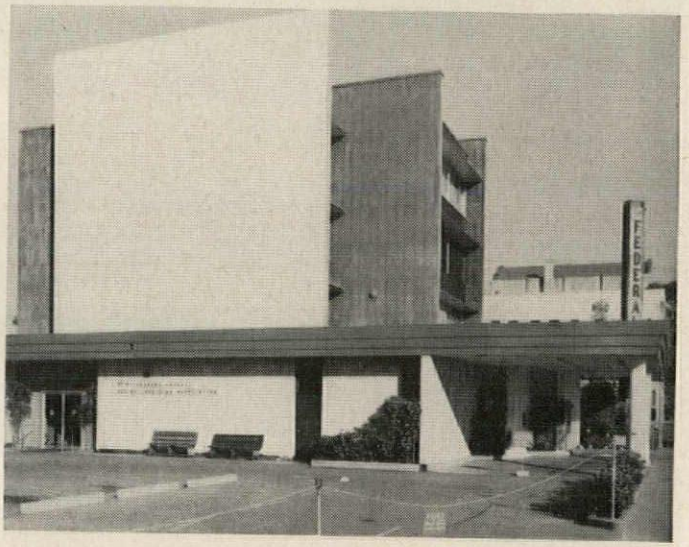
HOW REVERE COPPER





makes buildings alluring





as well as enduring

Copper is far from passé in modern building construction. In fact, it's being used more and more and in more different forms than ever before. The main reasons are: 1-You can do so many things with copper. 2-It is so easy to work and fabricate. 3-It has unusual flexibility in design. 4-Its endurance has been proved over the centuries.

In this instance the architect, WILLIAM B. HARVARD of St. Petersburg, Florida, having used copper on the balconies and front fascia, decided that copper would be the perfect sheath for the large wall surfaces, and by using vertical pans of copper a most unusual and decorative effect was obtained. The copper was then treated to produce a soft green weathered look to contrast with the white marble. Result: a striking, enduring edifice for the ST. PETERSBURG FEDERAL SAVINGS & LOAN ASSOCIATION, St. Petersburg, Florida.

The 5,000 lbs. of 16 oz. Revere Cold Rolled Copper used, were applied by DANIELS & JONES SHEET METAL WORKS, St. Petersburg. Copper was furnished by the Revere Distributor, HORNE WILSON, INC., Tampa.

For buildings that allure as well as endure, plan on making more use of Revere Copper.

COPPER * BRASS * REVERE * ALUMINUM 18 01

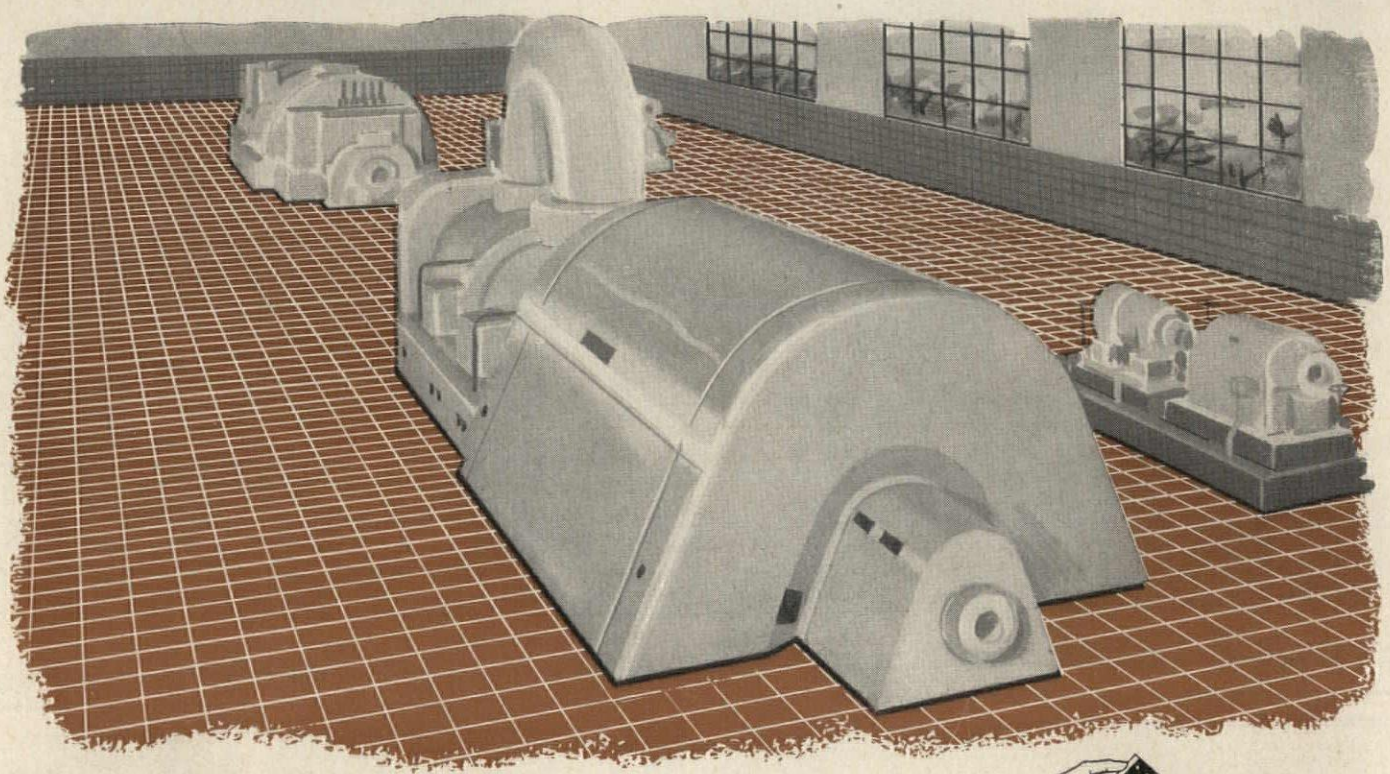
REVERE COPPER AND BRASS INCORPORATED

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.

* a floor plan by murray



* For top quality Power Plant and Boiler Room floor installations specify 1/8" joints using **murray** V-Bak, uniform-size, Quarry Tile. Only **murray** is square ground, after firing, for more economical satisfaction. Only **murray** features SATIN SMOOTH SURFACE TEXTURE, which is so easy to maintain. **murray** is guaranteed for the life of the job against hard usage. You have four famous **murray** colors from which to select.

UNIFORM-SIZED

Murray uniformity is maintained by SQUARE GRINDING, AFTER FIRING.

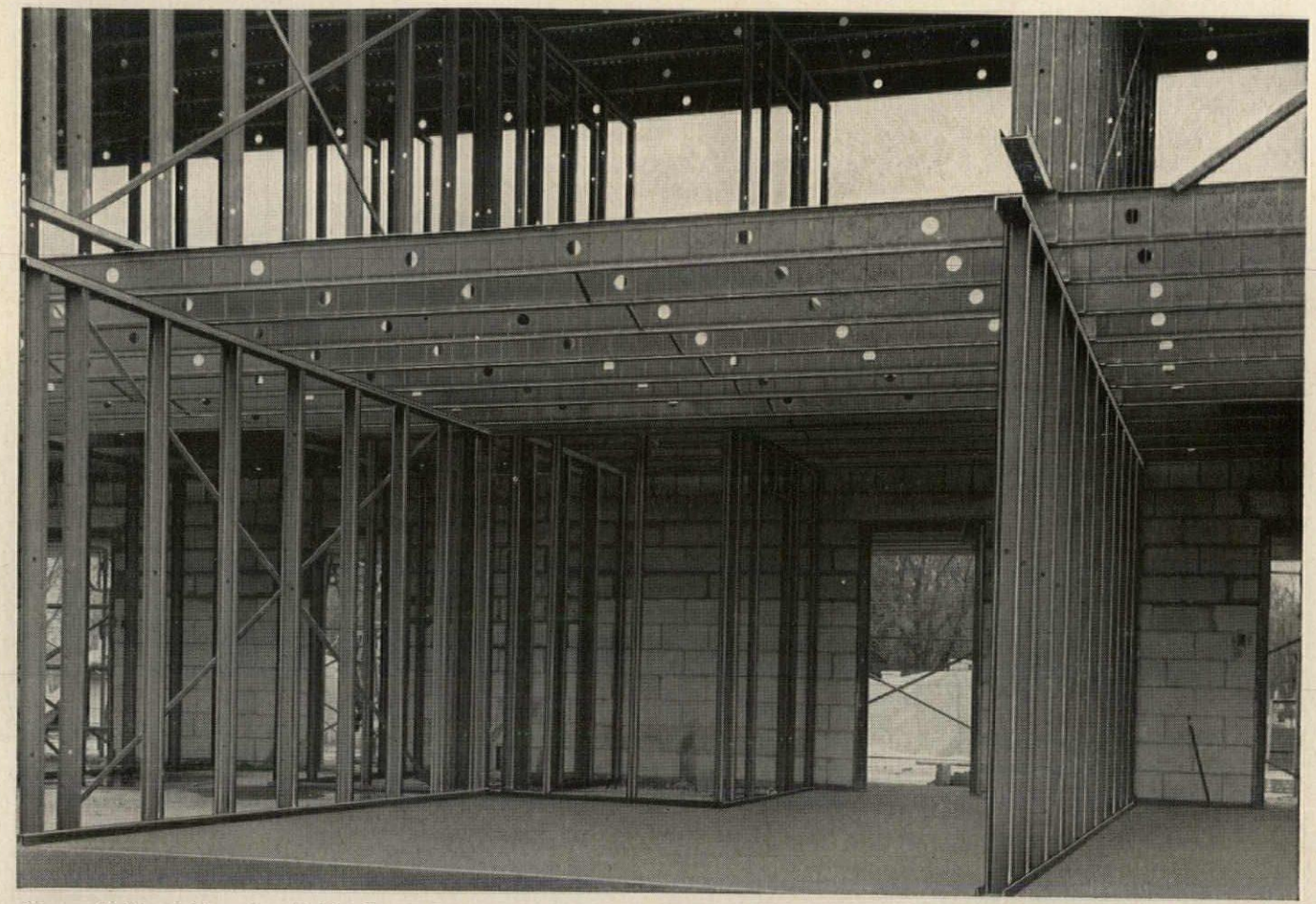
V-BAK

A Murray feature and innovation that increases bonding surface 23.5% and requires 56.5% less bonding materials.

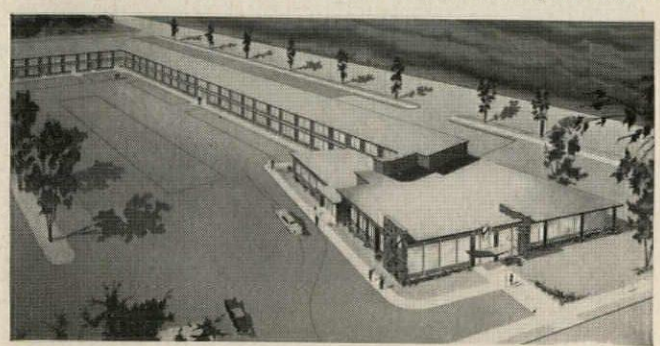
WRITE TODAY FOR LATEST CATALOG AND SPECIFICATION DETAILS.

murray tile company **inc.**

MANUFACTURERS OF QUARRY TILE **CLOVERPORT, KENTUCKY**



Strong, lightweight and nailable, Stran-Steel framing saved time, labor, and materials in this 138-unit multi-floor motel.



Towne House Motel, Rochester, N.Y. Michael J. DeAngelis, Architect; Donn DeAngelis, Designer

READY FOR THE PEAK OF THE '58 TRAVEL SEASON...

Earnings to Start 30 Days Sooner; Stran-Steel System Reduces Fabrication, Erection Time

A coordinated lightweight framing system that's nailable like wood, but has the strength and fire-safety of steel, speeded construction and reduced cost of the Towne House Motel in Rochester, New York. Stran-Steel components were available for construction on the very day the job was let. Much of it was fabricated on site while the footings were poured! As a result, this 138-unit motel will be completed a full month earlier. Owner will enjoy an extra month of peak-season income.

Besides the savings in erection time and erection cost, Stran-Steel framing (as opposed to conventional bar-joist systems) reduced material cost by saving 8 to 10 inches on floor-ceiling height because of the snug fit between joists and wide flange beams.

Time-saving, cost-saving Stran-Steel framing offers freedom of design, too. Collateral materials are nailed directly to the steel. Send for catalog or contact your Stran-Steel Architectural Products dealers, listed in the Yellow Pages under *Steel*. Stran-Steel Structural Systems catalog can be found in Sweet's Catalog—index 2C/Str.

Dept. 23-33

STRAN-STEEL CORPORATION

Detroit 29, Michigan • Division of

NATIONAL STEEL CORPORATION

Stran-Steel Architectural Products Mean Construction Savings For You

Stran-Steel Corporation, Department 23-33
Detroit 29, Michigan

Please send your architectural products catalogs.

Name_____

Title_____ Phone_____

Company_____

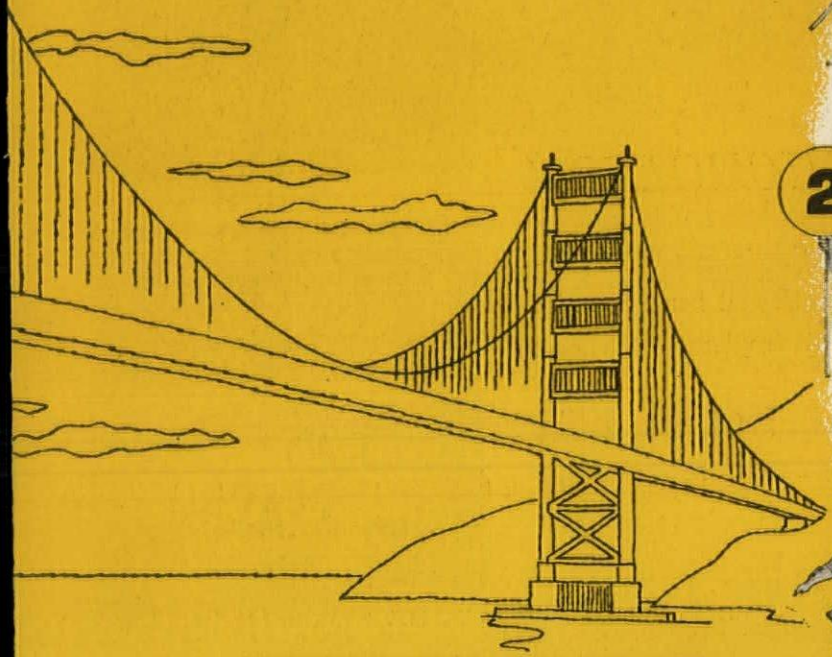
Address_____

City_____ Zone_____ State_____

Golden Gate DOOR...

PROVES BRIDGE-LIKE CONSTRUCTION KEEPS FIAT YEARS AHEAD IN TOILET COMPARTMENT DESIGN

The *inside* story proves it! FIAT'S Golden Gate Door is engineered far beyond accepted standards—steadily absorbs roughest punishment—readily withstands heaviest stress and shock.



LIKE SAN FRANCISCO'S FAMOUS GOLDEN GATE BRIDGE, the FIAT Compartment Door has been designed to meet unusual stress, load and impact factors. FIAT'S bridge-like construction establishes a new standard in compartment door construction.

LOAD EQUALIZER—Heavy gauge channel reinforcing distributes load away from the top hinge—gives triple additional support to the pintle. This extra reinforcing provides permanent, practical protection against unusual loads—specifically, when children hang from or swing on the door.

IMPACT ABSORBER—Formed, heavy gauge plate anchors the slide bolt—distributes shock of severe door "slamming" over wide area. Prevents tearing out of slide bolt or damage to door.

STRESS RESISTOR—Channel type reinforcing unit is interlocked with the panel edges—provides basic side-to-bottom support—anchors *Life-Line** Gravity Hinge in position—positively prevents door "sway."

CLIP AND MAIL COUPON BELOW FOR NEW FIAT LITERATURE

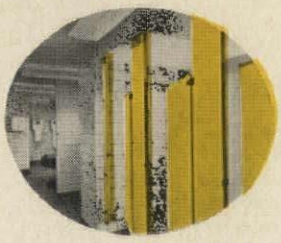
FOUR COMPLETE PLANTS STRATEGICALLY LOCATED FOR BETTER SERVICE LOWER COST

Long Island City 1 New York | Franklin Park Illinois | Los Angeles 63 California | Orillia, Ontario Canada

FIAT

Manufacturing Quality Showers and Compartments since 1922

YEARS AHEAD FEATURES



Wide Range of Models

FIAT offers a range of models to meet every budget. Choose from the ceiling or floor supported *Aristo* with exclusive wood-core pilaster, the flush paneled *Duro* or the economical *Permo* models.

*FIAT TRADEMARK **DUPONT TRADEMARK

FIAT METAL MFG. COMPANY
9319 Belmont Ave., Franklin Park, Illinois

☐ Please send me new, fully illustrated catalog
☐ Please have your representative call.

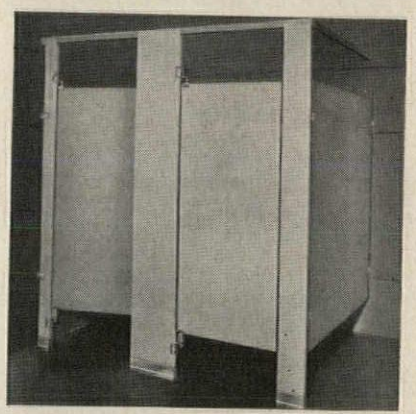
Firm_____

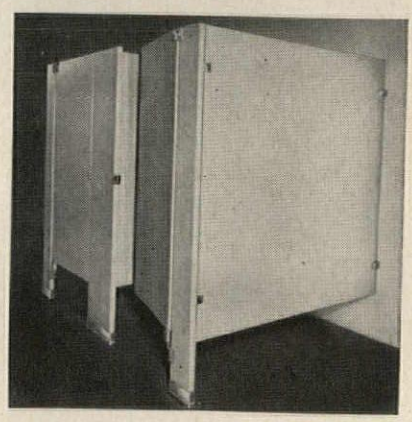
Address_____

City_____ Zone____ State_____

Individual_____

You can specify *Quality* in toilet compartments, too . . .





. . . *you get outstanding quality when you specify NICHOLSON*

Maximum gage metals, where they're needed, assure the right combination of strength and beauty . . . for quality toilet compartments that complement the finest equipment and construction details.

Compare these quality features, and you'll know why discerning architects and builders are specifying Nicholson toilet compartments:

- **Panels and doors are 20 gage, 1" thick**
- **Pilasters are 16 or 20 gage, 1¼" thick with 6-ply fibre core**
- **Moulding is 18 gage, die-drawn**

Standard Nicholson designs range from distinctive, modern to sturdy, utility units . . . all available with attractive and lasting finishes in a variety of colors.

When you're looking for *quality* toilet compartments, without a premium price . . . look to W. H. Nicholson and Company, 12 Oregon St., Wilkes-Barre, Pa. Sales and Engineering offices in 98 principal cities.

NICHOLSON

of Wilkes-Barre

John Ekin Dinwiddie, AIA, Architect

Photo: Phil Palmer

California Redwood Siding is the architect's most versatile exterior surfacing . . . available in dozens of standard patterns, in widths from 4" to 12". Many patterns can be laid up vertically or horizontally—using either the resawn or the smooth face. Add to this redwood's warm color and rich variety of grain patterns, as well as its natural ability to take and hold every type of finish, or to weather beautifully unfinished—and you can see why so many specifications call for "CRA Certified Kiln Dried Redwood."

CRA
CERTIFIED
KILN DRIED
REDWOOD

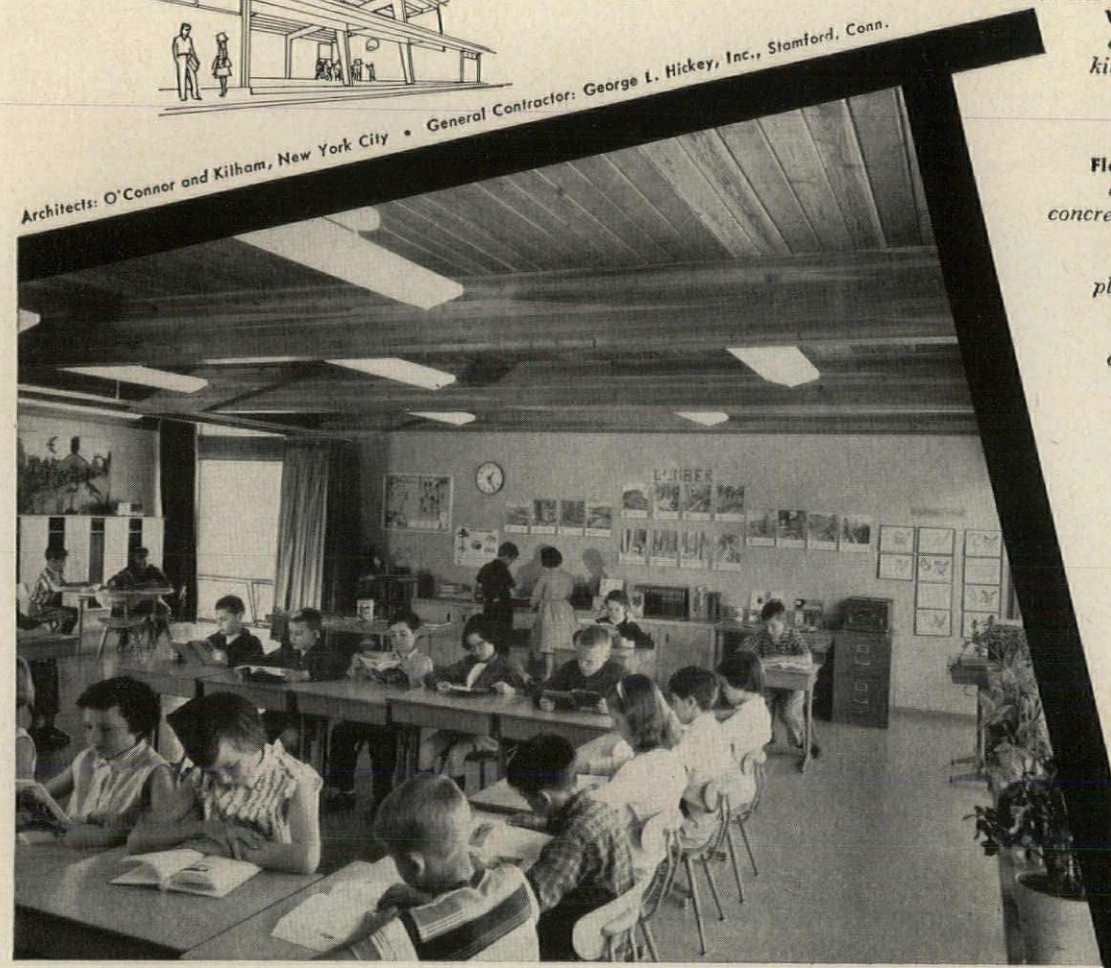
CALIFORNIA REDWOOD ASSOCIATION • 576 SACRAMENTO STREET • SAN FRANCISCO 11

TOKENEKE ELEMENTARY SCHOOL • **JOB DATA**

Architects: O'Connor and Kilham, New York City • General Contractor: George L. Hickey, Inc., Stamford, Conn.

Exterior Walls: *Brick, with concrete block in service area, cypress siding for playroom.*
Interior Walls: *Plastic coated coverings in classrooms, Common Room and halls.*
Heating: *Hot water radiant panel system, zoned and thermostatically controlled.*
Ventilation: *Exhaust fans in classrooms, toilet rooms and kitchen. Tempered air supply units in Common Room.*
Lighting: *Semi-indirect fluorescent fixtures.*
Floors: *Vinyl asbestos tiles on concrete slab over insulated concrete fill and moisture barrier.*
Roof Surface: *Translucent corrugated panels over playroom and covered walks. Built-up tar and felt with white graveled surface over remainder of building.*

PHOTO
Typical classroom showing exposed timber beams and decking. School is built around a paved court yard, and contains fourteen classrooms, Common Room, library, kindergarten wing of two rooms, administrative quarters and covered play area which is sketched above.



BEAUTY BY THE ROOM
AND 31% LESS COST PER PUPIL

Tokeneke Elementary School, Darien, Connecticut, is a typical case history in engineered timber construction in which the natural beauty of the glulam timber structural framing adds obvious charm to each room. Less apparent but equally important is the economy of construction which resulted in a per-pupil cost of 31% less than the state average. This saving was made without sacrifice of permanence, mechanical equipment or facilities for teaching.

Glulam beams were spaced at 7'-9" over classroom sections and covered with heavy timber decking which remains exposed in natural finish as ceilings.

All timber members were produced under rigid quality controls, precision fabricated to full size pattern, and delivered ready for fast assembly and erection. Average cost per square foot is $14.40. Per-pupil cost is $760, compared to a state average of $1105.

A new brochure, "Timber Framing for Modern Schools", illustrates outstanding school applications of engineered timbers and gives preliminary design data. Get your copy from the nearest Timber Structures representative, or write us directly.

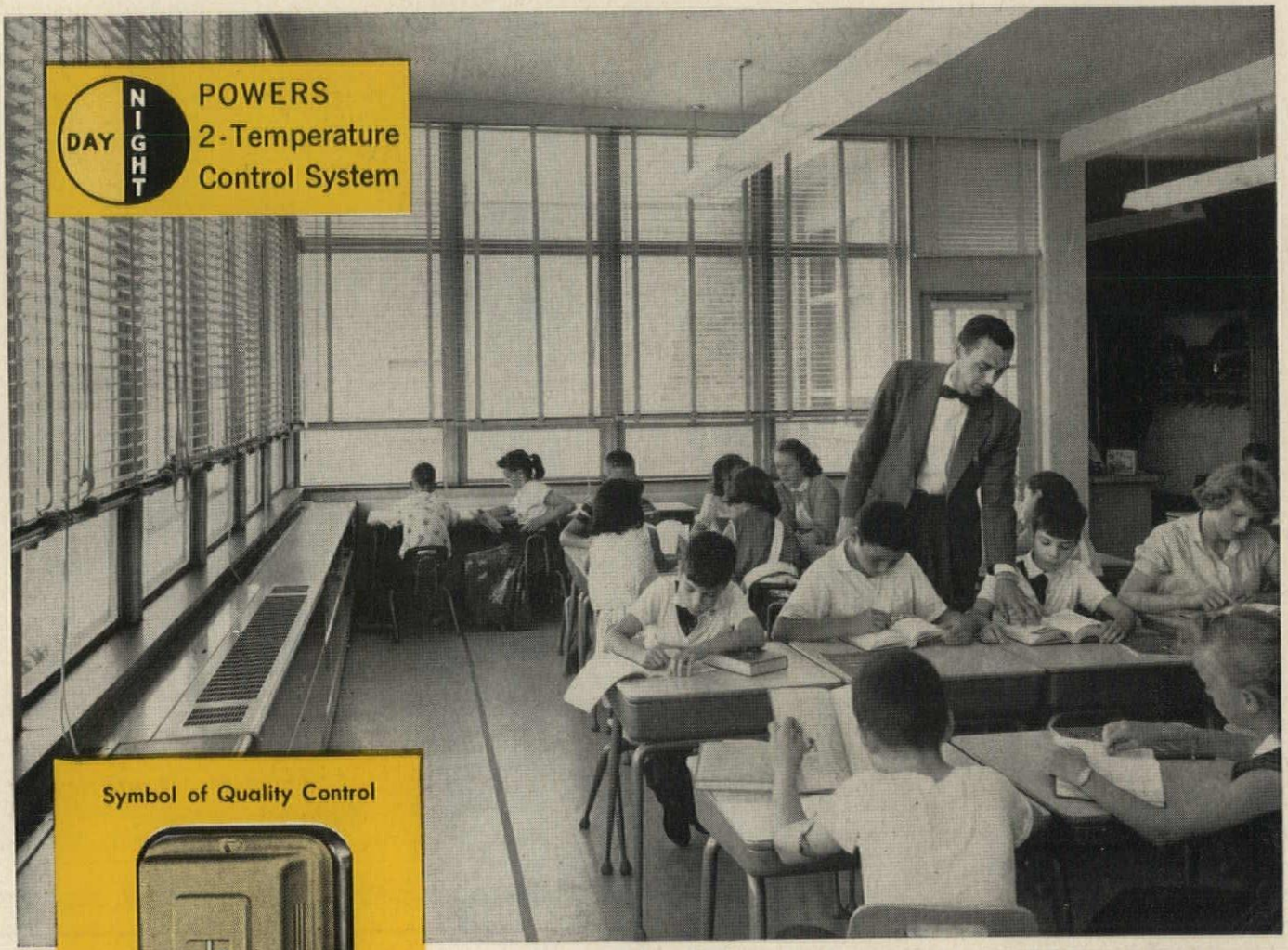
TIMBER STRUCTURES, INC.
P. O. Box 3782-A, Portland 8, Oregon

Offices in Ramsey, N.J.; New York City; Boston; Philadelphia; West Hartford; Cleveland; Charlotte; Chicago; Centerline, Mich.; Kansas City; St. Louis; Minneapolis; Des Moines; Wichita; Memphis; Dallas; Houston; Birmingham; Beverly Hills, California; Seattle; Spokane; Denver.

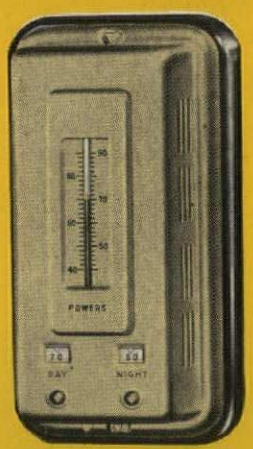
Local Representatives throughout the United States and Canada

TIMBER STRUCTURES, INC. OF CALIFORNIA
Richmond • Sacramento

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



Symbol of Quality Control



Powers DAY-NIGHT Thermostats accurately maintain set temperatures. They need no frequent checking or readjustment.

Powers PACKLESS Control Valves are labor savers. They prevent water leakage, banish packing maintenance and give better control due to reduced valve stem friction.

(c66)

Fuel Savings alone pay back its cost

plus COMFORT for Teachers and Students

POWERS Quality DAY-NIGHT System of TEMPERATURE CONTROL

Good School Planning now includes Powers DAY-NIGHT Thermostats. They stop fuel losses due to wasted heat in unoccupied rooms and prevent OVER-heating in occupied rooms. Each Thermostat is adjustable for normal temperatures during occupancy and lower economical temperatures during unoccupied periods.

Low Cost Maintenance—Simplicity and reliable year after year operation with little attention, is characteristic of Powers Control. Each installation is individually engineered to give top-quality performance.

Prompt Service—if required, by skilled Powers engineers and mechanics.

Planning a New School? To get the biggest return on the investment in the heating and ventilating system ask your architect or engineer to include a Powers DAY-NIGHT Control System. For further information call our nearest office or write us direct.

THE POWERS REGULATOR COMPANY

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

65 years of Automatic Temperature and Humidity Control

Barclite is getting the big build-up everywhere! It's the reinforced fiber glass panel of exceptional design versatility. Inside... build dramatic room dividers, movable walls, partitions and dropped ceilings in homes, showrooms, offices, restaurants, hotels, motels, stores and beauty parlors. Outside... use it for roofing, siding, glazing, fences and hundreds of other applications! Specifying Barclite makes sense. Why? **Economical**... lightweight, easier to handle, faster installations, easier to maintain. **Translucent**... diffuses light yet assures desired privacy. **Shatterproof**... 14 colors, new decorative panels, too. Write for free samples and consultation services for your specific needs today.

BARCLITE CORPORATION OF AMERICA* Dept. AR-5, Barclay Building, New York 51

*affiliate of Barclay Manufacturing Company, Inc.

Guaranteed by Good Housekeeping

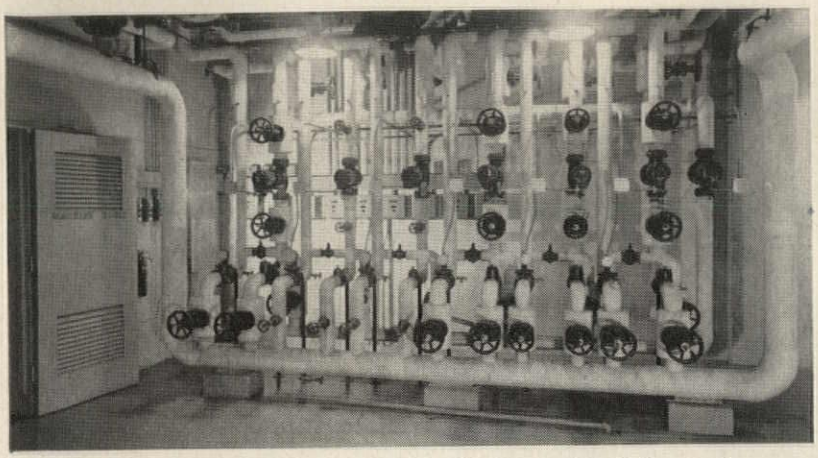
No other standard fiber glass panel has earned all these seals!

Notre Dame Hospital, Manchester, New Hampshire

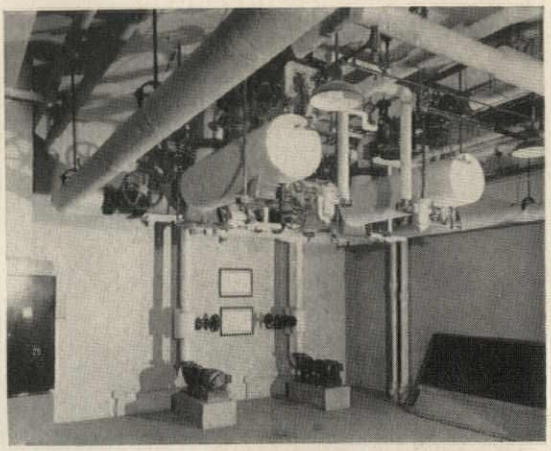
WHERE *QUIET* VIBRATIONLESS OPERATION IS ALL-ESSENTIAL—

B&G PUMPS

ARE THE PREFERRED UNITS

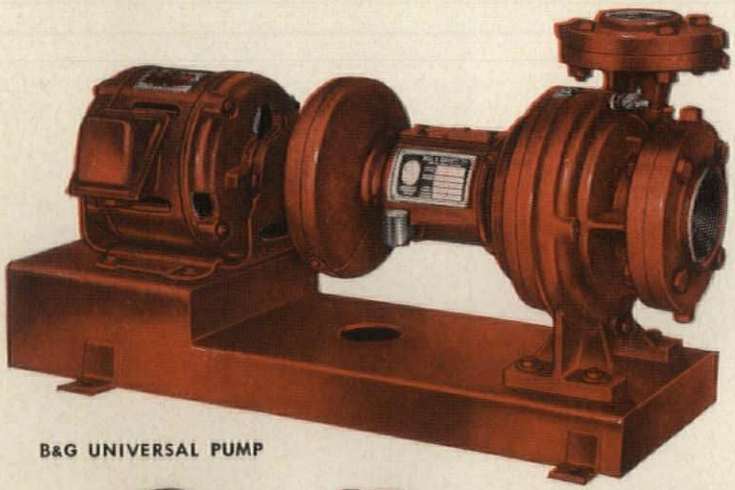


Secondary heating circuits are circulated by this battery of B&G Booster Pumps.



The piping of the primary circuit does not leave the apparatus room and is circulated by B&G Universal Pumps.

Architect: Leo P. Provost, A.I.A., Manchester, N. H.
Engineer: Romeo P. Morin, P.E., Manchester, N. H.
General Contractor: Harvey Construction Co., Inc., Manchester, N. H.
Heating Contractor: R. C. Peabody, Inc., Manchester, N. H.



B&G UNIVERSAL PUMP

B&G BOOSTER PUMP

This installation illustrates two important factors in the design of a satisfactory forced hot water heating system.

First, it employs primary and secondary pumping—a design arrangement developed by B&G for more accurate control of temperatures. As shown in the photos, B&G Universal Pumps circulate the primary mains and B&G Boosters circulate the secondary circuits supplying seven zones.

Second, the B&G pumps selected are noted for *quiet* operation—an all-important consideration. Transmission of pump noise through the piping system can penalize the most careful designing and installation.

B&G Booster and Universal Pumps are engineered and built to meet the exacting demands of water heating and cooling systems. These are not run-of-mine centrifugal pumps...they are distinguished by numerous features which assure *silent, vibrationless* operation. Among these are specially built, more costly motors, tested for quietness—oversized shafts of hardened alloy steel—long sleeve bearings—noise dampening spring couplers—oil lubrication and leak-proof mechanical seals.

That's why B&G Circulating Pumps are *preferred*...they're *quiet where silence counts!*

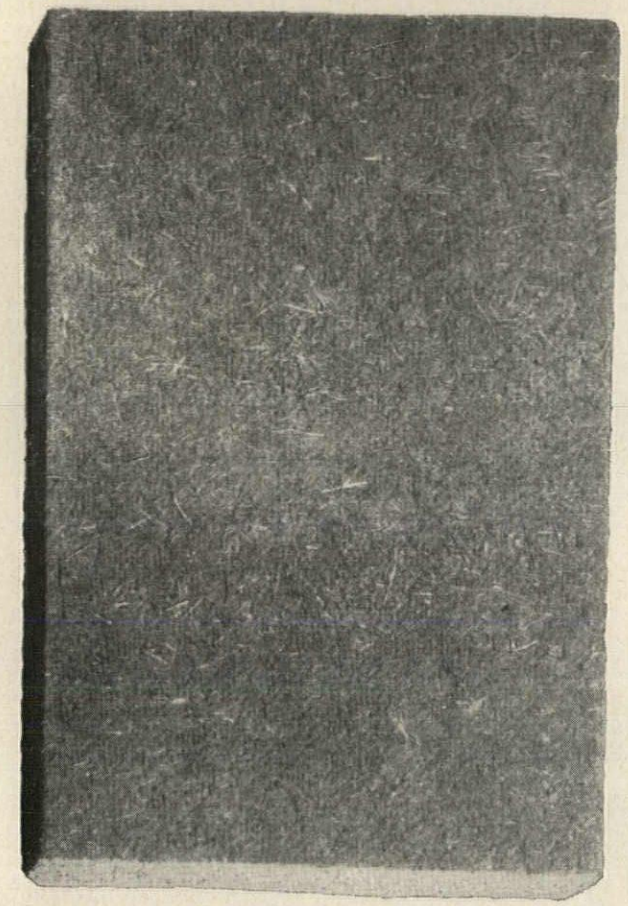
Hydro-Flo SYSTEM

Reg. U.S. Pat. Off.

BELL & GOSSETT
COMPANY
Dept. FG-32, Morton Grove, Ill.

Canadian Licensee: S.A. Armstrong, Ltd., 1400 O'Connor Drive, Toronto 16, Ontario

BARRETT ROOF INSULATION PLUS BARRETT



they outlive the bond...

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

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

When Barrett supplies a roofing job like this, the quality of materials and propriety of application techniques are always beyond question.

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

SPECIFICATION® ROOF EQUALS ROBUST ROOF

FOR CONNECTICUT GENERAL LIFE BUILDING

Laboratory tests show that other bitumens absorb from 2 to 17 times more water than does pitch.

Above all, perhaps it's the Barrett reputation which prompts so many architects to specify Barrett Pitch and Felt Roofs. Having done this, they may rest easy about the roof. BARRETT DIVISION, Allied Chemical Corporation, 40 Rector Street, New York 6, New York. In Canada—The Barrett Co. Limited, 5551 St. Hubert Street, Montreal, Quebec.

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

Allied Chemical

BARRETT ROOFS

Run on it!

and Feel the Cushioned Flex of KREOLITE Gym Floors

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

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

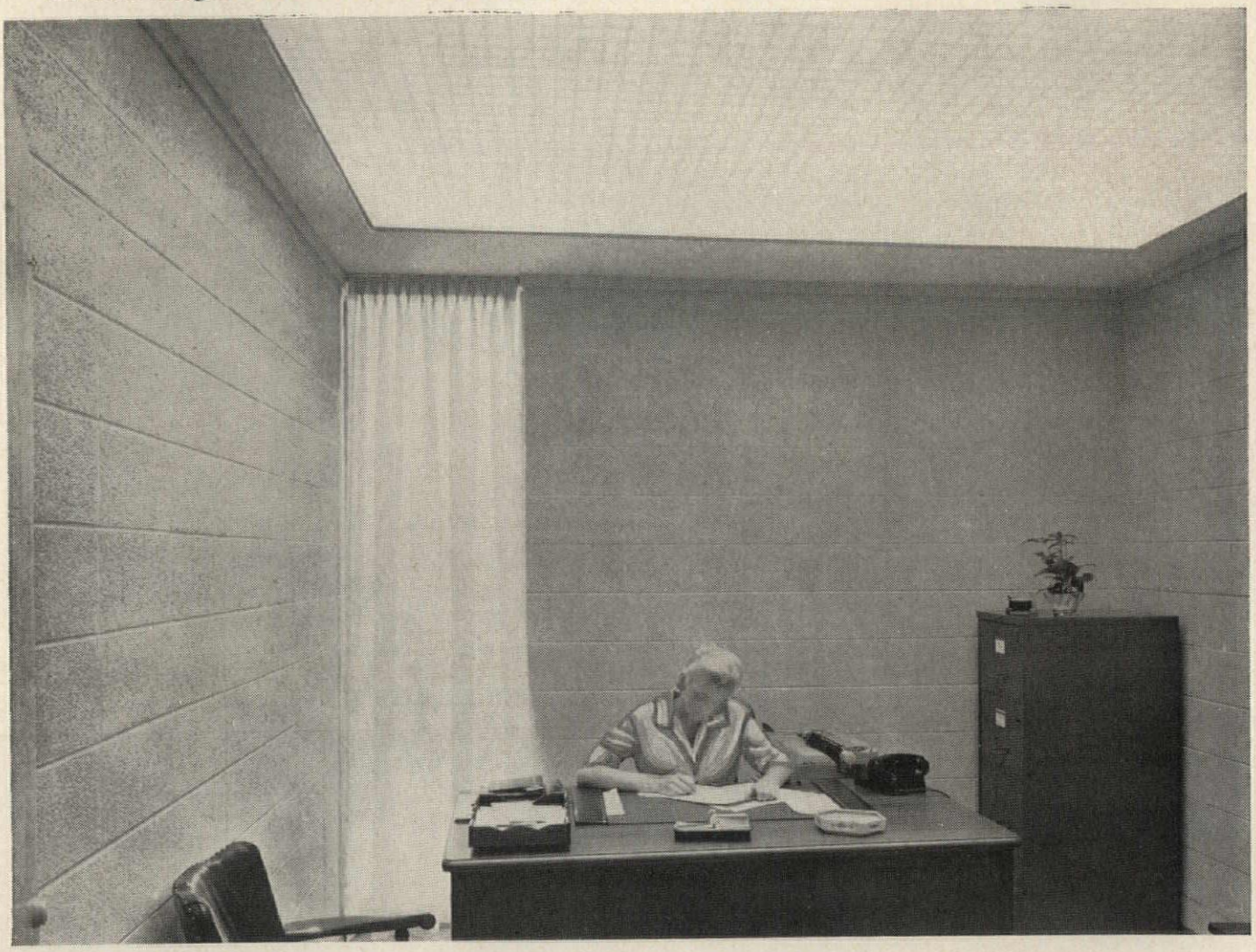
Whether you are replacing an old floor in a gym, for a multi-purpose room or school shop, or planning flooring for a new building, get all the facts on Kreolite's *many* money saving advantages . . . Write Today.

KREOLITE FLEXIBLE STRIP **END GRAIN FLOORING**

THE JENNISON-WRIGHT CORPORATION
TOLEDO 9, OHIO

PUBLIC UTILITY

OKLAHOMA GAS & ELECTRIC COMPANY, FORT SMITH, ARKANSAS, achieves a foot candle level of 60 FC at desk height..... *with* NEO-RAY LOUVRED CEILING



THE PROBLEM

Correct lighting to blend with modern interiors at the Oklahoma Gas & Electric Company office building.

THE SOLUTION

Neo-Ray Louvred Ceilings. The executive office pictured above is 10′ x 6″ by 13′ with a ceiling height of 9′. The foot candle level is 60 at desk height. The walls are of light weight blocks and are painted a light gray. The true ceiling is 11′ 1″ high and there are seven rows of 2-4′ fixtures to the row — these are surface mounted 2′ above the louvred ceiling.

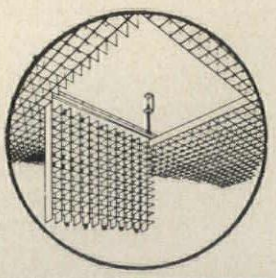
See our catalog in Sweet's Architectural File sec. 32a NE

SPECIAL LOUVRE DESIGNS?

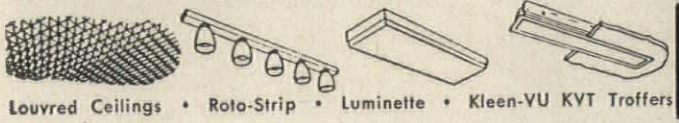
Neo-Ray is recognized as the pioneer in the development and manufacture of louvred ceilings . . . with years of louvred ceiling experience. Let the "know-how" of our engineering department assist you. No obligation, of course.

Send for LOUVRED CEILING catalog No. 544 and ACOUSTI-LITE catalog No. 557

IN THE SOUTH
See Our Permanent Display At
ARCHITECTS & ENGINEERS INSTITUTE
230 Spring St., Atlanta, Ga.



MANUFACTURERS OF LIGHTING FIXTURES INCLUDING:



Louvred Ceilings • Roto-Strip • Luminette • Kleen-VU KVT Troffers

NEO-RAY PRODUCTS, Inc.
315 East 22nd St. • New York 10, N. Y.

three progressive select MUELLER BRASS CO. Streamline® copper tube and fittings for three magnificent new buildings

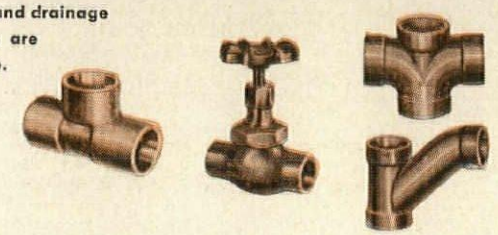
There are many good reasons why leading architects and builders everywhere are specifying STREAMLINE copper tube and solder-type fittings for modern construction piping. They know that an all-copper plumbing system gives a lifetime of dependable service. Valuable floor space is increased because copper is compact and requires less room to install. Copper tube and solder-type fittings are lighter in weight, easier, quicker to assemble and solder, which lowers plumbing costs. The smooth interior bore is rust, scale and corrosion free . . . which permits the clean, unrestricted flow of liquids with minimum friction-loss. This actually reduces the work-load on circulating pumps, and often allows the use of smaller capacity units. You, too, can take advantage of all of these desirable features at no extra cost . . . by specifying the best . . . copper tube and fittings that bear the tradename STREAMLINE.

25 YEARS OLD
and still like new!

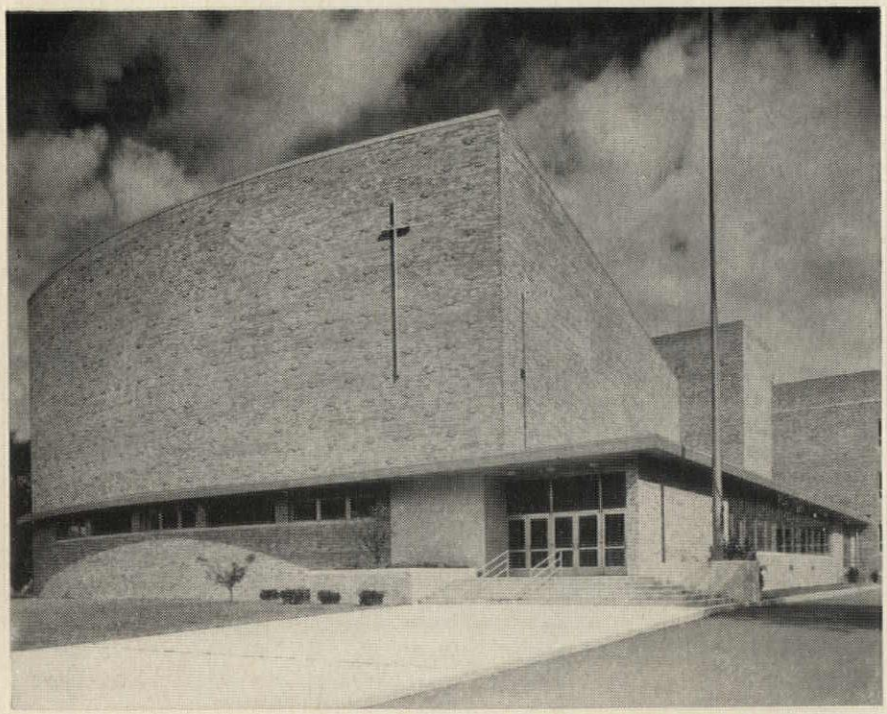
25 years ago, copper tube and fittings were installed in the Civic Auditorium in St. Louis, Missouri. In January, 1958, a section was removed from the line for inspection and found to be still like new! . . . Positive proof of the durability of copper.

The giant new Milwaukee County General Hospital was designed by Schmidt, Garden and Erikson, architects, Chicago, in association with Brust and Brust of Milwaukee. Mueller Brass Co.'s STREAMLINE copper tube and fittings for all plumbing and heating were installed by Wenzel and Henoch Company, Milwaukee.

A complete line of tubing, valves, supply and drainage fittings for plumbing and heating are available from Mueller Brass Co.



architects...



STREAMLINE tube and fittings were used throughout the new St. Francis Hospital in Milwaukee, Wisconsin, for all supply, waste and vent piping. Francis S. Gurda A.I.A. was the architect and plumbing was installed by Joseph Wittig Company.

Architects Grellinger and Rose of Milwaukee designed the Dominican High School, one of the newest schools in Whitefish Bay, Wisconsin. STREAMLINE copper tube and fittings were installed in this building by Joseph Wittig Company.

244

MUELLER BRASS CO
STREAMLINE PRODUCTS

MADE IN U.S.A.
TO THE STANDARDS
OF AMERICAN INDUSTRY

MUELLER BRASS CO.
PORT HURON 8, MICHIGAN

WELTON BECKET & ASSOCIATES ARCHITECTS, LOS ANGELES, CAL.

to select the very best montgomery

Measured-Demand

PASSENGER-OPERATED ELEVATORS

Montgomery is proud to have been selected to supply the finest in elevator equipment to this newest nationally famous greeting card plant at Kansas City.

Montgomery's "Measured-Demand" Passenger-Operated Elevator systems assure highly efficient around-the-clock service with operation economies that soon repay original or modernization elevator costs.

Regardless of the type of building or service needed, Montgomery, through over 50 years' experience in the design and manufacture of elevator equipment *exclusively*, makes available a complete selection of systems to best suit the installation efficiently and economically.

montgomery "PM" (preventive maintenance) **Service**

Investigate this efficient and money-saving plan that has so effectively removed the expense and inconvenience of elevator shut-down. "PM" Service from coast-to-coast. Consult yellow pages of your phone directory.

other POPULAR montgomery elevator installations

Fidelity National Bank Bldg., Oklahoma City, Okla.
Bowser System Parking Garages — In All Major Metropolitan Cities
Commerce Building, Portland, Ore.
Thruway Plaza, Buffalo, N. Y.
KARD-TV Bldg., Wichita, Kans.
Commercial Travelers Insurance Bldg., Salt Lake City, Utah

MONTGOMERY Dependable ELEVATORS

montgomery elevator company
Moline, Illinois

Exclusive Manufacturers of Passenger and Freight Elevators Since 1892

MAHOGANY

The architectural versatility of Pionite Lifetime Plastic Laminates is demonstrated by "packaged offices" in use at Monsanto Chemical Company, Springfield, Mass. Solid colors are combined with woodgrains on wall panels, desk tops, and book shelves in these functional movable installations.

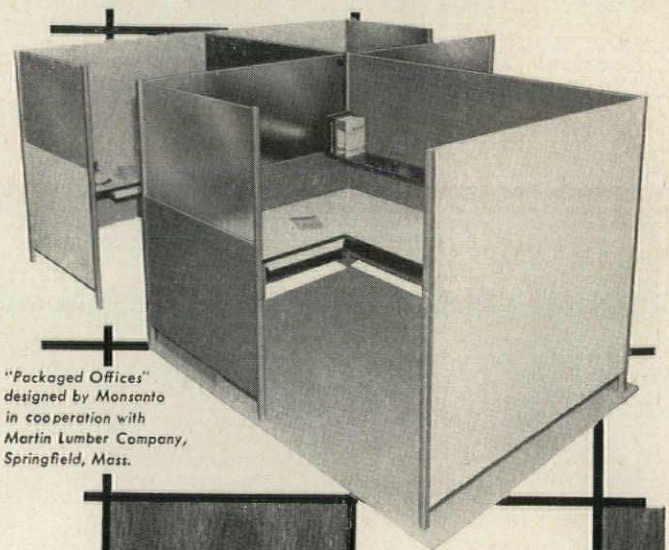
Whatever the need, whether it's an executive's office, bar or restaurant counter, hotel lobby, or a luxurious kitchen, Pionite's topflight selection of woodgrains, decorative patterns and solid colors insure lasting beauty and maintenance-free economy.

Packaged offices

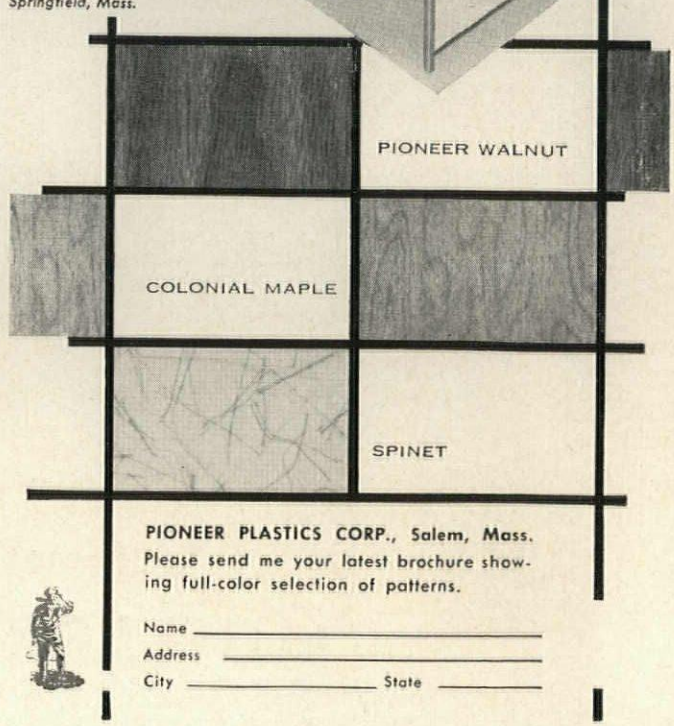
SURFACED WITH

Pionite

LIFETIME LAMINATES



"Packaged Offices" designed by Monsanto in cooperation with Martin Lumber Company, Springfield, Mass.



PIONEER PLASTICS CORP., Salem, Mass.
Please send me your latest brochure showing full-color selection of patterns.

Name _____
Address _____
City _____ State _____

THIS WATER CLOSET

does not disturb your peace of mind

The famous Case "kitten quiet" time tested Non-Overflow One-Piece* water closet with the whispering flush . . . PRODUCED IN 48 DECORATOR COLORS AND SPARKLING BLACK AND WHITE. Case manufactures colored fixtures which correspond in color to the colored fixtures produced by leading complete-line manufacturers.

*PATENTED

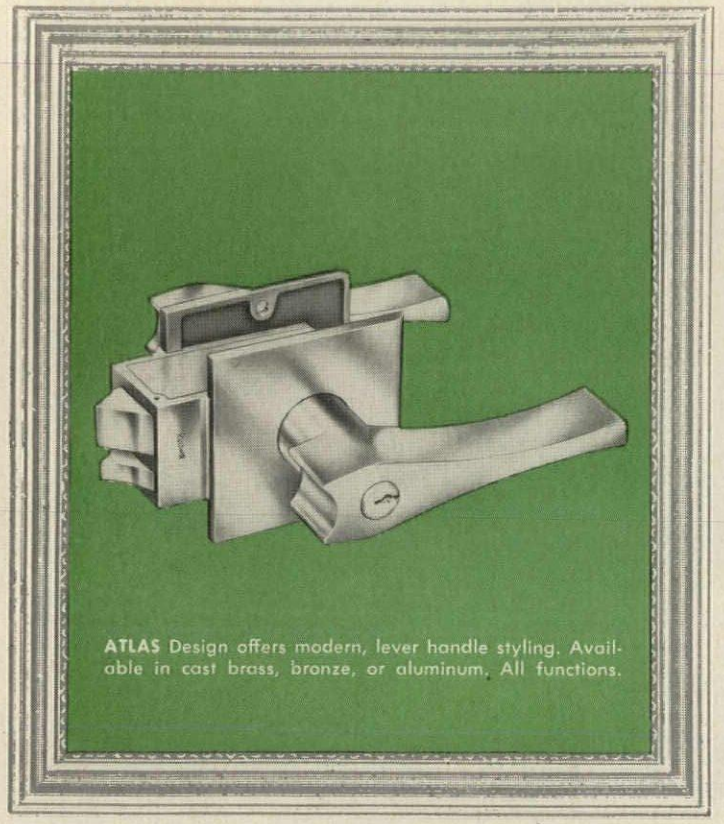
BIGGER and BETTER BATHROOMS
Case
CASE MANUFACTURING CORP., BUFFALO 3, N. Y.

Ask your Case wholesaler or write:

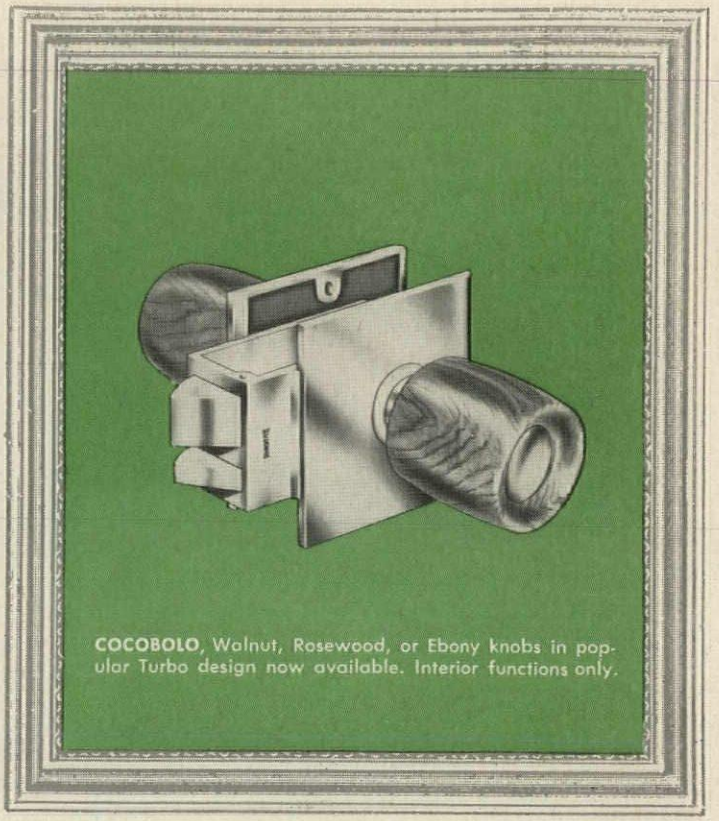
CASE MANUFACTURING CORPORATION

33 MAIN STREET, BUFFALO 3, NEW YORK

New Reputation Builders



ATLAS Design offers modern, lever handle styling. Available in cast brass, bronze, or aluminum. All functions.



COCOBOLO, Walnut, Rosewood, or Ebony knobs in popular Turbo design now available. Interior functions only.

in the UNILOC Gallery of Masterpieces

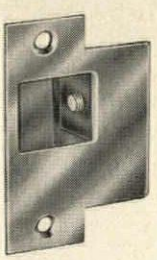
Distinctive stylings . . . cost-cutting installation . . . virtually wear-free service. Unilocs offer all three!

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

Both designs feature Uniloc "unit construction." This heavy-duty doorware mounts intact into a simple, saw-cut notch in the door. No mortising. No disassembly. Almost no chance of misapplication or misadjustment. Extra heavy, extruded brass frames keep parts permanently aligned . . . practically eliminate wear.

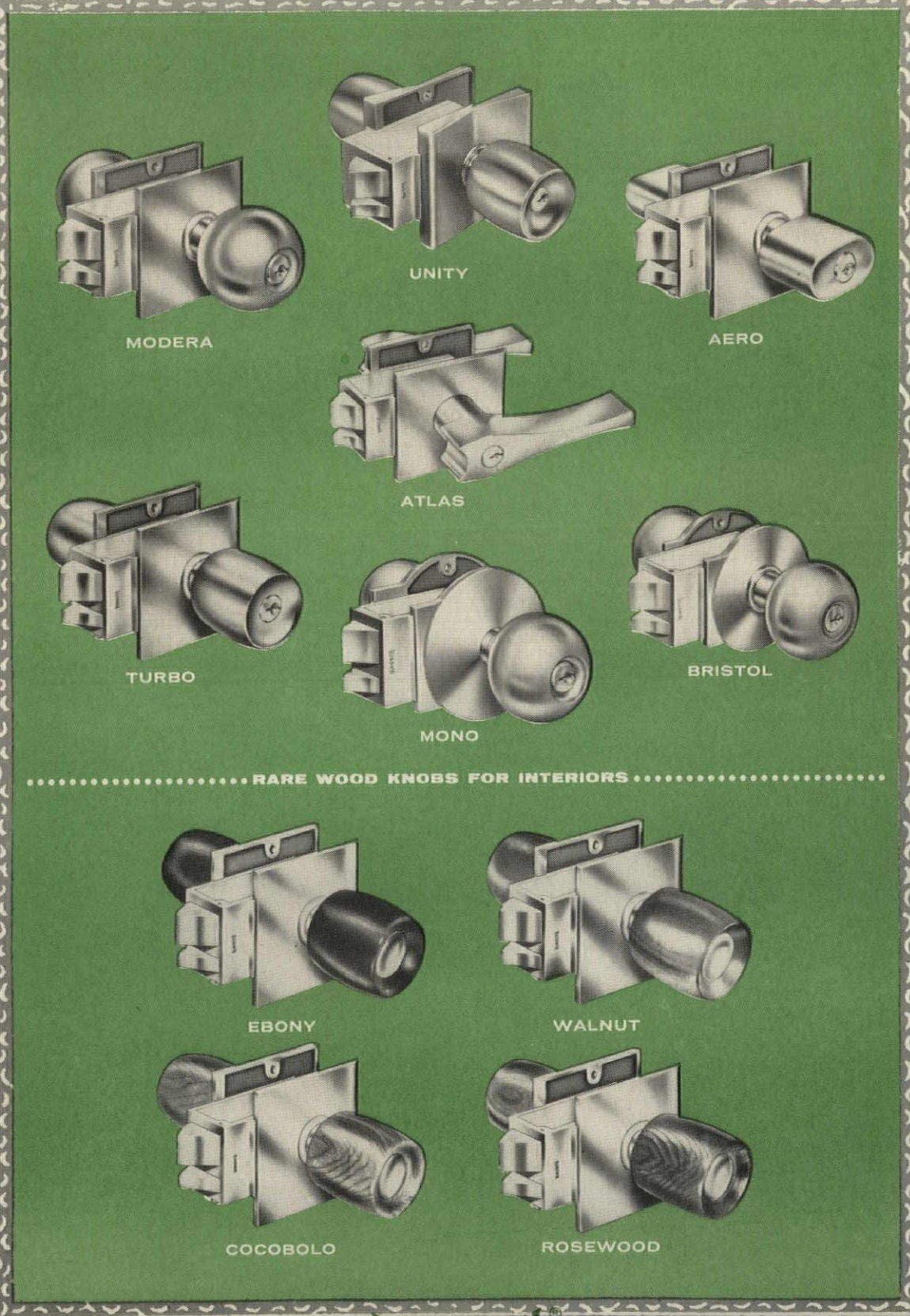
Generations of service are built into these lockmaking masterpieces. You can recommend them with confidence for the toughest applications. Have your Russwin representative show you the new designs. Call him today. Russell & Erwin Division, The American Hardware Corporation, New Britain, Connecticut.

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



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

RUSSWIN®
doorware



RUSSWIN
doorware

Coal scores with Notre Dame

University power plant burns coal for modern steam generation

Building expansion had put a strain on the power plant at the University of Notre Dame, South Bend, Ind. After careful study—by the firm of Albert Kahn Associated Architects and Engineers, of Detroit—a decision was made to modernize coal-fired steam facilities and add power generating equipment. Maximum efficiency is achieved through automatic combustion control and complete instrumentation. Today steam is generated *economically*. Another result of these innovations has been the *cleanliness* of operation . . . making Notre Dame's power plant a model of good housekeeping.

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.

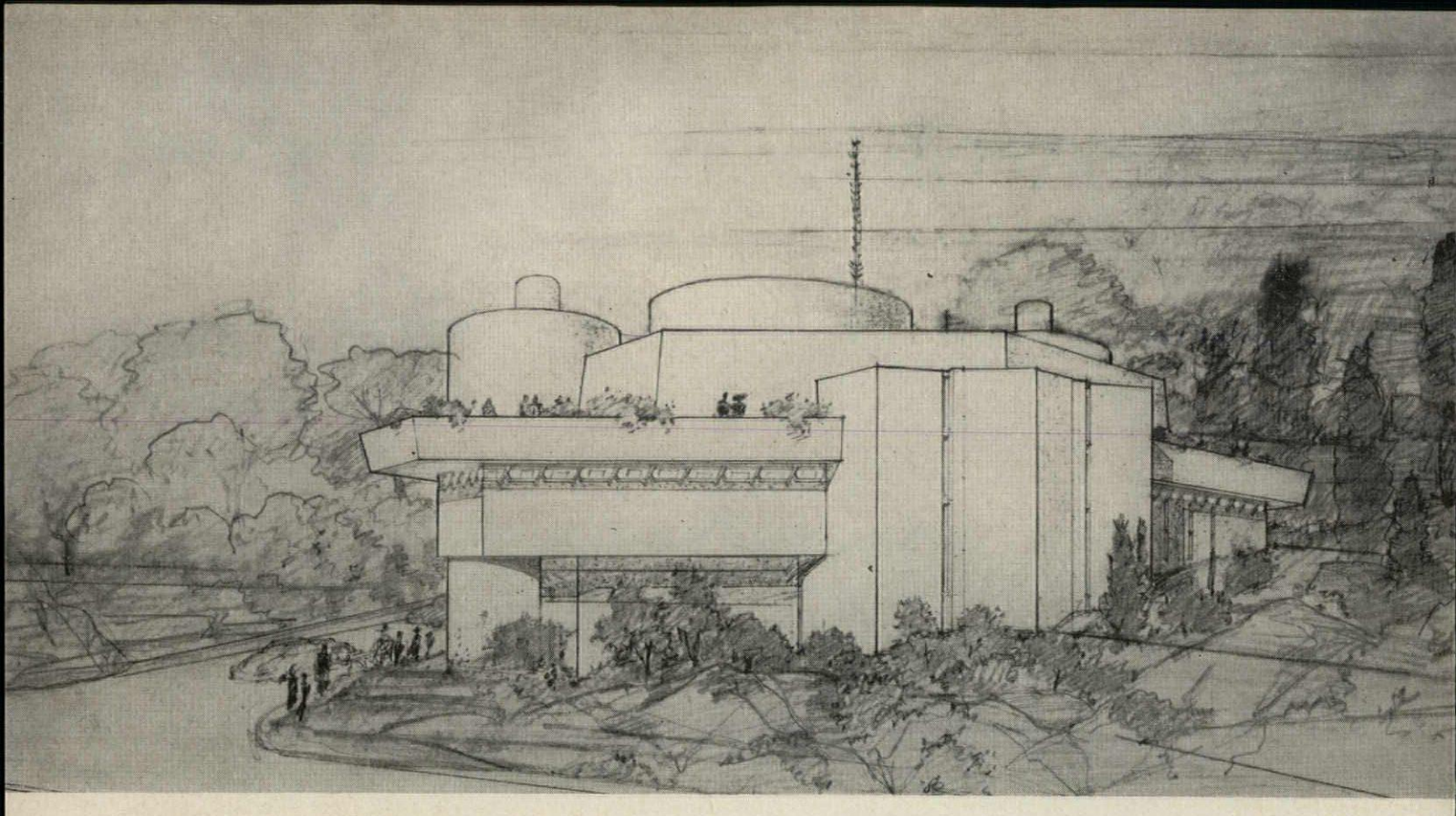
For free booklet "Guide Specifications for Typical Low-Pressure Commercial Heating Plant" or for technical advisory service, write to the address below.

BITUMINOUS COAL INSTITUTE • Department AR-05 • Southern Building • Washington 5, D.C.

FRANK LLOYD WRIGHT

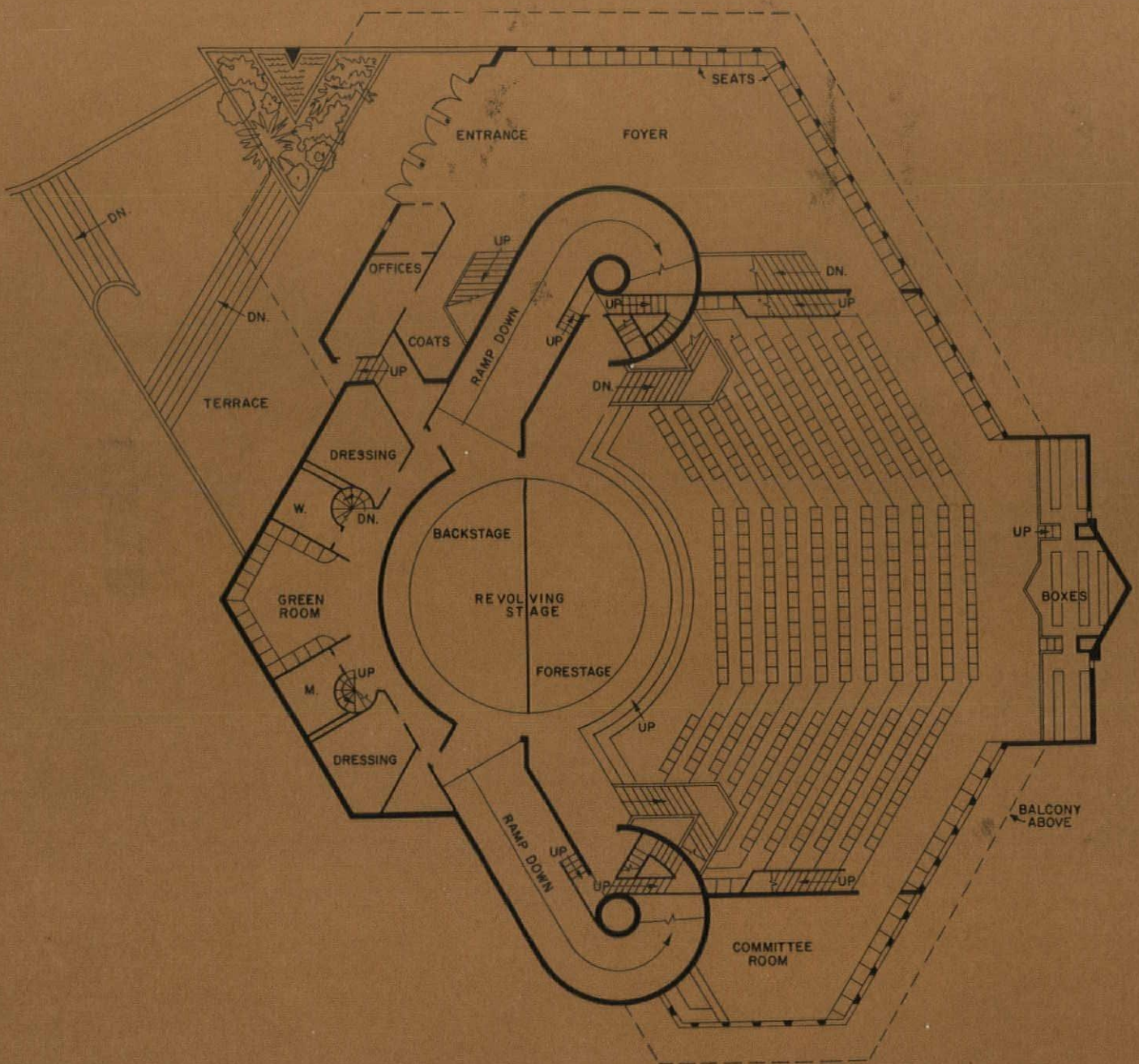
A Selection of Current Work

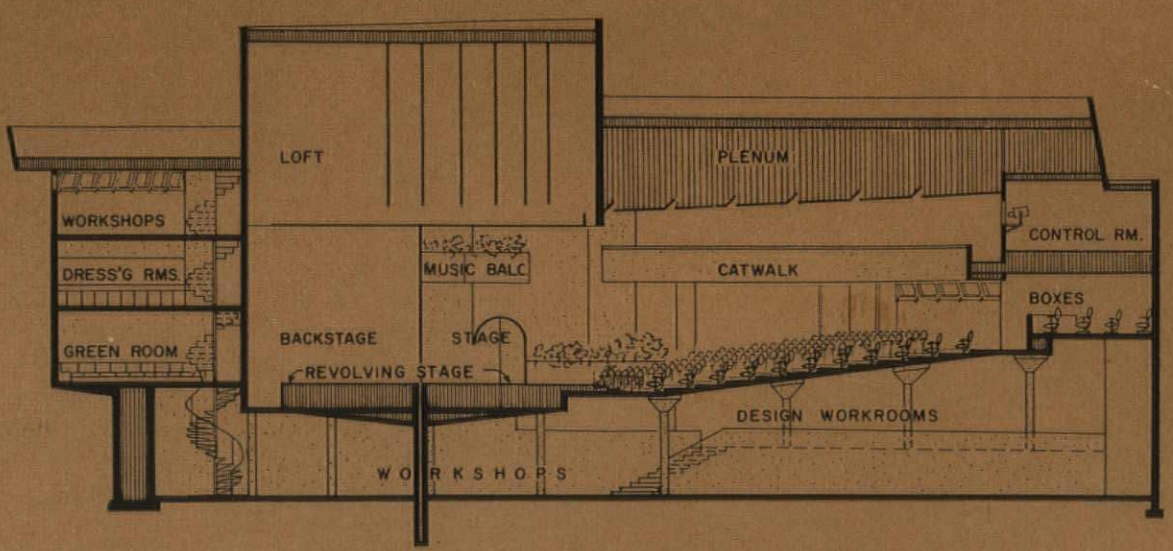
ARCHITECTURAL RECORD MAY 1958

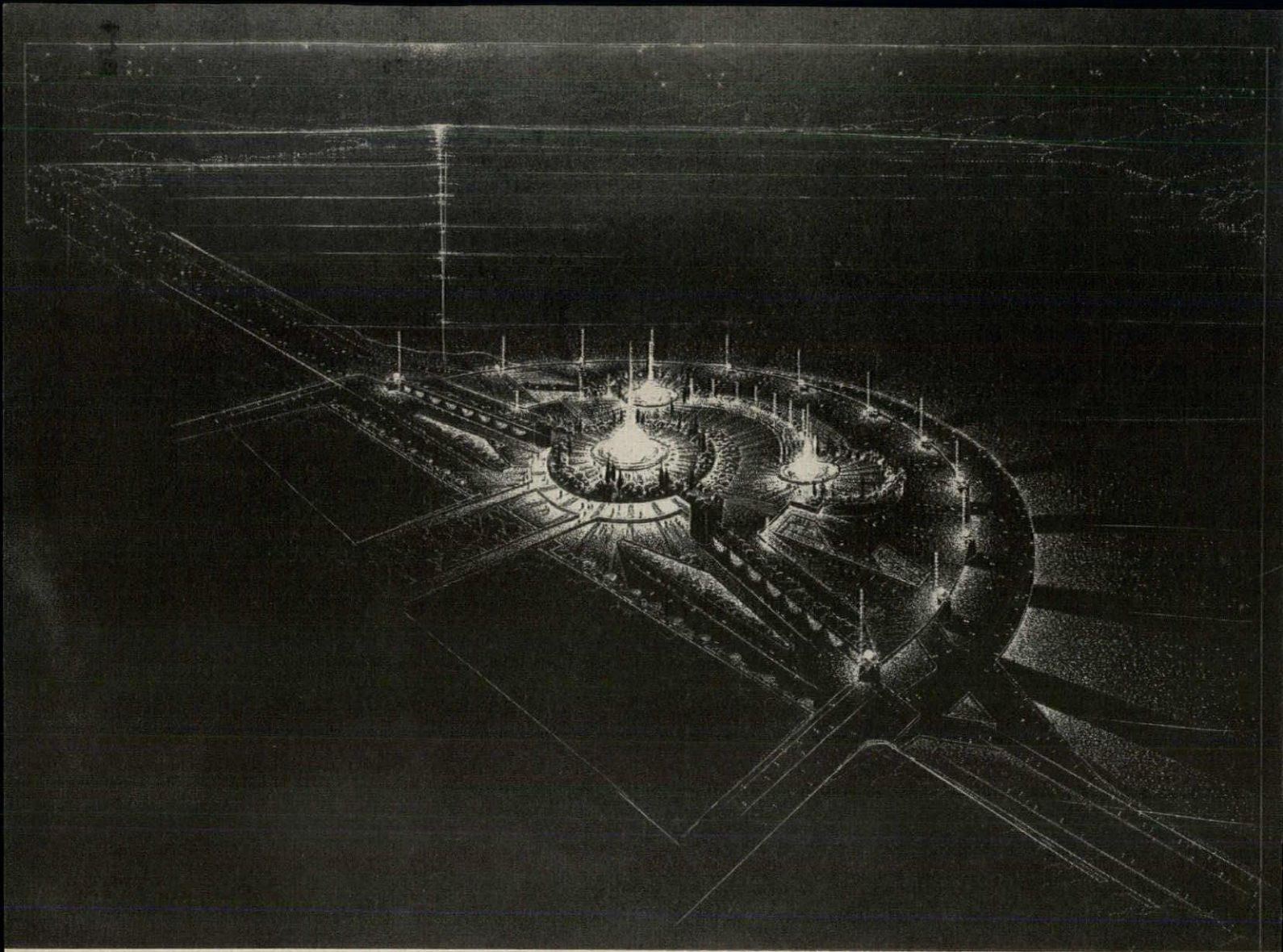


DALLAS THEATER

The current list of projects of Frank Lloyd Wright which includes individual buildings and major civic complexes, numbers over one hundred schemes. Some of these are in preliminary sketch or working drawing stage, others are in construction or recently completed. One of several theaters and auditoriums which are on the drafting boards at Taliesin West, the Dallas Theater Center is in working drawing stage. Planned for a sloping wooded site, the building will be constructed of reinforced concrete throughout. It is designed as an intimate playhouse seating five hundred, and will be adaptable for use as a school of drama as well as a repertory theater. A revolving stage and two side stages offer flexibility in the handling of actors and scenery. There is no proscenium; the source of stage illumination is a "light plenum" above the suspended auditorium ceiling. In the perspective (above) the large circular drum is the exterior expression of the circular walls of the backstage and scenery loft. The two smaller cylinders enclose ramps and stairs. The planted terraces occur above the portions of the main floor which are cantilevered beyond the central structure. The lower level of the building will contain workshops and classrooms.


SEATS
ENTRANCE
FOYER
DN.
DN.
OFFICES
UP
RAMP DOWN
UP
UP
DN.
UP
DN.
COATS
UP
TERRACE
DRESSING
W.
DN.
BACKSTAGE
REVOLVING STAGE
FORESTAGE
UP
BOXES
GREEN ROOM
M.
UP
DRESSING
UP
BALCONY ABOVE
RAMP DOWN
UP
UP
UP
COMMITTEE ROOM

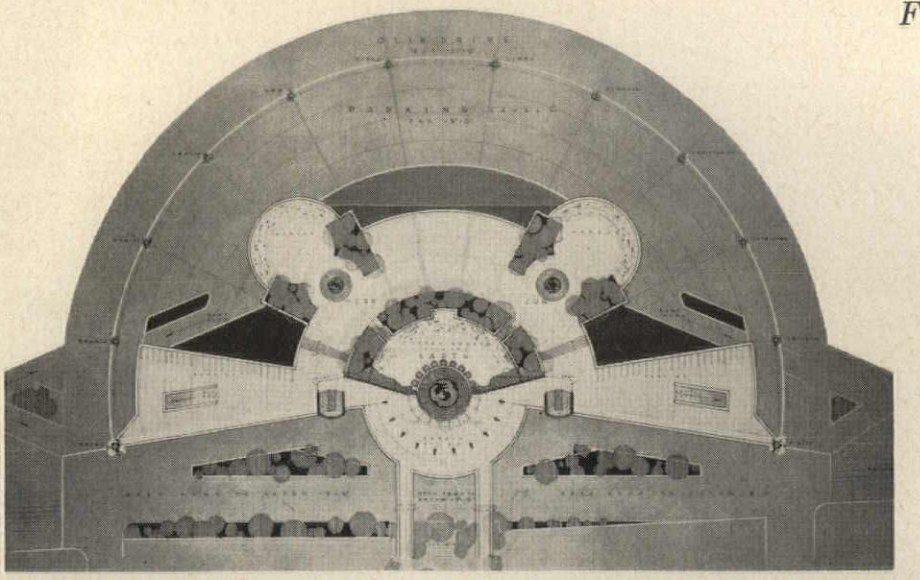

LOFT
PLENUM
WORKSHOPS
DRESS'G RMS.
GREEN ROOM
MUSIC BALC.
CATWALK
CONTROL RM.
BOXES
BACKSTAGE
STAGE
REVOLVING STAGE
DESIGN WORKROOMS
WORKSHOPS

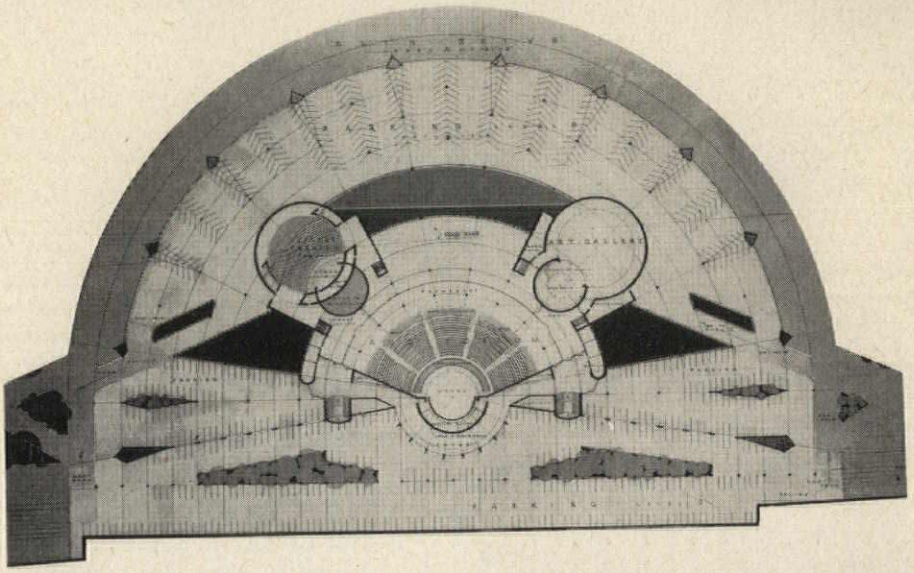


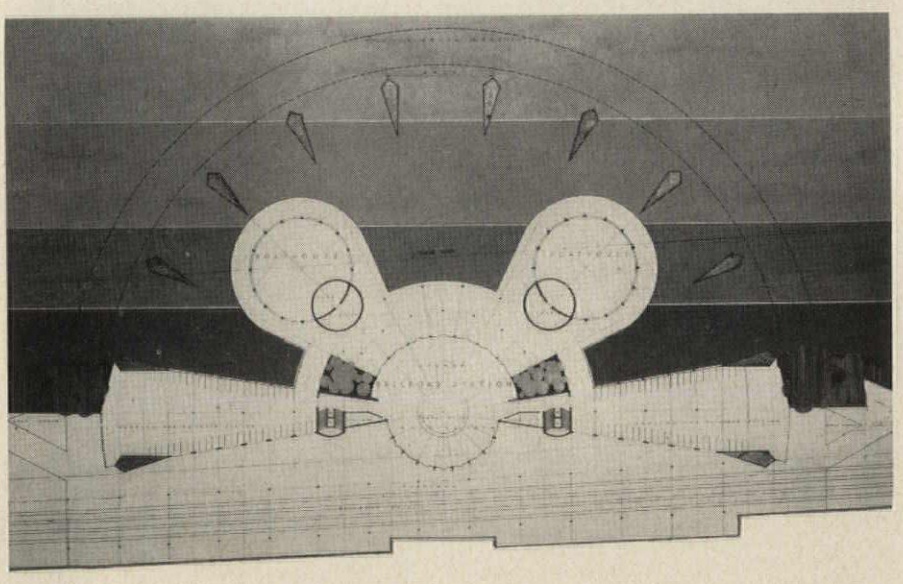
MONONA TERRACE PROJECT

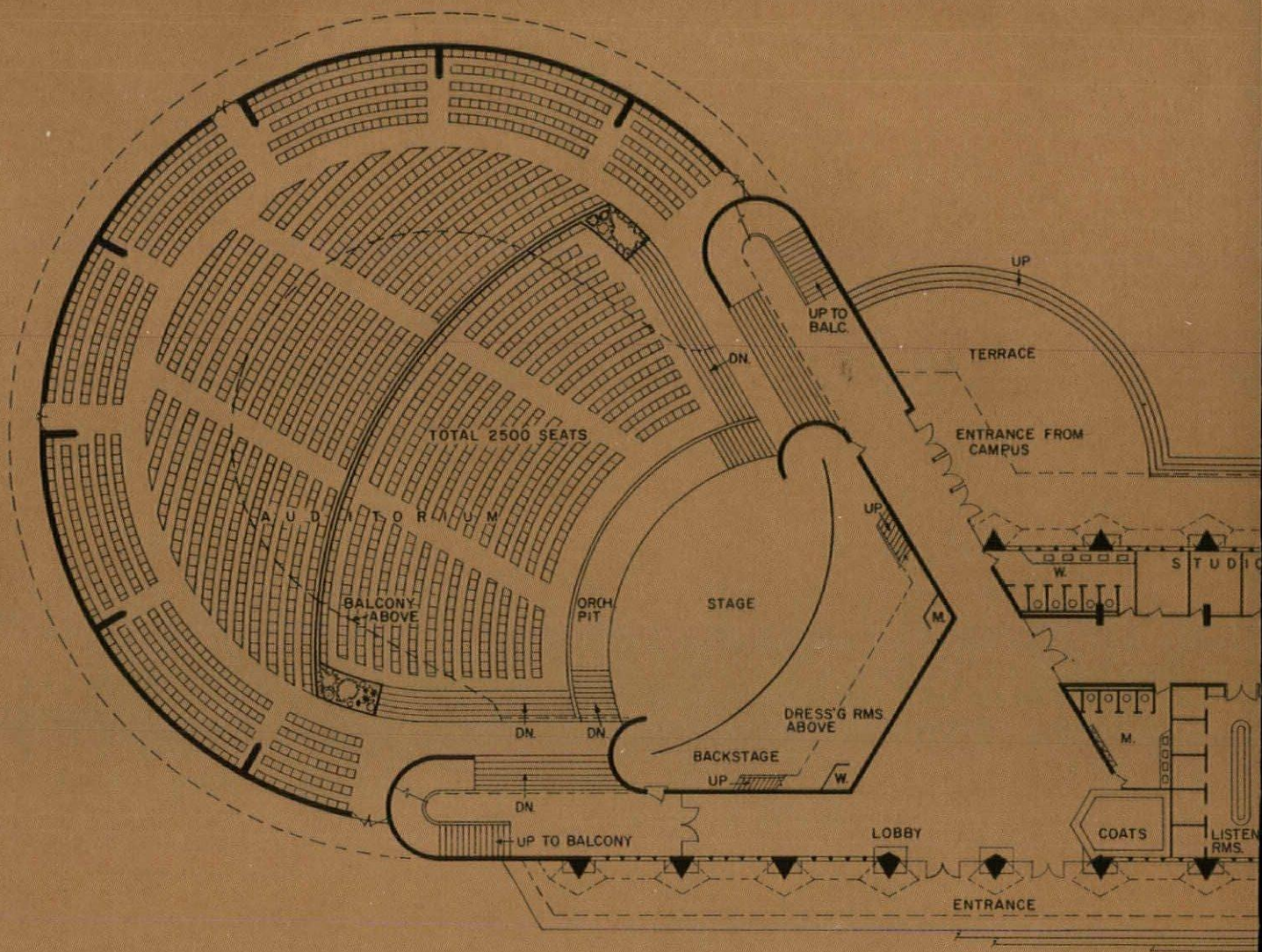
Within the city limits of Madison, Wisconsin, are three large lakes. Lake Monona lies at the end of a two block long street which is on axis with the state capitol building in the center of town. Unfortunately the waterfront has been virtually cut off from this important area by railroad tracks along the lake's edge; and parallel to the tracks the lake shore has been filled in to provide for a wide highway across the width of the city. The purpose of the Monona Terrace scheme is to recover the waterfront for urban use and make it a part of the central avenue, the capitol square and the capitol itself. Centered upon the axial avenue is a three level terrace projecting over the railroad tracks and filled in ground to be supported by wide span arches on twelve great piers, eight of which are set in the bed of the lake.

The lowest level (opposite page bottom) will have boathouses and moorings. The intermediate level (opposite page center) provides a theater-auditorium, a little theater and an art gallery. On the highest terrace at street level (opposite page top) are three large jet fountains made of spheres of colored glass representing Sun, Moon and Earth, and twelve smaller ones, the signs of the Zodiac.









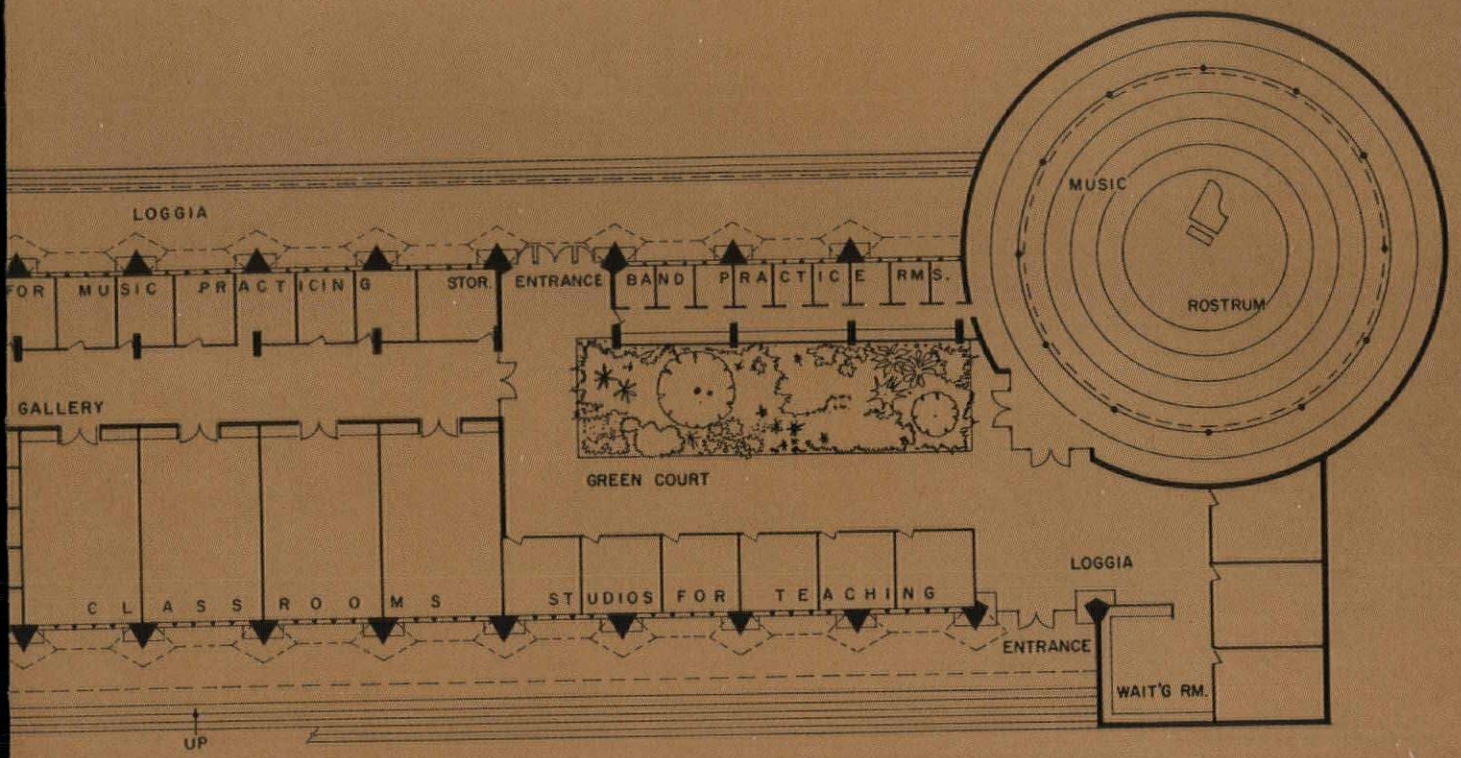
MUSIC BUILDING FOR FLORIDA SOUTHERN COLLEGE

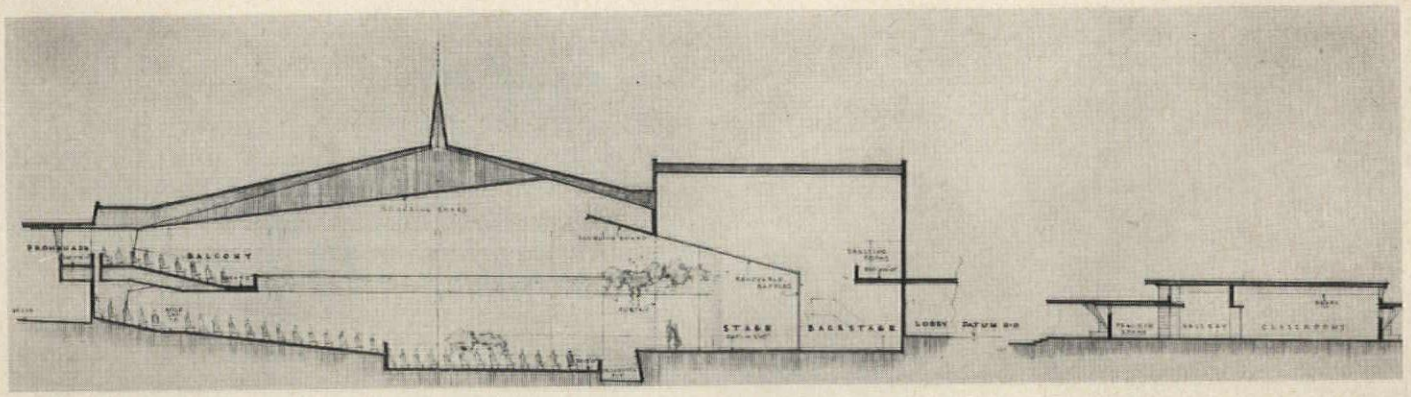
Frank Lloyd Wright is about to construct one more building to join the famous group he has already built on the campus at Lakeland, Florida. The new music school is part of a complex of completed buildings which includes the administration building overlooking a water dome, a library, a chapel and minor chapel and the recently finished cosmography building. All of the construction materials and methods to be used in the new structure have appeared before in the building of the college. The horizontal poured slabs and cavity block walls with their intricate patterns are features which decorate each building, whatever its character, and act as an integrating influence throughout the campus.

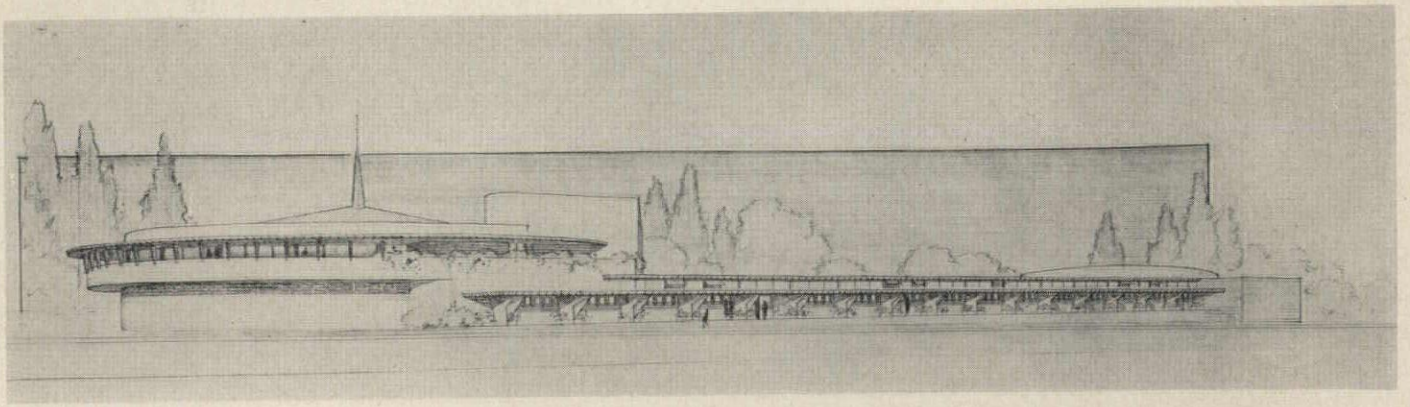
In the auditorium (see section opposite) the balcony and roof will be of reinforced concrete cantilevering from seven main reinforced concrete columns and the cavity block walls. The roof will be conical in shape. A cantilevered balcony inside is balanced by a smaller cantilevered balcony outside.

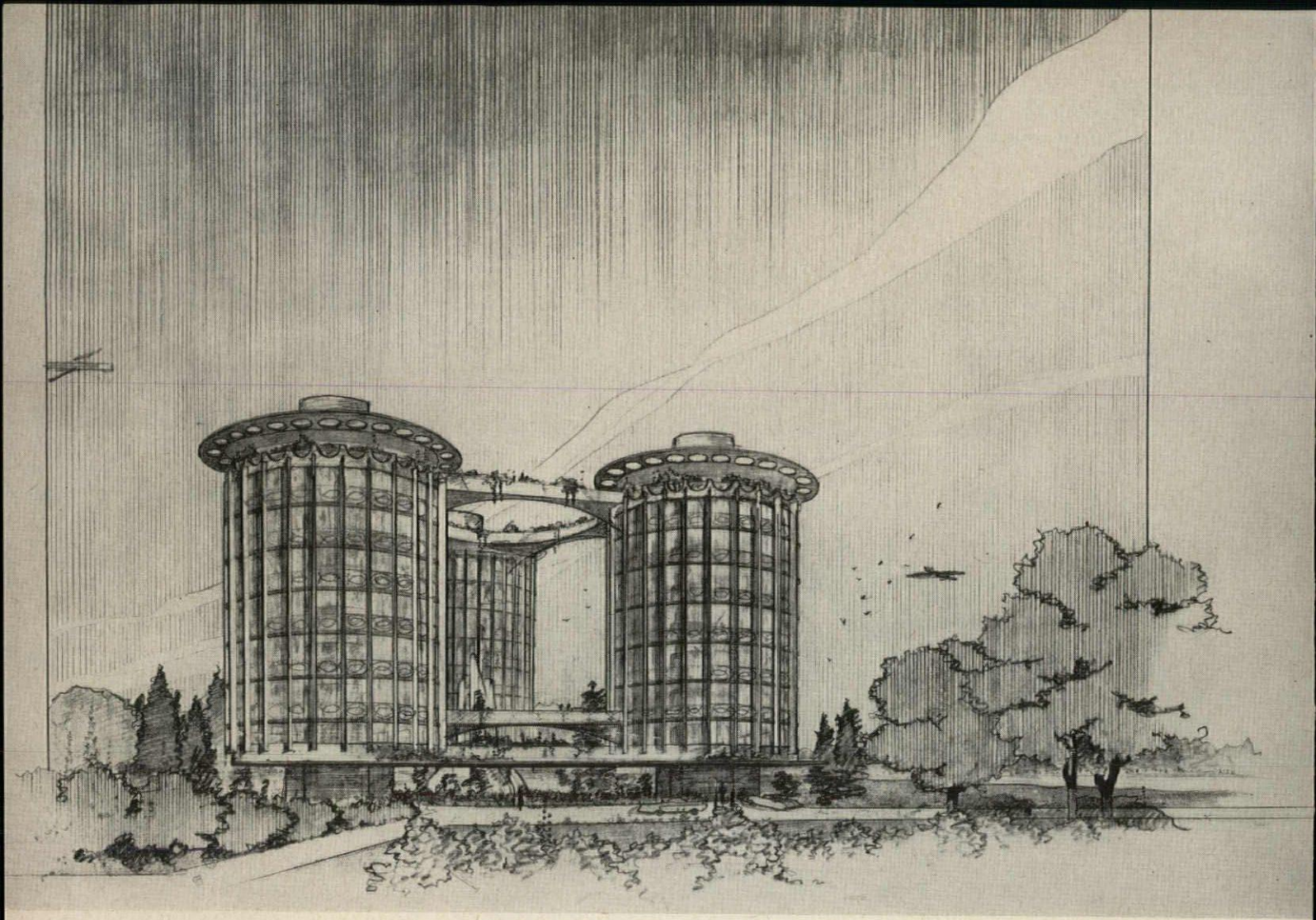
The circular band and practice room will have a concrete roof slab supported by the walls and by an inner radius of steel pipe columns.

Street view is shown in perspective (opposite).


LOGGIA
FOR MUSIC PRACTICING
STOR.
ENTRANCE
BAND PRACTICE RMS.
MUSIC
ROSTRUM
GALLERY
GREEN COURT
CLASSROOMS
STUDIOS FOR TEACHING
LOGGIA
ENTRANCE
WAIT'G RM.
UP



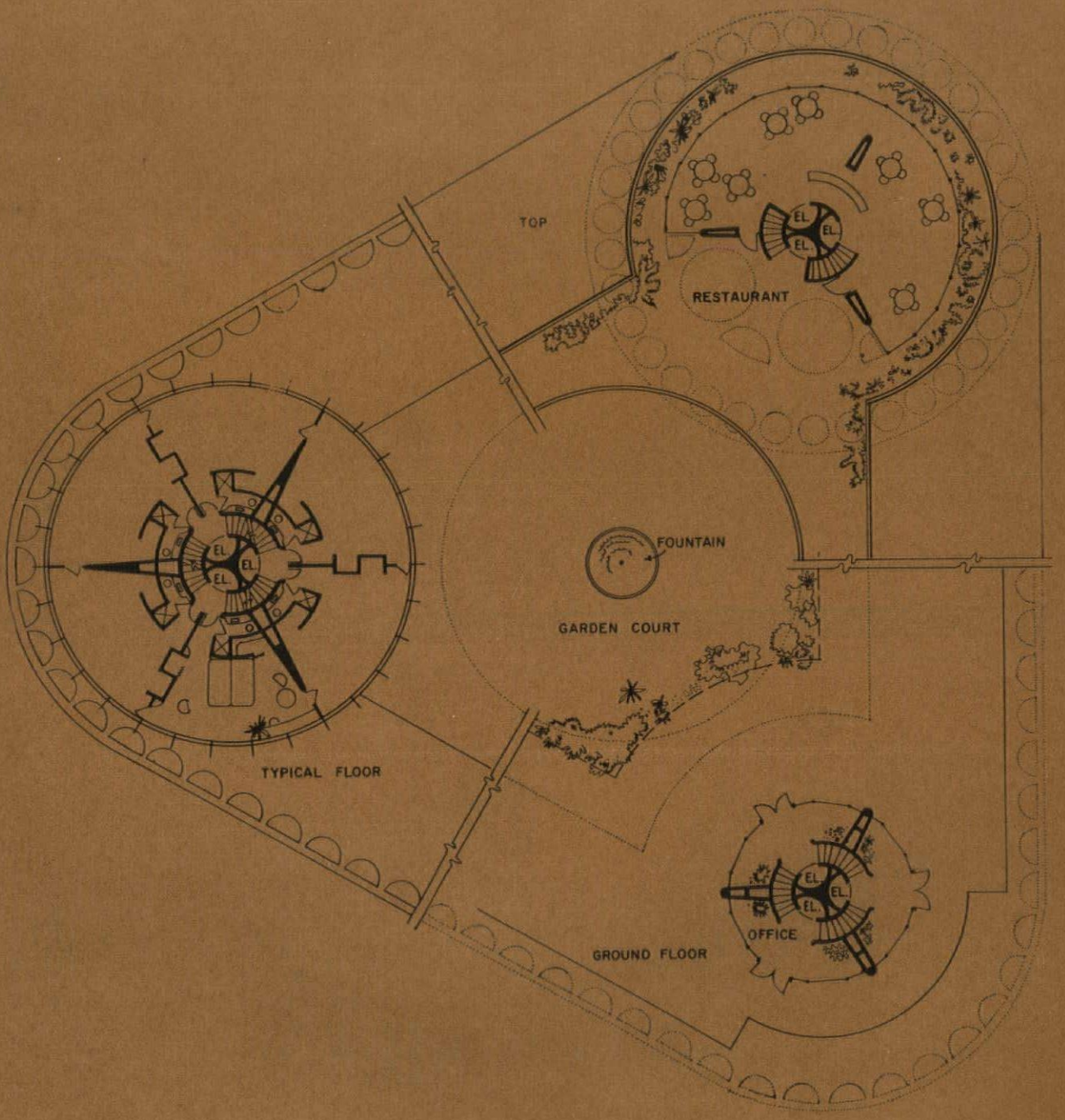


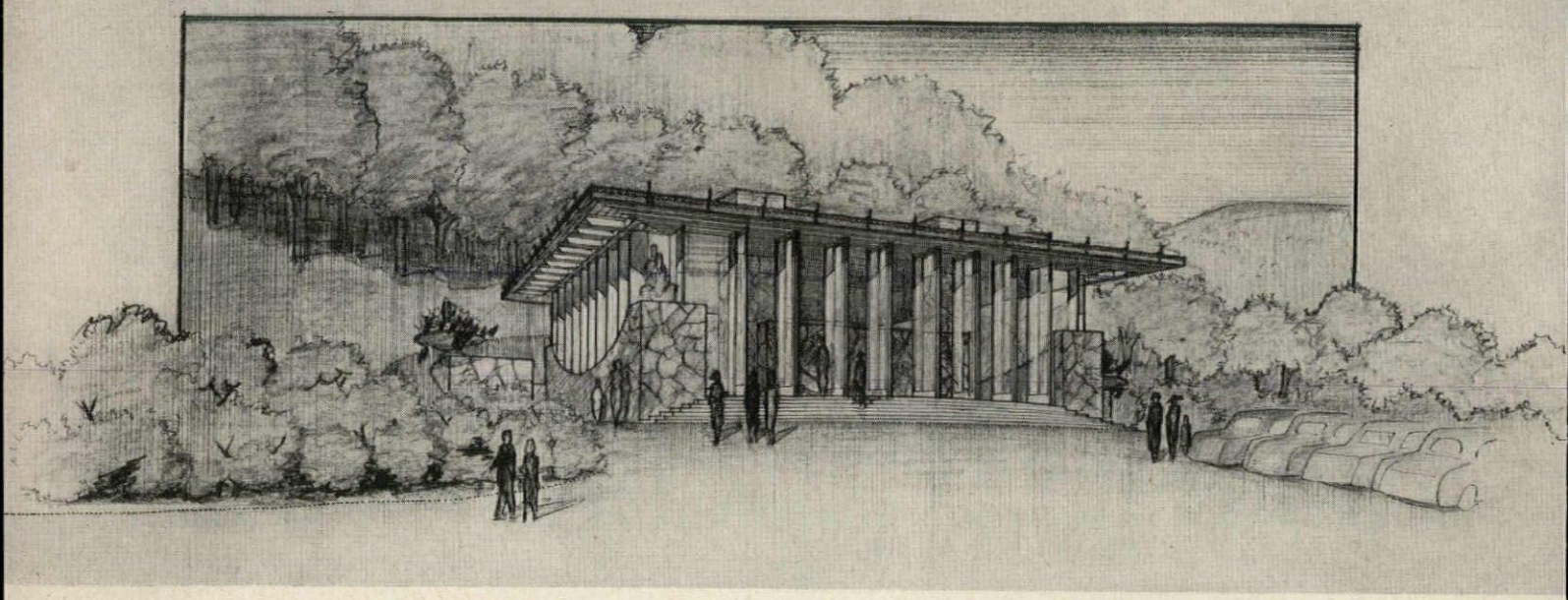


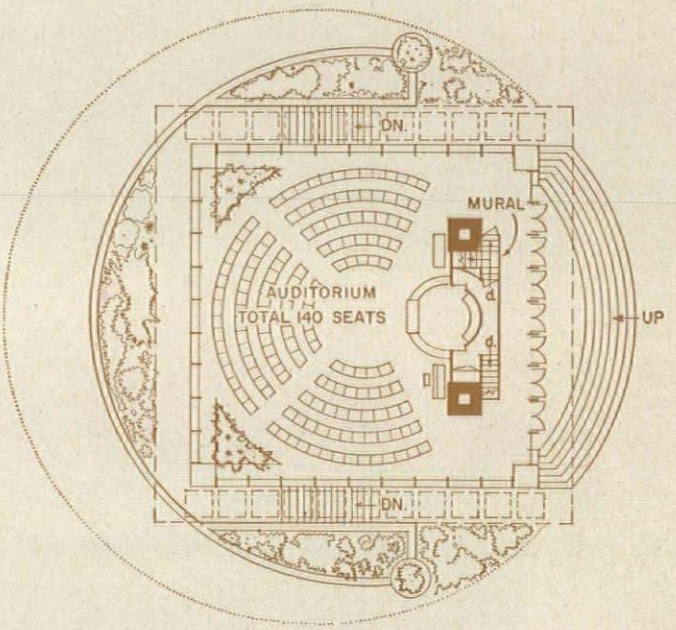
A MOTOR HOTEL

Although designed as a stopover for motorists who have temporarily tired of the open road, this conception has none of the characteristics of motels anywhere. It seems destined to remain a project if only because it is so luxurious in some respects, so severe in others. The scheme is built around three separate elevator groups of three elevators each. A single cluster of elevators serves seven floors in addition to a terrace restaurant under the roof of each unit. The restaurant is interconnected by the bridges shown in the perspective above. One elevator functions for two rooms per floor giving a grand total of fourteen rooms per elevator. The rooms attained by means of this generous outlay of mechanical equipment are small.

This building shares a principle in common with Wright's other towers, the "interior" system of structure in which the floors are cantilevered from a steel and lightweight concrete core, tripod-shaped for stability.


TOP
RESTAURANT
EL
EL
EL
FOUNTAIN
GARDEN COURT
TYPICAL FLOOR
OFFICE
GROUND FLOOR

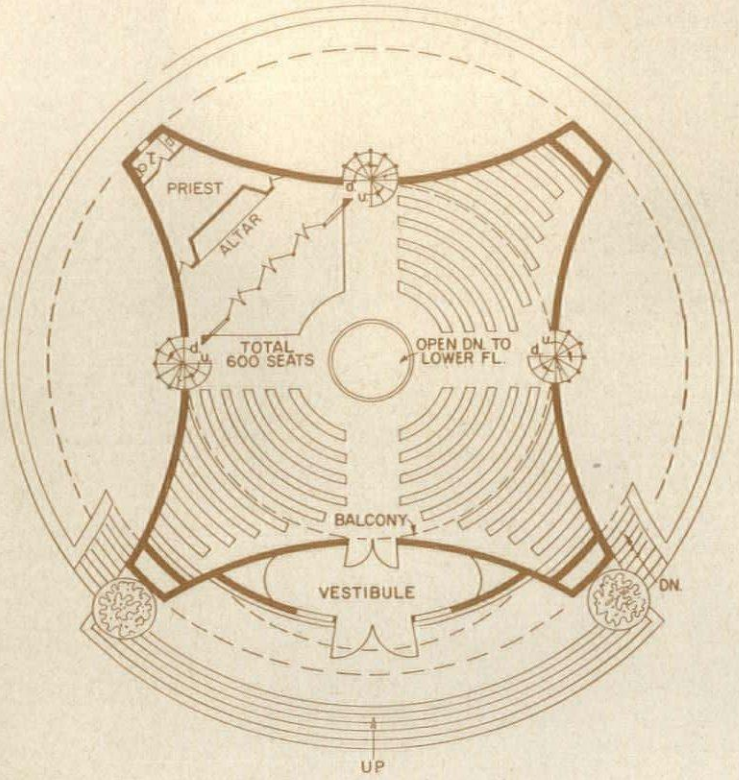


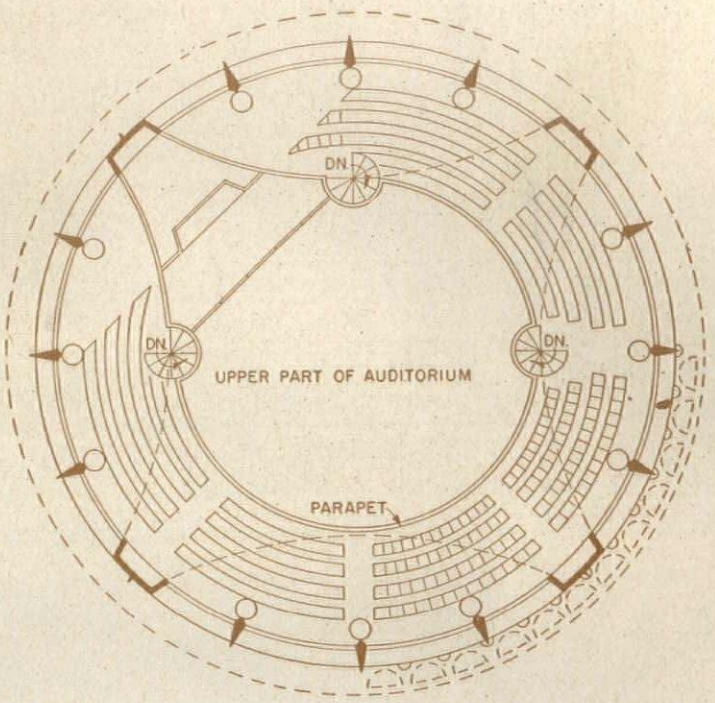


TWO CHURCHES

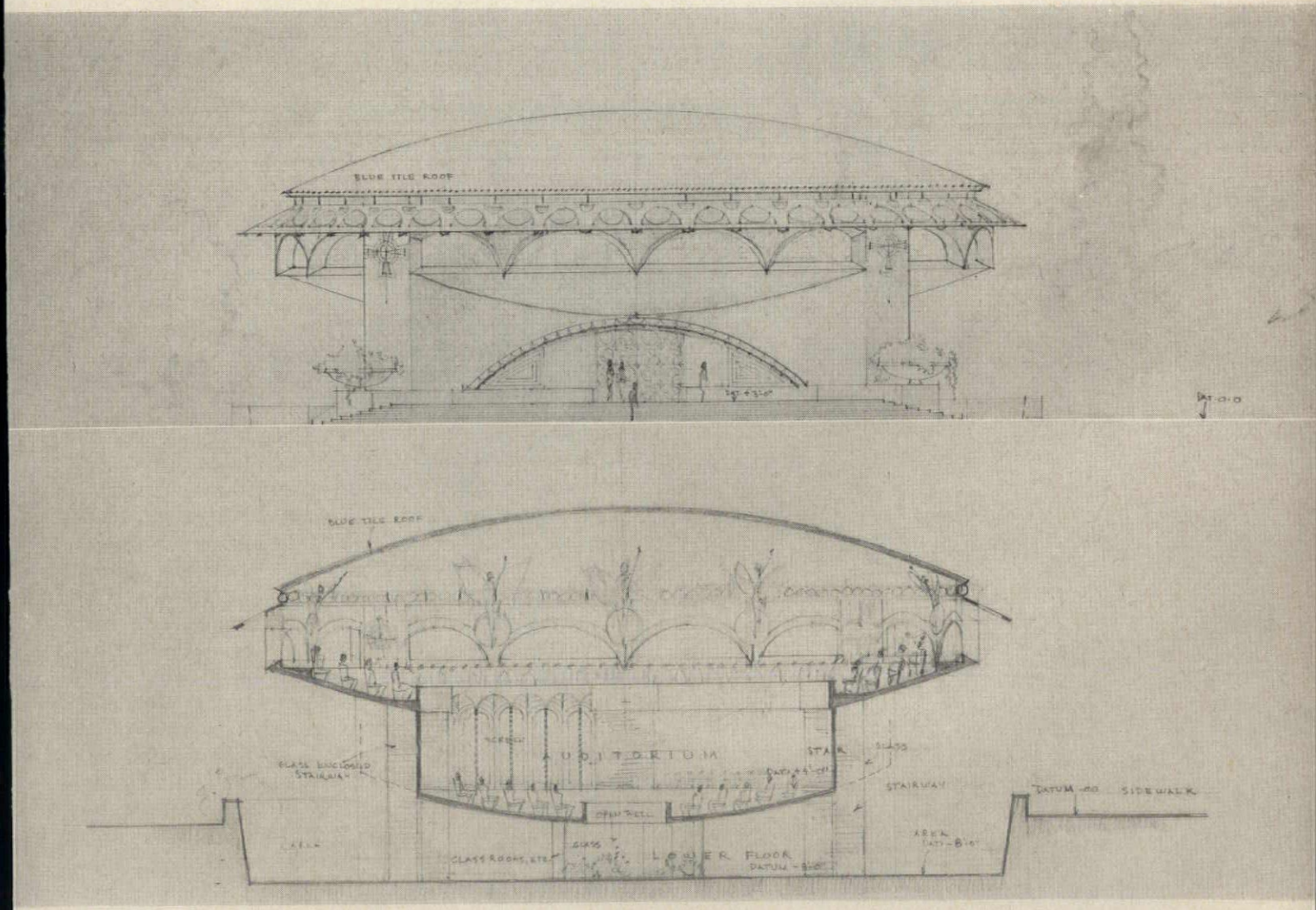
Among the buildings in working drawing stage at Taliesin West are these two churches. The plan and perspective on this page are of the Christian Science Church, Bolinas, Marin County, California, designed in 1957. Square in shape it occupies a platform carved out of a sloping hillside bounded by a circular retaining wall. The roof is supported by rows of metal-framed fins with glass in them.

On the opposite page is a Greek Orthodox Church designed for Milwaukee, Wisconsin in 1956. Byzantine in quality, there is much in it that is reminiscent of the architect's early work. The sectional drawing is by Mr. Wright's own hand and suggests a rich use of ornament. The building is set in a circular pit of the same diameter as the roof projections which will provide light for classrooms on the lower floor. The upper part of the auditorium is reached by three glass-enclosed stairs.





Frank Lloyd Wright

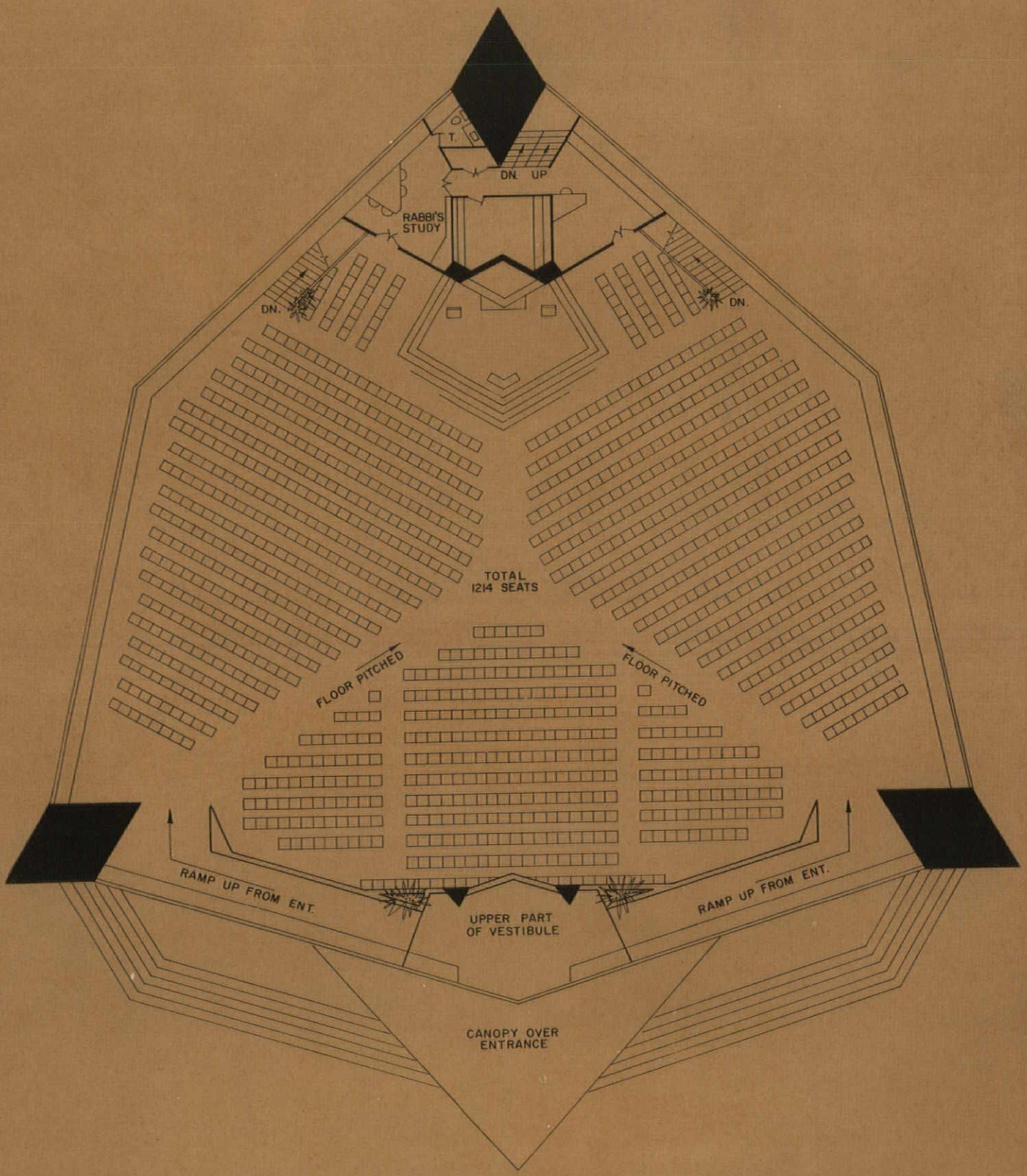


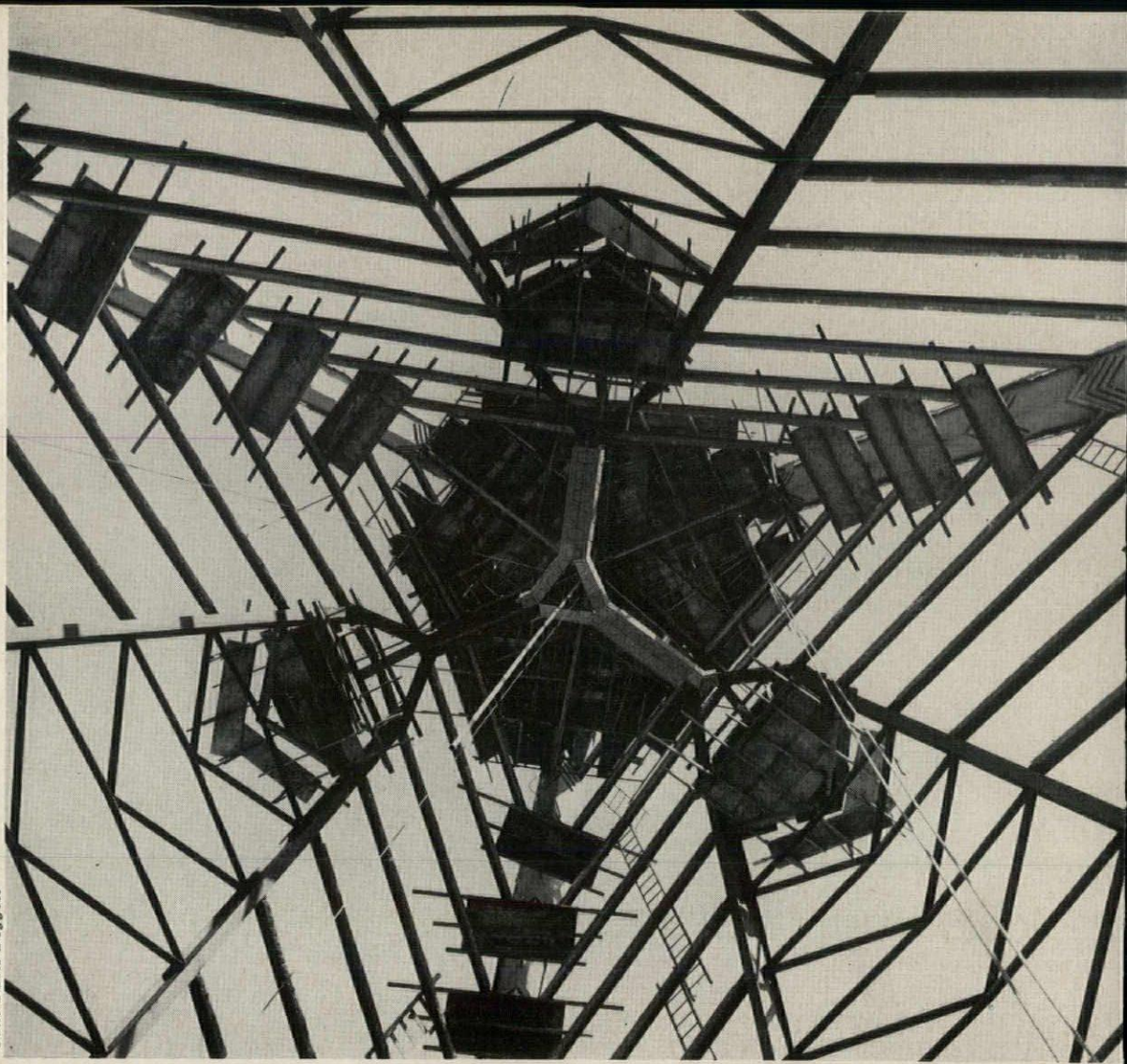
Jane Davis Doggett

A SYNAGOGUE

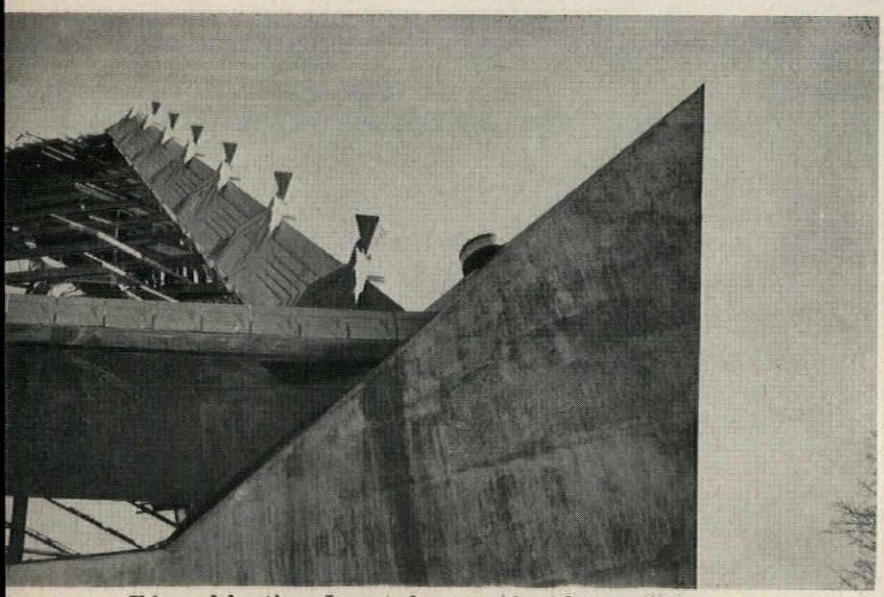
"We want to create the kind of building that people, on entering it, will feel as if they were resting in the very hands of God." Thus Frank Lloyd Wright described his intention in the design of a synagogue for the Beth Sholom Congregation now under construction in Elkins Park, Pennsylvania, a suburb of Philadelphia. The entrance vestibule opens onto the lower temple which is dark and enclosed. On either side of the vestibule ramps lead to the upper temple which will be brilliantly illuminated by the light of the sky through its great roof. The floor of the upper temple which slopes inward gently (see plan) does suggest cupped hands and the congregation may indeed feel that they rest in the hands of God and worship.

The structure is basically a pyramid on a hexagon. The pyramid is formed by a steel tripod, each leg of which rests on a diamond shaped concrete bastion. Subordinate vertical structural members rest on three great concrete beams in the form of chevrons. The roof will be enclosed by sandblasted corrugated wire glass on the outer surface and white corrugated plastic on the inner surface with a 5-in. air space between. All structural steel will be faced with natural finished aluminum in triangular patterns.

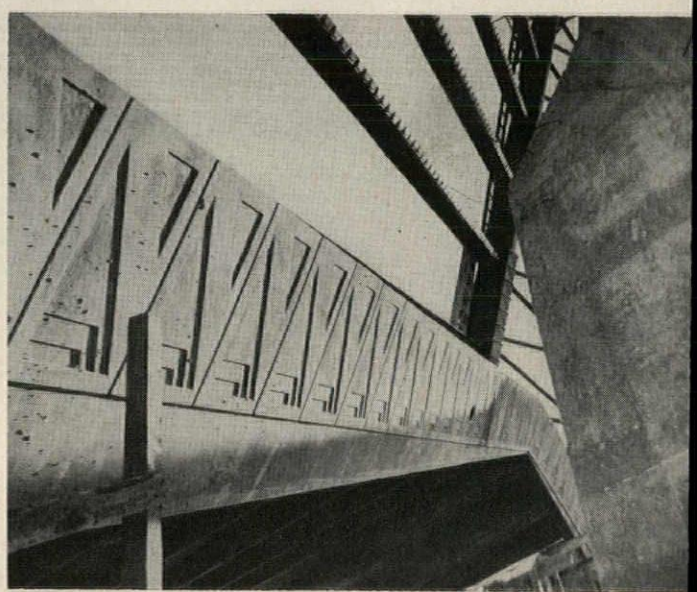

T.
DN. UP
RABBI'S STUDY
DN.
DN.
TOTAL 1214 SEATS
FLOOR PITCHED
FLOOR PITCHED
RAMP UP FROM ENT.
RAMP UP FROM ENT.
UPPER PART OF VESTIBULE
CANOPY OVER ENTRANCE



Jane Davis Doggett

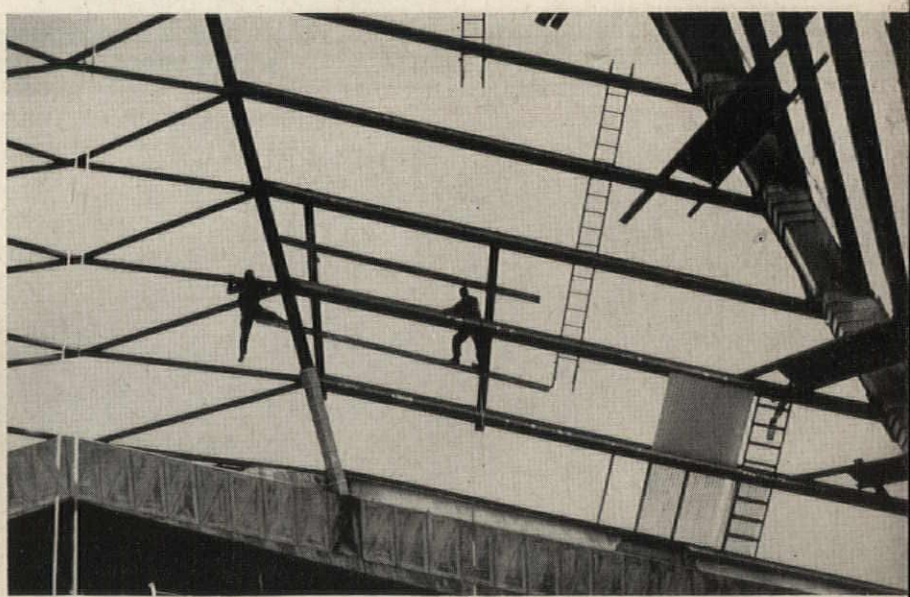


Edge of bastion. Inverted pyramids (there will be seven on each leg of tripod) house lights which symbolize the Minorah or seven-branched candlestick of tradition



One of three great concrete chevron-shaped beams. Triangular decorative motif is used throughout the synagogue

Left: view toward roof peak showing basic structural tripod.



Above: non-vertical roof members are welded T beams which will also be faced with aluminum. Corrugated glass and plastic roofing panels may be seen on the lower right

Left: detail of one of the main supports. Its steel core is covered with perlite and faced with aluminum sections

A Statement by Frank Lloyd Wright

THE SOLOMON R. GUGGENHEIM MEMORIAL

Mr. Guggenheim's desire to leave to his city something other than just the conventional museum lives after him—if it can find sympathetic appreciation of his often expressed and now manifested desire. His choice of myself as his architect was based upon the assumption that "the rectilinear frame of reference" for the exhibition of a painting referred more to the frame than to the painting.

He also (and with my complete sympathy) declared that a painting should be seen as nearly as possible as the painter saw it—in the continuation of artificial light managed to suit the exhibitor, and the natural daylight in which in all probability it was painted. To accomplish this, the museum in which to see a painting in an atmosphere suited to inspire the beholder with its beauty—meant a new order of architecture for this purpose.

That is why I went to work for Mr. Guggenheim—to give him a building creating an atmosphere instead of a frame in which to show the painting—incorporating it as a feature of the structure of the edifice in such manner as to reveal its properties of color and design more freely—less constricted and restricted than the bolt-upright canvas on a perpendicular wall under electric light from above.

It is true that most efforts to nature-daylight the artists' creations have not had sufficient study or intelligent modification. To do this under contributing factors in a building is this edifice provided for in The Solomon R. Guggenheim Will—a project he amply endowed and which has greatly increased since his death owing to the wise management of his trustees.

The subject, however, presents a problem which directly challenges the conventional museum director. But the stakes we play for are important. The success of the museum means the liberation of the picture from the exploitation of the picture-broker and puts the painting more at ease according to its nature and the nature of the observer.

No mere drawings (or photographs either) convey this affair of "atmosphere." No model can show it or words express it. Only in the presence of it can fair judgment be uttered.

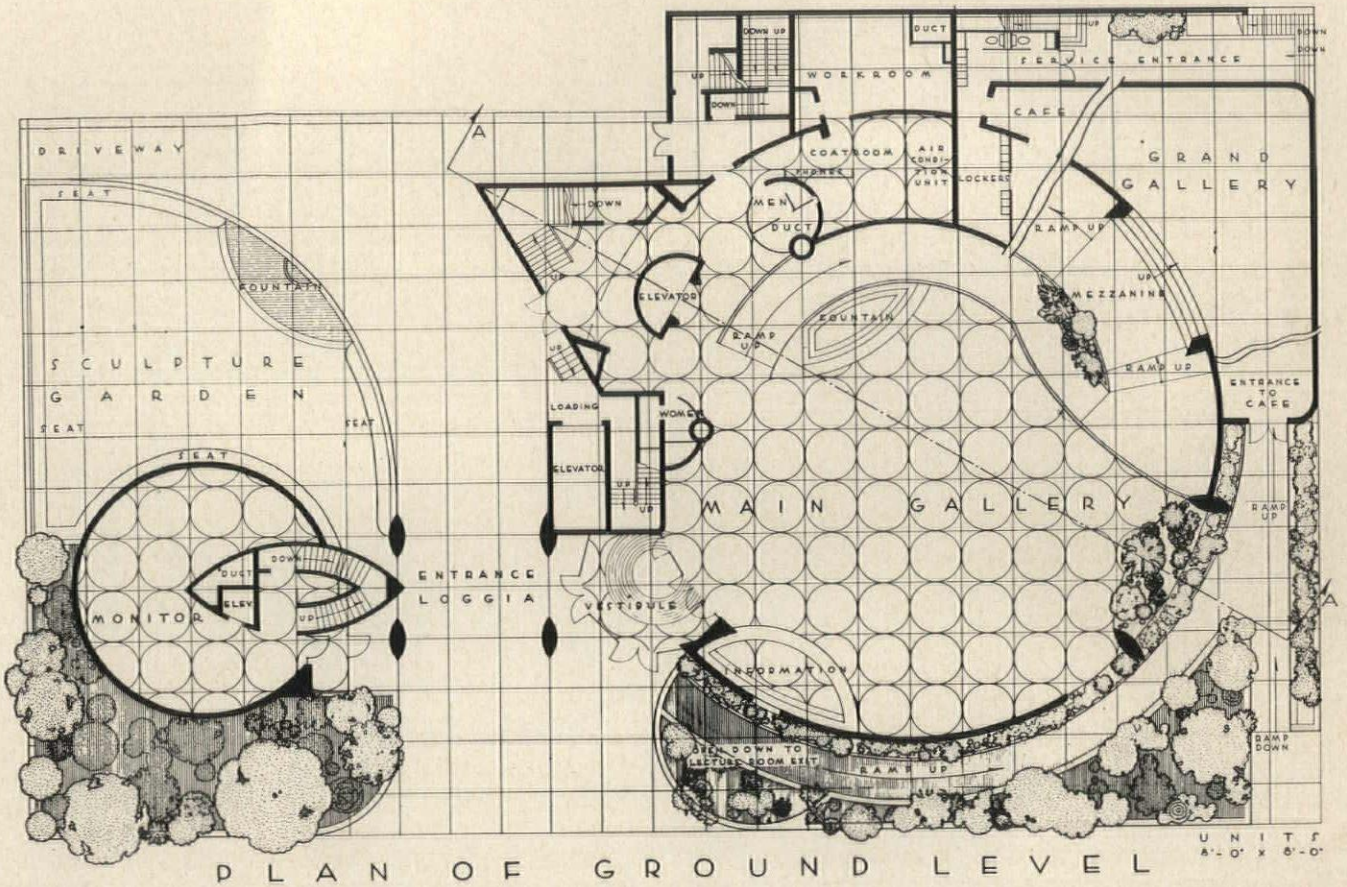
In the type of architecture represented there is no outside independent of the inside—the two are as one—organic—integral.

The trustees may or may not regard their duty as completed when the building stands there on the avenue proudly in the name of Solomon R. Guggenheim.

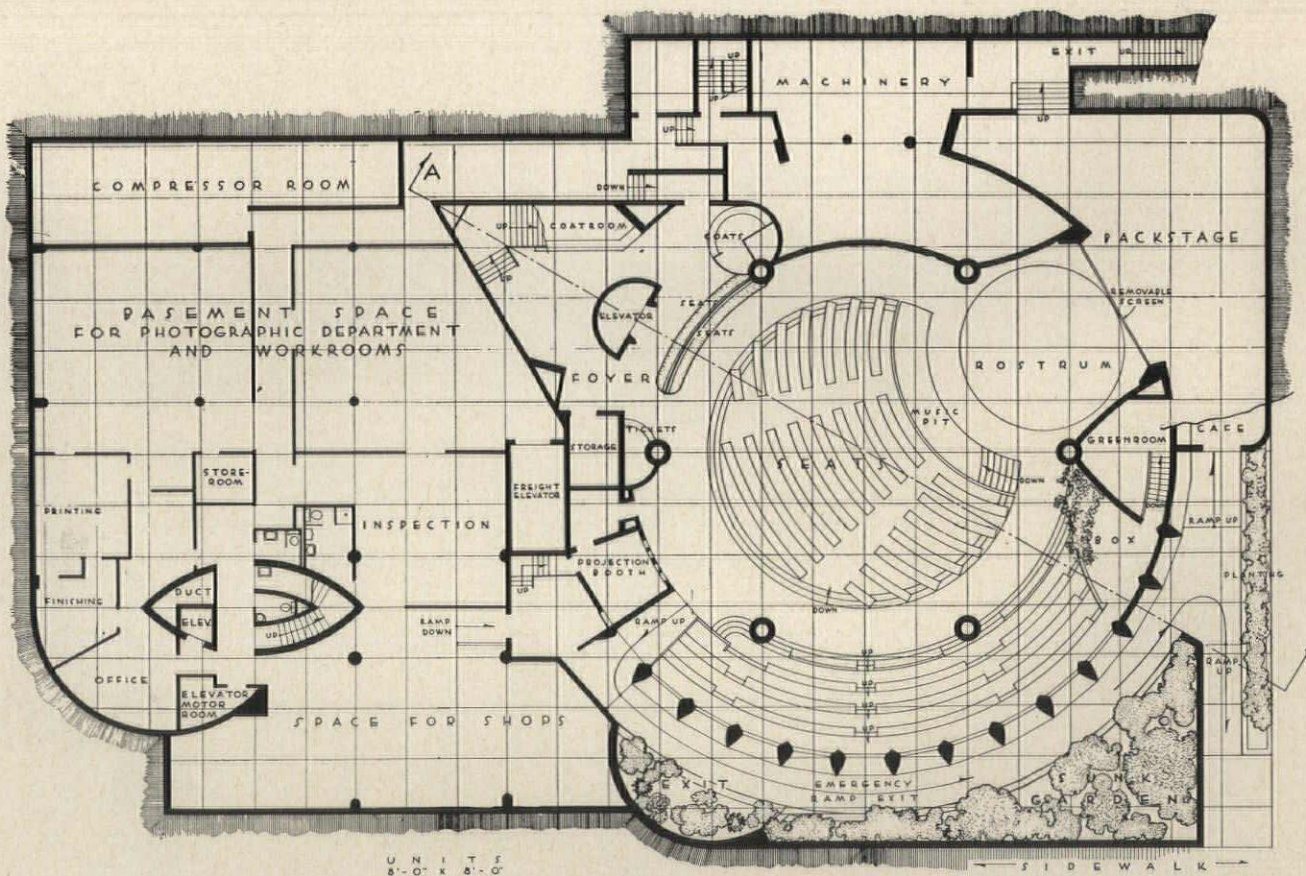
Mr. Guggenheim wanted his people to see a picture much as the artist himself saw it in changing light and whoever owned it might see it. But the very heart of his memorial as he saw it and left money to provide—might go out when the museum as a business came in.

What the museum as a business of trading, collecting, circulating, exchange and purchase, shipping in and shipping out requires is an office building and Mr. Guggenheim left no money to build one. This can be added to the present memorial without harm if so decided.

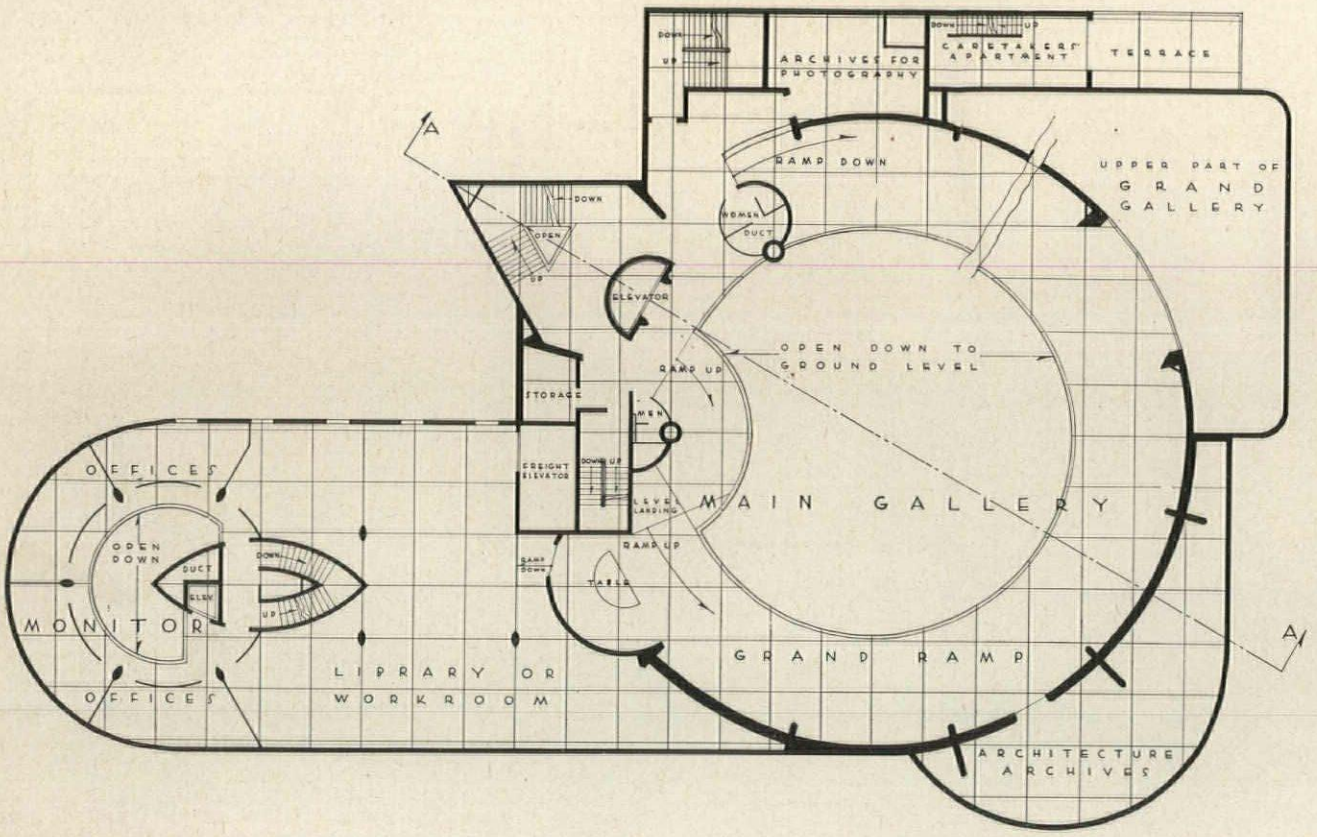
What stands there now in his name is envisioned as a unique quiet retreat where the collection of the "non objective" (so called) art he believed in and made could be greatly extended. He saw his museum as it is built to his will—thanks to his trustees. He did not want an office building or anything like one and left no money to build one. He envisioned a museum pretty much as it stands. Unique, a genuine intelligent experiment in museum-culture where pictures could be better seen with less discomfort in an atmosphere peculiarly belonging to the free forms of art he loved for itself—a true friend of the future.



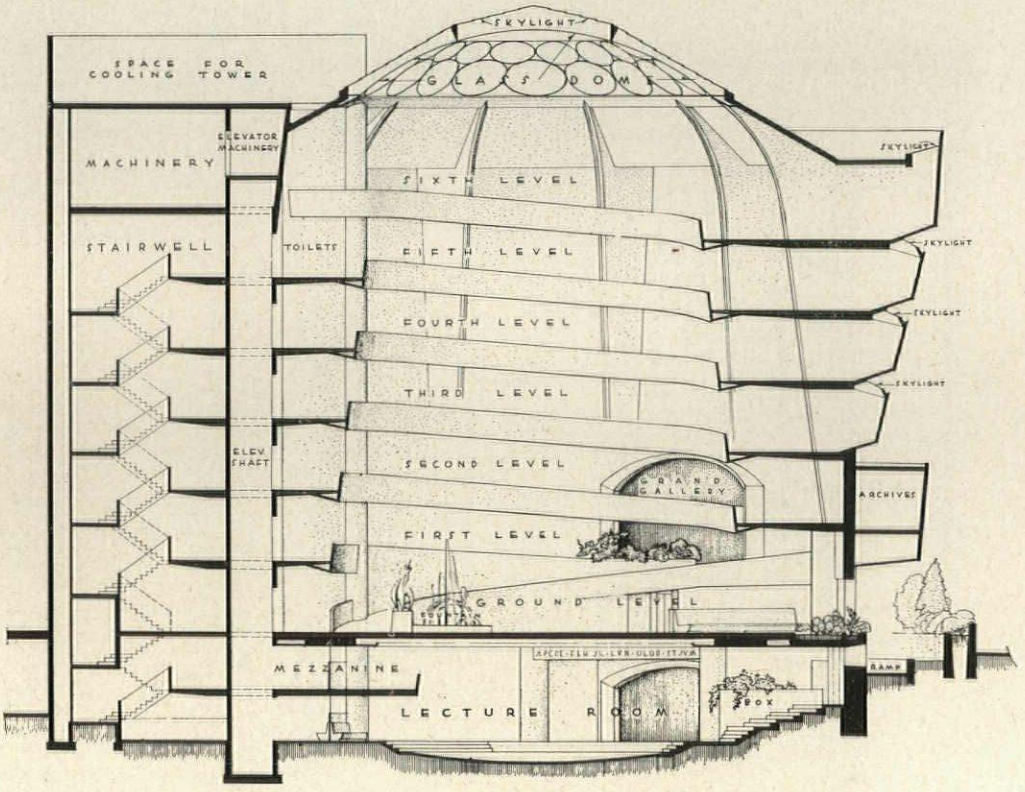
PLAN OF GROUND LEVEL



PLAN OF LECTURE ROOM LEVEL

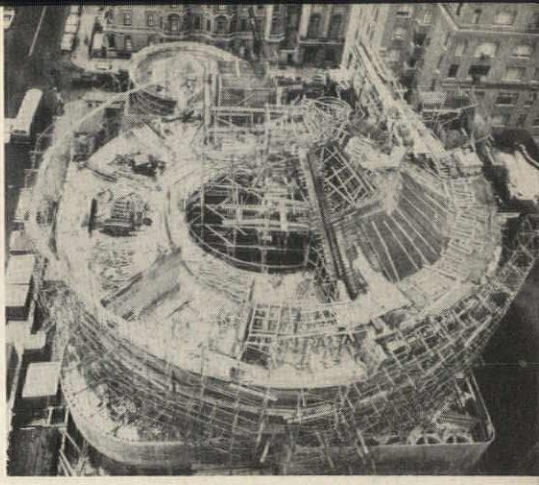


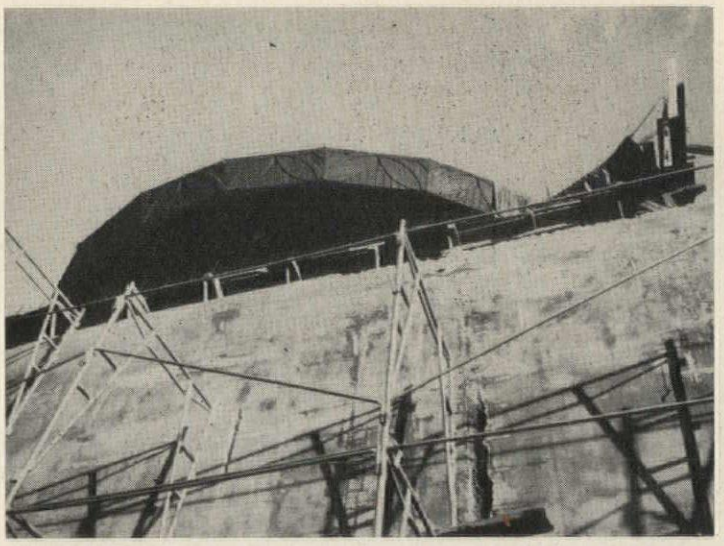
PLAN OF FIRST LEVEL



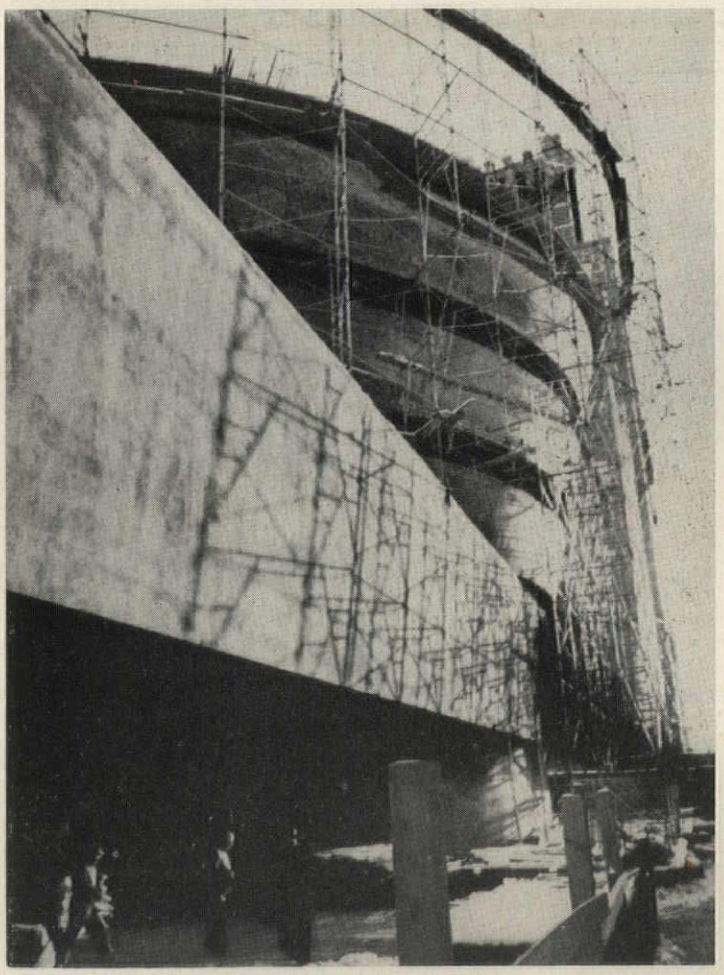
SECTION A–A

Guggenheim Museum In Progress





Concrete frame to support skylight is being poured at top right. Monitor building (above) is tied to main gallery (below) by horizontal band



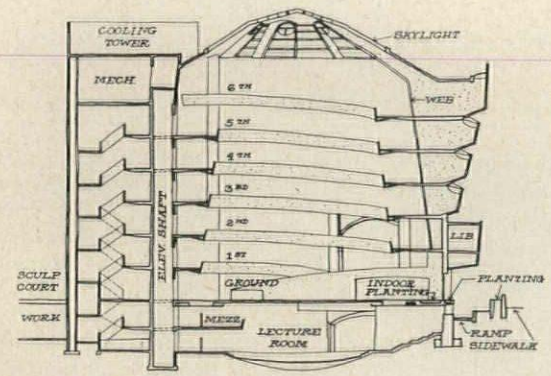
"For the first time, a building has been designed which destroys everything square, rectilinear. It destroys the rectilinear frame of reference. Gravity is used to assist in presentation of the pictures [descent down the ramp]. You see paintings under the same conditions in which the artists did them [as they would rest on an easel, illuminated by a mixture of daylight and artificial light]. It provides an open road for the painter who sees beyond what is being done now. The Guggenheim Museum does not stem from the dead hand of the past—but from the living sense of the present for the past."

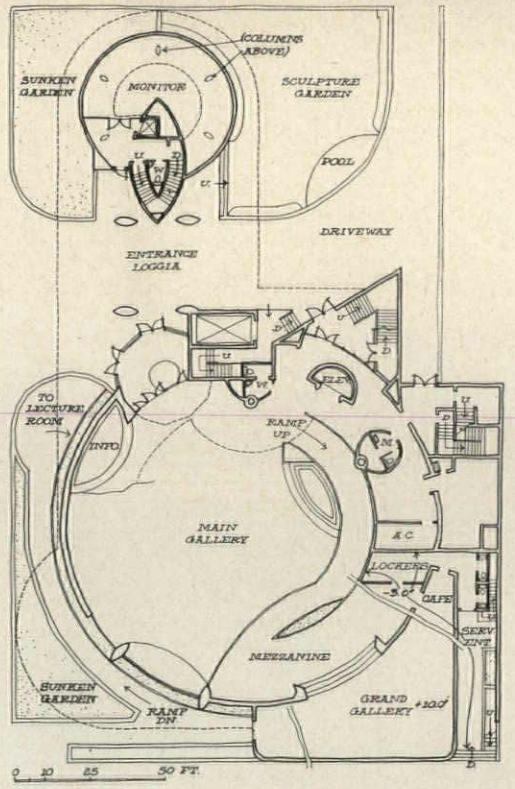
These are the words that Frank Lloyd Wright chose in telling ARCHITECTURAL RECORD the reasons for the spiral ramp in the main gallery, with domed skylight overhead, and ribboned skylight at the periphery; for the fin-shaped columns; for the several-faceted arched opening from which you look down into the grand gallery; for the semi-circular skylights in the grand gallery; for the opposing curves and sculptured windows of the lecture room ("A herald of all views that can be taken of the future of art, architecture, and religion. An advance agent of the future."); for the finned columns and tower in the Monitor building ("These shapes are the grammar of the whole museum.")

A tour through the Guggenheim Museum, six months ahead of completion, leaves several strong impressions. One is that it has an abundance of "Delight." Interest never flags because your eye moves from one handsome curve into another, and from one elegant space into another. (The concrete work is excellent with absolutely true curves and knife-like edges.) You know instantly that the building is Wright, and you are reminded of it by such trademarks as the frieze atop the Monitor building.

The ramp is widest at the top and decreases at a constant rate to its narrowest width at the first level. This prevents the ramp from having the monotony of a traditional arcade, and funnels attraction up toward the top skylight.

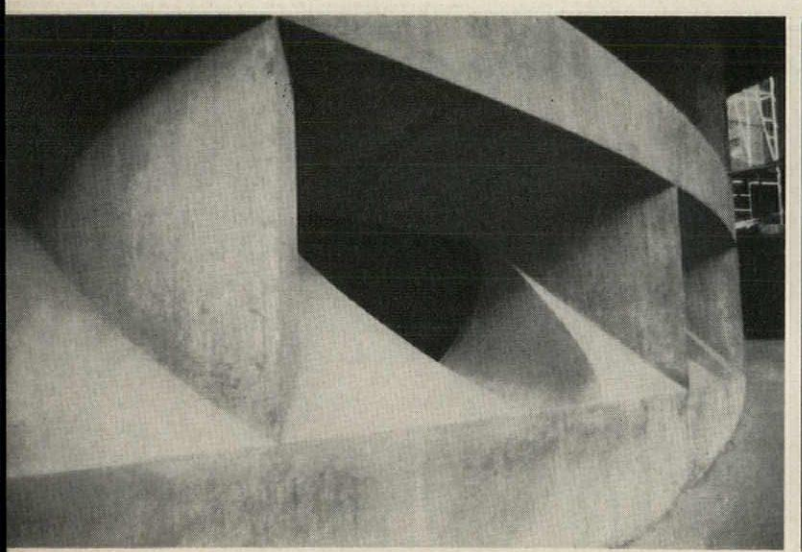
text continued on page 190

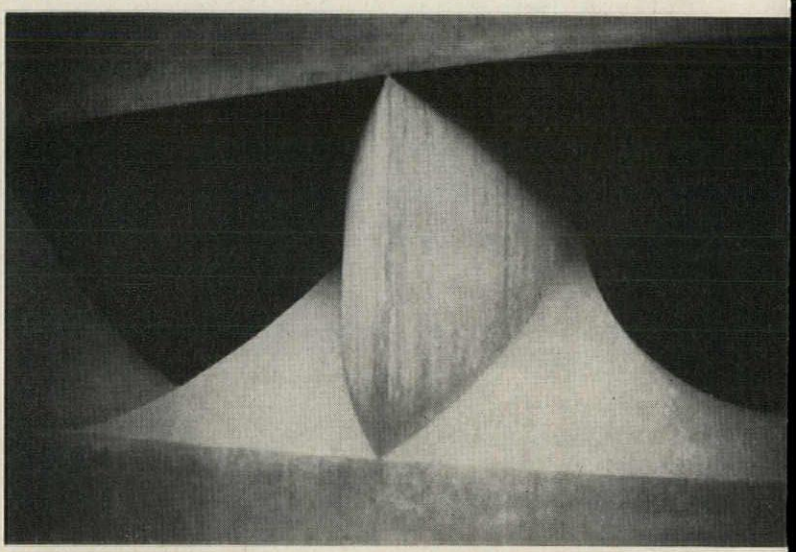




The Guggenheim Museum has two principal sections: the larger is the main gallery which spirals up six levels, and the smaller is a four-story administration wing, called the Monitor (for supervision of Museum activities). The ramp is widest at the top, and gets narrower uniformly as you go down. The cantilever section of the ramp is the same distance from the web-column on each level. Adjunct spaces include the lecture room which is below grade and the grand gallery which is entered from the first level ramp

Window openings in the outer wall of the lecture room are unmistakably Wright's handiwork. The fin-edged motif is repeated throughout the Museum: columns at the entrance, in the Monitor tower and in the Monitor columns. Window has three segments—one has glass, the other opaque filling



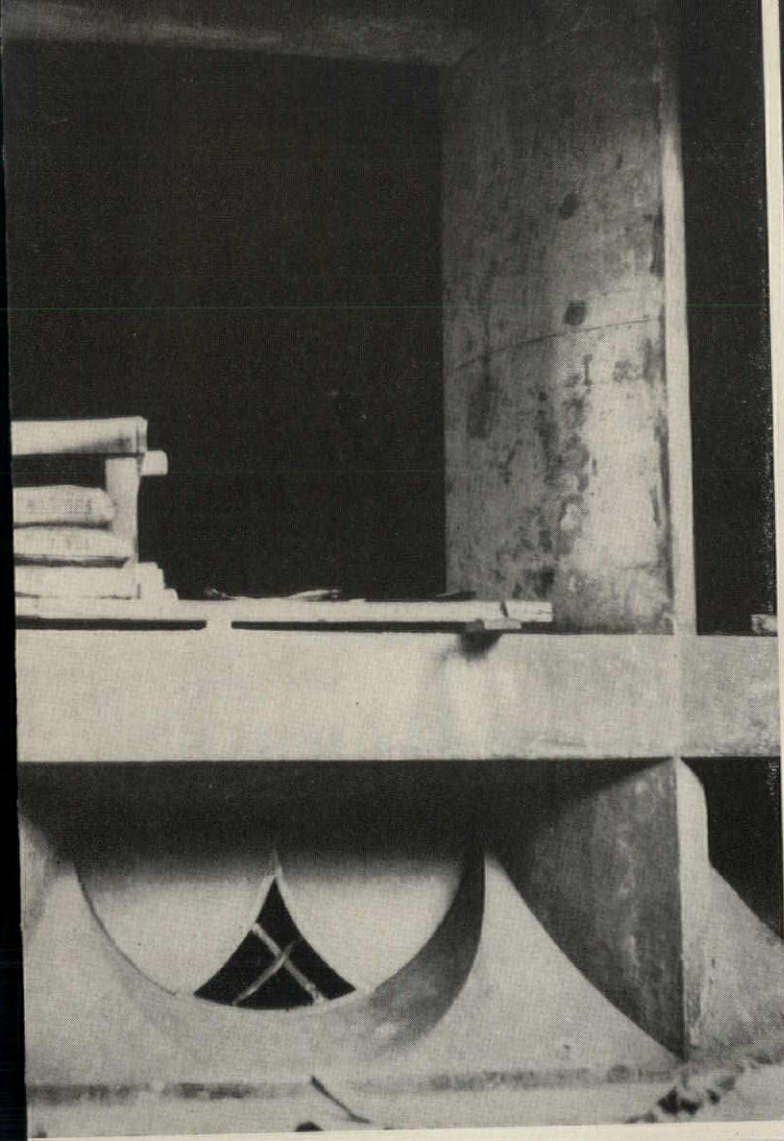


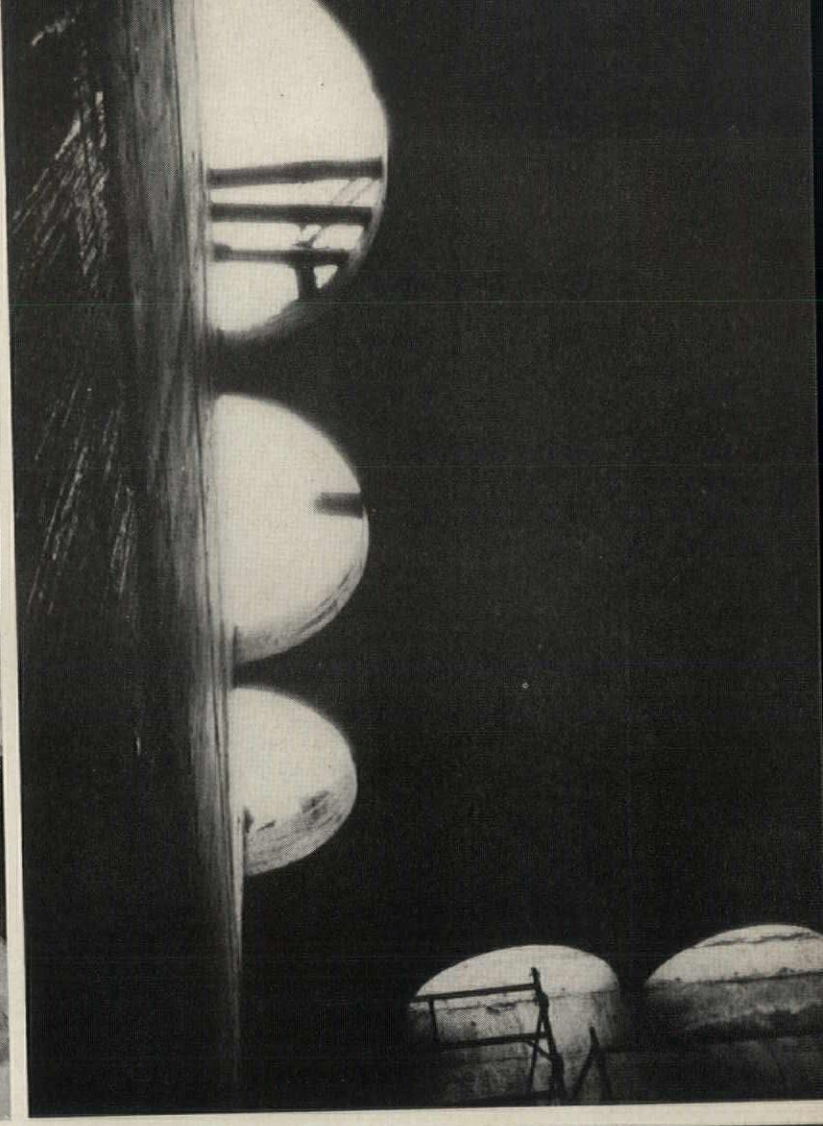
In two cases the finned dividers between curved windows of the lecture room continue on above ground level as columns and provide an opening from which the visitor can look out upon outdoor planting (across page, top left)

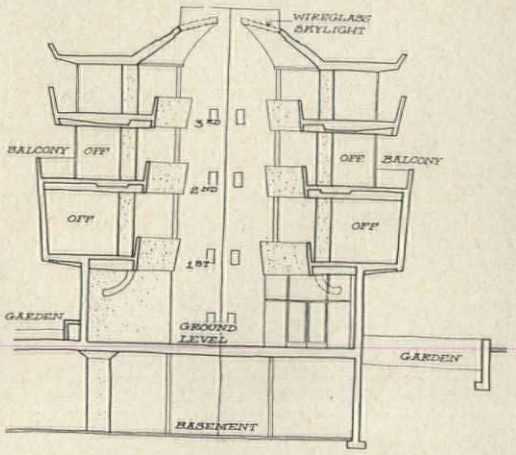
Daylight for the grand gallery, which is intended for large works of art, is let in through semi-circular openings in the roof (across page, top right)

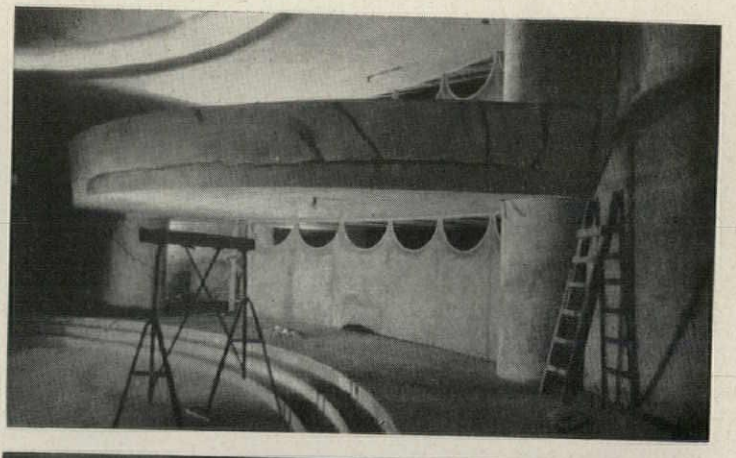
The visitor can look down on the grand gallery through an arched opening at second level (across page, bottom). Columns on either side of opening continue on down to define sides of the lecture room stage

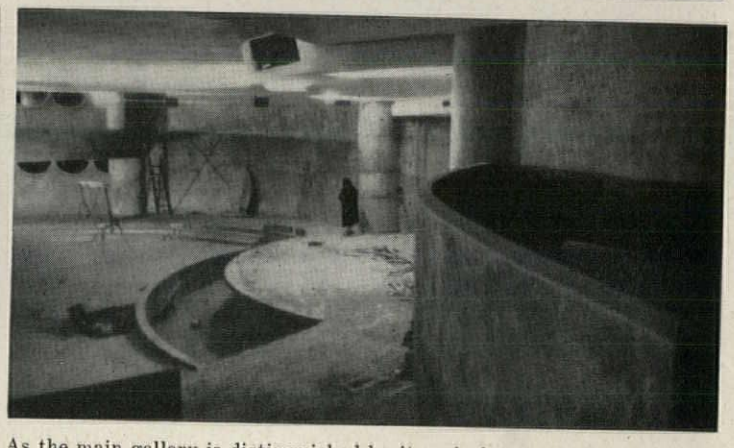
The photographs for this article were made by Jane Davis Doggett





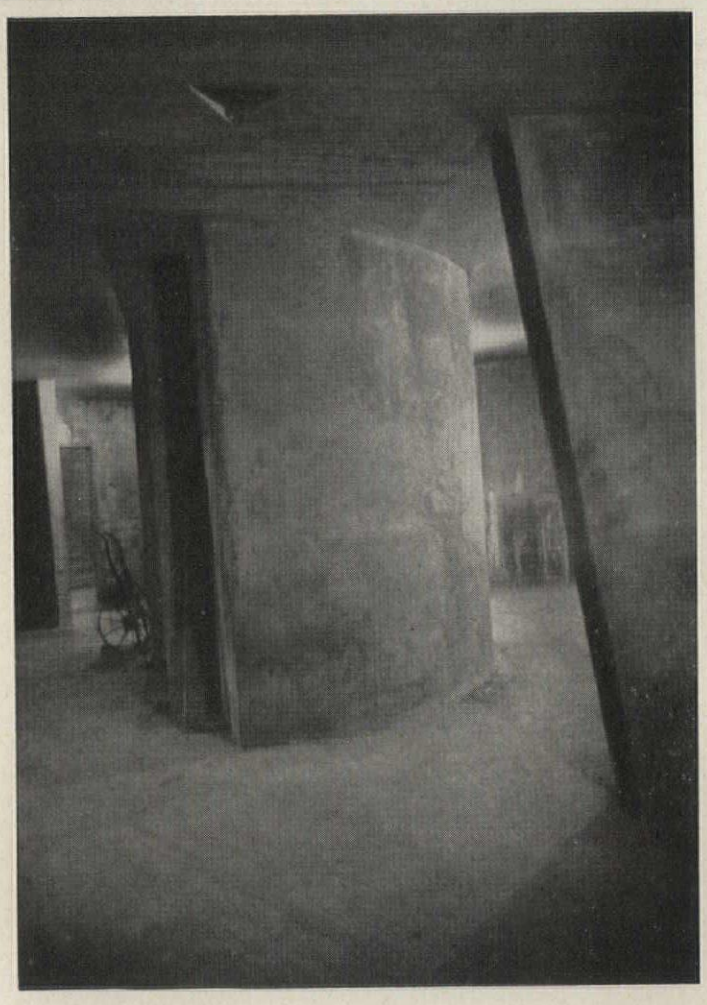






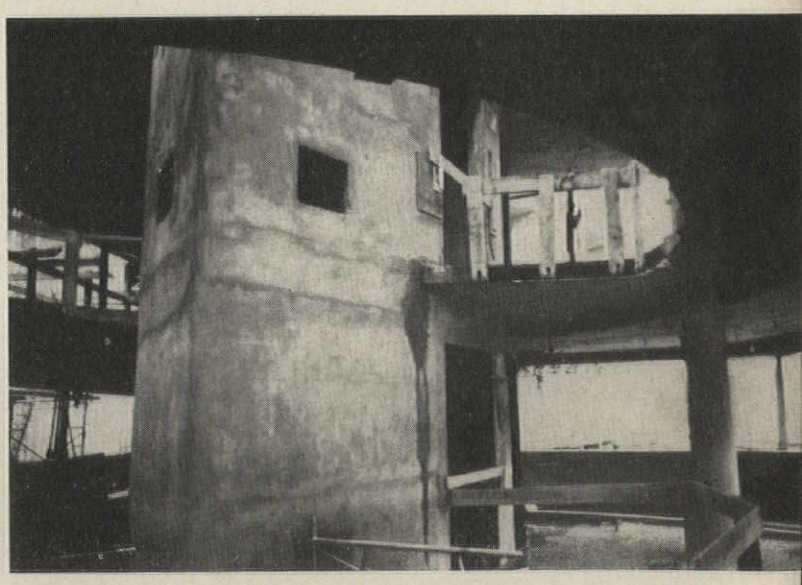
As the main gallery is distinguished by its spiral ramp, and the Monitor building by its finned tower and columns, so the lecture room is formed about a series of semi-circles: the stage and proscenium, the ground floor seating and the mezzanine, windows to the outside and openings in the partitions under the mezzanine. And in the ceiling is a circle of coved light

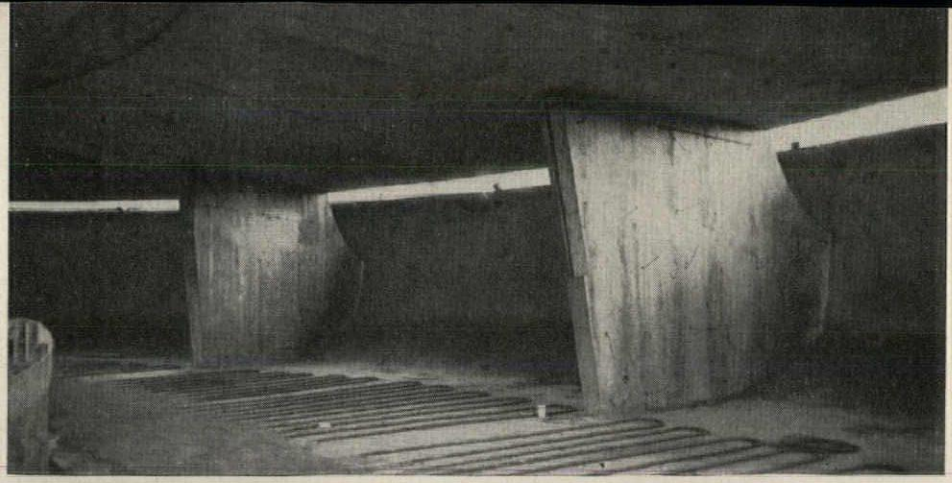
The lecture room can be reached from the outside by a ramp and from inside by elevator. The elevator shaft (photo right) also is semi-circular and runs from basement to slightly above the sixth level ramp, giving support to the ramps at each level. On each side of the elevator shaft are circular enclosures, running continuously between floors, for mechanical services and toilets. These enclosures intersect a pier which encloses vents

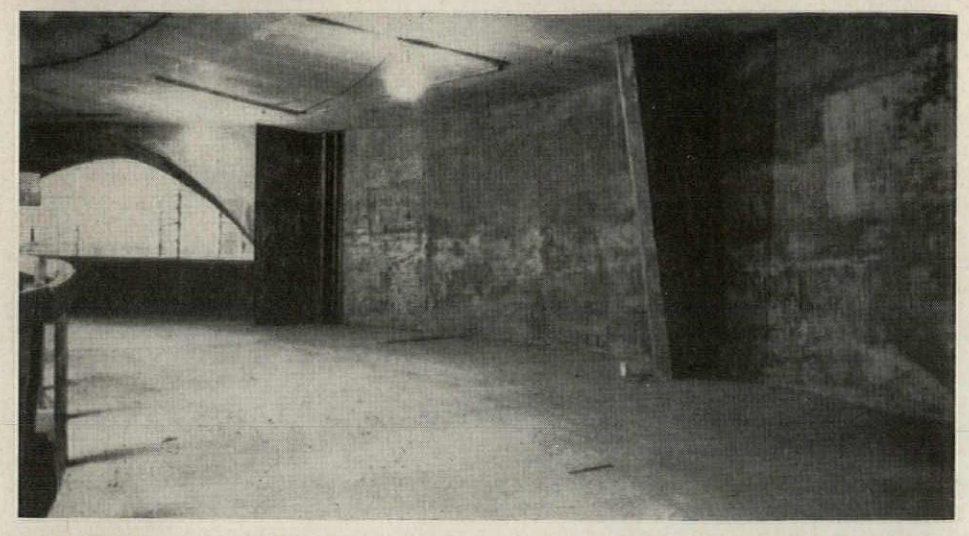


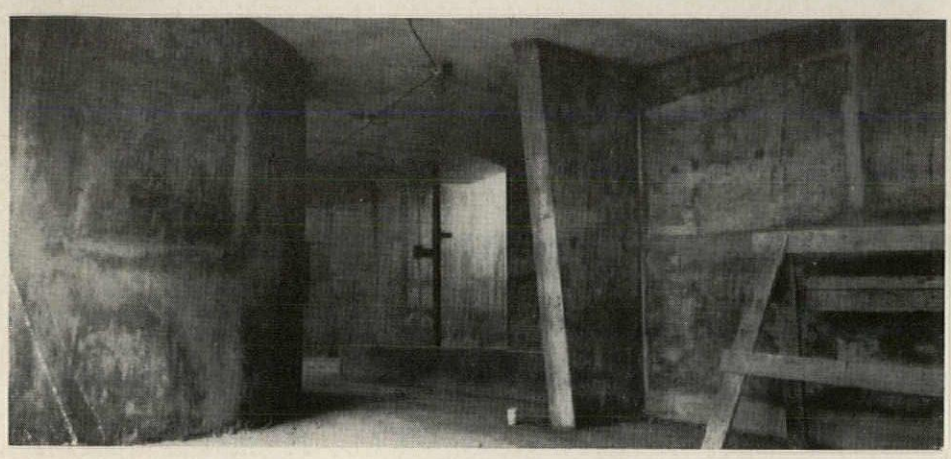
The finned shaft of the Monitor building (above and below) rises up to a skylight; contains stairs, toilet rooms and mechanical space. Rectangular openings were left in the shaft to pull back return air from offices and corridors

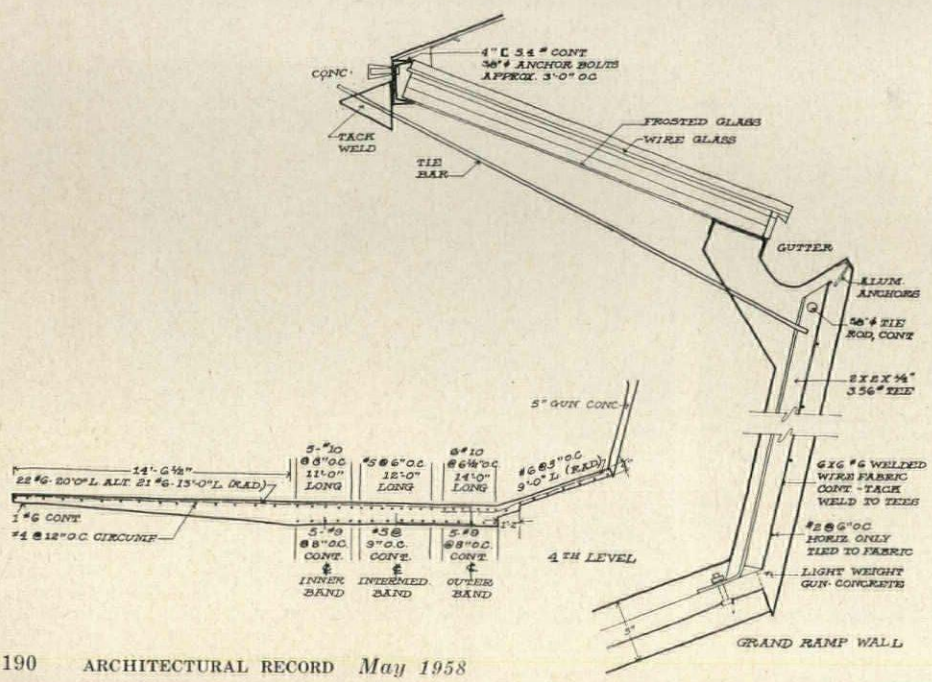
The ring-shaped floors are supported by fin-columns whose position lies either at inside of the ring or near its mid-point. For both cases a ring beam helps distribute the load and prevents shearing of columns through floor. At the first floor, load of columns is transmitted to brackets which in turn transfer this load to the cylindrical ground floor wall (see section drawing top of opposite page)











We were rather curious about how the structure of the Museum works. Some time ago Wright talked of the structure as a spring . . . the ramp coiled in a logarithmic spiral . . . one continuous piece from top to bottom. Recently he described the outer wall as a "spine" and the floor as "ribs growing inward."

Ordinarily, very little is said about the actual structural behavior of some of our most prominent buildings. And while the mechanics of structure deserve careful attention, they are usually subservient to the principal factors that make the building a success visually. Perhaps for this reason, the creative people in architecture are accustomed to speak of "structure" quite expressively, but their thoughts pertain to how the structure works esthetically rather than actually, which may be a key to the way their concepts are developed.

Any tendency of the web-columns —the vertical members of the main gallery—to tip inward is resisted by arch action of the spiral ramp (think of the ramp as an arch in the horizontal plane).

The webs are rather deep on most levels. This plus the fact that they are restrained by the roof and floor may reduce their flexibility and make the portion of the ramp between webs tend to act as a flat slab, and that projecting beyond the web as a cantilever, tied by reinforcement back to the slab section, which in turn is tied to the columns.

In the Monitor building, advantage is taken of several phenomena: compression ring and hoop action of the floor slabs, and the buckling resistance of the cylindrical ground floor wall. A very simple analogy for the ground floor would be a covered cylindrical tank with a hole in the middle of the roof. As the roof tries to drop down, its action is to pull in the cylindrical wall, but this is resisted by the compression ring behavior of the roof slab. This analogy pertains only to the ground floor level and floor above. At the second and third level floors, the slab cantilevers out from either side of a ring beam, the largest cantilever being toward the outside. The tendency here is to pull the ring apart.

Directly below individual supporting columns at first floor level are brackets which transfer the load to the cylindrical wall which by virtue of its curvature resists the eccentric loading. The brackets are further aided by the flat circular plate floor slab directly above.

Louis Reens

Having To Do With Swimming:

Pool For A Family Swimming Club

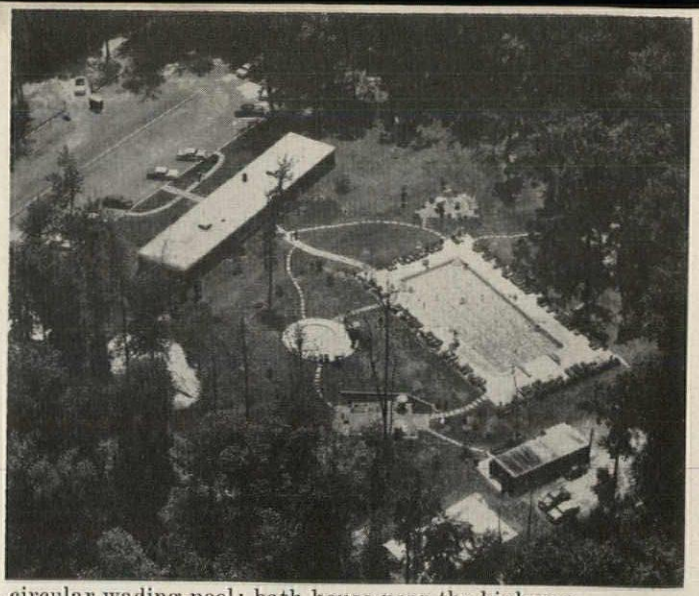
Wildwood Pool and Bath House
Kings Point, Long Island

George Nemeny, Architect

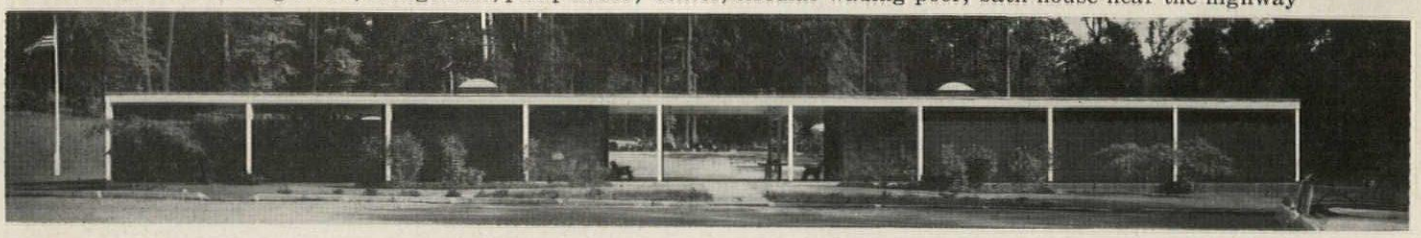
This inviting pool results from a design that shows a proper degree of restraint in handling, as well as a healthy respect for the nature of the attractive setting. The Douglas fir structural frame for the bath house is painted white; the vertical 4-in. boarding is stained dark brown; and there are screen walls of natural fieldstone. The 40 by 90-ft pool was constructed by spraying concrete on mesh.

The club is composed of 125 families who initially subscribed $1000 each and now pay annual dues of $200. The five employes (caretaker, lifeguards, etc.) are able to maintain and run the establishment on a high plane. Food is barred on the basis of commercialism and litter. Recently, $3000 was spent for additional trees, landscaping, and equipment.

Ben Schnall



Aerial view shows arrangement; foreground, pump house; center, circular wading pool; bath house near the highway



Having To Do With Swimming:

Bathing Facilities For A Section Of A Community

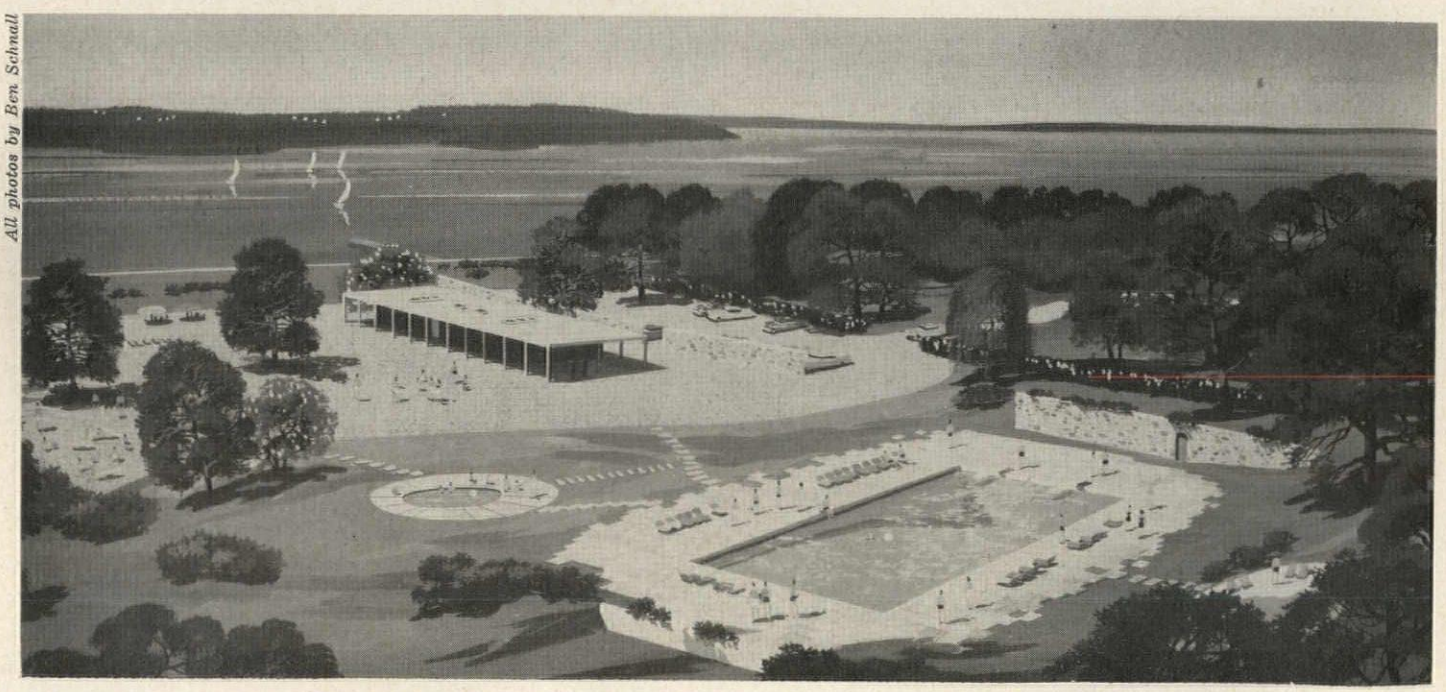
Harbor Hills Pool and Bath House
North Hempstead, Long Island

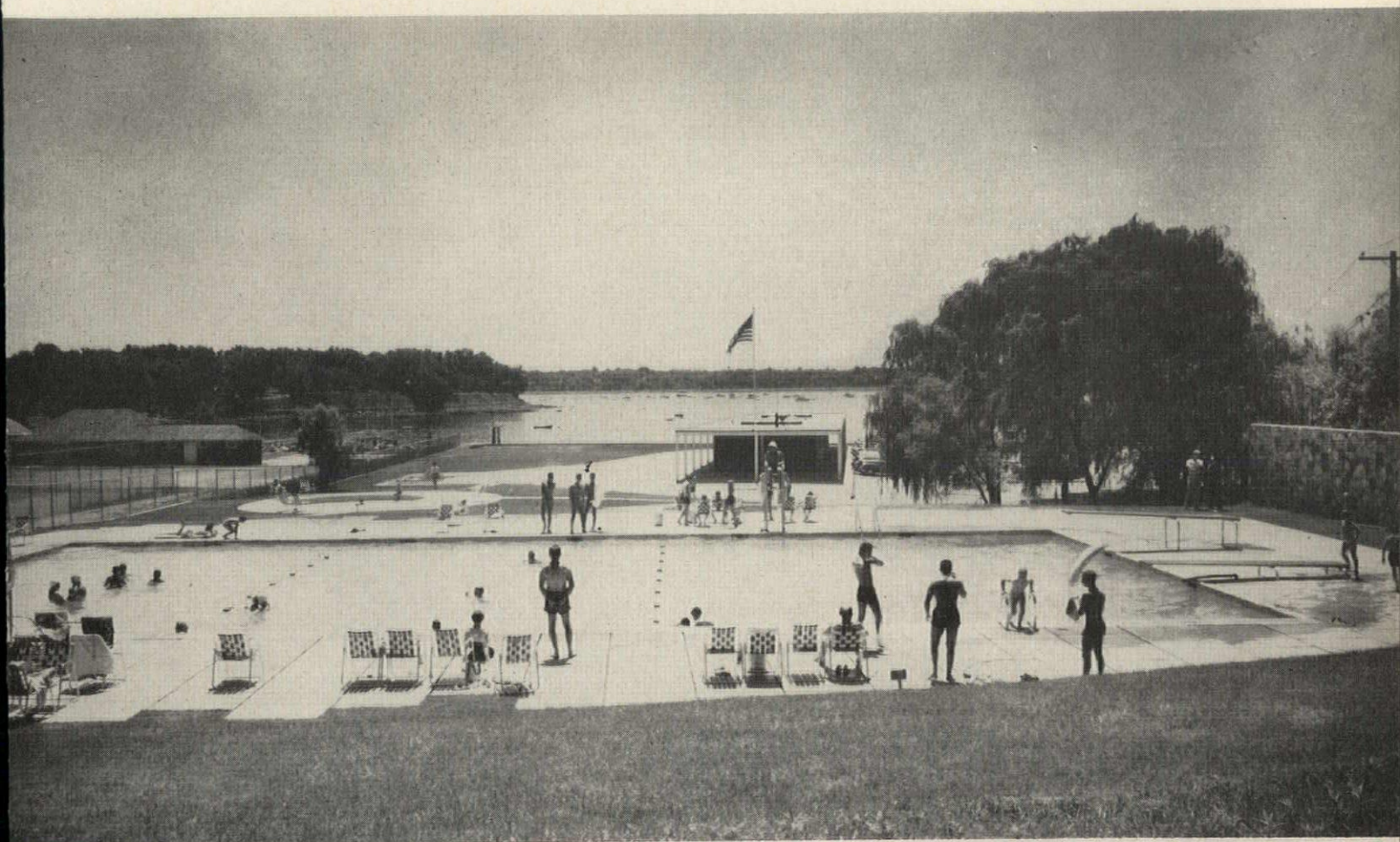
George Nemeny, Architect
Emil Gruenberg Associates, Mechanical Engineers
Frank Harwood, Structural Engineer

Originally conceived and promoted by an association of residents in the Harbor Hills section of North Hempstead, this good-looking pool and bath house development was financed by taxing that section of the community. Over 200 families are eligible to use the facility. The open plan with units widely dispersed adds attractiveness to the scheme, located on Little Neck Bay, Long Island Sound.

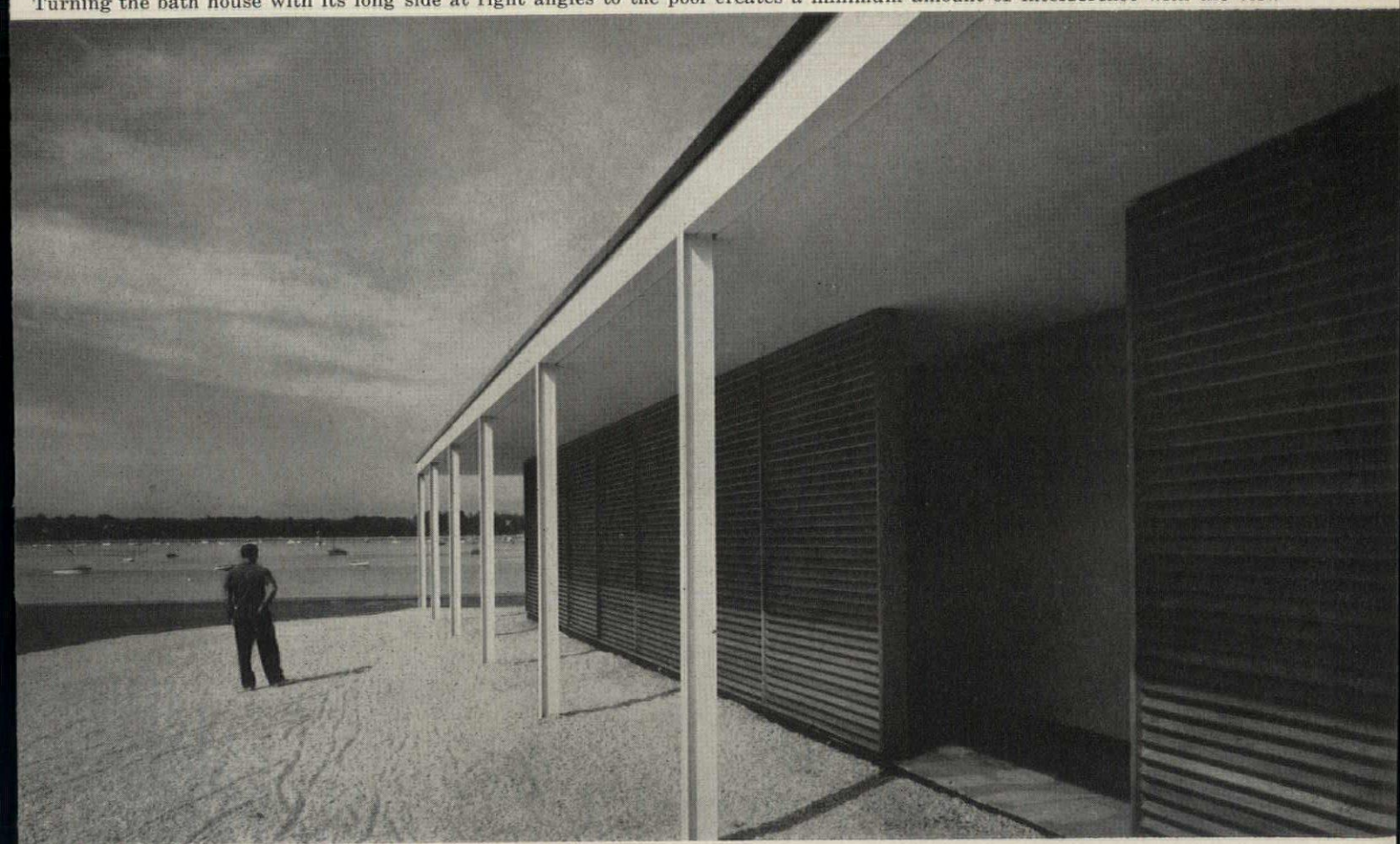
The structural steel frame of the bath house is painted white; the louvered panels are of cypress, stained dark; the building's core is painted blue to match the pool walls and floor; the ceiling is waterproof plywood. The water supply for the underwater-lighted pool comes from city mains and is here filtered and recirculated.

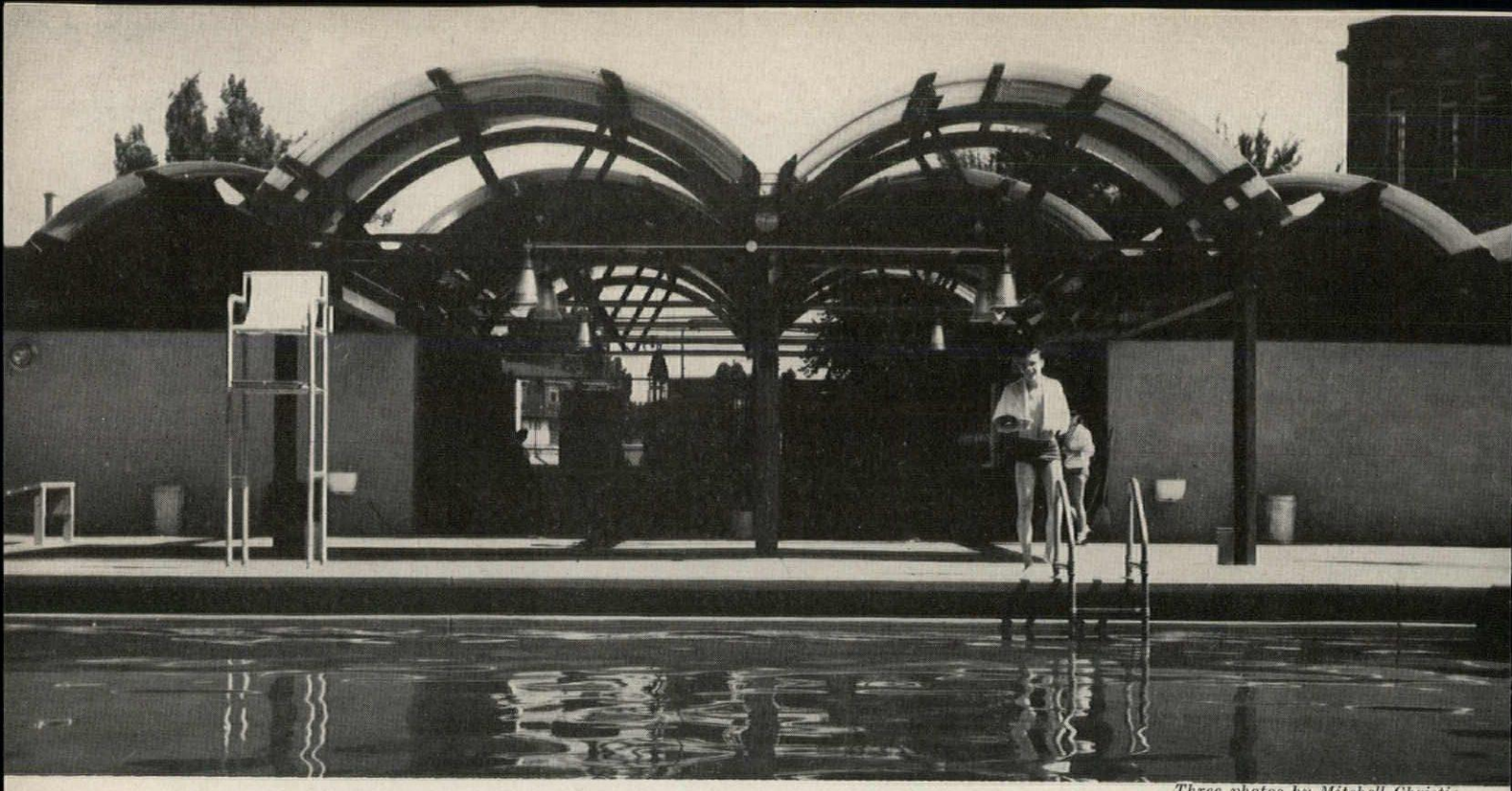
All photos by Ben Schnall





Turning the bath house with its long side at right angles to the pool creates a minimum amount of interference with the view





Three photos by Mitchell Christie

Having To Do With Swimming:

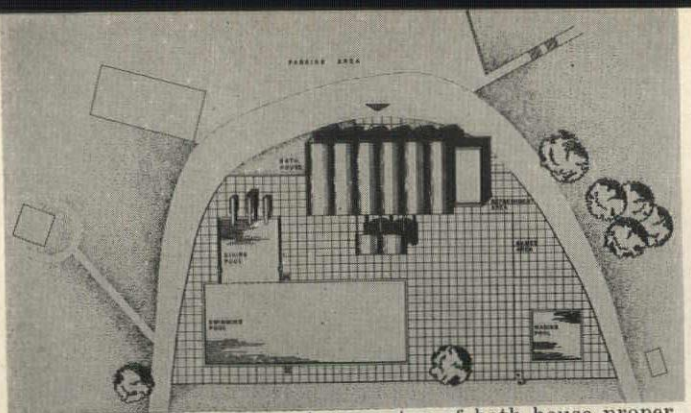
Community Pool And Bath House For A Small City

Municipal Pool, St. Bernard, Ohio

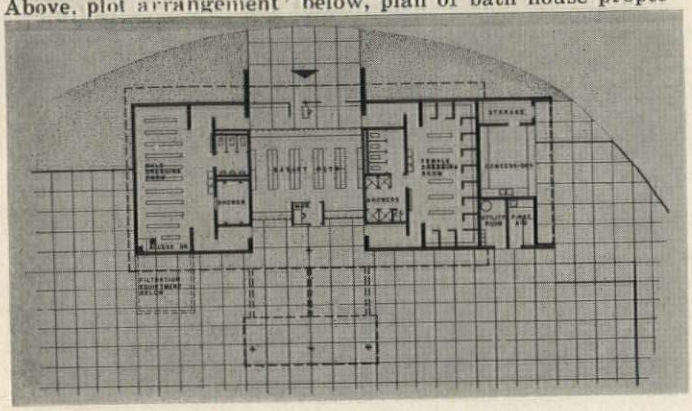
Charles Burchard, Architect
A. M. Kinney, Consulting Engineers
Dawson-Evans Construction Co., General Contractors

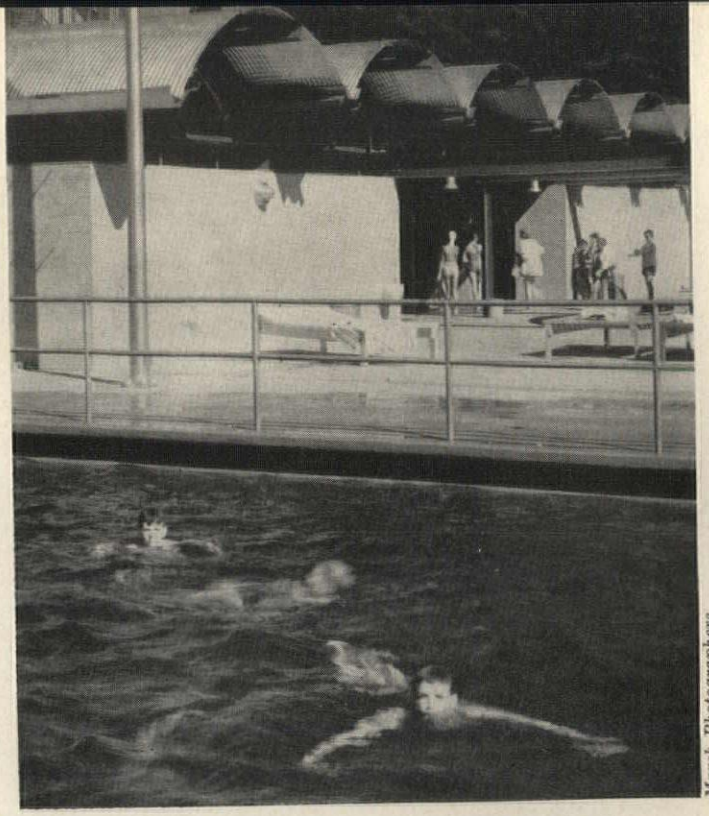
Set in an existing public park which is centrally located and reached either by public or private transportation, this gaily colored bath house and pool add a festive note to their Ohio community. The venture —a paying proposition—has become a center of summer activities, possessing the good architectural grace to seem at home in its park.

The flowing movement of the curved, aluminum arched roof contrasts effectively with the lengthy enclosing wall planes below. The result is a pleasing expression suitable to function. The corrugated arches are natural aluminum; the supporting steel is painted light blue and the block walls a soft orange; the pool walls and floor are a deeper blue; the paving is of natural concrete squares.



Above, plot arrangement · below, plan of bath house proper



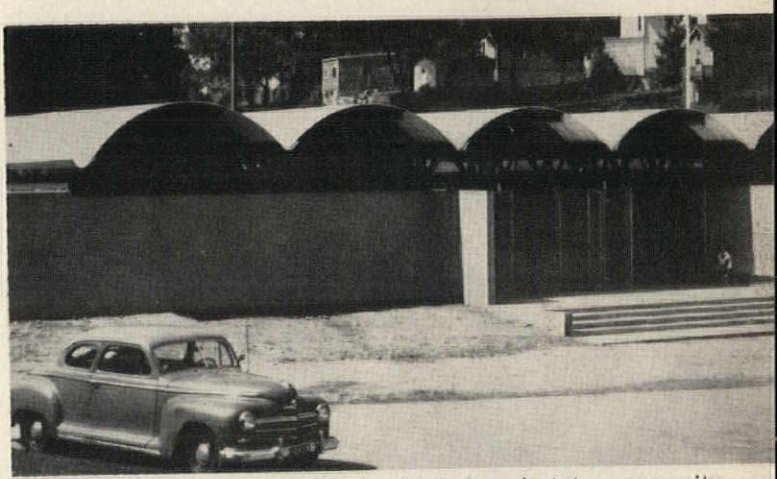


Marsh, Photographers

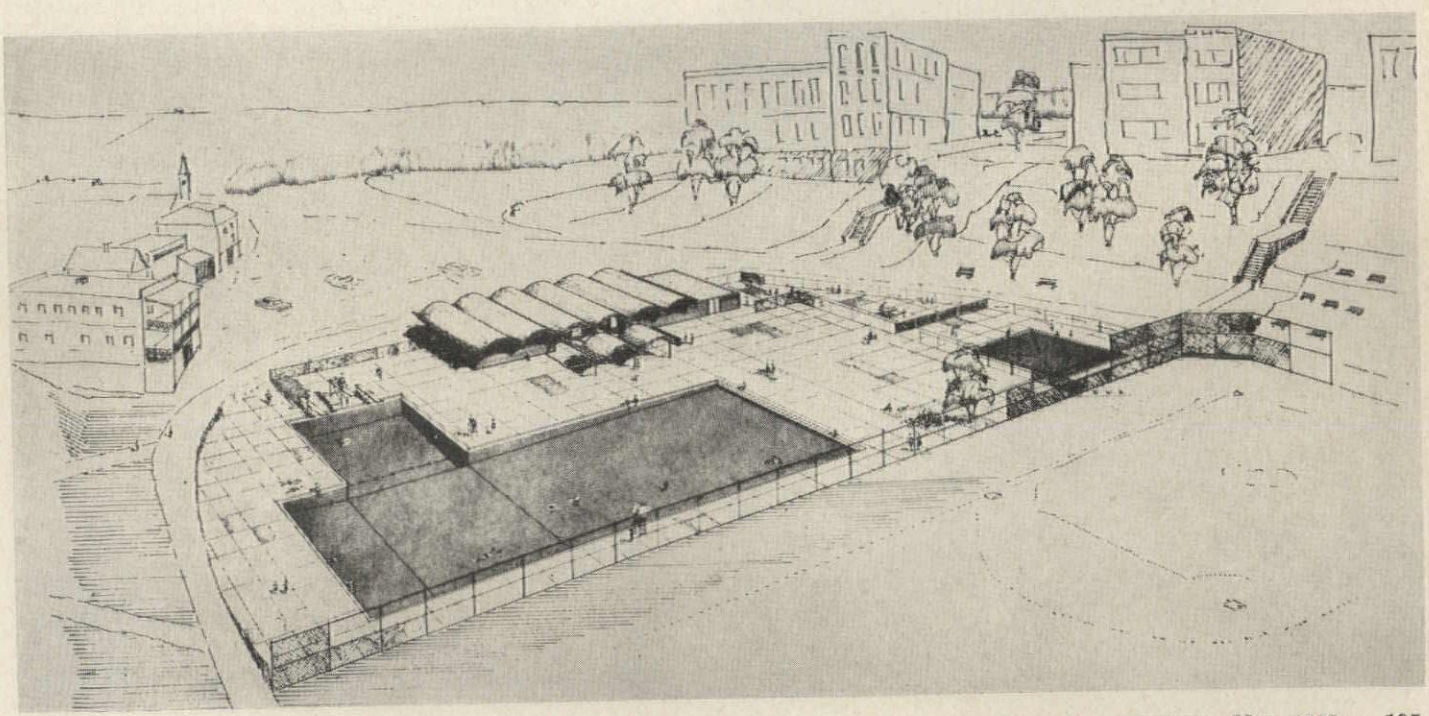
The main pool is T-shaped to separate swimmers from divers, providing greater pleasure for both. There is a separate wading pool for small children, fenced-in to prevent them from wandering into the deeper water. An extensive "beach" area is provided for sun-bathing and relaxation.

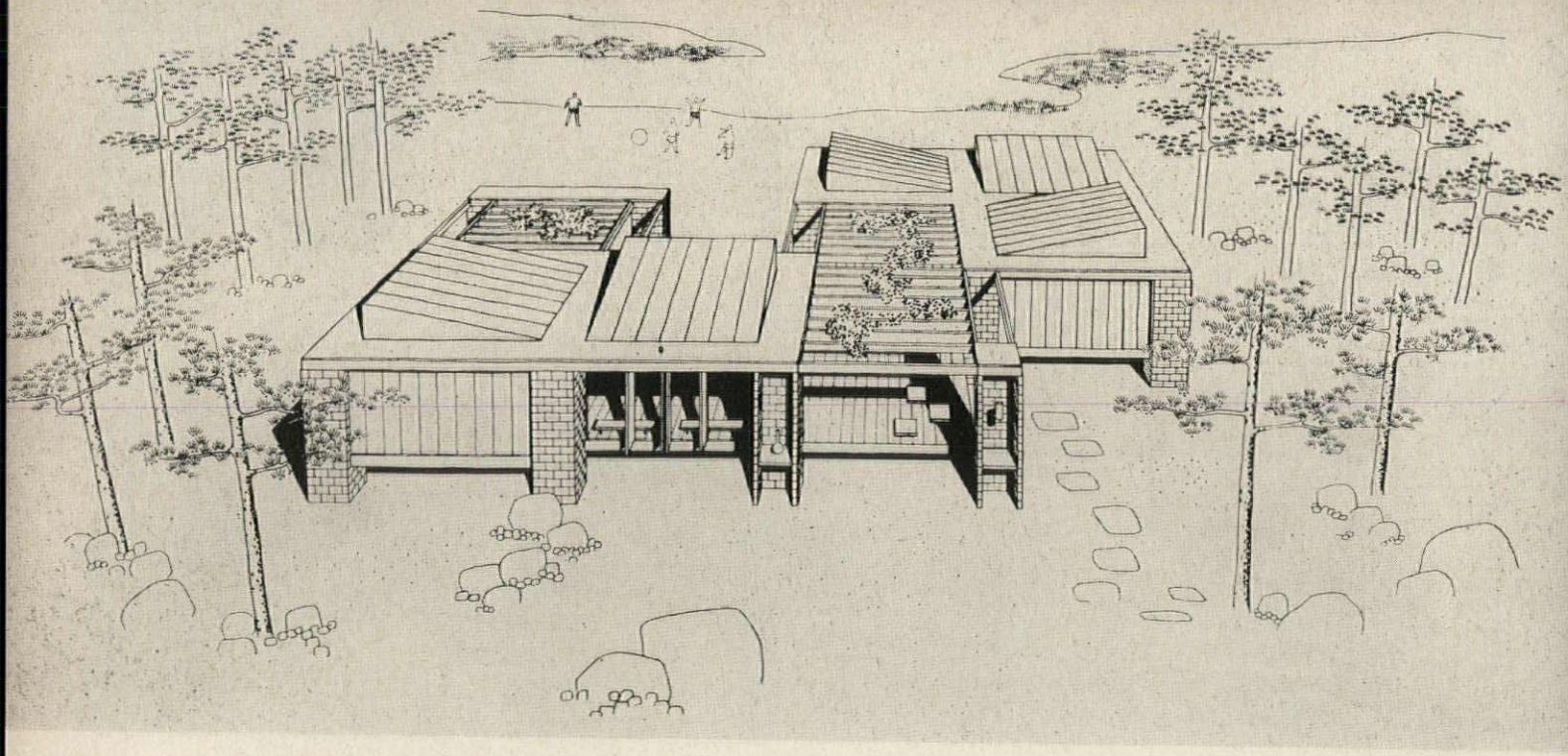
The bath house is devoted to checking, dressing rooms, toilets, showers; as well as a soft drink and luncheon concession, which can also be entered from outside the pool and serve non-swimmers using other recreational facilities nearby.

The installation provides a complete system of water supply, diatomaceous filtration, recirculation, and drainage, as well as a vacuum-cleaning apparatus for cleansing the pool.



Perspective, below, shows relationship of project to community





Having To Do With Swimming:

Design For A Beach House And Studio

By Hanford Yang

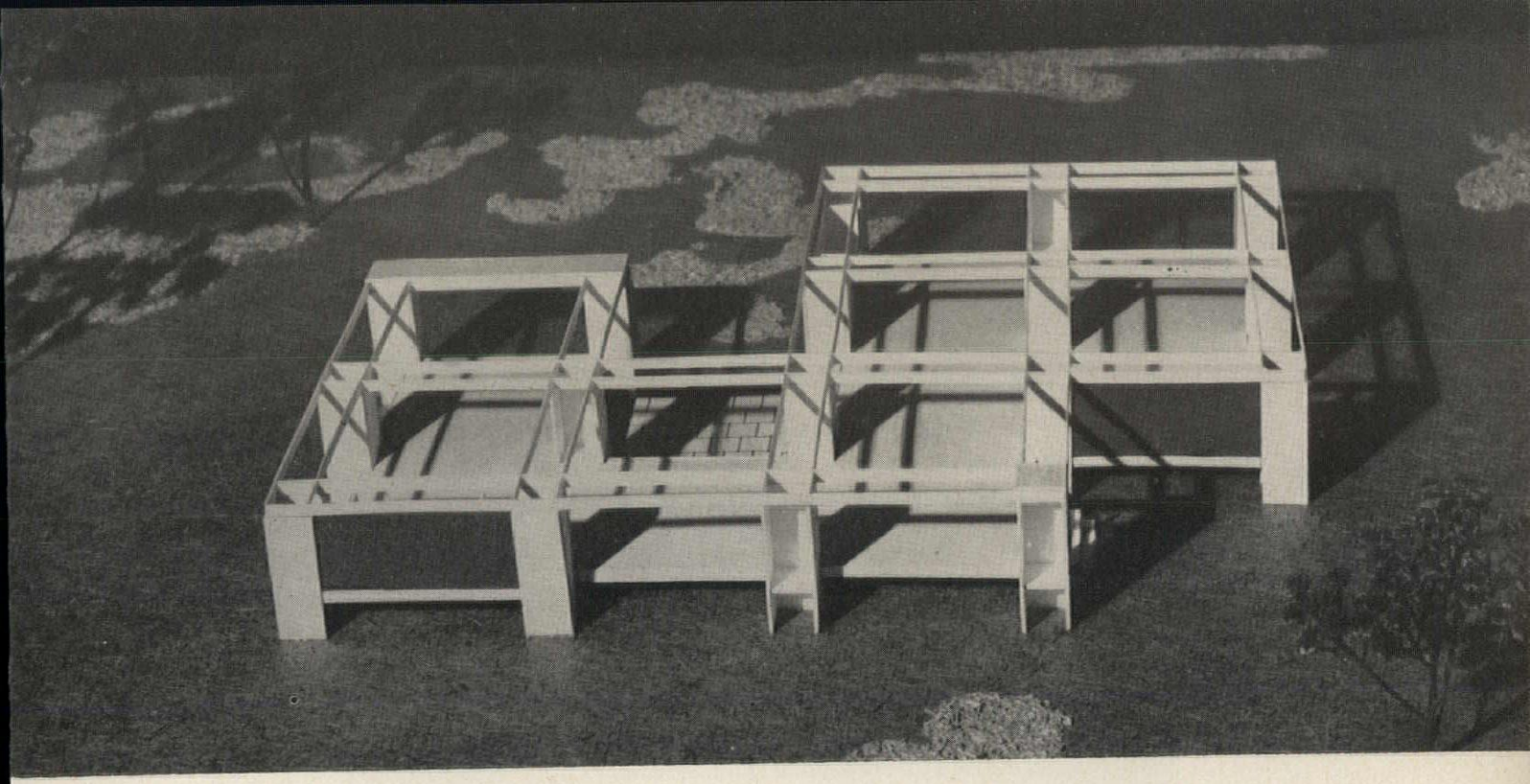
Of this unusual and ingenious indoor-outdoor scheme for the shore, Hanford Yang says, "After studying the nature of the spaces involved, it became clear that the house and studio were different kinds of things. The studio—which should be a separate structure where one can be alone to think or work or walk about or just be quiet; and the house—for living and relaxation. In the house one can read, or greet visitors, or enjoy music, or sit by the fire after a long, active day on the beach.

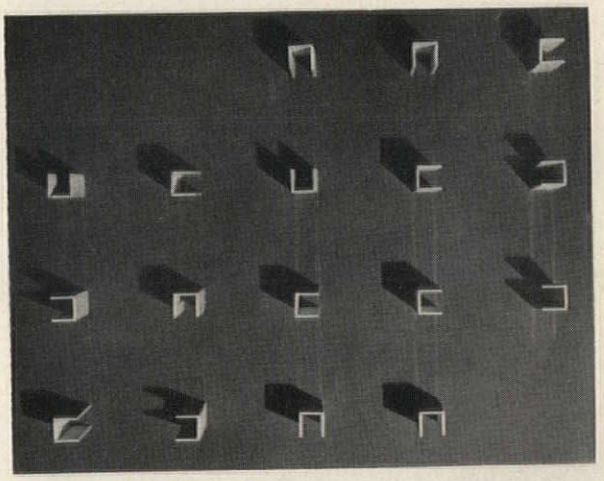
"To bring these two kinds of space together so they become one, they must share a common area—a bridge that will link them. Hence, a platform with a louvered roof was introduced as their tie. The wood louvers overhead provide a place where greens can grow, and furnish shade for the platform.

"A series of 3 ft. 8 in. by 3 ft. 8 in. U-shaped masonry piers forms the basis of the construction system. These piers are turned in various ways as the particular space demands. They not only support the roof, but become also a series of small rooms, adequate for mechanical installations such as shower, toilet, heater room, etc. In addition, they are used to enclose a fireplace, a closet, a barbecue grill, bookshelves, Hi-Fi, and indoor or outdoor storage space. These masonry piers are truly the servants of the entire scheme.

"The center portion of each roof panel, defined by four piers, is tilted up 3 ft. on one of its sides to form a series of clerestories which face in various directions to furnish the light required for the different spaces within.

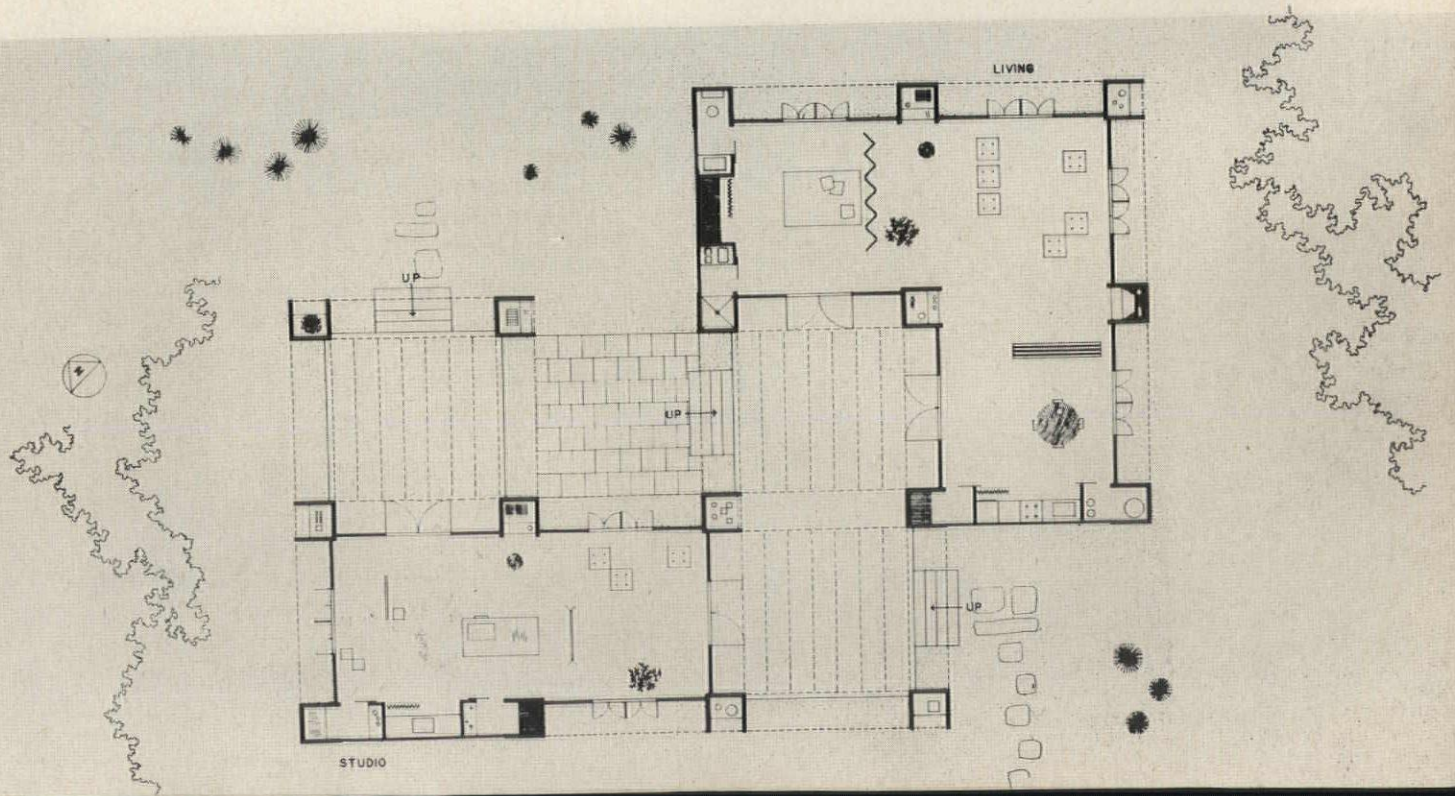
"The design for the building is primarily an attempt to create plasticity and freedom within a strongly disciplined structural order. It is a study of the play of forms in the bright sunlight of a beach."





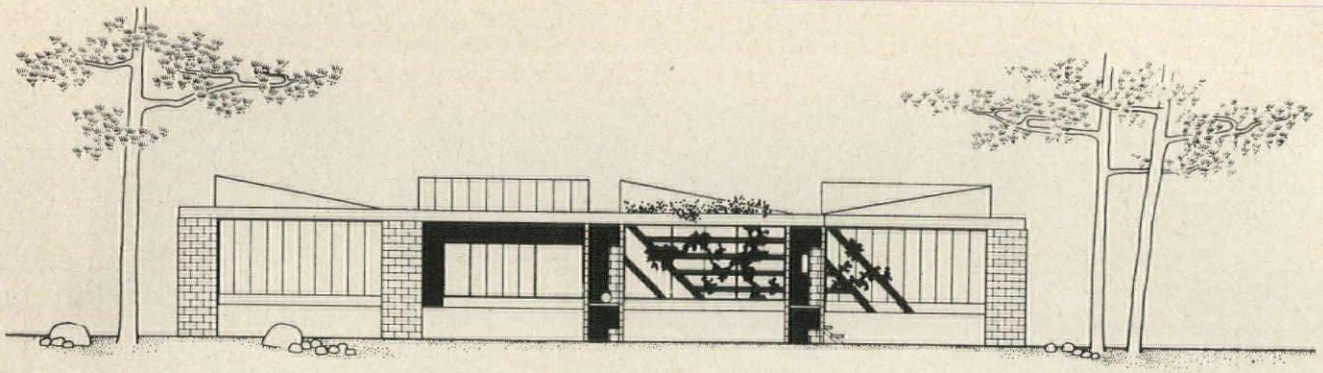
"This proposed beach house and studio has an affinity with classical Mediterranean architecture. The pleasant associations, remembered symbols and overtones thereby aroused, add immensely to the enjoyable new, which is also present. This is the great tradition of architecture."

—Paul Rudolph

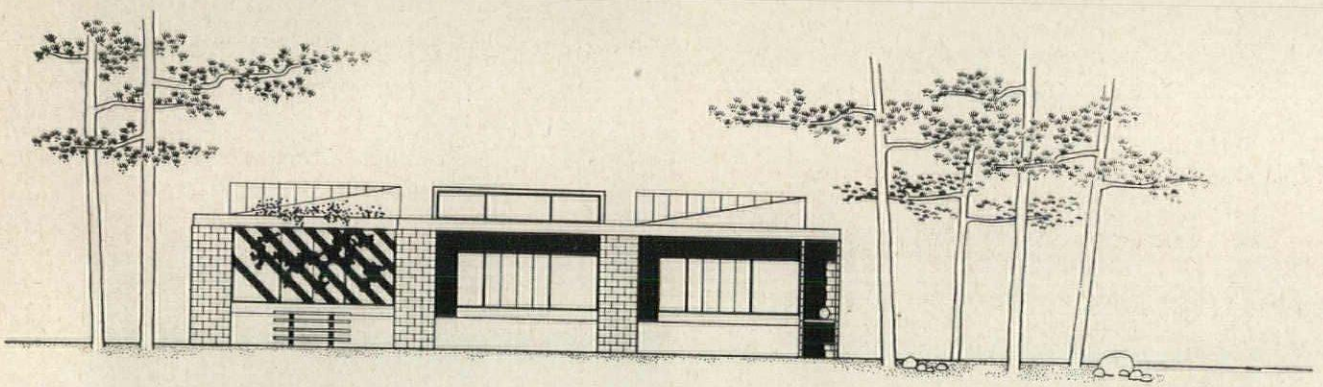


Having To Do With Swimming:

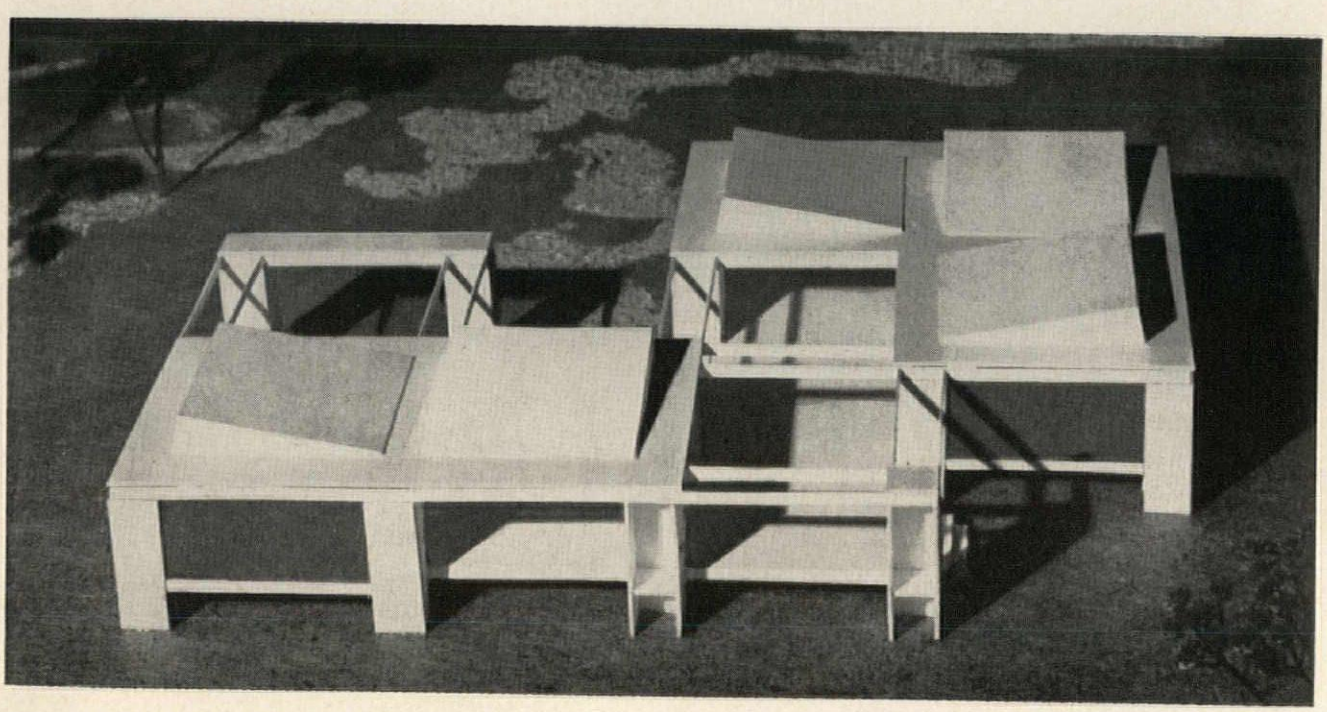
Beach House by Hanford Yang



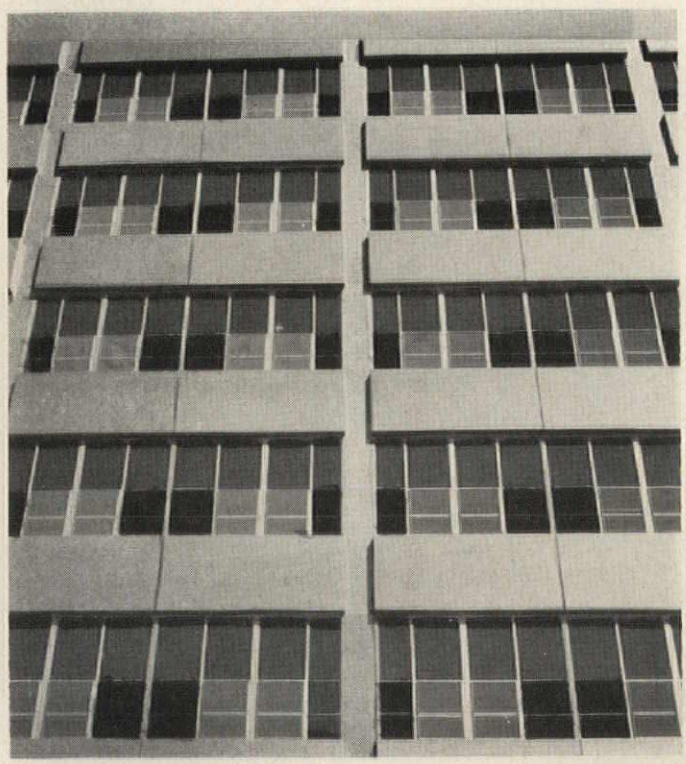
WEST



SOUTH



Robert E. Dick photos

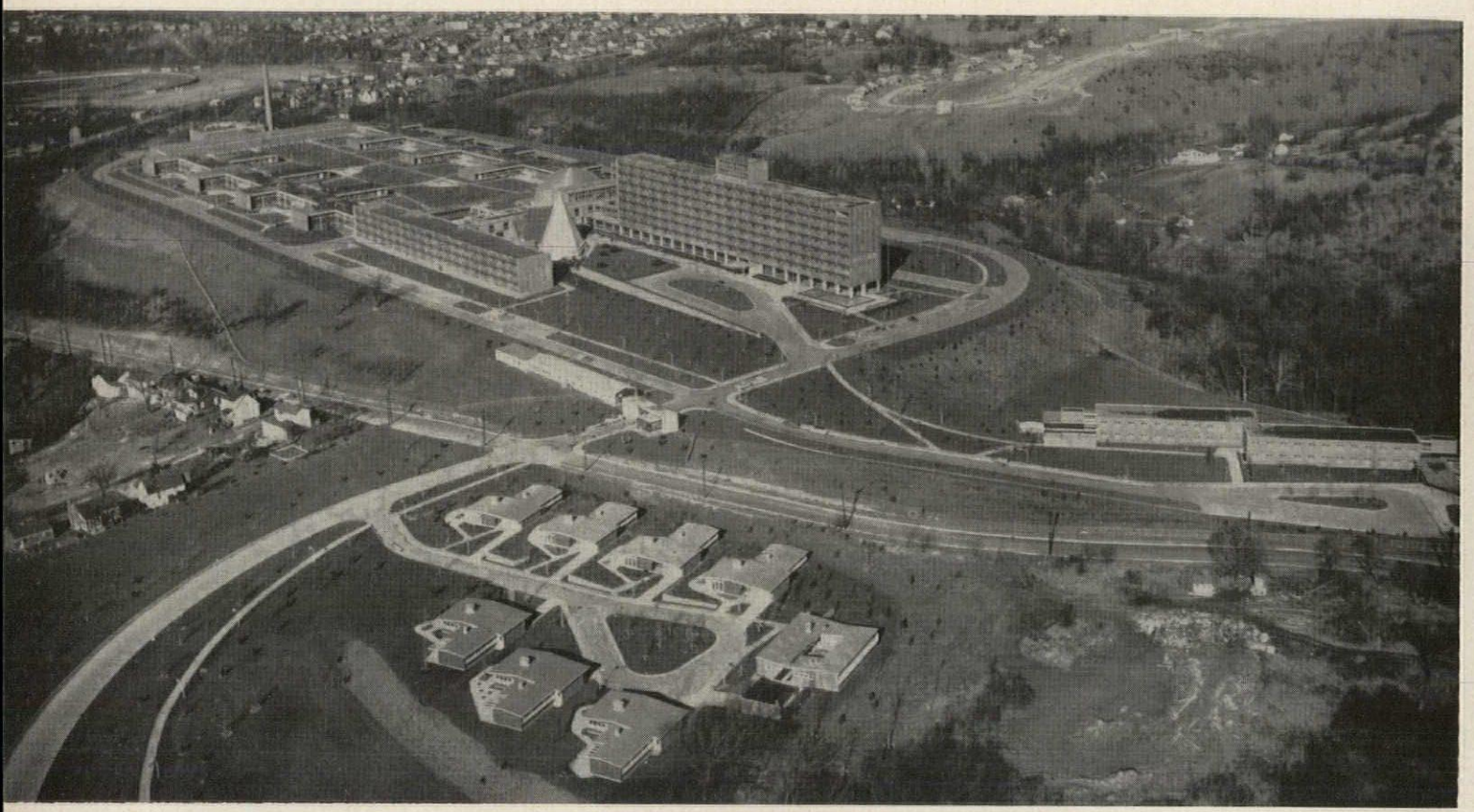


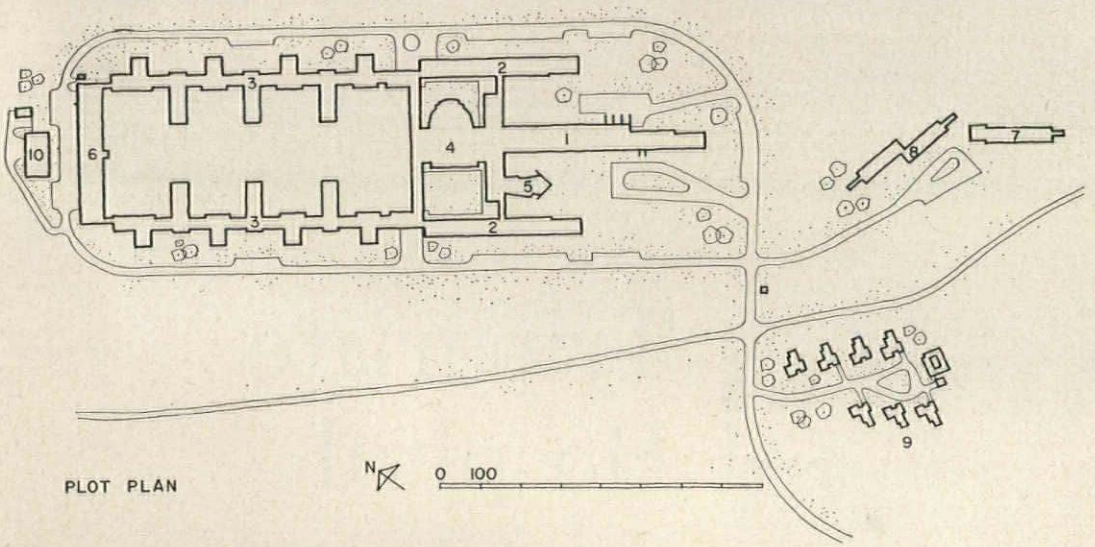
Tripartite Hospital for Chronics

John J. Kane Hospital, Pittsburgh, Pa.
Owners: Allegheny County Institution

Architects: Button and McLean — Mitchell and Ritchey

Engineers: Cook & Zern (Structural); Dzubay and Bedsole (Plumbing); Paul A. Edwards (Heating & Ventilating); E. T. Wiesman (Electrical); Simonds & Simonds (Landscape). Food Service Consultant: Howard Post. General Contractor: Sherry-Richards Company





PLOT PLAN

1. Main Hospital
2. Semi-ambulant
3. Ambulant
4. Auditorium
5. Chapel
6. Shops, Maintenance
7. Nurses
8. Attendants
9. Staff
10. Power

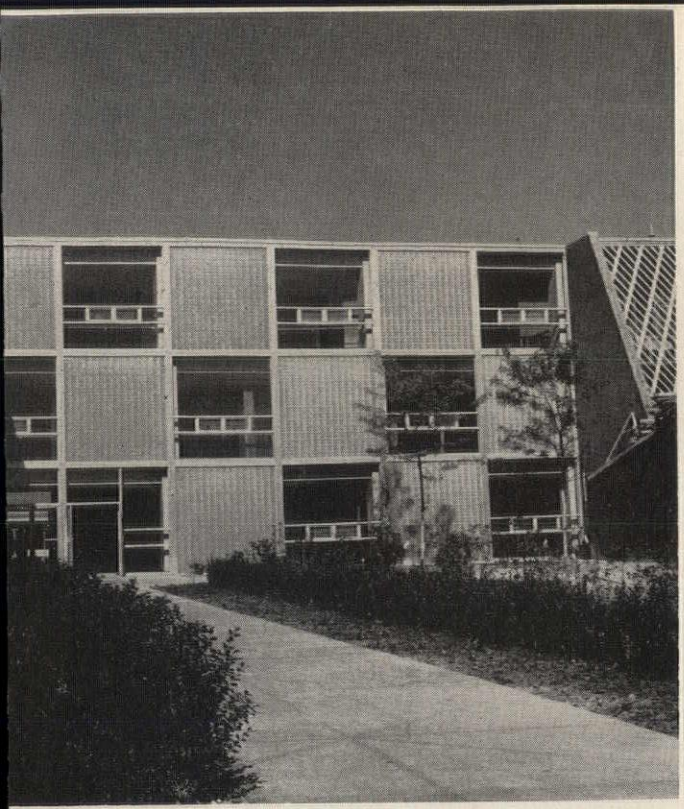
Therapeutics of Surroundings

John J. Kane Hospital

A non-institutional environment conducive to the rehabilitation of patients—the vast majority of them well advanced in years—was the goal in the design of this 2100-bed hospital eight miles from the center of Pittsburgh. Toward this end the hospital was planned as three basic units: a main building, eight stories in height, housing the non-ambulatory patients and all the usual hospital facilities; two convalescent wings of three stories each; and two rows of ambulatory dormitories facing a landscaped court.

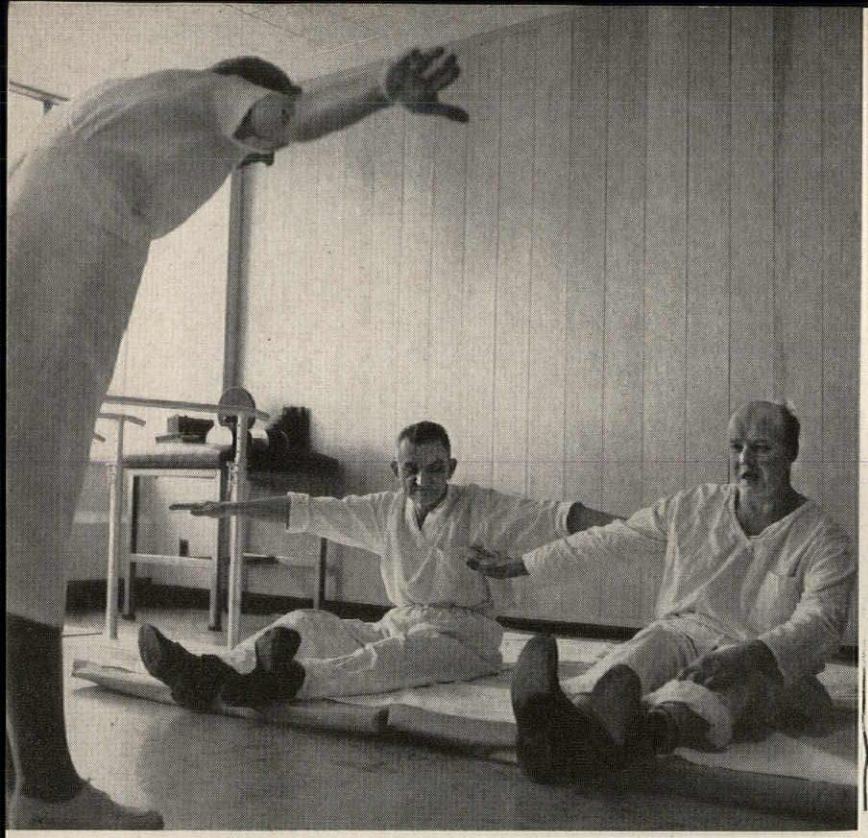
Dedicated last February, the new hospital is almost sure to be a pace-setter in the current drive for better care and increased rehabilitation of the aged. It is, happily, not even a remote cousin of the "Old Folks' Home," although an estimated 70 per cent of its patients will be medically indigent persons over 65. Its physical structure, the services it supplies, and its health-stimulating routines are the result of pioneering by the staff of the Woodville Institution, its predecessor, which, despite inadequate facilities, rehabilitated 80 per cent of its patients at least to the point of ambulation within the hospital, and actually returned 28 per cent to home and job.

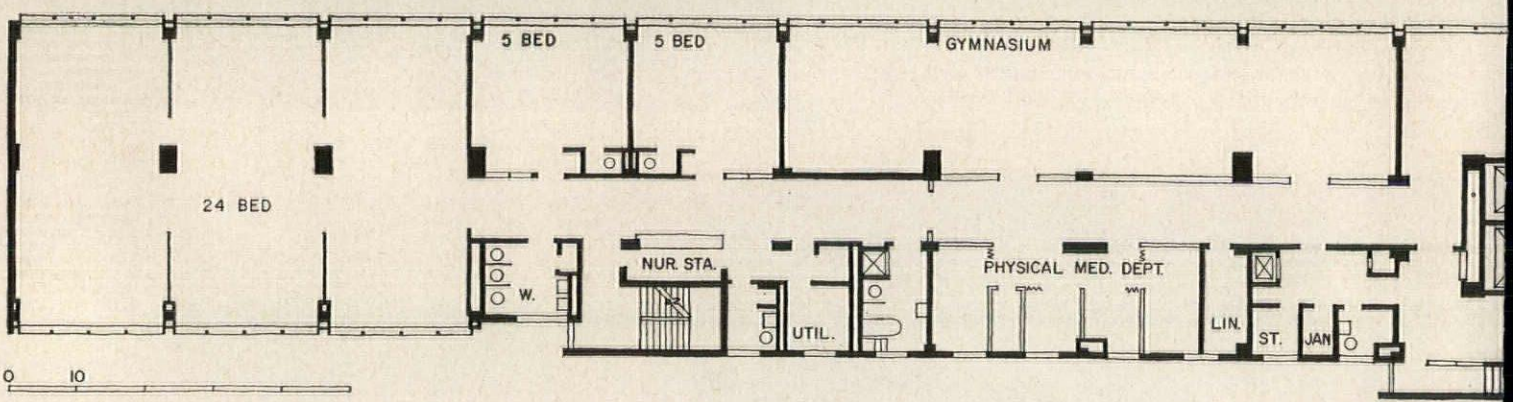
The therapeutic value of a pleasant outlook played an important role in all phases of planning and design. A hilltop site with a broad view on all sides was



Opposite page: centrally located among the buildings are a dome-shaped auditorium covered in aluminum and a pyramidal chapel with a roof of molded copper, exterior walls of green mosaic tile and windows of yellow, purple and clear glass *(photo below, right)*. Large main building is faced with molded and flat aluminum on three sides, with blue terra cotta on fourth side. Other buildings combine brick, stone, slate and glass

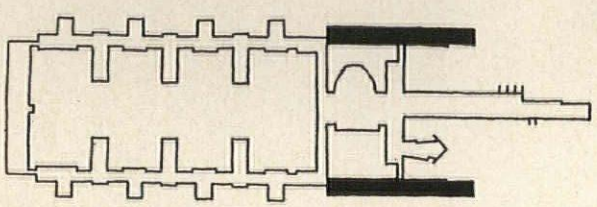
the starting point; scale, form, textures and color were used to make the buildings themselves interesting and attractive; parks, shallow pools and garden courts enrich the grounds. Glass-walled corridors and 6500 windows bring a tempting view of all this into the wards.



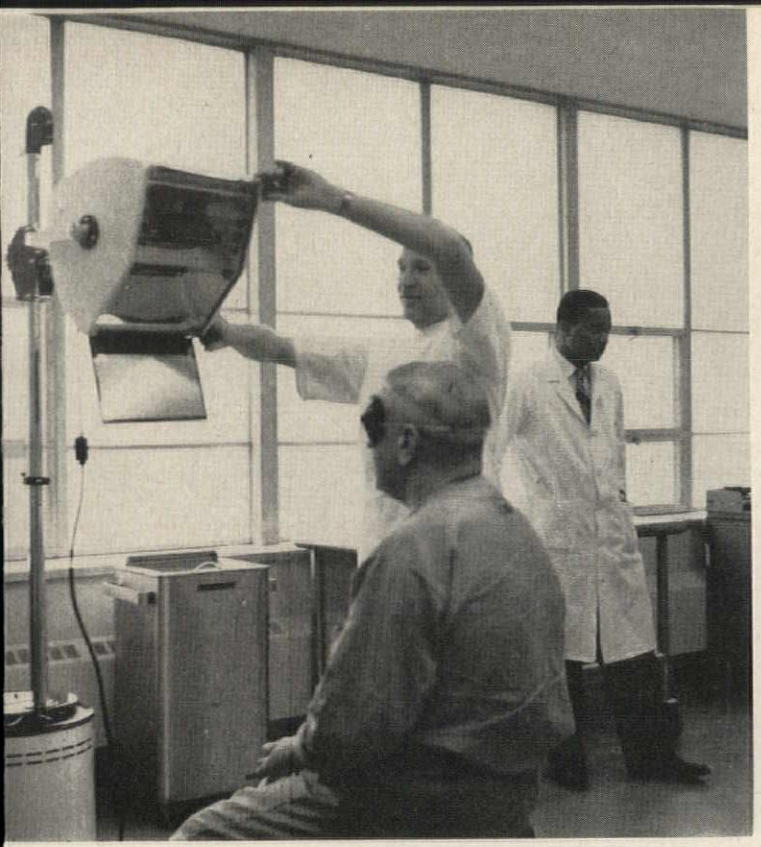


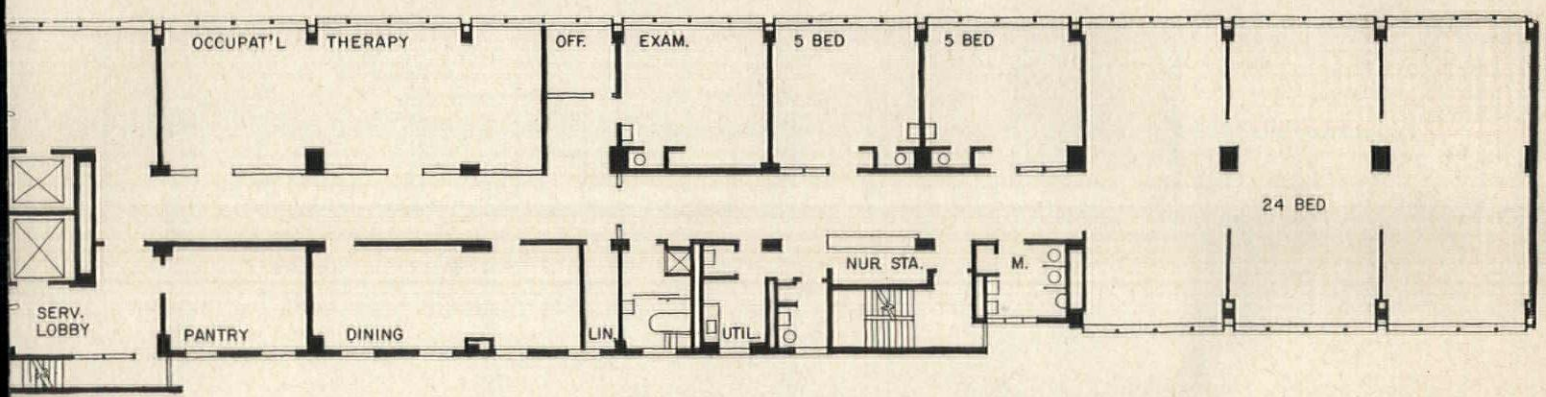
The Road Back

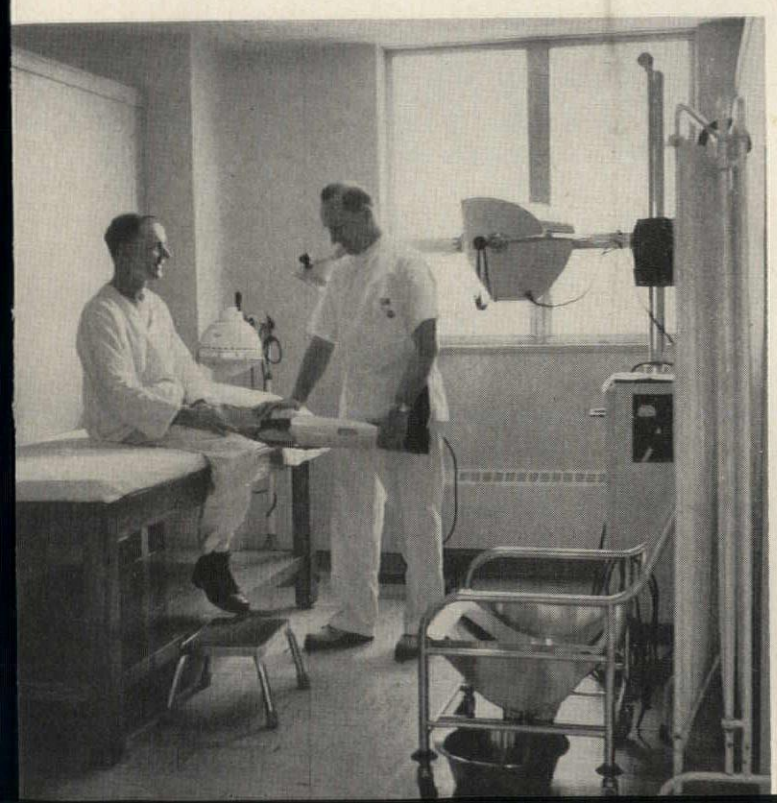
John J. Kane Hospital

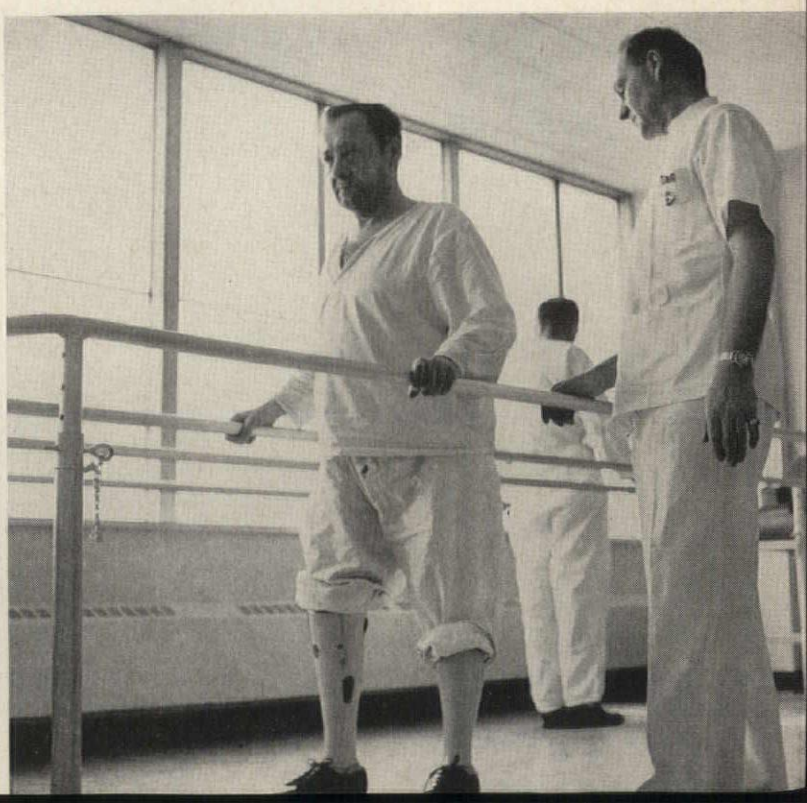


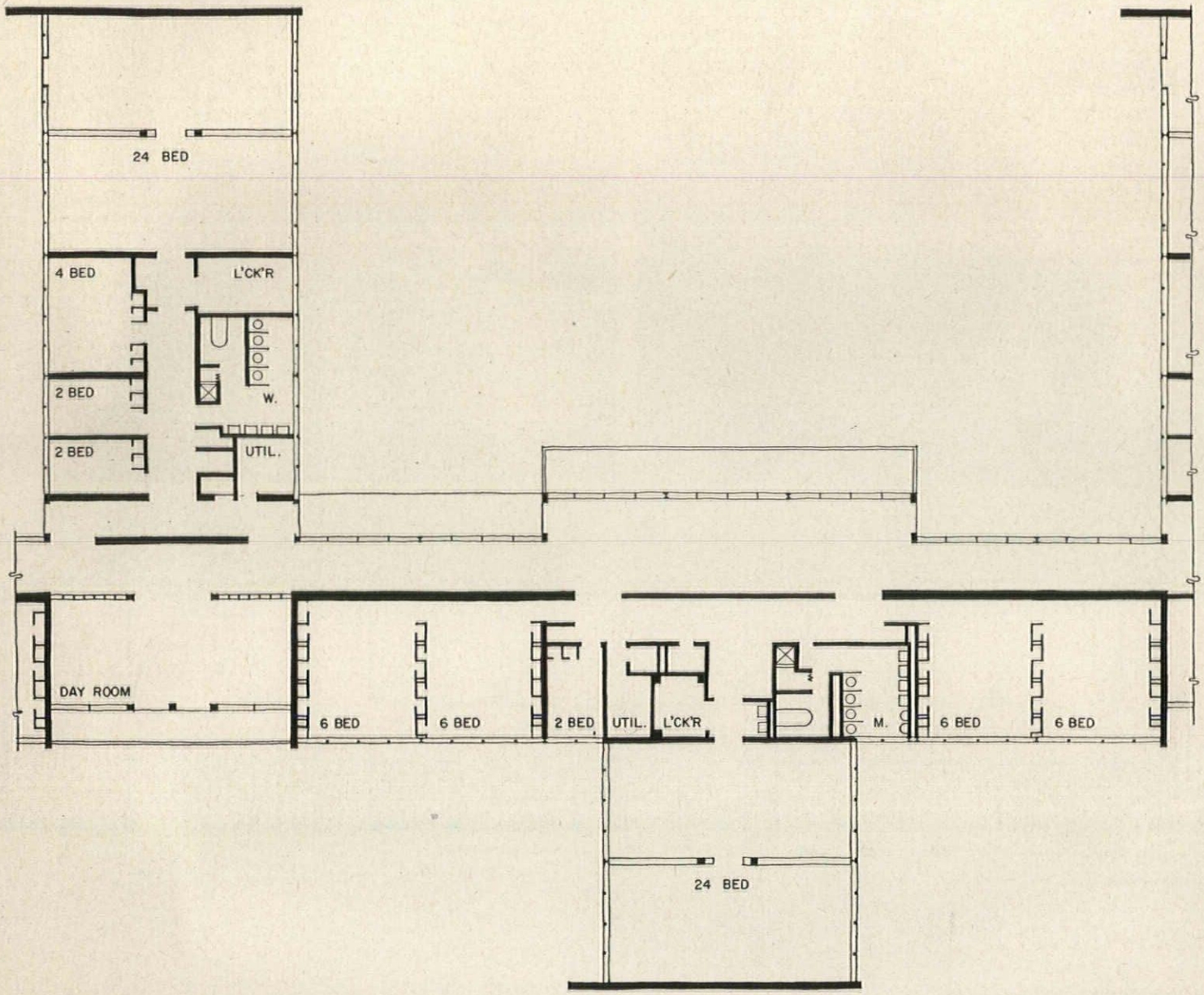
The rehabilitation department, on the fifth floor of the main building, is easily the most impressive part of the hospital. The extensive facilities represent the most advanced thinking in this field of medicine and provide all forms of treatment. The examination room contains diathermy and ultraviolet treatment equipment; the physical medicine rooms have moist air equipment to increase circulation, whirlpool baths, ultraviolet and infrared and ultrasound equipment. The main rehabilitation area (gymnasium) has tilt-tables, exer-cycles, parallel bars, exercise mats, steps, and walkers and eventually also will include shoulder wheels and ladders. In the occupational therapy area patients will have their choice of wood working tools, sewing materials, etc., and will be encouraged to use them constructively. The dining room serves a dual purpose: rehabilitation patients not only are given their meals there but at the same time are taught table manners and exercise their fingers, hands and arms; they also are urged to walk to the diningroom.




OCCUPAT'L THERAPY
OFF.
EXAM.
5 BED
5 BED
24 BED
SERV. LOBBY
PANTRY
DINING
LIN.
UTIL.
NUR. STA.
M.

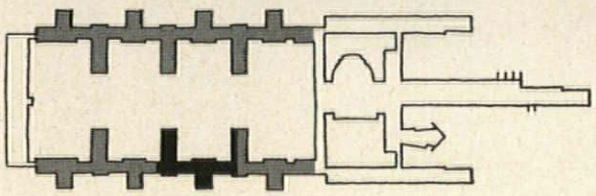






Attractive Wards

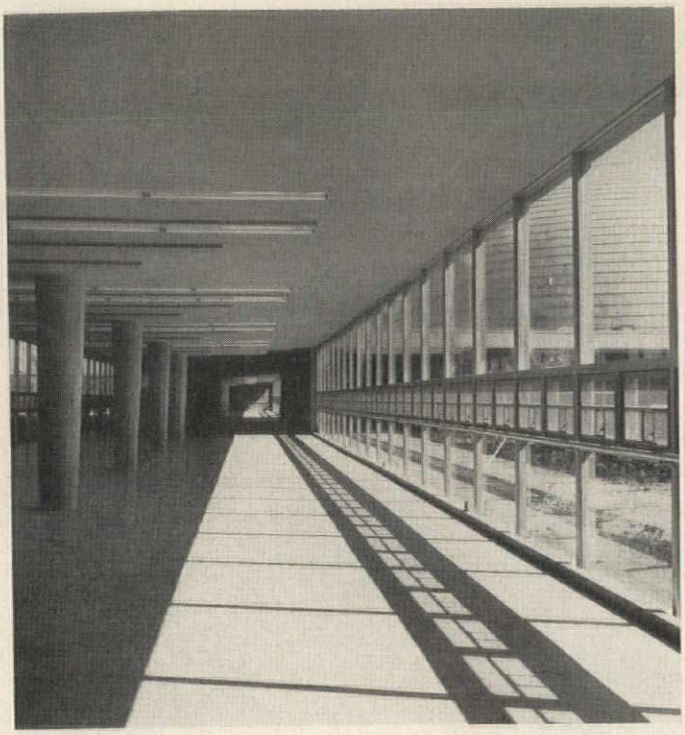
John J. Kane Hospital

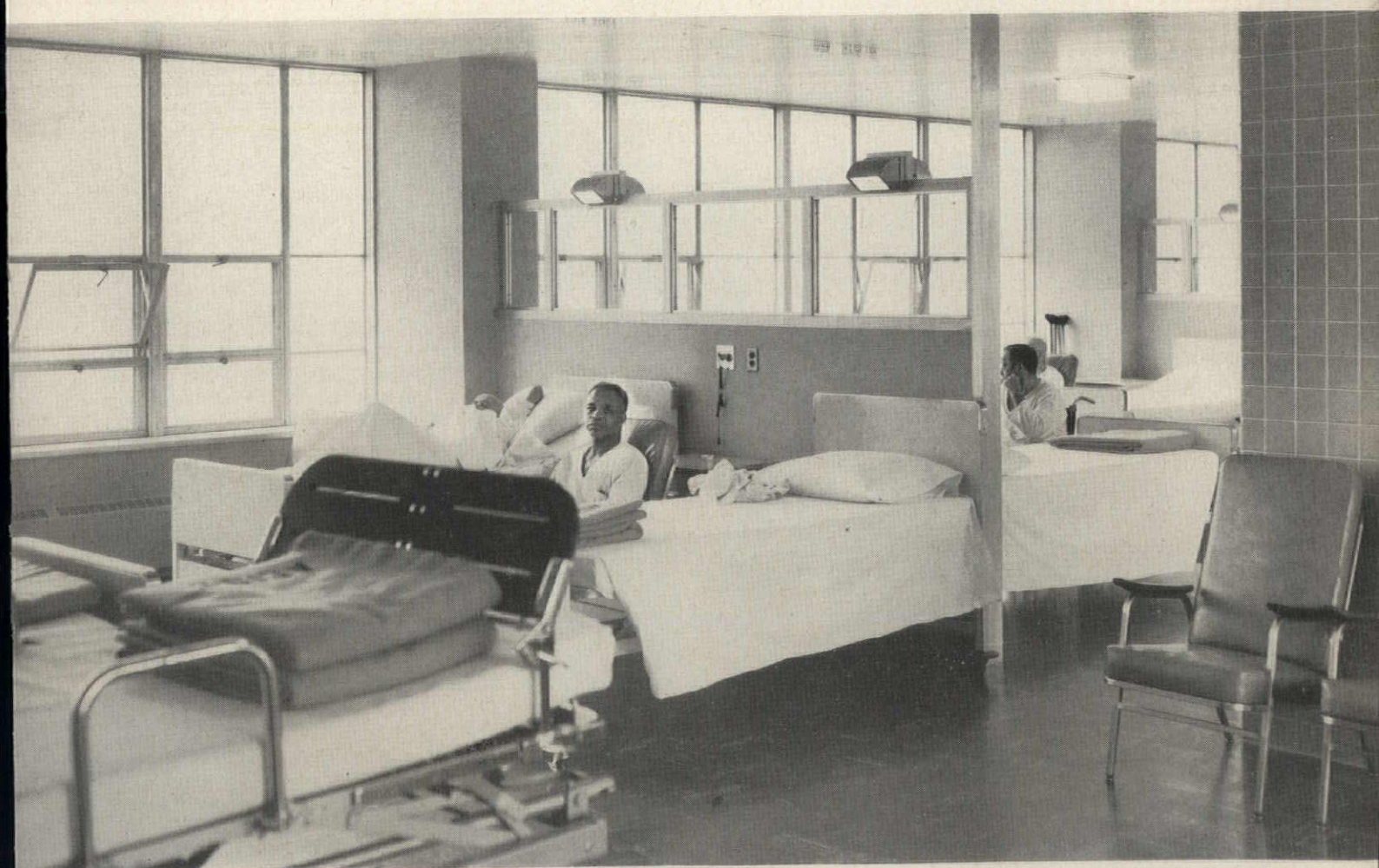


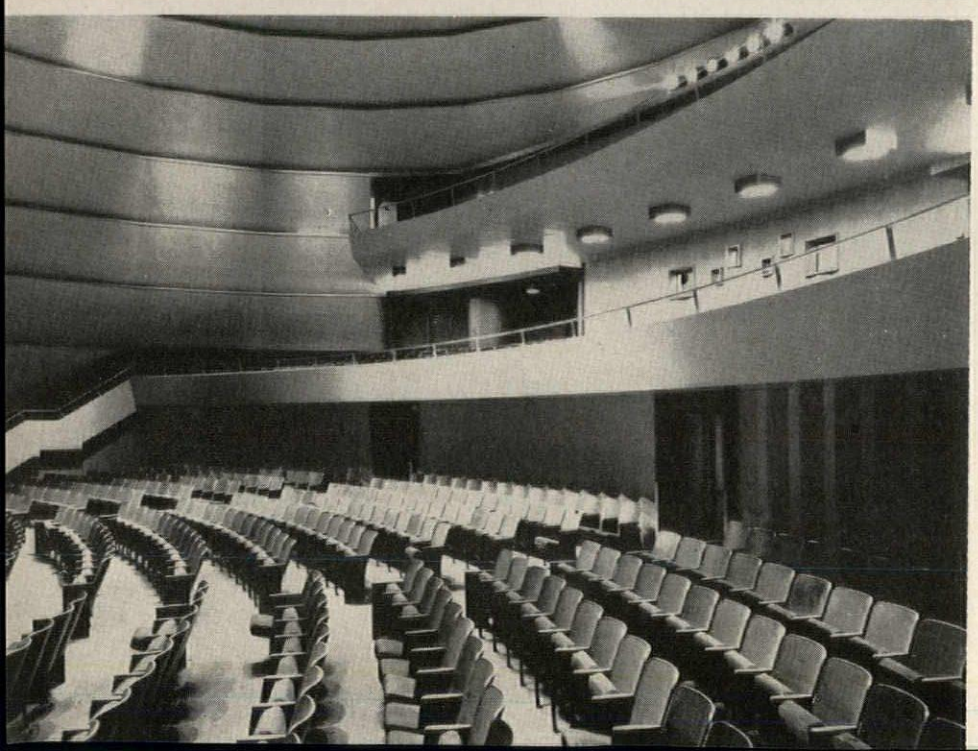
The general wards for the ambulatory and semi-ambulatory patients are designed to give a feeling of privacy. Individual closets, private bed lights and color schemes do much to eliminate what the architects refer to as the "institutional curse."

A color consultant was retained for 14 months to work out the color schemes. Basic therapeutic colors are used with accents supplied by furniture, floor tile and lights. Color is also used as a direction system: patients who might wander will be able to find their way back by using the various colors as a guide.

There are day rooms and solariums handy to all wards, providing attractive places for patients to gather. Other morale-boosting facilities include a large auditorium (see page 206), an interdenominational chapel, a canteen, library, and a combination beauty and barber shop.







John J. Kane Hospital

Top: laboratories, like all other behind-the-scene facilities of the hospital, are well equipped and provide pleasant, efficient work areas for the staff. *Center:* one kitchen serves the entire hospital. Mobile steam tables, drawn by electrically operated tugs, carry meals to 17 widely-separated serving pantries where trays are readied. In an emergency, kitchen could supply subsistence meals to over 10,000 persons a day. *Bottom:* circular auditorium has 100-ft diameter, is formed of overlapping aluminum plates in bee-hive pattern, seats 750. Third balcony is seatless to permit wheel chair and bed patients to be brought in

OLYMPIC ARENA

Rome, Italy, for the 17th Olympiad, 1960

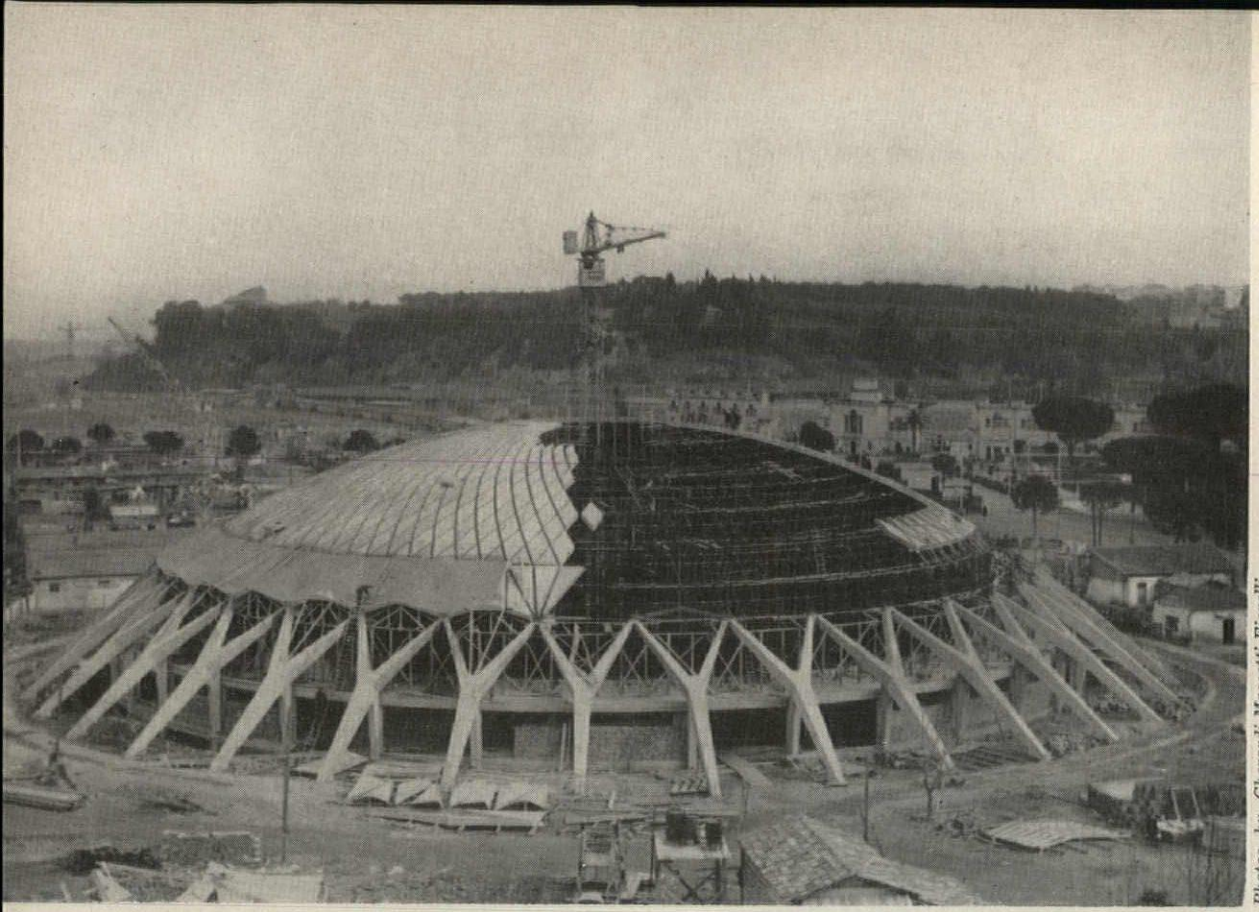
In this domed Palazzetto dello Sport, concrete has been shaped by Nervi to speak eloquently of structure, of craftsmanship, and of its own nature as a material. The 194-ft dome—actually designed as a ribbed membrane—seems to rest very lightly on its 36 Y-shaped supporting trestles; and this airy quality is furthered—both inside and out—by the continuous band of glazing at its support points. The interior effect is strongly enhanced by the lacy elegance of the rib pattern, which is both structural and decorative.

The circular inner hall, 192 ft in diameter, will seat 5000 for boxing and wrestling, or 4000 for tennis and basketball. The dome's apex rises 70 ft above the playing surface, which lies 10 ft below the plane of the surrounding grade level. The perimetral ring is devoted to ancillary facilities and living quarters for the caretaker.

The dome was built of 1620 precast, reinforced concrete coffers, which were formed in very accurately made and precisely finished cement molds. During construction, the coffers were supported on a series of annular rings while their connecting ribs and the 1¼-in. membrane were poured in place. With insulation and roofing added, the thickness of the dome comes to 4¾ in. The protected central eye contains the PA speakers as well as units for ventilation and floodlighting.

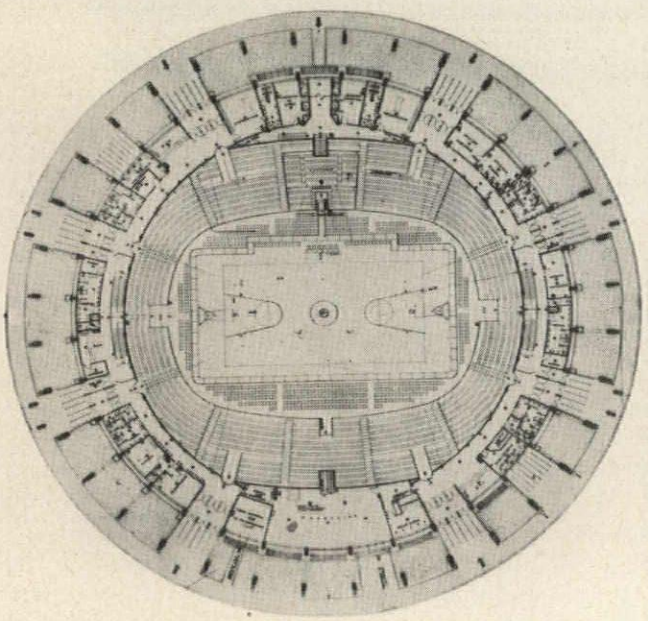
The gracefully tapered Y-trestles—tangent to the curve of the dome—carry the stresses axially downward to a substructure consisting of a prestressed compression ring 276 ft in diameter and 8 ft wide. Such a construction not only provides great rigidity, but also reduces the bearing pressure on the earth—in this case to 820 lb per sq ft.

The arena was built economically, its cost totaling $8.25 per sq ft. Surrounding elements such as passageways, gardens, outside illumination, and approaches were provided by the city of Rome. *Annibale Vitellozzi, Architect; Pier Luigi Nervi, Engineer.*



Photos by Gherardi-Mascetti-Fiorelli

The 1620 precast coffers were supported on annular rings while the membrane and ribs were poured



The elegantly patterned dome appears to float due to the continuous ring of glazing at is support points

Amphitheaters

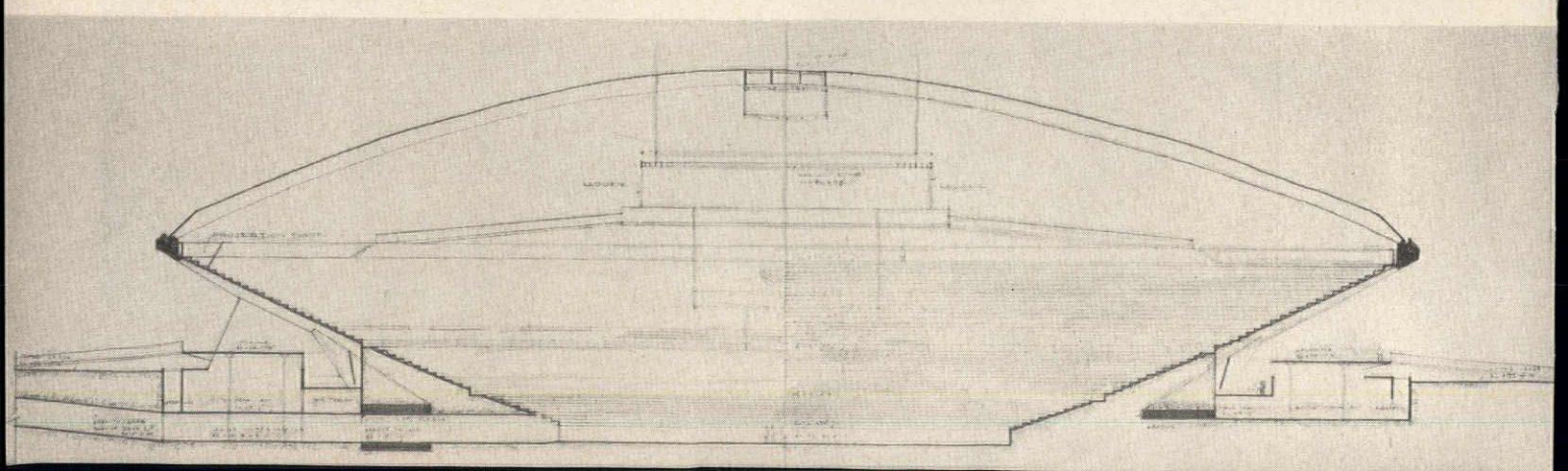
COLLEGE ARENA

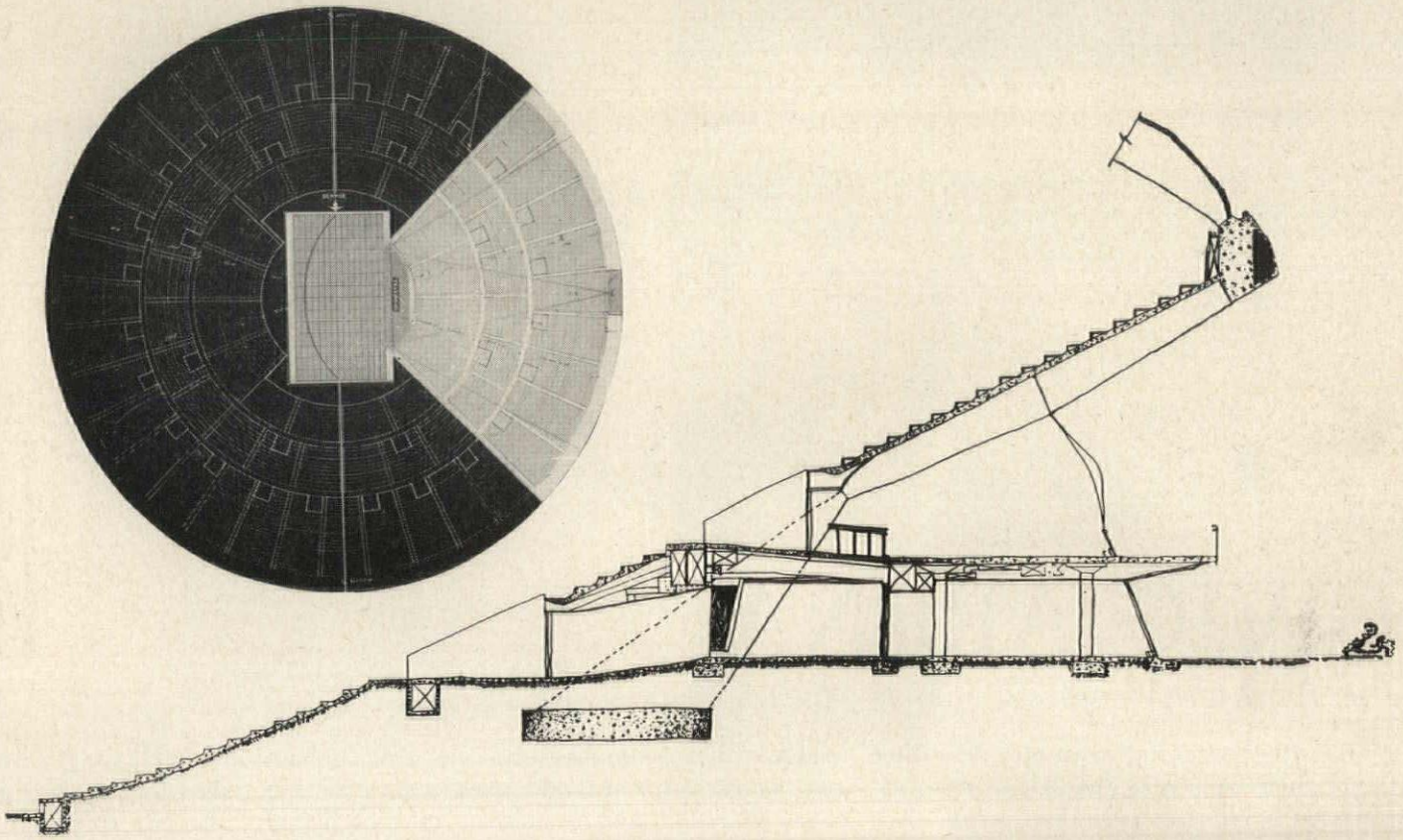
Assembly Hall, University of Illinois, Champaign-Urbana, Ill.

This interesting and versatile structure—designed to seat 20,000 for speeches, 18,000 for basketball, or 4000 for theatrical performances—is ingeniously planned to provide accommodations for a variety of activities. It will contain a 50 by 90 gridiron suspended 85 ft above the floor, fully equipped to fly scenery. The stage house for the performing arts will be enclosed by hangings, as will the quarter-circle seating segment for such events.

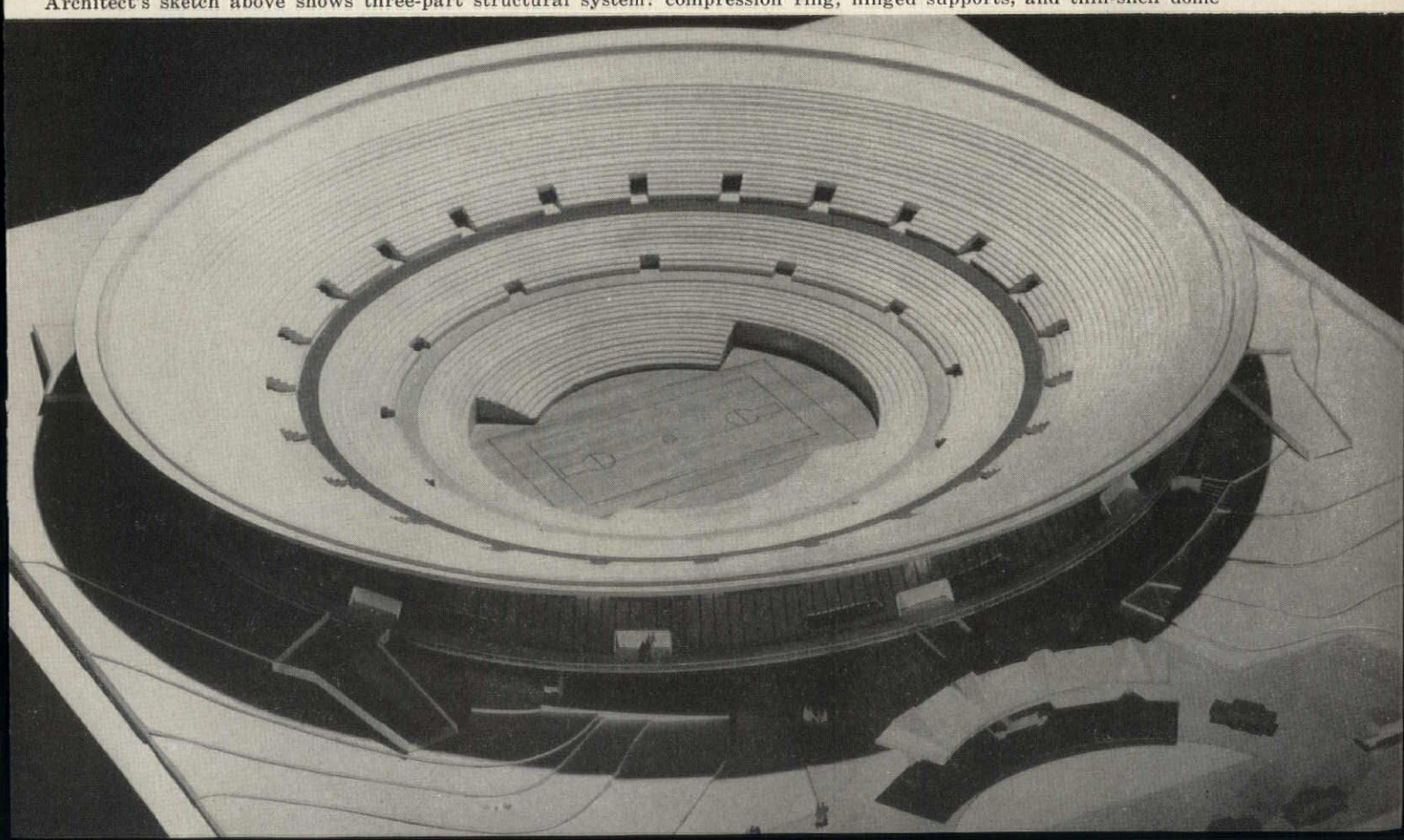
The structure is a 400-ft ribbed concrete saucer, half buried in the earth for easy access to the seating mid-point and the great glazed exposition ring and lobby surrounding it. The saucer's outer edge is a prestressed compression ring designed to carry the stresses from the folded thin-shell dome above. Insulation board will be used as form liner for the dome, which will be plastic coated for weather protection. The architects and manufacturers are working together on a special design for bucket seats of laminated plastic reinforced by glass fibers, which could be made in any color.

Harrison & Abramovitz, Architects; Amman & Whitney, Structural Engineers; Syska & Hennessy, Mechanical-Electrical Engineers. Consultants: Bolt, Beranek & Newman, Acoustical; Ben Schlanger, Seating. Ernest Stouffer, University Architect.

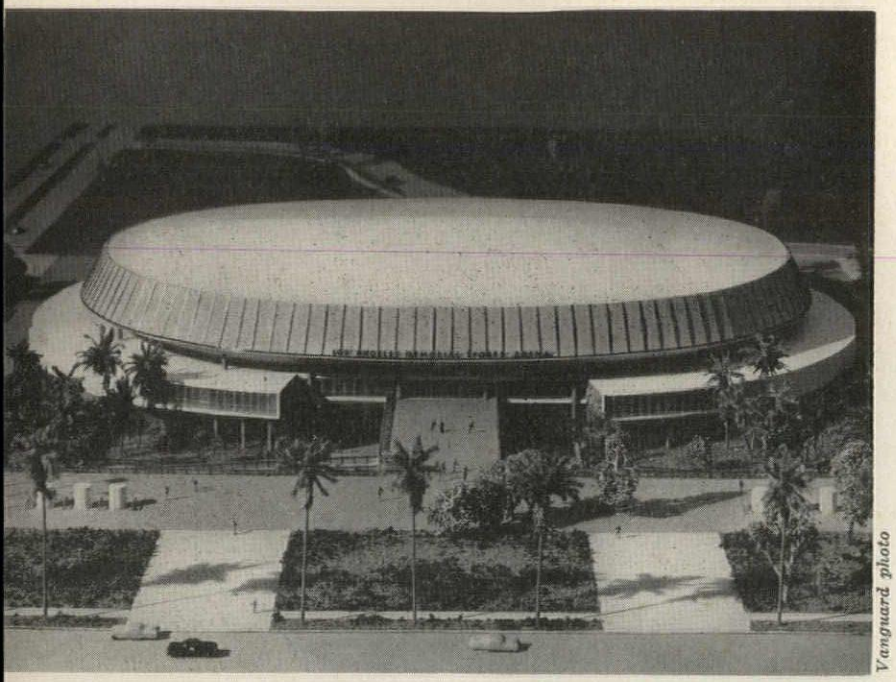




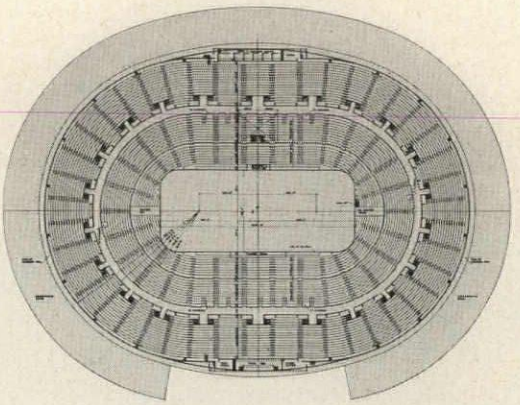
Architect's sketch above shows three-part structural system: compression ring, hinged supports, and thin-shell dome



Amphitheaters



Vanguard photo



CIVIC ARENA

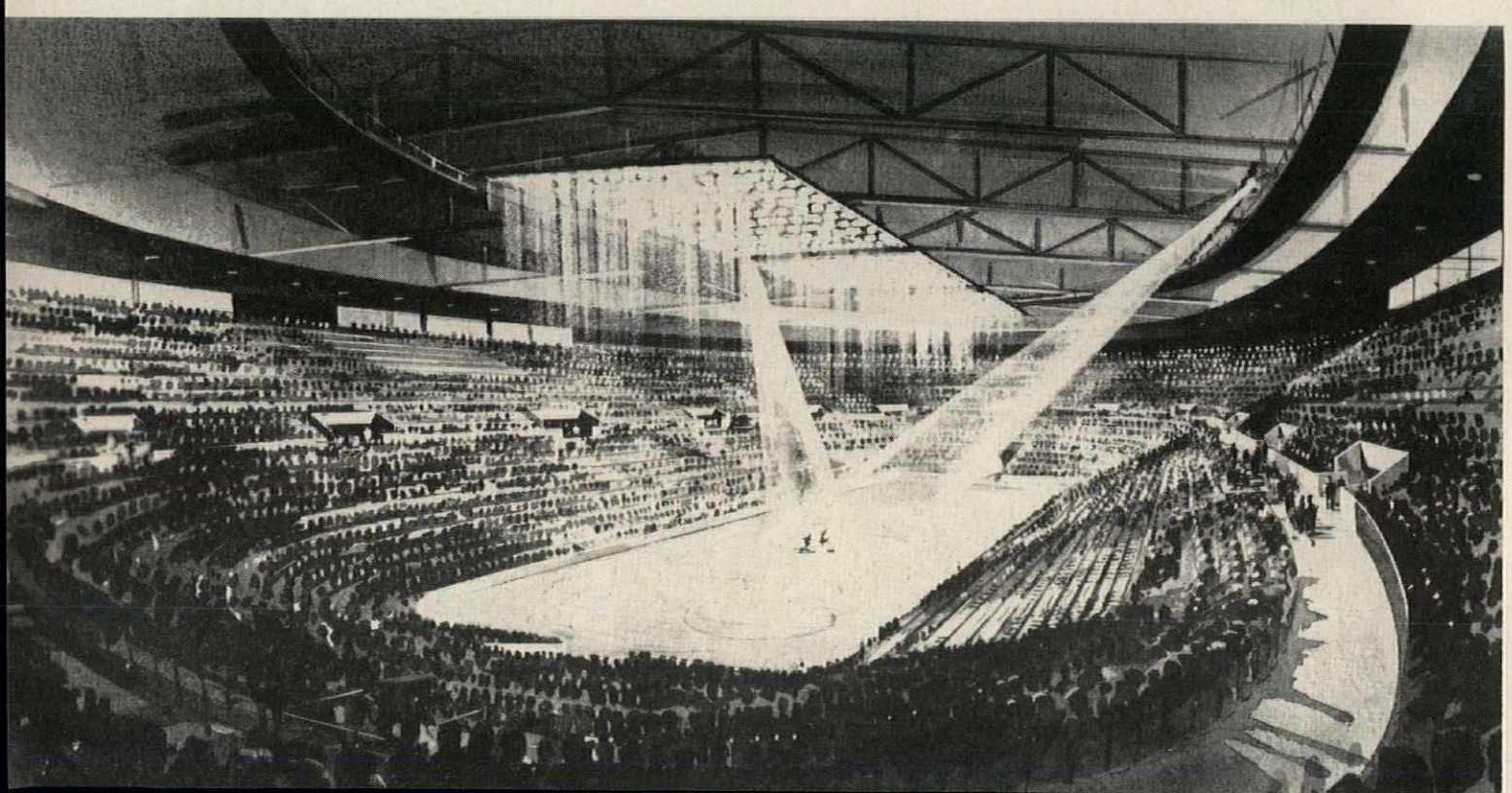
Los Angeles Memorial Sports Arena, Exposition Park, L.A.

Unlike the preceding examples, this huge arena will be framed in steel; the 318,000 sq ft area being spanned by trusses and thus completely free of columns. Bids for the structure, recently received, were well under the budget and construction is proceeding. The inner hall will seat 30,000 for conventions, 19,000 for boxing, 18,000 for basketball.

The lower level will serve the necessary ancillary functions and will be reached by ramps from a sunken forecourt. It is planned to landscape the forecourt so it may be used for outdoor displays. Access to the arena area proper is designed so large exhibits (such as houses) may be brought directly in for expositions, etc.

The entire building will be air conditioned and will contain a central refrigeration and heating plant. For hockey contests, there will be a permanent ice rink, 85 by 200 ft in size.

Welton Becket & Associates, Architects; Brandow & Johnson, Structural Engineers.



SECONDARY SCHOOLS

BUILDING TYPES STUDY 258
®

All across the land high schools are much in the local newspapers; if a town doesn't have some squabble about a new high school it's definitely not in the swim. So this study deals with high schools—some junior, some senior; deals with issues very much in the air in local PTA meetings.

John O. Simonds, Pittsburgh landscape architect, starts off the study with a graphic presentation of the many do's and don't's about the development of the school site. While he makes his point in check list form (to save time for a busy professional audience) he is really pleading with a great sense of urgency for the thoughtful planning of site development as part of the basic parti. So often the use of the good site—and generally speaking schools are getting wonderful sites these days—is just sort of assumed in the early planning. When later serious attention is given to it, it frequently is too late, for the funds were not allotted, or perhaps the scheme for the building has made decisions in a negative manner.

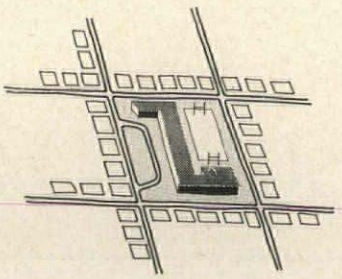
With their grand sites, high schools now are usually done in some variation of the campus plan. There are several variations here, ranging from a compact plan that would scarcely qualify at all, to several that definitely do. It is interesting to note that all of them here stress *use* of the court space delineated by the disposition of buildings, for play or quiet areas, or for just plain "milling" and social exchange. Perhaps what this means is that the campus plan is beginning to mature.

EMERSON GOBLE

Check List for Site Planning

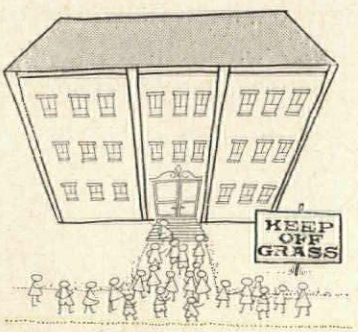
*by John Simonds**

An approach drive is not just a line or double line drawn on a map or plan. An approach drive must be considered as *a dynamic line of force.* To design the approach to a school the planner must sense the force and roar and danger of a stream of cars rushing past along the highway. The spot of most potential danger on any school property is the throat of the approach drive. Here to minimize accidents ample site distances must be assured. Since the approach drive often establishes the character of the school it should be planned with infinite care and should be planned with infinite care and should be considered in itself a complete design element. It should be studied in relation to the discharge of students, to public access for evening games or programs, to service areas and to parking.



No!

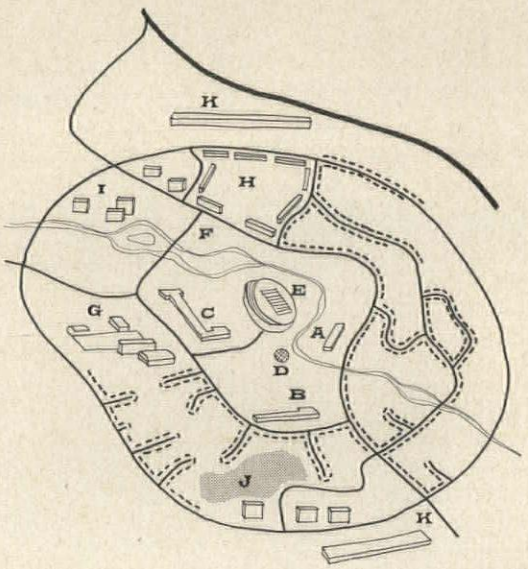
1. "Bargain" school sites, selected without professional guidance.
2. "After thought" school site development which is illogical, seldom realized, and more expensive.
3. The hidden, buried or corner-wise school. The new school should be conceived as a symbol and center of community life. As such it should present the best possible appearance from the total community, the boundary streets and approach drives.
4. The "surprise" drive entrance with its danger of short sight lines and "turn-in" and "turn-out" accidents.
5. Unnecessary traffic intersections.
6. Walk-drive crossings and pedestrian use of drives.
7. Vehicular backing.
8. Parking in traffic lanes.
9. Front door delivery. Routine delivery of materials and supplies is a service function and should be inconspicuous.
10. Constricted walkways and approaches. Don't fight the erosion of students in motion. Provide more area to absorb their impact.



*SIMONDS AND SIMONDS
LANDSCAPE ARCHITECTS PLANNERS

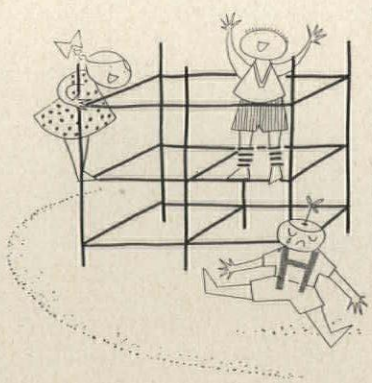
Yes!

A. Elementary School
B. Junior High School
C. Senior High School
D. Nature Science Museum
E. Football Field Stadium
F. Skate, Swim, Dance
G. Community-Civic
H. Row Housing
I. Apartment Tower
J. Residential Park
K. Shopping



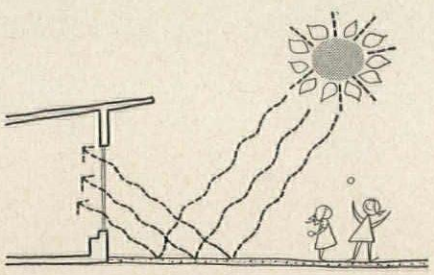
1. Coordinated School-Park program.
2. Site selected on basis of comparative analysis, permitting long range expansion, and accommodating all logical school site development.
3. Safe and pleasant vehicular approach drive.
4. Convenient parking for administration staff visitors, auditorium and gym, possible dual purpose mass parking area.
5. Efficient service and unloading areas.
6. Summer play and child care facilities.
7. Parklike walk systems related to entrance court, recreation areas and outdoor student lounge areas.
8. Out of door classroom areas. Outdoor library and fine arts court.
9. Kindergarten play court.
10. Soft-fall paving under high-climb play structures.
11. Positive drainage and tight ground cover for erosion control.
12. Play areas designed and equipped for the age groups that will use them.

We are all familiar with the monumental city school of our childhood with its bleak facade and massive two story entrance that overwhelmed, oppressed, and depressed us. The usual approach was a narrow strip of drab concrete stretching from street curb to and through the yawning entrance doors. It would seem that we were expected to march three-by-three in orderly procession down this narrow causeway. Children don't work that way. Children approaching their school each day swarm in upon it from all directions and make their way in tumult and force in the general direction of the entrance doors. By nature they must mill about and blow off steam while they wait for the entrance bell. Recognizing this fact the wise planner will design the entrance courts to receive and absorb this impact. He will plan an entrance court to attract and receive children, for the entrance court will give the child his first and perhaps most lasting impression of his school. Here is a logical place for the flagpole, as a symbol of patriotism. Here is a place also for sculpture, bas-relief decorative panels that will give pleasure and inspiration. The entrance court should receive the children, should please them, calm them and nudge them gently toward and through the building entrance.



No!

The kindergarten play court, for instance, with its sandboxes, play sculpture, miniature flagpole, game areas and work tables under a wide-spreading tree . . . should always be an integral part of kindergarten life. This is, in effect, the veritable "child-garden", for the child seems to flourish here. This out-of-door space is his playground, garden, laboratory. This is his depot where he is left by bus driver or parent or where he amuses himself until they come for him. Seen from his classroom window this play garden with foliage dripping in summer rain, or with winter snow capping its bird feeding station, is a place of constant wonder, a very special part of his world, a world of fascination that every school planner should take pains to create.



Any school library would be enriched by a walled or semi-enclosed library court with shaded seating for study and reading. Such an area might well be combined with an outdoor space for the Fine Arts Department, with specimen trees, a pool or fountain, and sculpture, murals or mosaics by the students.

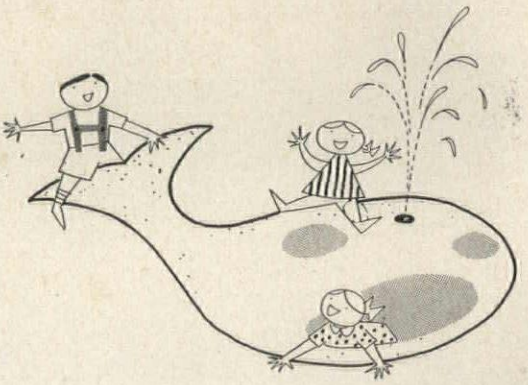
Students instinctively seek such pleasant outdoor spaces where they can gather and "shoot the breeze". Such areas seldom happen by accident, they must be planned into a school.

11. A single unclassified play area where small children are a nuisance and older children a hazard.
12. Unfenced play areas close to drives.
13. Sharp objects, edges and corners, jagged fence fabric. Hard or abrasive playground paving.
14. Attractive nuisances, such as pools, pits, unprotected machinery, low roofs etc.
15. Inadequate storm drainage and consequent erosion.
16. Excessive maintenance as hand-mowing, hand trimming, detailed painting, etc.
17. Overplanting, the mark of a good planting is its simplicity.
18. Heat-reflecting near window walls.
19. Smoke, proximity to railroad noise and danger. Heavy boundary traffic, offsite nuisance and hazards such as open pits, trestles, bridges, etc.
20. Unnecessary facilities. A junior high school track for instance is often an expensive mistake. Tennis courts are an asset only if they are used. Provide only such out of door classrooms and areas as will improve the function of the school and create a more pleasant environment.

Yes!

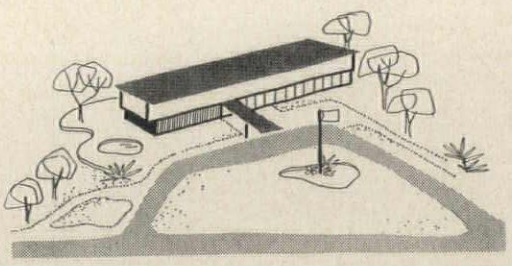
A playground should be a pleasant place where children can have a rip-roaring good time and at the same time learn to co-ordinate, cooperate, compete and create. The school playground is an important factor in a child's metamorphosis from primitive savage to a civilized human being. This isn't a gentle process and often leaves its scars. A playground planner should at least provide the best possible environment for this development.

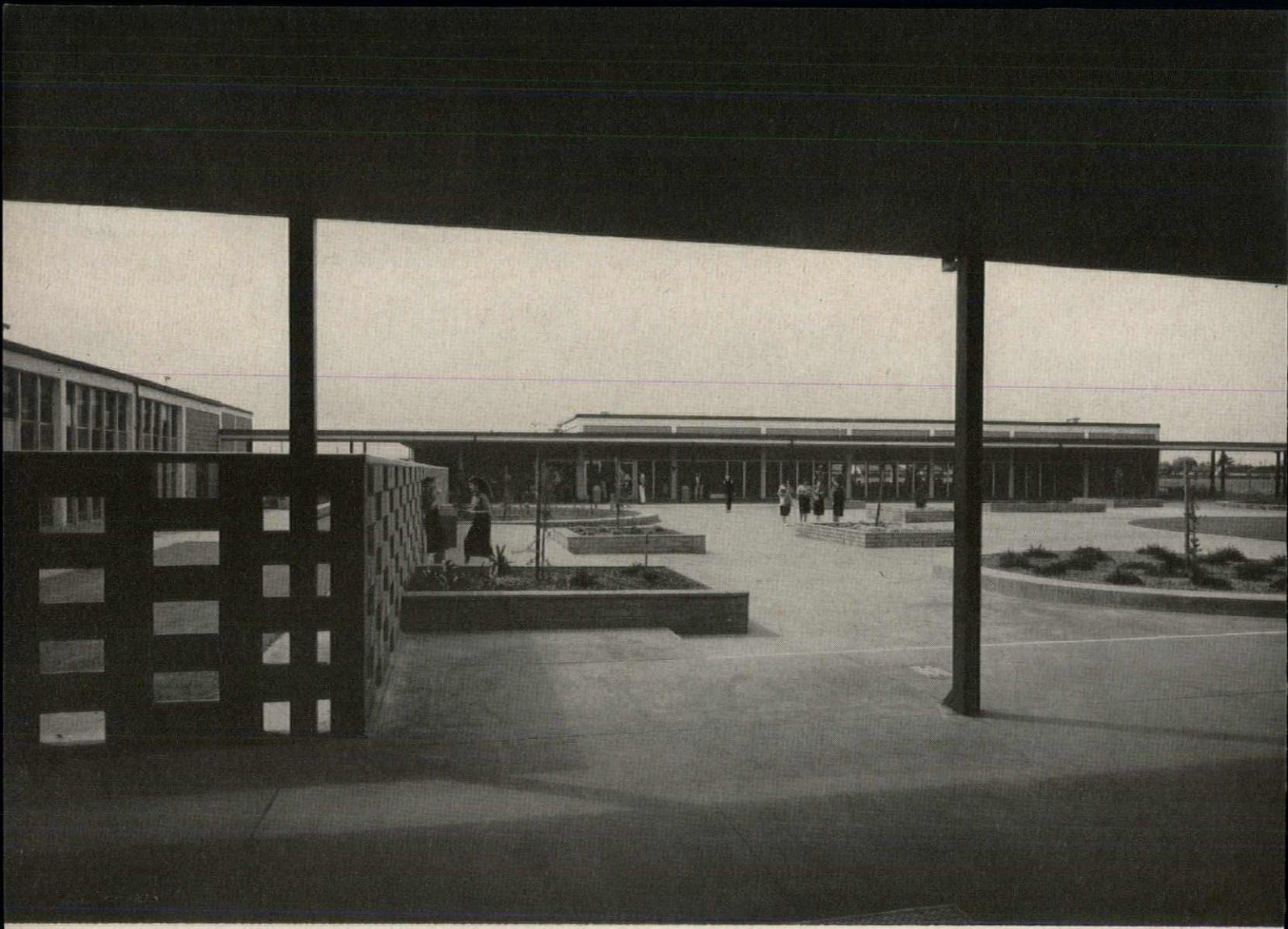
13. Scientifically designed and fully equipped game courts.
14. The athletic field complete with football, baseball and track facilities if, and only if, they are needed and will be maintained.
15. Imaginative and stimulating play equipment and apparatus.
16. A simple planting planned to complement and accentuate the best features of the school building site, to articulate the site program (roads, play areas, service screens etc.,) to provide an optimum micro climate (shade, summer coolness, winter wind protection), and requiring a minimum of maintenance.
17. A reforestation program. An arboretum.
18. Community facilities, as picnic areas, amphitheaters, passive recreation.
19. After school and evening recreation. Night lighting.
20. Attractive entrance courts.
21. Expansion.
22. A complete school and site development in a parklike setting.



Children love curious shapes, bright colors, and having a highly developed tactile sense are quick to notice pleasant forms and textures. They are prone to let their imaginations soar, and tend to build the stuff of their dreams with anything at hand. They quickly tire of the fixed, the static.

Plant materials must articulate rather than confuse the site diagram. In treating an approach drive the planting is designed to mark and "explain" the approach drive entrance, reinforce the sweep of a curve, anchor a turn, emphasize intersections, open to desirable views, screen service areas, frame the entrance courts, and to create through-plant forms, texture and color a series of volumes pleasant in scale and character and well related to the school.





Courts Give Abundantly Varied Outdoor Space

In the generously laid out Lodi high school, an elaborate system of courtyards lends itself to a variety of student activities. The core of the system lies in the large central court, designed to serve as general "milling space" and as an extension of the cafeteria, which opens off it; it serves both as the school-hours social center as well as an outdoor eating place.

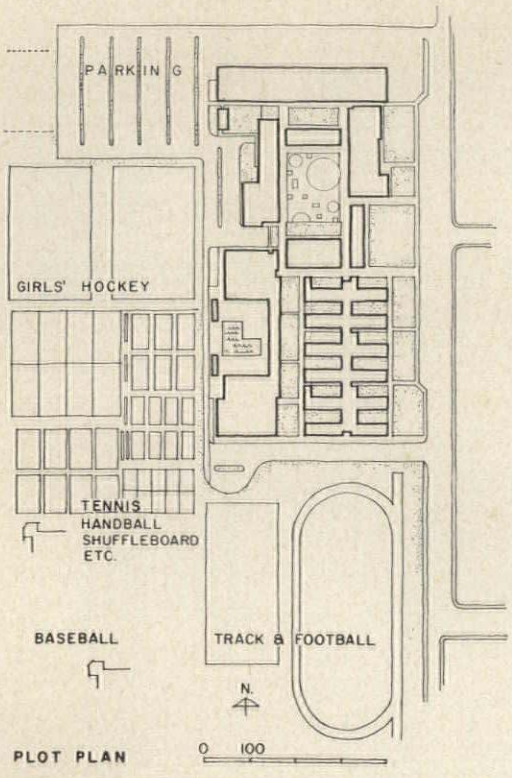
In the main court, but not of it, the small library court is set off by a pierced block wall, separating this function from both the noise and the traffic. A small court located behind the home economics classrooms is used for fashion shows and experiments in outdoor living. The foliage, as it increases, will provide much-needed shade in these courts and in the patios in the classroom building.

The organization of the plan, say the architects, was based on "mass movements" within the school; thus, the gymnasiums are closest to the academic classrooms, and the noise attendant on physical activities, particularly from the playing fields and the swimming pool, is broken by the mechanical plant and the long court which separates it from the classrooms. The "lighter-loaded" functions—lunchroom, homemaking, shops, crafts—have been placed on the other side of the main court from the general classrooms, which are arranged in "fingers" along a double-loaded corridor. Some of the shops, the music building and the swimming pool are scheduled for future construction.

Union High School, Lodi, Cal.

Architects: Falk & Booth

Chief of Design: David Sokoloff; Chief Draftsman: Edward A. Krajcar; In Charge of Project: Richard Heidloff; Acoustical Consultant: Dariel Fitzroy; Electrical Engineering: The Coddington Company; Plumbing, Heating and Ventilating Engineering: Vandament & Darmsted; Site Engineering: Joseph A. Cotteral, Falk & Booth; General Contractor: The Pacific Company

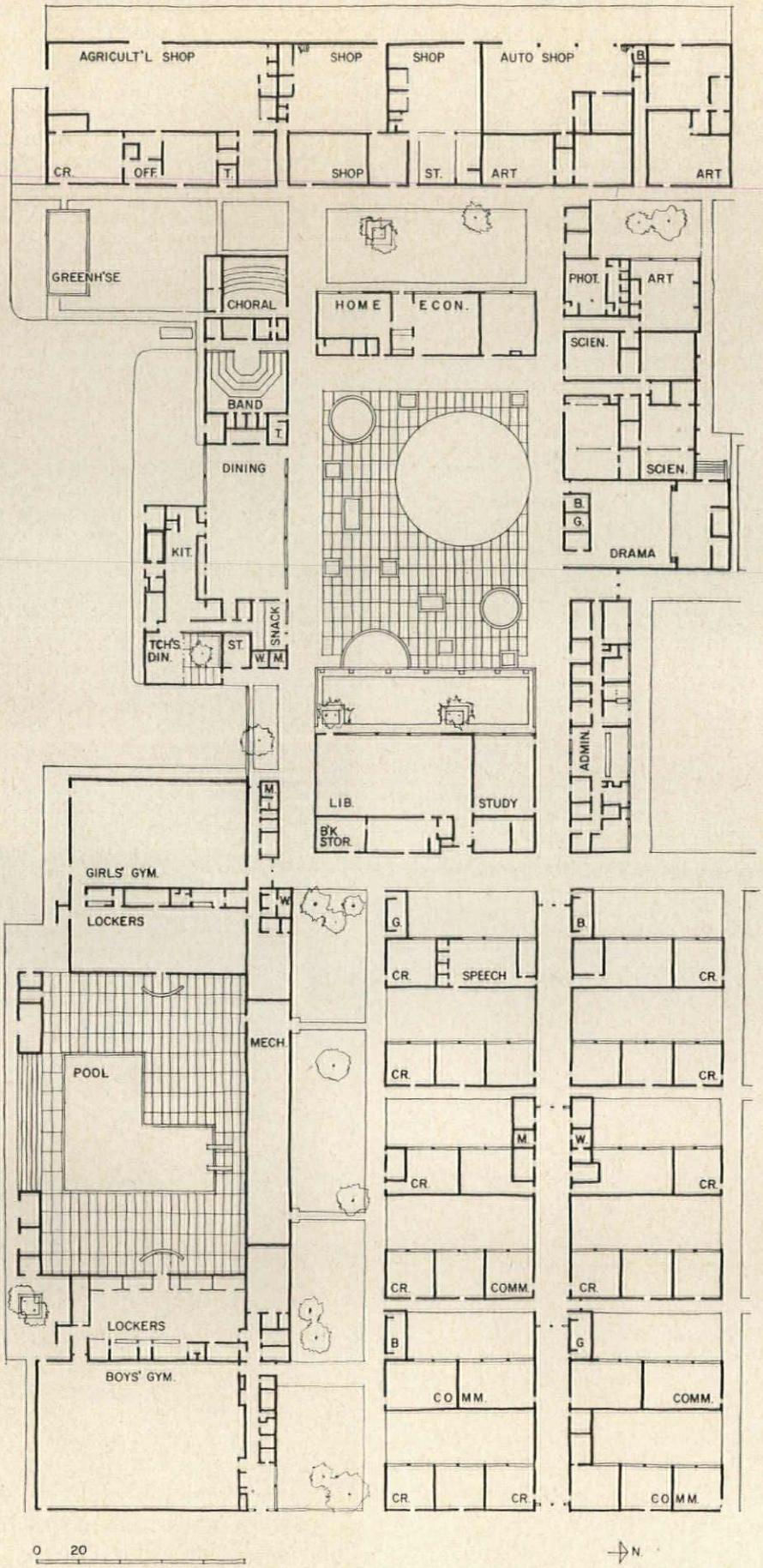


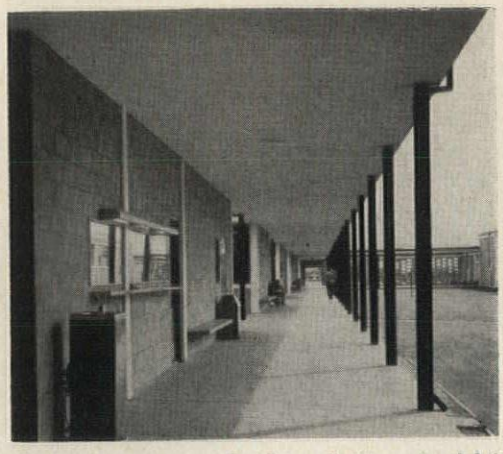
PLOT PLAN

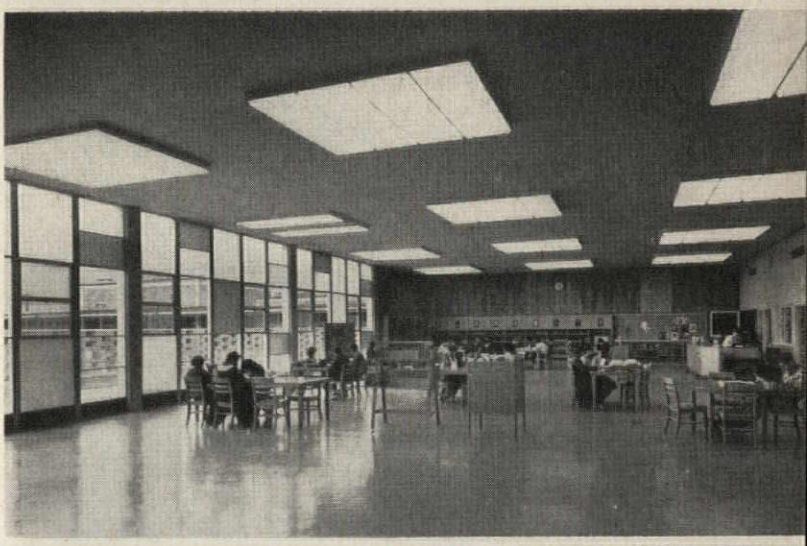
Photos by Roger Sturtevant

Right, top: entrance; drama section is at right, administration wing at back of three-sided courtyard. *Right, center:* bus loading station, situated at end of mechanical plant, outside lobby of boys' gym. *Right, bottom:* amenity for the teaching staff in a private courtyard outside the faculty dining room

Lodi High School, Lodi, Cal.



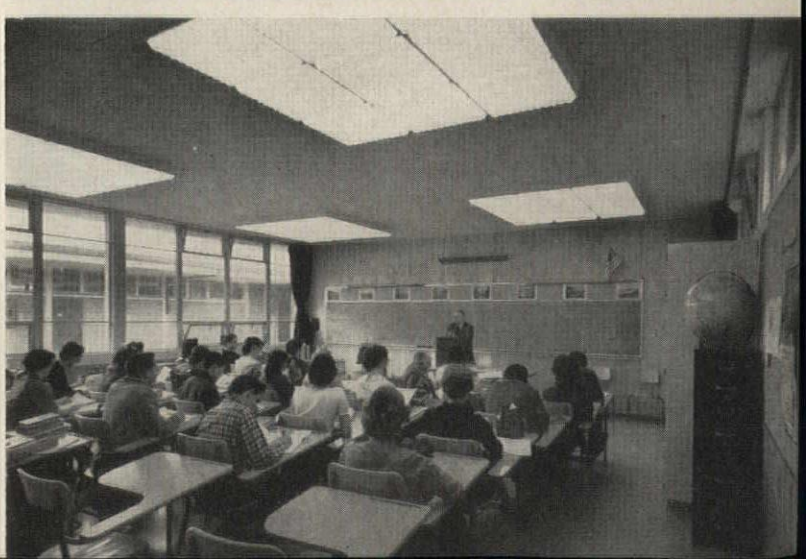


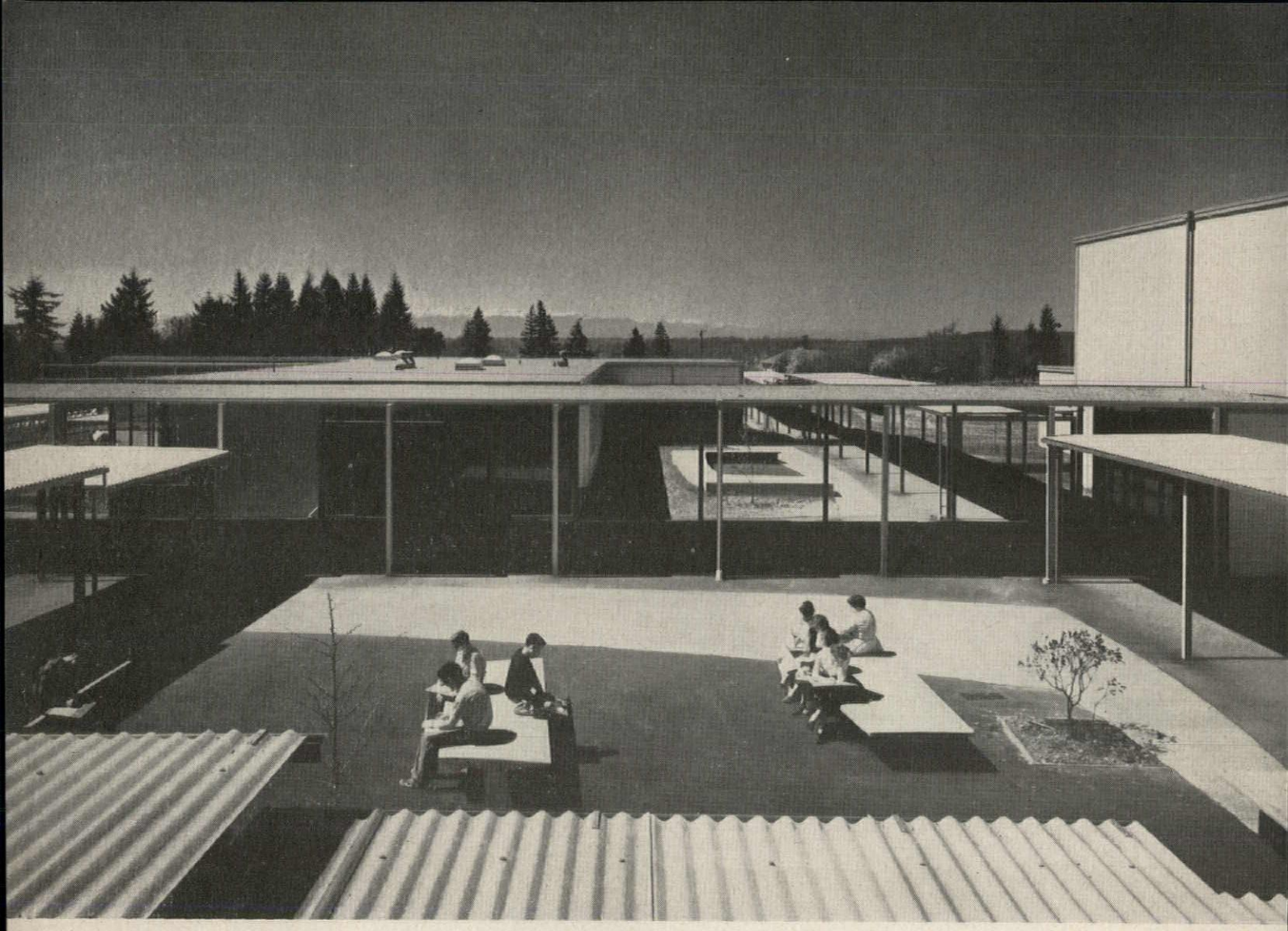


Above: outdoor primping station at girls' rest room. *Right, top:* double-loaded corridor in general classroom building. *Second from top:* the library alongside its courtyard. *Second from bottom:* cafeteria, opening onto main court. *Bottom:* general classroom, large windows opening onto court on one side, high windows to court on other side; science classrooms, located on the main court, have no windows courtside.

COST OUTLINE: Lodi Union High School

BUILDING CONSTRUCTION	
General construction	$1,202,241
Plumbing	184,204
Heating and ventilating	381,559
Electrical	192,145
Fixed cabinet work	103,349
Painting and finishing	30,793
	2,094,291
EQUIPMENT	
Movable partition, draperies	3,176
SITE DEVELOPMENT	
Clearing and grading, drainage, sewage, roads and driveways, parking areas	66,773
LAND	—
FEES	
Architectural, educational consultant, structural, mechanical and electrical, civil, acoustical, color consultant, supervision and tests	173,141
ADMINISTRATION	—
TOTAL	$2,337,381
GROSS AREA (SQ FT)	136,105





Small Plant Has Series of Informal Courts

In a plant considerably smaller, at this stage of its development, than that of the preceding school, the Olympic View junior high school nonetheless manages to give its student body a fairly generous amount of outdoor space. The campus plan here has been modified—as, for various climatic reasons, it has been in all the schools in this study—by covering all passageways between the buildings. At Olympic View, this network of covered walkways produces a series of open places, where landscaping and seating provide pleasant centers for student socializing or even, as can be seen above, for studying.

The school is placed on a 27-acre site (the architect, called in early, helped to select it), 20 acres of which will eventually be covered with school buildings and athletic fields. A seven-acre section has been set aside for a bus terminal and garage, to be built at some time in the future.

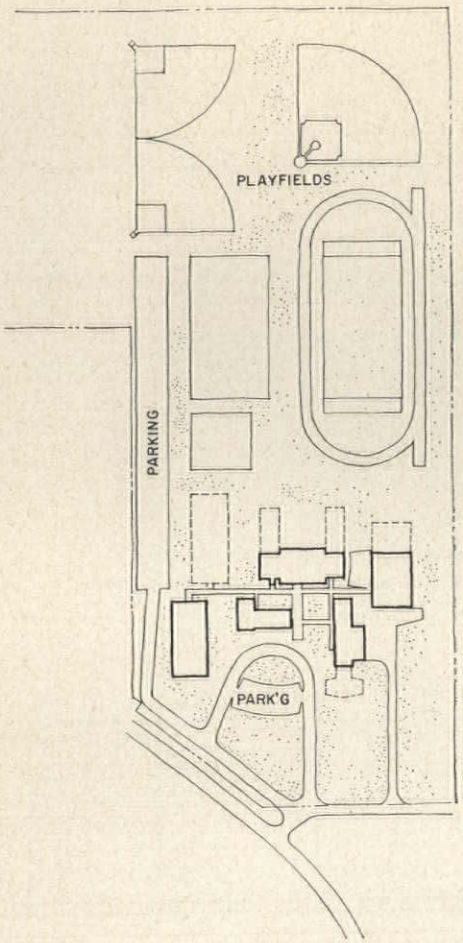
As the school stands now, it was designed for an enrollment of 400, but it can be expanded for an eventual enrollment of 800 by the addition of 11 extra classrooms, music and choral rooms, one home economics and one science room, a large wood shop and more special classrooms; this expansion plan, which affects all of the buildings, will still preserve the original separation of facilities.

Walls are a combination of concrete and steel; panels cast on concrete floors were tilted and welded into place.

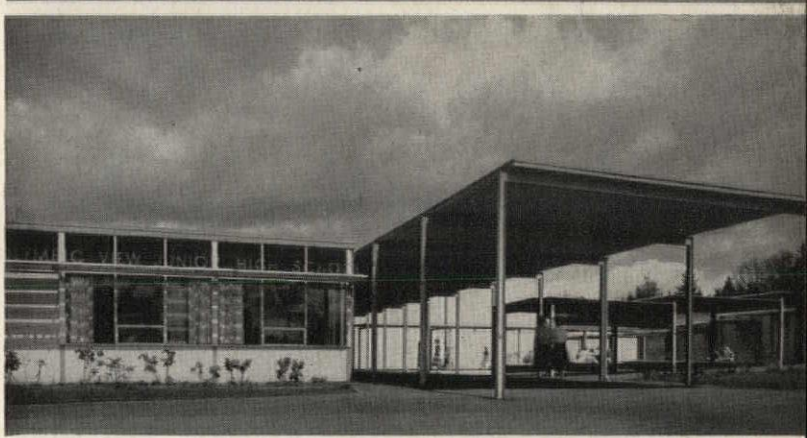
Olympic View Junior High School, Mulkiteo, Wash.

Architects: Waldron & Dietz

Structural Engineers: Stevenson & Rubens; Mechanical Engineers: DeWitt C. Griffin & Associates; Electrical Engineers: Beverly A. Travis & Associates; Landscape Architect: Roberta A. Wightman; General Contractor: Hedeen Construction Company; Mechanical Contractor: Haskell Plumbing & Heating; Electrical Contractor: Northwest Electric Company



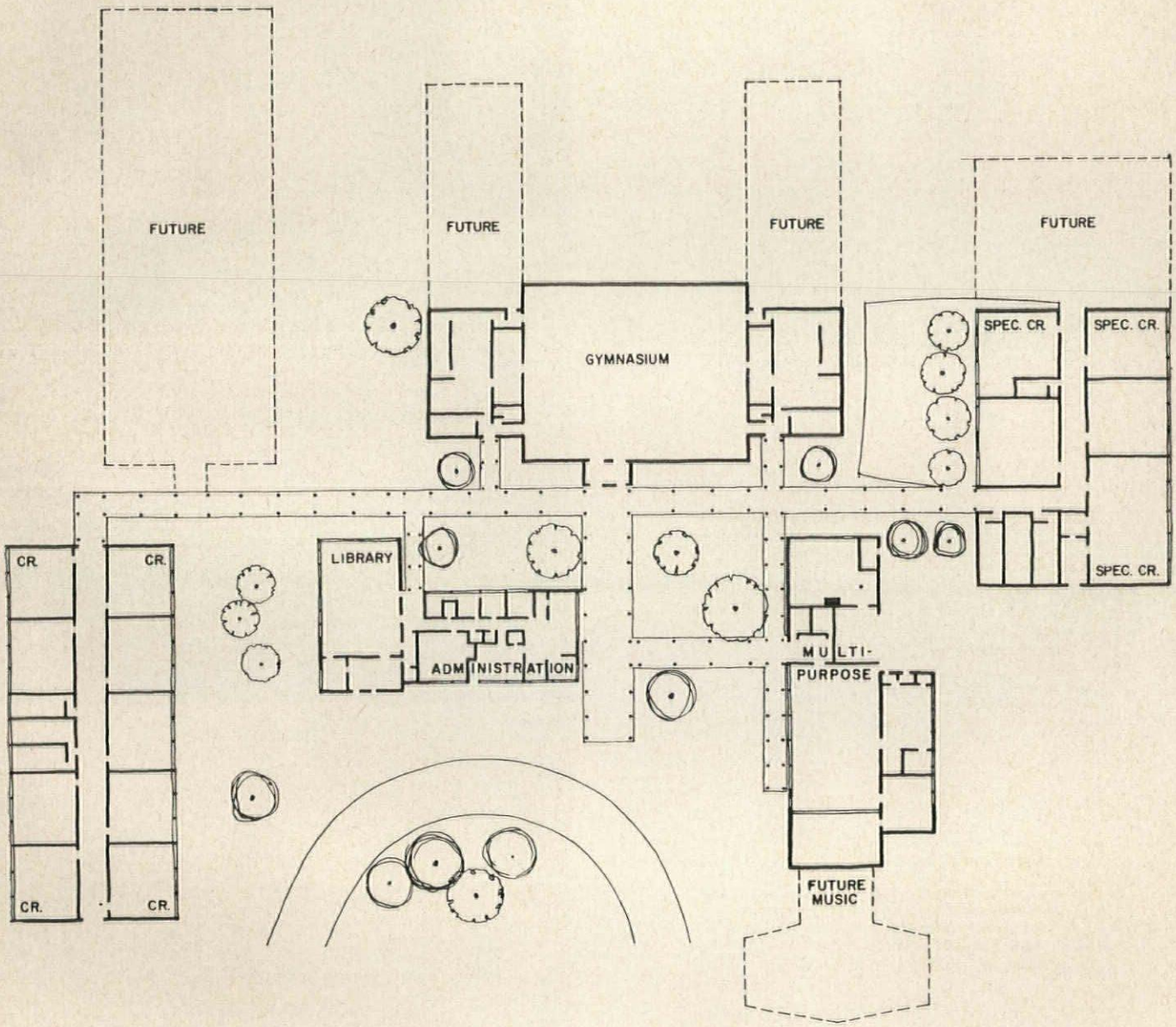
Photos by Art Hupy



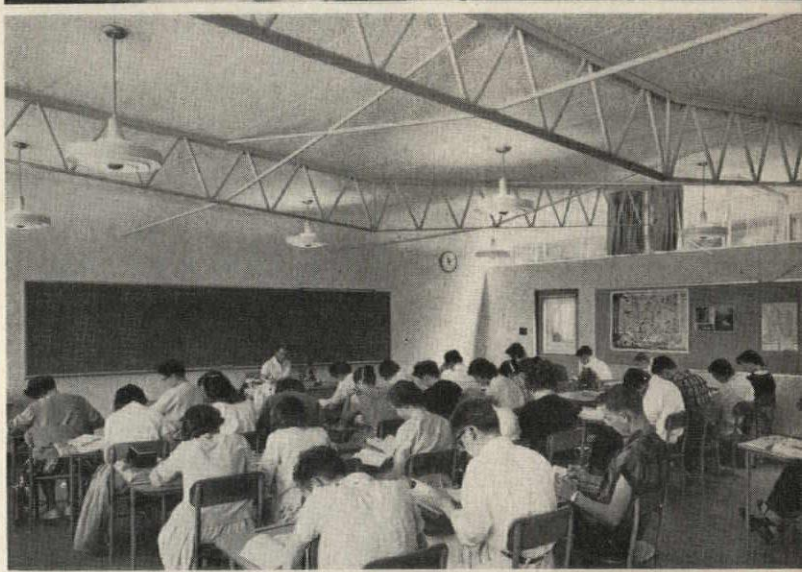
Above: plot plan; rectangle in upper left corner is site of future bus garage

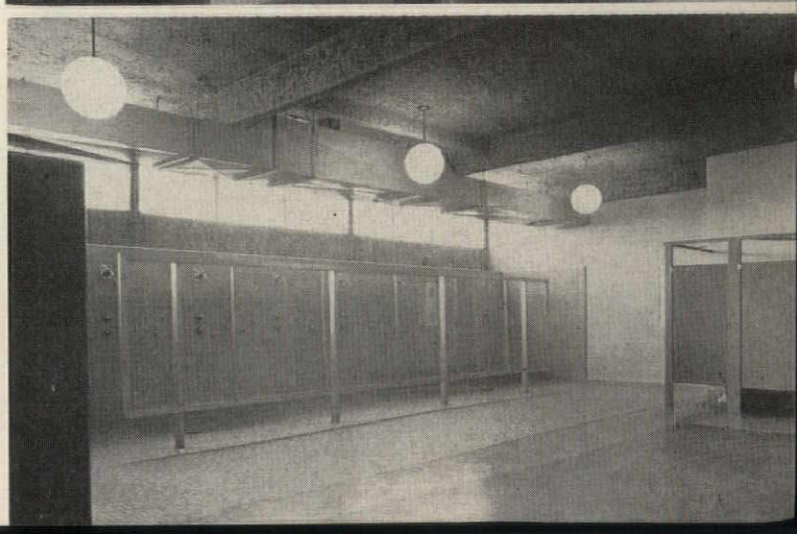
Right, top and center: school approached from front parking lot. *Right, bottom:* typical corridor is lined with blue-painted lockers; wire-glass skylight illuminates classrooms through high corridor windows

Olympic View Junior High School, Mulkiteo, Wash.



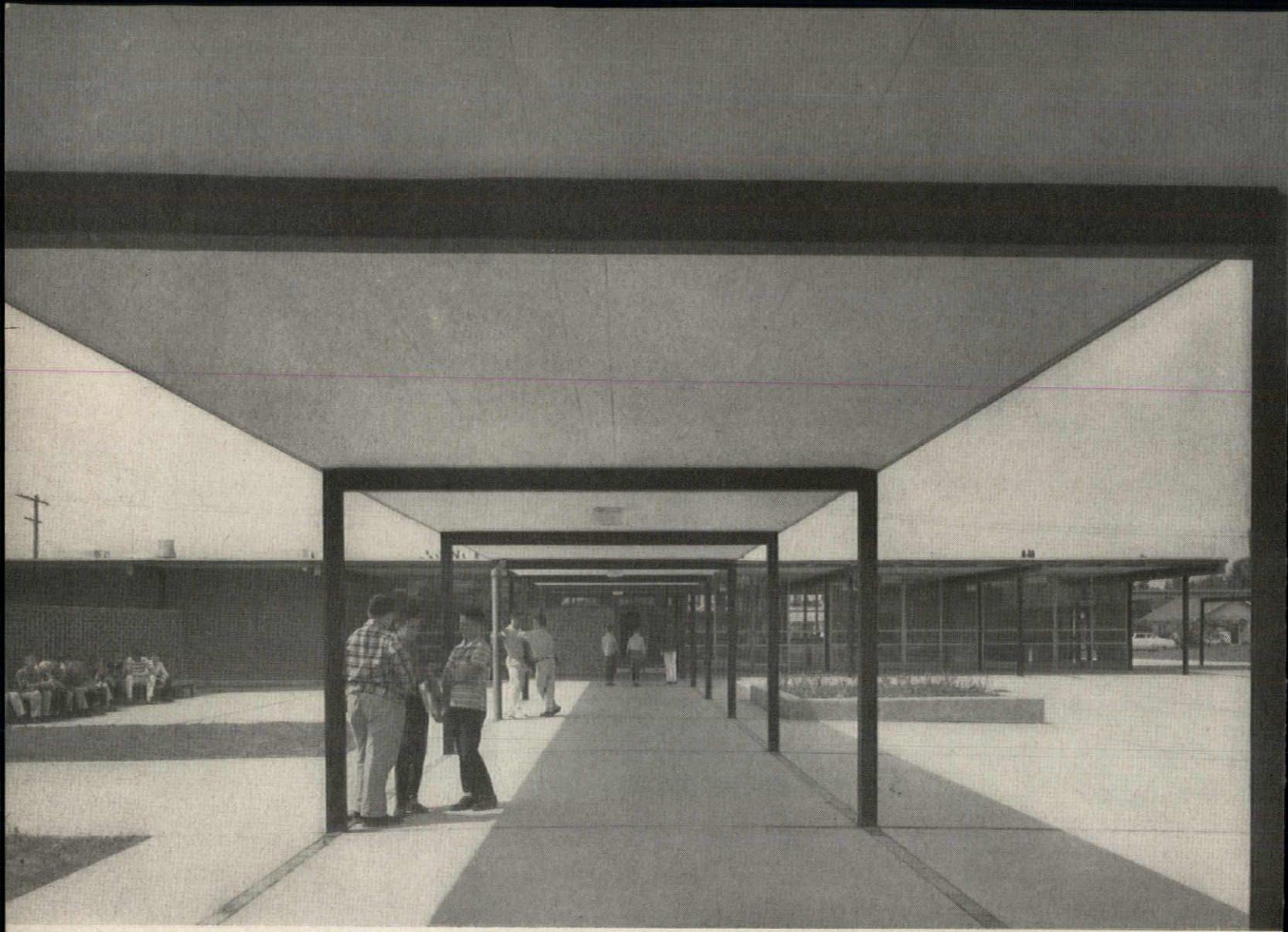
Construction is basically concrete, with painted exteriors. Walkways have steel frame supports, are covered with corrugated cement asbestos board. Interior walls are plaster-finished wood stud partitions; floors are asphalt tile with the exception of the gym, which has maple flooring, and toilets and kitchen, where floors are quarry tile. Heating is by oil, with hot water conductor; air circulation is effected by central fan units in each building. Lighting throughout is incandescent, except in offices and kitchen





COST OUTLINE: Olympic View Junior High School

BUILDING CONSTRUCTION	
General construction (including supervision and tests)	$343,820
Plumbing	42,144
Heating and ventilating	85,361
Electrical	47,187
Fixed cabinet work	15,000
Painting and finishing	13,400
	546,911
EQUIPMENT	
Bleachers, stage, draperies, folding doors	24,500
SITE DEVELOPMENT	
Clearing and grading, drainage, sewage, roads and driveways, parking areas, uncovered walks, paved play areas, athletic fields, outdoor equipment, planting	58,400
LAND	—
FEES	
Architectural, landscape architect, structural, mechanical, electrical	37,789
ADMINISTRATION	—
TOTAL	$667,600
GROSS AREA (SQ FT)	49,972
ENROLLMENT	400 (Projected 800)



Tight Plan Provides Significant Space

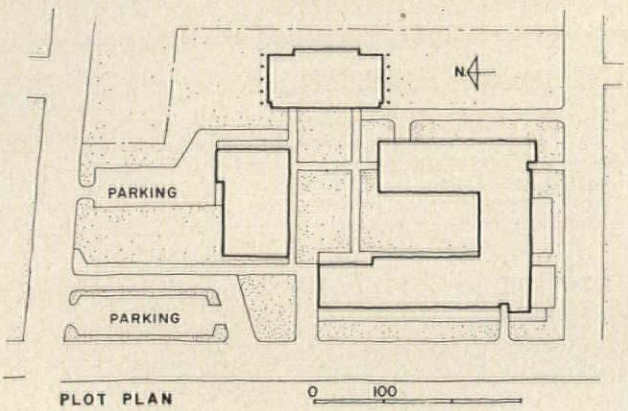
A staff requirement for a compact school on a limited site resulted in a three-way organization of facilities for the Puyallup Junior High School: three main buildings—gymnasium, music and lunchroom building, and the U-shaped classroom building—surrounding three large courts—the playing court adjacent to the gymnasium, the social court, and the so-called planted court which gives a view and an area of quiet for the inside classrooms.

The social court was also one of the staff requirements: it opens directly off the lunchroom for mid-day milling, and is adjacent to the student lobby in the classroom building. Among the staff's other requirements: multi-use rooms in connection with the lunchroom; an open plan with a minimum of circulation; the east-west orientation of the classrooms; the library situated in the midst of the classrooms; and the student lobby, which is in addition to a lobby for the public. The architect's analysis of these requirements led to the lunchroom-auditorium-lobby-social court complex, and to the simple but effective separation of noisy and quiet activities. The lunchroom and the auditorium are combined, with portable seating in use for both the auditorium and the gymnasium. A long covered walkway gives easy access to the bus loading station from the student lobby. After two years of use, a staff member has testified to the workability and enjoyment of the building from the points of view of both teachers and pupils.

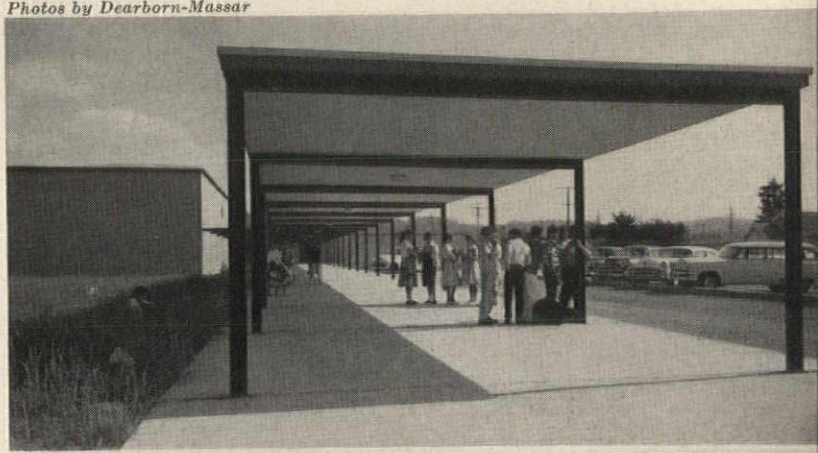
Puyallup Junior High School, Puyallup, Wash.

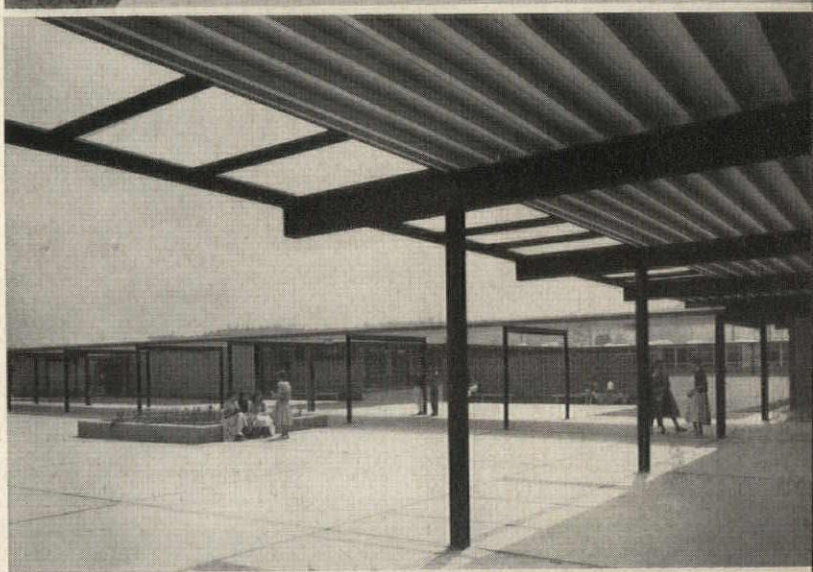
Architect: Robert Billsbrough Price

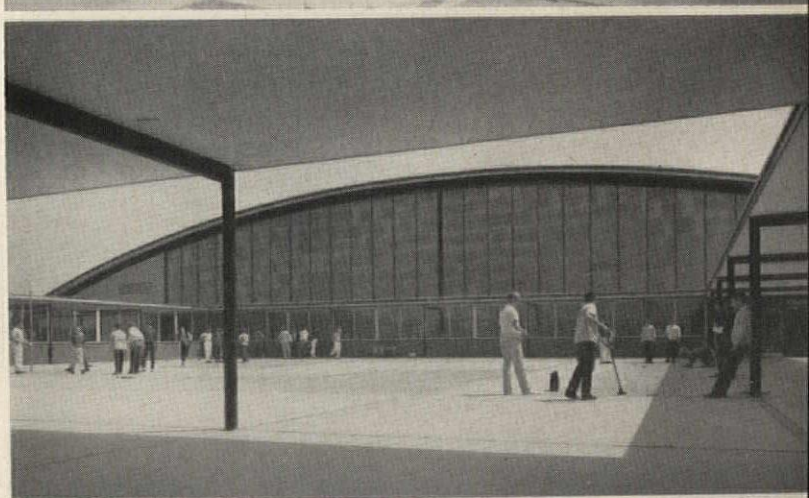
Mechanical and Electrical Engineers: Worthen & Wing; Structural Engineers: Horace J. Whitacre & Associates; Landscape Architect: Lawrence Halprin



Photos by Dearborn-Massar

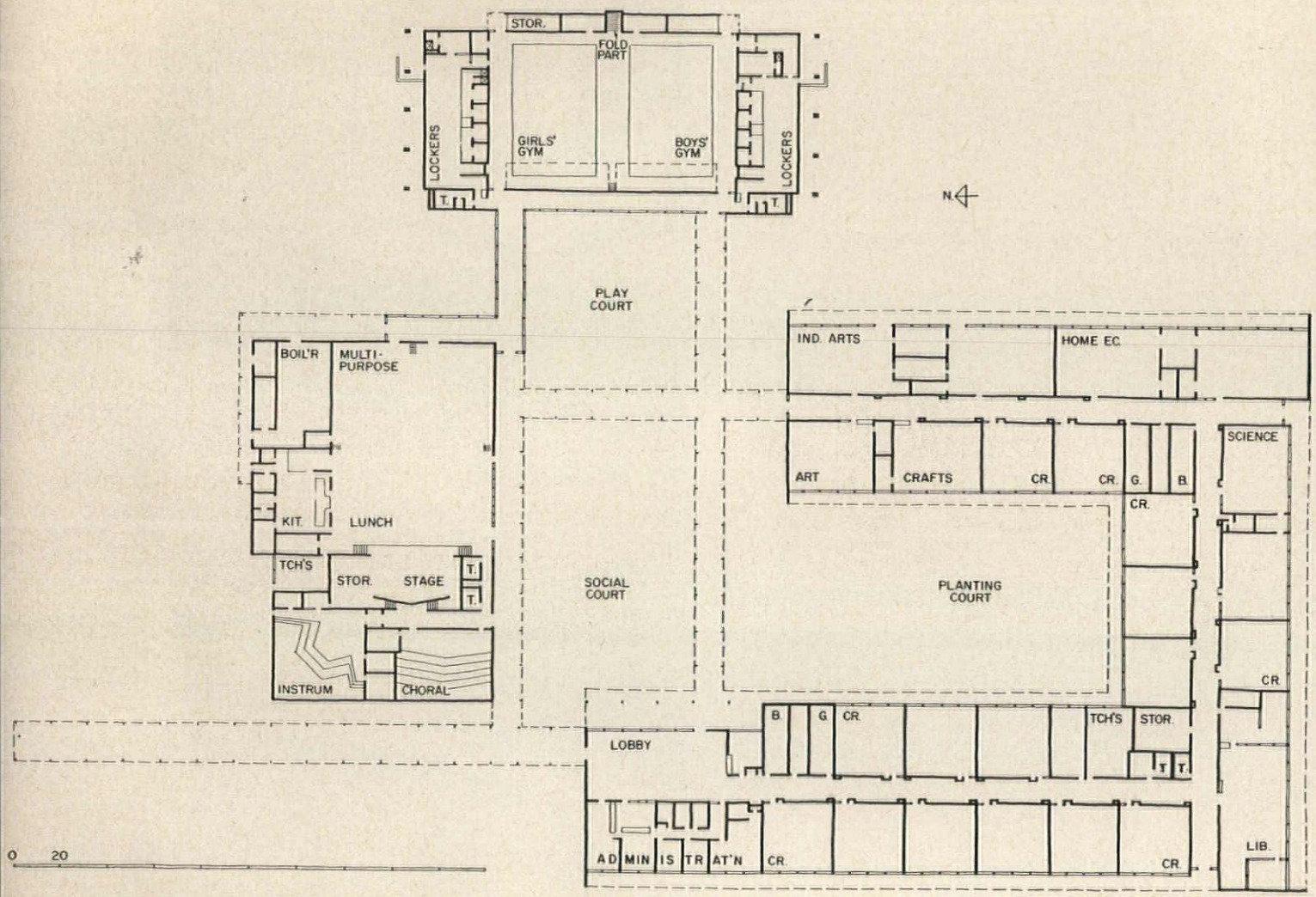




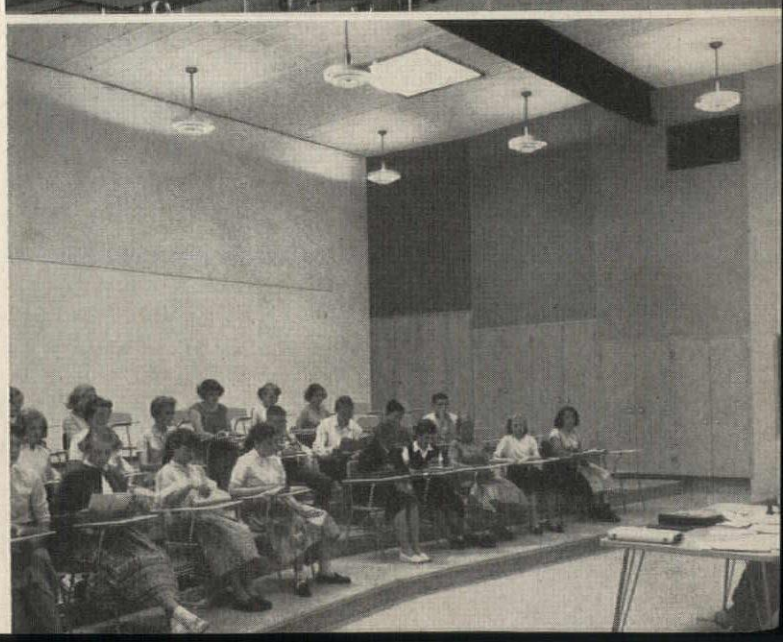


Top: bus loading platform is sheltered by walkway leading to student lobby. *Second:* outlook across the social court into the quieter "planted court." *Third:* the play court. *Bottom:* view from the student lobby past the social and play courts to the gymnasium

Puyallup Junior High School, Puyallup, Wash.



Top: typical corridor has lockers set flush to dispense with clutter. *Second:* library, situated at corner of the building farthest from all noisy activities, has small court of its own; audio-visual facilities are centered behind glass wall at back of room. *Third:* cafeteria, with its folding wall, was designed for "multi-use." *Bottom:* one of the classrooms.



COST OUTLINE: Puyallup Junior High School

BUILDING CONSTRUCTION	
General construction (including fixed cabinet work and painting and finishing)	$ 726,000
Mechanical (plumbing and heating and ventilating)	217,037
Electrical	77,591
	1,020,628
EQUIPMENT	
Chairs and desks, cafeteria seats and tables by owner; movable partitions, kitchen, administration, library, laboratory, home economics, shop, art, stage, draperies in general contract	—
SITE DEVELOPMENT	
Athletic fields and planting by owner; clearing and grading, drainage, roads and driveways, parking areas, uncovered walks, paved play areas, fencing and walls in general contract	—
LAND	38,400
FEES	
Architectural, landscape architect, structural, mechanical and electrical, civil, acoustical, color consultant, supervision and tests	61,238
ADMINISTRATION	—
TOTAL	$1,120,266
GROSS AREA (SQ FT)	85,222
ENROLLMENT	800

Generous Site Permits Scattered Facilities

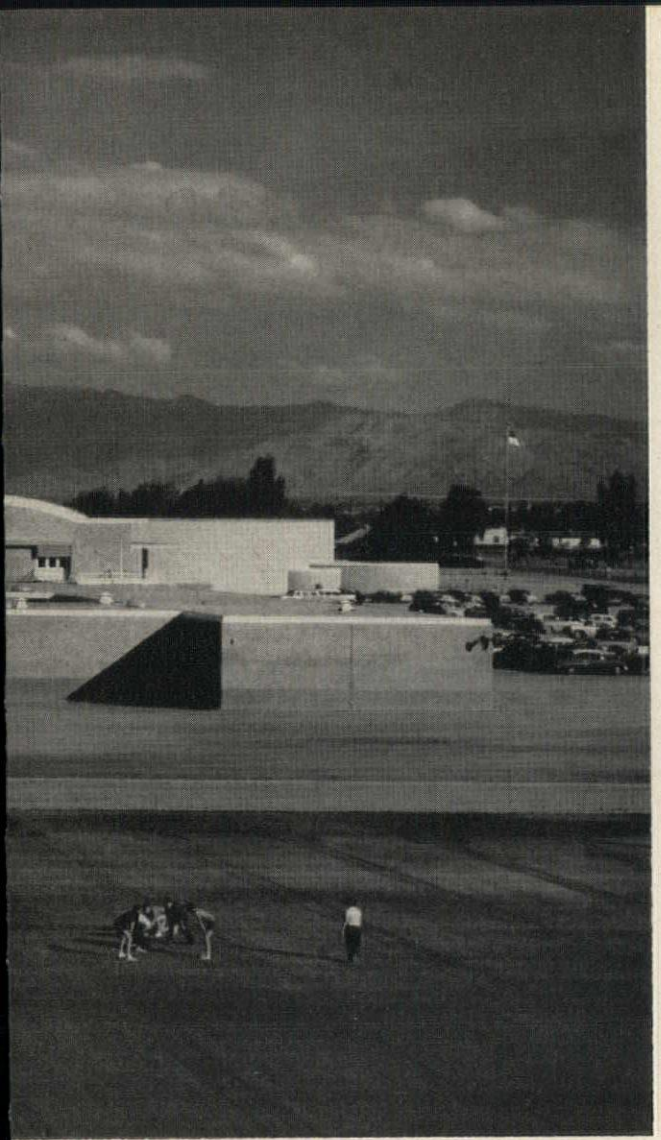
The 40-acre site for Catalina High School, even after the allotment of a considerable part of the plot for a large physical education program (including a rifle range), still left plenty of room for a sizable campus-type school and an opportunity for the architect to spread the facilities. Girls' and boys' gyms, for example, have been placed in two separate buildings—the girls' gymnasium will be used for educational purposes only; the boys' gym, with seating for 4000, will be used for spectator sports as well as in connection with the school program. The classrooms, too, are scattered: a two-story building was included in the original plan, and was soon augmented by a one-story building adjacent to the cafeteria, and a small wing next to the auditorium. A separate wing holds classrooms for science and homemaking. Shops are located away from classrooms on the other side of the boys' gym, with still another separation of facilities: the auto shop, including room for a driver training course, has its own building. Other buildings: a cafeteria with a capacity for 500 students at a sitting; an auditorium seating 930. All of these buildings, despite the wide scattering, are connected by enclosed and open covered corridors.

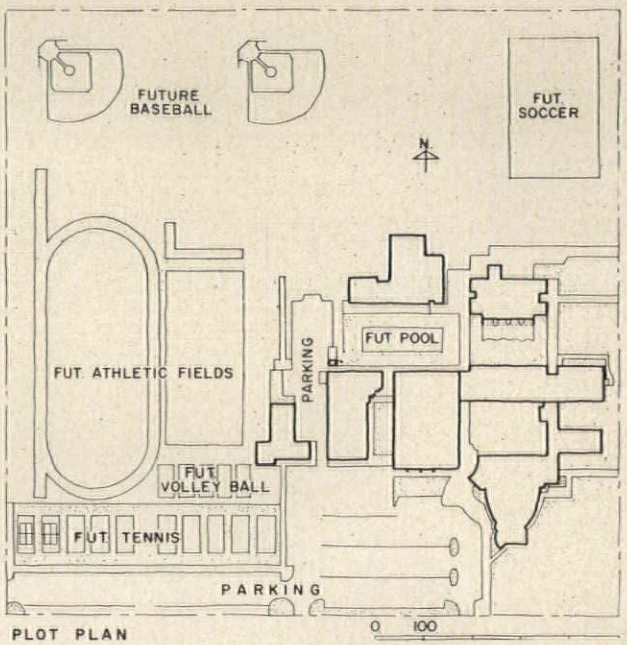
The school is cooled by refrigeration, and heated by circulating hot water; radiant heating was installed in the locker rooms. All buildings are connected underground by access tunnels carrying mechanical and electrical services.

Catalina High School, Tucson, Ariz.

Architects: Scholer, Sakellar & Fuller

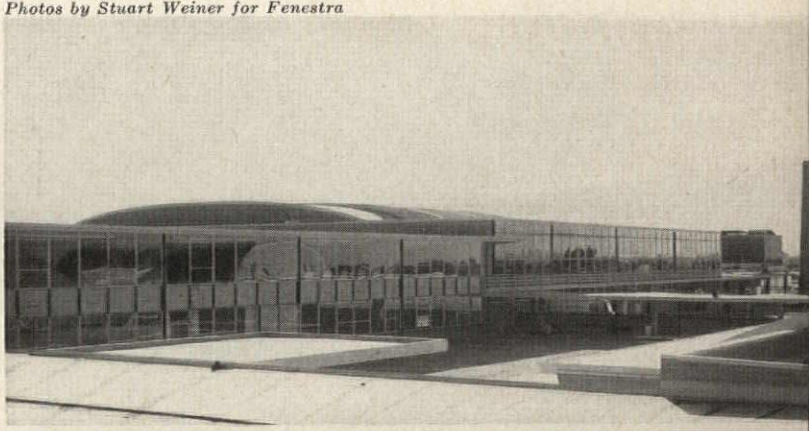
Structural Engineering Consultant: John A. Martin; Mechanical Engineer: John Paul Jones; Electrical Engineer: A. E. Magee; Acoustical Consultant: Floyd Rowe Watson; Kitchen Equipment Consultants: Schuler-Davidson; General Contractors: L. C. Anderson & J. J. Craviolini

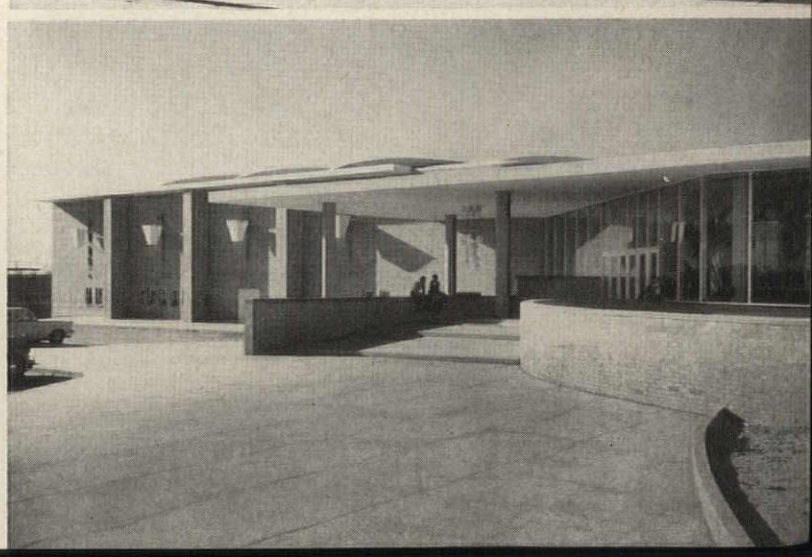




PLOT PLAN

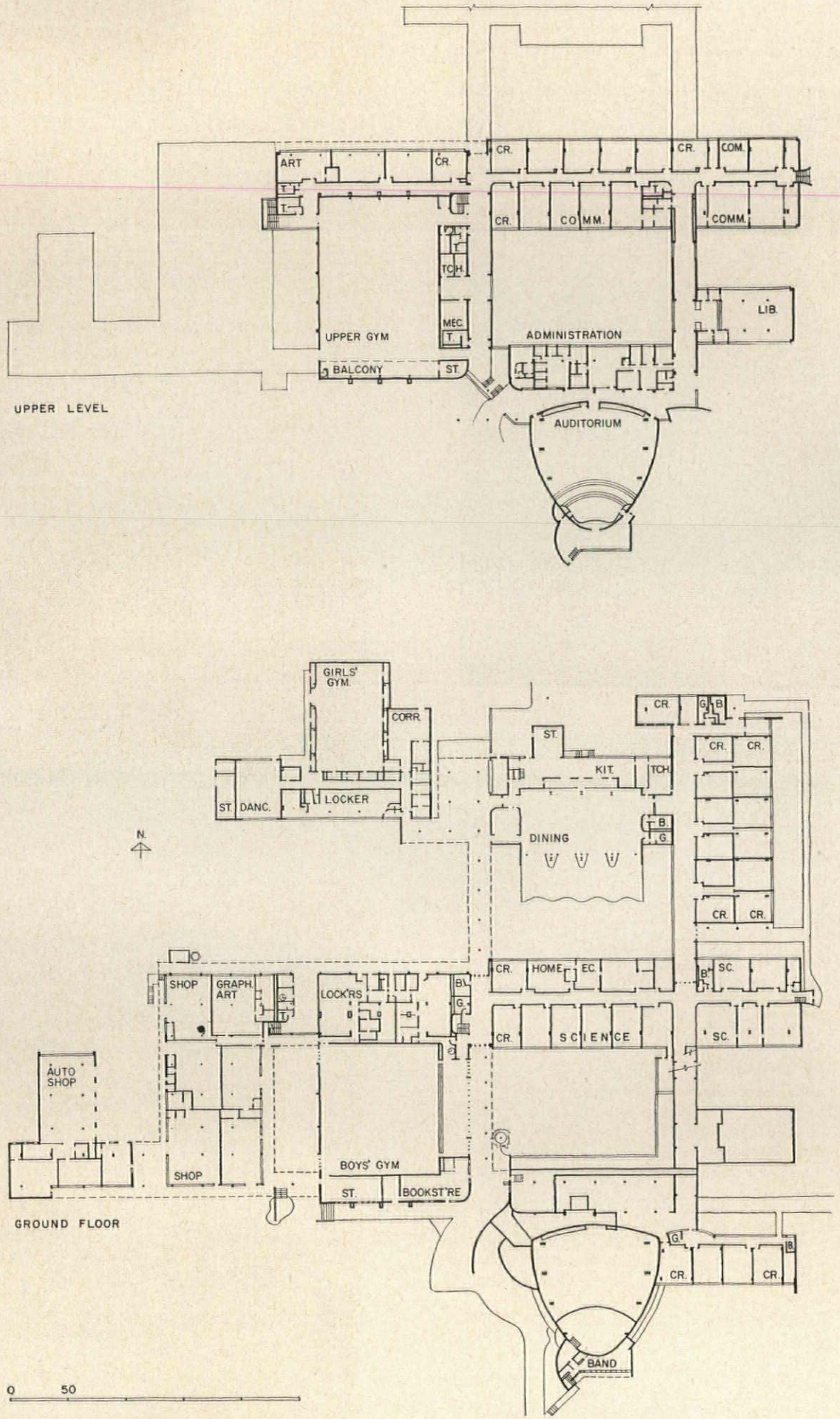
Photos by Stuart Weiner for Fenestra



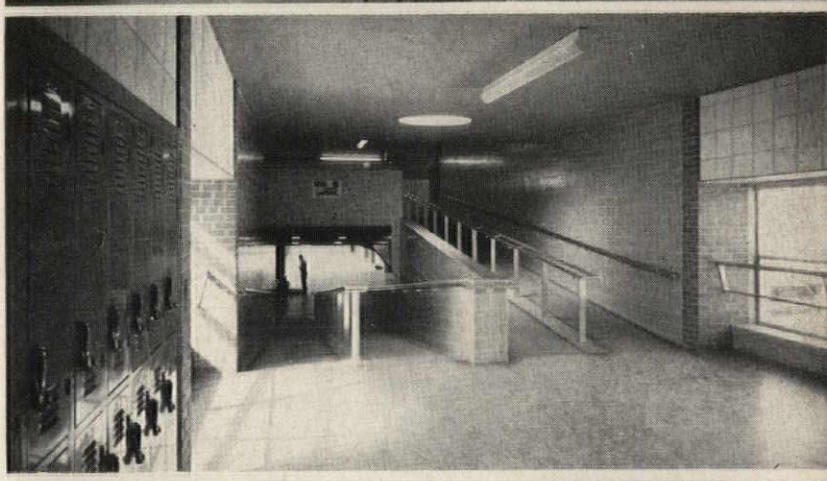


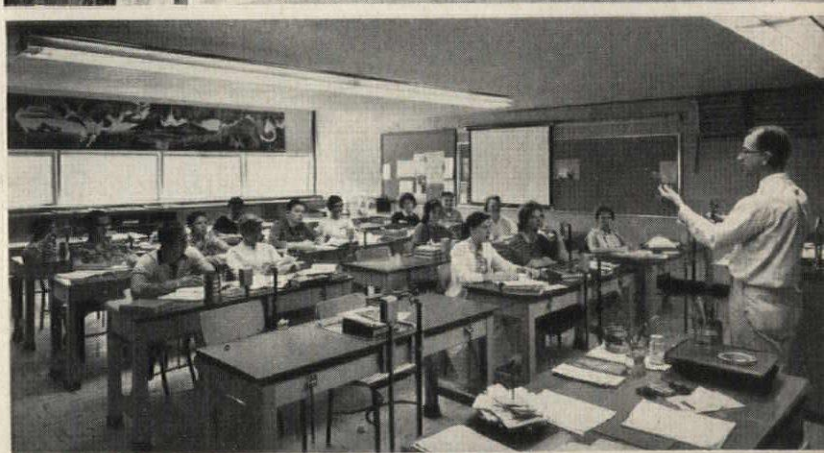
On opposite page: silhouette of the Catalina school shows girls' gymnasium at extreme left, cafeteria directly to its right, arched boy's gym at extreme right. *Right, top:* boys' gym seen across covered corridor and "West Court." *Right, bottom:* the main entrance

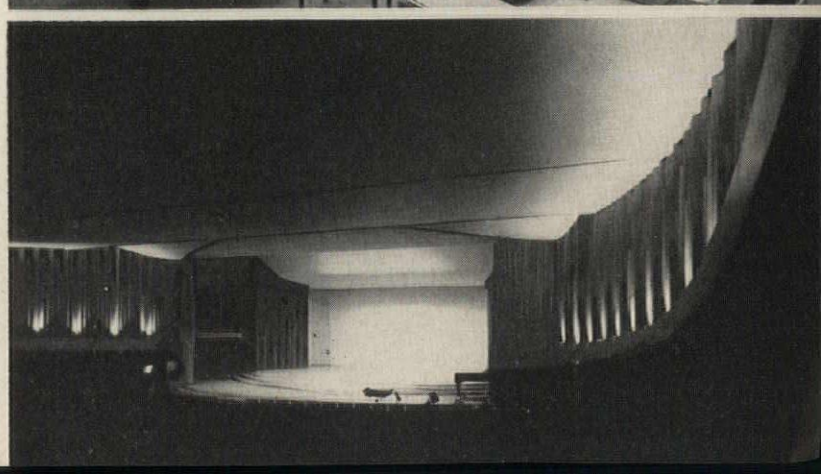
Catalina High School, Tucson, Ariz.



Top: cafeteria building, outside and in. *Third*: fairly low-pitched ramps carry traffic in main classroom building, built as a split-level because of a 26-ft drop in grade. *Fourth*: a science classroom has natural illumination directly behind the students with overhead lighting to prevent their working in their own shadow. *Bottom:* dramatically curved walls of auditorium were an economy measure—architects claim they enclose 20 per cent more space than the same length of recitlinear wall would have

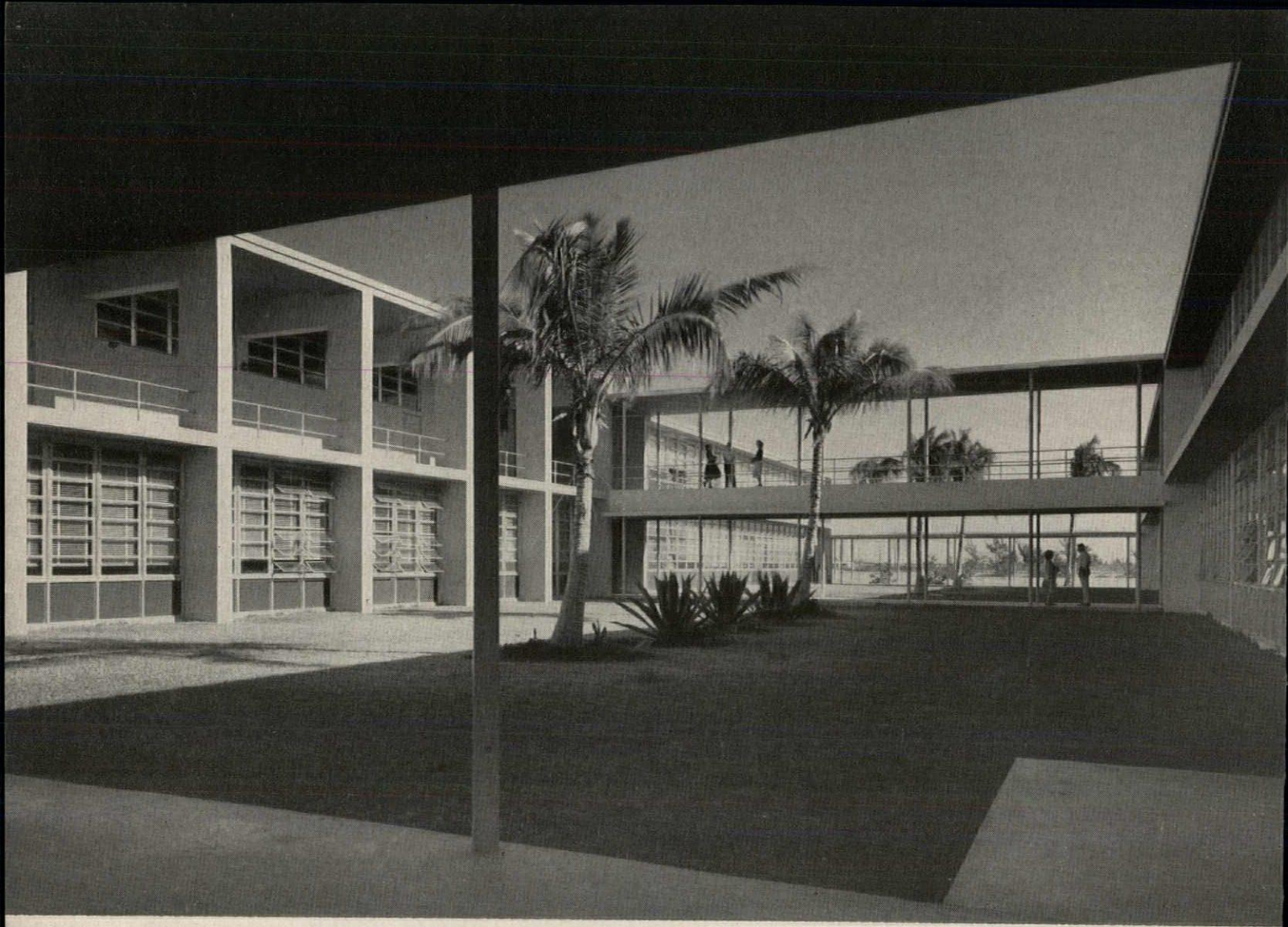






COST OUTLINE: Catalina High School

BUILDING CONSTRUCTION	
General construction	$1,816,993
Plumbing	278,263
Heating and ventilating	344,223
Electrical	182,657
Fixed cabinet work	85,807
Painting and finishing	48,753
	2,756,695
EQUIPMENT	
Chairs and desks, movable lockers, cafeteria seats and tables, kitchen, administration, library, laboratory, home economics, shop, art, music, bleachers, gymnasium, auditorium seating, stage, draperies	448,845
SITE DEVELOPMENT	
Parking areas, athletic fields, fencing and walls	157,573
LAND	—
FEES	
Architectural, structural, mechanical and electrical, acoustical, supervision and tests	175,879
ADMINISTRATION	—
TOTAL	$3,538,993
AREA (SQ FT)	
Heated space only	237,529
ENROLLMENT	1,950



Cloister Effect Sought in the Subtropics

The subtropical climate of Key West permitted the extensive use of open planning in this high school, organized around a central "cloister-corridor." The disposition of the one- and two-story classroom wings, stemming off the central corridor, created patios for light and ventilation, and heightened the cloistral effect. Like all cloisters, these spaces, out of the main streams of traffic, are not intended for milling or sitting in, but do provide strolling space for the students. The central corridor also divides the classroom from the activities in gym, cafeteria and music rooms, with the band room and auditorium, producing the highest level of sound, at the farthest remove from classes, gymnasium next, and the cafeteria, noisy only at lunchtime, nearest.

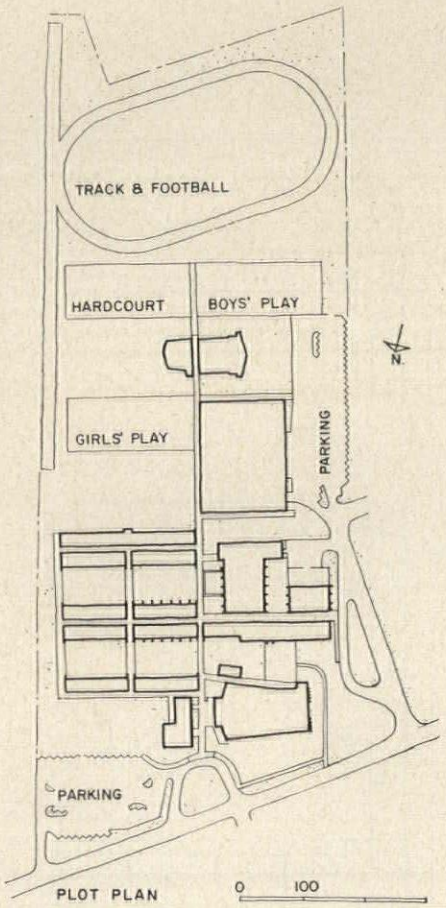
Extras for the students, again allowed by the climate: a screened-in patio next to the cafeteria, to be used for dancing; and a band room with a sliding wall to allow indoor practice and outdoor performances.

To shield the classrooms against the sun, the architect used aluminum awning windows for their durability and ease of operation (a push-bar mechanism). Wood jalousies were used in the classroom corridor walls, and behind the pierced grille of the auditorium walls to enable that space to be lightened and darkened at will. Exterior is finished with colored porcelain enamel panels under windows, native rock for screen walls; interior partitions are cement block.

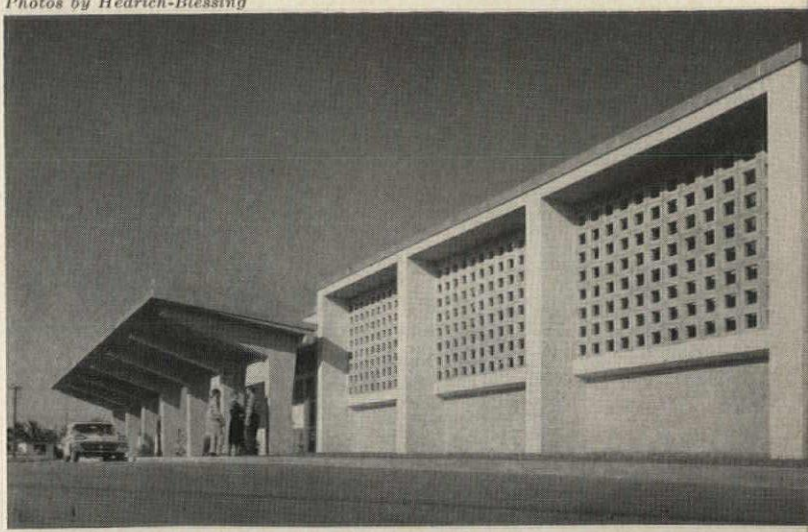
Key West High School, Key West, Fla.

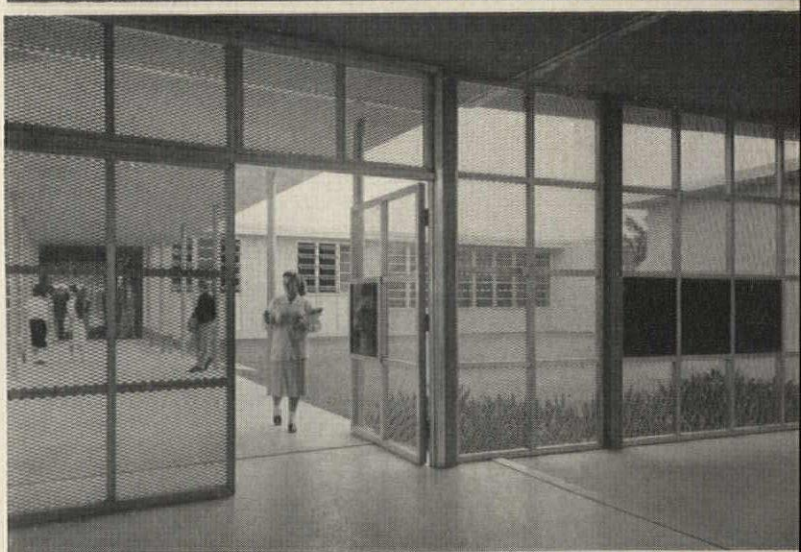
Architect: William H. Merriam

Engineers: Shinn & Hutcheson, Inc., Acoustical Consultants: Bolt, Beranek & Newman; Landscape Architect: James Voss; General Contractor: L. W. Ross



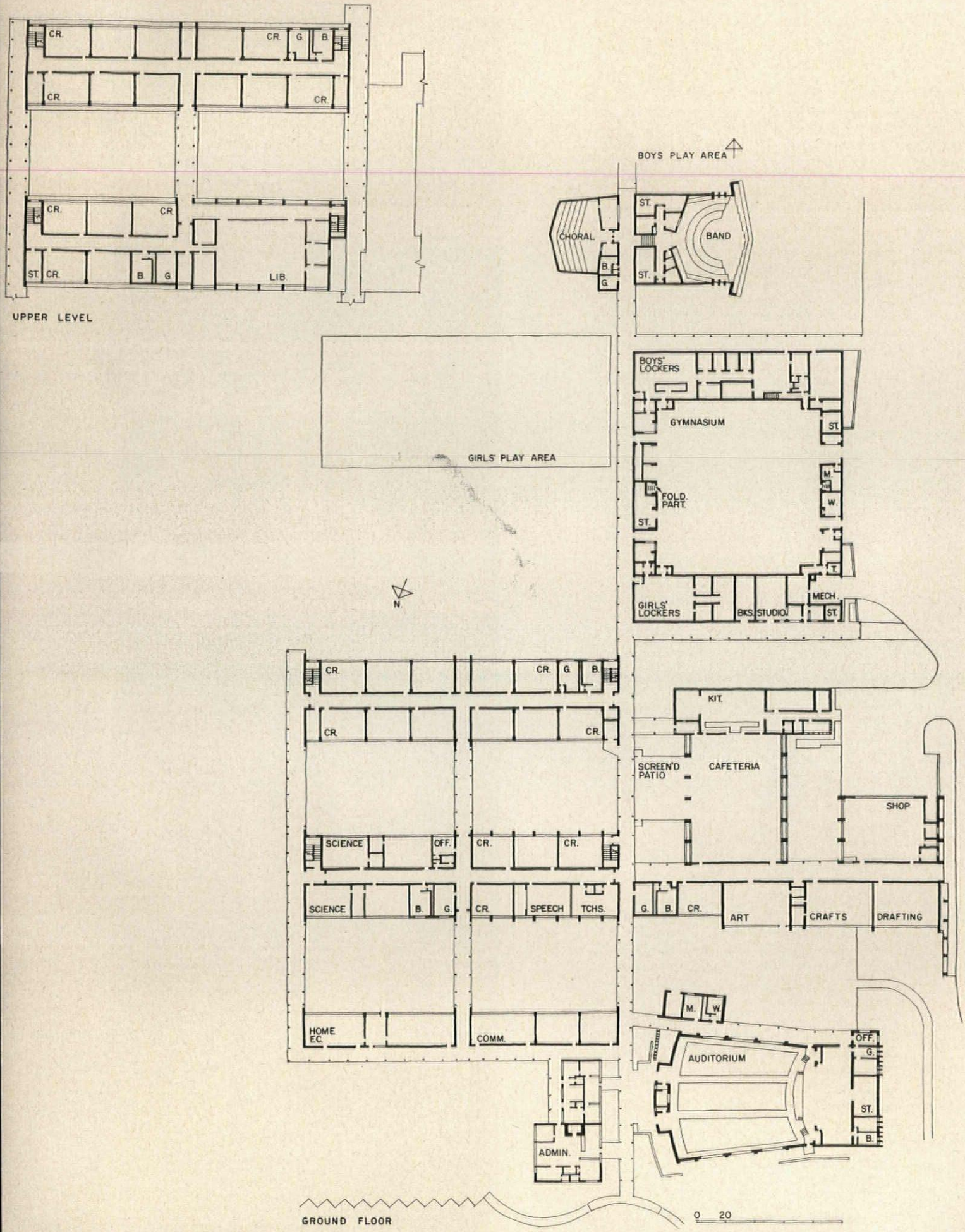
Photos by Hedrich-Blessing



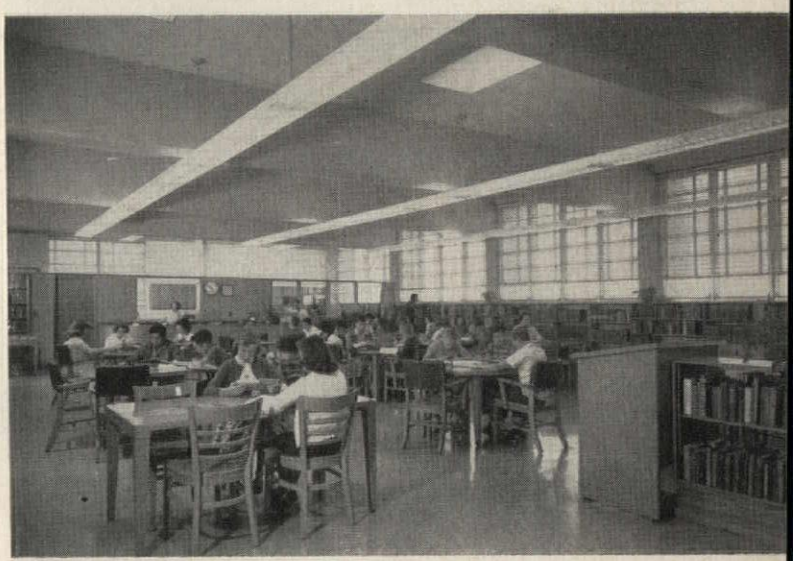


Opposite page: viewed from the central corridor, one of the cloisters, bisected by a two-story "cloister-corridor" joining two classroom wings. *Right, top:* bus loading station; screens shield the shop classroom. *Second:* stage end of the auditorium seen from the street. *Third:* screen divides auditorium section from the rest of the school; the gate can be closed on evenings when public programs are scheduled. *Bottom:* in climate where winter coats and, hopefully, raincoats can be forgotten, student lockers are reduced to book-size

Key West High School, Key West, Fla.



Above and right top: aluminum and porcelain enamel sliding doors in operation in the band room. *Third*: the library, located on the second floor, is entered from enclosed gallery. *Bottom:* the gymnasium is provided with closed press and broadcasting boxes. Structure uses reinforced concrete frame, flat concrete slab with reinforced concrete beams for floors and most roofs; roofs over auditorium and gymnasium are poured gypsum



COST OUTLINE: Key West High School

BUILDING CONSTRUCTION	
General construction	$1,311,657
Plumbing	119,900
Ventilating	43,455
Electrical	145,400
Fixed cabinet work	50,845
Painting and finishing	39,140
	1,710,397
EQUIPMENT	
Kitchen, library, laboratory, home economics, shop, music, bleachers, gymnasium, auditorium seating, stage, draperies	80,970
SITE DEVELOPMENT	
Clearing and grading, drainage, sewage, water supply, electric and gas service, roads and driveways, parking areas, uncovered walks, paved play areas, athletic fields, outdoor equipment, fencing and walls, planting	102,633
LAND	—
FEES	
Architectural, landscape architect, structural, mechanical and electrical, supervision and tests	164,520
ADMINISTRATION	325
TOTAL	$2,058,845
ENROLLMENT	1,200

Limited Urban Site Calls for Consolidation

Neither site nor climate permitted much latitude in designing the Northeast High School of Minneapolis. A six-acre site had to accommodate a high school for 1200 students, a playing field and parking space. By dint of some rather involved maneuvering in the physical education-auditorium building, the architects even managed to save enough space for a small interior courtyard. In Minneapolis, students will probably have little opportunity to use the court for lounging; the architects say that it was designed "to amplify expressively the relation of the school as a community force by the use of a strong spatial relation of courtyard and parkway."

The majority of the classrooms are centered in one three-story wing; single story wings will eventually house the home economics rooms, industrial training shops and arts and crafts rooms. Noisy activities requiring large amounts of space are stacked in the central building.

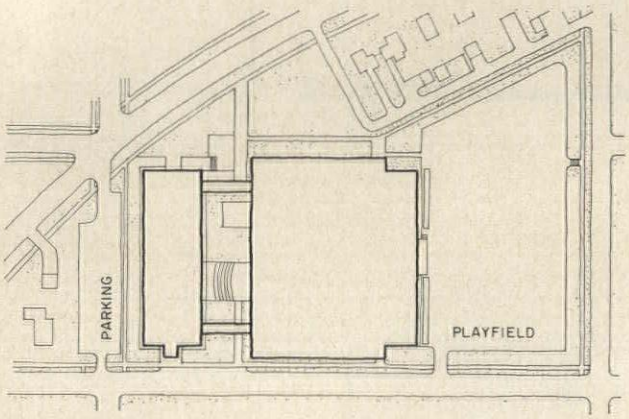
Long-term economy was the first design principle, the architects report; they stressed their use of the modular principle, as well as the use of a minimum range of materials and uniform specification of buildings accessories and hardware.

Ventilation is accomplished by a high-velocity, high-pressure central system, supplied to classrooms over fin tube radiation under the windows.

Northeast Junior High School
Minneapolis, Minn.

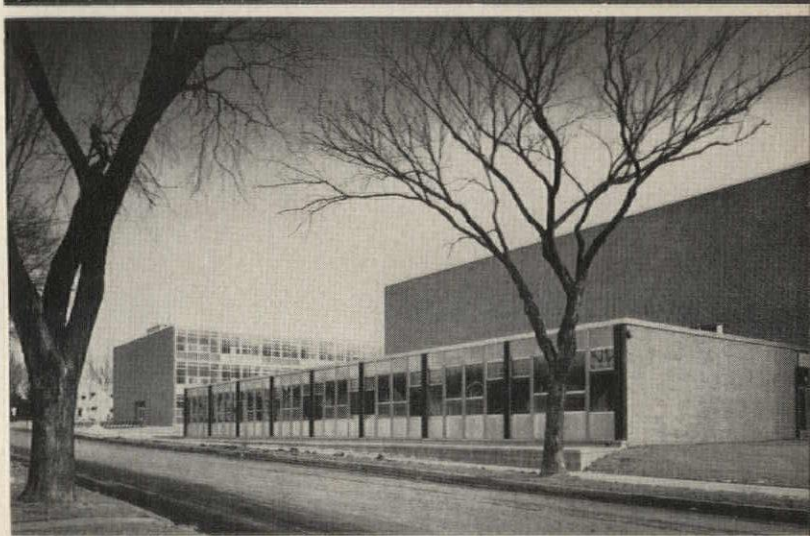
Architects: Thorshov & Cerny

Mechanical: Egan & Sons; Electrical: Reliable Electric Company; General Contractors: Watson Construction Company



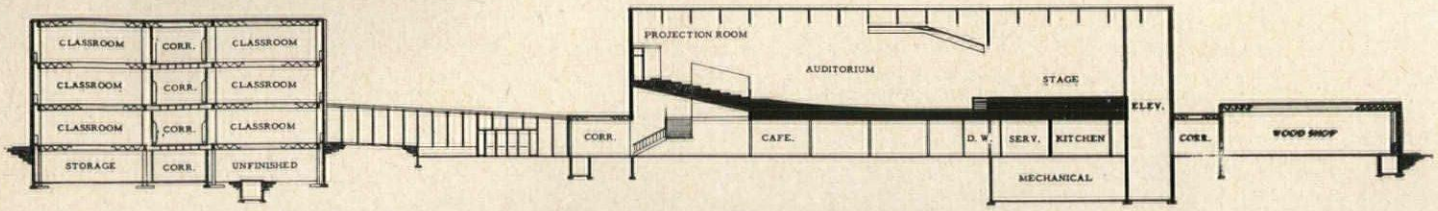
PLOT PLAN

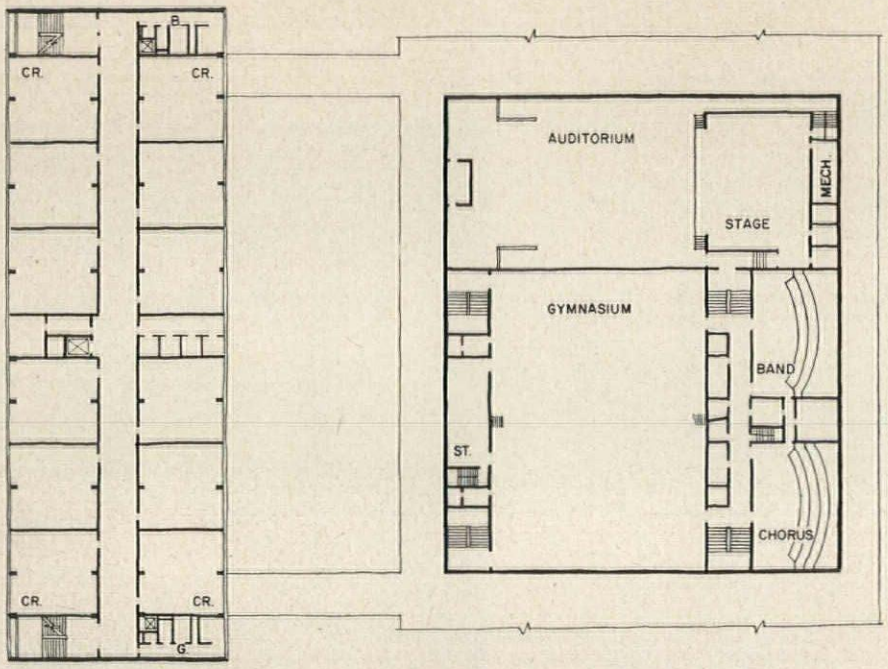
Photos by Warren Reynolds—Infinity, Inc.



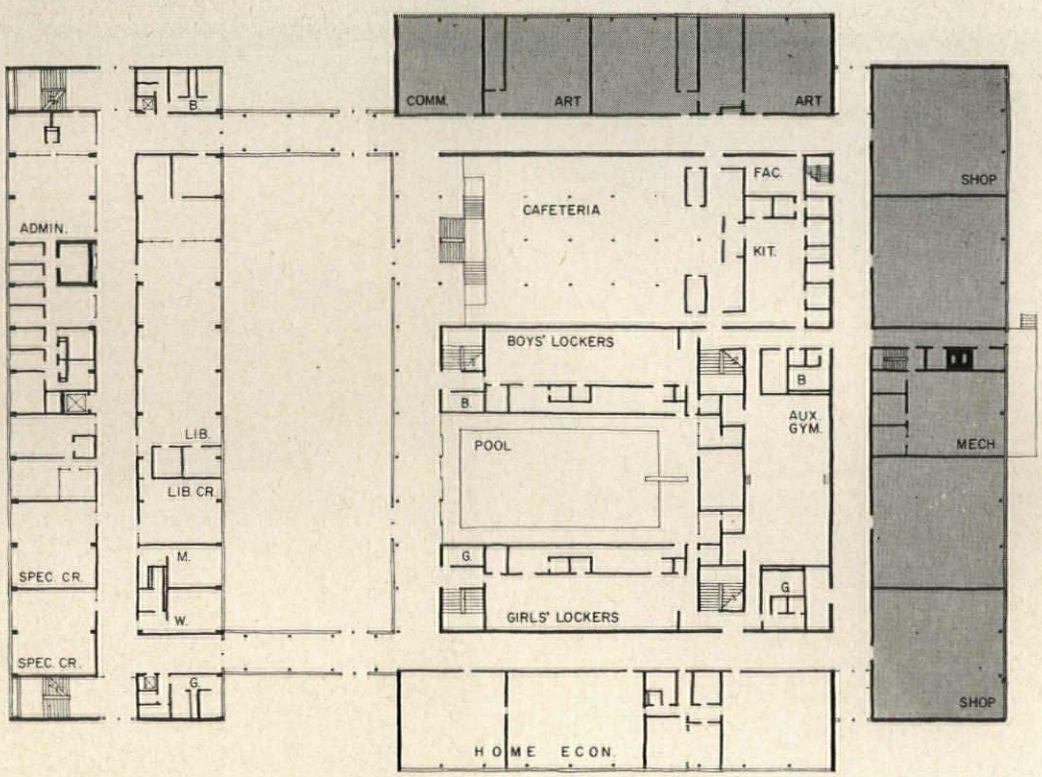
Right, top: front entrance is into corridor which gives on either of the main buildings or on the courtyard. *Center:* single-story home economics wing is first of three such wings to be built around the gym-auditorium building; the other two wings, to contain industrial training and arts and crafts facilities, will be added as funds are made available. *Bottom:* corridor in classroom building, near administration offices

Northeast Junior High School, Minneapolis, Minn.

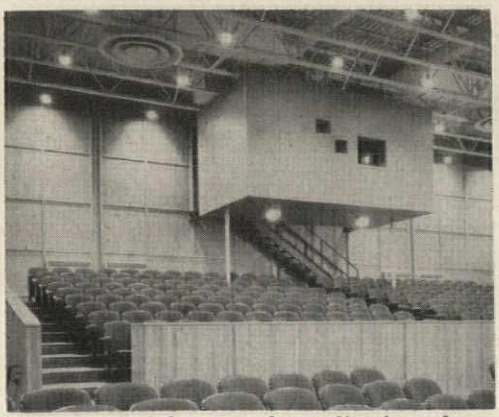




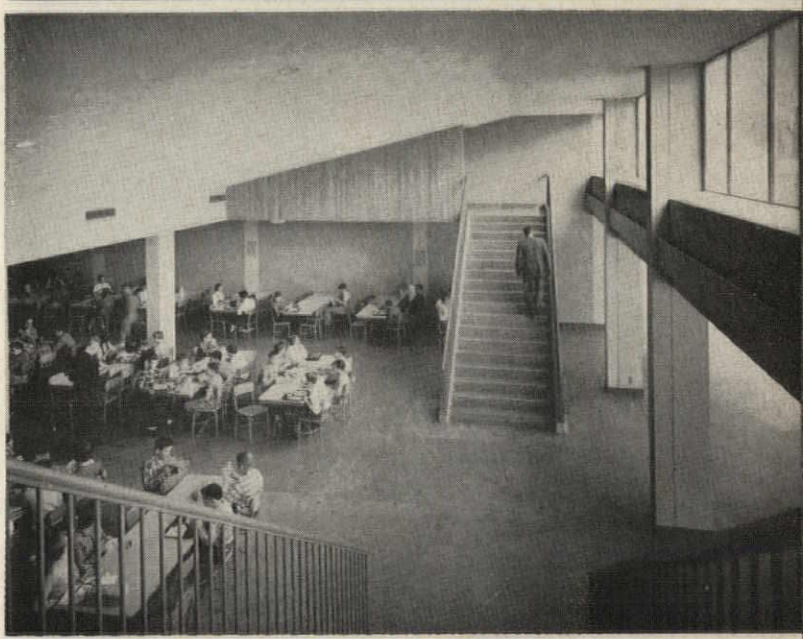
SECOND & THIRD FLOORS



GROUND FLOOR



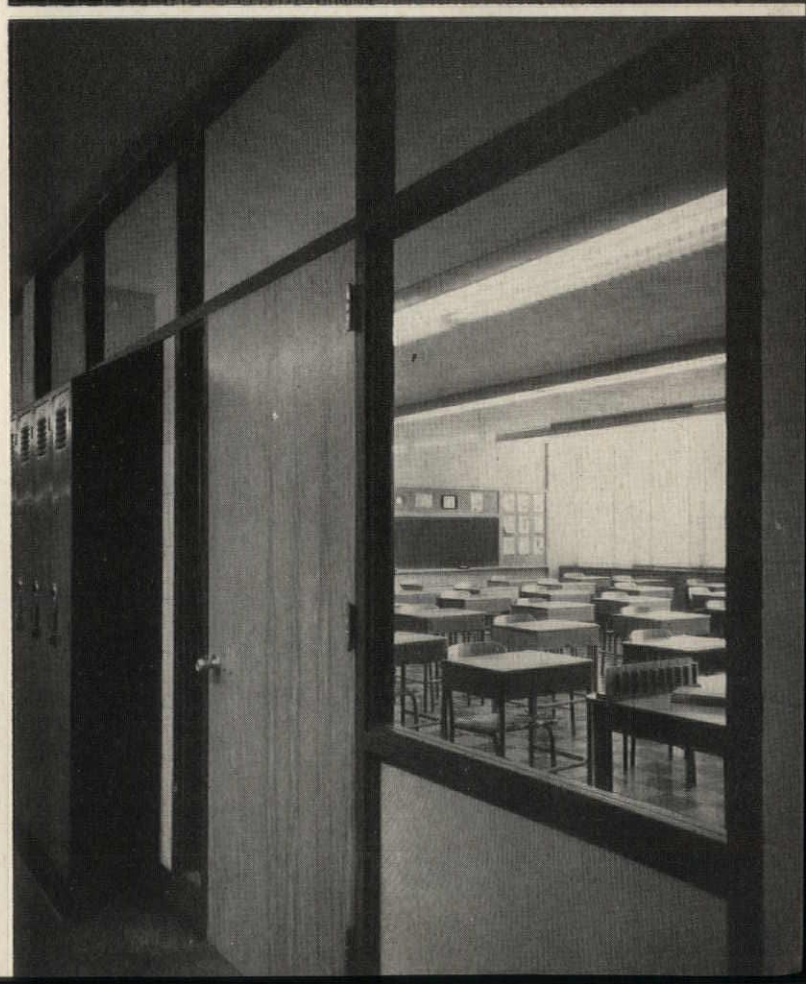
Above and right, top: the auditorium; here, as in the rest of the school, architects used standardized lighting fixtures set in standard patterns for both long-term maintenance and operational economy. *Center:* the cafeteria gets direct illumination from the central court. *Bottom*: classrooms can be viewed from corridor

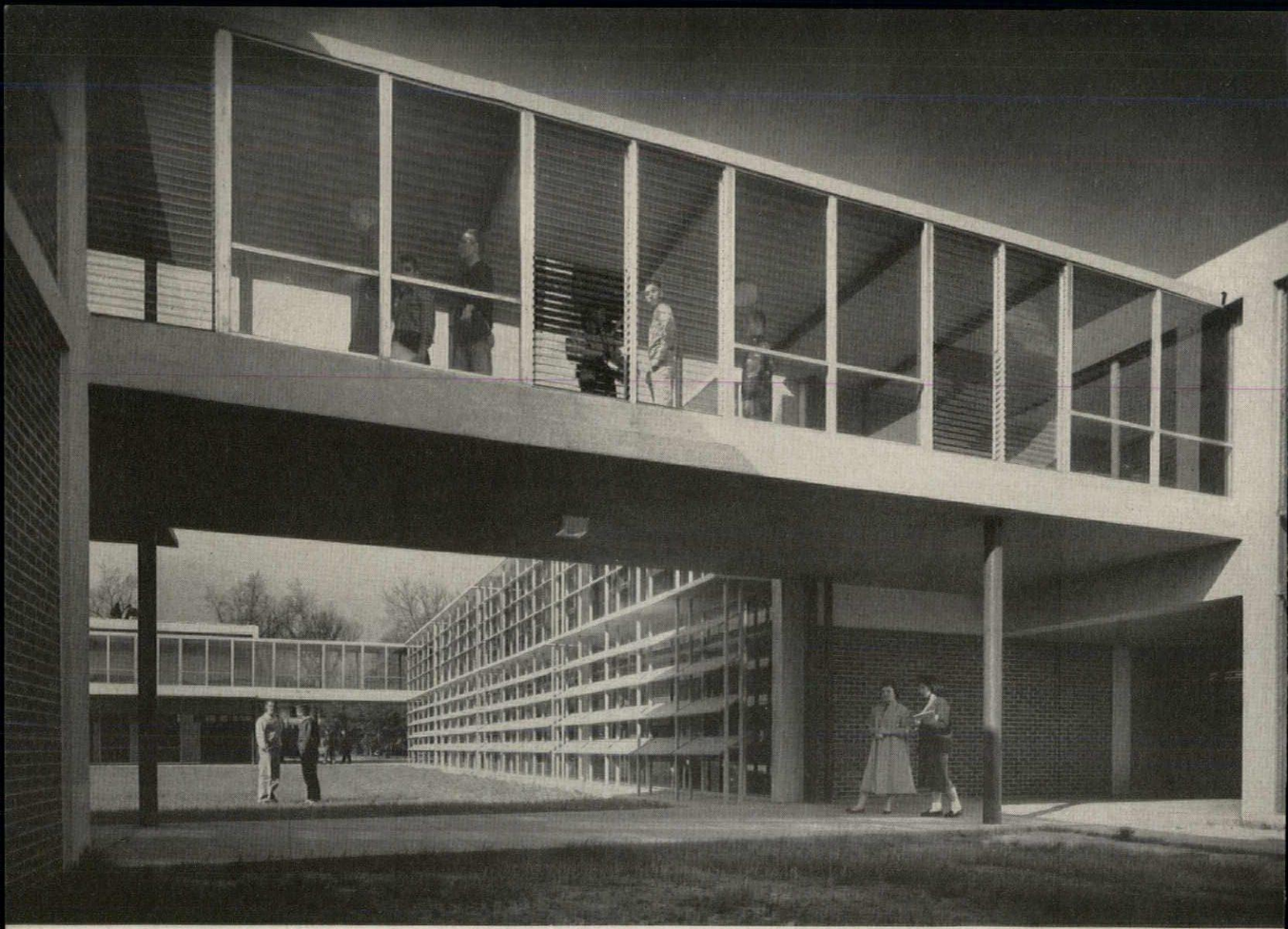


Opposite page: shaded areas indicate future construction

COST OUTLINE: Northeast Junior High School

BUILDING CONSTRUCTION	
General construction (including fixed cabinet work, painting and finishing, some sitework)	$1,574,481
Mechanical	449,305
Electrical	233,734
Temperature controls	41,819
Elevator	9,534
	2,309,873
EQUIPMENT	
Chairs and desks, lockers, movable partitions, cafeteria seats and tables, kitchen, administration, library, home economics, music, gymnasium, auditorium seating	150,632
SITE DEVELOPMENT	
Clearing and grading, drainage, sewage, water supply, electric and gas service, roads and driveways, parking areas, uncovered walks, paved play areas, planting	45,000
LAND	162,105
FEES	
Architectural, structural, mechanical and electrical, color consultant, supervision and tests	147,000
TOTAL	$2,814,610
GROSS AREA SQ FT)	161,920
ENROLLMENT	800 (Projected 1200)





Quadrangle Creates Feeling of Intimacy

On a site that was extended visually by surrounding parks and fields, the Bogalusa High School, it was decided, should turn inward to give the students a sense of intimacy, perhaps even a certain "ivory tower" feeling. All facilities except the gymnasium and auditorium, therefore, were located in a two-story building designed around the central court. For milling space, the open quadrangle was broadened by a covered space left open under the second-floor library; the lunchroom, too, by opening directly onto the court, becomes part of this social area.

The internal organization of the main building placed all general classrooms in one wing, specialized classrooms on sides of the quadrangle adjacent to it, and the library, paired with administration offices, off by itself. Second-story enclosed passages were provided for all buildings within the quadrangle proper. Shop rooms were placed outside the quadrangle entirely, connected with it only by a covered walkway.

The auditorium was removed almost completely from the rest of of the school plant since this is the largest facility of its kind in the town and will be in frequent use by the public.

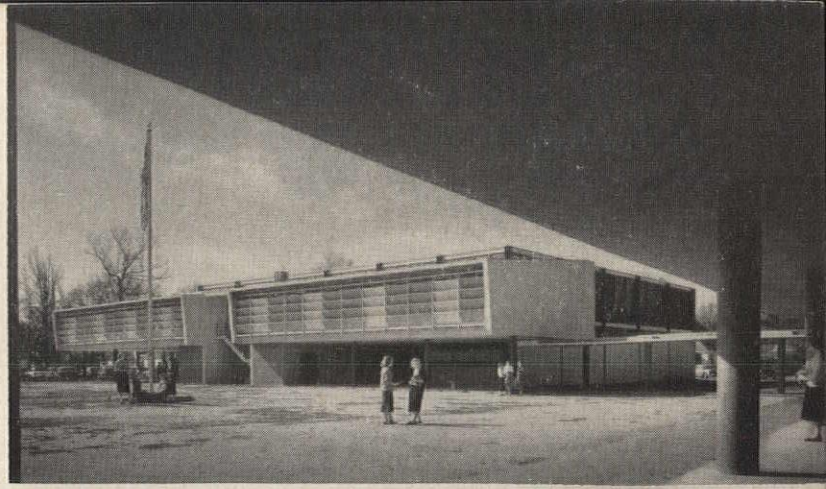
In the general interests of clean design, the long rows of lockers which usually line school corridors were done away with; rooms at either end of the classroom wing were set aside for them.

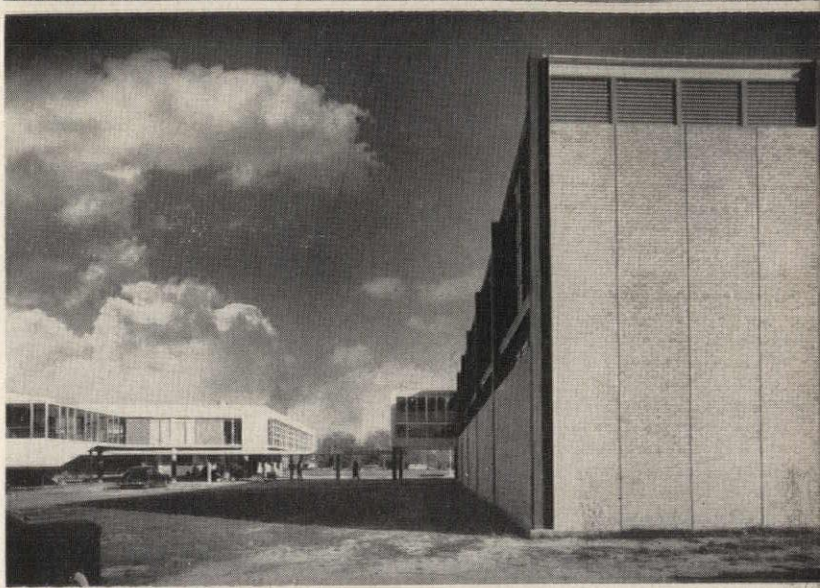
Bogalusa High School,
Bogalusa, La.

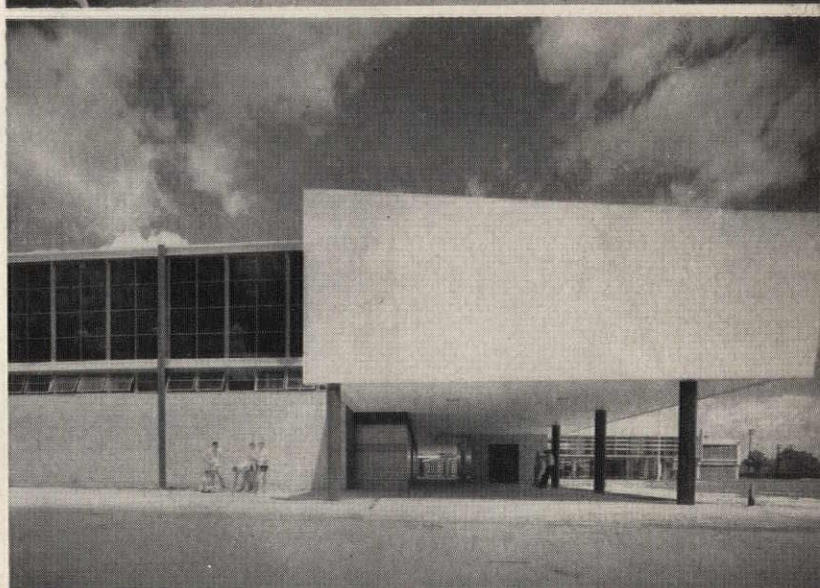
Architects:
Burk, Lebreton & Lamantia

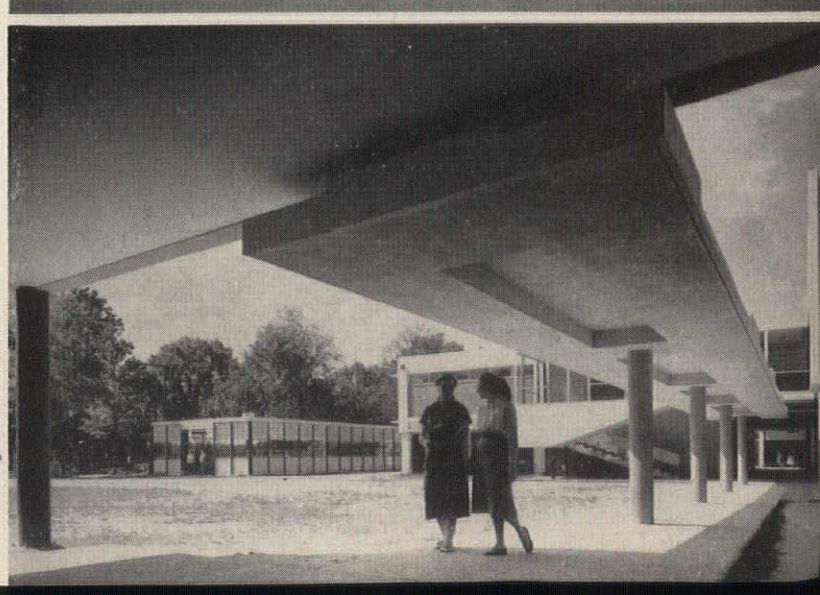
COST OUTLINE: Bogalusa High School

BUILDING CONSTRUCTION	
General construction	$577,278
Plumbing, heating and ventilating	127,000
Electrical	79,000
Painting and finishing	17,500
	800,778
EQUIPMENT	
Kitchen, library, laboratory, home economics, bleachers, gymnasium	32,174
SITE DEVELOPMENT	—
LAND	—
FEES	
Architectural, structural, mechanical and electrical, supervision and tests	49,690
ADMINISTRATION	—
TOTAL	$882,642
GROSS AREA (SQ FT)	78,100
ENROLLMENT	1,000







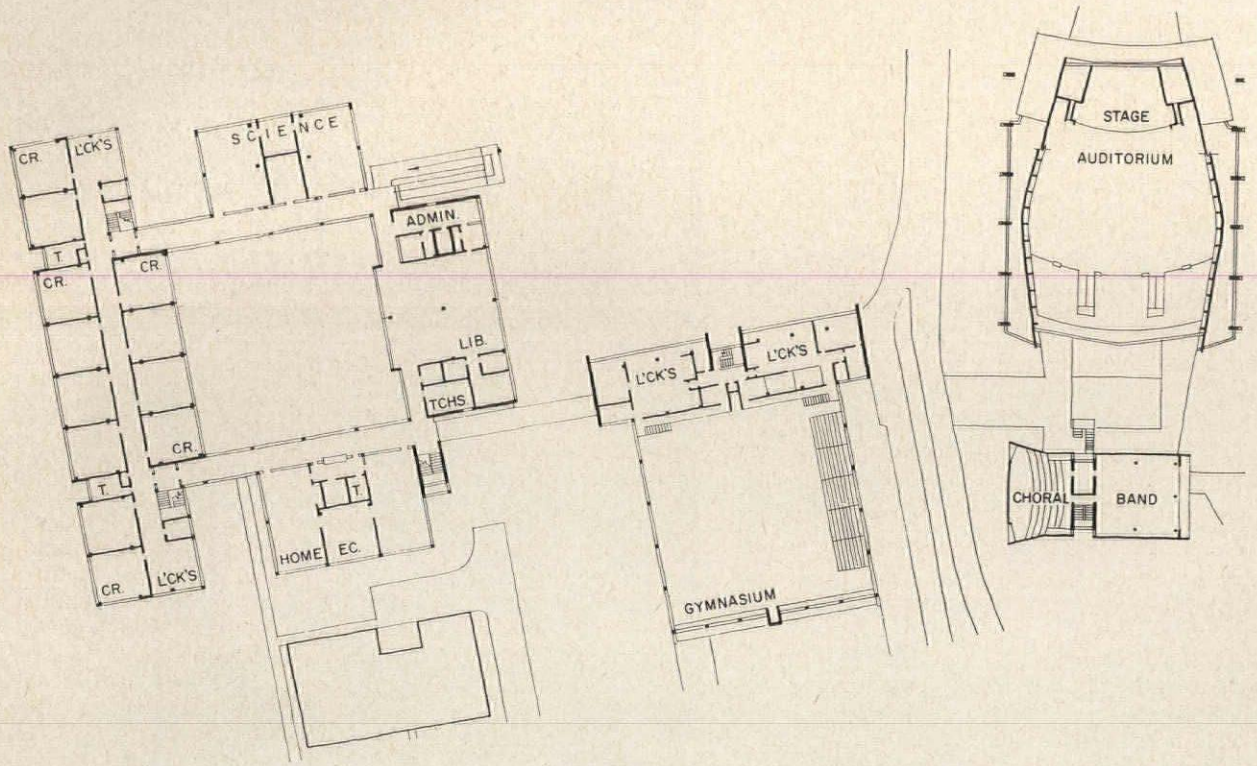


Opposite page: looking under second-story bridge from classroom wing to science classes, one sees part of central court, porcelain enamel louvers on southern side of classrooms; north side is shielded by concrete eyebrow

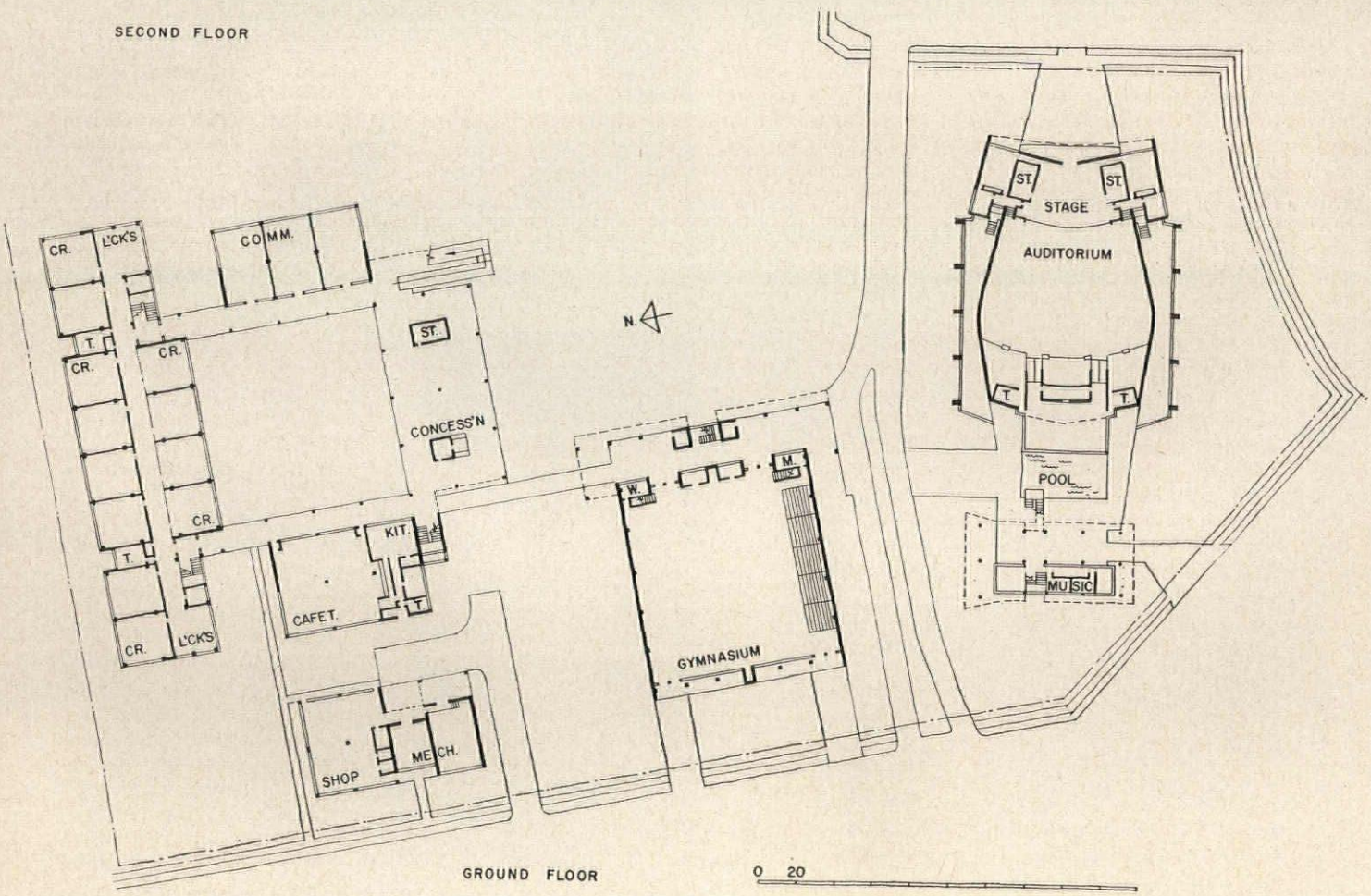
Right, top: gymnasium seen from covered milling space; louvered wall screens locker rooms. *Second and third*: general views from gymnasium. *Bottom*: students approach auditorium and music rooms from quadrangle; detached single-story building houses industrial training shops

Photos by Frank Lotz Miller

Bogalusa High School, Bogalusa, La.



SECOND FLOOR



GROUND FLOOR

School site came equipped with a large playing field, a public park and a football field. Structure is concrete frame with face brick exterior walls; interior partitions are concrete masonry

INDUSTRIAL FLOOR SLABS:

Design and Construction

By JACK L. STAUNTON, *Consulting Engineer, New York*

A survey by Architectural Record in January gave proof that on-grade floor slab difficulties are widespread. The survey also indicated types of failures that have occurred and prevailing practices in design and construction. As a sequel, this article points out reasons for various slab problems and presents a step-by-step procedure for building them correctly. Several new concepts are introduced in determining industrial truck loads and in using highway techniques for building slabs. (See Time-Saver Standards, pp. 257, 259, 261 for special data.)

Abuse is heaped on industrial floor slabs in terms of the traffic and loads they have to carry, and then in the nature of complaints if failure occurs. Since the floor slab is the working platform in any industrial plant or warehouse, the slab probably has more effect on production than any other part of the structure, yet it often is given only secondary attention. When failure does occur, the reason is not always understood, and blame may be laid to the wrong cause.

ARCHITECTURAL RECORD'S survey in January indicated that 61% of the respondents experienced difficulties. It revealed that the difficulties were not restricted to any particular type of structure, or type and weight of truck, or size of structure. The difficulties appeared to be about evenly divided between poor concrete work and poor base preparation.

The purpose of this article is to explain the various factors affecting the design of on-grade floor slabs, and to discuss procedures for both design and construction. Emphasis is placed on (1) loads the slab must carry; (2) nature and preparation of soil to support these loads; (3) structural design of the slab to take static and dynamic loads, expansion and contraction movements; and (4) finish to withstand anticipated traffic.

Several new concepts are introduced in this article. First a rational approach is given for determining floor loads due to industrial trucks (*See Time-Saver Standards pp. 257, 259*). Second, two methods are proposed for compacting soil around confined portions of slab foundations, thus allowing the use of more efficient highway-type equipment for compacting the major areas of subsoil.

1. Types of Loads

The floor slab must support both static and dynamic loads. Static load is the weight of the material actually stored plus the weight of the concrete slab. Dynamic load is the weight of moving loads on the floor such as industrial trucks. The exact wheel loading of each type of industrial truck differs appreciably, making it difficult to determine the exact load until the equipment has been chosen. However, general assumptions can be used for the initial design of the floor slab. Types of industrial trucks and capacity ranges are given in Time-Saver Standards, pp. 257, 259. A method for determining wheel loading is outlined on page 257.

Special consideration should be given to the operating equipment such as lathes, drill presses, etc. These loads are always a combination of static and dynamic, and in some cases the vibratory portion might end up as the critical load. There is no tabulation given here of the characteristics of this equipment since the number of possibilities obviously are too vast. Frequently it is desirable to place this equipment on its own foundation and construct the slab around it. At other times it is preferred to place equipment on the slab itself and thus permit more flexibility in the future operations. It will then become a relatively easy matter to change the equipment, or to rearrange the entire plant as future manufacturing techniques develop.

In any event, conservatism is recommended in the approach to the load-assumptions used, since the only effect of remaining on the safe side will be to increase the material cost of the floor slab. This in itself will be insignificant, and, except in the case when the slab must be structurally framed, will not have a cumulative effect of increasing the loading on any columns, walls or foundations. On the other hand, much greater flexibility will be provided to permit the use of heavier loading or heavier industrial trucks in the future.

2. Soil and Foundation Preparation

Probably the most important single item in the construction of the floor slab is proper care with respect to the subgrade or soil that is to support this pavement.

Two questions should be asked about the soil. The first is: Will the loading cause settlement over a period of time? If so, what can be done to prevent this or to bring it within acceptable limits?

The second question is: What is the supporting power (bearing capacity) of the soil under the floor slab? How uniform is this supporting power? How can we make this bearing capacity greater and more uniform?

At first glance it would appear as though these two questions are the same; any soil which settles would seem to have insufficient bearing capacity. Actually this situation applies only where the soil which is intimately in contact with the floor slab is highly compressible. There may be settlement, however, even though the upper layers of soil are relatively incompressible. This happens when lower layers of soil depress appreciably due to the ultimate superimposed loading. An example is fill placed on top of existing layers of soil which are in turn over an underlying section of peat. Whereas the peat carried the original load, the superimposed weight of the fill causes compression of the peat.

To evaluate properly all conditions, it is essential that the designer have an adequate knowledge of the existing soils occurring under the floor

slab and also of the soils to be imported for use under the slab. This means that a soil survey should be very extensive and should include the character of the soil at varying depths and the elevation of the ground water wherever it exists. Deep borings as well as shallower explorations should be carried out to get a completely representative picture of the soil beneath the slab.

This soil should be tested for its density against various moisture contents, its compressibility, and its grain size. (*Nature of the soil is indicated by its grain size. See Time-Saver Standards p. 261 for identification chart.)* These tests should also be performed upon all the materials that are to be used as fill or backfill over the existing ground and under the floor slab.

The compressibility is the determination of how much a soil will compress at various time intervals under conditions of different superimposed loadings. It will be due to the driving out of water from the soil interstices by the eventual superimposed load, as well as consolidation of the soil itself. From this data one can forecast the settlement that may be expected of the floor slab over a period of time. If it will prove excessive, it may be desirable to remove the undesirably compressive material and to substitute something more satisfactory.

Another alternative, if too much consolidation is apt to occur, is to surcharge the soil. This is usually done by placing an earth load over the initial material in excess of the load expected during the life of the structure. By judicious use of the time-settlement curves, one can determine how much ultimate settlement is likely to occur due to the proposed loading. From these curves one can also tell how long to place a greater load on the ground to get the same amount of settlement. If this is done, no further slab settlement should occur unless the actual conditions of loading exceed those anticipated.

Occasionally consolidation may be accelerated by the proper use of a suitable underdrainage system. This underdrainage system will facilitate the flow of the excess water away from the soil. It will work satisfactorily only if two conditions are met. First, there must be some outlet for the water, and second, the soil must be pervious enough (have a sufficient proportion of larger grains) to permit the flow of the water in the soil into the underdrainage piping.

In some very special cases, where the water condition impedes the rapid consolidation of the soil and it is not possible to construct an adequate underdrainage system for either of the reasons noted above, sandpiles can be used to accelerate the compression of the soil. These sandpiles consist of small diameter vertical holes relatively deep and filled with sand. The spacing of these holes is a function of the original soil, the amount of surcharge, and the allowable time of initial settlement. Sandpiles seldom actually draw the ground water from the site but afford small wells to be filled up with the underground water that could not easily flow elsewhere.

Figure 1 is a typical time vs. settlement study for a hypothetical case. Tests made on the soil reveal that the superimposed load of (1) the earth fill to bring the slab to proper subgrade, (2) the weight of the slab, and (3) the eventual stored load would result in an eventual settlement of 0.375 ft. The nature of the settlement at various intervals of time would develop as indicated in curve A. If more surcharge (in this case sufficient to make the overall load equal to twice the load referred to above) were placed on this site, the eventual settlement would be 0.75 ft and would follow the time settlement curve B. By the proper use of these curves, we are able to determine that if we placed a surcharge load over the area for a period of 1.5 months we would be able to compress the soil sufficiently to prevent any further settlement at ultimate design conditions.

Curve C is a similar time settlement curve for the case where this soil was surcharged and suitable sand piles were used. If we followed this procedure, the desired settlement could be obtained in one quarter of a month.

It should be pointed out that this example is purely hypothetical and that an adequate study of the soil in question should be made for each particular case. Sometimes, the soil will rebound slightly when the surcharged load is removed. Other times some of the water that has been driven out will return and swell up the soil that was formerly compressed.

The actual choice of whether to surcharge, use sand piles, structurally frame the slab between foundations, or to permit the slab to settle eventually is purely one of economics. Generally speaking, it is not a good idea to permit the slab to settle as it seldom settles uniformly, and even if it does settle evenly it is apt to do irrevocable damage to the utilities such as water, sewer, or drain piping which is usually placed under the slab.

The reason for determining the density of the soil at various moisture contents is to tell how much moisture should be present when fill is placed to get the strongest and most uniform material to support the concrete slab. (Water acts as a lubricant for the small grains of fill, and there is an optimum level of moisture for which the fill can be made most dense.) These compaction density tests are usually conducted according to the method developed by the American Association of State Highway Officials (AASHO Method T-99) and modified by the U.S. Corps of Engineers.

AASHO tests consist of taking known volumes of soil and compressing them, using various moisture contents, by means of a standard weight tamper dropped through a fixed distance for a predetermined number of blows per layer. This is continued for a prescribed number of layers. From this, one can determine the maximum modified AASHO density at optimum moisture. These computations can be used as a control in the construction of the subgrade. Modified AASHO tests should be continually performed to verify that adequate compaction is obtained.

As these tests are comparative, it will follow that occasionally one is able to obtain densities of over 100 per cent. Generally speaking, however, the sands which are conesionless and pervious can be compacted to 100 per cent density, while other soils such as silts and clays can seldom be compacted much more than 90 per cent density.

A layer of sand (or gravel) of at least a depth of 6 in. is recommended below the floor slab. The advantages of this procedure have been proven in the recent ARCHITECTURAL RECORD survey. First it is stronger as it can be more thoroughly compacted. Second it can be compacted more uniformly, thus assuring more uniform support for the floor slab. (Differences in the density of the soil will tend to result in uneven stresses on the slab and if they are sufficiently large they might cause cracks.) Third, its perviousness permits the flow of water so that if a high water table occurs under the slab, it will simplify the ultimate relief of this condition.

The level of the floor slab will either be below, at, or above the elevation of the original ground prior to construction. As has been mentioned, the top 6 in. should consist of good sand compacted to 100 per

Correction. In the first article, January issue, p. 179, third column, the following statement appears: "Following is the evaluation (solid bars indicate no difficulty; broken bars indicate difficulty):" This should be changed to read as follows—"Following is the evaluation (with the exception of Part 1—Questions 1 and 2 which are self explanatory, solid bars indicate difficulty; broken bars indicate no difficulty):"

cent maximum modified AASHO density at optimum moisture. The soil for the depth of at least the next 18 in. or for the full height of the fill, whichever is greater, should be either compacted to 95 per cent modified AASHO density if it is sand, or 90 per cent modified AASHO density if it is clay or silt. Other materials such as topsoil, muck, organic silt or peat should be removed from the site and not used as fill or backfill.

To obtain these densities when the slab is below or at original grade, frequently it will be necessary to do no more than test the undisturbed ground. At other times it will be necessary to compact the ground by means of a roller, sheepsfoot roller, supercompactor, or other suitable vehicle, prior to placing and compacting the upper 6 in. of sand or gravel. At other times it will become necessary to remove all the material to the full 2 ft depth below the floor slab and then to replace the soil in 6 in. layers, compacting each layer to the required density prior to placing the next layer.

If the floor is to be constructed above grade, all fill should be placed in 6 in. layers and each layer should be thoroughly compacted prior to placing the next layer.

Uniform compaction requires extreme care so that the soil is worked in adjacent to wall and column footings, grade beams and equipment foundations, as well as under, around and over all utilities that are to be installed under the floor slab.

It should be borne in mind that compaction of soil might result in larger lateral stresses on portions of the structure due to the proximity of the compaction equipment during construction than those anticipated in the ultimate design. To offset this the constructor might be obliged to brace these portions laterally during his operation, or resort to other means of obtaining this compaction without developing large lateral pressures.

A method that might be used to obtain the proper compaction would be first to compact properly the entire area of the structure, then to drive sheeting around the area where the footings are to be installed. This would then be followed by excavating and installing the footings inside the sheeted area. The sheeting could then be pulled while at the same time the area is backfilled and compacted in 6 in. layers.

Another possible method would be to build the below grade construction and to terminate it at a point 2 ft below finished grade. The fill or backfill could then be placed and adequately compacted to subgrade.

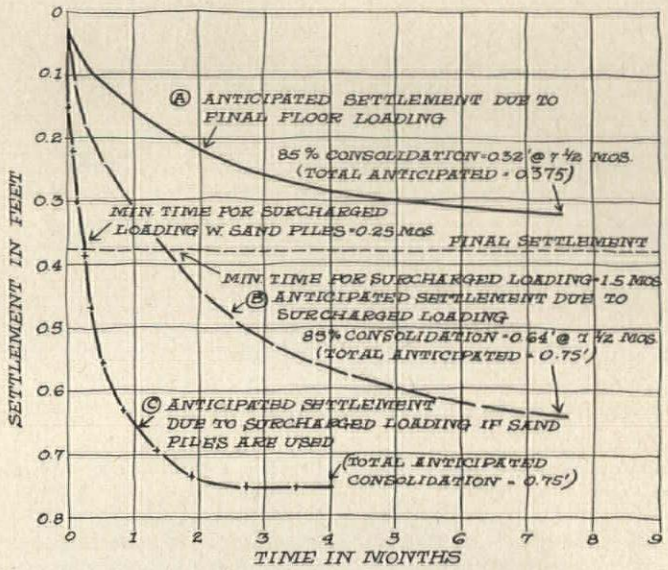


Fig. 1 Subsoil conditions may be such that settlement will occur when a floor slab is placed on ground. Left to itself, soil settlement may take months. It can be hurried up by adding an artificial load; taking water out with sand piles will speed it more

Following this the structure could be dug out, completed and then the local area backfilled in adequately compacted layers.

While neither of the two above methods are commonly used, they are offered here as possibilities—a great many floor slabs have been unsatisfactory due to poor compaction. Since much of this inferior compaction has been due to the difficulty of the compaction equipment operating in tight spaces, we believe that if the confining portion of the operation is held up until after compaction, suitable earth moving equipment can be utilized much more efficiently, assuring a better job if not a more economical one.

The bearing capacity (supporting strength) of the soil is indicated by subgrade modulus "k" and is determined by making a field bearing test (plate load test).

This plate load test should be made on a representative portion of the soil which is to receive the pavement. It consists of preparing a portion of the ground which is to receive the floor slab to approximately the elevation of the bottom of the slab itself. Preparation should be performed so that the compaction of the material is identical to that which would be obtained in the actual construction. A steel plate 30 in. in diameter is then placed on this earth and the plate is progressively loaded up to 30 lb per sq in. and settlements are noted for each increment. From this test the subgrade modulus "k" is computed. Values of "k" in excess of 300 may be found in testing, but it is not practical to use them for design of floor slabs at grade due to difficulty of obtaining such a high degree of compaction.

The curves and tests are corrected for bending of the plate and other factors due to the irregularities that appear in the testing, and then the "k" factor is computed. The "k" factor is equal to 10 divided by the average plate deflection for the 10 psi loading (measurements taken up to 30 psi).

Other methods for evaluating the subgrade modulus "k" of the soil are (1) determining the California Bearing Ratio (CBR) or (2) evaluating the soil itself on the basis of its mechanical analysis and equating this result to that which would probably be determined by a plate load test. (See Time-Saver Standards, p. 261 for discussion.)

3. Structural Design and Construction

The depth of the concrete slab is governed by the load superimposed on the slab, the bearing capacity of the soil, and the strength of the concrete. Mathematical analyses have been developed showing the interrelationships of these factors with respect to truck and airplane loads. And the U. S. Corps of Engineers have prepared curves for these conditions. The most applicable curve is reproduced and adapted in Time-Saver Standards, p. 261. It covers all cases of truck loads.

No curves are provided to design the slab for static load alone because the critical load will usually be the one caused by the moving vehicles. In order to support the static load it is essential that the soil below have sufficient supporting power. If this cannot be obtained, a suitable structural system must carry the load to good foundations.

It is usually much easier to place the concrete for on-grade floor slabs than to pour it for walls, beams, and other slabs because: (1) slabs are on the ground and (2) less of the space in a slab is occupied by reinforcing

steel. Therefore, it is possible to obtain a stronger concrete by using a larger size of aggregate, less water, and a smaller slump. A different specification is advisable for concrete floor slabs than other structures. This concrete is usually specified on the basis of its flexural strength (sometimes known as modulus of rupture) instead of the commonly specified compressive strength used in walls, etc. The Portland Cement Association has prepared a curve showing the inter-relation between compressive and flexural strength, and this is useful where concrete cannot be specified and tested on the basis of flexural strength. (See Time-Saver Standards, p. 261.)

Theoretically, reinforcing steel is not required in floor slabs at grade since the subgrade, when properly prepared, will give a uniform bearing. However, the reinforcing steel will keep the cracks which might develop from opening up and, therefore, its use is strongly recommended. Cracks may be expected in slabs having any dimension greater than 12.5 feet.

The most commonly used formula for determining the amount of steel required is

$$A_s = \frac{FLw}{2 f_s}$$

Where: A_s = effective cross-sectional area of steel in square inches per foor of length or width
F = coefficient of friction between slab and subgrade (varies from 1.0 to 2.5 with 1.5 being recommended by the American Concrete Institute)
L = length between joints in feet
w = weight of slab in pounds per square foot (concrete usually weighs 150 pounds per cubic foot)
f_s = allowable tensile stress in steel in pounds per square inch.

When using this formula, the American Concrete Institute ("Proposed Recommended Practice for Design of Concrete Pavements," *Journal of the American Concrete Institute*, February 1957) recommends the allowable unit stresses in steel reinforcing presented in Table 1. These allowable stresses provide a factor of safety of 1.5 with respect to the steel. Although it is a smaller safety factor than permitted for free span slabs, it is suitable and adequate for slabs-on-grade since there is no hazard of collapse. Furthermore, this permits the designer, by taking advantage of the support furnished by a compacted subgrade to come up with a more economical slab design.

Also, in connection with the foregoing formula, the American Concrete Institute recommends that the minimum size of longitudinal member be No. 3 gage for cold drawn wire and No. 3 (3/8 in. diam.) deformed bars for all other grades of steel. Transverse members should be a minimum of No. 4 gage cold drawn wire and 1/4 in. for bars. Maximum recommended spacing for longitudinal and transverse members are 6 in. and 12 in., respectively, for cold drawn wire, and 15 in. and 30 in. for deformed bars. These size and spacing recommendations have been set up specially for heavy-duty pavement slabs ranging from 40 to 100 ft in length and about 12 ft in width. Therefore, they would be applicable to roads and streets in industrial areas.

In the case of industrial floor slabs, however, trucks and other load handling equipment will most likely have to operate in all directions. Also management must be able to arrange and rearrange placement of stored materials and installed machinery. In order to secure this flexibility of operations, which is an absolute necessity, the slabs should be reinforced equally in both directions. Under these conditions the minimum sizes of reinforcing members should be the No. 4 gage cold drawn wire and the No. 3, deformed bar. For proper distribution of the steel to maintain cracks tightly closed, the maximum spacing should not exceed 12 in.

For slabs 6 in. or more in thickness the reinforcing steel should be placed at a depth of not less than 2 in. and not more than 1/3 the design thickness below the top of the slab. When slabs are less than 6 in. thick, the steel should be installed at a depth of 2 in. below the top or at the mid-depth, whichever is least.

The reinforcing steel usually is made up of welded wire fabric as it is the simplest to handle. This steel may be placed in three ways. The first and by far the best is to support this mesh on suitable chairs or very small pieces of concrete and then to place the concrete under and over this steel at the same time.

Another method commonly used is to pour the concrete up to the level of the reinforcing steel. This is followed by placing the reinforcement and then pouring the remainder of the slab prior to the setting of the lower portion of concrete. This method is the most commonly used, although it has the disadvantage that frequently large quantities of dirt and other foreign material will also be placed between the two layers of concrete, thus weakening the slab.

The third method consists of laying the reinforcing steel on the ground. The concrete is then poured and the reinforcing steel is manually raised to its supposed proper position. This method is highly undesirable as the steel seldom ends up in the correct position. In addition, the dirt of the subgrade is mixed into the concrete and the steel also gets coated with this dirt, both weakening the concrete and preventing satisfactory bond.

There are three different kinds of joints commonly found in concrete slabs: expansion, contraction, and construction joints.

Expansion joints (see Fig. 2) are provided normally to permit expansion of the concrete due to temperature differences after the concrete has achieved its final set. Since the floor slab is usually in a structure that has a fairly uniform temperature, it would seem that this type of joint would not be required. However it is recommended that an expansion joint be provided in the slab wherever there is an expansion joint in the adjacent wall for the following reason: Even though I have never seen any written explanation of the following phenomenon, I have frequently noticed a crack occurring in a slab as

TABLE 1—ALLOWABLE UNIT STRESSES IN STEEL

Type and grade of steel	Minimum yield point psi	Allowable unit stress psi
Billet and axle steel, structural grade	33000	22000
Billet and axle steel, intermediate grade	40000	27000
Billet and axle steel, hard grade	50000	33000
Rail steel	50000	33000
Cold drawn wire	56000	37000

TABLE 2—MINIMUM DOWEL REQUIREMENTS FOR EXPANSION OR CONTRACTION JOINTS IN HIGHWAY CONSTRUCTION

Pavement thickness inches	Dowel diameter inches	Dowel length inches	Dowel spacing inches
6	3/4	18	12
7	1	18	12
8	1	18	12
9	1 1/4	18	12
10	1 1/4	18	12

a continuation of an expansion joint in a wall and terminating at another expansion joint in the opposite wall.

The dowel bars are smooth round bars and should be placed with one-half on either side of the joint. Dowels serve the purpose of transferring the load from one side of the joint to the other in order to prevent unequal deflection of the slab. (For further data on dowels see Table 2)

If the traffic is severe, such as with trucks using steel tires, it is recommended that the edges of the joint be protected by metal in addition to the use of the dowels. Fig. 3 shows one typical detail for this type joint.

Expansion joints are recommended adjacent to all columns, exterior walls, machinery foundations, and other structures such as sumps or pits that might be located in the floor. This type of expansion joint should never have dowels or any other kind of load transfer device as it is provided for the sole purpose of permitting minute amounts of differential settlement between the slab and the wall, etc., without cracking. The value of providing such expansion joints has been borne out by the recently completed survey.

Since differential settlement occurs so commonly the slab should never rest partially on a concrete foundation and partially on the ground.

It has been common practice to make warehouse and industrial floor slabs of constant thickness while concrete roads and airfield pavements have been thickened approximately 25 per cent at free edges. The reason for this is to make the pavement relatively stronger at the edges, since the superimposed load at this point cannot be transmitted over as large an area. It is my feeling that this practice should be carried into the design of industrial and warehouse slabs for the primary purpose of strengthening the floor at a location where the compaction of the subgrade might not be as good as elsewhere. The thickened edge need not extend more than approximately 5 ft from this free edge. Fig. 4 shows one of these typical details.

Concrete shrinks in setting. For this reason, contraction (dummy groove) joints are usually provided in order to control the location of these shrinkage cracks. (See Fig. 5). Some tests made by various highway departments reveal that the road functions just as satisfactorily when no contraction joints are provided if sufficient reinforcing steel is used to keep the random cracks from opening too large. The survey conducted by ARCHITECTURAL RECORD also seems to point out that contraction joints

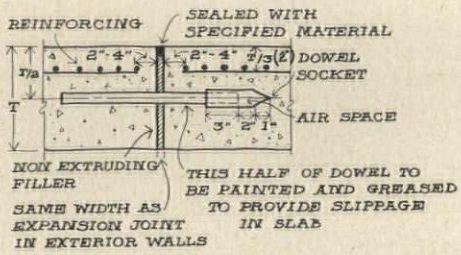


Fig. 2 Expansion Joint

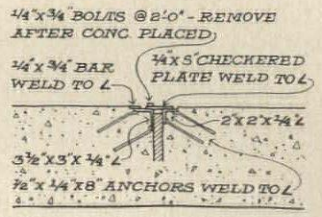


Fig. 3 Expansion Joints for traffic

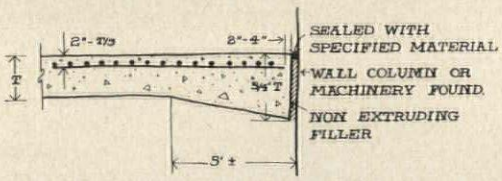


Fig. 4 Expansion Joints adjacent to walls, columns and machinery foundations

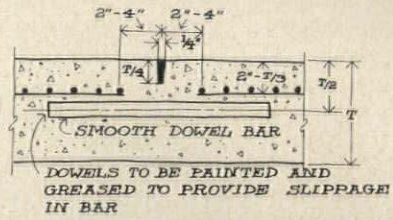


Fig. 5 Contraction Joint

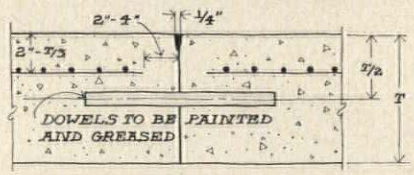


Fig. 6 Construction Joint

might have received too much attention. For the present, however, contraction joints are still recommended primarily to prevent shrinkage cracks which might occur indiscriminately and make the floor unsightly. The spacing of these joints is usually 12.5 to 25 ft.

Construction joints are provided to allow cessation of pouring operations. Where this is necessary some provision must be made to transmit shear between the adjacent slab sections. Fig. 6 shows this typical joint.

If it is desired to keep the width of cracks to an absolute minimum, it is recommended that all contraction joints be deleted and construction joints substituted. The floor slab should then be poured in a checkerboard fashion so that the second half of the checkerboard is not poured until after the first half has set up and its attendant initial shrinkage is complete.

4. Finishes

The survey reported by ARCHITECTURAL RECORD showed that of those structures having floor slab difficulty, 83 per cent were due to poor concrete work, while 41 per cent were due to defective surfaces.

Basic to a good floor finish is high quality concrete work. The know-how and materials are available, but insufficient stress is placed on careful workmanship.

The Portland Cement Association has an excellent pamphlet on the construction of finishes called "Concrete Floor Finishes." Some of this section is taken from the pamphlet.

Requirements for a good concrete finish are: (1) the aggregates should be well graded, (2) the finish should be thoroughly compacted, preferably by the use of power floats and (3) the concrete should be properly cured.

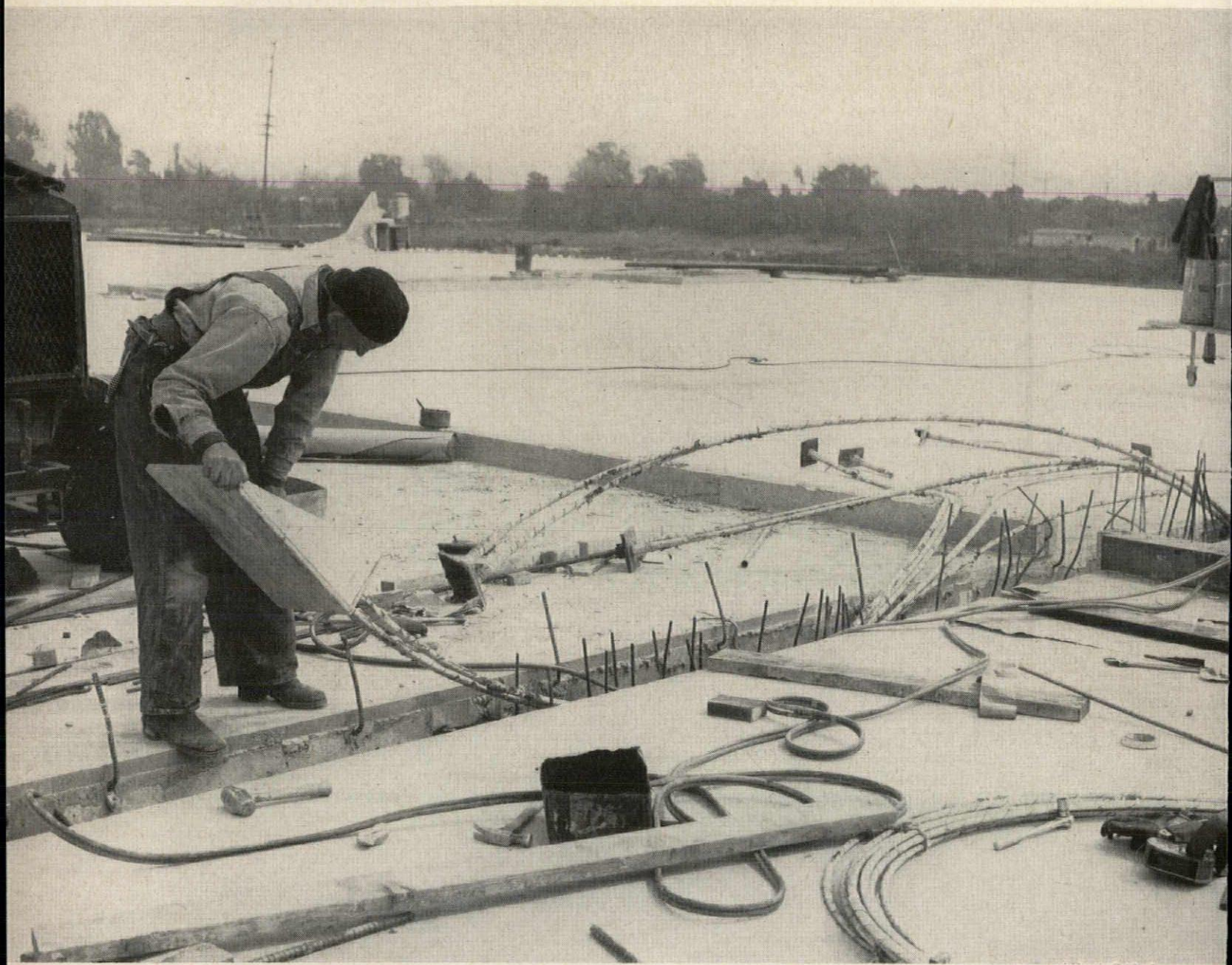
Special treatment of the finish may be desirable to give added insurance against dusting, and to protect areas where there is exceptionally heavy abrasive wear from wheel impact.

Various chemical compounds and oils are used to reduce dusting tendency; flouosolicate of zinc or magnesium; sodium silicate; aluminum or zinc sulphate, Chinawood, linseed or soybean oil; gums, resins or paraffins.

A new material which shows promise for heavy traffic conditions is an epoxy resin which has been tested by the California State Highway Dept.

Another procedure frequently used is to specify that the concrete finish be applied by specialists who closely control the water-cement ratio.

continued on page 326



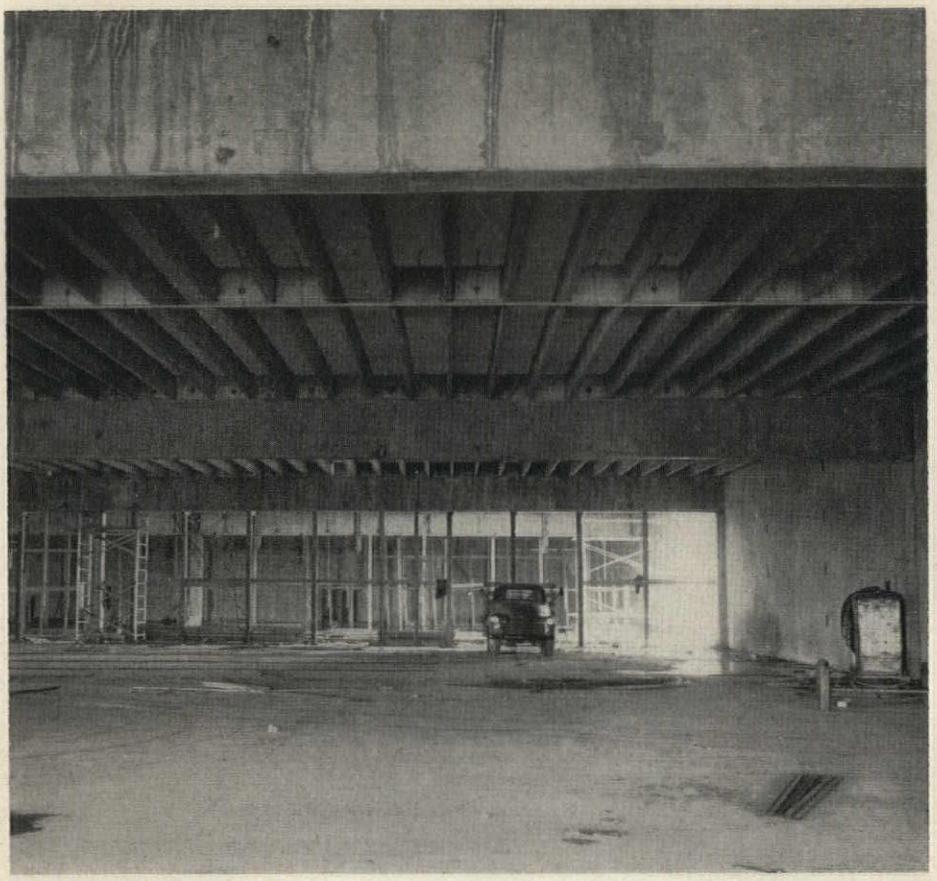
Composite Construction Combats Roof Deflection

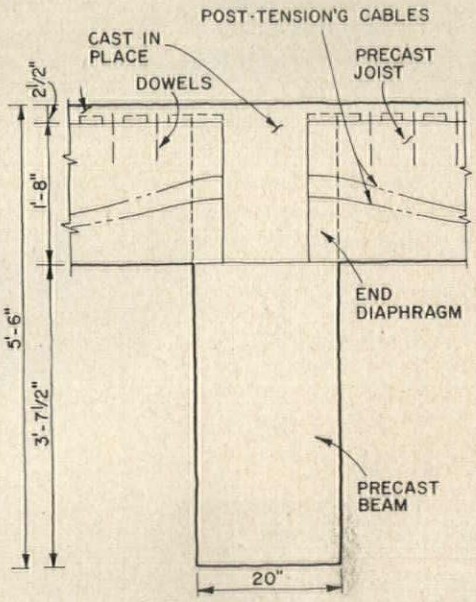
The versatility of prestressed concrete, and the reasons for its growing impact on the building scene, can perhaps be measured by such imaginative designs as that for the Kaynar Manufacturing Company's new plant in Rivera, Calif.—in which a unique air conditioning system led to the development of an even more unique use of prestressed concrete.

The building is a one-story concrete structure with 100,000 sq ft of usable floor space, almost all of which is air conditioned. In place of the usual cooling tower, however, the entire roof deck is flooded with 2 in. of circulating water. Aerating sprays at the front of the building reduce the water temperature, while the rooftop "lake" serves as an insulating agent and reduces expansion and contraction of the prestressed concrete deck. The perfectly flat deck required to allow water to flow evenly the length of the building, along with such considerations as unusually long girder and joist spans (66 ft 8 in. and 60 ft respectively), dictated the use of a number of novel prestressed concrete techniques.

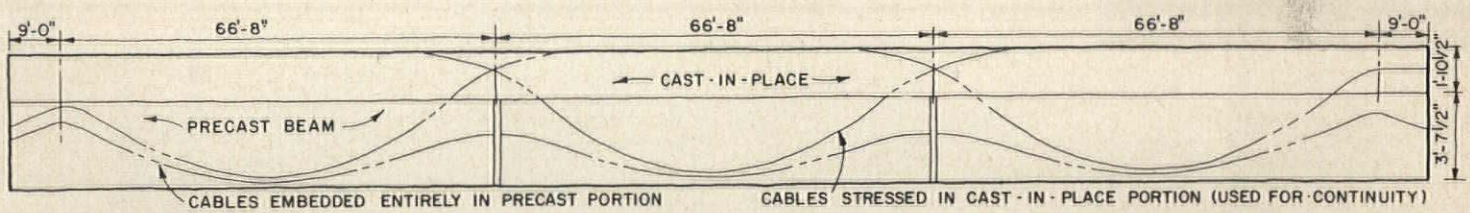
The structural designers felt that in order to control the deflections in the heavily-loaded girders to the close limits called for, it was necessary to make them continuous. However, the negative moments were so large that conventional means of creating a structural tie between members were inadequate.

To solve this, the engineers designed the girders in two parts: one precast and one cast-in-place. The precast section, which is 20 in. wide by 43½ in. deep, contains from four to nine twelve-wire prestressing cables, depending on the moments in the span. About half of the tendons were entirely embedded in the precast portion. These took erection stresses and aided in resisting the positive moments of the final load. The other half were embedded only partially, their ends projecting from the beam and crossing over the columns. When the cast-in-place portion had been poured over them and the entire roof was in place, the cross cables were post-tensioned, causing the precast and cast-in-





Section Through Girder



Girder Elevation

place members to act compositely. Thus full continuity was obtained.

Although pretensioned double tees were originally chosen to span the 60 ft between beams, it was decided instead to post-tension similar structural elements on the site. Rectangular precast joists, each 20 in. deep by 60 ft long and 3⅜ in. thick, thus replaced the stems of the double tees. Before placement of the roof deck, they were post-tensioned with two tendons, one of which was stressed before erection, the other after. The joists, cast in groups of three or four, were tied together at their ends and in the center by diaphragms which, after erection, served as forms for the cast-in-place portion of the girders.

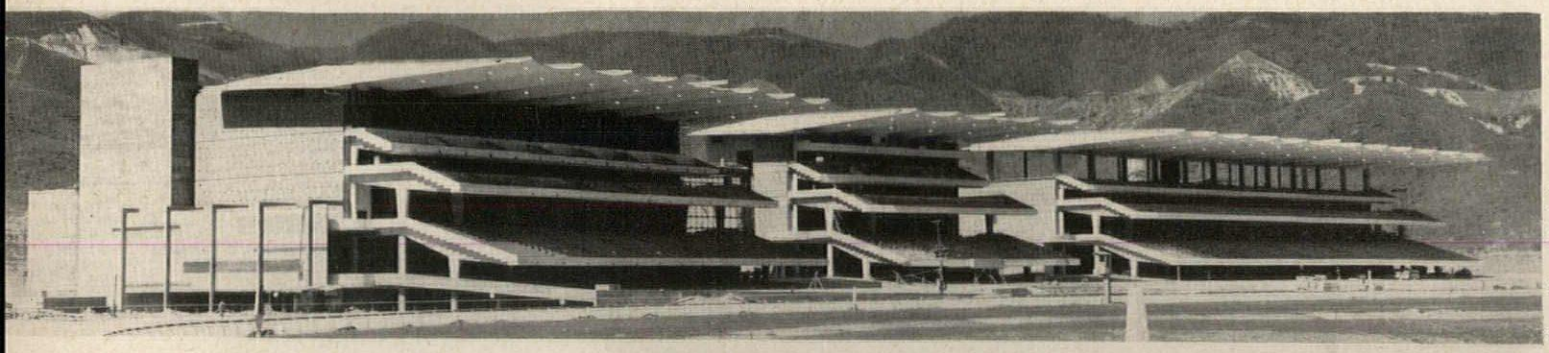
The 3 in. thick concrete roof deck was cast directly over the joists, forming the top flange of the "tee." For composite action, it was connected to the joists by shear keys and dowels which projected from the precast elements. In the direction parallel to the joists, the slab was prestressed by the post-tensioning cables in the joist members; in the direction perpendicular to the joists, prestressing was accomplished by cables in the slab itself.

Since the roof was cast in 60 ft by 66 ft 8 in. sections to allow for concrete shrinkage, the continuous post-tensioning had to be done in successive stages. After one section was cast and stressed, the cable for the adjacent section was coupled to the stressed cable. Thus as subsequent sections were poured and their cables tensioned, continuous prestress was provided across the entire width of the roof.

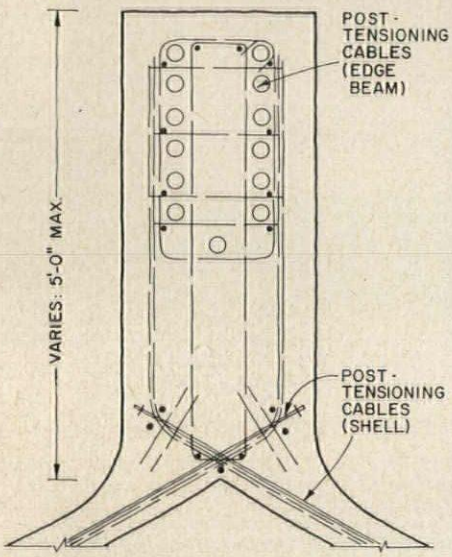
During the initial stressing, the girders cambered approximately ⅜ in., while the joists had a camber of about ½ in. before the roof slab was poured. After the deck was cast and the shoring removed, however, both joists and beams had a maximum camber of ⅛ in. None deflected below the level line even under the full water load.

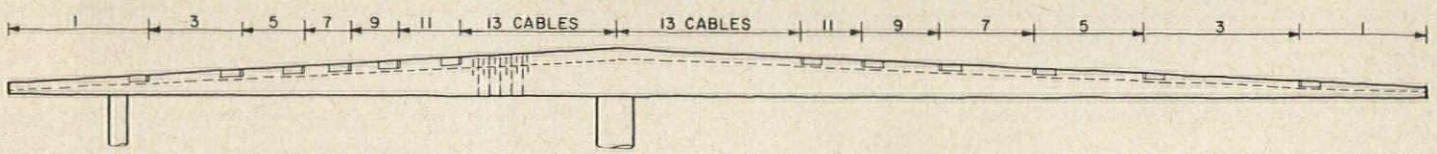
Architect for the project was John Lautner, A.I.A.; T. Y. Lin & Associates were responsible for the structural design.

more roundup on page 252



Hamilton Wright





Three-Inch Shell Cantilevers Ninety Feet

Three grandstands at Venezuela's new racetrack project, the Hipodromo Nacional in Caracas, are roofed by thin (3 in.) concrete shells which straddle a longitudinal support, cantilevering 90 ft out over the grandstand seating, and extending back 60 ft to a row of anchor columns at the rear of stands. From the front the roof appears as a series of concave scallops with a catenary sag varying from 2½ ft at the tip of the cantilevers to 6½ ft at the supports. The side elevation reveals the tapered edge beams which occur at the intersections of the 30 ft wide scallops. The dual action of these two elements —both of which are prestressed—is largely responsible for the efficiency and economy of the structure.

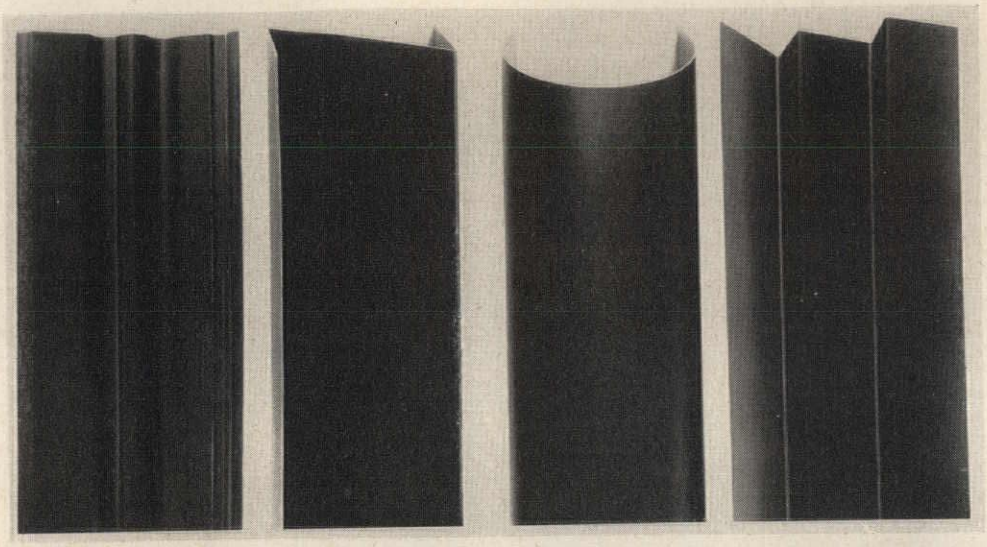
The design was based on the effort to prevent deflection of the cantilever, which would then act as a horizontal column subject only to direct stresses. This could have been accomplished by using exposed cables. However, for the sake of appearance and structural rigidity, edge beams were built to house the prestressing cables that run in the direction of the cantilever. When the cables, which are of varying lengths (detail above), were post-tensioned, the tip of the cantilever was lifted 1 in. above its falsework. Loss of prestress due to creep and shrinkage is expected to cancel this initial camber in time, leaving the roof structure level.

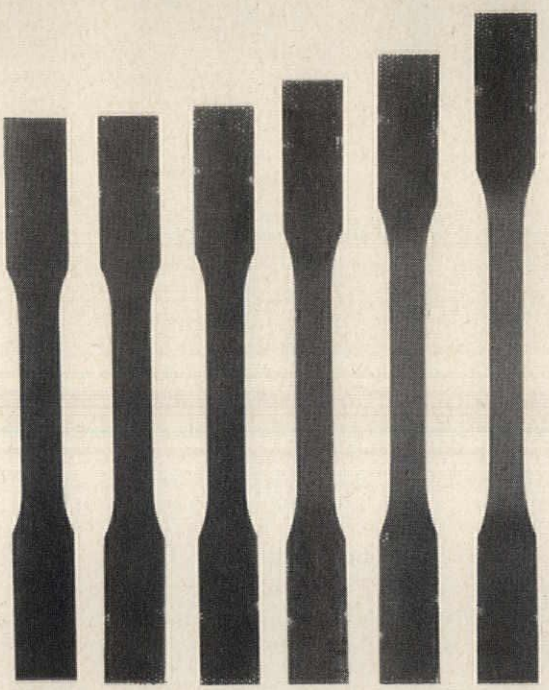
To minimize cracks and deflections in the shells themselves, and to add to the economy of the structure, the spans between the edge beams were also prestressed. Post-tensioning cables follow the catenary curve at mid-depth of the shells—which are 3 in. thick over most of their length, 5 in. thick near the columns—and anchor on either side of the beams. Nominal reinforcing reduces shrinkage.

The anchor columns were also prestressed to insure their elastic behavior under the action of the uplift force produced by the design load.

Arthur Froehlich was the architect for the project; Henry Layne was the structural engineer, with T.Y. Lin & Associates as special consultants on the design and construction of the prestressed roof shells.

more roundup on page 266





Flexible Color for Stainless Steel

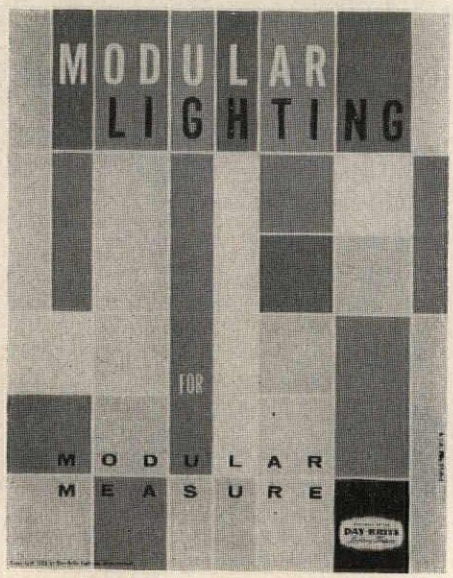
Thanks to a new process developed by the Electro Metallurgical Company, architectural stainless steel can now be produced in color—without the drawbacks inherent in porcelain enameling and other stainless steel coloring processes used to date.

Primary among the advantages of the *Permyron* process is the flexibility of the coloring. Stainless steel sheet can be deep drawn and bent after processing without cracking or crazing, and the coating also resists cracking due to expansion and contraction. (The stainless steel tensile specimen shown above was tested to 50 per cent elongation before surface damage became apparent.) In addition, the application technique permits processing of extremely large parts, such as architectural panels.

Basically, the *Permyron* process involves spraying or roller coating specially prepared surfaces with the "proper pigment in a suitable vehicle," and processing under controlled conditions of atmosphere and temperature. The thin (.0004 in.) coating that results is durable, and chemically and physically resistant to most atmospheres in which it might be used. Although it can be applied in the field—an advantage in repairing parts damaged during handling or erection, plant processing is preferred. Company spokesmen point out that the process may be used for coloring aluminum, plain carbon steel and other metals as well as stainless steel, and that costs are expected to be competitive with those for such coloring methods as anodizing and porcelainizing. At present the only color being produced commercially is a permanent matte black, but a range of colors now 'in the works" will ultimately be made available.

The first architectural application of the colored stainless steel was in a curtain wall for Atlas Steel Ltd.'s new head office building at Welland, Ont., Canada (photo above). It will also be used for the spandrels and column covers of the Union Carbide Building in New York City, which is scheduled for completion in early spring. *Electro Metallurgical Co., 30 East 42nd St., New York 17, N. Y.*

more products on page 282



Modular Lighting for Modular Measure (A. I. A. 31-F-2) covers Day-Brite's *Mobilex* and *Troffer* lines of recessed fluorescent lighting. Photos and cross-sectional drawings supplement brief selection information. 16 pp. Also available is a similar 12 page brochure which describes and illustrates the *Daylume* series of surface mounted lighting elements, including the *4-Square* recessed unit. *Day-Brite Lighting, Inc., Marketing Dept., 6260 N. Broadway, St. Louis 15, Mo.*

Fluorescent Fixtures Catalog
Shows expanded line of fluorescent fixtures for industrial and commercial installations. *Leadlight Fixture Co., 800 100th Ave., Oakland, Calif.*

Soil Compaction
. . . *by Vibroflotation* discusses method of providing economical foundations by soil consolidation, and describes its application to a variety of structures. 8 pp. *Vibroflotation Foundation Co., 930 Fort Duquesne Blvd., Pittsburgh 22, Pa.*

Recessed Lighting Catalog
Presents *Marco* line of architectural recessed lighting fixtures. *Marvin Electric Mfg. Co., 648 S. Santa Fe Ave., Los Angeles 21, Calif.*

Cafco for Fireproofing
Four page bulletin contains a complete description of *Cafco* fireproofing material, with fire retardant rating tables and a specification guide. *Columbia Acoustics and Fireproofing* Co., Stanhope, N. J.*

An Architectural Study
. . . *of Walnut for Commercial, Institutional and Residential Interiors* offers a wide range of suggestions for the use of walnut in interior decor. 16 pp. Also offered is a walnut "Source List" designed to aid in locating local sources of supply. *American Walnut Manufacturers Assn., 666 N. Lake Shore Dr., Chicago 11, Ill.*

Twin-Lux Luminaires
Describes and illustrates new 2 by 4 ft fluorescent lighting unit, with necessary technical data and ordering information. 8 pp. *Smoot-Holman Co., Inglewood, Calif.*

Bar-Ray Catalog
Contains illustrations, diagrammatic drawings, specifications and product information on x-ray accessories, isotope and inspection equipment, radiation protection and film processing equipment. 56 pp. *Bar-Ray Products, Inc., 209 25th St., Brooklyn 32, N. Y.**

Tufwire Wire and Strand
. . . *for Prestressed Concrete* offers design information and pertinent physical data on *Tufwire* wire and strand for pre-tensioned and post-tensioned prestressed concrete. 12 pp. *Union Wire Rope Corp., 21st and Manchester Ave., Kansas City 26, Mo.*

Uni-Crest Expanded Polystyrene
Reference file folder contains descriptive material and application specifications, with sectional drawings, for *Uni-Crest* expanded polystyrene low temperature insulation. *Uni-Crest Div., United Cork Co., Kearny, N. J.*

What Price Schools?
Features pictures and information on pre-engineered steel school buildings. *Stran-Steel Corp., Detroit 29, Mich.*

Drafting and School Equipment
Illustrates and gives selection and specification information on *Stacor* drafting and drawing equipment and accessories. 24 pp. *Stacor Equipment Co., 295 Emmet St., Newark 5, N. J.*

Educational Laboratory Furniture
(A.I.A. 35-E) Describes and illustrates, with installation photos, dimensional drawings and specifications, a complete line of wood furniture for educational laboratories. 68 pp. *Kewaunee Mfg. Co., 5046 S. Center St., Adrian, Mich.*

Coal-Fired Package Boilers
(A.I.A. 34-B-1, 30-C-1) Describes and gives performance and selection data for *Coal-Pak Automatic* series of bituminous coal-fired package boilers for low or high pressure hot water or steam systems. Bulletin 1100, 10 pp. *International Boiler Works Co., 768 Peach St., East Stroudsburg, Pa.*

Power Roof Ventilator
(A.I.A. 30-D-1) Gives capacity ratings, noise-level classifications, motor-selection specifications, installation notes and descriptions of Type L-CRF *Air-foil* centrifugal power roof ventilators. 8 pp. *Ilg Electric Ventilating Co., 2850 N. Pulaski Rd., Chicago 41, Ill.**

Copper Roofing Products
Contains detailed descriptions and illustrations of complete line of roofing and drainage products; gives instructions for determining drainage requirements, information on proper flashing procedures, engineering data and similar material. 28 pp. *C. G. Hussey & Co., 2850 Second Ave., Pittsburgh 19, Pa.*

Deluxe Steel Shelving
Catalog No. 30 gives selection data on shelving items for all storage requirements, with detailed suggestions for correct shelving for storing materials, parts and files. Shop equipment and storage cabinets are also described. 64 pp. *Deluxe Metal Furniture Co., Warren, Pa.*

**Additional product information in Sweet's Architectural File, 1958*

more literature on page 298

Adlake

America's Finest Aluminum Windows

Only Adlake combines
these 6 basic advantages

- **No warp, no rot**
- **Minimum air infiltration**
- **No painting, no maintenance**
- **Fingertip control**
- **No rattle, stick or swell**
- **Guaranteed non-metallic weatherstripping**

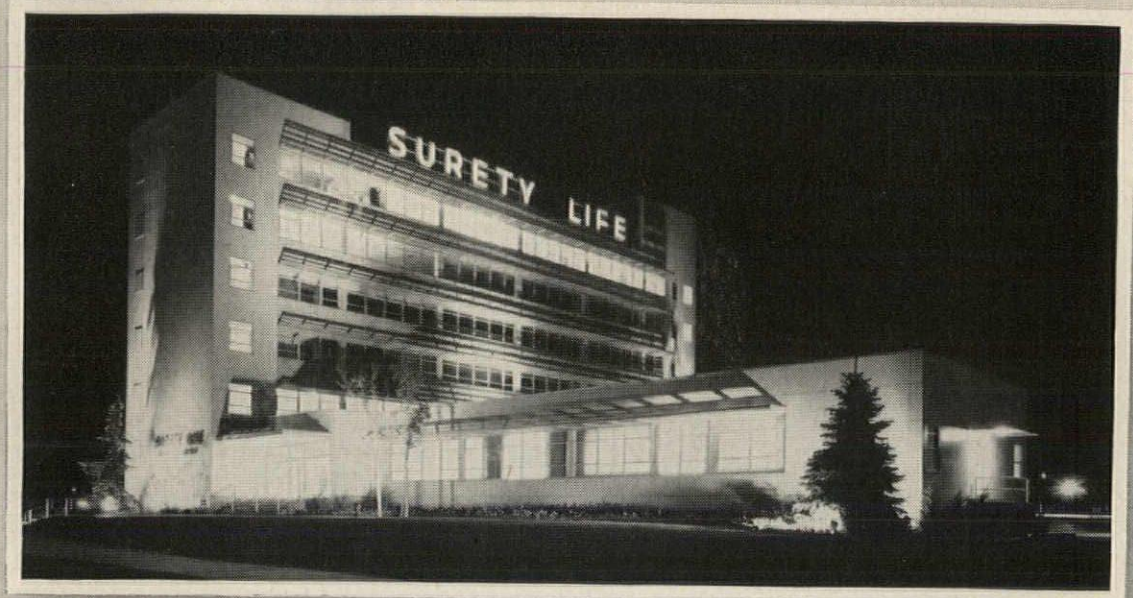
Also, Double-hung Windows with Patented Serrated Guides

See our 36-page listing in Sweet's Architectural File.

Building:
Chicago Sun-Times Offices
Architects-Engineers:
Naess and Murphy
Contractor:
George A. Fuller Company
Type:
(1000 Series)
Reversible Windows

The Adams & Westlake Company
NEW YORK ELKHART, INDIANA CHICAGO

CASE #102—Another case where General Electric Factory-Assembled Air Conditioning Units proved more practical than a field-assembled system.



Air conditioned by Refrigeration Distributors Corp., Salt Lake City

Architects: Slack W. and David Winburn, Salt Lake City

The striking modern lines of the new Surety Life Building, Salt Lake City, Utah, pay tribute to the taste and skill of the architects. And the economical, Zone-by-Zone installation of General Electric Air Conditioning pays tribute to their judgement.

GENERAL ELECTRIC ZONE-BY-ZONE AIR CONDITIONING

meets all economy and performance expectations of architects in new Salt Lake City building

Beauty and function go hand in hand—with an incomparable degree of *comfort*—in Salt Lake City's new Surety Life Building. The architects chose a system of air conditioning as modern and effective as the architecture itself:—General Electric Zone-by-Zone Air Conditioning. Here's what Mr. Slack W. Winburn, architect-engineer, has to say about it...

"The General Electric Air Conditioners specified by us have proved highly satisfactory in the Surety Life Building. The points entering into our decision to specify General Electric Zone-by-Zone Air Conditioning offered the following benefits:

"**1.** Lower first cost, together with lower operating costs.

"**2.** Three zones of control per floor provide flexibility of control in the northern, central, and southern areas, thereby affording proper temperature control regardless of solar exposure, occupancy, or outside temperature.

"**3.** With the Zone-by-Zone conditioning approach, the large and long supply ducts normally used in a central-plant system were eliminated.

"**4.** The system allowed a layout of duct distribution between floors and the placing of diffusers and lights to a module between window mullions. This enables partitions to be moved without tearing into ceilings to make changes.

"**5.** One important consideration was the easily removable, sealed refrigeration units which can be replaced quickly if repairs are necessary."

We can add little to Mr. Winburn's words except, perhaps, to note that this case is typical of the results you can expect when you install General Electric Zone-by-Zone Air Conditioning.

General Electric's complete line is flexible enough to meet every air conditioning need for all types of buildings—large or small, old or new. Ceiling-mounted units, water-cooled, up to 7½ tons—air-cooled up to 10 tons. Floor-mounted units—water-cooled—up to 30 tons—air-cooled up to 20 tons. Steam and hot water coils available for all models. Discover how General Electric Factory-Assembled Units can simplify your job. For full details write: General Electric Company, Air Conditioning Department, 5 Lawrence Street, Bloomfield, New Jersey.

Progress Is Our Most Important Product

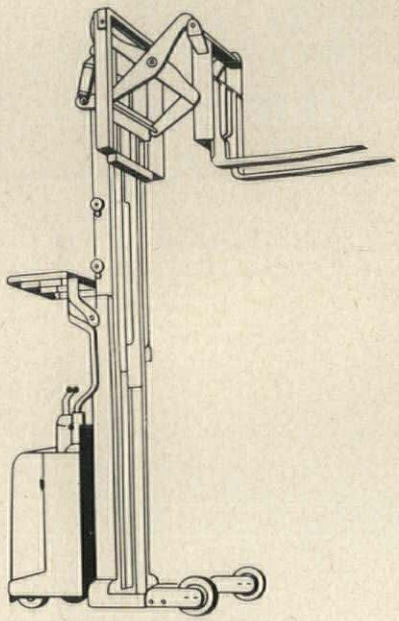
GENERAL ELECTRIC

In Canada, Canadian General Electric Co., Ltd., Montreal

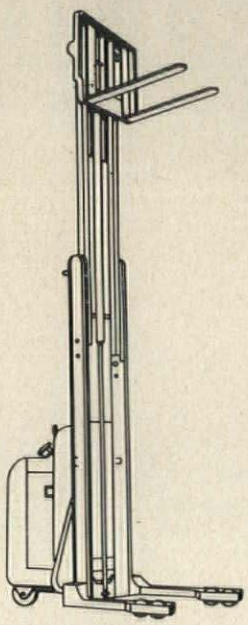
INDUSTRIAL FLOOR SLABS: 1-Truck Loadings

By JACK L. STAUNTON, *Consulting Engineer, New York City*

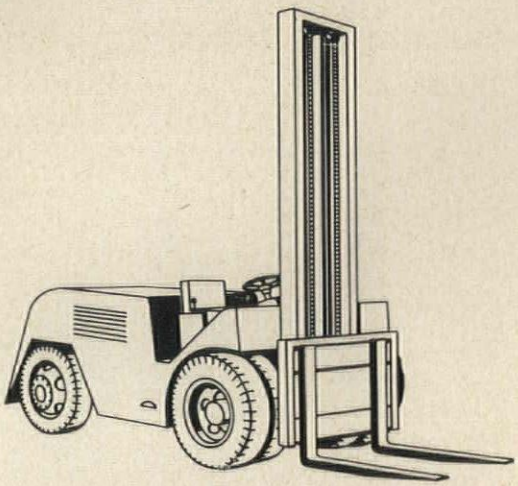
Drawings from The Handbook of Powered Industrial Trucks, *The Industrial Truck Association, 900 F. St., N. W., Washington, D. C.*



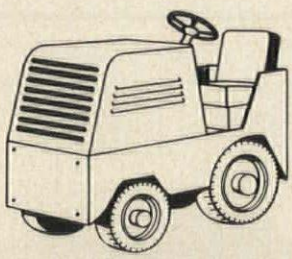
Reach Type Truck:
2000-4000 lbs



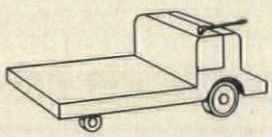
Fork Truck-Outrigger Type:
1000-4000 lbs



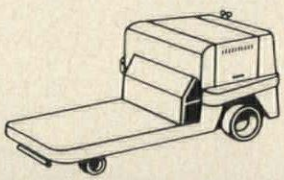
Heavy-Duty Fork Truck:
To 10,000 lbs



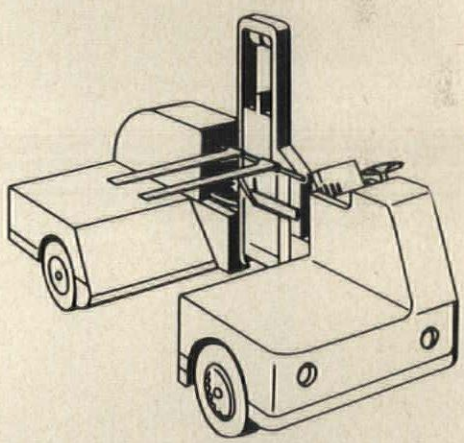
Industrial Tractor:
Max. starting draw-bar pull to 12,000 lbs



Platform Truck-
Non-Elevating Type:
4000-16,000 lbs



Platform Truck-
Low-Lift Type:
4000-16,000 lbs



Side Loading Truck:
To 30,000 lbs

In order to approximate the loading on the floor slab due to trucks, it is recommended that the design load be computed in the following manner:

In the *counterbalanced type of truck* the carrying mechanism is located ahead of the front wheels. In order to keep the rear wheels down it is necessary for this vehicle to weigh enough to balance the load being carried. As the front wheels act as the fulcrum, it is suggested that the load on the front axle be considered to be twice the carrying capacity of the vehicle and each wheel should be taken as the carrying capacity of the vehicle. In the event there are dual wheels (4 wheels per axle) these dual wheels should be considered as one wheel having 75 per cent of the carrying capacity since the proximity of the wheels to each other will cause an interaction on the floor slab.

In the *outrigger or straddle* type the load is carried approximately in the center. It is suggested that the load on any axle be estimated to be 90 per cent of the carrying capacity of the vehicle and each wheel should be estimated as 45 per cent of the carrying capacity of the vehicle. This is based on an assumption that the empty vehicle weighs approximately 80 per cent of its rated carrying capacity.

These trucks are supplied with either pneumatic, solid cushion or solid tires. Although they move relatively slowly, they still create quite an impact when stopping. For this reason it is recommended that the following impact factors be used: solid tires—1.5, solid cushion tires—1.3, pneumatic tires—1.1.

It was originally hoped to publish a comprehensive listing of the various types of trucks manufactured showing all their salient characteristics. Unfortunately this information is not available, according to the Industrial Truck Association. The Association says that ". . . it is impossible to make a precise recommendation without a detailed technical study of the building involved. For this reason, it is always recommended that a competent architectural engineer study the building in question to determine the weight of the truck that would be permissible under the specific conditions involved."

Since **HOPE'S** *1818*

WINDOW WALLS

STEEL WINDOWS HAVE THE STRENGTH AND RIGIDITY THAT NO OTHER WINDOW CAN MATCH

Memorial Unit — Grace-New Haven (Conn.) Community Hospital Architect — Office of Douglas Orr; Contractor — The Dwight Building Company

Here's HOPE'S CUSTOM STEEL WINDOWS in an unusual application . . . over 2300 units of casement, projected and fixed sash in unbroken window ribbons, uncluttered and pleasing to the eye.

Good planning has created rooms with the feeling of spaciousness and abundant, easily-controlled, natural light. This, draft-free ventilation and easy cleaning from within benefit the patients and the hospital staff alike. Architects specify Hope's Custom Steel Windows to obtain the utmost freedom in planning and also to obtain superior quality for the owner.

Hope's extra strength and rigidity in structure and dependable mechanisms in operation offer durability that lasts the full life of the building with the least expense for maintenance.

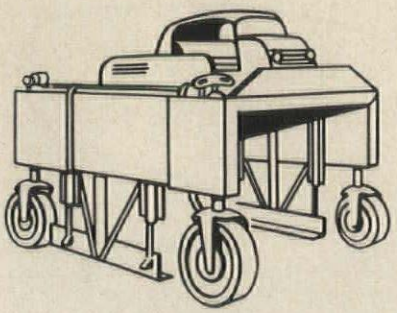
For Further Information, write for Bulletin 134AI

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

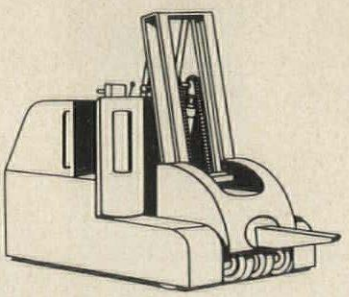
THE FINEST BUILDINGS THROUGHOUT THE WORLD ARE FITTED WITH HOPE'S WINDOWS

INDUSTRIAL FLOOR SLABS: 2-Truck Loadings

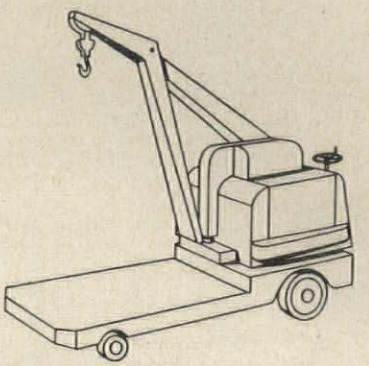
By JACK L. STAUNTON, *Consulting Engineer, New York City*



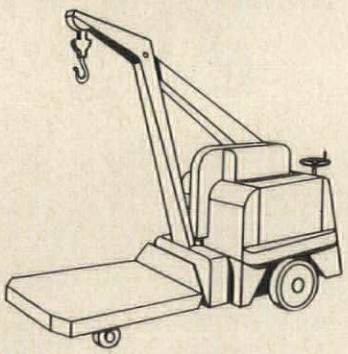
Straddle Carrier:
To 50,000 lbs



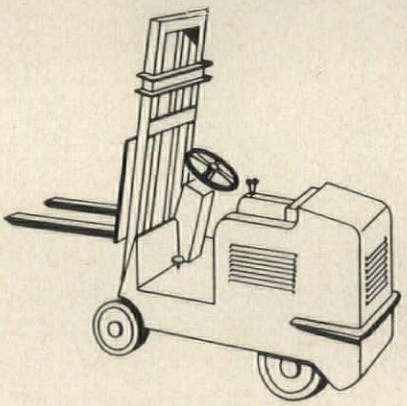
Ram Truck:
To 100,000 lbs



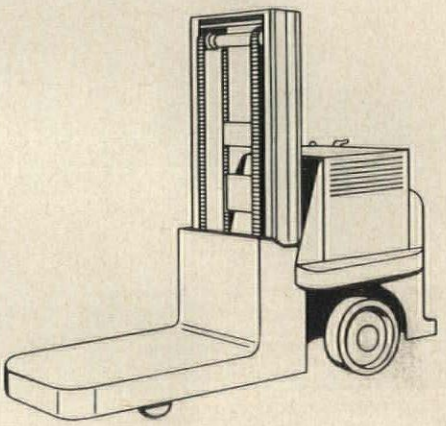
Platform Truck-Crane Combination:
4000-16,000 lbs



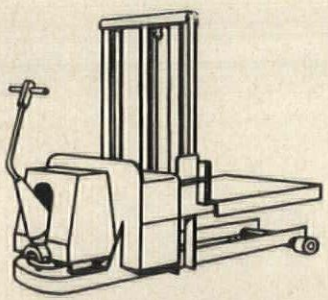
Mobile Crane:
3000-10,000 lbs



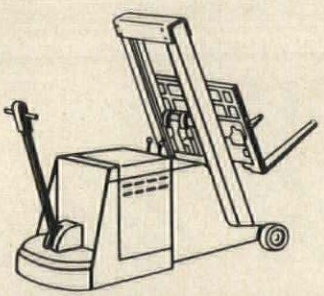
Fork Truck-Counterbalance Type:
To 8000 lbs



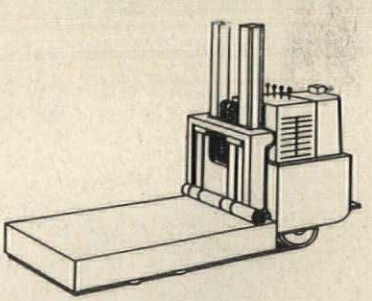
Platform Truck-High Lift Type:
4000-16,000 lbs



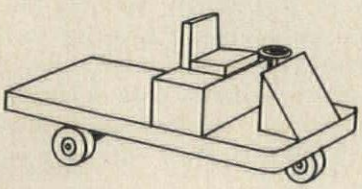
Platform Truck-High Lift Type:
To 6000 lbs



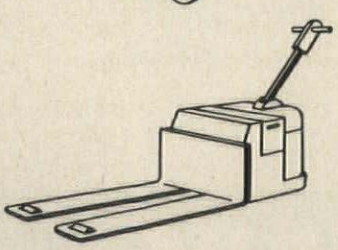
Fork Truck-Counter Balance Type:
To 3000 lbs



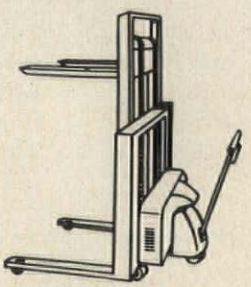
Die Handling Truck:
To 100,000 lbs



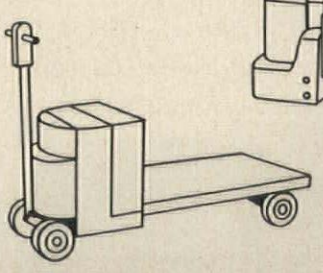
Load Carrier-
Burden Type:
1000-6000 lbs



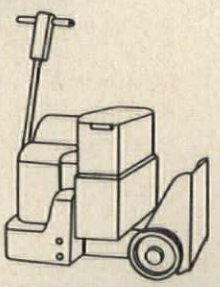
Pallet Truck:
To 4000 lbs



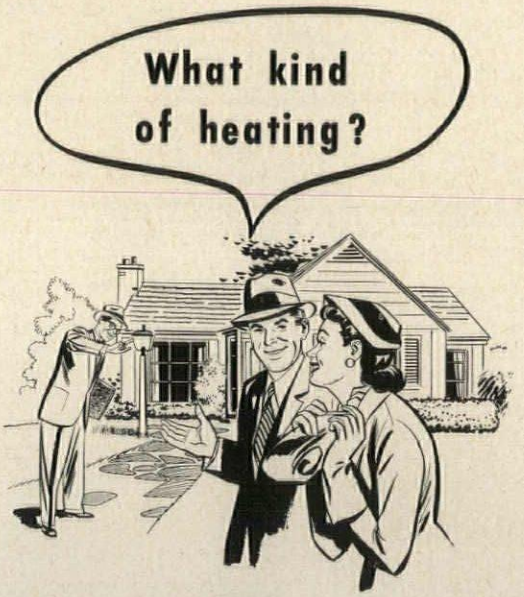
Fork Truck-
Outrigger Type:
To 4000 lbs

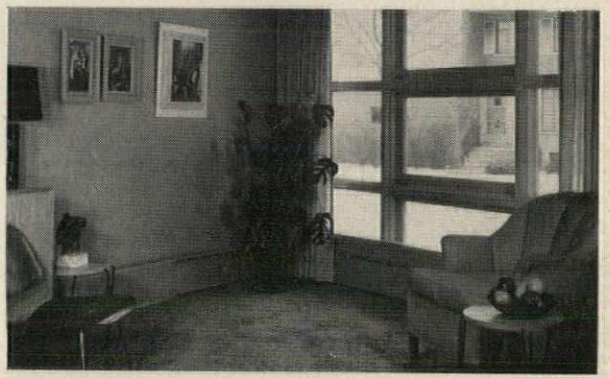


Platform Truck-
Low lift Type:
To 6000 lbs



Tractor:
Max. starting draw-bar
pull to 5000 lbs





Homeseekers want invisible heating today.

Nine out of ten home buyers *Chose Hot Water Heating*

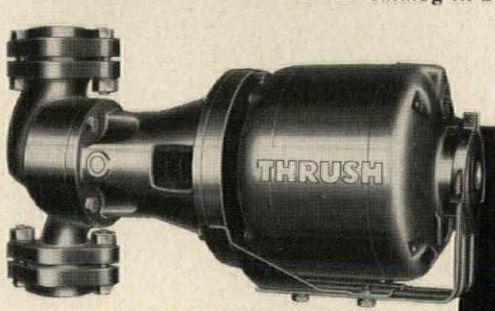
IN A MULTI-MILLION DOLLAR HOUSING PROJECT

GIVEN an option between hot water or warm air heat, new home buyers in a very large Midwestern housing project chose Hot Water Heating in an overwhelming majority of nine to one. In this case, the type of heating was the major drawing card in attracting record crowds.

Thrush Radiant Hot Water Heat is ideal for use with modern invisible heating units such as radiant panels and radiant baseboards. Installation cost is low because forced circulation permits smaller pipes, valves and fittings. Thrush Radiant Hot Water Heat will help you sell more homes.

See our catalog in Sweet's or write Department J-5 for more information.

H. A. THRUSH & COMPANY · PERU, INDIANA



Thrush Water Circulator

THRUSH
Radiant Hot Water

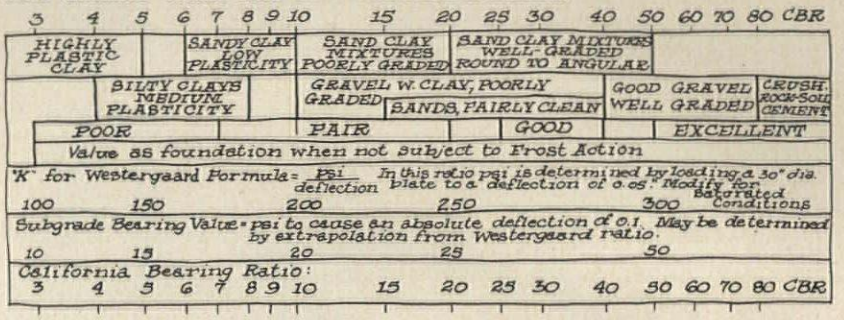
INDUSTRIAL FLOOR SLABS: 3-Soil Classification; Structural Design

By JACK L. STAUNTON, *Consulting Engineer, New York City*

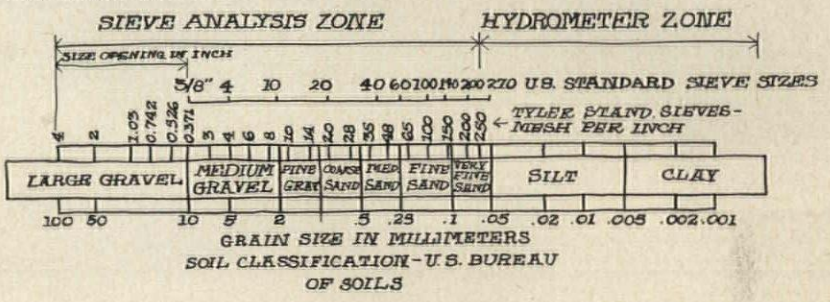
The plate load test method is the most accurate means of determining the subgrade modulus of the soil since it is the only method that actually determines the supporting power itself (see Westergaard ratio in chart). The California Bearing Ratio determination actually establishes the compressibility of the soil and is normally used in the design of flexible pavements such as asphalt. However, it is felt that there is some inter-relationship between compressibility and supportng strength. The top chart at right is one of the very few that have attempted to establish this inter-relationship. Similarly, if one knows the nature of the soil it should be possible to estimate the range of compressibility and supporting strength. This relationship also has been shown in the chart. For important works, the plate load test should be used, while for smaller or less complicated structures it may suffice to have only knowledge of the soil.

The CBR determination is performed in the laboratory and not in the field as with the plate method. In this test a representative sample of the soil to be used under the slab is placed in a cylinder and is compacted to the modified ASSHO density that would occur in actual construction. A piston is then placed on one end of this cylinder and the piston is loaded so that the piston will penetrate the soil at a rate of 0.05 in. per minute until it moves a total of 0.5 in. The results of this test are proportioned to the resistance of a standard layer of broken stone. This ratio is the California Bearing Ratio (CBR).

SOIL—BEARING VALUE AND CLASSIFICATION DIAGRAM

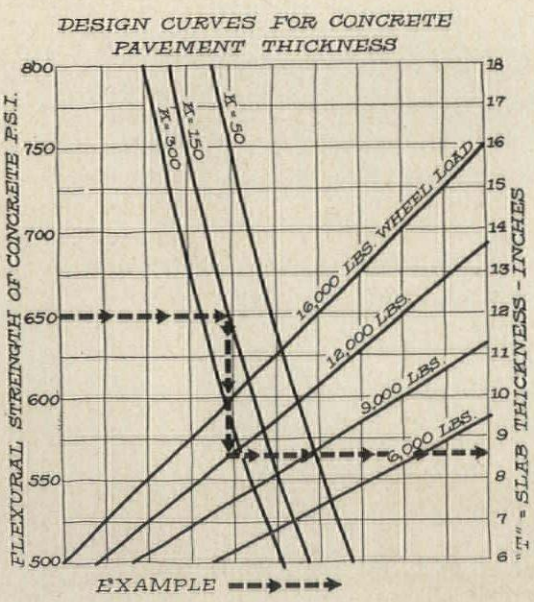


SOIL—IDENTIFICATION BY GRAIN SIZE

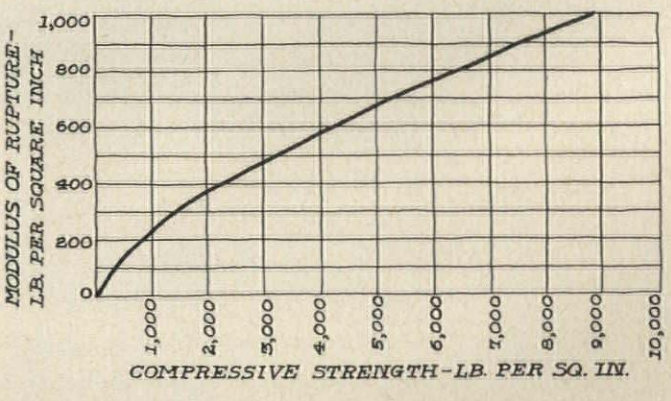


Charts adapted from, Data Book for Civil Engineers, Design, *by Elwyn E. Seelye, John Wiley and Sons, Inc., New York.*

CONCRETE—DESIGN CURVES FOR PAVEMENT THICKNESS

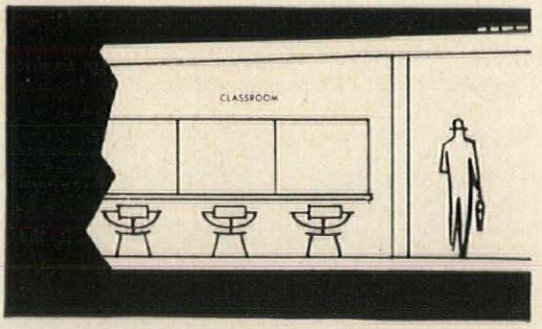


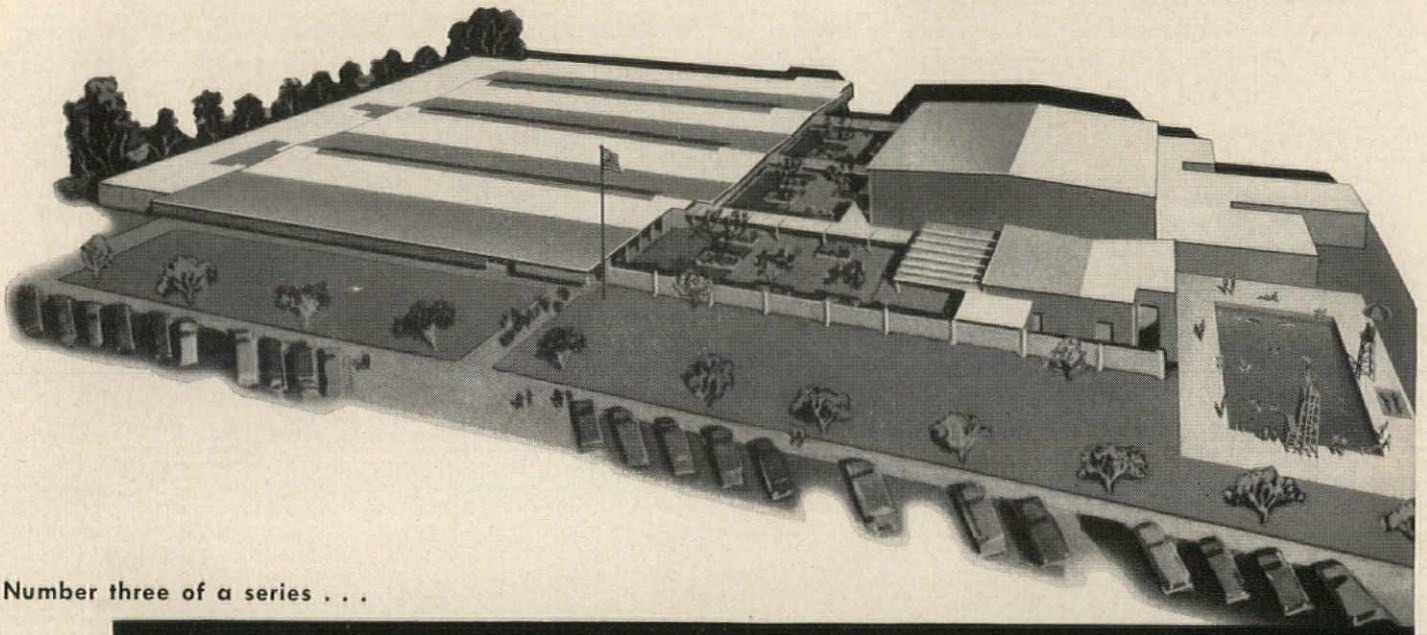
CONCRETE—COMPRESSIVE STRENGTH VS MODULE OF RUPTURE



From Concrete Information, *"Concrete Floors on Ground", Portland Cement Association, Chicago, Ill.*

According to R. Guild Gray, Superintendent of the Clark County, Nevada, School District—"Unit ventilators for each of the rooms were decided upon to meet the demands of teachers for individual control of room temperatures. Scientific studies indicate the type of activity that goes on in a room demands the consideration of the temperature in that room. Different school room activities should be carried on in different temperatures for maximum efficiency."





Number three of a series . . .

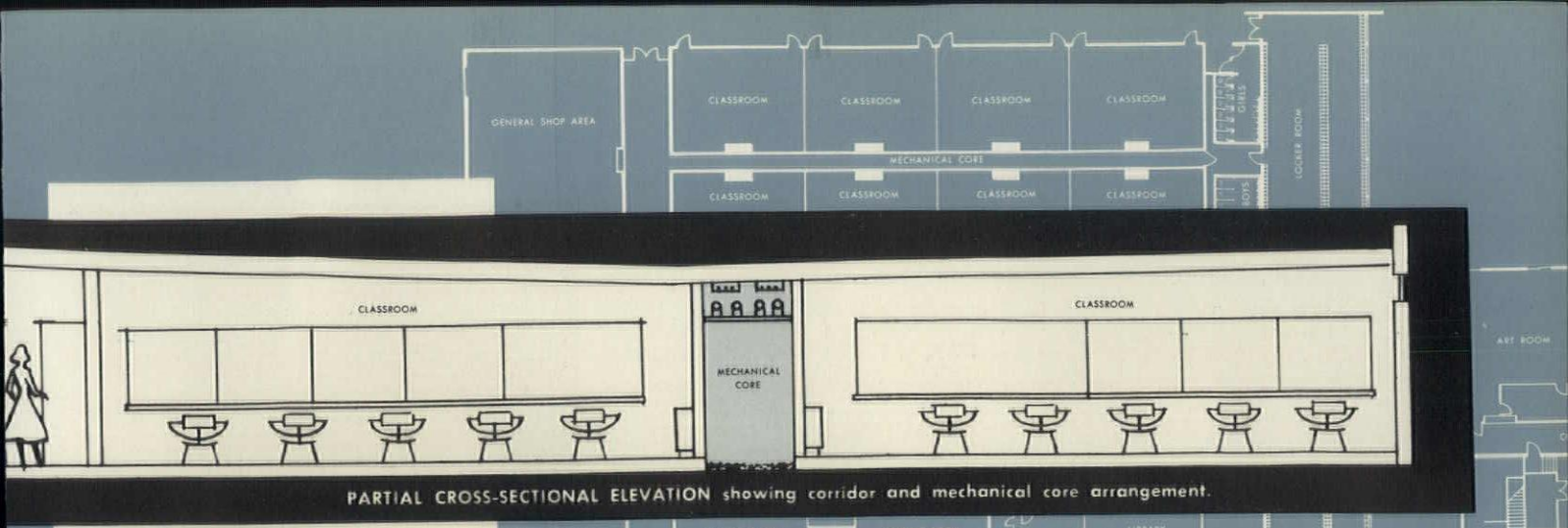
The herman nelson file of

CLASSROOM AIR CONDITIONING, more and more is becoming an important factor in school design. Architects everywhere are recognizing the trend in their structural considerations for school buildings.

Educators, too, are thinking—talking—stressing air conditioning. They have found that classroom temperature, air movement and humidity have a direct bearing on learning and development. They realize that it is just as important that a child be comfortable in hot weather as wintertime.

For these reasons, many schools are already air conditioned, or are planning for it in the future. Throughout the country, the need for air conditioning is being reflected again and again in basic school design. The building plan shown on these pages is an outstanding example.

Does the school you are planning include eventual air conditioning? Think it over. Chances are—it should.



PARTIAL CROSS-SECTIONAL ELEVATION showing corridor and mechanical core arrangement.

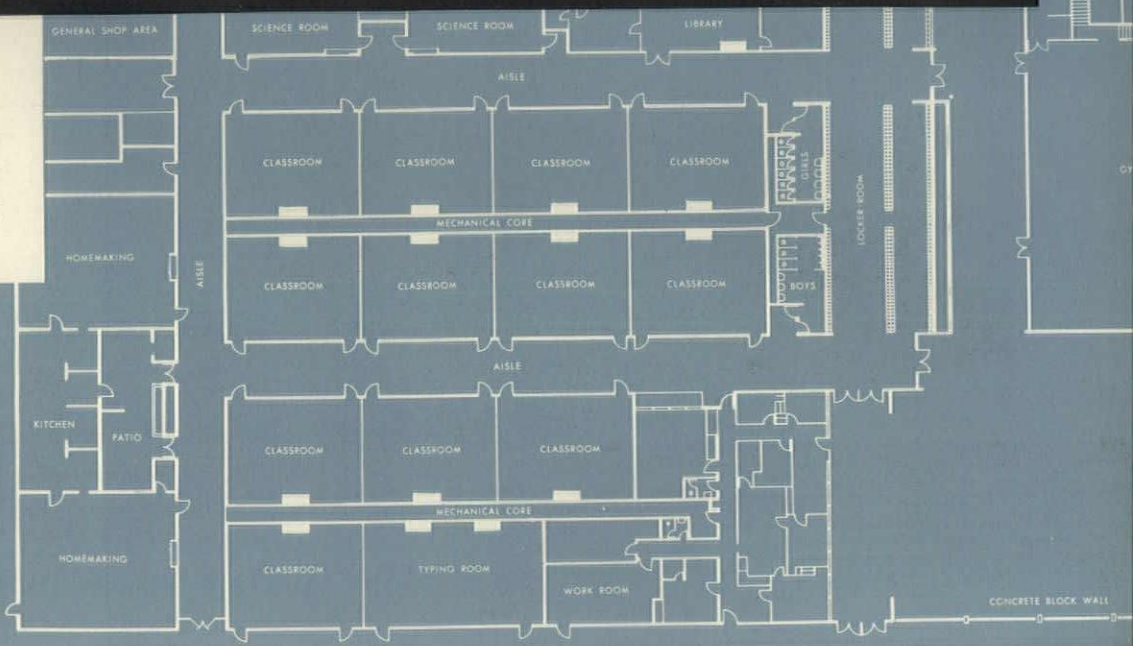
For complete air conditioning, heating, ventilating—

$1.68 per sq. foot

Hyde Park Junior High School • Clark County, Nevada • Superintendent: R. Guild Gray • Architects: Walter Zick and Harris Sharp • Capacity: 1000 pupils • Gross area: 94,900 sq. feet • Total contract: $1,094,387.78 • Heating, ventilating, air conditioning: $151,300.00 • Total cost per sq. foot: $11.55.

Herman Nelson equipment used:

- Herman Nelson Air Conditioning Unit Ventilators
- Herman Nelson AUDI-VENT Auditorium Unit Ventilators
- Herman Nelson Console Heaters



ir conditioned school design

Walter Zick, Harris Sharp PROVE economy of air conditioning

Glare from the intense sun and desert landscape of southern Nevada—combined with area's severe dust problem and the almost universal need for economy in school construction—were important considerations for Las Vegas architects Walter Zick and Harris Sharp in designing the new Hyde Park Junior High School. By incorporating Herman Nelson air conditioning unit ventilators as a basic part of the school design—they solved all problems, provided year 'round comfort, too.

Hyde Park Junior High is a *big* school, encompassing 94,900 square feet. Yet costs were held to just $1,094,387—only $11.55 per square foot. *Cost for complete air conditioning, heating, ventilating and natural cooling with Herman Nelson unit ventilators was only $1.68 per square foot—appreciably less than for heating and ventilating alone in many of today's new schools!*

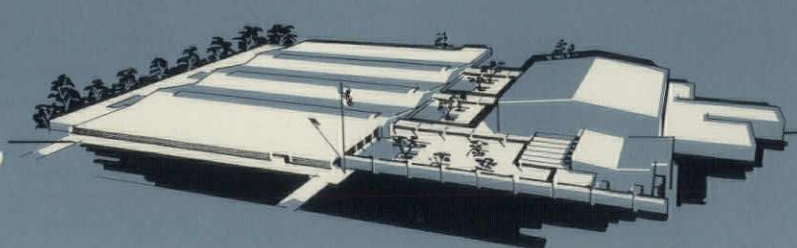
Intelligent, functional design deserves the credit. The school has a basic wall construction of cinder block, basic 20-year bonded roof construction of minimum pitch covered by built-up felt, tar and gravel, a minimum of outside wood to solve problems of painting and deterioration. Probably the most interesting and important factor design-wise, however, is the use of a mechanical core or channel between all classrooms.

This was designed to control dust through its use as an air chamber for filtering air into the unit ventilators, which are installed against the *interior* wall, adjacent to the channel. All piping and conduit runs are installed in the channel so they can be easily reached for maintenance purposes. There is a minimum of underground piping, eliminating the trouble the school district had been having with electrolytic action on underground material.

Both glare and solar heat gain through windows were eliminated by reducing classroom fenestration to narrow 22-inch high room-width strips set seven feet above the floor. By air conditioning the classrooms through unit ventilators, it was not deemed necessary to install windows which might be opened, except for exhausting of air.

AAF

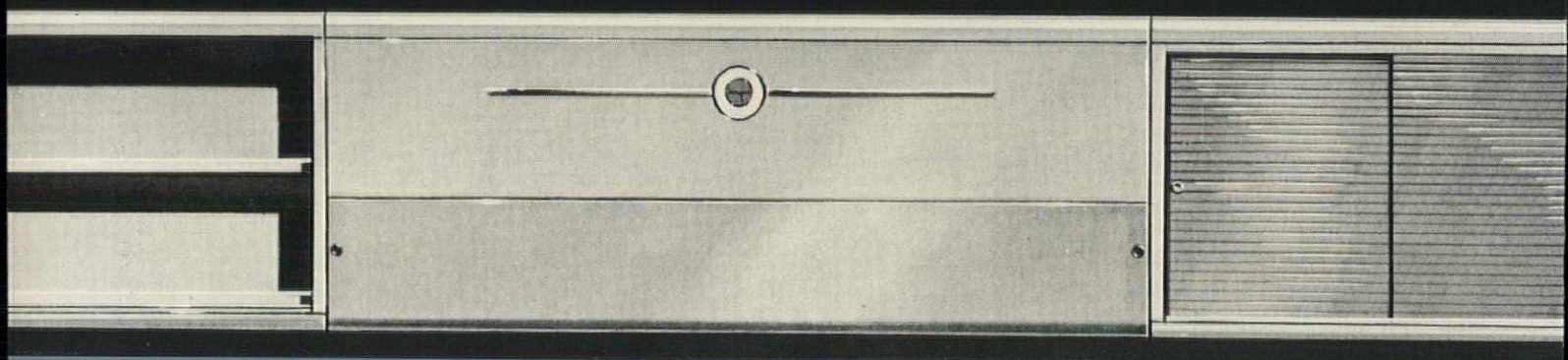
herman nelson



hernel-cool II

UNIT VENTILATOR

with optional air conditioning



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

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

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

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

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

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

AAF

herman nelson

UNIT VENTILATOR PRODUCTS

System of Classroom Cooling, Heating and Ventilating

JUST HOW MUCH DOES PROVISION FOR FUTURE CLASSROOM AIR CONDITIONING COST? The answer is: probably far less than you think—when you install HerNel-Cool II air conditioning unit ventilators. Actually, it costs only fifteen to twenty cents per square foot more than the cost of basic heating and ventilating equipment in average new construction—or between one and two percent of total building cost. Complete, immediate air conditioning is approximately fifty to fifty-five cents more.

By using Herman Nelson unit ventilators, schools have held heating and ventilating costs—including provision for future air-conditioning—to a total of less than $1.35 per square foot. Other schools have heating, ventilating and immediate air conditioning—for a total per square foot cost of less than $1.70! (And, in many cases traditional design concepts were used.) These are current costs, too! HerNel-Cool II unit ventilators have been available for little more than a year.

Look at the costs shown below. They are particularly interesting when you realize that they are truly representative—for Herman Nelson equipped schools in all parts of the country. Locations range from California to New York, from Wisconsin to Georgia.

TEN SCHOOLS ON WHICH BIDS WERE TAKEN ON HERMAN NELSON UNITS FOR HEATING AND VENTILATION ONLY

School	Total Cost	Total Cost Per Sq. Ft.	Heating & Ventilating Cost Per Sq. Ft.	Per Cent of Total Cost
A	$ 659,000	$15.33	$1.15	7.6
B	416,211	9.05	1.13	12.4
C	435,270	11.21	1.48	13.2
D	131,223	9.00	1.98	22.0
E	260,164	13.56	1.47	10.9
F	1,013,960	11.27	1.25	11.1
G	577,193	8.39	1.07	12.9
H	310,178	9.84	1.05	10.7
I	344,291	10.43	1.11	10.7
J	118,147	12.38	2.09	16.6
Average	$ 426,564	$11.05	$1.38	12.8

SEVEN SCHOOLS ON WHICH BIDS WERE TAKEN ON HERMAN NELSON UNITS FOR HEATING AND VENTILATION PLUS FUTURE AIR CONDITIONING

School	Total Cost	Total Cost Per Sq. Ft.	Heating & Ventilating Cost Per Sq. Ft.	Per Cent of Total Cost
K	$ 666,000	$15.49	$1.32	8.5
L	423,511	9.21	1.29	14.0
M	356,800	10.04	1.55	15.4
N	2,813,000	15.44	1.78	11.5
O	2,745,381	16.54	1.76	10.7
P	1,311,000	10.40	1.55	14.9
Q	500,000	15.63	1.72	11.0
Average	$1,259,385	$13.25	$1.57	12.3

Avg. add. cost provisions for future air conditioning..0.19

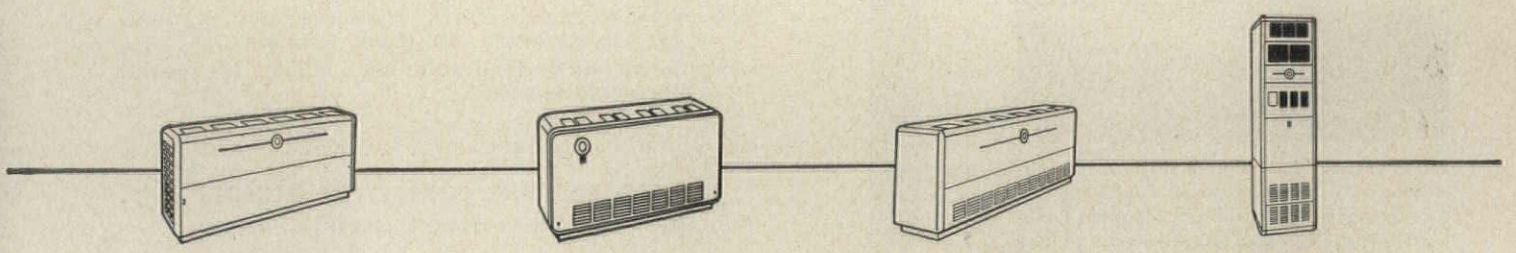
FIVE SCHOOLS ON WHICH BIDS WERE TAKEN ON HERMAN NELSON UNITS FOR HEATING AND VENTILATION PLUS COMPLETE AIR CONDITIONING

School	Total Cost	Total Cost Per Sq. Ft.	Heating Ventilating & Air Conditioning Cost Per Sq. Ft.	Per Cent of Total Cost
R	$ 690,000	$16.04	$1.88	11.7
S	371,100	10.44	1.95	18.7
T	406,463	14.38	2.41	16.8
U	360,700	13.11	2.22	16.9
V	1,094,387	11.55	1.68	13.8
Average	$ 584,530	$13.10	$2.01	15.6

Average added cost for complete air conditioning.....0.71

Complete cost studies—for schools employing immediate air conditioning as well as for those which are planning for its installation later—are available upon request.

Get all the facts now. Classroom air conditioning—immediate or eventual—is being included in more and more school planning. You'll want to consider it in yours. Write today to Herman Nelson Unit Ventilator Products, American Air Filter Company, Inc., 215 Central Avenue, Louisville 8, Kentucky. *In Canada: American Air Filter of Canada, Ltd., Montreal 9, Quebec.*



Hot water or steam unit ventilators

Amervent unit ventilators

Electric unit ventilators

UniVent gas-fired unit ventilators

continued from page 252

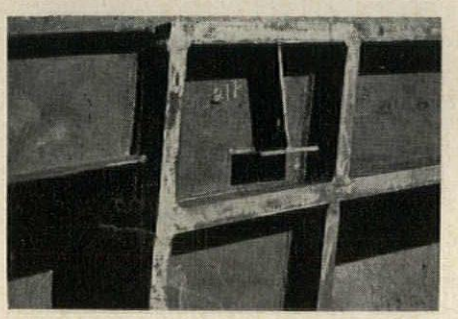
Long Welded Arches Save Steel In Rigid-Frame School Structure

Six wide-span arches spaced 21 ft apart form the main arena of a new rigid-frame structure that will serve as a cafeteria-auditorium for Madison Elementary School No. 6 in Phoenix, Arizona. The arch construction, which was developed to conform with other curved-roof structures in the area and to conserve on steel, required only 80 tons of steel—considerably less than conventional column and girder construction. Structural engineer for the building was Walter E. Riley of Phoenix; architects were Lescher and Mahoney, also of Phoenix.

Photos courtesy of Lincoln Electric Co.

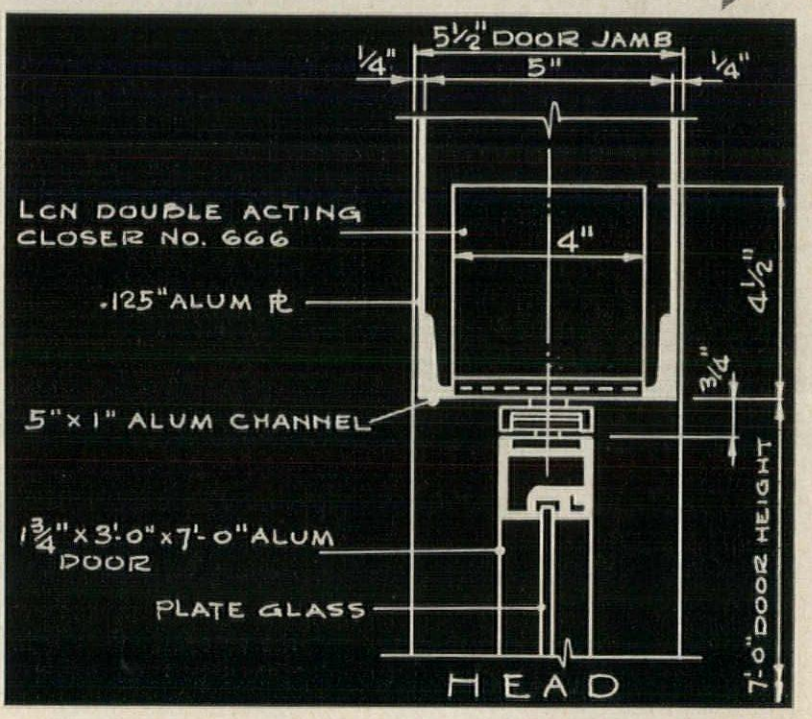
(Above right) First four arches span 89 ft, connect at right to 40 ft arches spanning a connecting building area. Two remaining arches in background are about 77 ft long. Tapered columns at left carry overhanging beams which form an outside canopy.

Detail of arch-to-column connection at outer end of 89 ft span shows carry-through of 1¾ in. plate. Wide flange beams welded to arches and columns serve as lateral bracing; bar joists between them are welded to brackets on arch webs. Columns are bolted to footings at base, connected by tierods.



Joints between heavy plate sections in arch-to-column connection were double-beveled for multipass arc welding. Thinner T-section is spliced to the lateral beam; lighter beam to left supports canopy overhang.

more roundup on page 270



CONSTRUCTION DETAILS

for LCN Overhead Concealed Door Closer Shown on Opposite Page

The LCN Series 644-666 Closer's Main Points:

1. Flap-free control for double-acting doors
2. Handles exterior doors of normal height up to 3′6″ wide; interior doors to 4′0″
3. Power applied by a lever arm; in-swing and out-swing are adjustable separately
4. Used for wood, metal or tempered glass doors having top members 1¾″ thick or more
5. Pivots included. Hydraulic back-check. No special threshold needed.

Complete Catalog on Request—No Obligation
or See Sweet's 1958, Sec. 18e/La

LCN CLOSERS, INC., PRINCETON, ILLINOIS

Canada: Lift Lock Hardware Industries, Ltd., Peterborough, Ontario

John Graham and Company
Architects - Engineers

Modern Door Control by *LCN* · Closers Concealed in Head Frame

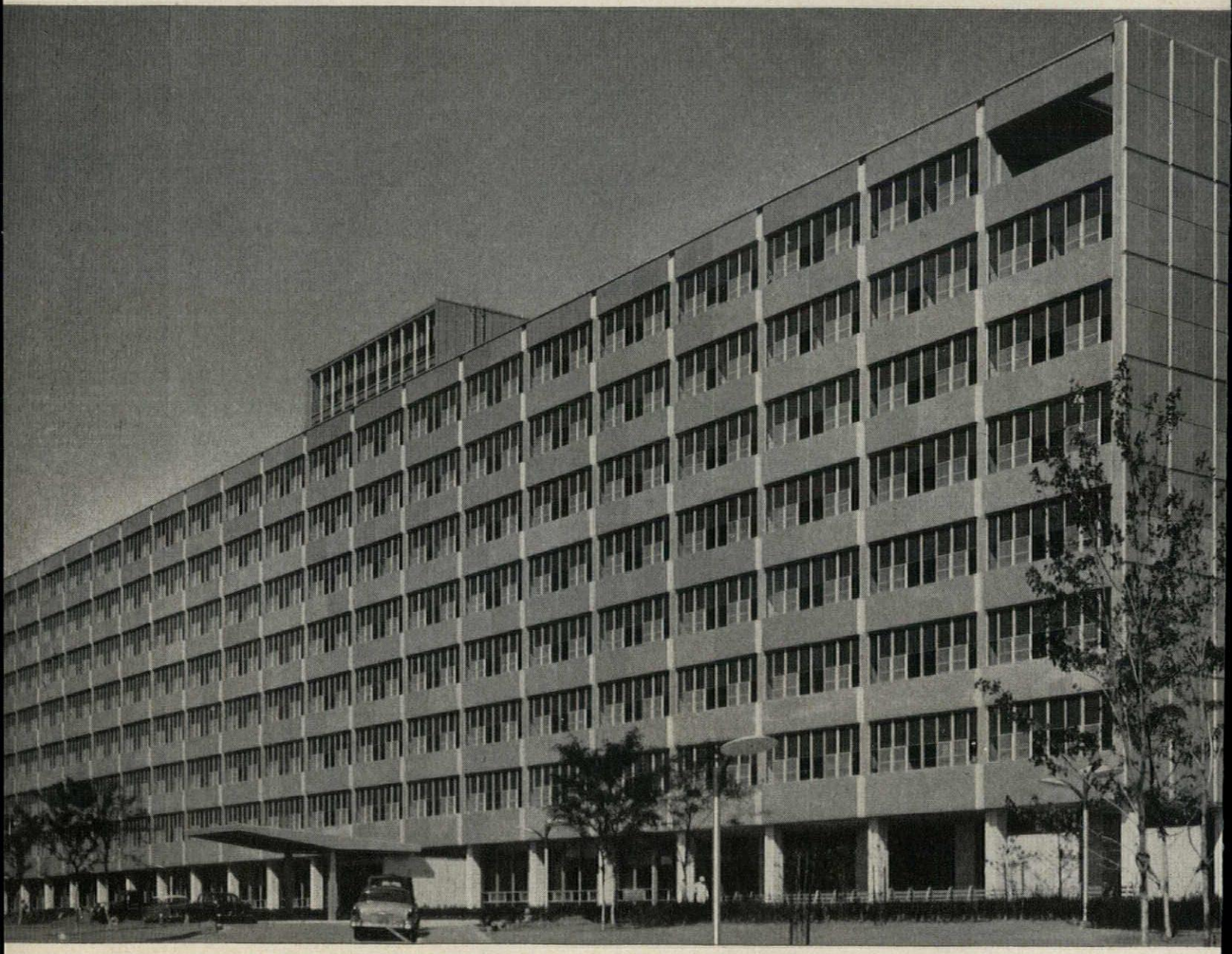
VIRGINIA MASON HOSPITAL, SEATTLE, WASHINGTON

LCN CLOSERS, INC., PRINCETON, ILLINOIS

Construction Details on Opposite Page

JOHN J. KANE HOSPITAL USES ALUMINUM

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

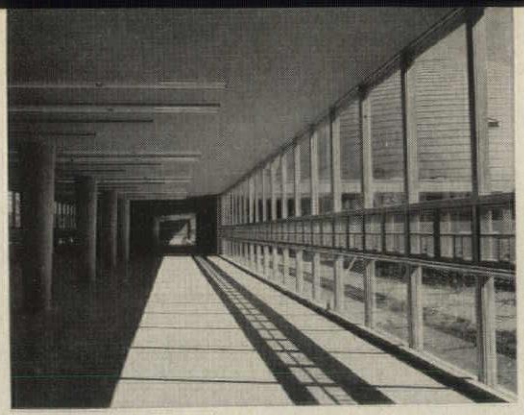


BUILDING: *John J. Kane Hospital, Allegheny County, Pa.*
OWNER: *Allegheny County Institutional District*
ARCHITECTS: *Button & McLean—Mitchell & Ritchey, Pittsburgh, Pa.*
GENERAL CONTRACTOR: *Sherry Richards Company, Chicago, Ill.*
ALUMINUM SUBCONTRACTORS:
Curtain walls, architectural metal work: *Albro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

WE CHOSE ALCOA ALUMINUM MILL PRODUCTS
ALUMINUM COMPANY OF AMERICA

Your Guide to the Best in Aluminum Value

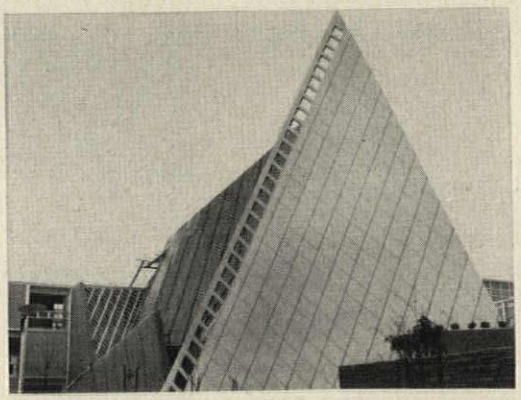
"ALCOA THEATRE"
Exciting Adventure
Alternate Monday Evenin



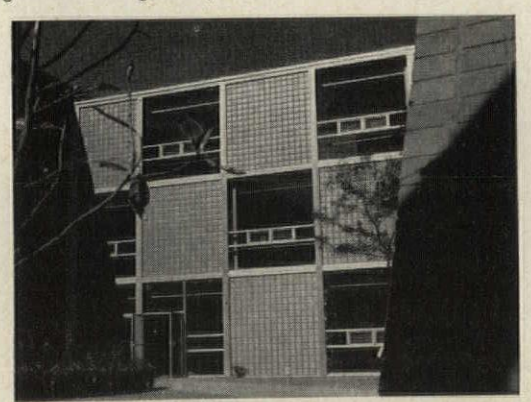
Attractive aluminum window frames and trim will remain bright and handsome for years, with no maintenance except easy cleaning.

TO PROVIDE A BRIGHT "CURE" FOR AN OLD PROBLEM

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



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



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

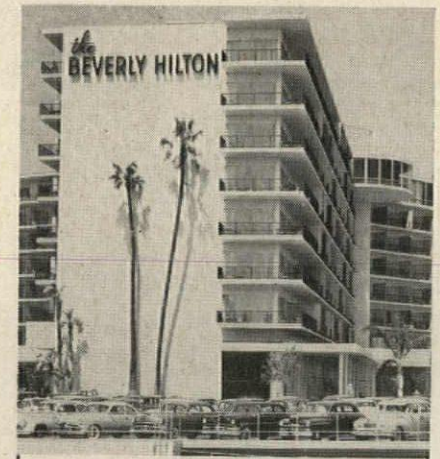
Something new has happened to the old "County Home." The bleak look is gone. The drab buildings have disappeared. In their place is a modern architectural masterpiece with fresh, clean lines creating an inspiring combination of scale, form and space . . . an environment that at once suggests bright,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

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

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

Alcoa engineers worked closely with the architects on this project. Their technical advice and personal assistance are also available to help you. As the pioneer and leader in architectural applications of aluminum, Alcoa is in a unique position to assist you. For more information and complete technical data on aluminum's many forms and applications, contact your nearest Alcoa sales office. Or write Aluminum Company of America, 1888-E Alcoa Building, Pittsburgh 19, Pa.

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



1,000 car, 2-level hotel parking area. Architect: Welton Becket & Associates.

glamour hotel guests park on

Jennite J-16®

surface seal

At the fabulous, new Beverly Hilton, as at leading airfields, parking lots, playgrounds and parkways, asphalt pavements are protected by Jennite J-16 liquid surface seal.

Jenniting stops destructive effects of gasoline and oil, seals out frost . . . stops crumbling and retards drying action of the sun. The attractive, satin black Jennite surface is tough, easy-to-clean . . . a sound investment in improved appearance and increased service life.

New bulletin describes 6 basic uses

In addition to maintaining asphalt surfaces, Jennite J-16 is ideal for sealing concrete floors and pavements, dampproofing cement or masonry construction, coating reinforcing fabric, preserving metal roofs and protecting all types of exposed metal. Specifications covering these uses are listed in catalog LL-4874 or in Sweet's Architectural File, 5/Ma.

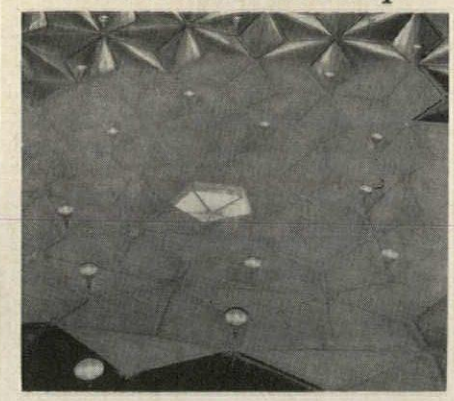
AA-7250

Distributors and Stocks in principal cities

Maintenance Inc.
Wooster, Ohio
Send us catalog LL-4874

Name_____
Company_____
Address_____
City_____ State_____

Technical Roundup



Aluminum Geodesic Dome Fire-Proofed With Sprayed Asbestos

When architects Oliver and Smith of Norfolk, Va., found that the exposed metal surface of the aluminum geodesic dome used in their plans for a convention center at Virginia Beach failed to meet local fire codes, they had the dome interior sprayed with Keasbey & Mattison's "Limpet" asbestos, which gave the necessary fire protection—with noise reduction, thermal insulation, and condensation control thrown in for good measure. The buff-colored asbestos fiber coating was sprayed onto the primed undersurface of the dome with "gun" applicators, and finished with specially-designed tools to assure its conformation to the irregular surface.

Giant Rubber Bag "Blows Up" Demountable Mobile Homes

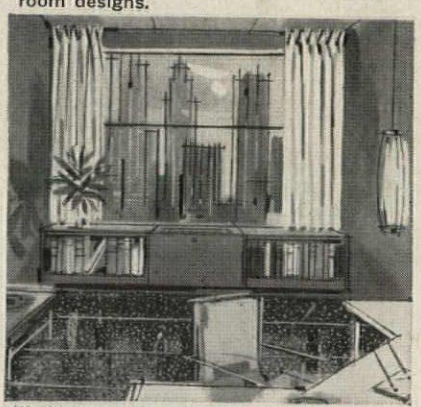
Three and a half hours' work for a crane or 16 men is being done in three minutes by a huge rubber-coated fabric balloon. The 11 ft diameter bag, which unfolds from a yard-square package, is helping to erect over 100 collapsible mobile homes for construction workers at the Glen Canyon dam site near Page, Arizona. The 520 sq ft homes are shipped from Transa Homes Corp.'s California plant with their walls, floors and roofs folded together. When they reach the job site, the air bag developed by B. F. Goodrich Aviation Products is positioned under the roof and inflated with air at less than 1 psi. As it is blown up, the roof is raised; as it deflates, the floor and walls drop into position.

more roundup on page 274

Handsome, compact room units like these complete the air-conditioning picture

York quality equipment in the utility area of your building – like the new packaged water chiller–calls for room units of equal quality, efficiency and economy. Here are just a few of a wide variety of York fan coil units that fill the bill perfectly.

Free-standing or furred-in floor units add functional good looks and interest to your room designs.



Wall-hung units eliminate many installation difficulties . . . are available with handsome wall-to-wall enclosures.

Ceiling-hung units occupy no rentable or productive space.

. . . York is the first manufacturer to offer all three units.

YORK
CORPORATION
SUBSIDIARY OF BORG-WARNER CORPORATION

- **York offers the broadest range of capacities in the industry — 18 to 246 tons!**
- **Completely integrated design saves productive floor space, permits installation anywhere in the building!**
- **Exclusive mechanical features drastically cut costs of installation, operation and maintenance!**

York makes news again — with a series of packaged water chillers designed to solve problems for the architect while effecting significant savings for building management. Look at the extras engineered into these advanced units:

SAVINGS IN PRODUCTIVE FLOOR SPACE! The compact arrangement of integrated components — including all interconnected piping, and styled automatic control center — results in big space savings. And the unit's quiet, vibration-free operation means it can be located anywhere in your building. No special foundations or space-consuming structural supports are necessary.

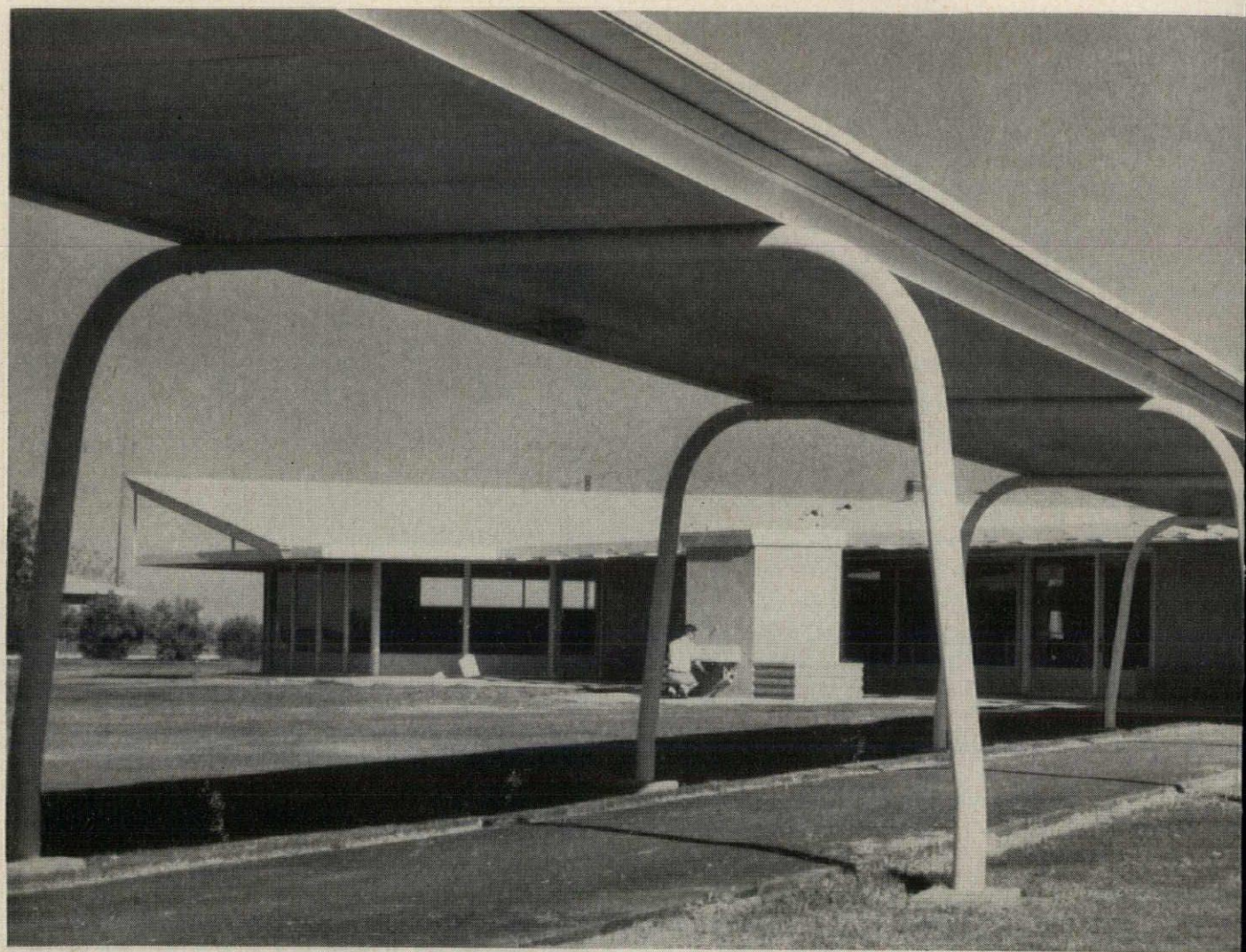
SAVINGS IN OPERATING COSTS! Low-cost, trouble-free performance is assured with the York packaged water chiller. Exclusive Flooded Coolers and positive refrigerant feed control mean top efficiency over the entire range of load conditions. Automatic capacity controls save power by continuously adjusting output to prevailing load conditions — without supervision. York's wider selection of capacities means you can choose a unit to meet your needs precisely — without compromise.

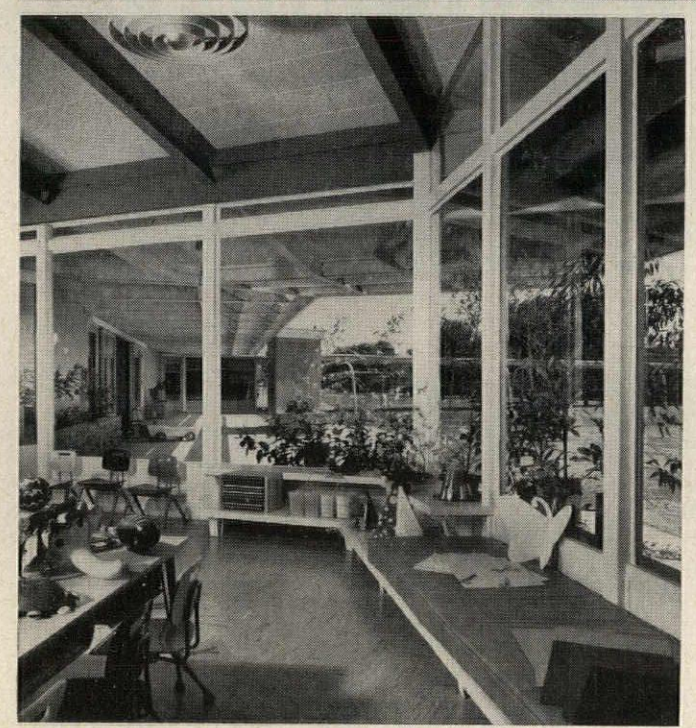
SAVINGS IN MAINTENANCE COSTS! Another exclusive — capillary oil return, direct from chiller to compressor — eliminates a common hazard in packaged water chillers: unit failure due to interrupted oil flow under light loads. All key parts are exceptionally rugged; will resist corrosion and wear many years longer.

The new packaged water chiller is another product of York's tradition of designing with the *real cost* of air-conditioning in mind. The features listed above are just a few of the many that consultants and building owners will want explained in detail. Check your classified directory for the name and address of your local York sales representative . . . or write for Bulletin I-213. York Corporation, York, Pennsylvania.

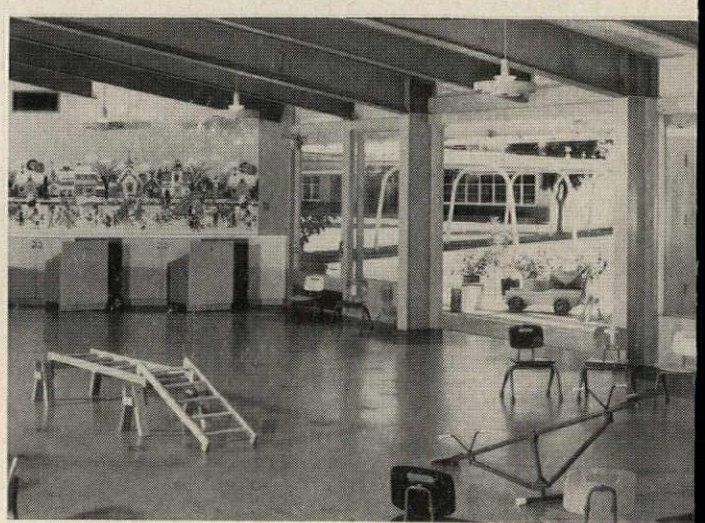
YORK
CORPORATION
SUBSIDIARY OF BORG-WARNER CORPORATION
IN CANADA: CANADIAN ICE MACHINE COMPANY LTD., TORONTO

Millions Live Better with York



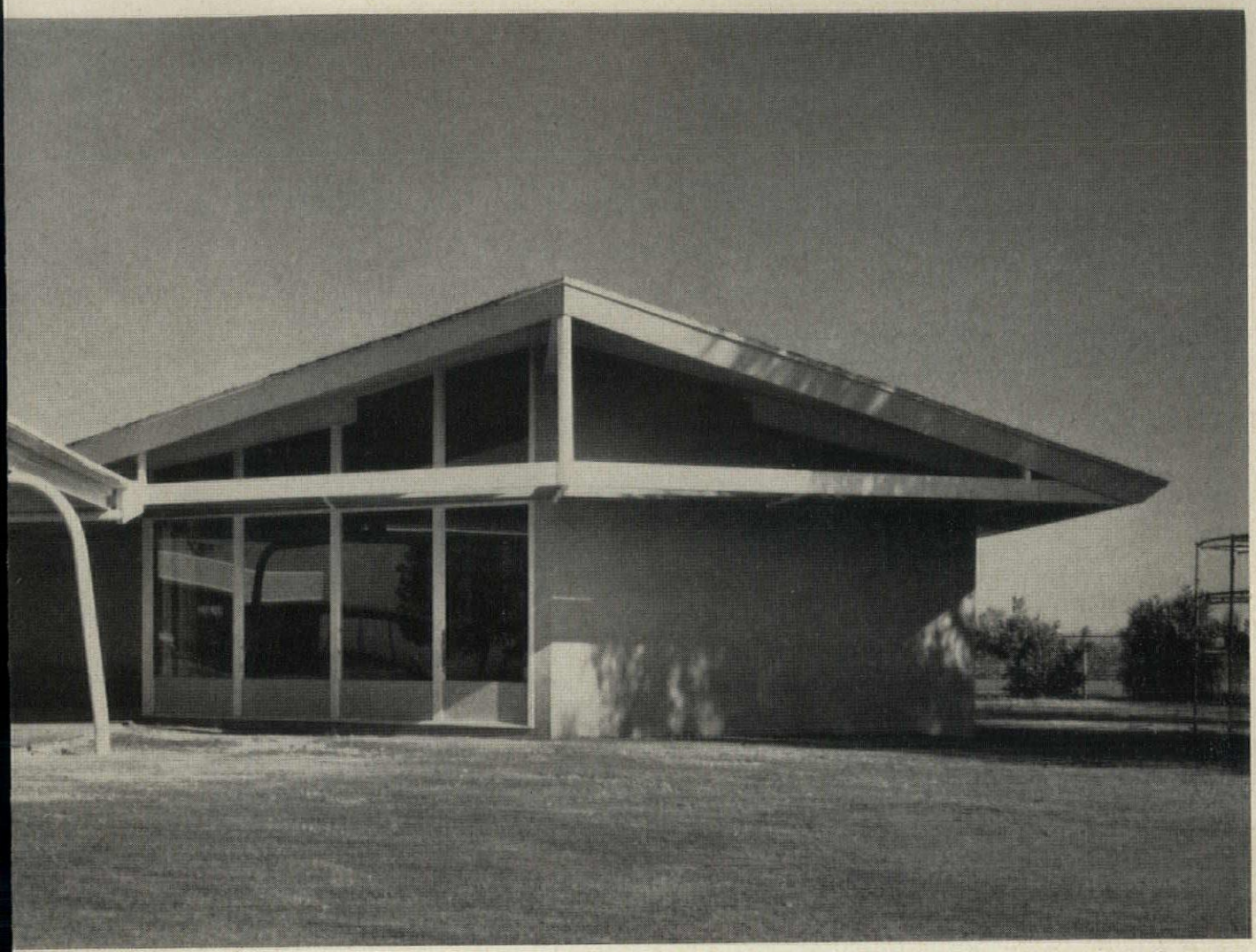


Glass inside .



Architect: Whitney Biggar, A.I.A., Bakersfield, California

Design your schools better with PITTSBURGH



. outside . . . all around the school

LUCKY kindergarten children in the Lakeside Union School District, Bakersfield, California, learn their ABC's in a light, cheerful atmosphere. Extensive areas of *glass* bring precious daylight into the classrooms. The generous window treatment also permits the children to have year-round nature study by giving them a front-row seat for the changing of the seasons.

Pittsburgh Plate Glass Products used throughout the school help to create this pleasing environment. There's PENNVERNON Window Glass, with its remarkable transparency and clear, true vision . . . Pittsburgh Polished Plate Glass, with its highly brilliant surface . . . and Pittsburgh Mirrors, with their accurate, distortion-free reflection.

For a striking design . . . for a wholesome indoor-outdoor space relationship in the school . . . *glass* is the material to use.

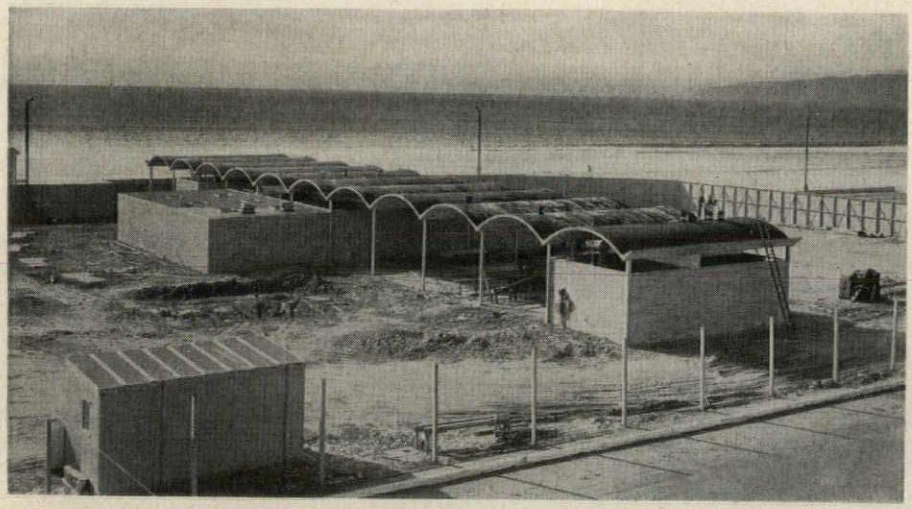
CONSULT YOUR ARCHITECT
for information about the use of these famous Pittsburgh Glasses in school construction:

Solex® . . . . . green tint, heat-absorbing and glare-reducing plate glass
Solargray® . . . . . neutral tint, heat-absorbing and glare-reducing plate glass
Herculite® . . . . . shock-resisting tempered plate glass
Twindow® . . . . . the world's finest insulating window
Polished Plate Glass . . . . . for clear, undistorted vision
Pennvernon® . . . . . window glass at its best
Spandrelite® . . . . . glass in color

GLASS

75th ANNIVERSARY 1883–1958 PPG

SYMBOL OF SERVICE FOR SEVENTY-FIVE YEARS
PITTSBURGH PLATE GLASS COMPANY
IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED



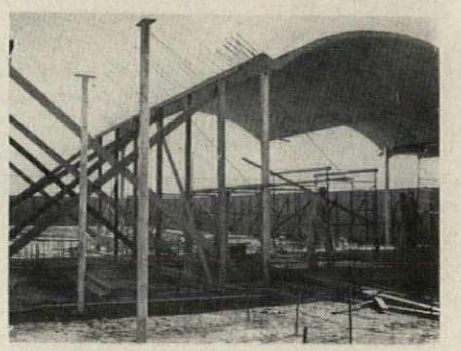
Forms are lowered from completed vaults with hand cranks, laid aside for re-use

Cast-In-Place Concrete Vaults Roof California Beach Facility

Sheltered areas in a beach park designed by Welton Becket and Associates for the City of Santa Monica, California, will be roofed by a series of thin shell concrete vaults supported on 4 by 4 and 6 by 6 in. hollow galvanized steel columns. The vaults, which range in thickness from 2½ in. at the top to 7 in. at the base, were cast-in-place in groups of three. Forms were supported on shoring until the concrete had reached a compressive strength of 2500 psi, then lowered and laid aside while shoring was constructed for the adjacent three-vault series. Re-use of the forms—and of some sections of the shoring—contributed to the economy of the structure.

The beach park shown above, the first of four such units, will include dressing rooms, toilets and showers, a concession building, recreation areas and paved parking facilities. It is currently nearing completion.

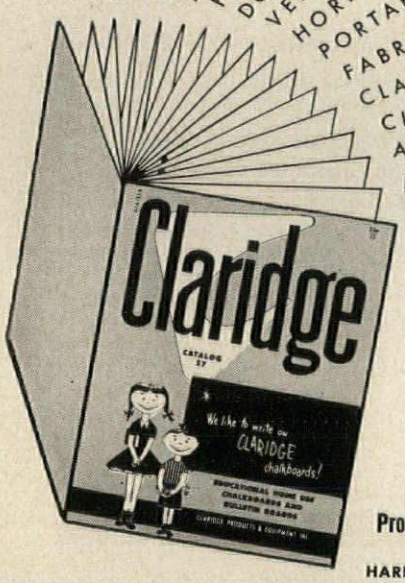
more roundup on page 278



Reinforcing, shown ready for tying to next vault, is spaced as close as 3 in. o.c.

ASBESTOCITE CHALKBOARD
GRAPHOLITE CHALKBOARD
ALUMINUM MAP RAIL
CORK BULLETIN BOARDS
ALUMINUM CHALKBOARD TRIM
FRAMED CABINET BULLETINS
DURACITE CHALKBOARD 7 COLORS
VERTICAL SLIDING CHALKBOARDS
HORIZONTAL SLIDING CHALKBOARDS
PORTABLE CHALKBOARDS and BULLETIN BOARDS
FABRICORK BULLETIN BOARD in SEVEN COLORS
CLARIDGE FACTORY BUILT CHALKBOARDS and BULLETIN BOARDS
CLARIDGE SWING LEAF DISPLAY BOARDS
ALUMINUM DISPLAY and TROPHY CASES
DUAL PURPOSE REVERSIBLE CHALKBOARDS

PERMANENCY
at low cost!
***in* SCHOOL CHALKBOARDS**
and Cork Bulletins



CLARIDGE has made great strides in modernizing and improving chalkboards and bulletin boards to keep pace with the demands of present day education. Over 35 years experience enables us to approach the problem on a know-how basis. Our one ultimate purpose: *the finest chalkboards and bulletin boards with greatest educational value.* Thousands of schools the world over . . . and many leading architects use CLARIDGE as their standard of quality.

Catalogs, samples, shop drawings or engineering assistance to help you prepare plans and specifications will be furnished promptly on request . . . no obligation. For immediate information refer to SWEET'S 23e–C1

Claridge
Products and Equipment
Incorporated
HARRISON, ARKANSAS Dept. 558

NATIONAL RECOGNITION ACCORDED
SALAMANCA HIGH SCHOOL
EQUIPPED WITH SEVENTY-NINE

RITTLING CLASSROOM UNIT VENTILATORS

Architects:
Pfohl, Stoll and Roberts, Buffalo, N. Y.

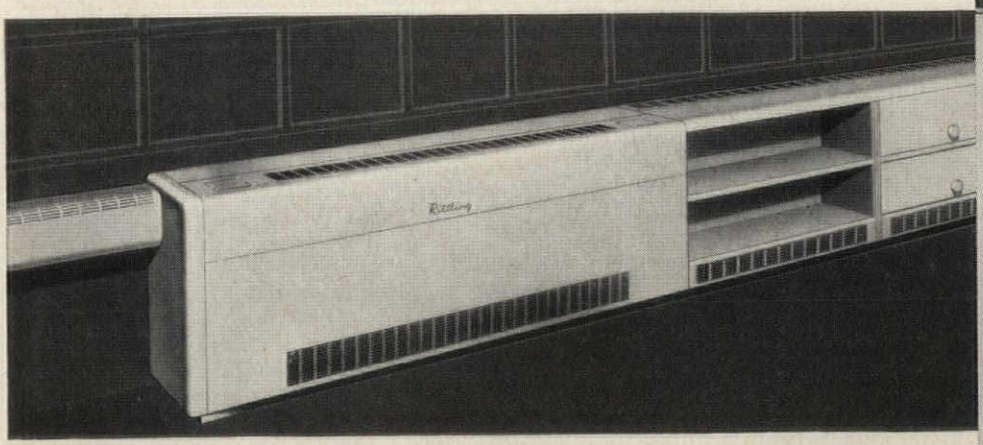
Heating Engineers:
Beman and Candee, Buffalo, N. Y.

Heating Contractor:
James E. Reid, Buffalo, N. Y.

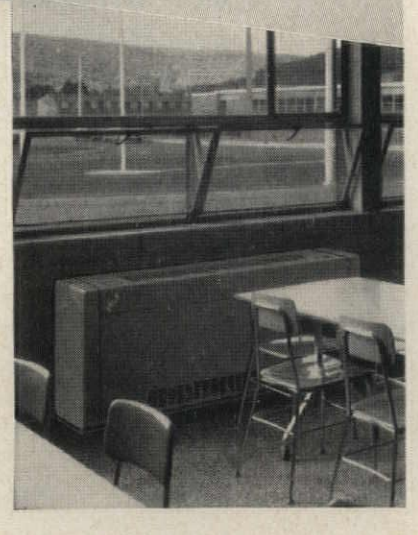
General Contractor:
The John W. Cowper Co., Inc.
Buffalo, N. Y.

Selection of the Salamanca Junior-Senior High School by the American Association of School Administrators for its 1958 exhibit is a tribute to its architectural concept...in design...in construction...in equipment.

Its classrooms are equipped with seventy-nine RITTLING Unit Ventilators which provide for the comfort and health of those who teach and those who learn. Several of the units are now equipped for mechanical cooling and all are arranged for future installation if desired.



Write for RITTLING Catalogs on Unit Ventilators, Silvector Radiation, Convectors, Unit Heaters



RITTLING SCHOOLMASTER Unit Ventilators heat, cool, ventilate, filter, and circulate to assure ideal classroom climate.
Performance has been approved by hundreds of units functioning under America's wide variety of climatic conditions...north, south, east, and west.

RITTLING SCHOOLMASTER Unit Ventilators are made in FIVE sizes and a complete line of unitized storage cabinets and auxiliary radiation. This provides the architect and engineer with latitude, accuracy, and economy in specifying.

Advanced features and basic data are given in RITTLING SCHOOLMASTER Catalog No. UV-1157 available from the factory or RITTLING Representatives.

THE *Rittling* CORPORATION
BUFFALO 5, N. Y.

announcing! Roddis

7/16" architectural craftwall

FACTORY-FINISHED WOOD PANELING

installs direct on studs...no underlayment!

Another Roddis "first"! New, veneered paneling of exceptional strength and rigidity . . . with a new "solid feel". Gives many of the advantages of ¾" material yet costs far less!

Now! Many of the characteristics of the finest ¾" plywood paneling . . . at real cost savings . . . with Roddis' new 7/16" Architectural Craftwall!

Sturdy and solid-feeling, Architectural Craftwall is made from choice, hardwood veneers bonded to a ⅜" center of Timblend, Roddis' amazing man-made board.

This exclusive Timblend center makes the big difference! A unique, wood blend shavings board, Timblend gives extra strength and rigidity . . . assures maximum freedom from movement after installation. Architectural Craftwall stays put!

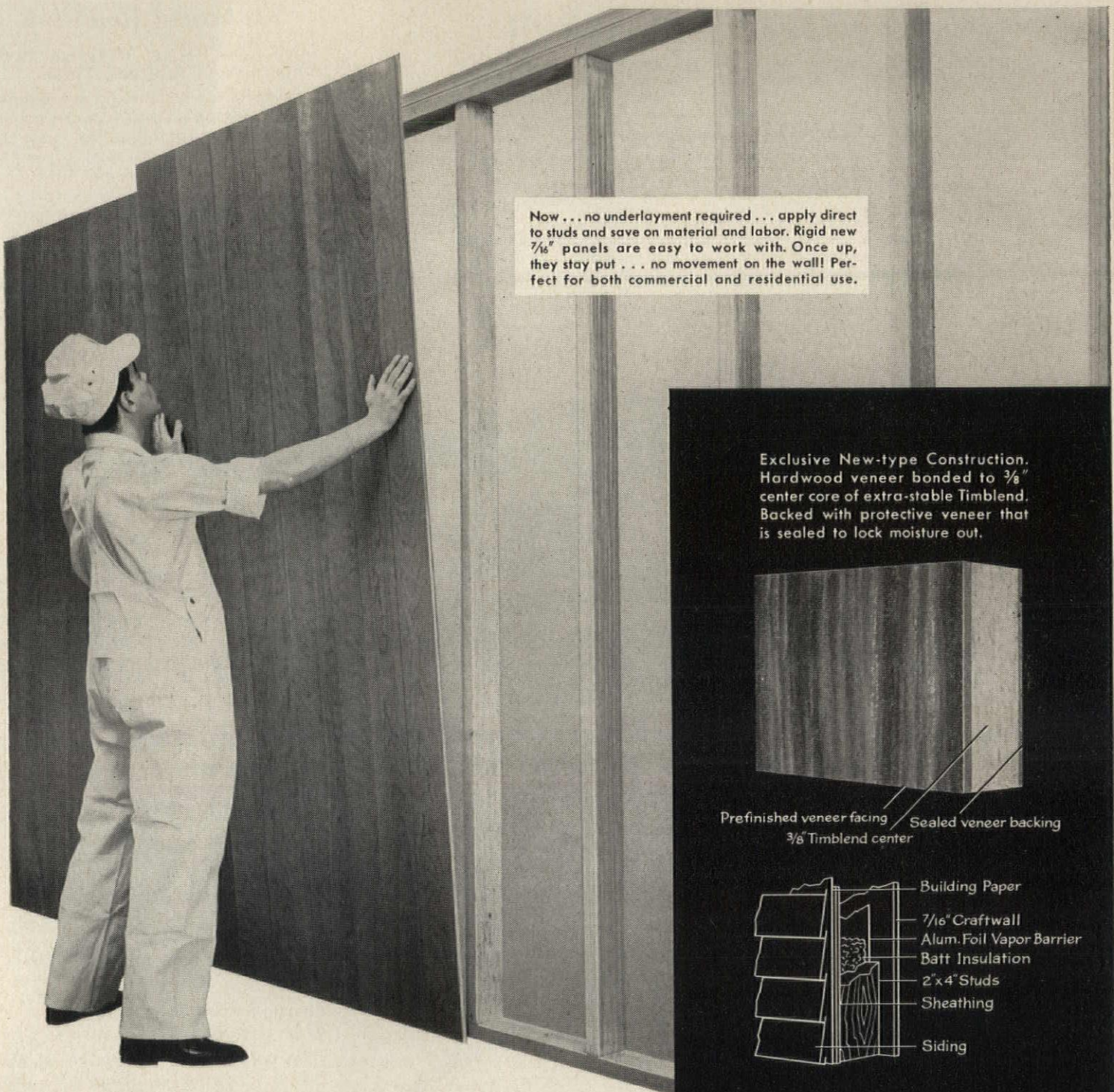
Installation is simplicity itself. Architectural Craftwall goes up fast . . . directly on studs or furring strips. No costly, time-consuming underlayment needed. Install with Roddis Contact Cement. Or use nails if preferred.

Sound reduction properties are impressive, too. Tests prove acoustical values of Architectural Craftwall are comparable to plaster or drywall construction.

A wide choice of woods and styles enhance your design possibilities. Select from Birch, Silver Birch, Maple, Oak, Walnut, Elm, Cherry or Mahogany. *Each is completely factory-finished, ready to install.* Available V-grooved at 16" intervals or V-grooved, cross scored and pegged. All panels V-grooved at veneer joints also. In regular plywood sizes . . . *plus lengths to sixteen feet.*

Architectural Craftwall is also available in standard or special size panels, *without grooves*, with matched flitches in the wood of your choice.

For free sample and information on how Roddis' 7/16" Architectural Craftwall can give any paneling installation new beauty, greater strength—at lower cost, just send the coupon.



Now . . . no underlayment required . . . apply direct to studs and save on material and labor. Rigid new 7/16" panels are easy to work with. Once up, they stay put . . . no movement on the wall! Perfect for both commercial and residential use.

Exclusive New-type Construction. Hardwood veneer bonded to 3/8" center core of extra-stable Timblend. Backed with protective veneer that is sealed to lock moisture out.

So easy to install. Apply direct on studs with Roddis Contact Cement or nails, if preferred.

ARCHITECTS AND DESIGNERS

Roddis 7/16" Architectural Craftwall is a NEW kind of wood paneling! There is nothing else like it in the market. You get deep-grooved beauty and true "solid feel" at a price that will please the most cost-conscious client. And remember, this new Roddis product actually works and handles like costly 3/4" materials. Send coupon for details and sample.

RODDIS PLYWOOD CORPORATION
Marshfield, Wisconsin

Roddis Plywood Corporation
Marshfield, Wisconsin, Dept. AR-558

Please send free sample and information on 7/16" Architectural Craftwall.

NAME_____

FIRM_____

ADDRESS_____

CITY_____ STATE_____

Executone gives you **4-way service** for sound and intercom systems!

We provide not only wiring plans, shop drawings, specifications and costs, but with our nation-wide organization of exclusive distributors we also give your clients on-premise maintenance of equipment and instruct their personnel in its proper use. If you have a job on your boards that should utilize intercom or sound, you should be familiar with these four important Executone services;

Not only this...

1 Consultation Service

Executone's Field Engineers will assist you in determining your clients' communication needs... recommend the system designed for the job... provide you with a professional consultation service.

2 Installation and Supervision

Each local Executone distributor is prepared to take full responsibility for the final and satisfactory operation of the system, whether installed by the contractor, or his own factory-trained crew.

But also this!

3 On-Premise Maintenance

Each local distributor is staffed with skilled, factory-trained technicians. They also have complete stocks of standard replacement parts. Continuous, uninterrupted performance of every Executone system is assured.

4 Personnel Instruction

Local Executone representatives instruct your clients' personnel in the proper use of Executone Systems. This planned program assures maximum benefits through proper operation and utilization of their systems.

Architects and engineers are invited to send for Executone's 325 page Reference Manual "K-11." No charge or obligation. Please use your letterhead.

Executone

INTERCOM AND SOUND SYSTEMS FOR HOSPITALS, SCHOOLS, HOMES, PLANTS, OFFICES

415 Lexington Ave., New York 17, N.Y. • In Canada... 331 Bartlett Ave., Toronto

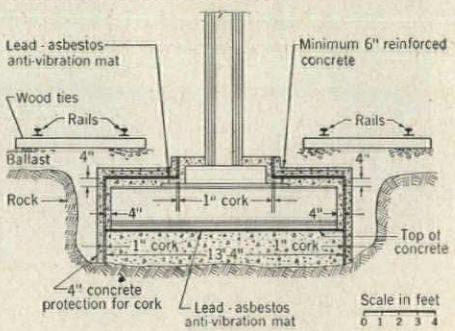
Technical Roundup

Lead Pads Damp Vibration From Underground Railroad Traffic

Lead-asbestos pads under its columns will cushion the new Union Carbide building against vibrations from the dense railroad traffic which runs in and out of Grand Central Station—passing beneath the structure en route.

Each column, with its associated substructures, is set in a concrete pier lined with lead-asbestos anti-vibration mats on the floor and cork on the interior sides. The column itself rests on a grillage of I-beams laid over the pads. Above the grillage, around the column base, are additional lead pads which are covered with a 6 in. layer of reinforced concrete. The concrete supports ballast and railroad tracks which pass directly over either side of the pier.

The pads themselves are sandwich structures made up of a 12 gage steel core encased on each side by a ⅜ in. layer of asbestos and a ⅛ in. outer layer of sheet lead. The assembly is clamped together under 200 psi pressure, and its edges lead-sealed. The principle of the pads, which have been used for a number of similar applications, is the resistance offered to shock waves as they pass from one substance to another.



Thermal Insulation With Reflective Surfaces

Building materials research at the National Bureau of Standards has shown that the thermal resistance of air spaces and typical fibrous insulating materials is substantially increased if they are surfaced or subdivided with highly reflective surfaces such as aluminum foil. Earlier research made available a method and the essential data for calculating the thermal conductance of uniform air spaces under various environmental conditions. However, it was not known how much the installation method might affect the insulating value of an air space formed in combination with a reflectively surfaced fibrous insulation, as com-

continued on page 282

Eastern's new "Silent Ceiling" is a major breakthrough in the technology of acoustical ceilings. It integrates the most advanced metal-ceiling components into a complete, easy-to-specify system.

COSTS LESS TO INSTALL AND MAINTAIN

Unlike most conventional-type panels which are available only in small sections, "Silent Ceiling" modules are the longest in the industry . . . up to 12 feet in length. These speed and simplify installation . . . eliminate time-consuming clipping of small tile units to T-bars. Eastern's extra-long panels fasten directly to 1½" channel, wood joists or other flat surfaces . . . with minimum loss of room height. Panels are both rolled and stamped, double-coated with high-bake Du Pont enamel for extreme durability and washability . . . supplied complete with pre-fitted sound absorbing pads. The entire "Silent Ceiling" system is rated Class A in flame resistance. Its smooth, level plane is unaffected by vibration. Its architectural advantages are unique!

Eastern
Products Corporation

Mail coupon today for full information!

Acoustical Division, Eastern Products Corp.
1601 Wicomico St., Baltimore 30, Md.

Please send, without obligation, full details on the new Eastern "Silent Ceiling".

NAME

STREET

CITY, ZONE, STATE

During 1957, plants of these leading U. S. Corporations were among the hundreds roofed with

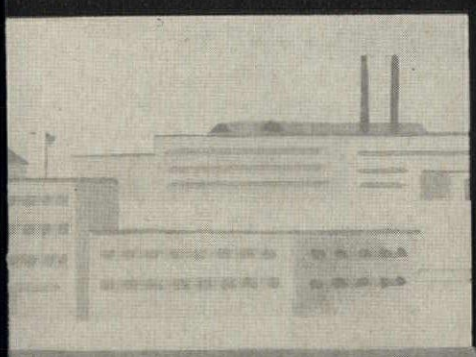
Whirlpool Corporation	I. B. M.	Firestone Tire & Rubber Company
Illinois Bell Telephone Co.	Standard Oil Company (Ohio)	LeTourneau-Westinghouse Company
Kraft Foods Company	Sears, Roebuck & Company	General Electric Company

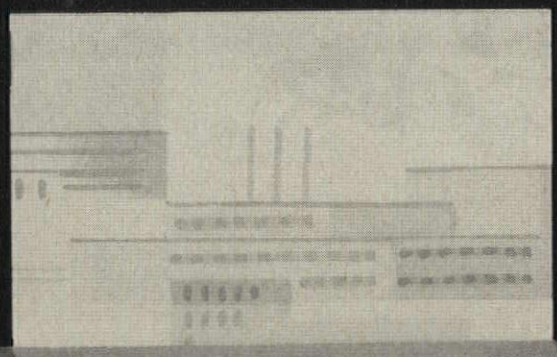
FESCO®

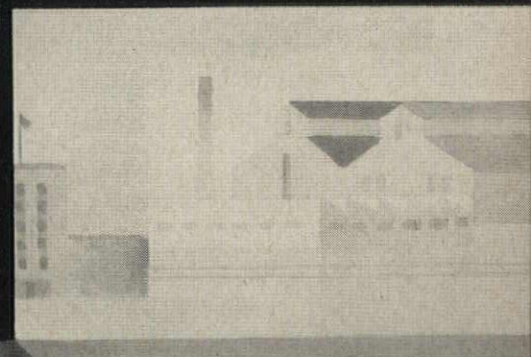
ROOF INSULATION

BOARD

General Foods Corporation	Chrysler Corporation	Westinghouse Electric Company
Sylvania Electric Products Inc.	Caterpillar Tractor Co.	Goodyear Tire & Rubber Co., Inc.
Ford Motor Company	Pepsi-Cola Company	Clark Equipment Company







F. E. SCHUNDLER & COMPANY, Inc.

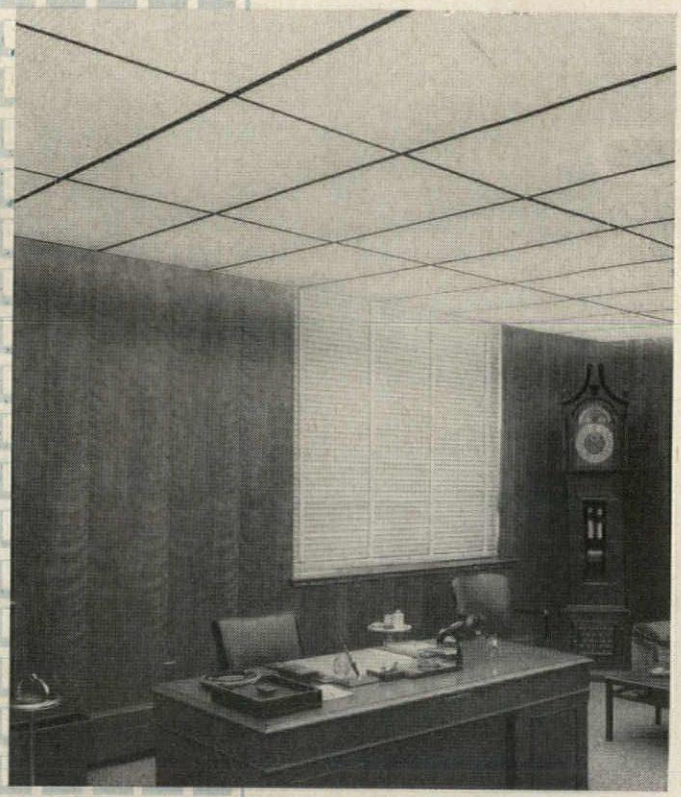
504 RAILROAD STREET • JOLIET, ILLINOIS

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.

Manufacturer of today's finest roof insulation board



BE SURE!

Specify AMERICAN PLASTIC LOUVERS

THE OUTSTANDING LOUVER FOR ANY LIGHTING DESIGN.

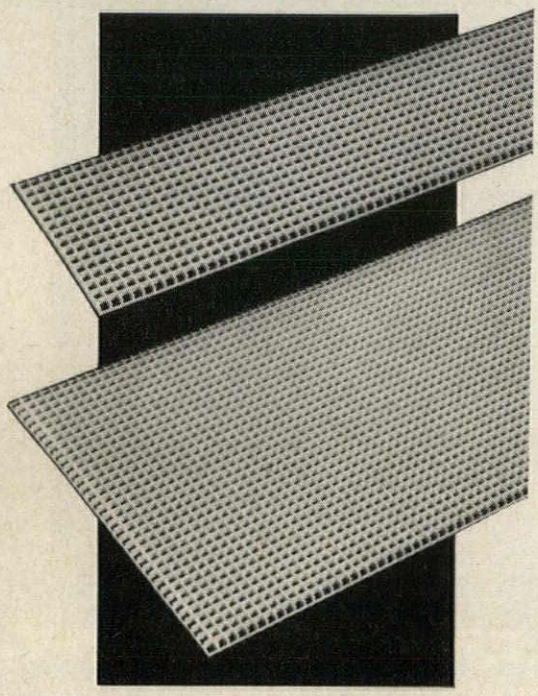
American Plastic Louvers offer the maximum in conformability for any lighting plan, whether it be industrial, institutional, commercial or retail. In application they may be employed in individual fixtures, full ceiling installations or any modular pattern. Strong, light weight louvers eliminate the need for costly heavy ceiling construction.

FEATURES:

- Color-Stable.
- Restful shielding regardless of the light intensity involved.
- Light Weight—Specific gravity of only 1.05.
- Low Cost Maintenance — Easy to clean.
- Available in combination of sizes.

Only the exclusive process of the American Louver Company is covered by these patents:
USA Pat. No. 2,566,817
USA Pat. No. 2,607,455
Canadian No. 484,346
Canadian No. 497,047

The next time you order, specify the ultimate in modern plastic louvers — get AMERICAN!



Write for additional details

american louver company

4240 N. SAYRE AVENUE • CHICAGO 34, ILLINOIS

Technical Roundup

continued from page 278

pared to that of the exemplary type of space. Accordingly, the Bureau undertook to determine experimentally the insulating effects of a number of reflective and fibrous materials installed in different combinations, and to compare the results with calculated values based on the previously obtained data. Major findings were:

1. Observed and calculated insulating values agreed within 10 per cent or better in almost all cases where the air spaces conformed to those of the exemplary spaces with which the original data were obtained.

2. Condensation of moisture on reflective surfaces decreased the insulating effect of an air space.

3. The insulating value of tandem wedge-shaped air spaces formed by aluminum foil stretched diagonally from front to back faces of adjacent studs was less than that of air spaces of the same average thickness.

4. Circulation of air through three .58 in. holes in an aluminum foil membrane between tandem air spaces reduced the insulating effect of the spaces when they were vertical or at a 45 degree angle; had no effect when they were horizontal.

5. Radiation through minute perforations (65 per sq in.) in a membrane dividing two tandem air spaces decreased the insulating value of the membrane. Air circulation through the same apertures had no effect.

6. The thermal resistance of a thick air space with one reflective surface may depend in part on the position of that surface because of effects of radiation.

7. Observed and calculated resistances for panels insulated with a board-type fibrous insulation, with and without reflective surfaces, agreed within 7 per cent or better.

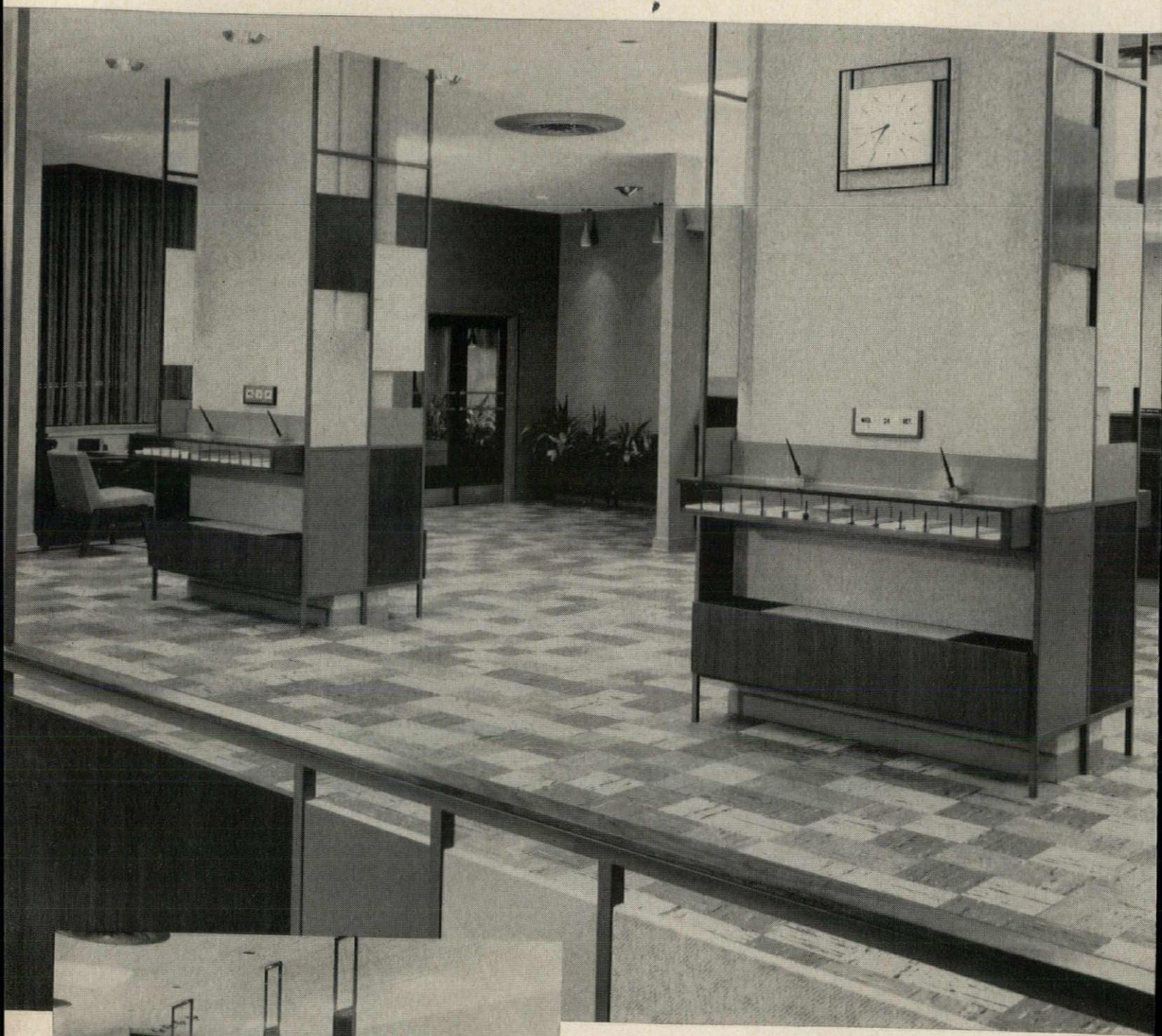
8. Observed resistance for panels insulated with foil-enclosed mineral wool blankets in approximate mid-space were within about 10 per cent of calculated values, except for heat flow downward, when departures of about 20 per cent were found.

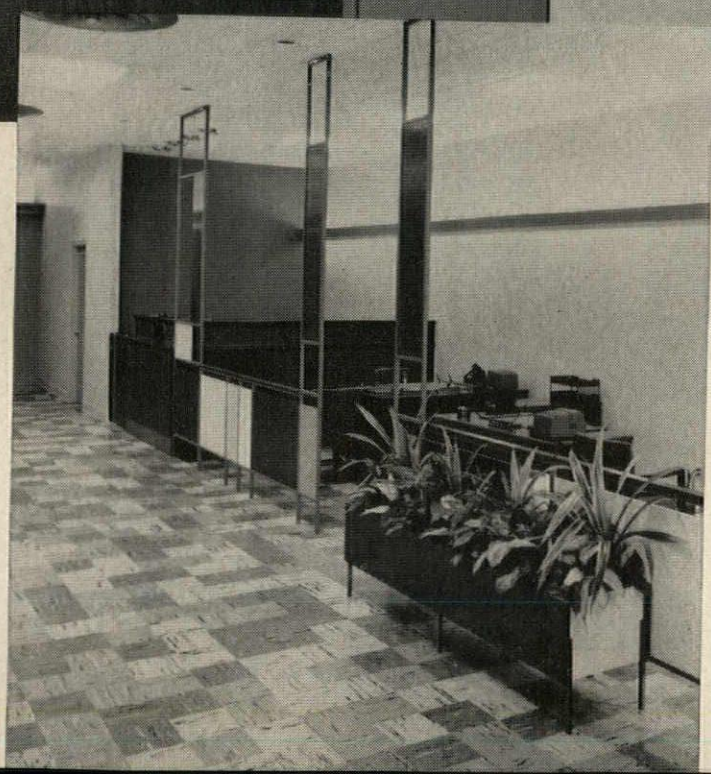
9. Applications of mineral wool blankets with aluminum foil on the warmer side were more effective with the blanket in mid-space of the panel or bowed in from the warm side than with it stretched over the warm or cold faces of the framing members.

The investigation was carried out in cooperation with the Aluminum Company of America by H. E. Robinson and F. J. Powell of the Bureau's heat transfer laboratory and L. A. Cosgrove of Alcoa's research fellowship at the Bureau.

PLUS VALUES
...that make
happy clients
Everybody is happier when architects specify ALWINTITE aluminum windows. Well designed and carefully made by General Bronze—recognized leader in aluminum windows—they offer many PLUS VALUES. To hospital or school building committees, to realty managers and to building owners, their fine workmanship, easy trouble-free operation, low-cost maintenance and attractive appearance, are all evidence of their superior quality. Architects, too, appreciate such other PLUS VALUES as wide selection from stock sizes, dependable on-time deliveries and reliable distributors with factory-trained window specialists always at your service. For the complete story—types, sizes and details—see the ALWINTITE catalog in Sweet's, or write us direct.
ALWINTITE
by GENERAL BRONZE
GARDEN CITY, N.Y.
ENSEMBLE: OLEG CASSINI
ALUMINUM WINDOWS • SLIDING DOORS

BANK . . . CHURCH . . .





EASE OF MAINTENANCE—at low cost

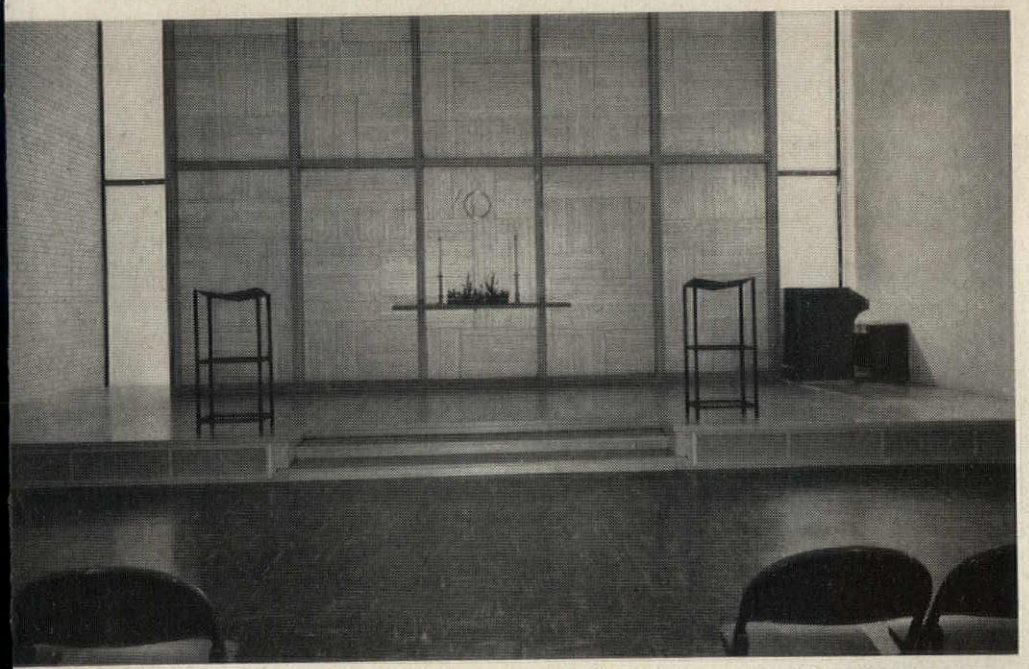
It's twenty-five to nine—and this bank has just had its nightly cleaning. The job was done in double-quick time, because the floor of Armstrong Asphalt Tile is exceptionally smooth and remarkably easy to keep good looking. It's highly resistant to abrasion and marring, stands up well under heavy traffic.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

The Bank of Georgia, Ponce de Leon Office, Atlanta

interior design: Alan L. Ferry Designers

GENERAL OFFICES

the flooring spec: Armstrong Asphalt Tile



DIGNITY — at low cost

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

First Universalist Church, Chicago

architects: Schweikher, Elting and Bennett

CUSTOM DESIGN — at low cost

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

Cities Service Division Office Building, Kansas City, Mo.

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

While Armstrong Asphalt Tile is the lowest cost of all Armstrong floors, it is made with the traditional Armstrong standards of quality. It is highly alkali resistant and has exceptional durability to withstand concentrated traffic. Each tile is precision cut to correct size, eliminating off-square problems. It can be used over any subfloor, on any grade. Armstrong Asphalt Tile comes in four smart effects—Spatter, Corkstyle, Woodtone, and Straight Grain—in 1/8" and 3/16" gauges.

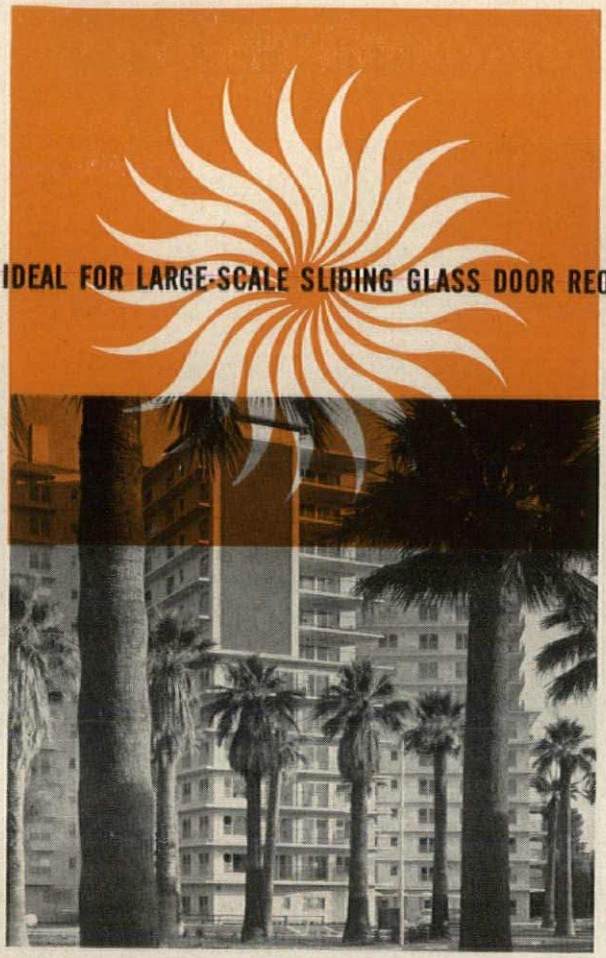
Armstrong makes all types of resilient floors and can therefore offer unbiased recommendations for every flooring need. For information, samples, or specifications, call the Architectural-Builder Consultant in the nearest Armstrong district office or write direct to Armstrong Cork Company, Floor Division, 505 Rock Street, Lancaster, Pa.

Armstrong FLOORS

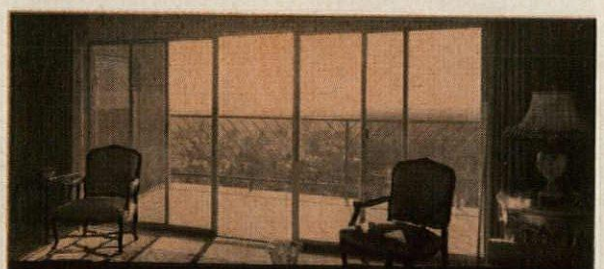
Approximate Installed Prices per Sq. Ft. (Over concrete, minimum area 1000 sq. ft.)

20¢ to 35¢	Linoleum Tile Asphalt Tile, 1/8" (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, 1/8" ("Battleship") Greaseproof Asphalt Tile Cork Tile, 3/32"	45¢ to 60¢	Corlon (Sheet Vinyl) Linoleum, 1/8" Cork Tile, 1/8" Excelon Tile (Vinyl-Asbestos) 1/8"	60¢ to 70¢	Rubber Tile, 1/8" Cork Tile, 3/16" Linotile Corlon (Hydrocord Back) Linoleum (Cushion-Eze Back	70¢ to 90¢	Custom Corlon Tile (Homogeneous Vinyl) 3/32", 1/8" Cork Tile, 5/16" Rubber Tile, 3/16" Corlon (Cushion-Eze Back)	95¢ to $1.30	Custom Vinyl Cork Tile Imperial Custom Corlon Tile

MILLER . . . IDEAL FOR LARGE-SCALE SLIDING GLASS DOOR REQUIREMENTS



The Phoenix Towers, Phoenix, Arizona, demonstrates these several advantages in Miller sliding glass doors: 1. Heavy tubular sections allow complete freedom of design, and provide added strength to withstand abnormal wind loads. 2. Every aluminum frame is Alumilited for lasting beauty and resistance to elements. 3. Section (at right) shows how Miller double-seals vents on all four sides with Schlegel Certified woven pile (silicone treated). 4. Three complete lines in aluminum and steel provide design and cost latitude–for commercial, institutional and residential. 5. Distributors and dealers in most principal cities carry stock for immediate delivery. 6. Design assistance offered at no charge by Miller engineers. Write for dealer's name and free catalogs. Also see Sweet's Arch. File 16d/Mi.



View from one of the 60 cooperative apartments in Phoenix Towers.

Other large-scale Miller installations:

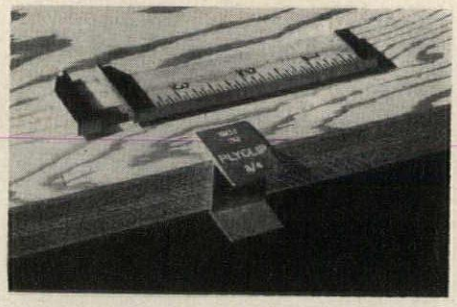
RENO, NEVADA	HOLIDAY HOTEL
LITTLE ROCK, ARK.	U. OF ARKANSAS WOMEN'S DORM.
PITTSBURG, PENNA.	WARWICK APARTMENTS
GARDEN GROVE, CALIF.	ALAMITOS INTERMEDIATE SCHOOL
CHICAGO, ILLINOIS	SCHUTZ OFFICE BUILDING
NEW ORLEANS, LA.	UPTOWN NEGRO HIGH SCHOOL

sliding glass doors by **Miller**

Frank B. Miller Mfg. Company, Inc., Dept. AR, 3216 Valhalla Drive, Burbank, California

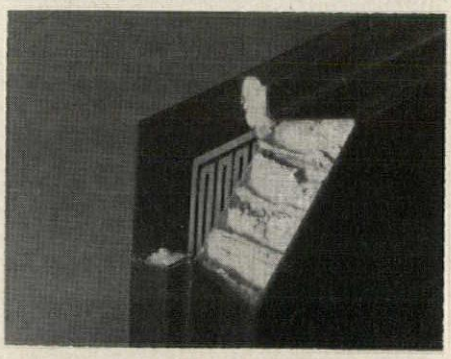
Product Reports

continued from page 253



Edge Fastener For Plywood

PlyClips are new H-shaped aluminum alloy devices that are used to replace 2 by 4 in. wood blocking in plywood roof decks. They are designed to slip over the plywood panel edges at mid-span between rafters or purlins and to stiffen the joint by transferring a concentrated load from one panel edge to the next. The clips are said to be a fully adequate substitute for 2 by 4 blocking with the exception of a plywood deck engineered as a horizontal diaphragm to transmit maximum allowable shear. Clips are available in sizes suitable for $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, and $\frac{13}{16}$ in. plywood thicknesses. *Douglas Fir Plywood Association, 1119 A Street, Tacoma 2, Washington*

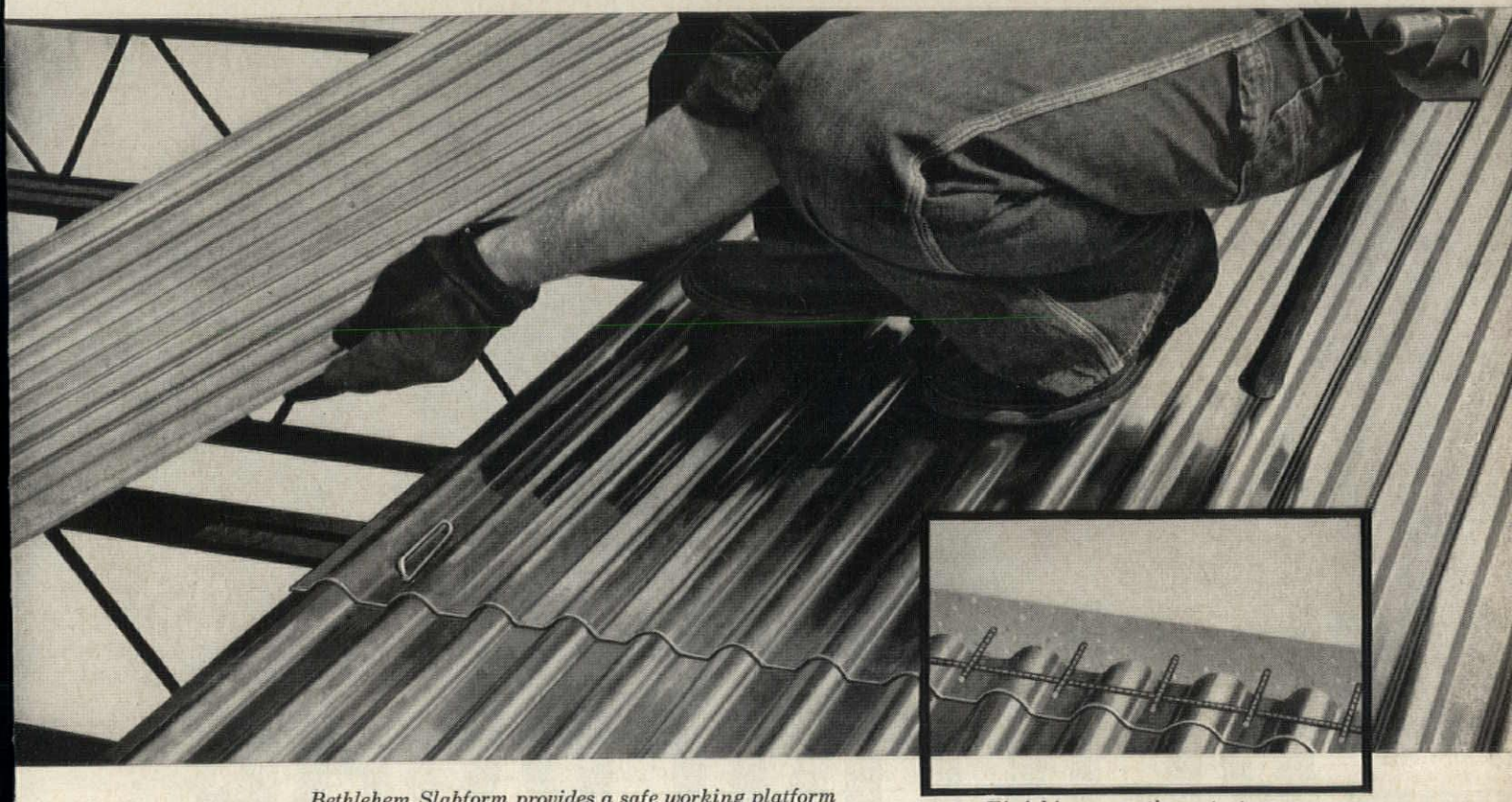


Curtain Wall Panel Heating Unit

A curtain wall panel has been developed that combines, in one package, a porcelain enameled outer skin, vermiculite-filled asbestos honeycomb core, an aluminized steel reflector, and an interior panel of porcelain enameled steel with an aluminum alloy heating element fused to the inside surface. This combination of curtain wall element, insulation, and radiant heating surface is said to save multiple installation costs as well as repainting, cleaning, heating system maintenance costs and space. A typical panel is $2\frac{1}{16}$ in. thick and radiates over an included angle of 160 deg. *The Bettinger Corporation, Waltham, Mass.*

more products on page 290

HERE'S WHY BETHLEHEM SLABFORM
Saves You Time and Money



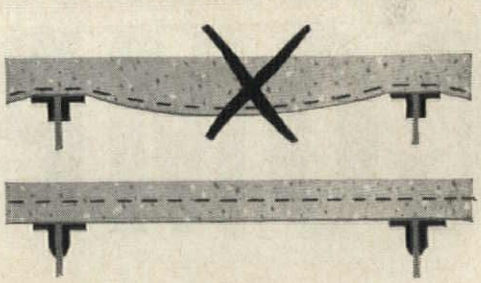
Bethlehem Slabform provides a safe working platform

Finishing operations start sooner

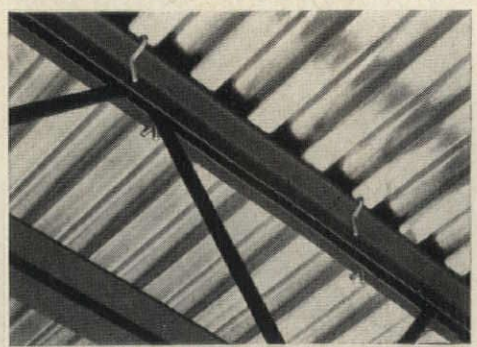
Here are seven reasons why you can save both time and money by by using Bethlehem Slabform, the steel form for concrete floors and roofs over steel joists:

- 1. The solid Slabform permits concrete finishing to start much sooner than is possible with "flexible" centering. You can pour, level, screed, and finish without time lag, saving considerable time and labor.
- 2. Eliminating the sag that occurs with "flexible type" centering saves ½ in. or more of concrete. For a 2½-in. slab this represents a concrete saving of approximately 20 per cent.
- 3. Slabform prevents concrete leakage and greatly reduces clean-up costs.
- 4. Slabform prevents rapid run-off of water, permitting proper "hydration" during curing period, resulting in stronger concrete.
- 5. Slabform prevents formation of "incipient cracking" which often occurs with "flexible type" centering in poured areas adjacent to those being concreted.
- 6. Just an ordinary pair of tin shears is all that's needed to cut and fit Slabform around special openings.
- 7. Slabform can easily be installed with clips (illustrated) or by welding through wing washers or by means of self-tapping screws.

Bethlehem Slabform makes the pouring of floors and roofs simple and rapid. Made from steel having a yield point of approximately 90,000 psi, Slabform provides a strong, stiff formwork. Slabform comes in laying widths of 24 in. and in lengths of 6 ft 3 in., 8 ft 3 in. and 10 ft 3 in., including 3 in. for end laps. Gage is 0.0156 in.



Eliminates sag, saves concrete



No leakage, reduces clean-up costs

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. *Export Distributor:* Bethlehem Steel Export Corporation

BETHLEHEM STEEL

BETHLEHEM STEEL

Big-tonnage refrigeration news...

Carrier

CENTRIFUGAL COMPRESSORS

with broad application flexibility
now in increased capacities up to

3000 tons

Now, the big-tonnage refrigeration requirements for many large air conditioning and industrial processing applications can be handled economically with a single Carrier Centrifugal Compressor. These multi-stage, heavy-duty centrifugals are designed and built to the same high-quality standards that have earned Carrier the reputation for around-the-clock dependability on thousands of applications.

With unit capacities up to 3000 tons, these Carrier Centrifugal Compressors provide many installation and operating advantages. To mention a few:

Extreme flexibility of arrangement with coolers and condensers. Four of many combinations are illustrated.

High lift or wide temperature range in two, three or four stages.

Side loading for split load requirements.

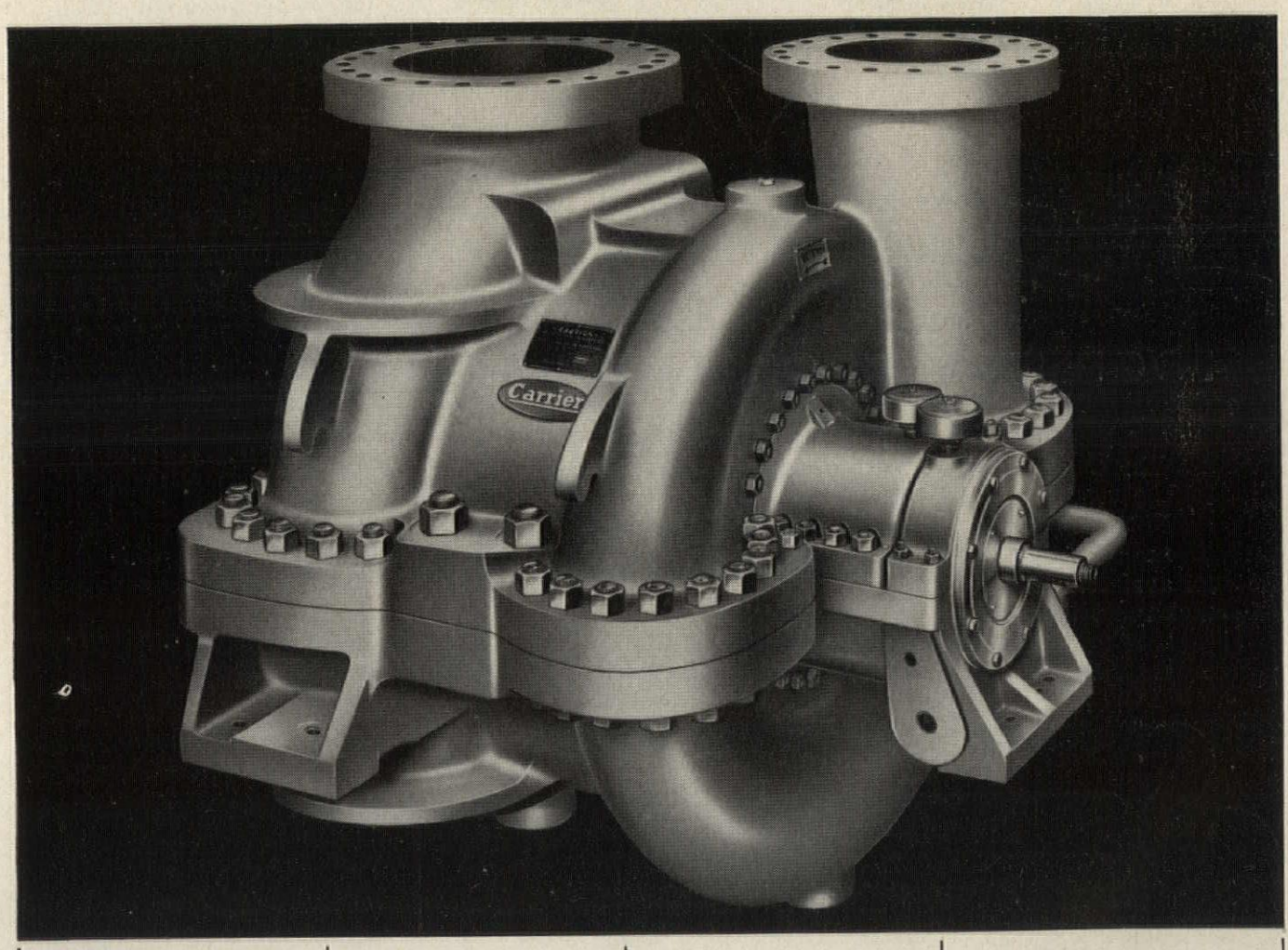
Variable inlet guide vanes for capacity control.

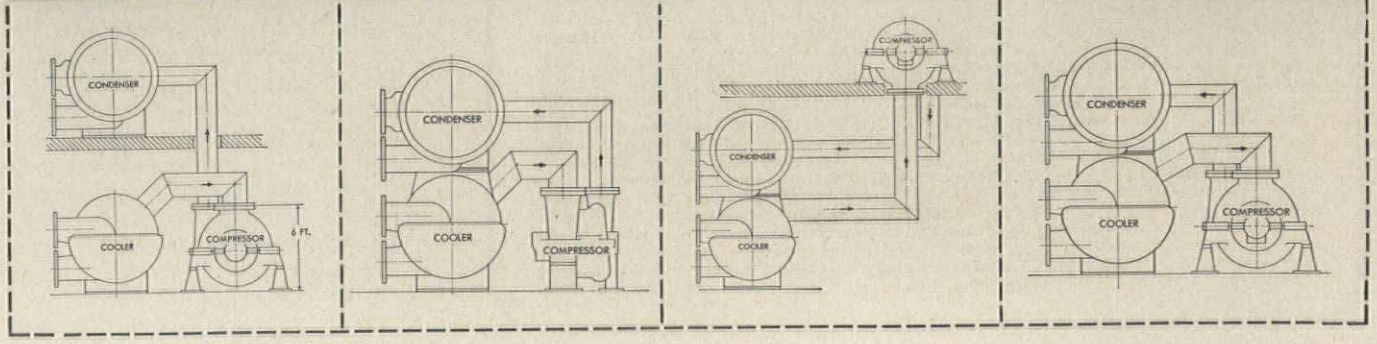
Suitable for all types of drives.

Versatile use with any high-pressure refrigerant.

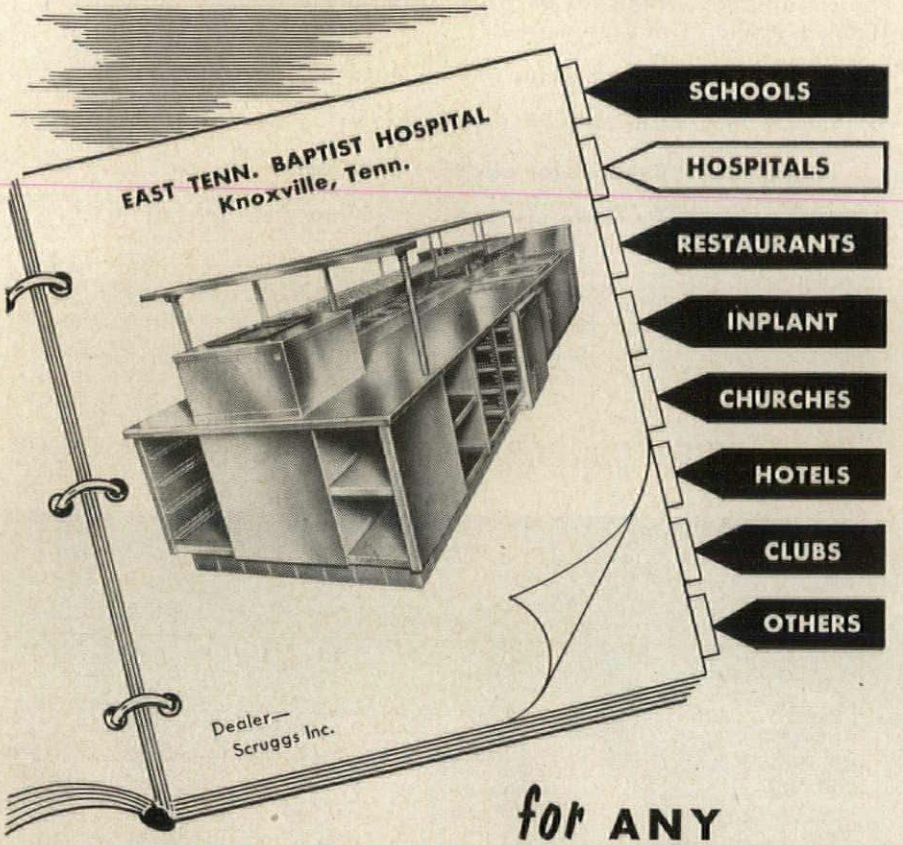
Whatever your requirements, the Carrier specialist in your area can make an impartial recommendation. For information about these big-tonnage Carrier Centrifugals and specific application to your requirements, call your nearest Carrier office, or write

CARRIER CORPORATION, SYRACUSE, NEW YORK





Custom-Bilt



for ANY FOOD SERVICE OPERATION!

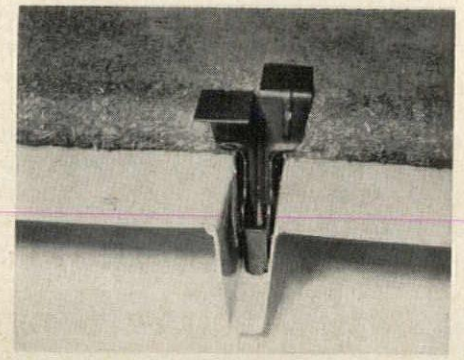
For years Southern has consistently and successfully created special food serving equipment to meet the most unusual performance demands. "Custom-Bilt by Southern" equipment can be designed, engineered, fabricated, installed and expertly fitted to available space *for any food service operation.* Get expert help today—call your "Custom-Bilt by Southern" Dealer, or write to Southern Equipment Company, 4550 Gustine Ave., St. Louis 16, Mo.

SOUTHERN EQUIPMENT COMPANY

"CUSTOM-BILT BY SOUTHERN" DEALERS: **ALABAMA,** BIRMINGHAM—Vulcan Equip. & Supply Co.; MOBILE—Mobile Fixture Co. **ARKANSAS,** LITTLE ROCK—Krebs Bros. Supply Co. **FLORIDA,** DAYTONA BEACH—Ward Morgan Co.; JACKSONVILLE—W. H. Morgan Co.; MIAMI—J. Conkle, Inc.; ORLANDO—Turner-Haack Co.; ST. PETERSBURG—Staff Hotel Supply Co.; TAMPA—Food Service Equip. Co., Inc. **GEORGIA,** ATLANTA—Whitlock Dobbs, Inc. **ILLINOIS,** PEORIA—Hertzel's Equip. Co. **INDIANA,** EVANSVILLE—Weber Equip. Co.; INDIANAPOLIS, MARION—National China & Equip. Corp. **IOWA,** DES MOINES—Bolton & Hay. **KENTUCKY,** LEXINGTON—Heilbron-Matthews Co. **LOUISIANA,** NEW ORLEANS—J. S. Waterman Co., Inc.; SHREVEPORT—Buckelew Hdwe. Co. **MICHIGAN,** BAY CITY—Kirchman Bros. Co.; DETROIT—A. J. Marshall Co. **MINNESOTA,** MINNEAPOLIS—Aslesen Co.; ST. PAUL—Joesting & Schilling Co. **MISSOURI,** KANSAS CITY—Greenwood's Inc.; ST. LOUIS—Southern Equipment Co. **MONTANA,** BILLINGS—Northwest Fixture Co. **NEBRASKA,** OMAHA—Buller Fixture Co. **NEW YORK,** ALBANY—Lewis Equip. Co. **NORTH CAROLINA,** ASHEVILLE—Asheville Showcase & Fixture Co.; CHARLOTTE—Hood-Gardner Hotel Supply Corp. **NORTH DAKOTA,** FARGO—Fargo Food & Equip. Co. **OHIO,** CINCINNATI—H. Lauber & Co.; CLEVELAND—S. S. Kemp Co.; COLUMBUS—General Hotel Supply; TOLEDO—Rowland Equip. Co.; YOUNGSTOWN—W. C. Zabel Co. **OKLAHOMA,** TULSA—Goodner Van Co. **PENNSYLVANIA,** ERIE—A. F. Schultz Co.; PITTSBURGH—Flynn Sales Corp. **SOUTH CAROLINA,** GREENVILLE—Food Equipment Co. **TENNESSEE,** CHATTANOOGA—Mountain City Stove Co.; KNOXVILLE—Scruggs, Inc.; MEMPHIS—House-Bond Co.; NASHVILLE—McKay Cameron Co. **TEXAS,** CORPUS CHRISTI—Southwestern Hotel Supply, Inc.; SAN ANTONIO—Southwestern Hotel Supply, Inc. **UTAH,** SALT LAKE CITY—Restaurant & Store Equip. Co. **VIRGINIA,** RICHMOND—Ezekiel & Weilman Co. **WEST VIRGINIA,** CLARKSBURG—Parson-Souders Co. **WISCONSIN,** MILWAUKEE—S. J. Casper Co. **CUBA,** HAVANA—Equipos de Bar y Cafeteria, S. A.

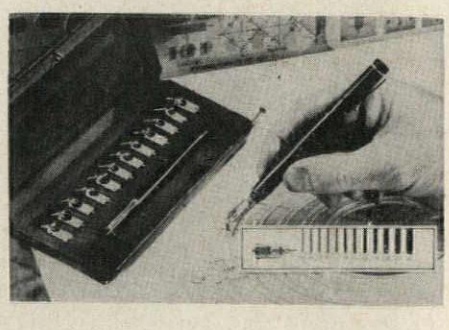
16

Product Reports



Non-Piercing Mechanical Clip

A new *GAT Dek-Clip* has been introduced for use in securing insulation to narrow-flute steel roof decking. A one-piece clip which utilizes locking principles similar to those employed on the wide-pronged fasteners for other metal deck profiles, the new fastener has a sturdy box channel foot element from which project biased locking prongs. The ends of the prongs are serrated to form sharp teeth which grip the sides of the deck flute when the clip is driven into place by hammer blows on the head of a special tool. Since the head of the fastener has opposing tabs, one clip serves as a common anchor for two abutting insulation boards. The clips are designed to resist direct pullout of between 200 and 300 lb per fastener, with uplift resistance varying from 30 to 60 lb depending on the placement and number of clips per square. *Geo. A. Tinnerman Corp., 19930 Detroit Rd., Cleveland 16, Ohio*

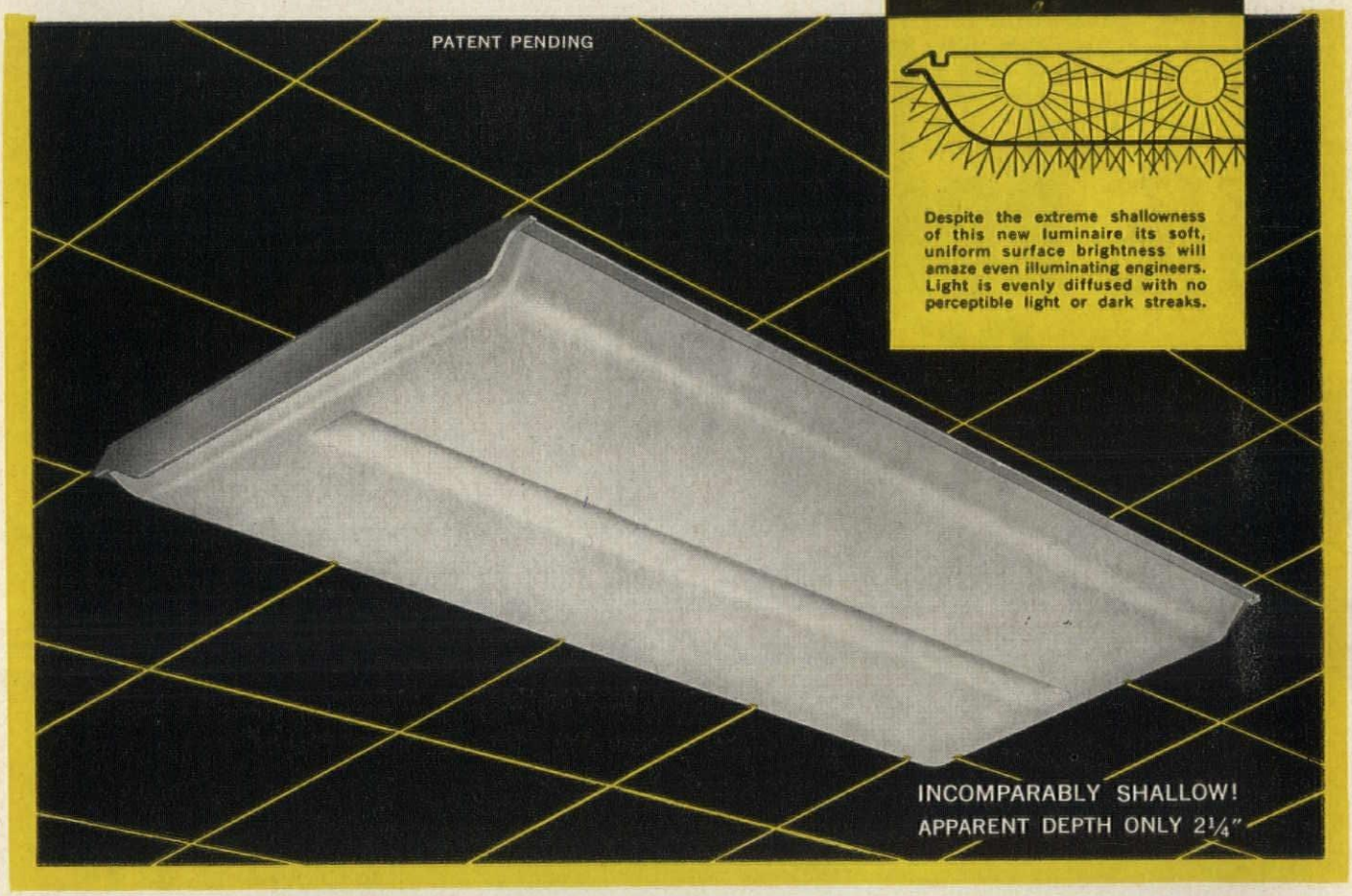


Template and Lettering Guide Pen

Omnigraphos is a fountain-barrelled pen with twelve tubular nibs for ink lines from 0.3 mm to 2.5 mm in width. It is designed for use with the ever-increasing number of schematic drawing templates, curve templates, and lettering guides that are presently available. The nibs are offset at an angle, enabling the user to follow guide-slot walls more closely. *Laramie Chemical Corporation, 290 Main Street, Stamford, Connecticut*

more products on page 294

IT'S SURFACE MOUNTED—BUT LOOKS RECESSED!



The Fixture Setting Amazing New Latitudes in Lighting

THE

SHALLORAMA®

- 2- and 4-lamp units for widest range of applications; banks, institutional spaces, general or private offices, etc. Ideal for re-lighting.
- No latches, no hinges, no visible hardware. Installs lightning-fast.
- Diffuser opens on continuous hook-up supports by hand from either side.
- Fully enclosed by attractively contoured, micro-embossed, matte white Plexiglas, requiring minimum maintenance.

Sent for Bulletin 763-A yet?

SUNBEAM LIGHTING COMPANY, 777 EAST FOURTEENTH PLACE, LOS ANGELES 21, CALIFORNIA
SUNBEAM LIGHTING CO., INC., 3840 GEORGIA STREET, GARY, INDIANA

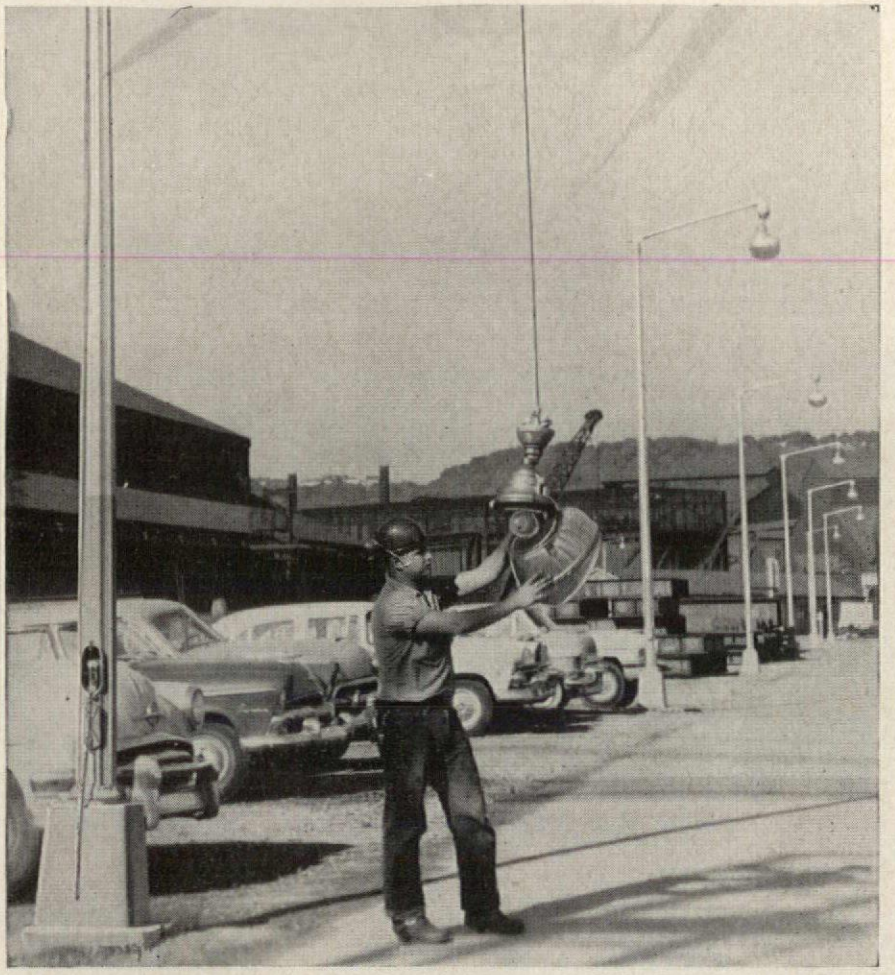
Prestige Photographers—One of a series. At the right, Jim Crotzer, a photographer whose list of clients reads like a "Who's Who" of the art and design world. In this self-portrait he highlights the ageless richness of Macassar Ebony veneer, by Stem.

PRESTIGE VENEER ...THE ROMANCE OF EBONY

Capture the ancient heritage of Macassar Ebony fully by specifying STEM veneer from log samples

The romance of Ebony dates back to Biblical times, back to the time of first caravans that brought spices and silks from the East. All the glamor and mystery of these ancient days are caught in the veneers of Macassar Ebony manufactured by Stem, a perfect background of elegance in a gracious setting. On any project requiring 1,000 square feet or more of fine wood wall paneling, Stem affords the important and additional means of capturing fully this black velvet heritage by specifying from actual log samples the veneer of your choice. You can be sure then of just the right color gradation, just the right configuration of grain, the perfect background. Stem offers the *world's largest collection* of architectural flitches (a log or part of a log cut into veneers) from which you can choose Macassar Ebony and many other fine, rare architectural veneers. If you identify in your original specifications the selected flitches by wood specie and flitch number, only then can you be comfortable in your confidence that the finished installation will achieve the full elegance and subtlety to which you are entitled when you select a decorative background with such ancient traditions. Don't compromise for less. CHESTER B. STEM, INC., NEW ALBANY, INDIANA.

RARE WOODS FROM STEM



LUMINAIRE MAINTENANCE IS AN EASY 5-MINUTE JOB FOR ONE MAN . . . WITH *Servisafe* POLES

Only "Servisafe" Poles give you the combination of speed, safety and savings in servicing pole-mounted lights. All work is accomplished at ground level. That's why one unskilled man can relamp and clean a light in an average of five minutes. He is safe from climbing and electrical hazards . . . needs no special equipment or assistance.

"Servisafe" Poles also permit greater luminaire mounting heights. This means fewer poles are required to illuminate a specific area . . . assures additional long-range savings.

FOR DETAILS AND PRICES . . . write today for BULLETIN WPH-54.

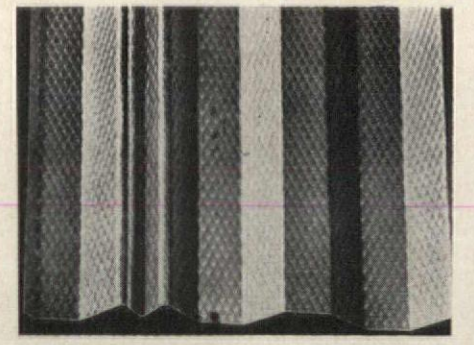
T-E

THE THOMPSON ELECTRIC CO.

PO Box 873-C • CLEVELAND 22, OHIO

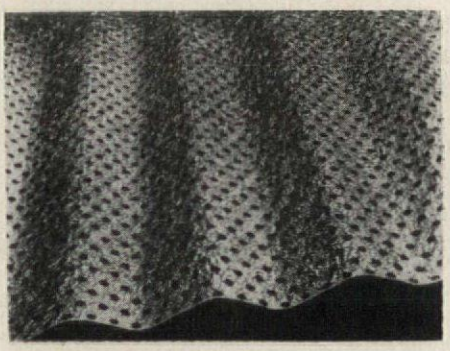
7733-TE

Product Reports



Embossed, Corrugated Aluminum

Diamond-Rib roofing and siding is embossed with a diamond pattern which, along with the flat-topped corrugations, is said to give increased strength and improved appearance over standard corrugated aluminum. The manufacturer says the material maintains its appearance after severe weathering. A "non-siphoning" V-crimped channel is part of one outer edge of each sheet, intercepting any seepage that gets in at the joint. The sheet is reported to have up to 30 per cent greater load bearing strength than .024 in. standard corrugated roofing. *Kaiser Aluminum & Chemical Sales Inc., 919 North Michigan Ave., Chicago 11, Ill.*



Panel Cuts Heat, Passes Light

A new heat-shielding decorative plastic panel has been developed that is reported to reflect better than 80 per cent of the sun's heat but at the same time pass light in soft, diffused form. In producing *Foil-Glass*, a thin sheet of perforated, embossed aluminum foil is laminated between two layers of resin-impregnated glass fiber mat and the whole thing is heat cured and treated to increase its resistance to ultra-violet. The material is produced in four colors: coral, blue, green and yellow, and in widths of 26 and 40 in., lengths of 8, 10 and 12 ft. The inner foil is said to add strength and fire-resistance to the panel. *Resolite Corporation, Zelienople, Pa.*

more products on page 298

Project: Addition to plant of Standard Pressed Steel Co., Jenkintown, Pa. • **General Contractor:** Townsend & Elfreth • **Structural Steel:** Widdicombe Engineering Co. • **Aluminum Supplier:** Aluminum Company of America • **Approved Decorative Alodine Processor:** Engineering Products & Specialties, Inc. • **Aluminum Applicator:** Fred E. Smith Co.

Over 20,000 sq. ft. of aluminum siding, treated with ACP Decorative ALODINE, graces new addition at SPS Jenkintown

SPS Jenkintown, world's largest producer of precision threaded industrial fasteners and a leading manufacturer of steel shop equipment and steel office furniture, recently completed an addition. To protect and decorate its industrial siding, of Alcoa* aluminum, the ACP Architectural grade Decorative ALODINE process was specified. This produced an amorphous phosphate coating integral with the metal. Decorative ALODINE performs three major functions: it improves the natural weathering qualities of the aluminum; it produces an attractive, durable and sunfast green color; it materially reduces the reflectivity of the metal. Decorative ALODINE also has good self-washing characteristics which reduce maintenance. For more complete information about Decorative ALODINE, write us at Ambler.

*Alcoa is a registered trademark of Aluminum Company of America
ALODINE is a registered trademark of American Chemical Paint Company

CHEMICALS ACP PROCESSES

AMERICAN CHEMICAL PAINT COMPANY

Ambler 22, Pa.

Detroit, Mich. • St. Joseph, Mo. • Niles, Calif. • Windsor, Ont.

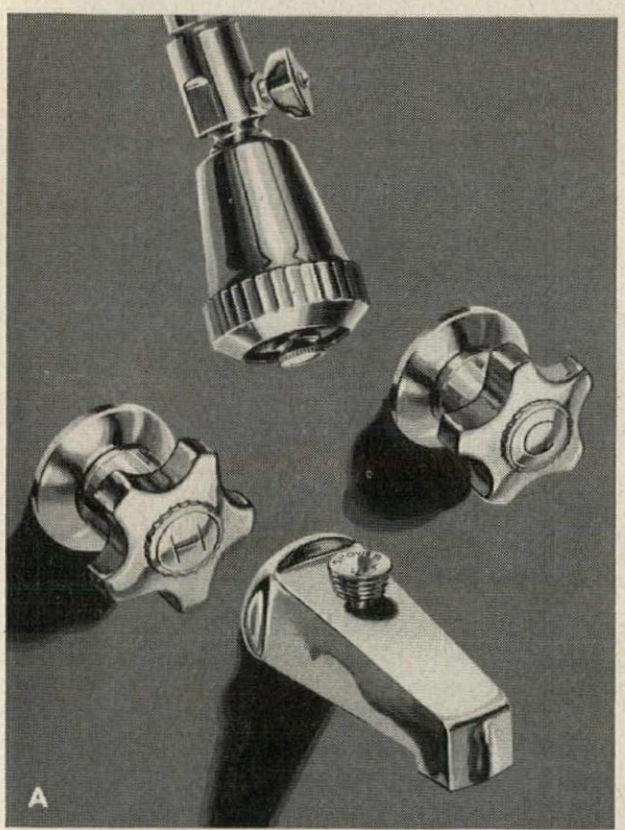
New Chemical Horizons for Industry and Agriculture

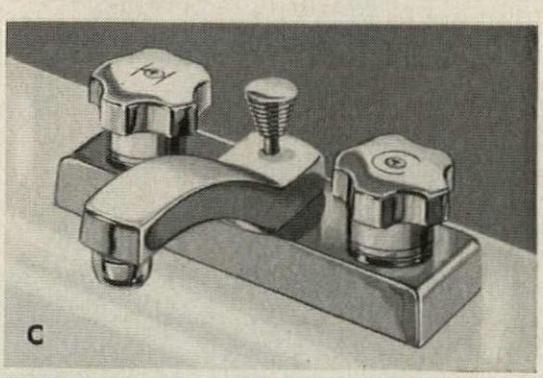
KOHLER

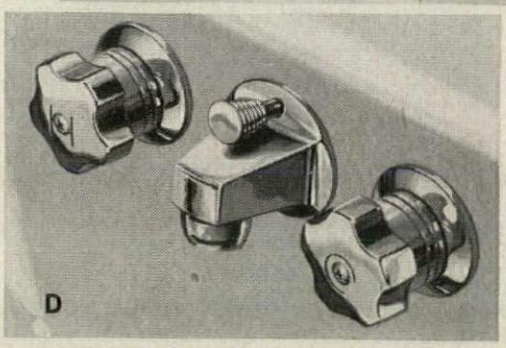
ALL-BRASS FITTINGS

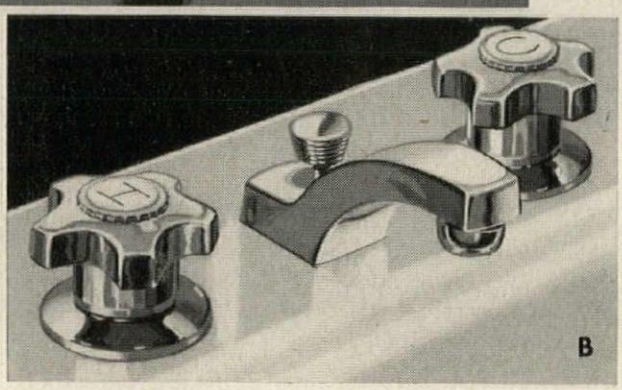
Galaxy SERIES

Constellation SERIES









Distinguished design complements first quality in new Kohler fittings.

There are two styles of fresh, individual beauty —the Galaxy series with either brushed or polished chrome finish, and the Constellation series with polished chrome.

Genuine brass construction throughout insures durability. Brass has maximum resistance to corrosion and wear; takes and holds chrome-plating better than any other metal.

Kohler fittings function easily, reliably. They fit the hand comfortably, respond to finger pressure. Interchangeable units afford positive action, maintain constant flow at volume desired.

A. *K-6927. Shower and bath fitting, diverter spout, ball joint Town House shower head.*

B. *K-6965. Lavatory fitting with aerator, pop-up drain.*

C. *K-7400. Centra lavatory fitting, aerator, pop-up drain.*

D. *K-7450. Shelf back lavatory fitting with aerator, pop-up drain.*

KOHLER CO. Established 1873 KOHLER, WIS.

KOHLER OF KOHLER

Enameled Iron and Vitreous China Plumbing Fixtures • Brass Fittings • Electric Plants • Air-cooled Engines • Precision Controls

Here are some of the fine MARS drafting products, imported from West Germany, made to meet the highest professional standards. ● Bright-hued LUMOCHROM pencils come in 24 colors for color-coded drafting and perfect reproduction. ● LUMOGRAPH graphite drawing pencils come in 19 degrees. Some degrees available with erasers, some with special chisel points. ● TECHNICO lead holders for color and black graphite drawing have new sure-hold finger grips, with degree markings for quick identification. Also available with clips for pocket use. ● NON-PRINT pencil and leads let you make notes and sketches that will not reproduce. ● Pencil sharpeners come in STANDARD and "DRAFTSMAN" models; latter with adjustable point length feature.

your brain's best friends

Thoughts needn't struggle over mechanical hurdles to get down on paper. Tracings convey your ideas and designs most clearly when your drafting is concise and sharp. When it reproduces perfectly.

Like thousands of your colleagues, you will find the shortest distance between idea and execution in MARS drafting products. They are your brain's best friends.

For the engineer, architect and draftsman who demands direct and accurate expression, *it's MARS—clear across the board!* Ask for these quality drafting aids at your dealer's.

MARS

J. S. STAEDTLER, INC.

HACKENSACK, NEW JERSEY

Automatic Waste Disposal System

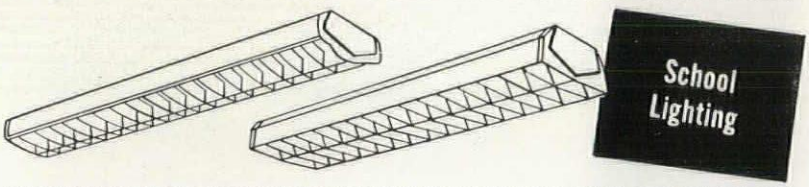
A new waste disposal system consisting of two units grinds up 800 lb per hour of most non-metallic wastes with water and then removes the water, leaving a dry, odorless pulp said to be an effective organic mulch. The pulper unit is set up near the source of waste and, with waste water, will grind up garbage, glass, cardboard, books, waxed containers, etc, using a hardened disc that is guaranteed for one year. The resulting fluid pulp is piped to the extruder unit where the water is squeezed out and the semi-dry material is pushed into a container. Two or more pulpers may feed one extruder. The pulper is 30 in. high and its operation, once initiated, is automatic. *Conservomatic Corporation, 113 Bala Avenue, Oreland, Pa.*

MITCHELL

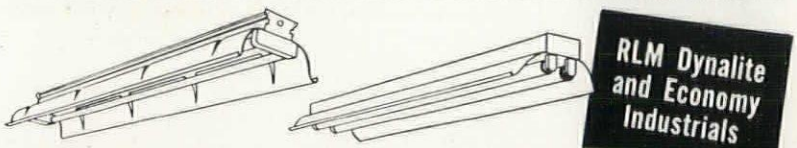
The Most Dependable Name in Lighting!

A Complete Line for Every Specification...Every Job!

Commercial Lighting

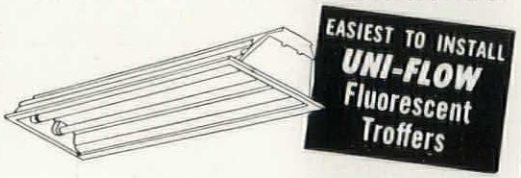


School Lighting

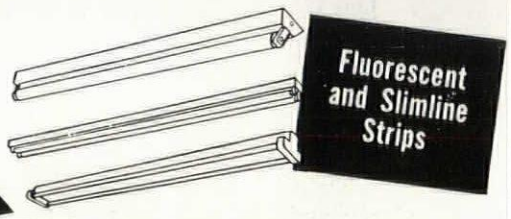


RLM Dynalite and Economy Industrials

Mitchell Lighting Company gives you the finest design and engineering in Fluorescent Lighting. Established more than 25 years ago Mitchell Lighting experience in design, engineering and manufacturing is your guarantee of quality lighting equipment made by a dependable organization.



EASIEST TO INSTALL UNI-FLOW Fluorescent Troffers



Fluorescent and Slimline Strips

MITCHELL

MITCHELL LIGHTING COMPANY

2263 W. St. Paul Avenue • Chicago 47, Illinois • U.S.A.

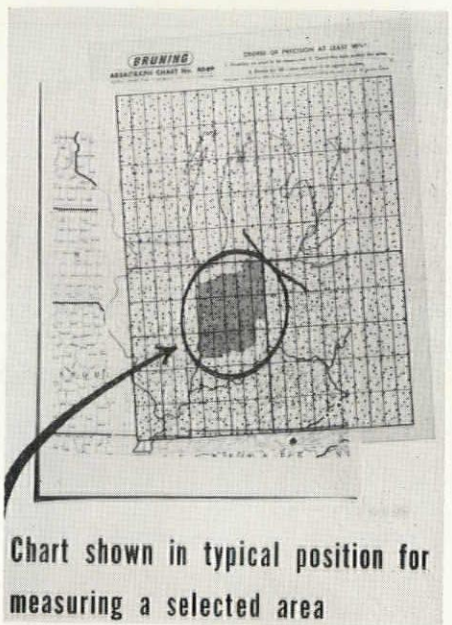


Chart shown in typical position for measuring a selected area

Area-Measuring Charts

Areagraph overlays are designed to perform the same function as a planimeter, faster and cheaper. Area in square inches of irregularly-shaped figures is found by placing an overlay on the drawing or photograph, counting the dots included in the area to be measured, and dividing by a simple factor printed on the overlay. The dots are arranged in a statistically random pattern in groups of ten to facilitate counting. The set consists of three overlays in increasing orders of accuracy, 85, 90, and 97 per cent. The overlays are made of "Mylar" and are covered with a wear-resistant varnish. *Charles Bruning Company, Inc., 1800 W. Central Road, Mount Prospect, Illinois*

more products on page 302

Complete Information on New Line of *Marlo* EVAPORATIVE CONDENSERS

NEW 24-PAGE BULLETIN INCLUDES

- Photographs
- Drawings
- Construction Features
- Performance Charts

and other Information

Send Coupon for Your Free Copy

MARLO

coil co.

SAINT LOUIS 11, MISSOURI

Quality Air Conditioning and Heat Transfer Equipment since 1925

MARLO COIL COMPANY
7100 S. Grand Blvd., St. Louis 11, Mo.

Please send a copy of your new Evaporative Condenser Bulletin to

NAME_____

COMPANY_____

POSITION_____

ADDRESS_____

CITY_____ ZONE____ STATE_____

Low Cost, Movable Walls

A new movable wall system features full-flush panels with single-line joints, steel and glass construction and complete reusability of all components. It is said to be comparatively low in cost while retaining such quality features as adjustable ceiling trim and door frames, baked enamel finish, and partially or fully glazed units if desired. The type HP wall is furnished in stock sizes for ceiling heights from 7 ft 3 in. to 9 ft ⅝ in., panel widths from 12 in. to 60 in. *E. F. Hauserman Co., 2100 Keith Building, Cleveland 15, Ohio*

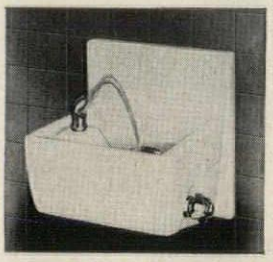
Aluminum Lighting Louver

A new aluminum, egg-crate style louver fabricated from .025 strip is available in a wide variety of colors. It is designed to be adaptable to the company's range of fixtures, luminous ceilings, coffers, troffers, etc. and is specifiable in lengths up to 48 in. and widths up to 24 in. or can be cut to varying sizes and shapes on the job. The cell size is ½ by ½ by ½ in. giving a shielding angle of 45 deg. *Columbia Electric and Manufacturing Company, North 2310 Fancher Way, Spokane, Washington*

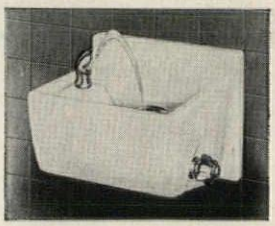
Halsey® Taylor .. the most modern line of drinking-water equipment you can specify

No. 5651—Ultra-modern recessed type; Vitreous China; self-closing stop, push-button glass filler. Two-stream projector, automatic stream control.

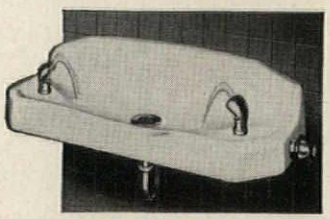
No. 5623—Streamlined face-mounted drinking fountain, heavy vitreous china, integral trap housing, concealed wall hanger. Two-stream mound-building projector and Halsey Taylor automatic stream control.



No. 5616—Face-mounted; vitreous china. Same specifications as No. 5623, except has 16" back wall face height.



No. 5601—Face-mounted; vitreous china. Same specifications as No. 5623, except has 12" back wall face height.



No. 5702—Battery Type. Concealed hangers. Two separate union supply connectors with positive shut-off valves. Two two-stream projectors, automatic stream control.

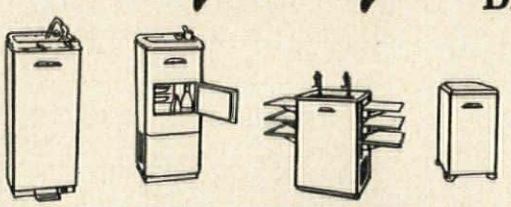
Modern in Design... TAYLORed for you!

You'll find Halsey Taylor Drinking Fountains modernly designed to blend harmoniously with individual interior decor! And, even more important, they are the products of a house devoted exclusively to the manufacture of quality drinking-water equipment.

Every Halsey Taylor feature is the development of years of research, providing you with maximum health-safety and dependable, fool-proof service.

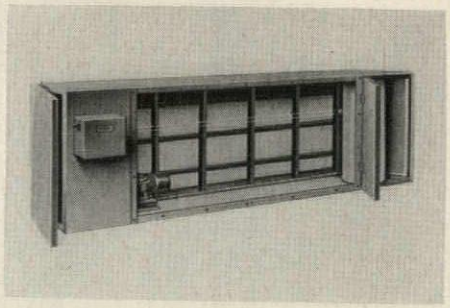
The Halsey W. Taylor Co., Warren, O.

Halsey® Taylor Drinking Fountains



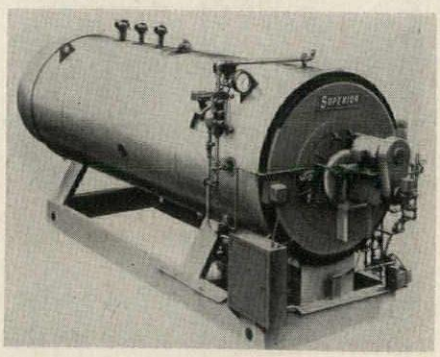
Halsey Taylor coolers, too, are available in wide variety—see latest catalog, or Sweets

102A



Automatic Dry Type Air Filter

The *Roll-Kleen* type H automatic filter consists of a metal frame, holding at one end a large roll of glass fiber filter material, and at the other, a power driven take-up reel. The speed of the take-up roller is adjusted to provide optimum filtering and air flow through the unit. The roll is replaceable and the whole assembly has been designed to operate with the minimum number of moving parts. *The Farr Company, 2301 E. Rosecranz, El Segundo, Calif.*



Compact Packaged Boiler

This company's *Compact* series of boilers are designed to conserve weight, space, and handling effort. All sizes have 5 sq ft of heating area per boiler horsepower in a downdraft 4-pass arrangement. Built in 11 sizes from 20 to 200 hp, these units are shipped as a package with everything ready to connect and fire up within 24 hours of delivery. *Superior Combustion Industries Inc., 1475 Broadway, New York, N. Y.*

more products on page 304

NEW
FROM
FIBERGLAS

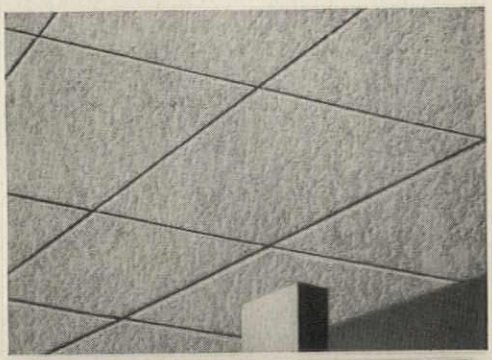
CEILING BOARD WITH 4' SQUARE MODULE

FOR SMALL ROOMS OR LARGE, A DESIGN OPPORTUNITY FOR NEW BEAUTY AND ADDED EFFICIENCY!

New Fiberglas* 48" x 48" ceiling board brings you

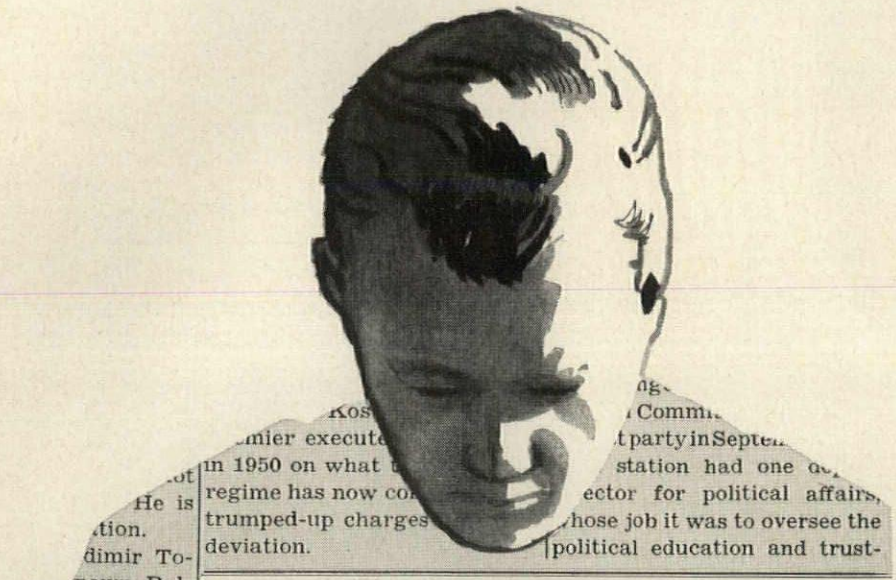
- Highest sound absorption of any acoustical ceiling board (NRC .90)!
- Lower heating and cooling costs (C value of .25)!
- Low installation cost!
- Your choice of *three* interesting patterns—Mat-Faced, Stria or Fresco!

For full information, look in the yellow pages for your local approved Fiberglas acoustical contractor or write to Owens-Corning Fiberglas Corporation, Dept. 68-E, Toledo 1, Ohio.



OWENS-CORNING
FIBERGLAS

*T.M. REG. U.S. PAT. OFF. (O-C.F. CORP.)



...party in Septe...
...station had one o...
...ector for political affairs, ...hose job it was to oversee the political education and trust-

...ng...
...Kos... ...Commi...
...mier execute...
...in 1950 on what t...
...regime has now co...
...trumped-up charges...
...deviation.

...ot
...He is
...tion.
...dimir To-
...known Bul-
...recently dis-
...it editor of the
...er Otechestven
...uthorities were
...tive. According
...Ministry's Press
...r. Topencharov,
...to be out of the

...denied that the
...was trying to
...emes of its au-
...ants from them
...l description of
...try," he said.
...life is not free
...ortcomings" he
...r example, you
...rty in Bu...

Alberene Stone Table Tops Provide Natural Surface for Space Research

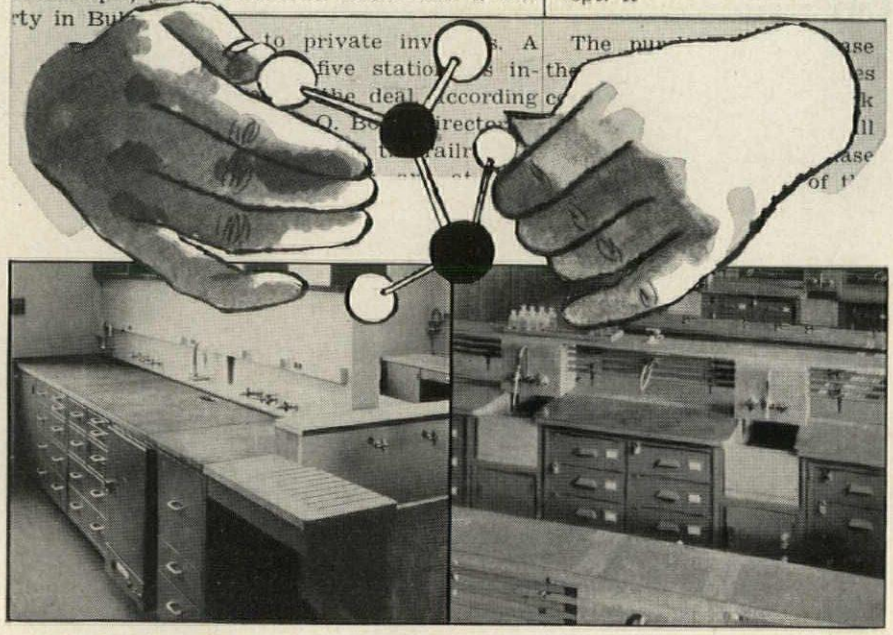
Alberene Stone is the only permanently satisfactory surface for the new metallurgical, solid fuel and nuclear research programs. It is a natural silicate stone. Its surface goes all the way thru — and gives full protection straight thru drilled holes. It has no surface glaze to chip, crack or peel. Doesn't spall or warp. It requires no surface treatment.

Alberene Stone has a low absorbency rate of 0.15%. Its chemically-resistant, all-silicate mineral components make it practically nonstaining. Slight stains can be removed by scouring or honing without harm to the surface. It requires no maintenance.

For full information and technical assistance address: Alberene Stone Corporation, ...56 Fourth Avenue, New York, ...Dept. R

...to private inv... A
...five statio... in-
...the deal. ...ccording c...
...O. B... irecto...
...rail...

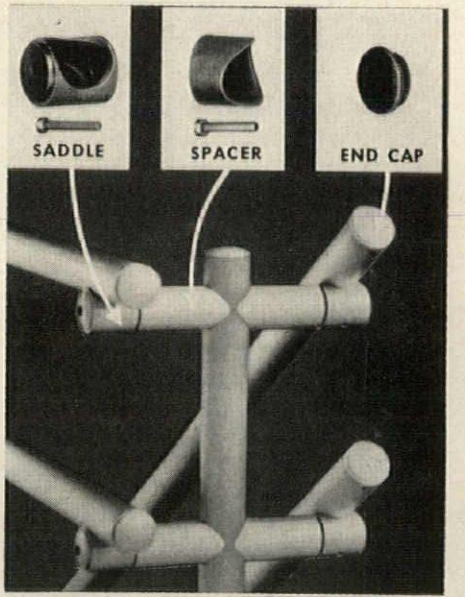
The pu... ...se
the... ...es
...k
...ll
...ase
...of t...



ALBERENE STONE

provides LOW ABSORBENCY protection

Product Reports



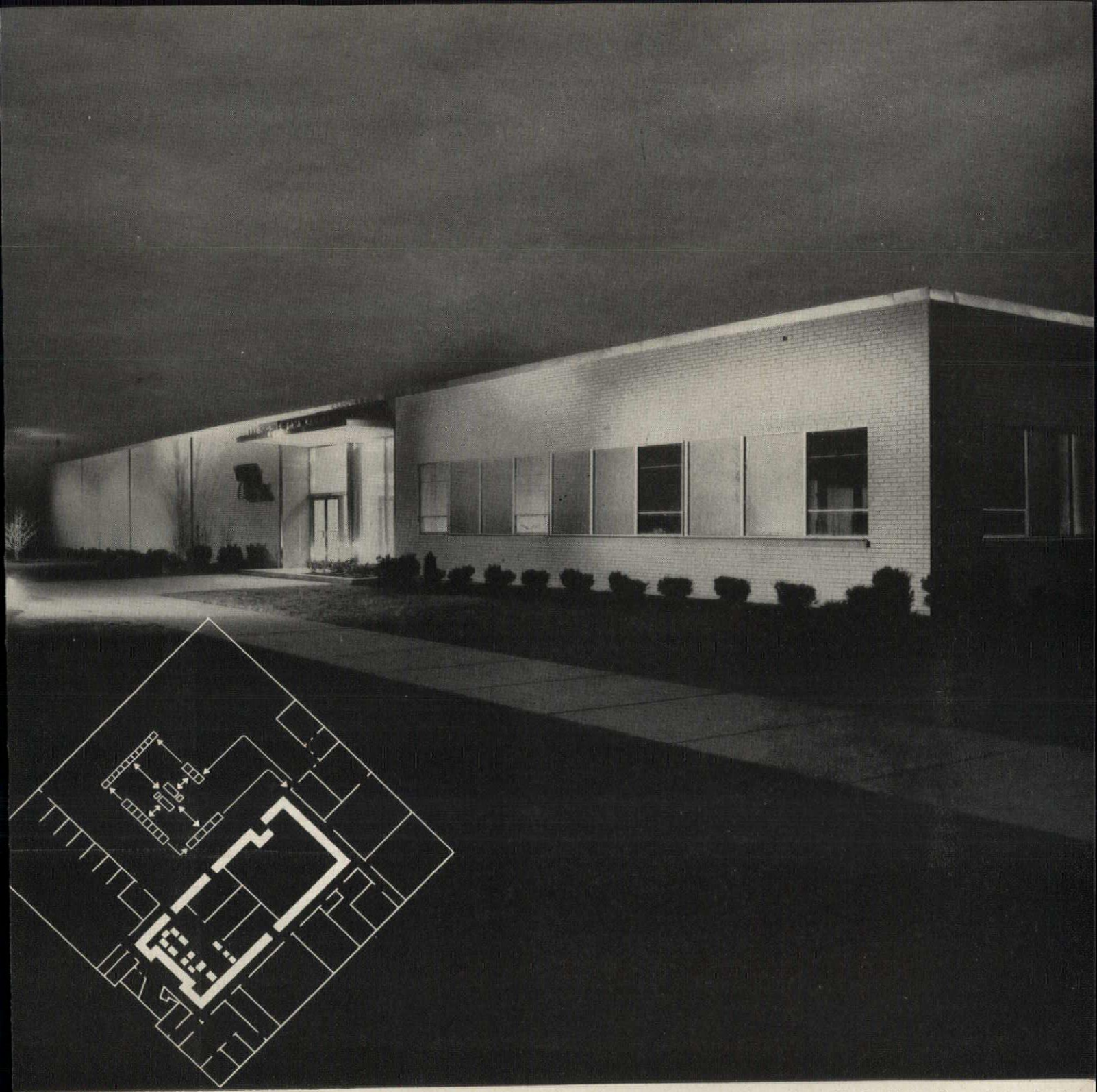
Flexible Handrail System

A new handrail system that eliminates the need for detail design, templates, prefabrication or welding is said to make possible sharp reductions in railing installation costs. According to the manufacturer, it is the only system that automatically adjusts to dimensional variations in floors and stairways. Involved are only three basic parts: saddle, spacer and end cap (and the necessary screws). Parts are currently being made to fit standard 1¼ in. steel pipe; future plans call for parts for 1½ in. aluminum tubing. *Universal Railing Co., 275 Kalmath, Denver 23, Colo.*

Telephone/Intercom Combination

The *Flexifone Dial Intercom* combines the best features of a private telephone and an intercom, the telephone itself being designed to work into any Bell or independent telephone system. Up to eight remote speakers can be connected and it is possible to hold incoming telephone calls while talking to remote speaker locations. The unit is 5⅜ in. high, 14½ in. wide, and 9¾ in. deep and weighs 12 lb. *DuKane Corporation, St. Charles, Ill.*

more products on page 310

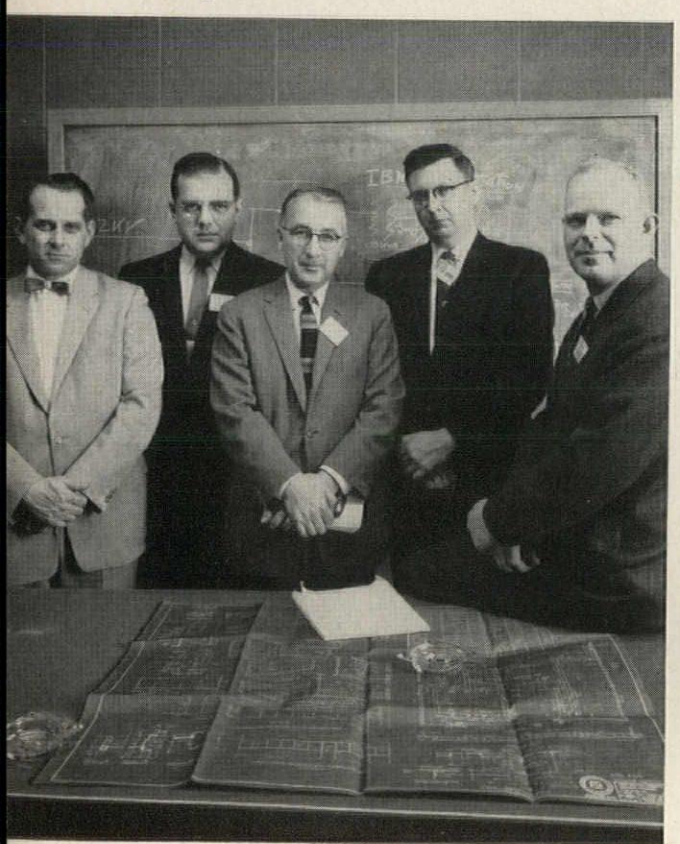


Electronic Data Center, Bell Aircraft Corporation, Buffalo, New York. (Inset shows floor plan.)

Electronic data center installed in specially designed building

YOU CAN BE SURE...IF IT'S Westinghouse

Group in conference room includes Robert J. Lichtenthal, Buffalo Electric Co., Westinghouse Distributor; Charles G. Jones, Walter H. Sherry and Associates, Consulting Engineers; George Dick Smith, Jr., Kideney, Smith & Fitzgerald, Architects and Engineers; Carl E. Diesen, Manager of Electronic Data Processing, Bell Aircraft Corporation; and Charles T. Hansen, Westinghouse Sales Engineer.



J-94113-2

Magnetic tape printer in computer room.

Bell Aircraft computer facility required unusual plant planning

The need of Bell Aircraft for electronic computer facilities led to the design and construction of a new building which would meet the special demands of such an installation. The computer center, which will eventually serve all Bell plants, contains complete computer equipment, a communications center for the entire corporation, and all offices and business machines necessary for the operation of such an installation. Expansion area has been provided for a duplication of the present computer facilities.

To satisfy the rigid requirements for control of humidity and temperature in the computer room, it is centered in the building (as shown in the diagram) and is insulated from any outside walls by the corridor, offices and equipment rooms which surround it. The new electronic data center is located immediately adjacent to the Bell Aircraft plant in Buffalo, N. Y., but because of the self-sufficiency of its design and the completeness of its equipment, it could have been situated at any other site selected.

Included in the self-contained center is a Westinghouse electrical system to transform and distribute electrical power to the computer installation, business machines, air conditioning machinery, lighting and other electrical requirements. Some of the components of this Westinghouse electrical system are shown in the accompanying illustrations. (*continued*)

J-94113-3

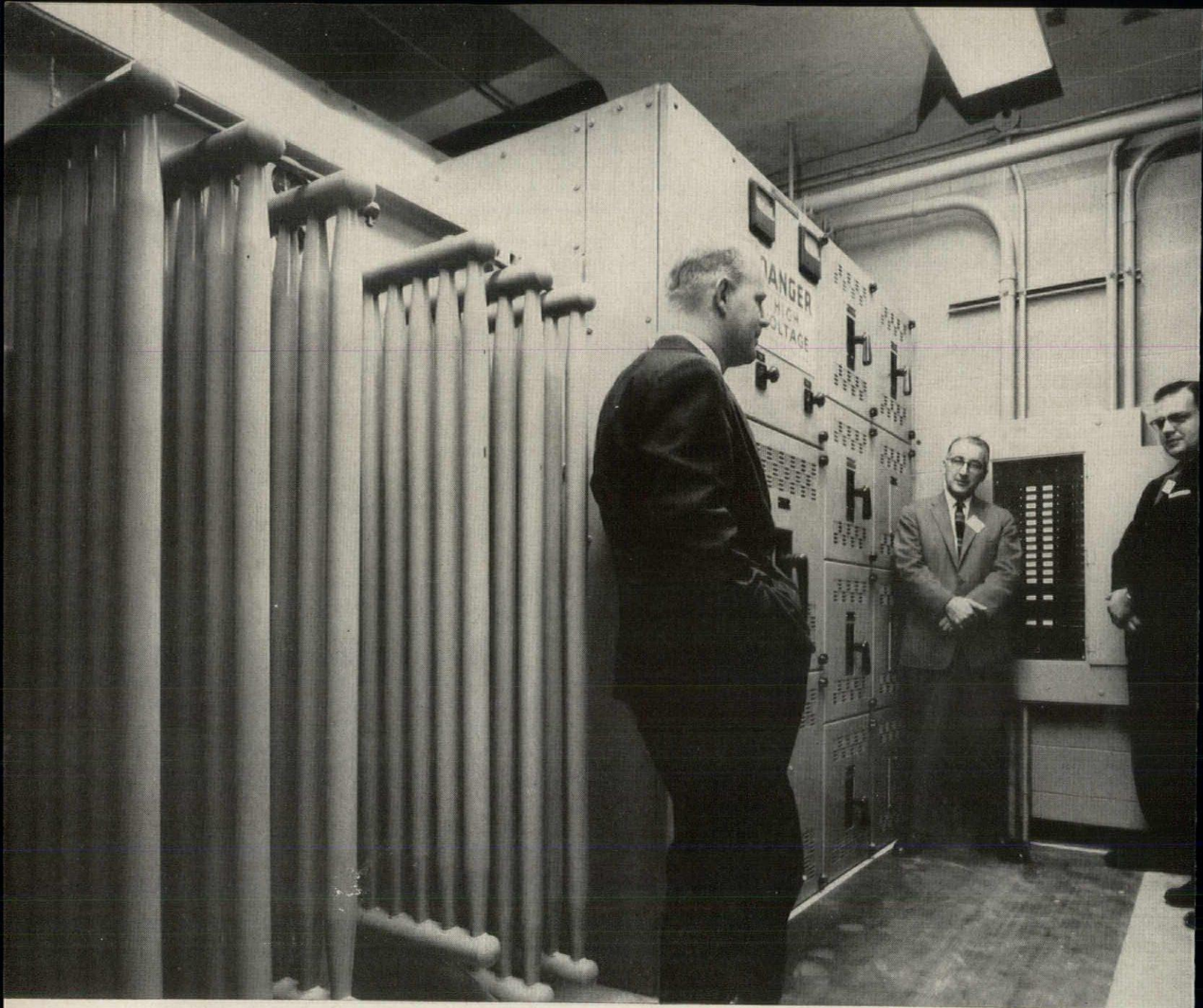
YOU CAN BE SURE... IF IT'S

Westinghouse

Robert Lichtenthal, James A. Reil, Ferguson Electric Construction Co., Electrical Contractors, and Charles Hansen discuss quietness and space-saving features which permit installation of Westinghouse 225-kva DT-3 dry-type transformer near office machines to which it supplies 120-v power.

Raymond E. Carroll, General Supervisor, Bell Electronic Data Processing, Charles G. Jones, Charles Hansen and George Dick Smith, Jr., examine the 150-kva Westinghouse power center supplying low-voltage power exclusively for computer equipment.

James Reil and Robert Lichtenthal check one of the two Westinghouse CDP panelboards which distribute 120 volts to the office machines from the Westinghouse 225-kva DT-3 dry-type transformer.



Charles Hansen, George Dick Smith, Jr., Charles G. Jones and Raymond E. Carroll discuss Westinghouse 500-kva building service power center. CDP panelboard is shown on wall at rear.

Bell Aircraft computer facility required unusual plant planning *(continued)*

Westinghouse welcomes the opportunity to work with you in determining the best solutions to your own special electrical requirements. See the Westinghouse Electrical Construction Engineer nearest you, or write Westinghouse Electric Corporation, Box 868, Pittsburgh 30, Pa.

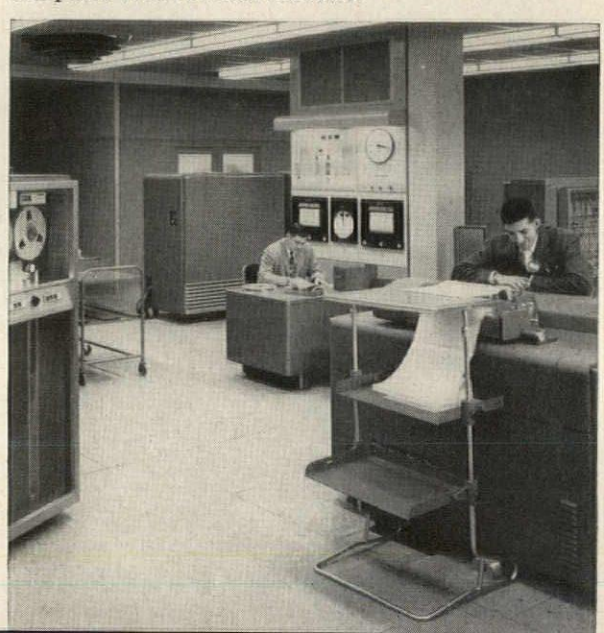
Electronic Data Section
Bell Aircraft Corporation, Buffalo, New York
Architect: Kideney, Smith & Fitzgerald, Architects and Engineers
Consulting Engineer: Walter H. Sherry and Associates
Electrical Contractor: Ferguson Electric Construction Company, Inc.
Westinghouse Distributor: Buffalo Electric Co., Inc.

J-94113-4

YOU CAN BE SURE...IF IT'S Westinghouse

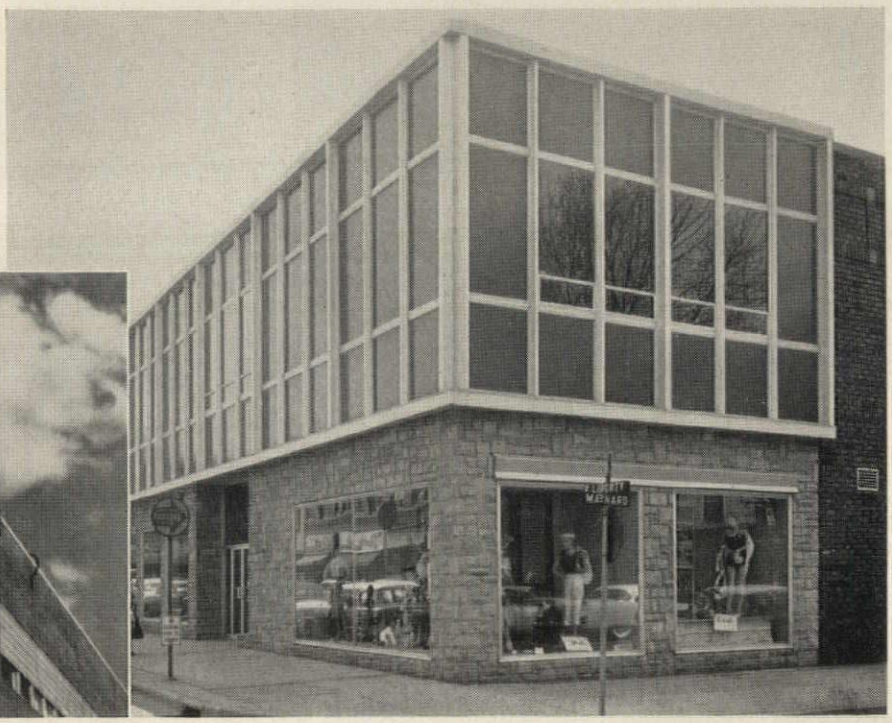
Over 275 Pages Westinghouse Data in Sweet's Architectural File (S)

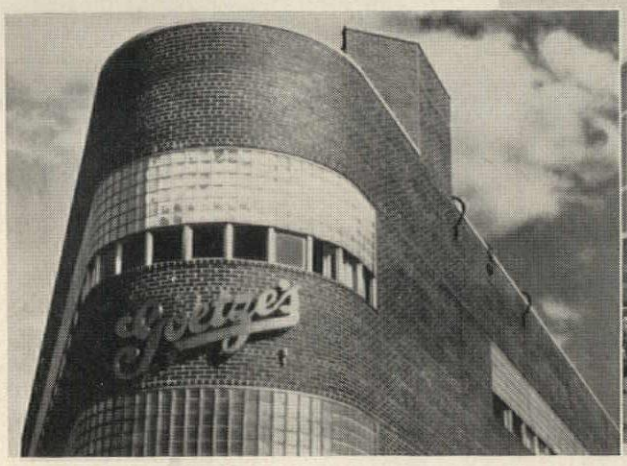
General view shows one section of electronic data computer room at Bell Aircraft.



JACOBSON'S STORE
Ann Arbor, Michigan
R. G. RISWOLD
Architect

GOETZE'S OFFICE BUILDING
Baltimore, Maryland
LUCIUS R. WHITE, JR.
Architect





VAMPCO ALUMINUM WINDOWS
meet every architectural need!

The new, modern Jacobson's Store Building in Ann Arbor, Michigan and the striking design of the Goetze's Office Building in Baltimore, Maryland are excellent examples of Vampco Aluminum Curtain Wall and Glass Block Window applications.

Regardless of their size, design or type of construction, architects and builders everywhere are using Vampco for modern beauty, functional design, structural strength and durability at low cost.

Vampco Aluminum Windows are available in the widest range of types to meet every architectural need. They include: casement, combination casement, awning, intermediate projected, curtain wall of varying sizes and thicknesses, heavy construction, glass block and custom-designed types. Find out how VAMPCO'S special designing service can help you solve your unusual building problems most economically and efficiently . . . mail coupon below today!

VALLEY METAL PRODUCTS CO.
PLAINWELL, MICHIGAN
SUBSIDIARY OF
MUELLER BRASS CO.
PORT HURON, MICHIGAN

See Complete File in Your Current Sweet's Catalog

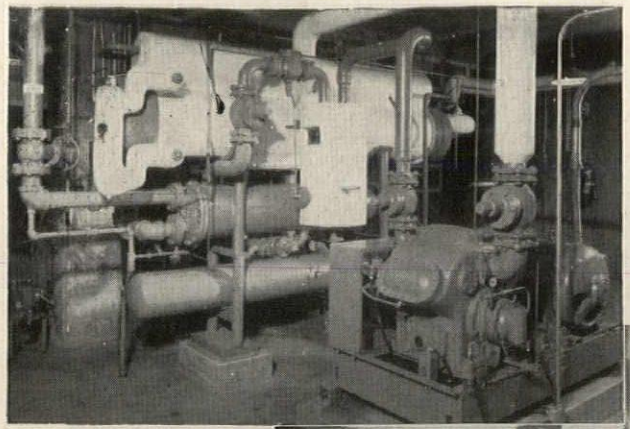
VAMPCO

A NAME THAT MEANS THE VERY FINEST IN LIFELONG ALUMINUM WINDOWS

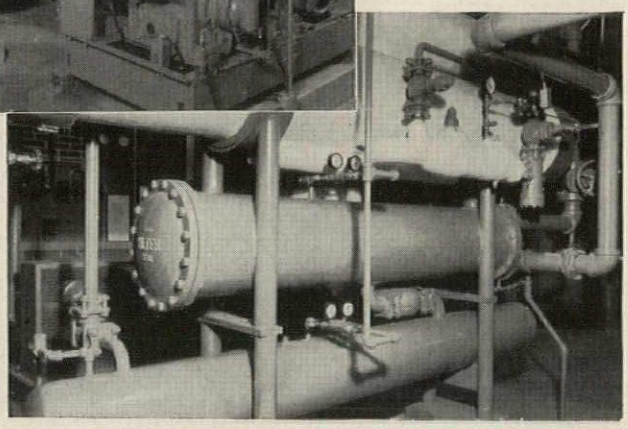
VALLEY METAL PRODUCTS COMPANY
Dept. AR-58, PLAINWELL, MICH.

- ☐ Send 56-page Industrial-Institutional Window Catalog.
- ☐ Send Light Construction Aluminum Window Catalog.
- ☐ Send Curtain Wall Catalog.

NAME .....
COMPANY .....
ADDRESS .....
CITY ..... ZONE .... STATE .....



This Vilter air conditioning plant consists of a Freon shell and tube water chiller, shell and tube condenser, liquid receiver and a six-cylinder Freon VMC compressor, all installed in the Southwestern Bell Telephone Co., Olathe, Kansas.



Close-up view of Vilter condenser. Chiller is above. Receiver is below.

Custom-made CLIMATE

for busy office and toll switchboard

Vilter has brought the latest in "custom climate" air conditioning to the general offices and toll switchboard of the Southwestern Bell Telephone Company, Olathe, Kansas. Happier employees and more efficient operation is the satisfying result. Vilter equipment includes a: 6-cylinder Freon VMC compressor, 16" x 10' water cooler, 16" x 7' shell and tube condenser, 12" x 10' receiver.

All components in a Vilter air conditioning system incorporate the latest in engineering skill and industry practice. VMC compressors offer maximum capacity in a minimum of space. Built-in capacity reduction permits automatic operation at reduced loads with consequent power savings. Vilter's wide range of shell and tube equipment is right in performance and right in price.

Vilter also offers a completely "packaged" water cooler—the Vilter Uni-Chiller. Shop assembled for lower first cost, the Uni-Chiller offers space-saving design, simple installation and requires a minimum of maintenance.

You, too, can have all the advantages of modern air conditioning and refrigeration—specify Vilter.

Equipment furnished by O'Dower Engineering Company, Vilter Distributor in Kansas City, Missouri. Mechanical Contractor, U. S. Engineering Company, Kansas City, Missouri.

Write for these helpful bulletins to The Vilter Manufacturing Company
Dept.O-715, 2217 S. First Street, Milwaukee 7, Wisconsin

Bulletin 707
Vilter Condensers
Brine Coolers
Heat Exchangers

Bulletin 631
Vilter
Uni-Chillers

Bulletin 429
Vilter VMC
Freon
Compressors

Vilter®

REFRIGERATION and AIR CONDITIONING

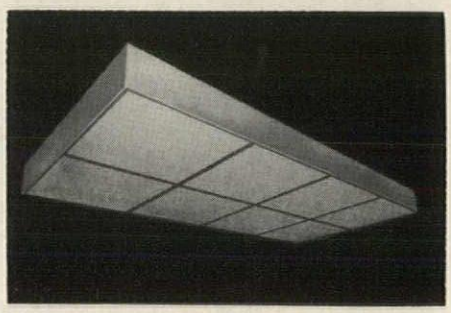
THE VILTER MANUFACTURING COMPANY, Milwaukee 7, Wisconsin

Air Units • Ammonia & Freon Compressors • Booster Compressors • Baudelot Coolers • Water & Brine Coolers • Blast Freezers • Evaporative & Shell & Tube Condensers • Pipe Coils • Valves & Fittings • Pakice & Polarflake Ice Machines

Product Reports

Roof Deck Sheet

A new ribbed galvanized roof deck sheet, *Galvadek*, is said not to need painting and to cut erection costs by combining light weight with great structural strength. The sheets are fastened to standard galvanized sub-purlins with patented galvanized clips; continuous beam action is provided when sub-purlins span three or more purlins. *Galvadek* is available with one-inch ribs in 28-gage sheets, 10 ft 1 in. in length; coverage to weather is 23 inches. *Metal Decking Corp., Architects and Builders Bldg., 333 N. Pennsylvania St., Indianapolis, Ind.*



Adaptable, Prebuilt Lighting Unit

The *Twenty* is a broad-area lighting unit that is preassembled and can be installed quickly or joined to duplicate units to form a luminous ceiling. Each unit is 7 in. deep and 4 by 4, 6, or 8 ft in plan, and comes packed assembled in a carton. Multiple sections can be interconnected by bolts through knockouts provided and by cord and plug sets. Choices of diffusing materials include steel or plastic louvers and vinyl or styrene diffusers in various patterns. It is said that a unit can be installed in 20 minutes. *The Wakefield Company, Vermilion, Ohio*

Enclosed Blower Unit Heater

Because of their exceptionally quiet operation, a new line of enclosed blower-type gas unit heaters is being recommended for use in buildings where low noise level is an important consideration. The blower and all controls on these new models are completely enclosed, giving improved appearance as well as cleaner, quieter operation. All heaters in the series are equipped for operation in duct systems with external static pressures up to .2 in., so that a single heater can be used to heat several small rooms. The BE series includes units in eleven sizes ranging from 25,000 to 300,000 btu. *Reznor Mfg. Co., Mercer, Pa.*

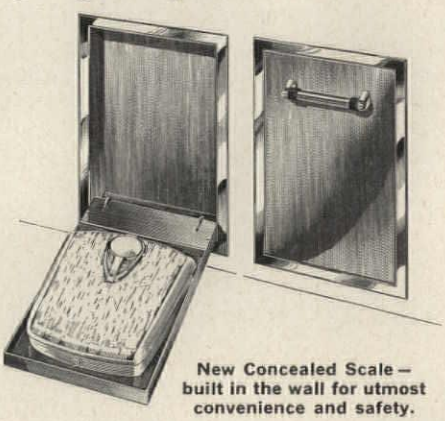
HALL-MACK®

bathroom accessories put a sparkle in her eye...

...and convenience and utility at her fingertips!

You can always be sure of enduring loveliness and the utmost in convenience and utility when you specify or install HALL-MACK Bathroom Accessories.

Bathrooms today have become one of the most important "showplaces" in the home. The *right* bathroom accessories and styling are of greater importance now than ever before. A modern, clean bathroom, with beautiful chromium plated Hall-Mack Accessories is the first choice of more and more builders, architects and plumbers . . . and more and more quality-conscious home owners and buyers everywhere.



New Concealed Scale — built in the wall for utmost convenience and safety.

Relaxation Unit is handy, useful, convenient — recessed for cigarettes, ashtray, magazines.

Concealed Lavatory Unit. Revolving door hides soap, tumblers and brushes

Sold by leading plumbing, tile, and hardware dealers everywhere.

HALL-MACK COMPANY *Division of TEXTRON INC.*
1380 W. Washington Blvd., Los Angeles 7, California AR-5

☐ Please send your FREE color booklet of new bathroom ideas

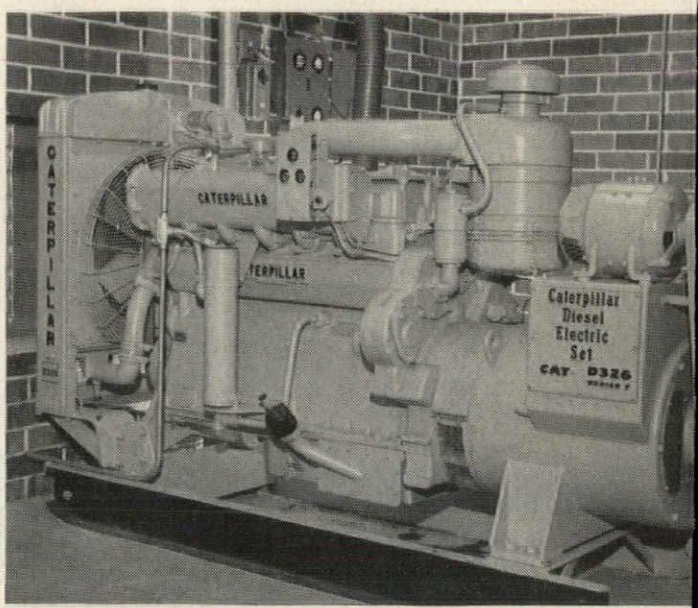
Name_____

Address_____

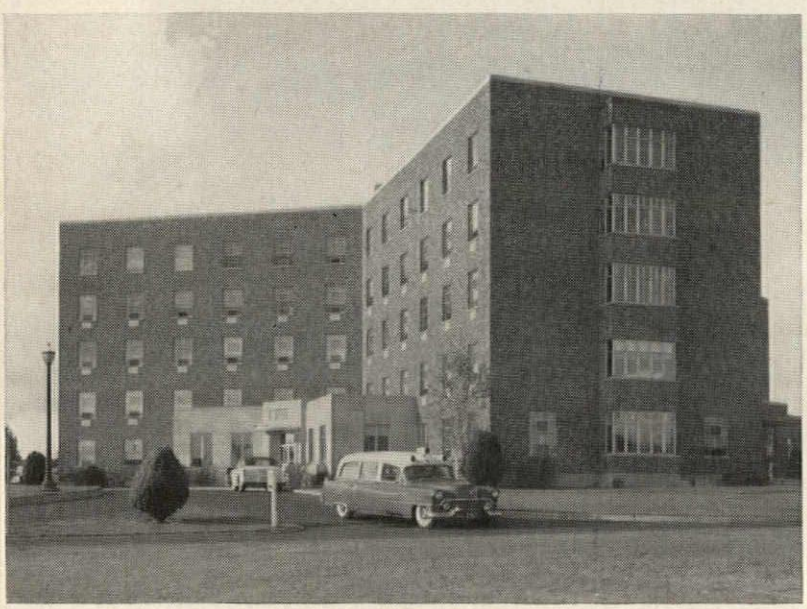
City_____ Zone____ State_____

YOUR CLIENTS EXPECT

A Cat D375 Diesel Electric Set, running alternately with two Cat D13000s, supplies all power and lights at the State Line Hotel, comprising a 16-unit motel, 50-room hotel, filling stations, restaurant and cocktail lounge. Says Gene Jones, manager: "We think Caterpillar sets are very economical and most dependable, and our dealer service is good. One of our Cat D13000s has run more than 44,813 hours on the original main bearings!"... Obviously, Cat Diesel Electric Sets are economical prime power units, and function as economical and dependable emergency units capable of carrying a large power load.



This Cat D326 Diesel Electric Set serves as emergency power for the 100,000-watt WFBC-TV transmitter at Greenville, South Carolina. Cat Electric Sets are automatically started, cutting in within seconds, and have the ruggedness to run indefinitely in times of prolonged emergency. Cat Diesel Engines operate on widely available types of furnace fuel, whose low combustion makes them a desirable safety factor in hospitals particularly.... Caterpillar will have a Standby Power Catalog in Sweet's Architectural File for 1958. We will be glad to send an advance copy of this catalog at no charge (just fill out the coupon on next page).



The 175-bed Yakima Valley Memorial Hospital in Yakima, Washington, relies on a Caterpillar D326 Diesel Electric Set for insurance power. In case of commercial power failure all critical requirements can be filled by this Cat unit. Commercial power interruptions totaled 13 in two years, and the D326 supplied power for elevators, X-ray units, diet kitchens, laundry, boiler rooms, operating suites, heating and air conditioning, etc.

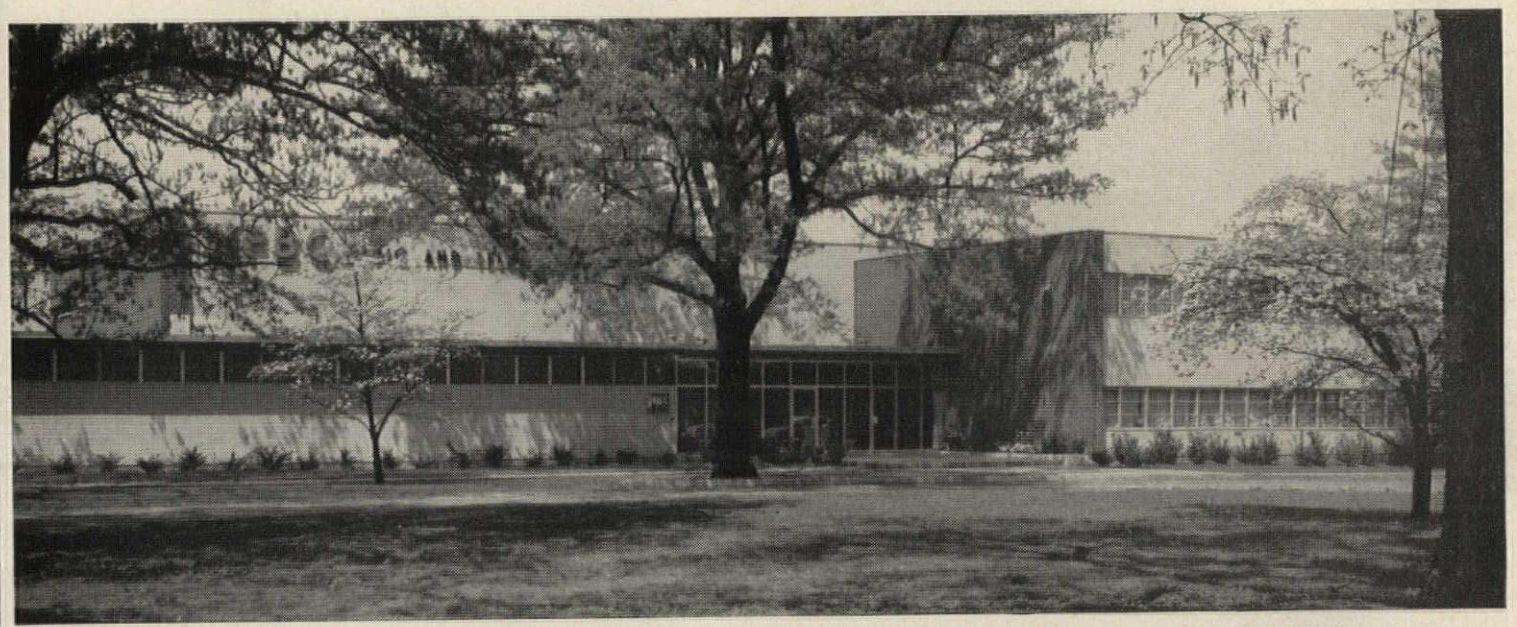
A Cat D397 Electric Set is used for emergency power in case of a commercial power failure to insure power for this 16-floor Miami Beach Federal Building at Miami Beach. A wide variety of office buildings, hotels and industrial plants have found it both economical and good public relations to provide emergency power *that can be depended on* no matter what happens to normal power channels.

EMERGENCY POWER

The trend today is to make provision for *emergency power* in your building plans. More and more, your clients expect you to insure them against costly, temporary loss of commercial power. The number and variety of structures—in almost every phase of business—which should have emergency power designed into their installations, is increasing.

Many responsible architects are serving their clients' best interests by specifying emergency power by Caterpillar. CAT Diesel Electric Sets have an unsurpassed reputation for dependability and high-quality generators. Call your Caterpillar Dealer Installation Engineer today for help in giving your clients the best power protection available.

Engine Division, Caterpillar Tractor Co., Peoria, Illinois, U. S. A. Caterpillar and Cat are Registered Trademarks of Caterpillar Tractor Co.



A Cat D326 Electric Set provides emergency power for transmitter station WFBC-TV atop Paris Mountain, Greenville, South Carolina. Even a brief interruption of commercial power can cost a television station enough to pay for its Cat Electric Set in forfeited billings, and the loss of prestige. For these reasons television stations all over the country are installing Cat emergency power protection.

ENGINE POWER BY CATERPILLAR

NOTE: Increasingly, both small and large hospitals are insisting on emergency power units. It's significant that hospitals meeting certain general requirements (which most hospitals everywhere do meet) are entitled to Federal aid in financing emergency power installations (note coupon).

Engine Division **Dept. AR5**
CATERPILLAR TRACTOR CO., Peoria, Ill., U.S.A.

SEE OUR CATALOG IN SWEET'S OR WRITE FOR COPY

I am interested in Caterpillar Diesel Electric Sets for emergency power.

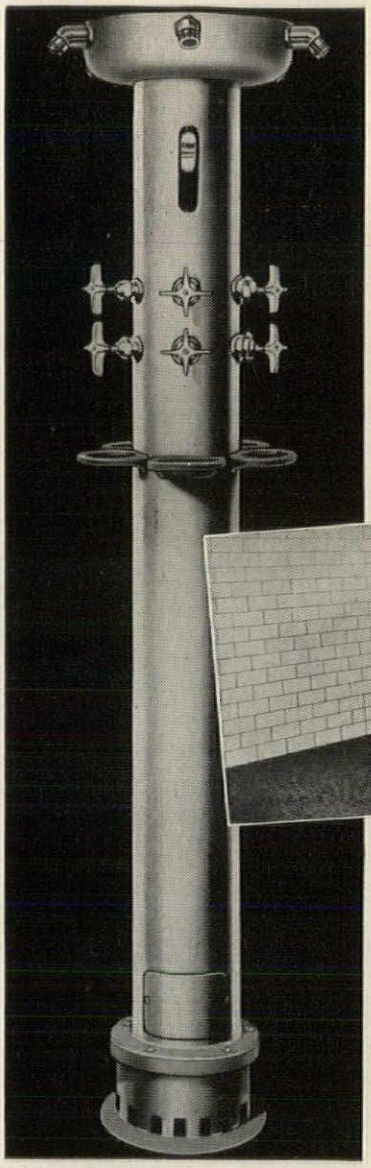
- ☐ Please send me one advance copy of Caterpillar's Sweet's Catalog File for 1958.
- ☐ I would like more information concerning Federal aid for emergency power unit purchases.
- ☐ Please ask a Caterpillar Dealer salesman to call on me as soon as possible.

Name_____

Company_____

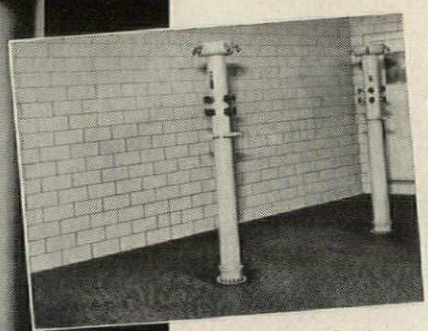
Address_____

City_____ Zone____ State_____



GIVE YOUR STUDENTS THESE ECONOMICAL SHOWER BATHS

← *Each Column Serves Five Bathers*



Bradley Column Showers each serve five bathers simultaneously. Where there is a central floor drain, only two piping connections (hot and cold water) are required.

BRADLEY Multi-Person Shower Units

are economical—each Column provides for 5 showers or for 3 (if placed against the wall). The Columns can be installed alone —or provided with partitions and curtains.

Installation time and expense are reduced because each Column can provide the same bathing facilities as five conventional shower stalls. Only *three* piping connections (hot and cold water and drain) are required in place of *15*. If there is a central drain, only hot and cold water connections are required—a further saving.

Bradley Multi-Stall Showers allow each person to control water temperature and volume as desired. They are ultra-sanitary and require a minimum of maintenance work.

For New or Existing Buildings

Bradley Showers can be installed readily in new or existing buildings, economically and in shortest time. For complete details and specifications, please refer to pages 22 to 26 of our Catalog 5601, a copy of which will be mailed on request . . .

More BRADLEY SHOWER Installations

Othello School, Moses Lake, Wash.
Fannin Jr. H.S., Amarillo, Tex.
Eau Gallie Jr. H.S., Eau Gallie, Fla.
Meadowbrook Jr. H.S., Johnson, Kans.
North Side Jr. H.S., Fargo, N.D.
Jesuit School, Beaverton, Ore.
Boyd H.S., Macon, Ga.
Ontario Agr. College, Guelph, Ont.
Jr. and Sr. H.S., St. Peter, Minn.
Soldan H.S., St. Louis, Mo.
Central Catholic H.S., Dubuque, Ia.
Highlands H.S., Sacramento, Calif.
Girard H.S., Girard, O.
East H.S., Brockton, Mass.
Mt. St. Michaels Academy, Bronx, N.Y.
Rex Mondi H.S., Evansville, Ind.
Gadsen School, Gadsen, N. Mex.
Elizabethtown H.S., Elizabethtown, Pa.

Where more privacy is desired, the Bradley Column is available with partitions and curtains too.

BRADLEY WASHFOUNTAIN CO.
2227 W. Michigan Street
Milwaukee 1, Wis.

Write for latest edition of Catalog 5601

BRADLEY multi-person SHOWERS

Distributed Through Plumbing Wholesalers

Office Literature

continued from page 254

Non-Sprinkler Fire Protection
CHECKBOOK for Specifying Non Sprinkler Fire Protection contains a digest of principles governing selection and installation of fire protection equipment, as given in pertinent sections of national (N.F.P.A.) fire codes. Drawings and examples are included. *W. D. Allen Mfg. Co., Chicago 6, Ill.**

Power Roof Exhausters
Eight-page catalog on *Air-Van* direct connected power roof exhausters covers features, performance data, installation methods, and material specifications. *The Gallaher Co., 4108 Dodge St., Omaha, Nebr.*

Duct, Pipe and Fittings
(A.I.A. 30-B-1) Catalog 58 gives complete selection and specification information on *Seal-Tite* prefabricated duct, pipe and fittings. Charts, diagrams and engineering data are also included. 40 pp. *The Williamson Co., 3500 Madison Rd., Cincinnati 9, Ohio*

Ceramic Tile
Booklet 208 covers complete line of glazed and unglazed tiles for floors, walls and specialized uses, including the new *Crystalline Glazes* and *Scored Tiles*. 32 pp. *American-Olean Tile Co., 1000 Cannon Ave., Lansdale, Pa.**

Roof Decking
. . . and Heavy Duty Flooring (A.I.A 19-A-1) Bulletin No. 11 provides information on loads, sizes, grades, and insulation values of Southern Pine roof deck; gives design data on heavy timber floors for industrial buildings, loading platform and similar applications. *Southern Pine Assn., P. O. Box 1170, New Orleans 4, La.*

Polyurethane Foam Data
Describes properties, usage, formulations and application methods of rigid, semi-rigid and flexible polyurethane foams. *American Latex Products, 3341 W. El Segundo Blvd., Hawthorne, California*

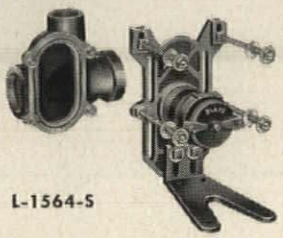
Reflections on Hospital Lighting
A thorough treatment of hospital lighting needs and recommended techniques. *Large Lamp Department, General Electric Company, Nela Park, Cleveland 12, Ohio*

**Additional product information in Sweet's Architectural File, 1958*

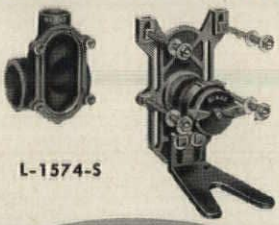
more literature on page 318

BLAKE

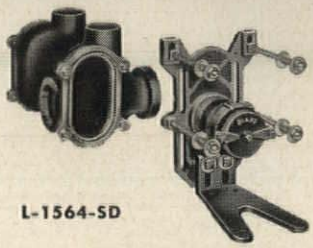
COMBINATION ADJUSTABLE "TY" FITTINGS AND CARRIERS



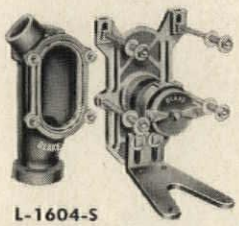
L-1564-S



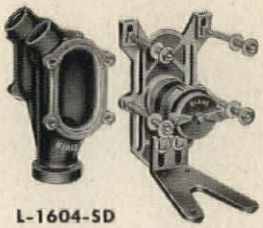
L-1574-S



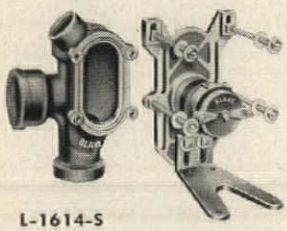
L-1564-SD



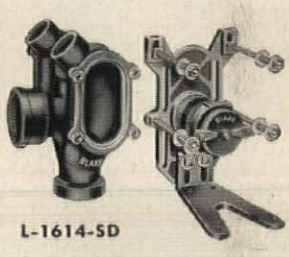
L-1604-S



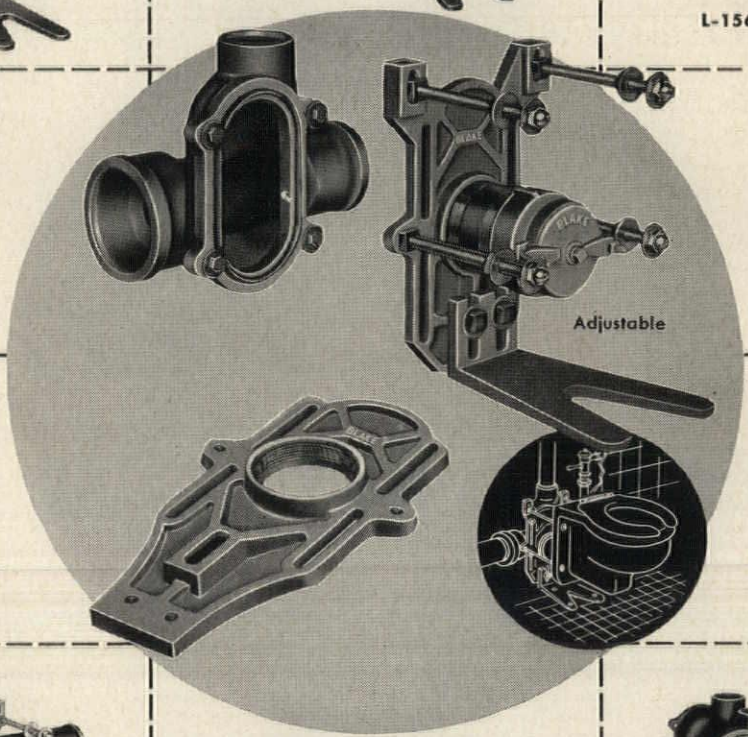
L-1604-SD



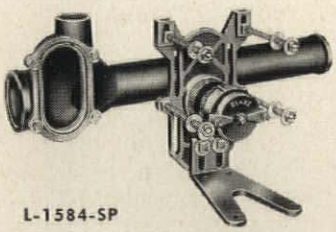
L-1614-S



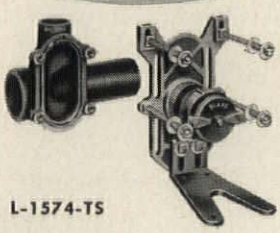
L-1614-SD



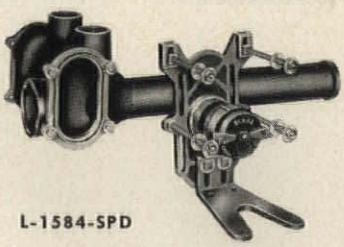
Adjustable



L-1584-SP



L-1574-TS

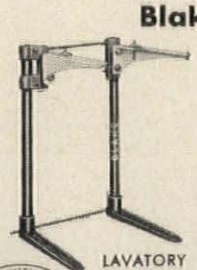


L-1584-SPD

KEEP THE FIXTURES OFF THE FLOOR!

Blake Carriers for Wall Type Fixtures Include:

- ✓ CLOSETS
- ✓ LAVATORIES
- ✓ URINALS
- ✓ SINKS
- ✓ HOSPITAL LAVATORIES
- ✓ HOSPITAL SINKS
- ✓ STERILIZERS



LAVATORY CARRIER

URINAL CARRIER

Blake engineered design "TY" fittings and carriers support wall type closets independent of the wall, providing sanitary and easily maintained rest rooms. A compact, efficient assembly of component parts requiring a minimum of space, Blake "TY" fittings conserve valuable building area and insure proper waste line pitch.

• Horizontal or vertical installations • Single or double applications • Screw pipe or soil pipe • Syphon-jet or blow-out closets • Single installations or for batteries

For complete information on all Blake combination adjustable "TY" fittings and carriers, mail coupon.

HOFFMAN SPECIALTY MFG. CORP., 1700 W. 10th St. Dept. AR-5, Indianapolis 7, Indiana

Please send me catalog No. 22 on Combination "TY" Fittings and Carriers.

Name_____

Firm_____

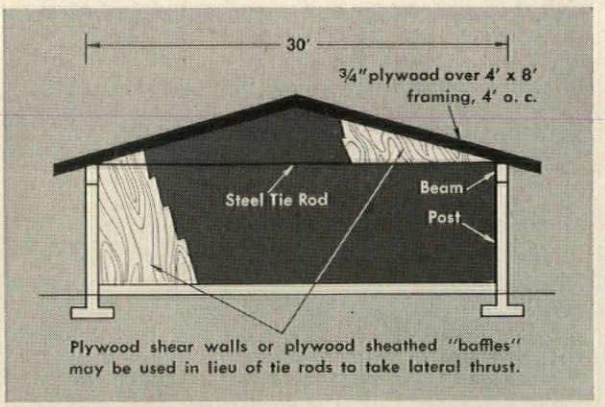
Address_____

City_____ Zone_____ State_____

50 YEARS 1908 1958 — SERVING THE PLUMBING TRADES WITH QUALITY DRAINAGE PRODUCTS

Blake Division
HOFFMAN SPECIALTY MFG. CORP.
1700 WEST 10th STREET, INDIANAPOLIS 7, INDIANA

new approaches to structural design with fir plywood



Tilted roof planes (each a rigid plywood diaphragm) provide mutual support at ridge, permit long, clear spans. Diaphragm action transfers horizontal thrust to steel ties or fir plywood end walls.

FIR PLYWOOD

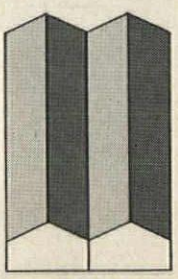
TENT-SHAPED ROOF UNITS

ARCHITECTS AND ENGINEERS:
John Lyon Reid & Partners, San Francisco, Calif.
Partners in Charge: William A. Gillis, A. I. A., and Dr. Alexander Tarics, Structural Engineer

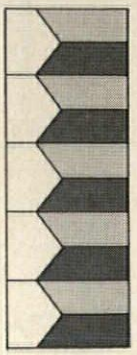
THIS folded plate plywood roof system developed for an expandable community school offers a straightforward solution to the problem of obtaining a high degree of design flexibility at low cost.

The basic tent-shaped canopy units may be placed separately or combined in series or rows to cover any given area. With supports needed only at wide intervals, walls and partitions may be arranged or re-arranged as needed.

Structurally, the system relies on the outstanding diaphragm strength of the plywood sheathing. The roof planes—each a rigid plywood diaphragm—are inclined to form a giant inverted "V" beam, eliminating posts or trusses normally required for support under the ridge. Because the roof is self-supporting at the center, rafter spans can be nearly doubled, e.g., up to 50 feet with 4 x 14's on four foot centers. Diaphragm action also permits ties and supporting columns to be placed at wide intervals.



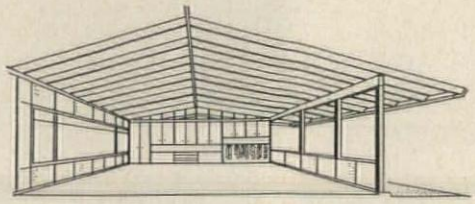
Basic units can be arranged in series or rows as needed



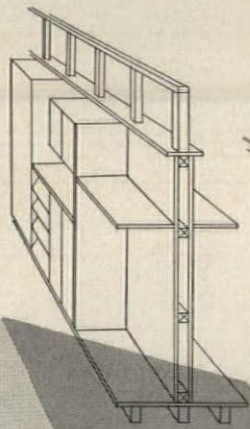
ONE OF A SERIES FROM "SCHOOLS OF THE FUTURE"

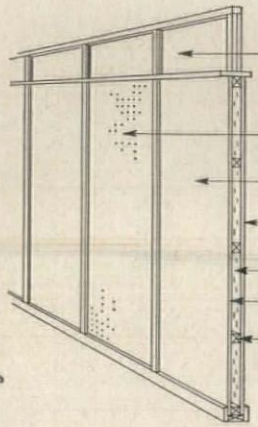
. . . a portfolio collection of outstanding designs by six leading architectural firms. Material includes details on folded plate roof system shown above. For free copy, write (USA only) Douglas Fir Plywood Association, Tacoma, Wash.

Also write for information about design and engineering consultation services.



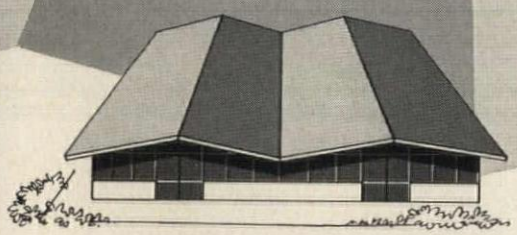
The interior may be left open for classroom uses
. . . or divided into smaller areas by movable partitions



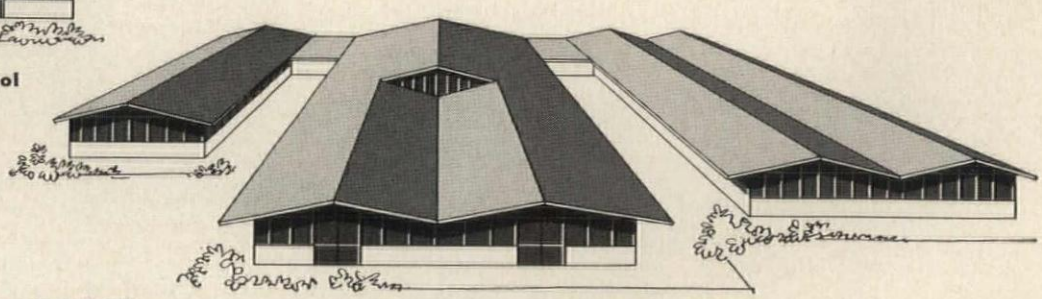


FOLDED PLATE ROOF

PROVIDE MAXIMUM FLEXIBILITY FOR AN EXPANDABLE SCHOOL

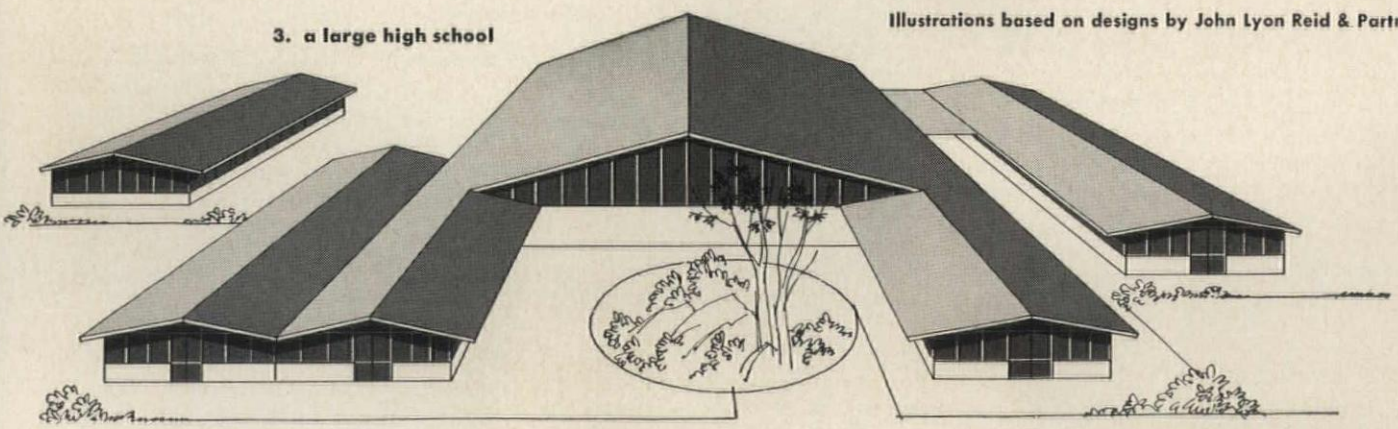


1. a small elementary school



Units can be added as needed

3. a large high school



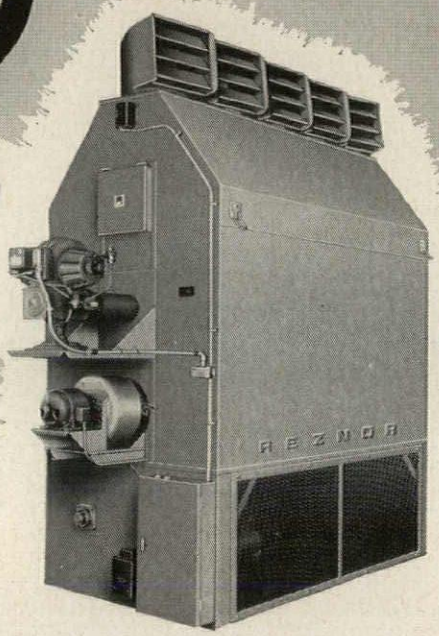
Illustrations based on designs by John Lyon Reid & Partners

Here's the answer to your

BIG SPACE HEATING PROBLEMS

Reznor-Olson

STAINLESS STEEL DIRECT FIRED HEATERS



These units are designed for heating factories, warehouses, garages, airplane hangars, gymnasiums and other large open areas. They pick cold air up off the floor, distribute heated air overhead at high velocity—either direct or thru ducts. In addition to space heating installations, Reznor-Olson heaters are well-suited for use in make-up air systems and in drying and other process applications.

Reznor-Olson heaters are available in ten sizes — 400,000 to 2,000,000 Btu — with gas, oil or dual-fuel burners. They may be floor mounted for top discharge or suspended for down-blast or horizontal discharge.

New Bulletin gives Complete Specifications

Complete specification information — including dimensions, control details, temperature rise, air delivery and fuel consumption — is included in a new bulletin, F-57A-RO. If you don't have a copy of this bulletin in your files, just fill out and mail the coupon below. Do it today.

REZNOR
WORLD'S LARGEST-SELLING DIRECT-FIRED UNIT HEATERS

Reznor Manufacturing Company, 62 Union St., Mercer, Pa.

Please send me a copy of your bulletin F-57A-RO which gives complete specification data and construction details on Reznor-Olson direct fired heaters.

Name_____

Company_____

Street_____

City_____ Zone_____ State_____

Office Literature

RLM Standard Specifications Book
1958 edition contains additional new specifications on special service units, 800 ma units, new reflector sizes and mounting specifications, the format has been streamlined. *RLM Standards Institute, 326 W. Madison Street, Chicago 6, Illinois*

Herman Nelson Finned Radiation
. . . And Enclosures, Bulletin 665-A-1 Illustrates the company's type Q finned radiators and enclosures, accessories and recommended applications, and design factors. *American Air Filter Co., Inc., 215 Central Ave., Louisville 8, Kentucky*

Curtis Aluminettes
Illustrates the colors, styles, features and mounting methods used with this group of Curtis office partitions. *Curtis Office Partition Co., Inc., 103 Union Street, Brooklyn 31, New York*

Building Sealants Reference
Features case histories on elastomeric sealants in curtain wall installation. Illustrates proper methods of mixing and application. *Thiokol Chemical Corporation, 780 North Clinton Avenue, Trenton 7, N. J.*

Open Web Steel Joist Standard
American Standard A87.1-1957 gives specifications for materials, construction, fire resistance, and allowable safe loads, a revision of an earlier standard. *American Standards Association, 70 East 45 Street, New York 17, N. Y.*

Torrivent Catalog
Illustrates a series of heating and ventilating units using 1, 2, or 3 fans delivering 1250 to 17000 cu ft per min and delivering 50,000 to 2,000,000 BTU. Catalog DS-327C *The Trane Company, La Crosse, Wisconsin*

Industrial Building Products
(A.I.A. 12-C) Contains product data and installation details on Kaiser's line of industrial covering materials, flashing and accessories, including three new configurations in roofing and siding materials. 16 pp. *Kaiser Aluminum & Chemical Sales, Inc., Dept. NR-7, 919 N. Michigan Ave., Chicago 11, Ill.**

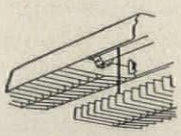
**Additional product information in Sweet's Architectural File, 1958*

more literature on page 322

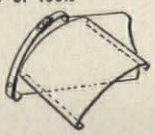
Ideal Luminaire for Classrooms, Offices and a Multitude of Other School Areas

Here is America's newest, most feature-packed direct-indirect luminaire. The Daystar's long smooth-flowing appearance, its simplified ultra-thin design, plus its efficient output of high levels of quality illumination make it ideal for use in today's modern classrooms, offices, stores and other commercial interiors.

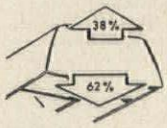
The Daystar is available in 48 and 96 inch lengths with 35° crosswise and 25° or 45° lengthwise shielding. The side panels are of steel baked white enamel or plastic. The steel baked white enamel louvers have a special snap-in catch and raise or lower on a safety chain for ease of relamping and maintenance. For complete data of all the new Daystar features that make other direct-indirect units obsolete, mail the coupon today!



plastic side panels easily removed without use of tools

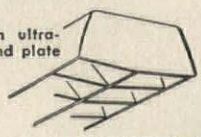


louvers raise or lower on safety chain for ease of maintenance



38% of light directed up; 62% directed down

simplified smooth ultra-thin appearing end plate



LIGHTING PRODUCTS INC., HIGHLAND PARK, ILLINOIS

Pacesetter in the Lighting Industry

LIGHTING PRODUCTS INC., No. 1503
Dept. 7-E, Highland Park, Ill.

Name_____

Firm_____

Address_____

City_____ State_____

All-Air High Velocity System provides versatile, draftless air conditioning for Smith-Douglass

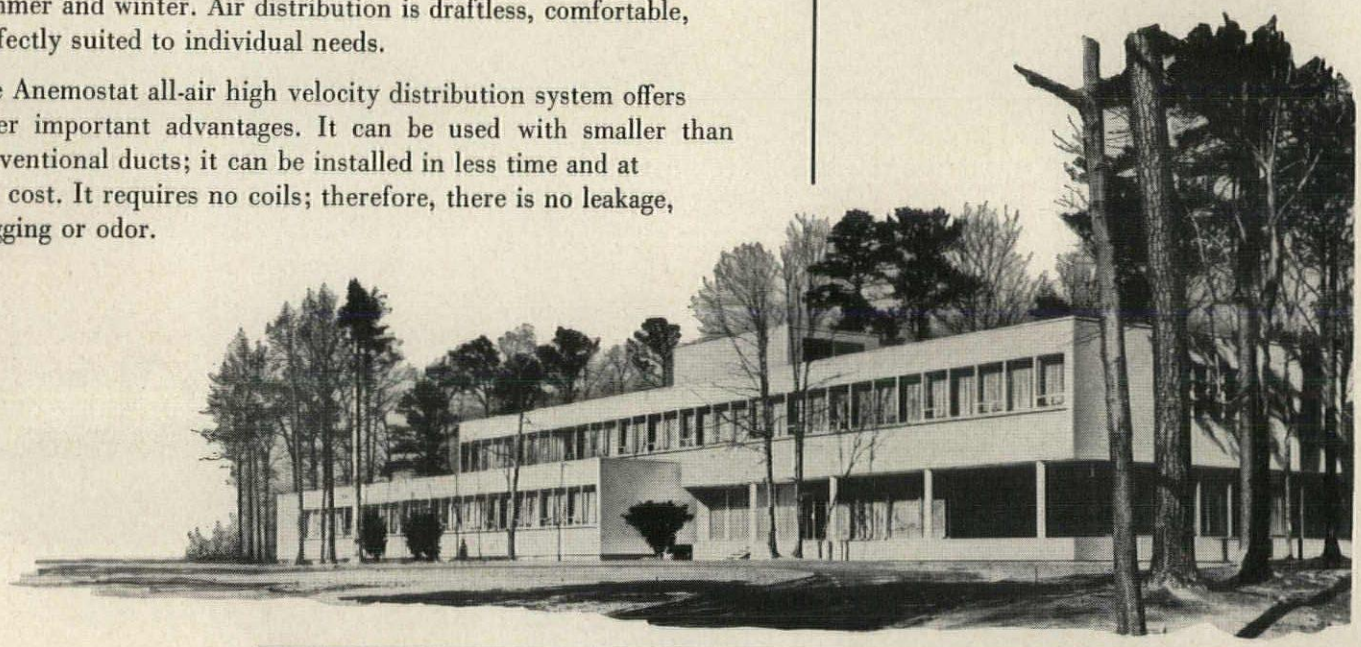
The new office building of the Smith-Douglass Company, leading fertilizer manufacturer, is fully air conditioned with a dual duct Anemostat all-air high velocity system.

Conditioned air is supplied to the Anemostat all-air high velocity units through two parallel ducts—one carrying cold air and the other warm air. The all-air high velocity units draw air from both ducts in any desired proportion to meet the temperature requirements for each area in both summer and winter. Air distribution is draftless, comfortable, perfectly suited to individual needs.

The Anemostat all-air high velocity distribution system offers other important advantages. It can be used with smaller than conventional ducts; it can be installed in less time and at less cost. It requires no coils; therefore, there is no leakage, clogging or odor.

ARCHITECTS—
Attention Please!

Anemostat round, square and straight-line diffusers used with high velocity units can be adapted to a wide variety of architectural designs.



This modern structure is located in Princess Anne County near Norfolk, Virginia.

Architect:
T. David-Fitz-Gibbon, Norfolk, Virginia

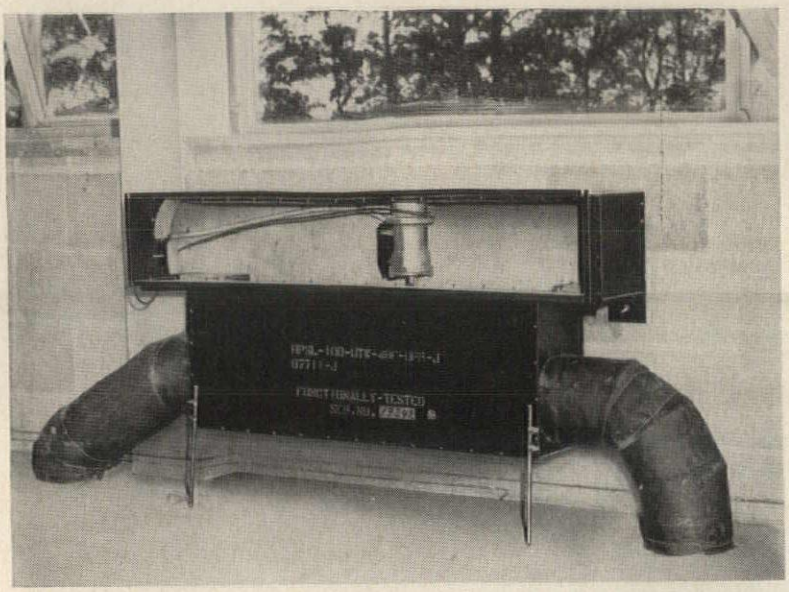
Design Consultant:
Thaddeus G. Crapster, New York.

Consulting Engineer:
J. Robert Carlton, Richmond, Virginia.

General Contractors:
Doyle & Russell, Norfolk, Virginia.

Mechanical Contractors:
B. & G. Olsen Company, Richmond, Virginia.

Anemostat all-air units form an integral part of the interior design and can be easily combined with built-in cabinets or bookcases.

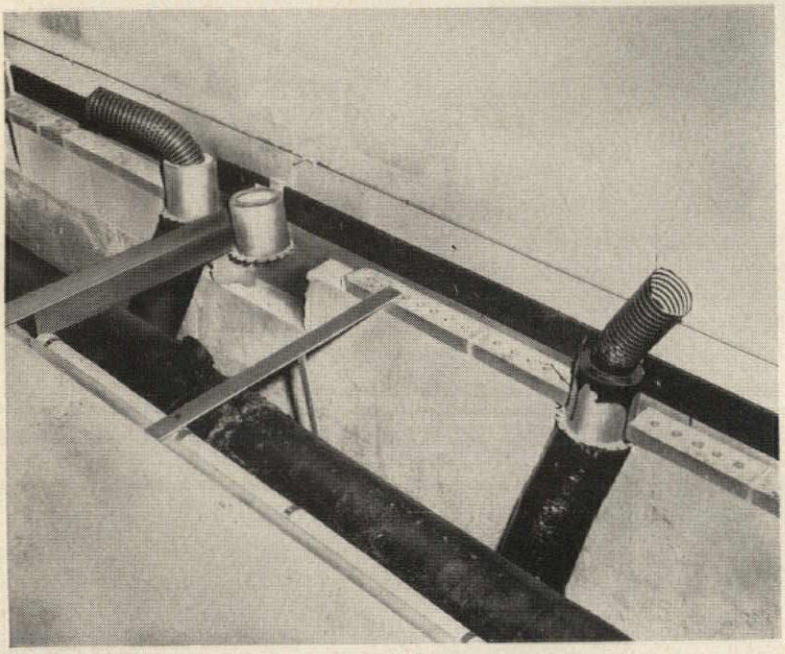


Anemostat UTW units before being enclosed.

←

Typical take-offs from main supply duct located in the floor. High velocity ducts can be buried in the floor.

←



Air is perfectly distributed in large meeting room by means of Anemostat ceiling air diffusers.

↓

Meeting room of the Board of Directors.
↓ Note Anemostat ceiling and under-the-window units.

Write on your business letterhead for your copy of

Anemostat® Selection Manual 60

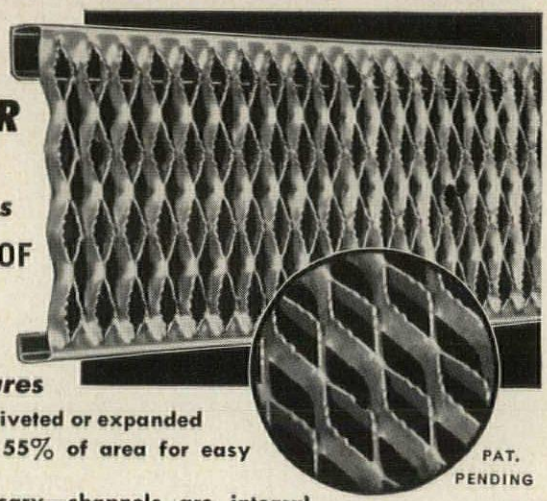
ANEMOSTAT CORPORATION OF AMERICA

10 East 39th Street, New York 16, N. Y.

Anemostat: The Pioneer of All-Air High Velocity Systems

two superior open steel
FLOOR GRATINGS
BY GLOBE

1 Safety GRIP-STRUT®



FOR MAXIMUM SAFETY ALL OVER YOUR PLANT

Important Safety Features

★FIRE PROOF ★SLIP PROOF
★MAXIMUM STRENGTH
★MINIMUM WEIGHT

Important Economy Features

★ All one piece, not welded, riveted or expanded
★ Open space in excess of 55% of area for easy access of light and air
★ No extra supports necessary—channels are integral part of the material. ★ Self cleaning
★ Cut and installed like lumber by your own maintenance force. ★ Low in original cost. ★ For balconies, no secondary sprinkler heads needed

PAT. PENDING

Ideal for work platforms, stair and ladder steps, flooring, balconies, catwalks, machinery guards, fire escapes and for original equipment safety treads.

2 GOLD NUGGET® WELDED grating

PAT. PENDING

The QUALITY GRATING for Heavy Duty Applications

★ 3/8" projection weld nugget for greater rigidity and strength
★ Vertical alignment of the main load bar assured
★ All bars are load carrying bars including secondary bars
★ Anti-skid pattern

PROJECTION WELD

Each secondary load bar (A), as projected welded to the primary load bar (B) has a shear strength of 5,000 pounds per weld. There are 28 such projection welds to a square foot of grating. This means that GOLD NUGGET Welded Grating can sustain greater shock loads than other gratings.

For the complete details of these revolutionary new gratings, write for new catalogs today. Distributors in all principal cities. Consult the yellow pages in your phone book under "GRATING".

108

PRODUCTS DIVISION

The **GLOBE** *Company* MANUFACTURERS SINCE 1914

4020 SOUTH PRINCETON AVENUE • CHICAGO 9, ILLINOIS

Office Literature

Ceiling Design Opportunities
. . . *With Acousti-Lux Panels* Illustrates uses, application methods, and standard designs of the company's hollow, translucent ceiling panels. 11 pp. *The Celotex Corporation, 120 S. La Salle St., Chicago 3, Ill.**

American Blower Cabinet Heaters
Catalogs a line of cabinet heaters containing radiator and blower assemblies, with arrangements, capacities, dimensions and connections. 15 pp. Bulletin 9617 *American Blower Division of American-Standard, Detroit 32, Michigan**

Engineered Lighting
. . . *Surface Series* (A.I.A. 31F2) Describes a group of surface-type fluorescent fixtures with sizes, characteristics and features. *Gruber Brothers Inc., 125 S. First St., Brooklyn 11, N. Y.*

Insulated Piping System
Covers construction features and specifications—including insulation types and thickness, trenching, back filling, height of cover and conduit sizing charts—for prefabricated insulated piping systems. *Ric-wiL, Inc., Barberton, Ohio**

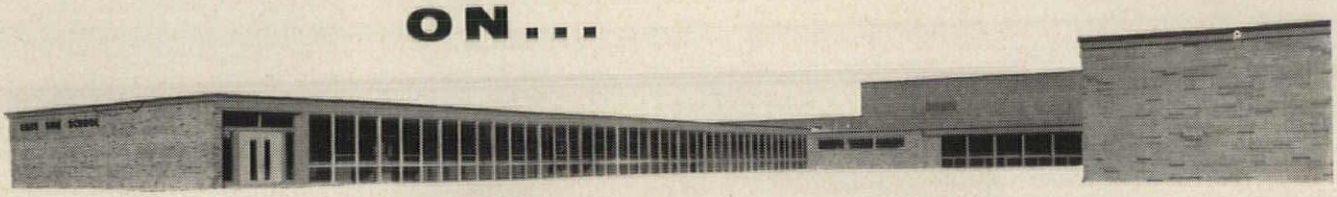
Counter Flow Cooling Towers
Describes and illustrates, with photos and drawings, the construction and mechanical features of Pritchard induced draft, counter flow cooling towers for industry. 14 pp. *J. F. Pritchard & Co., 4625 Roanoke Pkwy., Kansas City 12, Mo.*

Armco Aluminized Steel
Gives detailed information on properties and characteristics of aluminized (aluminum-coated) steel Type 2. Sections on available sizes, gages and forms; fabricating and finishing; and storing and handling are also included. 20 pp. *Product Information Service, Armco Drainage & Metal Products, Inc., Middletown, Ohio**

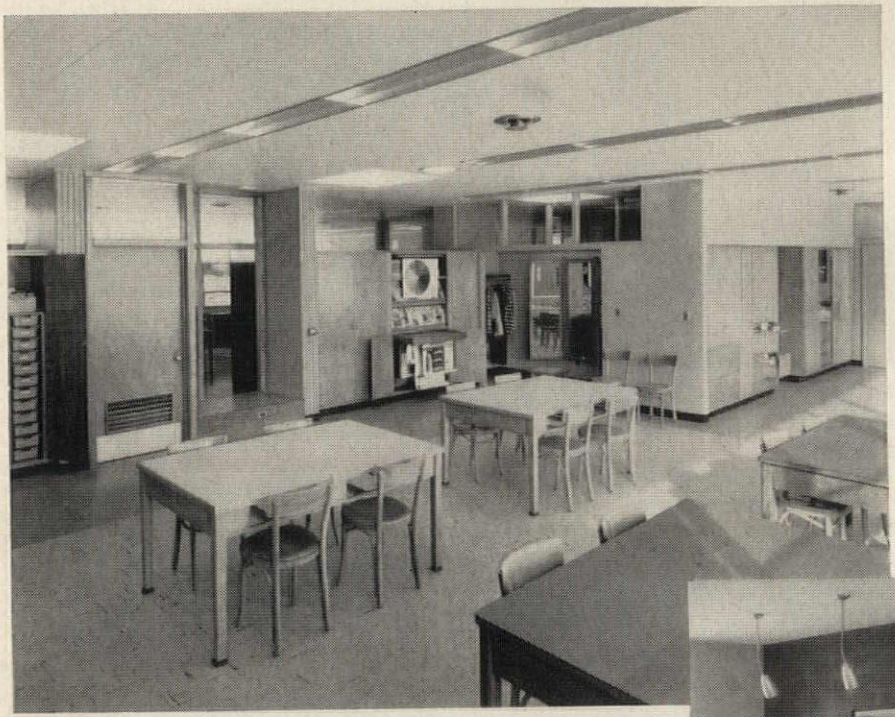
American Blower Heating
. . . *& Ventilating Units* Bulletin 8927 Illustrates a variety of fan-driven, duct-connected units with their arrangements, capacities and sizes, and shows methods of selection and dimensions. 48 pp *American Blower Division of American-Standard, Detroit 32, Michigan**

**Additional product information in Sweet's Architectural File, 1958*

FROM KINDERGARTEN ON...

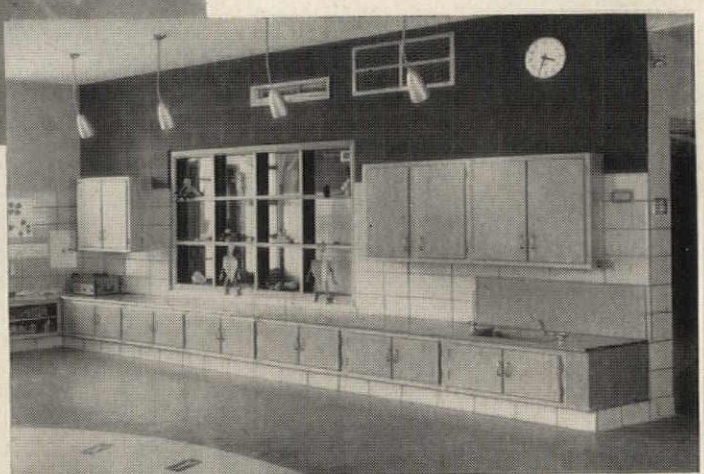


IT'S MUTSCHLER!



Clothing laboratory which was first used this year in new high school. Student accomplishment has risen to record height, and school board is delighted. So are parents and teacher.

Mutschler school furniture makes teaching easier, helps students from elementary levels to university. It is constructed from choice hardwood (especially for school use) in a complete line of storage and special-purpose cases, including food laboratory kitchens. Choice of Dulux finishes, beautiful natural-grain wood tones and decorator colors. Dulux is a catalytically-cured finish that is practically impervious to damage . . . looks like new for years. Another important Mutschler advantage is free planning services. Our sales engineers have ideas from a nationwide organization to share with architects and school authorities. Before building or remodeling, consult a Mutschler sales engineer. Send coupon for name of the one nearest you . . . and free catalogs.



Kindergarten storage and work area, including tot-height sink. This installation has been in use for more than three years . . . is still like new. Teacher has nothing but highest praise.

FOR:

Foods Laboratory
Laundry Areas
Clothing Laboratory
Sewing Areas
Grooming Areas
Home Management Areas
Child Care Areas
Arts & Crafts Rooms
General Storage Areas

Mutschler
SCHOOL FURNITURE

Finest in domestic and institutional cabinetwork since 1893

MUTSCHLER BROTHERS COMPANY
Dept. H-2105, Nappanee, Indiana

Please send free catalogs and name of nearest Mutschler sales engineer.

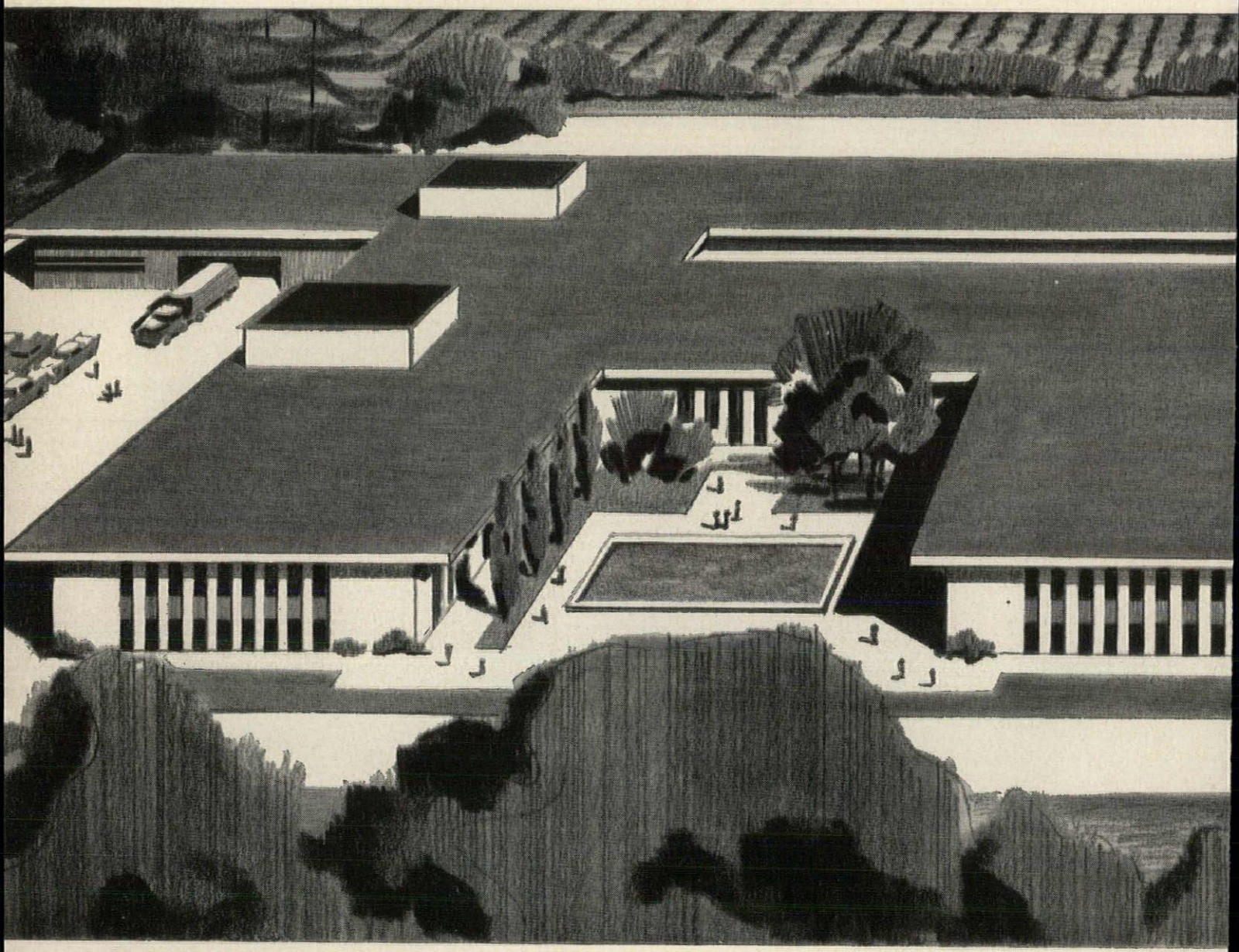
name

firm/school

address

city, state

...NOW WE'RE



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

With the new Arkla-Servel Gas Absorptive Cooler, your clients will get extra—even exclusive—advantages that they'll get *only* with a gas cooling system.

Only gas gives these important advantages:

. . . High efficiency at *all* times—even during the light loads.

. . . Constant temperature control.

. . . Modular adjustment of capacity (instant automatic adjustment to match actual cooling requirements).

. . . Dependability of fuel service at all times.

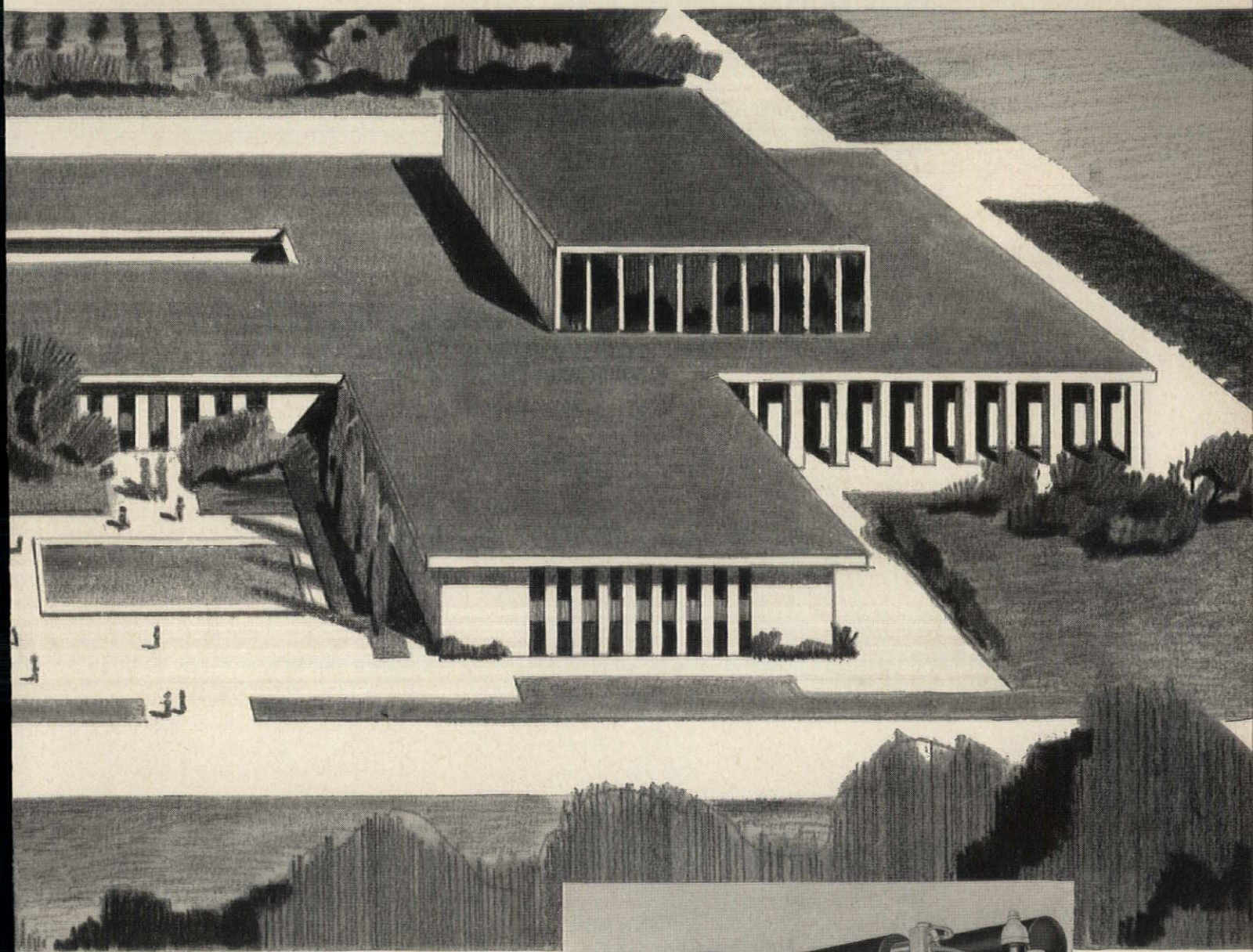
The 25-Ton Arkla-Servel Cooler

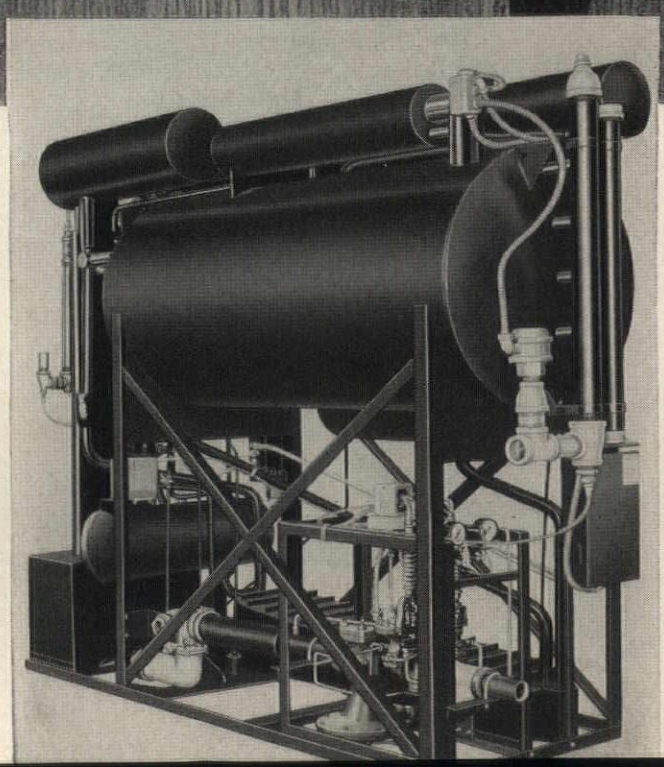
. . . A compact unit, easy to install and light enough for rooftop installation.

. . . Costs are low for installation, operation and maintenance. No specially trained operating or maintenance personnel are required.

. . . Can be installed singly or in banks to fit any size installation.

COOLING WITH GAS





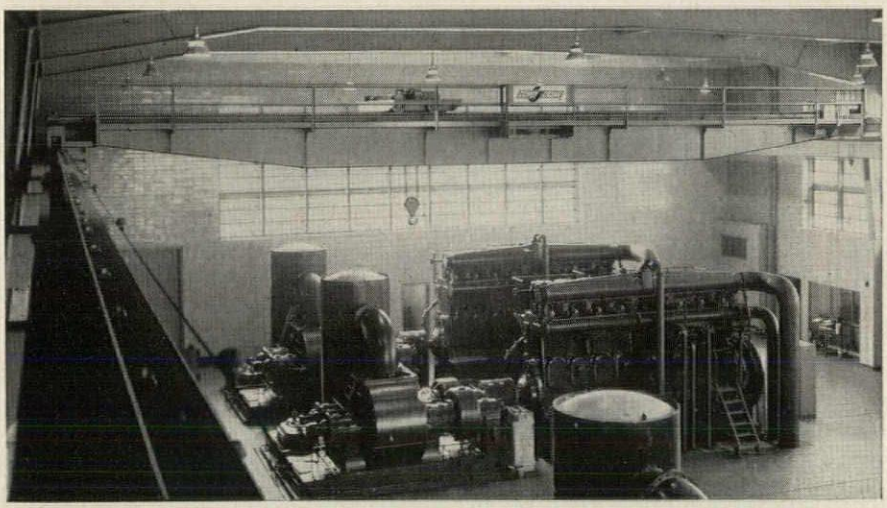
Gas absorptive cooling can put your commercial and industrial clients' heating plant on a year around paying basis. It utilizes low pressure steam to cool water, has no moving parts to wear out, and provides quiet, economical operation. What's more, it's *vibration-free.*

Take advantage of the consulting services provided by your gas company. They have trained specialists who have been working with architects and engineers for years. They belong to your associations or affiliations and are familiar with your problems. Check the facts about gas and you'll see—modern gas air conditioning out-performs all other fuels. *American Gas Association.*

WORM AND GEAR DESIGN ELIMINATES LOAD BRAKE ADJUSTMENT AND MAINTENANCE IN THIS

CONCO

OVERHEAD ELECTRIC CRANE



CONCO "CRB" OVERHEAD ELECTRIC TRAVELING CRANE installed in municipal sewage disposal plant.

A feature of this Conco "CR" series crane is a worm and gear mechanical load brake which provides maximum safety, lower first cost, and the elimination of any adjustment or service needs. The brake offers a virtually limitless service life. It has only 2 moving parts. Conco "CR" cranes are one of many types custom-built for all classes of service. To engineers Conco offers two important facilities: A plant flexibility that permits true custom-building at a practical cost. And, a staff qualified by 50 years experience to provide such design assistance as you may request. May we submit specification data, an estimate, or a proposal on your next crane requirement? Write for Bulletin 5000A.

APPLICATION NOTE: Conco has engineered special spark-proof and explosion-proof cranes for installations such as Naval Ammunition Depots, U. S. Air Force Bases, the U. S. Atomic Energy Commission, and Thiokol.

CRANES HOISTS CONCO

CONCO ENGINEERING WORKS

Division H. D. Conkey & Company
Mendota, Illinois

Affiliate: Conco Building Products, Inc.—Brick, Tile, Stone

See Our Catalog: Sweet's Industrial Construction File

Industrial Floor Slabs

continued from page 249

The finish should be as dense as possible, and to help insure this, water content should be kept as low as is practical—this point cannot be emphasized too strongly. Usually 3½ to 4 gallons of water per sack of cement should be adequate (moisture content of aggregates should be included in the computations). Proportions of materials to get a good finish are 1 part Portland cement, 1 part of fine aggregate, and 2 parts coarse aggregate. The slump should be preferably 2 in., but no more than 3 in.

The aggregates should be clean and sufficiently tough to resist abrasion. The fine aggregates should consist of hard sand or crushed stone.

The coarse aggregate should be made up of dense fine-grained trap-rock, granite, quartzite, emery, or other natural or manufactured material having the equivalent hardness and wearing characteristics. Soft, flat or elongated fragments should not be permitted in the coarse aggregate.

The finish should be well bonded to the base slab and should be not less than 1 inch thick. The finish may be placed on the base before it has hardened, but any free water that appears on the surface should be removed prior to placing the finish course. Such finish usually may be placed approximately 2 hours after the initial placing of the base slab.

The finish may also be placed after the base has completely set. In this case it is essential that the base should be left thoroughly rough to achieve a good bond. Before the base has fully hardened the concrete should be brushed with a stiff bristled wire broom to remove all scum and laitance and to leave the coarse aggregate slightly exposed. Following this the base should be thoroughly cured prior to placing the finish. At the time of placing the finish the concrete base slab should be chipped again if necessary, then thoroughly scrubbed and wetted down. In this step it should be wet enough so that it does not absorb water from the concrete to be placed above it, and it should not have any pools of water which would tend to increase the water content of the finish to be placed later. Following this a thin coat of neat cement grout should be applied to the surface of the base slab. The finish coat must be applied almost immediately after the application of this slush coat so that good adhesion is obtained.

continued on page 330

Mr. H. Walter Graves, Vice President of Albert M. Greenfield & Co., Inc., management agents, explains Traffic Sentinel® door operation to prospective tenant. Doors stay open wide to allow passengers to enter elevator.

Mr. Graves stresses the fact that elevator doors begin to close only after the *last* passenger has boarded the elevator. None of the passengers was "threatened" by a premature door closing.

Here, Mr. Graves demonstrates how closing elevator doors will reopen instantly when a passenger crosses the threshold and breaks the electronic Traffic Sentinel beam which controls the door mechanism.

Mr. Graves invites the prospective tenant to join him in a test ride in the Westinghouse *operatorless* elevator equipped with Traffic Sentinel controlled doors. Notice how elevator doors close quickly after last passenger has entered.

hitects: Thalheimer & Weitz

INSYLVANIA LUMBERMENS TUAL INSURANCE BUILDING

ompletely reconstructed office build- offering every modern convenience s tenants. When in Philadelphia, yourself to a luxury test ride in the y installed Westinghouse *operator-* levators equipped with Traffic Sen- controlled doors.

9AA

MANAGEMENT V.P. USES "SHOW" BUSINESS

TO DEMONSTRATE WESTINGHOUSE TRAFFIC SENTINEL® ON OPERATORLESS ELEVATORS

The Pennsylvania Lumbermens Mutual Insurance Building in Philadelphia is an excellent example of what remodeling and modernization can do for well-constructed, well-designed buildings.

The former 12-floor, 200-room Ritz-Carlton Hotel was converted into an up-to-date 17-story office building. Included in this major modernization program is a bank of six high speed Westinghouse *operatorless* elevators equipped with Traffic Sentinel controlled doors. These elevators, together with "magic" Traffic Sentinel doors, provide the finest and fastest in vertical transportation. Passengers are moved quickly and safely to their desired floors. There is no undue waiting . . . no unnecessary loss of floor-to-floor time. Here is passenger convenience and service at its best. Existing buildings need it to compete with new buildings—and prospective tenants are demanding it, more and more.

If you are planning to modernize your present elevator system to meet today's heavier passenger traffic demands, the people to talk with are in your nearest Westinghouse Elevator Division office. They'll help you with any elevatoring problem relating to modernization or new building installations.

YOU CAN BE **SURE**...IF IT'S

Westinghouse

WESTINGHOUSE ELEVATORS AND ELECTRIC STAIRWAYS

Potosi school gets the finest in fresh

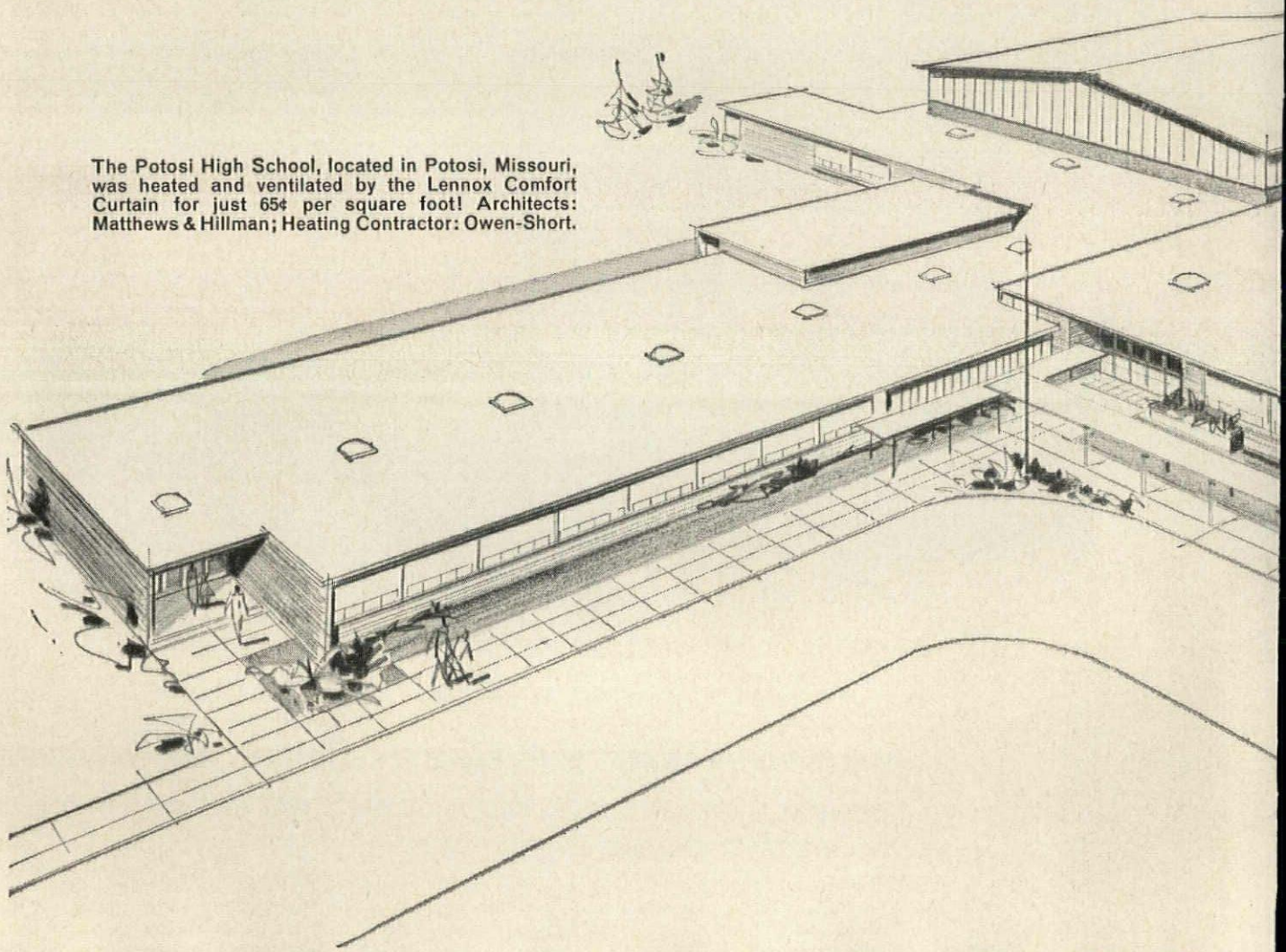
installed complete with automatic

New Lennox Comfort Curtain System automatically draws in fresh air from outside . . . warms, cleans and circulates air quietly and evenly throughout the classroom!

Hard to believe, isn't it?—that after all these years a new and better fresh air heating and ventilating system can be installed *for a fraction of the cost* of systems used previously. Yet it's true! 65¢ per square foot was the *complete* cost of the Lennox Comfort Curtain System in the Potosi, Missouri High School. Including fully automatic controls, ductwork, labor—everything!

Of course, 65¢ per square foot is unusually low, even for the Comfort Curtain. But costs of $1.03 in Indiana, $1.15 in Montana, and $1.12 in South Dakota are *usual and typical* of the amazing savings offered by the Lennox Comfort Curtain.

How is this possible? The Lennox Comfort Curtain System applies to schools the sound, tested principles of warm air heating. It eliminates expensive pipes, boilers and chimneys. Moreover, it saves hundreds of dollars per classroom per year *every* year it is in use. Fuel is consumed only when heat is required, maintenance is amazingly simple and low-cost. Yet—and this is important—the Lennox Comfort Curtain System



The Potosi High School, located in Potosi, Missouri, was heated and ventilated by the Lennox Comfort Curtain for just 65¢ per square foot! Architects: Matthews & Hillman; Heating Contractor: Owen-Short.

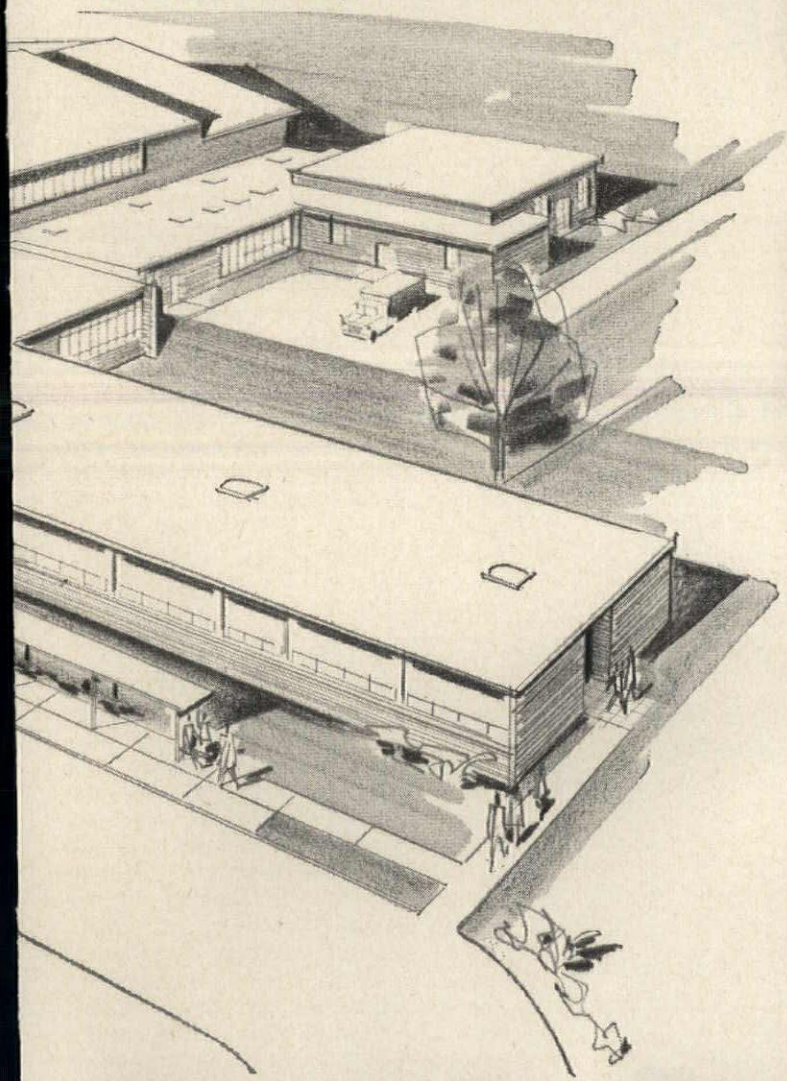
LENNOX COM

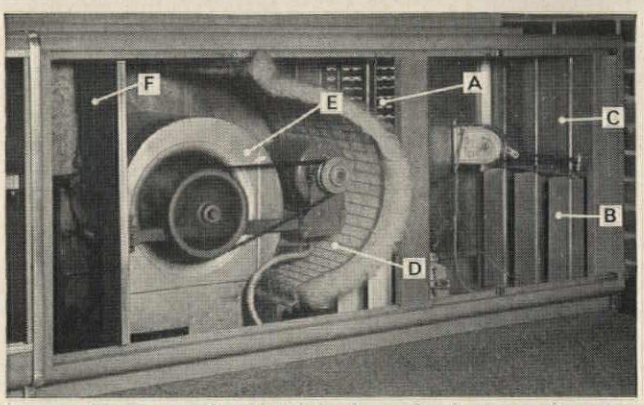
air heating and ventilating — controls — for just 65¢ per square foot!

does a far better job than costlier systems used previously for school heating and ventilating.

It provides a full, even flow of air throughout the entire length of the exposed classroom wall. It is amazingly quiet. And it holds room temperatures to a variance of six-tenths of one degree, circulates air continuously for perfect distribution, introduces a continuous supply of fresh air into the daytime heating cycle, and provides *tons* of needed fresh air cooling without the cost of refrigeration!

Get full information on this new low-cost system of classroom heating and ventilating. Send coupon below for free booklet, today!





Lennox Air Processing Unit introduces fresh air in adjustable volumes (A); transmits warm air (B) from adjacent or remote heating unit; continuously recirculates indoor air (C); filters air clean (D). Lennox' exclusive floating blower (E) and acoustical lining (F) assure a degree of quietness never before achieved.

A comfort curtain of healthful air rises from bookshelf duct along the full length of the exposed classroom wall in this Des Moines, Iowa school.

LENNOX

©1958 Lennox Industries Inc., Heating and Air Conditioning, founded 1895; Des Moines and Marshalltown, Ia.; Syracuse, N.Y.; Columbus, O.; Decatur, Ga.; Ft. Worth; Los Angeles; Salt Lake City. In Canada: Toronto, Montreal, Calgary, Vancouver, Winnipeg.

Lennox Industries Inc., Dept. AR-82
1701 E. Euclid Ave., Des Moines 5, Iowa

Gentlemen: Please send me your free booklet on the Comfort Curtain System of classroom heating and ventilating.

NAME_____

ADDRESS_____

CITY_____ ZONE____ STATE_____

FORT CURTAIN

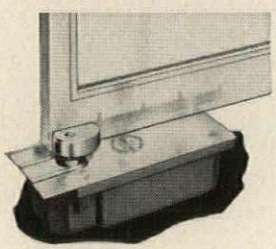
Low Cost + Low Cost
INSTALLATION MAINTENANCE

DOR-O-MATIC® CONCEALED IN FLOOR
MANUAL DOOR CONTROLS

Superior design of DOR-O-MATIC controls makes them simple and inexpensive to install. Rugged construction requires minimum maintenance. Positive two-speed closing action with any type door. No unsightly detraction from beauty and design because DOR-O-MATIC controls are concealed in the floor.

Positive built-in backstop—eliminates door or floor applied stop devices. Built-in hold-open. No seasonal adjustments necessary. Thirty-one models to choose from.

Write for detailed information.



6913

DOR-O-MATIC INVISIBLE DOR-MAN—For completely automatic door controls in carpet or handle actuated models.

SEE OUR CATALOGS IN SWEET'S

Sales and Service in Principal Cities
—see Yellow Pages of your phone book

DOR-O-MATIC division of REPUBLIC INDUSTRIES, INC.
7358 West Wilson Avenue
Chicago 31, Illinois

CANADA: Dor-O-Matic of Canada, Ltd., 550 Hopewell Avenue, Toronto 10, Ontario
EXPORT: Consultants International, Apartado 21397, Mexico 7, D.F., Mexico

Industrial Floor Slabs

continued from page 326

Many prefer to place the finish after the base has completely set as this finish is then installed after all other work is done on the building and thus is not apt to be damaged. Probably a more economical job will be obtained if the finish is placed immediately after the pouring of the concrete slab as labor will be saved in the proper preparation of the slab for receiving this finish and the concrete need be cured only once.

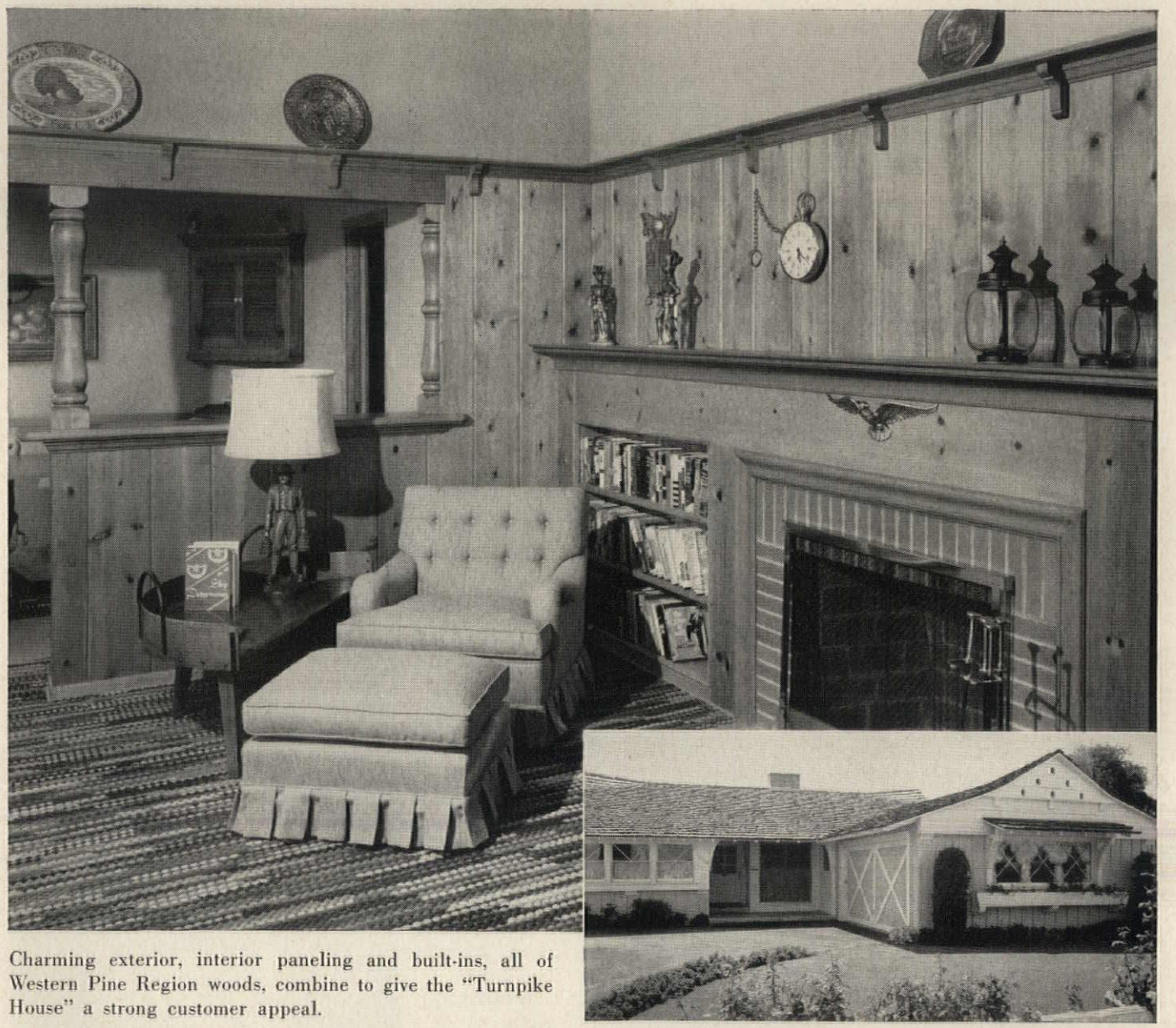
Following the preparation of the base the finish should be placed using as little water as possible. The finish should then be struck off to grade with a straight edge and thoroughly compacted using rollers or tampers. If small amounts of water or cement paste appear at the surface at this time the surface should be swept with a soft broom to remove these excess quantities. If large quantities appear at any time it is a sign that probably too much water was used and the job almost surely will end up unsatisfactorily. The addition of a dusting of either fine material or cement at this time to blot up the water will not help but will only make matters worse in that it will increase the tendency toward dusting after completion.

After the finish has been rolled or tamped it should be compacted and evened out by the use of a power float. This machine should be used only sufficiently to even out the top of the finish and to bring only enough mortar to the surface for the steel troweling which is to follow.

Usually after the power floating operation is completed the finish can be steel troweled. However, the steel troweling should wait until water sheen is no longer visible. If the troweling is done too soon, moisture and fine material will be drawn to the surface which will result in the tendency of the floor to dust. The floor should be lightly troweled. No attempt should be made to remove all the trowel marks.

The finish should then be properly cured. To cure properly the cement should not be permitted to dry out while hardening. This curing can be accomplished by keeping the finish continuously covered with water; by covering the finish with wet sand or wet burlap and frequently sprinkling this covering with water; by covering with a waterproof paper or other waterproof covering which has all its seams completely sealed; or by covering with a membrane curing com-

continued on page 334



Charming exterior, interior paneling and built-ins, all of Western Pine Region woods, combine to give the "Turnpike House" a strong customer appeal.

"With the customer in mind...we use Western Pine Region woods,"

says builder William Mellenthin of North Hollywood, California

"To be successful in this business you have to give people what they want. And they want Western Pine Region woods. Our most popular homes feature paneling in living room and den, plus knotty pine cabinets in the kitchen. Western Pine Region woods are versatile and well seasoned. We find them adaptable for interior *and* exterior uses."

Give the homes you build this customer appeal of Western Pine Region woods. Their distinctive pattern and workability make them suitable for handsome moulding, casework and paneling. Their durability and stability make them equally suited for framing, siding, sheathing, sub-flooring and roof decking.

Your local lumber dealer carries these appealing woods. Or he can quickly get them for your next job. For more information write to Western Pine Association, Dept. 307-U, Yeon Bldg., Portland 4, Oregon.

FACTS ABOUT WESTERN PINE REGION WOODS

- straight grained
- dimensionally stable
- easily worked
- economical to handle and install
- excellent nail-holding ability
- take paint or stain with ease
- wide range of grades
- ten species

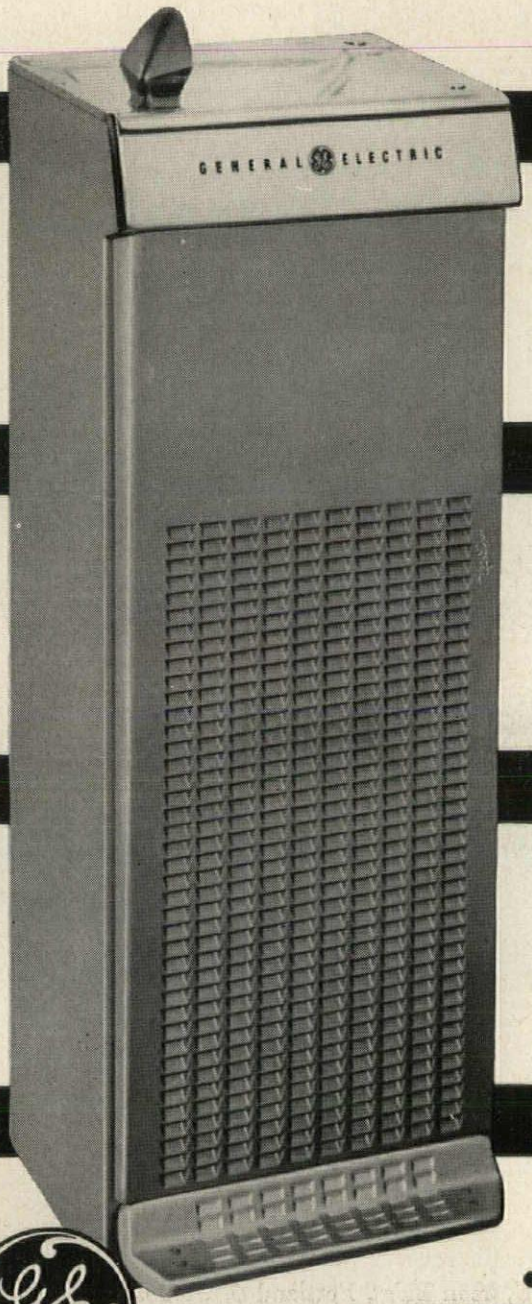
WPA

Western Pine Association

member mills manufacture these woods to high standards of seasoning, grading and measurement

Idaho White Pine · Ponderosa Pine · Sugar Pine White Fir · Incense Cedar · Douglas Fir · Larch Red Cedar · Lodgepole Pine · Engelmann Spruce

Make sure you get all these features... specify GENERAL ELECTRIC WATER COOLERS

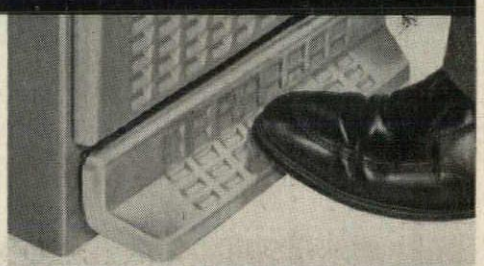


ANTI-SPLASH BASIN

Prevents splashing, spilling, splattering of bubbler stream. Stainless steel—easy to clean.

NO-GROPE PEDAL

Full width design permits water control from any point in front of cooler. Special design prevents scuffed shoes, stubbed toes.

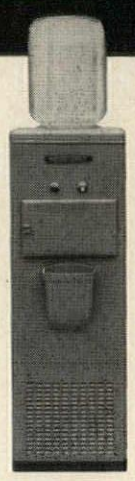


TEMPERATURE DIAL

Just dial the water temperature you like best. Eight different settings offer wide selection.

PLUS

- ADJUSTABLE BUBBLER
- HANDSOME STYLING
- SPACE-SAVING DESIGN
- 5-YEAR PROTECTION PLAN



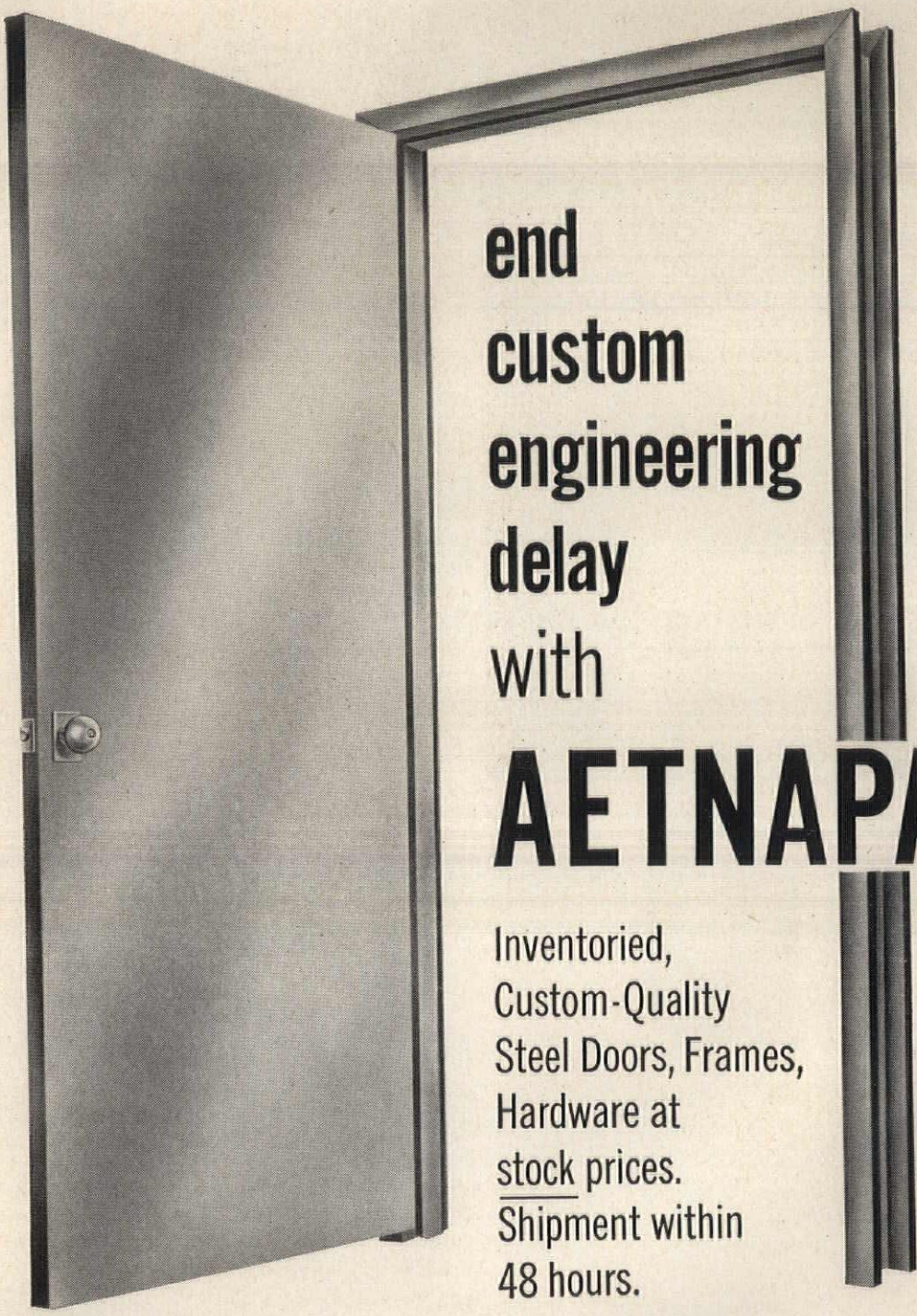
How many water coolers do you need and where should they be located for best results?

G-E Water Coolers are available in 14 different models with capacities from 2.85 to 21.5 gallons per hour. Call your local G-E Water Cooler dealer or write to General Electric Co., Commercial & Industrial Air Conditioning Department, 5 Lawrence St., Bloomfield, N. J.

Progress Is Our Most Important Product

GENERAL ELECTRIC

ASK ABOUT Hot and Cold Combinations, pressure and bottle types—also refrigerated compartment models.



end custom engineering delay with AETNAPAK

Inventoried, Custom-Quality Steel Doors, Frames, Hardware at stock prices. Shipment within 48 hours.

Over 500 type-and-size combinations from 16 always-in-stock basic types. Completely flush-design swing and sliding doors. Your choice of AETNAPAK hardware.

Check these *custom* features never found in ordinary stock doors:

- √ Completely flush door (no lines)
- √ Uniform clearances
- √ Mortised flush bolts
- √ Bumpers
- √ Furniture-grade steel
- √ Standard bevelled door stiles
- √ Frames either set up or knocked down

Your choice of mortised or cylindrical locksets, hinges, push plates, closers, push bars, panic devices and other accessories. Order AETNAPAK door-frame packages (with or without hardware); doors separately or frames separately. Delivered anywhere to meet *your* schedule. Send for complete catalog.

AETNA STEEL PRODUCTS CORPORATION
730 Fifth Avenue, New York 19, N. Y. Dept. AR5

Please send free catalog of AETNAPAK custom-quality, always-in-stock Steel Doors, Frames and Hardware.

Your Name.....Title.....

Company Name.....

Address.....

City.....State.....

Permalite insulating concrete (1:6 mix Portland cement and Permalite expanded perlite aggregate), 2" thick, weighs only 4½ lbs./sq. ft.—about 4 lbs. less than other commonly-used poured-in-place roof deck materials.

With such light weight you can usually specify a size smaller joist, weighing 2 lbs. less per lineal foot... 50¢ a foot saving, with a steel-in-place cost of 25¢ lb. And you have more than adequate compressive strength—180 psi.

As for insulation, 1:6 mix Permalite concrete has a "k" of 0.58, and a "U" value of about .20 for a 2" thickness with built-up roof over permanent forms such as corrugated steel and paper-backed wire mesh.

Other advantages: Firesafe. Can't rot. Vermin-proof; termite-proof. Handles and places like any ordinary concrete. Easily sloped to drain.

No other roof deck material gives you so much insulation, with so much strength, at such light weight!

See your Sweets File, or write for complete information

Permalite® THE LARGEST SELLING PERLITE AGGREGATE IN THE WORLD

Perlite Department, Great Lakes Carbon Corp., 612 S. Flower St., Los Angeles 17, Calif.

Permalite aggregate is produced by licensed franchisees from perlite ore mined by Great Lakes Carbon Corporation.

The Record Reports

On the Calendar

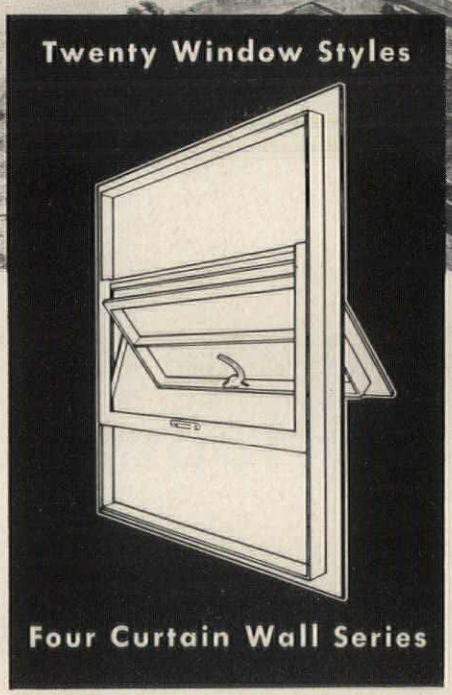
May

1-3	Second Annual Meeting, Board of Directors, Consulting Engineers Council—Drake Hotel, San Francisco
2	Fifth Annual Conference for Engineers and Architects sponsored by the College of Engineering of Ohio State University—University Campus, Columbus
4-7	Annual Meeting, Air-Conditioning and Refrigeration Institute—The Homestead, Hot Springs, Va.
5-9	Convention and Exposition, National Restaurant Association—Navy Pier, Chicago
7-17	Second Annual United States World Trade Fair—The Coliseum, New York City
9-10	78th Annual Convention, Michigan Engineering Society—Civic Auditorium, Lansing, Mich.
9ff	Exhibition of School Architecture—The Octagon, Washington, D. C.; through June 15
14-17	Annual Conference, Royal Institute of British Architects—Newcastle-upon-Tyne, England
18-21	27th Annual Conference, American Institute of Decorators—Sheraton-Plaza Hotel, Boston
18-22	National Planning Conference, American Society of Planning Officials—Washington, D. C.
19-21	Seventh Annual Convention, National Parking Association—Roosevelt Hotel, New York City
19-23	Annual Meeting, National Fire Protection Association—Palmer House, Chicago
25-29	51st Annual Meeting, Air Pollution Control Association—Sheraton Hotel, Pittsburgh
29ff	World Assembly of Engineers and Architects, Friends of Israel, sponsored by the Association of Engineers and Architects of Israel—Technion, Israel Institute of Technology, Haifa

June

4ff	20th Century Design; the first exhibition in this country of an extensive selection of objects from the Museum's design collection—Museum of Modern Art, 11 West 53rd Street, New York City
6-22	Seventh Annual Boston Arts Festival—Public Garden, Boston

Ualco Windows Complement Handsome Hangar Design



FORM FOLLOWS A PRACTICAL FUNCTION AT NEW YORK INTERNATIONAL AIRPORT

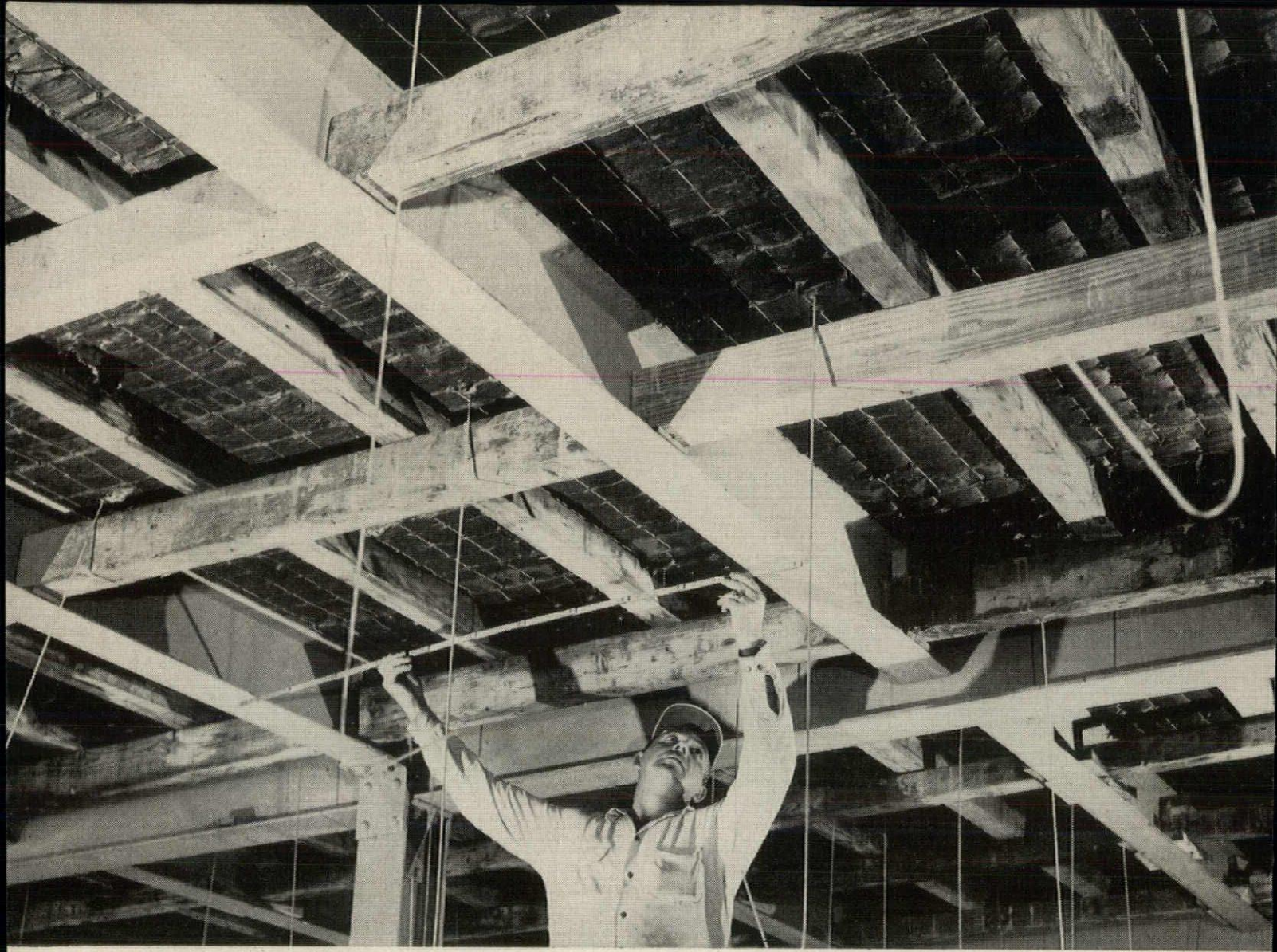
Windows in TWA's Hangar #12 (Amman & Whitney, architects) are Ualco Aluminum Intermediate Projected, with seven essential, exclusive features. (Let us send you a list of these.) Ualco engineering for quality can free your design, too — aid the function, enrich the form. Specify satisfaction — *Ualco*. Our large engineering staff will be glad to help you.

• World's Largest Manufacturer of Aluminum Windows

Ualco

SOUTHERN SASH SALES & SUPPLY CO., Inc.

Sheffield, Montgomery, Ala.; Van Nuys, San Leandro, Calif.; Hialeah, Tampa, Fla.; Elizabeth, N. J.; Canton, O.



Steeltex easily spans six-foot centers on the fifth and sixth floor addition to Henry Ford Hospital in Detroit where it is supported by temporary shoring during pouring and curing. Bar mats provide reinforcing while Steeltex floor lath gives form to 3½ inch slab. Previously Steelte was used on only 2- to 3-foot centers. The architect's dec sion to use Steeltex instead of wooden forms for six-fo spans was something new, but he soon saw it pay off as .

New use for Steeltex saves $26,00 at Henry Ford Hospital in Detroit

On Henry Ford Hospital's fifth and sixth floor addition, a new use for Steeltex floor lath piled up savings of approximately $26,000 on cost of materials and almost 50 percent on labor.

Architects for the $3½-million job approved Steeltex and bar mats to support 200,000 square feet of 3½ inch concrete slab set on six-foot centers by an ingenious method.

Previously, Steeltex wire mesh reinforcing—sold by Pittsburgh Steel Products Division of Pittsburgh Steel Company—had been used on centers two to three feet apart.

On jobs where the centers were farther apart, the architect usually specified a wooden forming material. Bar mats provided the reinforcing.

But Mike Sonk, Pittsburgh Steel Products Detroit district sales manager, had another idea.

He thought Steeltex could not only provide waterproofed forms less expensively for the Detroit hospital but help the bar mats make a stronger slab.

Sonk approached the architects with his idea. He pointed out Steeltex' cost saving advantages, speed of installation and ease of handling.

Whitacre Engineering of Canto Ohio, contractors for the Steeltex-b mat installation, also found out quic ly how well Steeltex fills their nee

The use of Steeltex brought a sa ings of approximately 50 percent.

Instead of spending many hou installing wooden forming materi laying bar mats and installing shori here's all Whitacre Engineering wo men installing the floors had to c

Unroll lightweight Steeltex, cut tighten it, clip it and lay the bar ma —all in much less time.

The Steeltex-bar mat combinati

Steeltex gives clean, neat appearance underneath slab after shoring is removed. Pittsburgh Steel Products Salesman Russ Nutter shows A. M. Downes, field engineer for sub-contractor, Whitacre Engineering, how easily ceiling hangers were placed through Steeltex paper, thereby eliminating costly drilling of individual holes when wooden forms are used. Architect: Albert Kahn Associated Architects and Engineers of Detroit.

also requires temporary shoring. But there's one big difference. Once shoring is removed, Steeltex is not dismantled as wooden forms are. Result? Better safety, better housekeeping, greater time savings.

Steeltex' speed of installation and easy handling really impressed Whitacre Foreman Mike Malett. He said:

"This is the first time I've seen Steeltex used primarily for its forming ability. I'm pleased with it.

"It certainly reduced forming costs. It took three men only one day to install 3,500 square feet of Steeltex on one of the floor sections.

"With wooden forms, it would have taken ten men two days."

"I also like the way Steeltex permits quick, easy installation of ceiling hangers," Mr. Malett added.

"All you do is stick the hangers through Steeltex paper so they protrude below where the ceiling is hung.

"With wooden forms we would have had to drill hundreds of holes for the hangers. That takes a lot of time and makes labor costs much higher."

A. M. Downes, field engineer for Whitacre Engineering, added: "I like the way Steeltex fits snugly around columns and pipes. It also cuts down drip-through of cement. Both advantages are a great help.

"What's more, our workmen can walk safely on Steeltex during installation and while concrete is being poured.

"Steeltex is ideal," Mr. Downes declared. "It gives reinforcing throughout, acts as a form and aids in curing the slab."

Steeltex' advantages can be put to work for you, too, on an application like that at Henry Ford Hospital. Or you might have one where centers are closer.

But no matter what the application, Steeltex is available to cut labor and material costs and insure stronger, more durable slabs.

Complete engineering advice is available at any of the Pittsburgh Steel Products Sales Offices listed here.

Call today . . . pocket the savings tomorrow.

See Sweets Catalog Section 2-B

Steeltex®

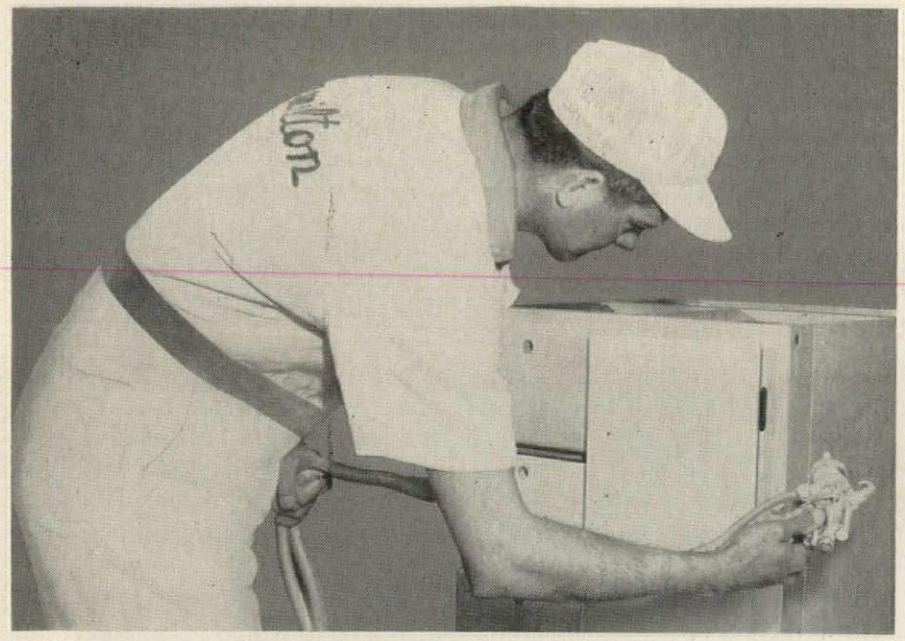
Pittsburgh Steel Products

a division of Pittsburgh Steel Company

Grant Building • Pittsburgh 30, Pa.

District Sales Offices

Atlanta	Cleveland	Dayton	Los Angeles	Pittsburgh
Chicago	Dallas	Detroit	New York	Tulsa
		Houston	Philadelphia	Warren, Ohio



Leadership is earned... and re-earned every day

by **Hamilton**
laboratory equipment craftsmen

Leadership — in product research, in engineering and design, in planning help and manufacturing experience — is no accident, at Hamilton. It is our creed . . . dictated by the confidence schools, colleges and industrial companies place in us for the ultimate in laboratory equipment quality.

Small wonder Hamilton is known as the standard by which teaching and research people judge laboratory equipment.

In the Hamilton plant, your needs dictate and direct this attitude of leadership responsibility. Let your Hamilton Field Engineer demonstrate Hamilton quality and planning excellence in Laboratory, Arts and Crafts, and Homemaking equipment. There is no charge — or obligation — for this help. It's available at your convenience, in your office. Write us at Two Rivers — today!

LABORATORY EQUIPMENT
DESIGNED AND CRAFTED BY
Hamilton
HAMILTON MANUFACTURING COMPANY • TWO RIVERS, WISCONSIN

The Record Reports

9-12 National Conference on Materials Handling, the first since 1949 to be sponsored by the American Society of Mechanical Engineers—Public Auditorium, Cleveland

9-12 Eighth National Materials Handling Exposition—Public Auditorium, Cleveland

9-21 Triennial Meeting, International Organization for Standardization: general assembly, council and 15 technical committees—Harrogate, England

10-14 51st Annual Assembly, Royal Architectural Institute of Canada—Queen Elizabeth Hotel, Montreal

11-14 Annual Meeting of the National Society of Professional Engineers—Chase and Park-Plaza hotels, St. Louis

14-16 Annual Meeting, American Society for Testing Materials—Hotel Statler, Boston

16-18 Annual Meeting, American Association of Cost Engineers, in cooperation with Case Institute of Technology—Cleveland

22-27 12th Annual Meeting, Forest Products Research Society—Madison, Wis.

22-28 National Convention (second of three in 1958), American Society of Civil Engineers—Portland, Ore.

23-25 Second Annual Conference of American Craftsmen, sponsored by the American Craftsmen's Council—Lake Geneva, Wis.

23-25 Joint Meeting of the American Society of Heating and Air-Conditioning Engineers and the American Society of Refrigerating Engineers—Hotel Leamington, Minneapolis

23 The Dwelling House: An Emerging Technology; Special Summer Program presented jointly by the Department of Architecture and the Course in Building Engineering and Construction of the Department of Civil and Sanitary Engineering — Massachusetts Institute of Technology, Cambridge, Mass.; through July 2

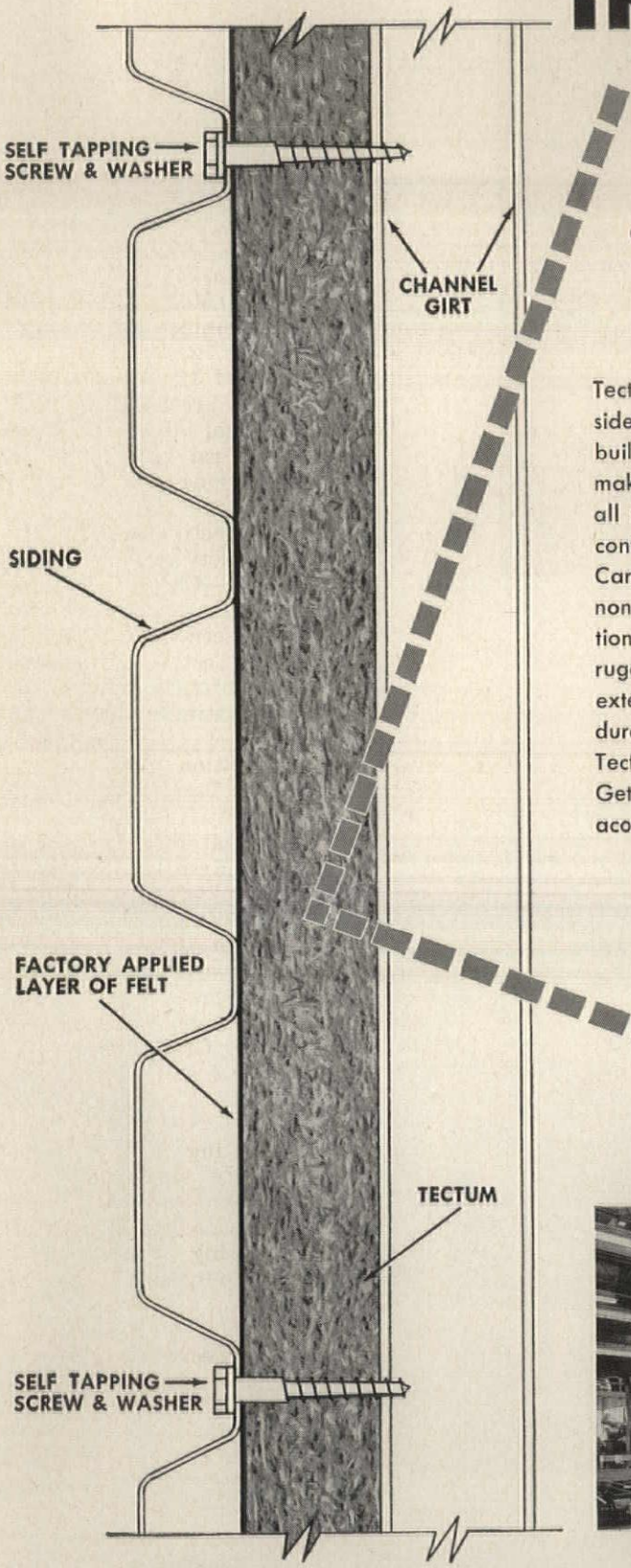
27 Exhibition of Contemporary Danish Architecture—The Octagon, Washington, D. C.; through the summer

July

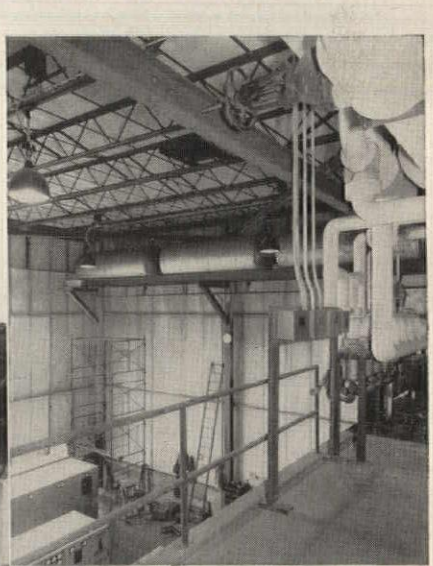
7-11 90th Annual Convention, The

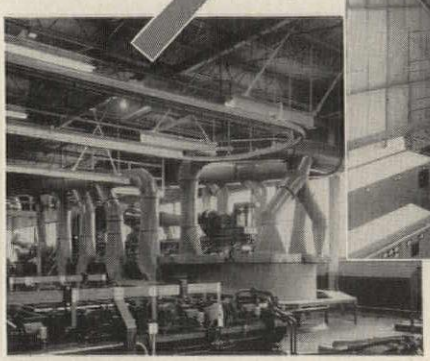
INSIDE IT'S TECTUM

AND INSIDE IT'S INSULATED, SOUND CONDITIONED, FIRE SAFE AND PLEASINGLY TEXTURED FOR BEAUTIFUL WALLS



Tectum Sidewall Panels serve multiple needs as an insulating sidewall material in factories and commercial buildings. Modern building construction utilizing a variety of exterior wall materials, makes good use of versatile Tectum. In this single material are all the worthwhile advantages of structural strength, acoustical control, insulation, fire protection and natural good looks. Carries favorable insurance rates, too, as Tectum is rated noncombustible by Underwriters' Laboratories, Inc. The illustration shows how Tectum may be used with outer skin of corrugated metal. Tectum adapts equally well to other types of external siding materials—goes up fast and is sturdy and durable for a variety of applications. If you haven't investigated Tectum for sidewall construction, send today for Bulletin C-100-A. Get the facts on Tectum for roof decks, sidewall and suspended acoustical ceilings.



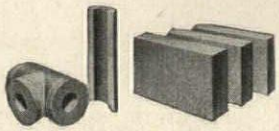


QUALITY • INTEGRITY • SERVICE

Tectum CORPORATION

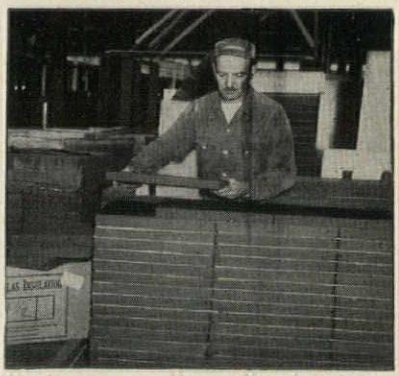
Newark, Ohio

Branch Offices in Philadelphia, Columbus, Atlanta, Dallas, Chicago, Beverly Hills, Seattle and Toronto, with distributors in all leading areas. Factories in Newark, Ohio, and Arkadelphia, Arkansas.



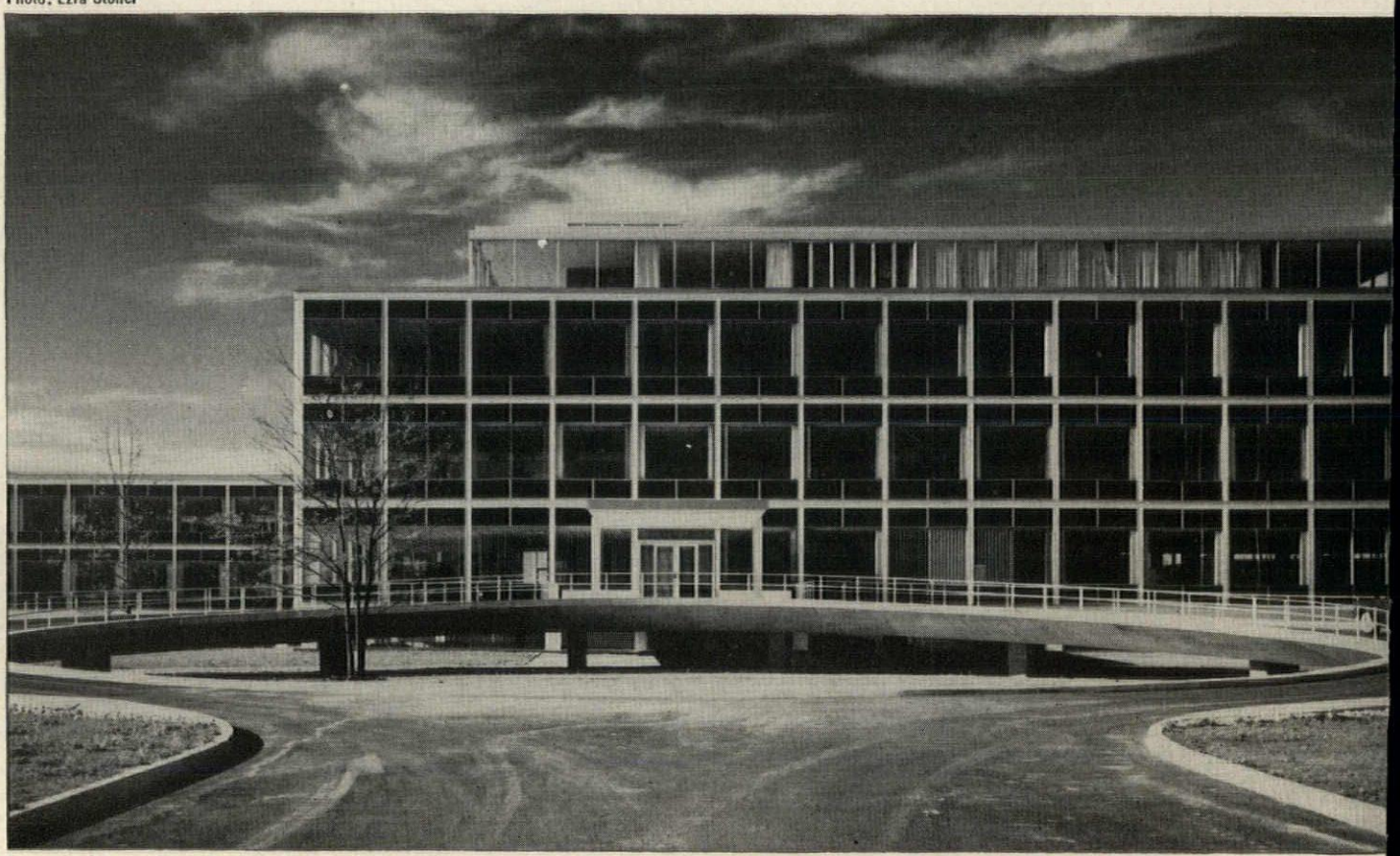
FOAMGLAS® INSULATION / waterproof, vapor-proof, strong, can't burn, acid-proof, vermin-proof, dimensionally stable

Sill and head panels were field fabricated in these four easy steps.



Workman applies adhesive to blocks of 1½" FOAMGLAS precut to fit all the spandrel panel areas.

Photo: Ezra Stoller



Spandrels are faced with gun metal gray Spandrelite* backed by a 1" air space and 1½" FOAMGLAS insulation. The insulation's unusual strength and rigidity permitted its use without special extra supports. Blocks of cellular glass insulation were also used to fill in the web between the flanges of the steel structural members of the new Connecticut General Headquarters.

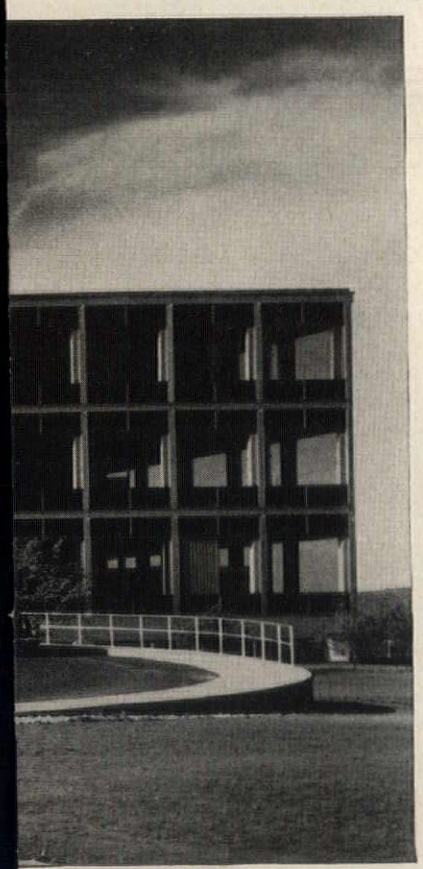
*Manufactured by Pittsburgh Plate Glass Company

Architects:
Skidmore, Owings, & Merrill, New York, N.Y.
General Contractor:
Turner Construction Co., New York, N.Y.
Insulation Contractor:
Munro Dampproofings Co., New York, N.Y.

NEW CONNECTICUT GENERAL HEADQUARTERS

—where good design demanded vapor-proof **FOAMGLAS** spandrel panel insulation for constant U-value

Flexible flashing is quickly adhered to FOAMGLAS blocks to form panel-size units of insulation. Two men easily handled all cutting and assembly operations for the insulated spandrel panels.



FOAMGLAS panel units are quickly and easily installed in spandrel areas before the facing is applied.

Application of Spandrelite completes the installation. Five men assembled and installed all of the spandrel panels.

The design for Connecticut General Life Insurance Company's outstanding new Hartford headquarters building called for spandrel insulation at sills and heads of the building's vast window walls. Good design demanded an insulation that was vapor-proof to insure constant insulating value . . . and thus guarantee continuing economy in heating and cooling the building. And the insulation had to be incombustible to meet the 200°F. heat resistance requirement for all materials used in the project.

The architects, Skidmore, Owings, & Merrill, New York, picked FOAMGLAS. Because its sealed glass cells are entirely vapor-proof for constant thermal efficiency. Because it can't burn. Because it proved easy to cut and fit for quick, economical field fabrication of sill and head panels.

Your good designs deserve the best in long lasting insulating value. They deserve the many benefits of FOAMGLAS. Write for the detailed information contained in our latest architectural catalog.

PC Glass Blocks are another outstanding building product of Pittsburgh Corning Corporation.

PITTSBURGH CORNING CORPORATION

Dept. B-58, One Gateway Center
Pittsburgh 22, Pennsylvania

At
the
Hotel
Monteleone...

Unitslide Wall at Hotel Monteleone, New Orleans, La. Wogan & Bernard, Architects

New Potentials for Public Rooms
thru Fairhurst® UNITSLIDE® WALLS

Two areas — the Coffee Shop and new Swan Room—now do the work of three. Separated only by a Fairhurst Unitslide Wall, each room may be used alone or simultaneously. Or, Unitslide may be recessed to create one integrated area suitable for large banquets or meetings. Here is maximum use of space — gauged to take advantage of peak guest loads, yet easily changed when needed.

Unitslide is composed of separate units that lock to form a solid, rigid wall; more resistant to sound than any other type. Specially designed pockets completely conceal the entire wall when not in use. And Unitslide is versatile! Note here the distinctive louvered effect: inspired by the Old South, though modern as next year's Mardi Gras . . . Fairhurst can be of help with your space problems

— write Dep't AR for free illustrated booklet

John T. Fairhurst Co., Inc.
45 West 45th Street New York 36, N. Y.
FAIRHURST . . . First Name in Folding Walls

The Record Reports

American Institute of Architects—Hotel Cleveland, Cleveland

20-28 Fifth Congress, International Union of Architects; theme, "Construction and Reconstruction of Towns, 1945-1957"—Moscow

Office Notes

Offices Opened

Elken & Clark, Architects, announce the opening of an office in the Professional Building, 702 First Ave. South, Fargo, N. D.

Albert A. Erkel & Associates, Consulting Structural Engineers, have opened new offices at 3515 Cahuenga Blvd., Los Angeles.

Charles Haeuser, Architect, has announced establishment of an office at 7254 North Beach Drive, Fox Point, Milwaukee 17, Wis.

Elliot Saltzman, A.I.A., Architect, announces the opening of his office at 356 Fulton St., Brooklyn 1, N. Y.

Edmund J. Schrang, Architect, has opened new offices at 5459 North Port Washington Road, Milwaukee 17, Wis. James Thalman, Architect, will be associated with Mr. Schrang in the new office.

Leif Skadberg and Paul A. Olson, principals of the Skadberg-Olson Company, Architects and Engineers of Chicago, have announced the opening of a new firm, Leif Skadberg and Associates, at 4100 North Miami Ave., Miami. Staffs of the two firms will be interchangeable.

Jack L. Staunton announces the opening of an office for the practice of consulting in civil and hydraulic engineering at 60 West 46th St., New York 36, N. Y. Mr. Staunton was formerly an associate of the firm of Seelye Stevenson Value & Knecht.

John Stetson Associates, Architects, of Palm Beach, announce the opening of a branch office at 501 East Palmetto Road, Boca Raton, Fla.

Firm Changes

Herbert L. Ebling, Henry P. Plunkett, Albert F. Keymar and Leo A. Kelly announce the association of Dale R. Johnson and Daniel D. Reginato as partners under the firm name of Ebling, Plunkett and Keymar, Architects, with offices at 1220 North Milwaukee St., Milwaukee 2, Wis.

Mead and Hunt Inc., Consulting Engineers, announce that Robert P. Torkelson, Architect-Engineer, has been placed in charge of architectural work for the firm following the resig-

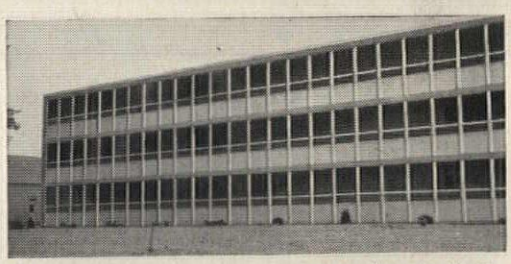
Another UNIVERSITY builds the modern way... with HASKELITE® PANELS

Taylor University in Upland, Indiana is the latest university to utilize Haskelite building panels. This 176-student dormitory requires very little maintenance. Architect—Orus O. Eash, Ft. Wayne, Ind. Contractor—Bowman Construction Co.

■ To meet booming enrollments, our colleges and universities must take full advantage of every building dollar. Haskelite building panels help them do this by providing bonus floor space. Buildings go up faster, too.

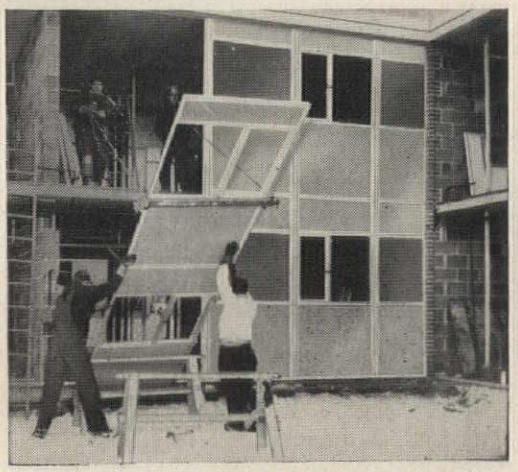
Along with being prefinished, Haskelite plastic laminated panels are structurally strong, moistureproof, noncorrosive, rotproof, verminproof, lightweight and provide a constant insulating value. They add a modern appearance to curtain and window wall buildings . . . are easily installed with a minimum of labor.

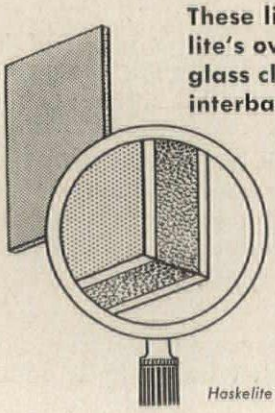
Haskelite panels are available in a wide range of stock sizes and thicknesses, or in special sizes when specified. For the complete story on the advantages of Haskelite panels, write: Haskelite Manufacturing Corporation, Department BQ-5, Grand Rapids 2, Mich.



The modern, attractive appearance that can be gained with Haskelite panels is shown here in the students' dormitory at Marion College, Marion Ind. Architect—Orus O. Eash. Contractor—Bowman Construction Co.

New student housing at Michigan State University goes up rapidly with Haskelite panels. Entire wall can be installed without expensive erection equipment. Architect—Manson Carver Associates, Lansing, Mich. Contractor—Christman Co.





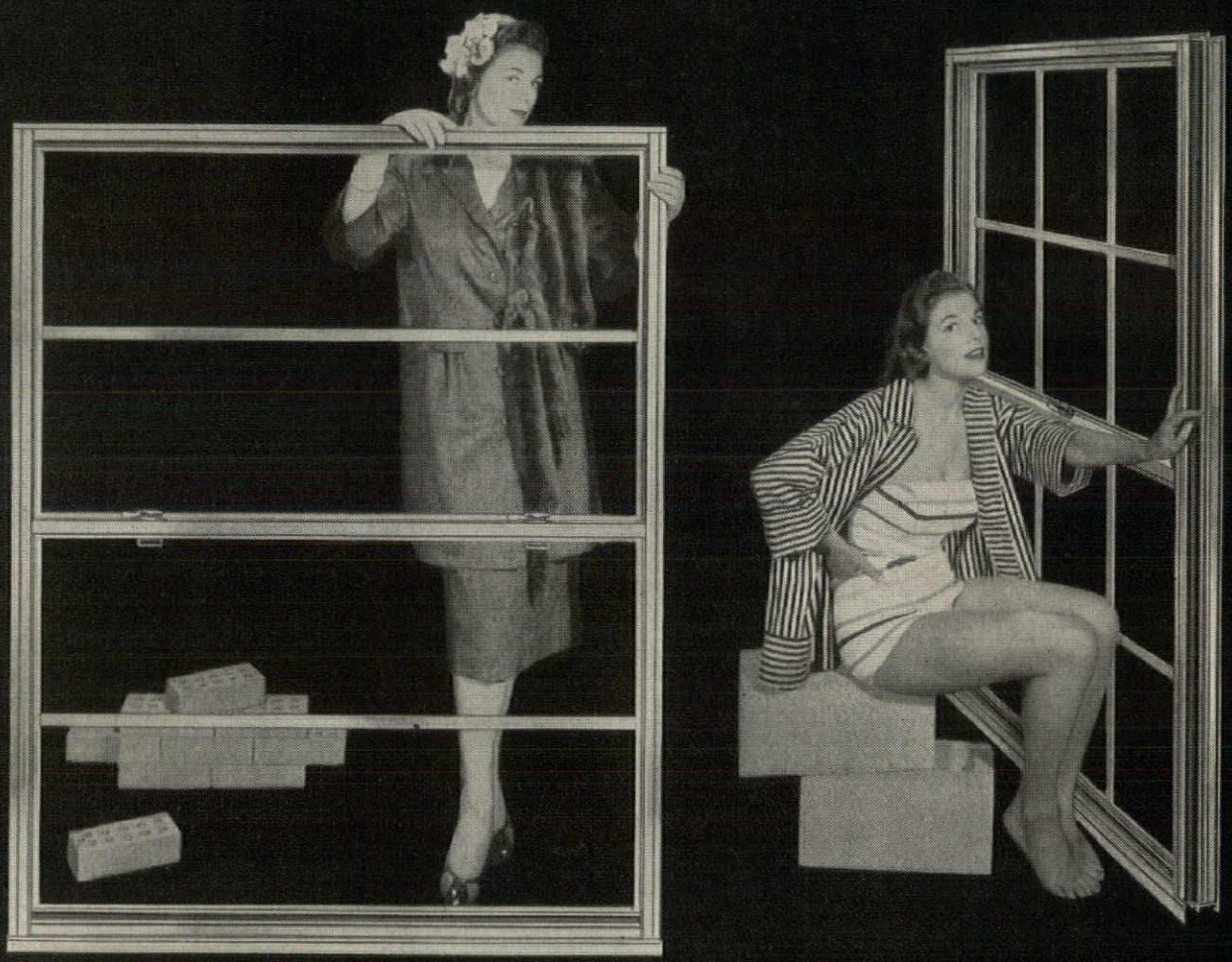
These lightweight panels incorporate Haskelite's own Polyester Resin impregnated fiberglass cloth faces, bonded to cement asbestos interbands, and a foamed polystyrene core.

HASKELITE
MANUFACTURING CORPORATION
Grand Rapids 2, Michigan

Haskelite is a registered trademark

Whatever you build—

USE TRUSCON ALUMINUM SINGLE-AND



No other aluminum window can match all these quality features:

1. Etched *and* lacquered.
2. Solid white bronze hardware, burnished and lacquered.
3. Flush integral continuous lift.
4. High humidity gutter.
5. Positive vent stops.
6. Heavy extruded sections.
7. Self-compensating spiral balances.
8. Full perimeter silicone-treated wool pile weatherstripping.
9. Vent corners mechanically interlocked with screws applied for maximum rigidity.
10. Removable parting strip.
11. Screwless mullions, nailing strips and anchors.
12. Tight seal adjustable casings.
13. Snap-in muntin bars.
14. Extruded full and half screens.
15. Combination storm sash and screens.

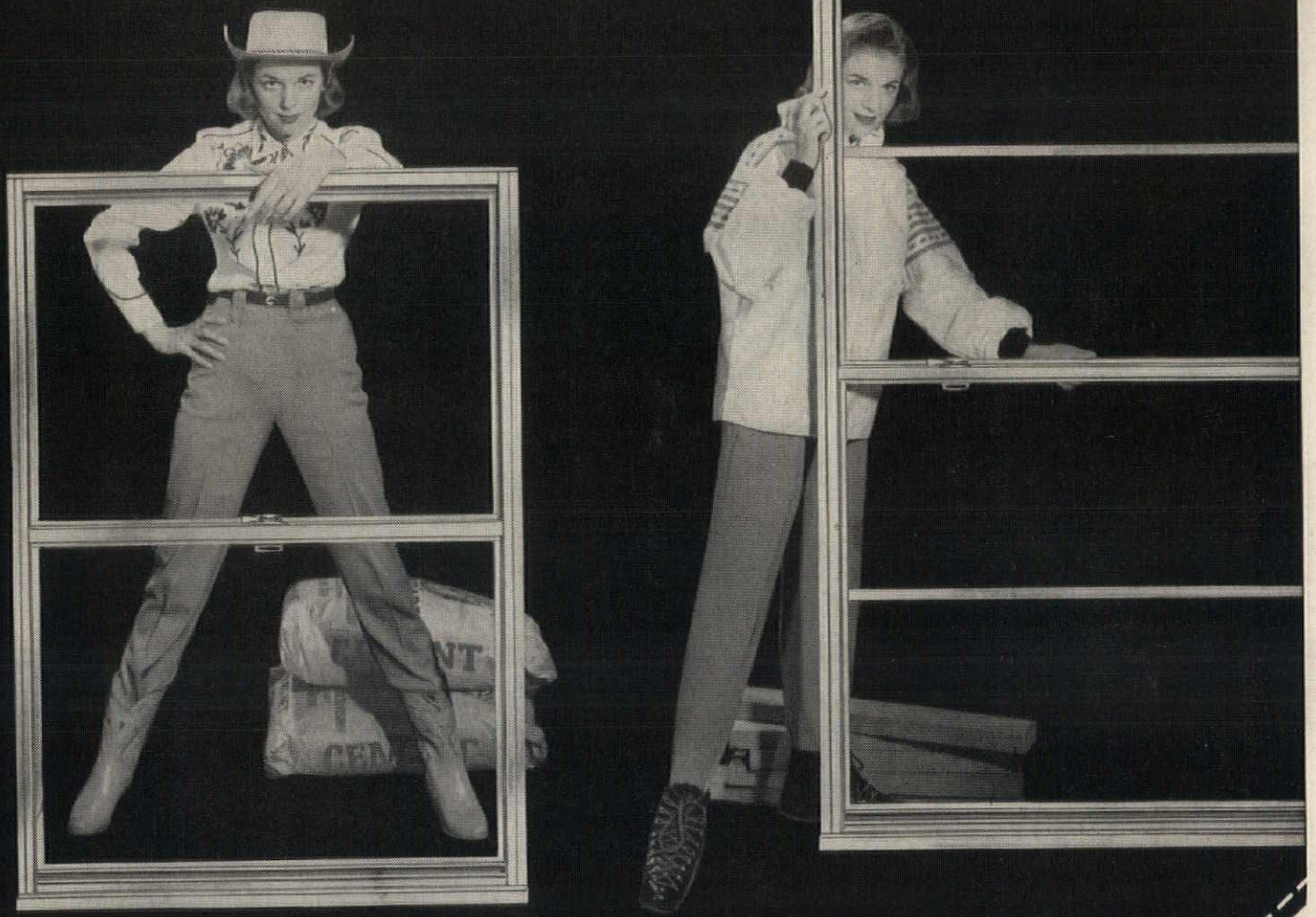
SERIES 158 TRUSCON SINGLE- AND DOUBLE-HUNG WINDOW FOR ALL TYPES OF CONSTRUCTION IN ANY PART OF THE COUNTRY

Never a window like this window! And, only the maker of the world's largest selling double-hung window could bring it to you. Truscon knows your problems . . . and has solved them in aluminum.

Frame, masonry, veneer, concrete block, stucco . . . this window fits them all. New design aluminum extrusions and advanced engineering give you all the advantages of an integral fin trim without the disadvantages. This fin flexibility makes it possible for this one window to be used in all construction types, with 100% conformity to regional preferences.

With all this, it costs no more! Send coupon for specifications, sizes, details of the Series 158 Aluminum Window by Truscon.

Wherever you build—
DOUBLE-HUNG WINDOWS



REPUBLIC STEEL

World's Widest Range of Standard Steels and Steel Products

REPUBLIC STEEL

REPUBLIC STEEL CORPORATION • TRUSCON STEEL DIVISION
DEPT. C-5474 • 1062 ALBERT STREET • YOUNGSTOWN 1, OHIO

Please rush details, sizes, specifications on Truscon Aluminum Windows, Series 158.

Name_____ Title_____

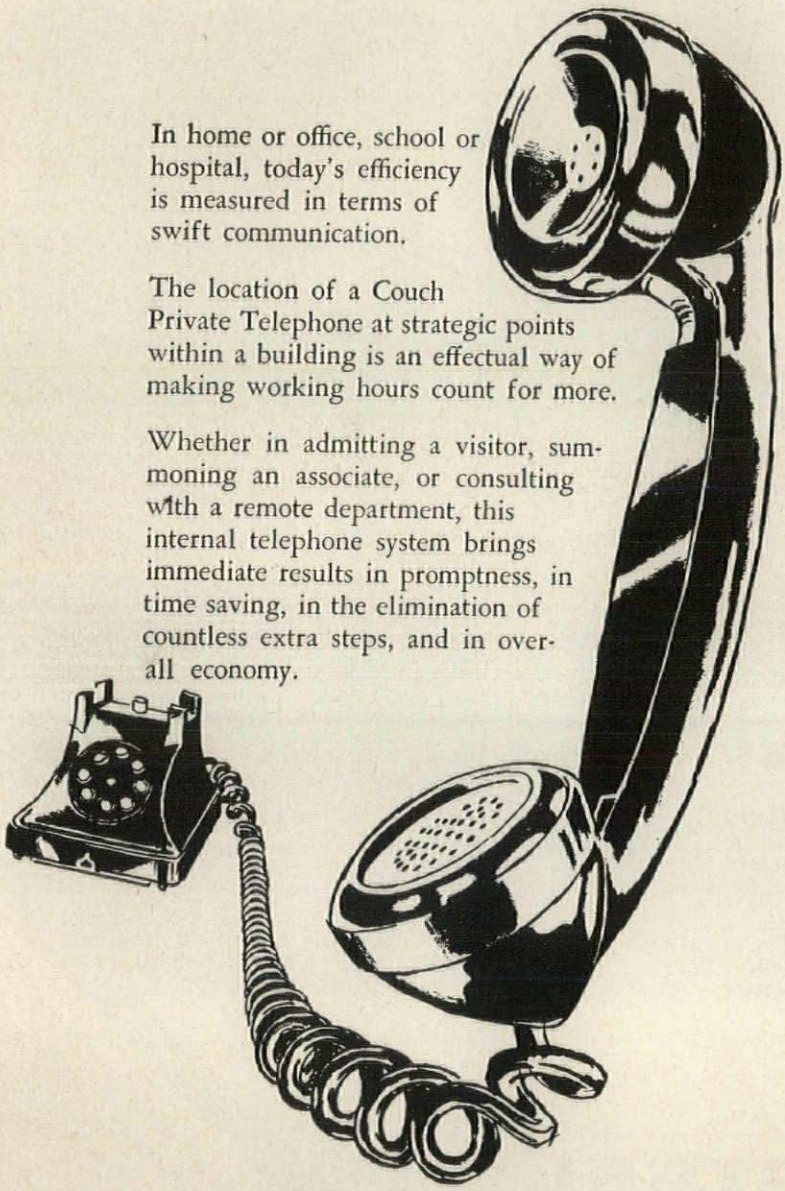
Company_____

Address_____

City_____ Zone_____ State_____

pick up the phone...

...IT'S FOR YOU!



In home or office, school or hospital, today's efficiency is measured in terms of swift communication.

The location of a Couch Private Telephone at strategic points within a building is an effectual way of making working hours count for more.

Whether in admitting a visitor, summoning an associate, or consulting with a remote department, this internal telephone system brings immediate results in promptness, in time saving, in the elimination of countless extra steps, and in overall economy.

Couch manufactures a variety of systems to cover requirements ranging from two stations up to 200. Designed as self-contained inter-communication units, Couch Private Telephone Systems provide consistent service and satisfaction.

Write for Bulletin 133.

Couch

Simplified Systems of Communication

S.H.Couch CO., INC.

3 ARLINGTON STREET
NORTH QUINCY 71, MASSACHUSETTS

The Record Reports

nation for reasons of ill health of Harold C. Balch. Offices of the firm are at 2320 University Ave., Madison, Wis.

William B. Wiener & Associates, Architects, announce the change of the firm name to William B. Wiener, Morgan and O'Neal, Architects. Offices are at 622 Commercial National Bank Building, Shreveport, La.

New Addresses

Bolt Beranek and Newman Inc., consultants in acoustics, (western office) 8271 Melrose Ave., Los Angeles 46, Cal. The firm's national headquarters is at 50 Moulton St., Cambridge 38, Mass.

Ralph H. Burke Inc., Engineers & Architects, 506-508 Higgins Road, Park Ridge, Ill.

The Office of J. Martin Rosse, A.I.A., Architect, 565 Mission St., San Francisco 5, Cal.

Frank H. Shuflin, Architect, and Associates, Suite 702, Dupont Plaza Center, 300 Biscayne Boulevard Way, Miami, Fla.

Reactor Design Policy Outlined in AEC Semiannual Report

The Atomic Energy Commission is keeping its reactor designs as simple as possible. The conservative approach has the two-fold purpose of protecting against uncertainties in technology and against inadequate experience with the specific systems.

Architects and engineers designing full scale prototype plants later on will have the benefit of experience gained in construction and operation of the reactor experiments. The Commission discusses this policy in its twenty-third semiannual report recently issued:

"They will be able to substitute for the initial understandably excessive conservatism a confidence based on knowledge and experience. In addition, they will need to place significantly less emphasis on experimental flexibility in the reactors and the complications in design this requires. Major design simplification can accordingly be expected even in some of the earliest full-scale plants."

Some of these effects already are evident, the Commission explains. Examples are the plant designs for the Yankee, Commonwealth, Consolidated and Consumers Public Power District projects.

Reduced construction costs are a very important product of this decision.

A new type of industrial smokestack by Van-Packer

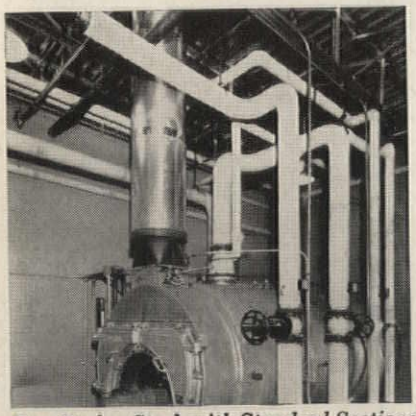
Outlasts steel stacks, costs no more

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

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

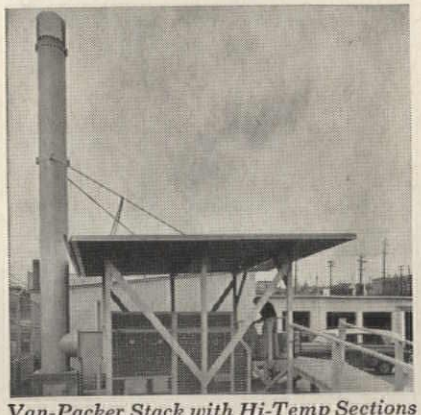
For boilers or incinerators — Van-Packer stacks can be installed inside or outside to handle boilers, furnaces or incinerators. Comes in seven diameters from 10-inch ID to 30-inch ID. Handles all fuels.

Available nationwide—Van-Packer Stack is available through local Van-Packer Jobbers and Special Representatives. See "Chimneys — Prefabricated" in Yellow Pages, or write Van-Packer for Bulletin IS-32-54.



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

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



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

Van-Packer PREFABRICATED REFRACTORY **Stack**

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

see our catalog in Sweet's

with any other type of

*only *PM offers all of the features necessary to provide a true, impermeable vapor seal against moisture migration*

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 then 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-pound 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.

vapor seal on the market!

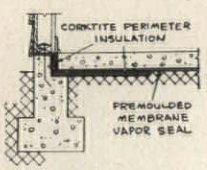
COMPARE before you specify or install your next vapor seal . . . don't risk your reputation by using an inferior "so called" vapor barrier. "PM," the industry's only true, impermeable vapor seal, is actually the most economical vapor seal on the market when you consider the reduced maintenance and redecorating costs realized through the complete elimination of moisture migration into the structure. When specifying or installing your next vapor seal be sure it meets these Sealtight standards of quality: permeance rating of only .0066 grains per square foot . . . resistant to rot, mold and termites . . . strong enough to resist tearing and puncturing . . . expandable . . . quickly, easily and permanently installed—only "PREMOULDED MEMBRANE" meets them all.

We sincerely advise and invite your comparison of "PM" against all other vapor barrier products . . . we're sure that once you do you will also agree that there's only one true, impermeable vapor seal on the market . . . Sealtight "PREMOULDED MEMBRANE."

*Premoulded Membrane TRADE MARK ... *the industry's only TRUE, impermeable vapor seal*

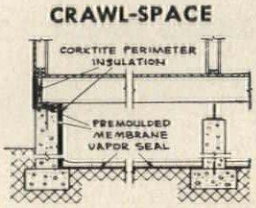
ideal for all types of construction

SLAB-ON-GRADE



Installation of "PREMOULDED MEMBRANE" completely isolates slab from any moisture originating in the site and Sealtight Corktite perimeter insulation effectively insulates edge of the slab, thereby eliminating heat loss through the slab perimeter.

CRAWL-SPACE



The proper installation of "PREMOULDED MEMBRANE" and Corktite removes all danger of moisture migration, condensation and oxidation of metal installations in the crawl-space area . . . eliminates need for ventilation.

BASEMENT

"PREMOULDED MEMBRANE" properly applied to the exterior of the basement walls as well as beneath the floor slab insures a warm, dry, liveable basement. Prevents any movement of vapor or capillary movement of free water.

WRITE TODAY
for complete information including our Design Manual and series of "TECH-TIPS."

SEALTIGHT®
W. R. MEADOWS, INC.
4 KIMBALL STREET • ELGIN, ILLINOIS

W. R. MEADOWS, INC. DEPT. 4

Gentlemen:

Please send, without obligation:

- ☐ "DESIGN PRACTICES" Manual
- ☐ "TECH-TIP" Series
- ☐ Have representative call.

NAME_____

TITLE_____

FIRM_____

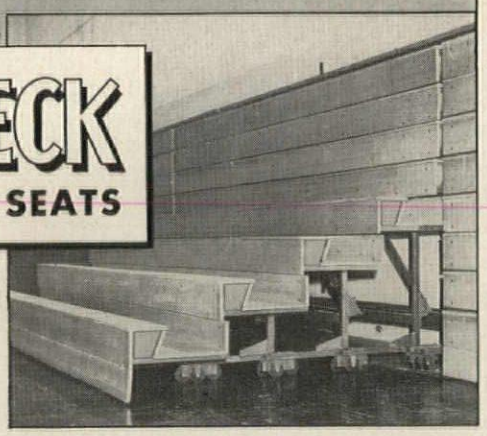
ADDRESS_____

CITY_____ STATE_____

HUSSEY SAFE SEATING

CLOSED DECK

"ROLL-OUT" GYM SEATS



Give Your Clients More For Their Money

Recommend Hussey ROLL-OUT Gym Seats. They are stronger, safer, more comfortable. Their completely Closed Deck (exclusive with Hussey) prevents loss of articles under the stand, reduces fire hazards and makes possible a lower insurance rating. They are also quicker and easier to clean and can be rolled back without first sweeping under the stand. This saves time and reduces janitorial costs.

AMPLE FOOT ROOM

In Hussey Closed Deck ROLL-OUT Gym Seats there is 16¼ inches of safe, comfortable foot room. Feet rest on a wide, solid base and the spectator has the comfort of a conventional straight chair. Dangerous narrow footboards and the many hazards of open deck construction are eliminated.

STEEL WORKERS SINCE 1835

Hussey ROLL-OUTS, engineered and guaranteed by seating specialists, incorporate the latest and most improved design for this type of seating. They have a safety factor of 4 and the loading and sway forces as determined by the American Standards Association are used. Hussey ROLL-OUTS more than meet the most rigid safety standards.

They are good looking, too, and when closed present a beautifully finished Arkansas Pine perpendicular wall. Also available in genuine African Mahogany.

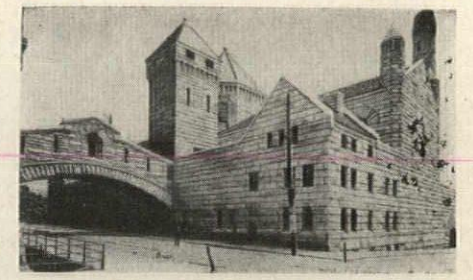
For Specifications See Sweet's Catalog 23J/HU
Or Write, Wire or Phone Collect

HUSSEY SAFE SEATING

HUSSEY MANUFACTURING COMPANY, INC.

587 Railroad Avenue **North Berwick, Maine**

The Record Reports

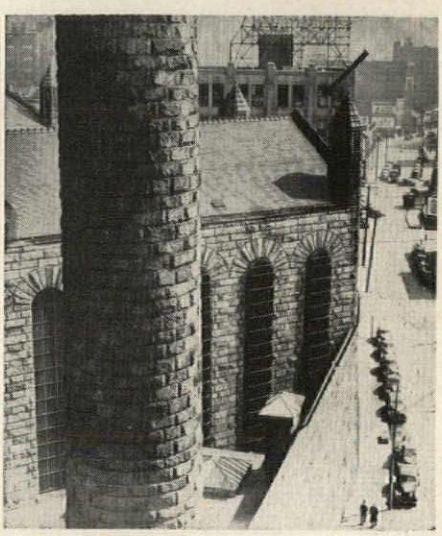


Richardson Admirers Rally for Another Battle on Jail

A new threat to H. H. Richardson's great Allegheny County Courthouse and Jail in Pittsburgh has the "Friends of the Ross Street Prison," the famous local group which formed a thin line of defense during a 1954 attack, manning the barricades once more. This time the enemy is the County Planning Commission, which is reported to favor tearing down the walls which enclose the jail and remodeling the interior for use as an office building.

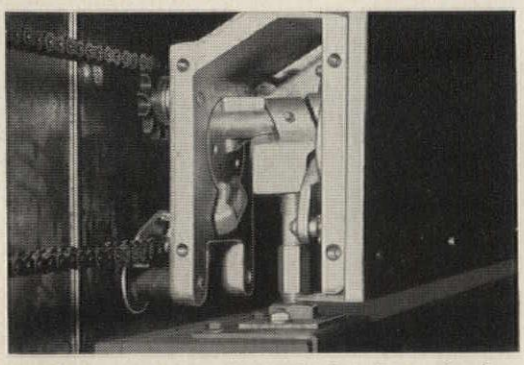
The courthouse and jail complex, respected in the world of architecture as one of Richardson's most important works, last year was among the buildings selected in an ARCHITECTURAL RECORD poll as one of the most significant buildings of the last hundred years.

When in 1954 Conrad Hilton was reported to be eying the jail property as a possible hotel site, the public showed little concern for the destruction this prospect implied. The newspapers, in fact, applauded it, and greeted the efforts of the little group of architects, historians and historically-minded citizens who opposed it with astonishment and ridicule. But when Mr. Hilton looked elsewhere, that battle became a victory for the weak.



New Jamison *Electroglide** Power Door speeds traffic, saves refrigeration *automatically!*

Electroglide offers famous Jamison Cold Storage Door quality and performance plus a completely new design for power operation. Both bi-parting and single leaf Electroglides are available to meet all job requirements.



EXCLUSIVE CAMLOK COMPRESSION SEAL—Jamison Camlok cams doors "in" against frame and "down" against floor at all points.

These other exclusive features mean dependable, smooth operation.

SHOCK ABSORBER CHAIN LINK—reduces wear and tear

SPRING LOADED SUSPENSION—minimizes power requirements

IMPROVED SAFETY EDGE—sensitive full height and full travel of door

SEALED-IN-OIL REDUCTION GEAR—trouble-free operation, minimum maintenance

High volume traffic can now speed on its way in busy cooler and freezer operations with minimum loss of refrigeration. Electroglide is specifically designed to accelerate truck movement with its instant automatic opening and closing.

Rapid smooth opening—Spring suspension helps doors open easily and smoothly. Doors move "out" and "up", riding on level tracks with gaskets clear of sill and frame.

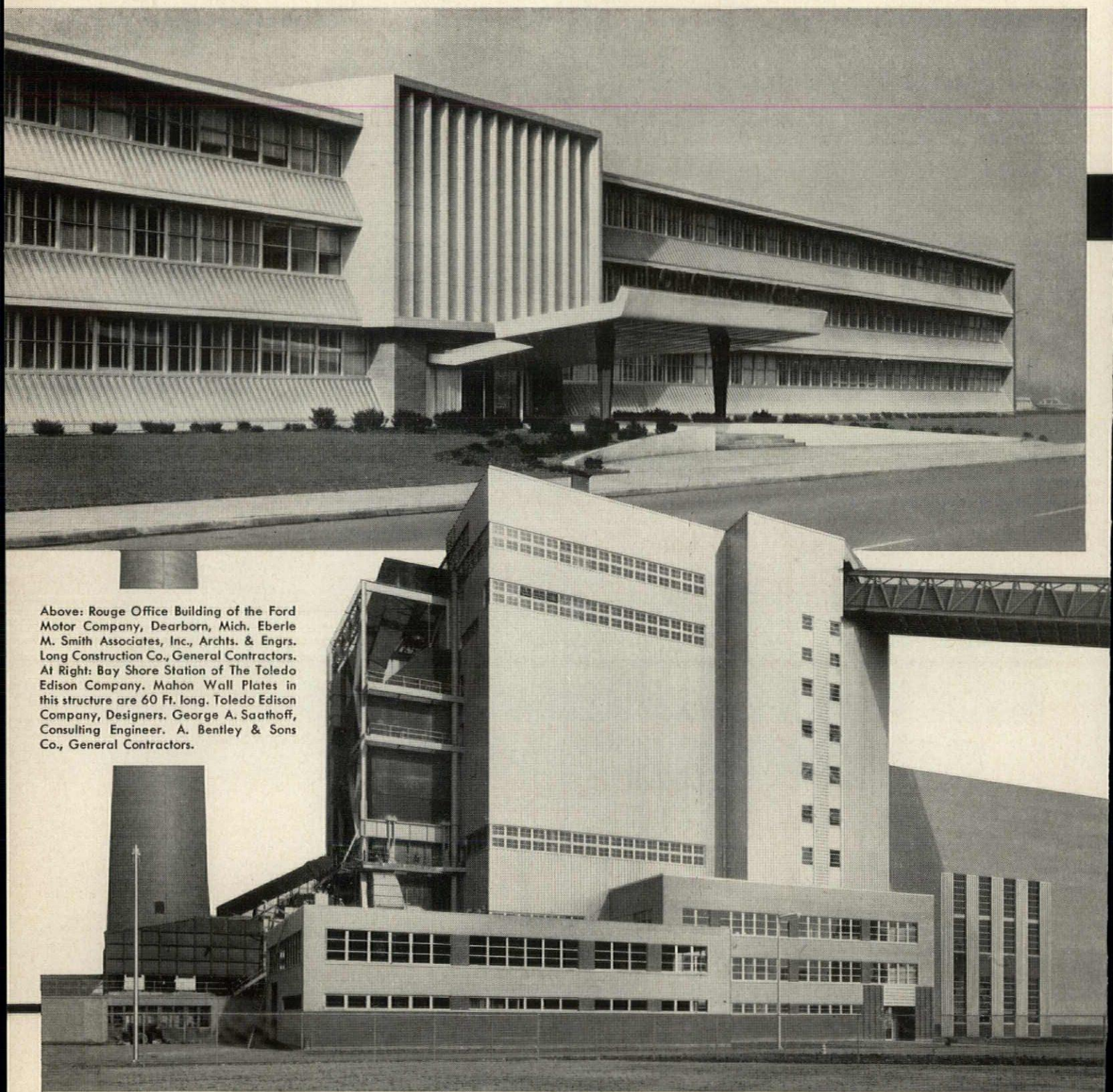
Electroglide is made for both cooler and freezer use. Write today for new Electroglide bulletin to Jamison Cold Storage Door Co., Hagerstown, Md.

*JAMISON TRADEMARK

JAMISON

COLD STORAGE DOORS

Mahon METAL CURTAIN WALLS



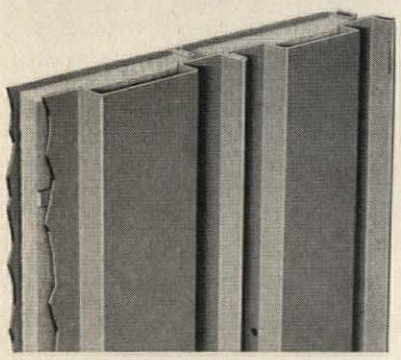
Above: Rouge Office Building of the Ford Motor Company, Dearborn, Mich. Eberle M. Smith Associates, Inc., Archts. & Engrs. Long Construction Co., General Contractors. At Right: Bay Shore Station of The Toledo Edison Company. Mahon Wall Plates in this structure are 60 Ft. long. Toledo Edison Company, Designers. George A. Saathoff, Consulting Engineer. A. Bentley & Sons Co., General Contractors.

Serving the Construction Industry Through Fabrication of Structural Steel, Steel Plate Components, and Building Products

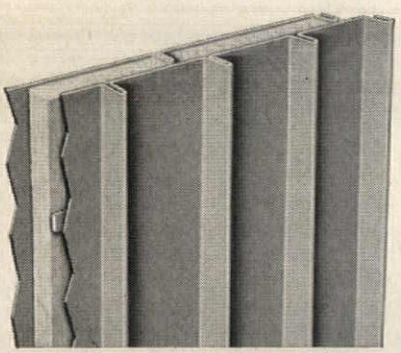
can be Erected up to 60 Ft. in Height Without Unsightly Horizontal Joints!

Vertical Joints are Invisible . . . Symmetry of Pattern is Continuous Across the Wall Surface

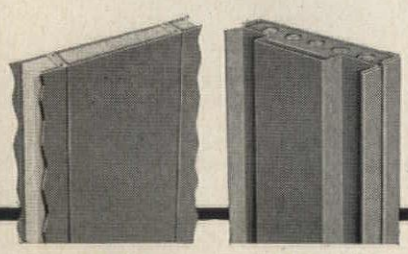
ALUMINUM or STAINLESS
GALVANIZED or PAINTED STEEL



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

f Steel and Aluminum

M A H O N

ELECTRO SILV-A-KING

"Basic Unit" **LIGHTING** System

simplifies lighting modernization in 1,000,000 sq. ft. 165 N. Canal St. Bldg. REMODELING PROGRAM

Mr. Carl H. Bauer, Construction and Equipment Manager of Butler Bros., and Mr. Howard W. Kennedy, Chief Engineer, of Hultgren Electric Company check over plans for remodeling 1,000,000 sq. ft. of former Butler Bros., Chicago warehouse into office building space. Both men agree, initial use of the Electro Silv-A-King "Basic Unit" System permitted modernization of the lighting with a considerable **savings in cost and time.**

Original "Basic Unit" Rapid Start "Skyliner" bare lamp fixtures. Installed in 1952 when conversion into office building began, this was first large Rapid Start installation in the country. Original remodeling plans called for modernization of area in 1957. The ability to convert the "Basic Unit" to a modern, shielded fixture made it the perfect choice for this area.

Electricians install "Skylouver" basket on original "Basic Unit" "Skyliner" fixture. Time required: A fraction of a minute. Electro Silv-A-King is constantly developing new basket designs for use in their "Basic Unit" System so as to permit "up-dating" of the lighting with a minimum investment in cost and labor.

Completed installation shows attractive, shielded lighting that provides greater seeing comfort and a more attractive working environment. Entire area has also been air conditioned and properly ventilated. "Basic Unit" System helped maintain time schedule and keep total cost within 4% of original 1952 estimate on job totaling over $7,000,000. Butler Bros., like many other major users, have found the "Basic Unit" system so successful that they are now using it in many of their stores.

For complete "Basic Unit" Lighting System Catalog, write

Electro Silv-A-King Corporation

Designers and Manufacturers of the finest in lighting

1535 S. PAULINA ST., CHICAGO 8, ILLINOIS
SPRUCE & WATER STS., READING, PENNSYLVANIA
780 BROADWAY, REDWOOD CITY, CALIFORNIA

The Record Reports

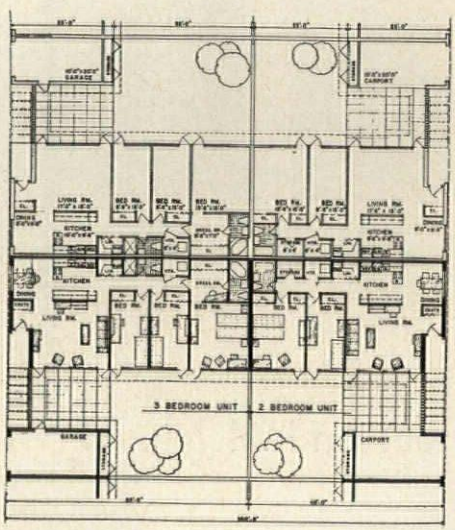
Quadrangle House Scheme Offers Privacy in "Row Housing"

A design concept developed by the New York architectural firm of Frederick G. Frost Jr. and Associates puts four one-story housing units on a rectangular plot so that though each has a common interior wall with another each also occupies a corner site, has its own completely private patio, its own entrance and its own garage or carport. The "Quadrangle House" even provides, through a clerestory with operable windows, light and air on a third side of each unit. The basic scheme (as shown here in model photograph and plan) would have two two-bedroom and two three-bedroom houses occupying a 100-ft sq quadrangle.

Construction would be slab-on-ground, masonry block, and glass. Except for the clerestories, the glass areas look out on the patios, each separated by a wall from that of the adjoining house.

In discussing the scheme at a recent press conference in New York, Mr. Frost emphasized that the plan is not restricted to rectangular plots, as the design of the component units permits a variety of arrangements.

The scheme is thus proposed as applicable to development in any part of the U. S. and "especially suited to suburban areas or the outlying residential areas of large cities." Unit price to home buyers is estimated at $13,000 to $16,000.



VANSEAL

stainless steel sink frames

certainly are different from other "*look-alike*" products

PATENT NOS. 2,440,741; 2,704,370

quality, performance and service make the difference

...and make your profit.

● Compare VanSeal's flawless, smooth "Satin-Glow" or "Bright-Glow" finish. Perfect corner bends leave no ripples to admit water or mar the surface beauty. Steel of heavy gauge strength and "the clamp-down grip that never lets up" resists stretching and fatigue—for lifetime service.

Easy installation, no special tools. There's a VanSeal sink and range frame for every size and unit style. Same day shipments as specified from the largest, most complete stock in the industry.

VANCE INDUSTRIES, INC.

7409 W. WILSON AVE., CHICAGO 31, ILLINOIS

"Van Seal on Stainless is like Sterling on Silver"

102

RIBBONS OF LIGHT—Sylvania recessed troffer lighting can be mounted in continuous rows and spaced for desired high lighting levels in modern business offices.

Introducing . . .

a new Shallow Troffer Series by Sylvania— recessed lighting for today's building methods

For the aesthetically minded lighting designer, who has to cope with the modern trend to lower ceilings and shallower plenum spaces . . . here is a new approach to recessed lighting. It's Sylvania's new Shallow Troffer Series, fixtures which measure only 5½" from top to bottom—and, in many cases, require no more space than that for mounting!

Available in a variety of models, in both one- and two-foot widths, the Sylvania Shallow Troffer makes this popular form of lighting *practical and usable* in all new buildings, with full illumination efficiency. The units are fully recessed. Unsightly latches are buried. Even the hinges don't show . . . only the clean straight lines of the exposed portion of the framing, and the attractively styled shielding.

Sylvania Shallow Troffers are carefully engineered to utilize the full plenum space. Lay-in type troffers are provided for Z-spline and inverted-T ceilings. Exclusive *snap-up hanger* provides quick, secure mounting for most other types of acoustical ceilings (see sketches below). Ask your Sylvania Fixture Specialist for full details, or write direct for FREE new folder of specification data.

SYLVANIA ELECTRIC PRODUCTS INC.
Dept. F-20, Lighting Division—Fixtures
One 48th Street, Wheeling, W. Va.

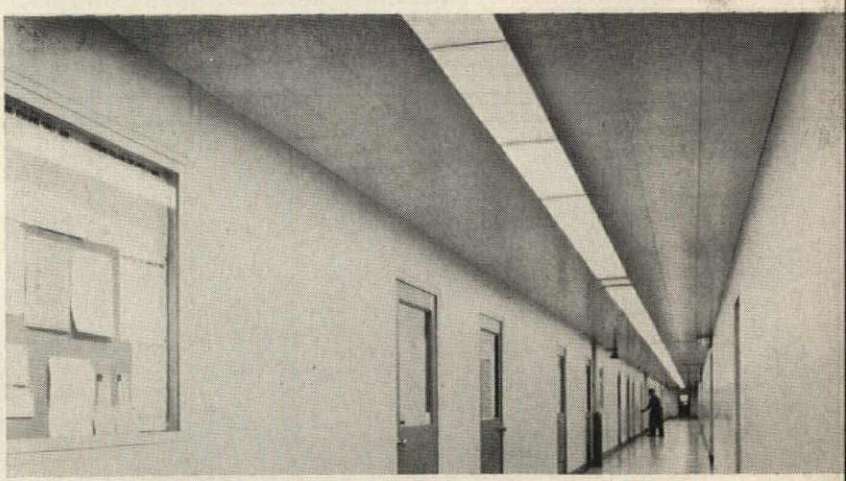
SYLVANIA

Fluorescent Lighting Fixtures and Systems

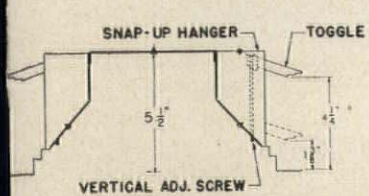
Best fixture value in every price range

LIGHTING • TELEVISION • RADIO • ELECTRONICS • PHOTOGRAPHY • ATOMIC ENERGY • CHEMISTRY-METALLURGY

INDIVIDUALLY MOUNTED troffers, imaginatively arranged, combine attractive design with good basic light distribution for company cafeterias and lounges.

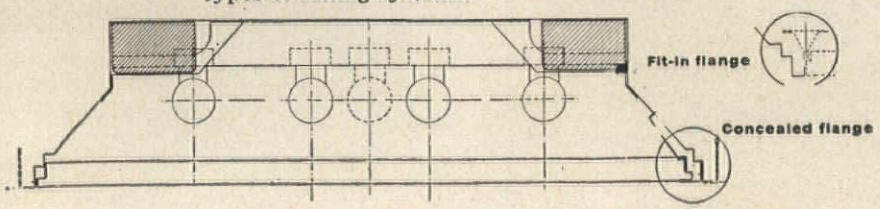


STRIKING, PLEASANT ACCENT for an up-to-date building corridor: Sylvania recessed lighting troffers continuous-row mounted with acoustical ceiling materials.

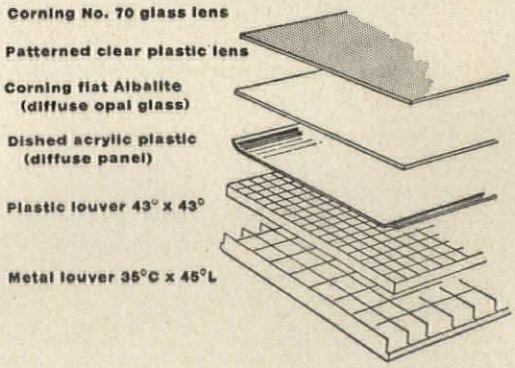


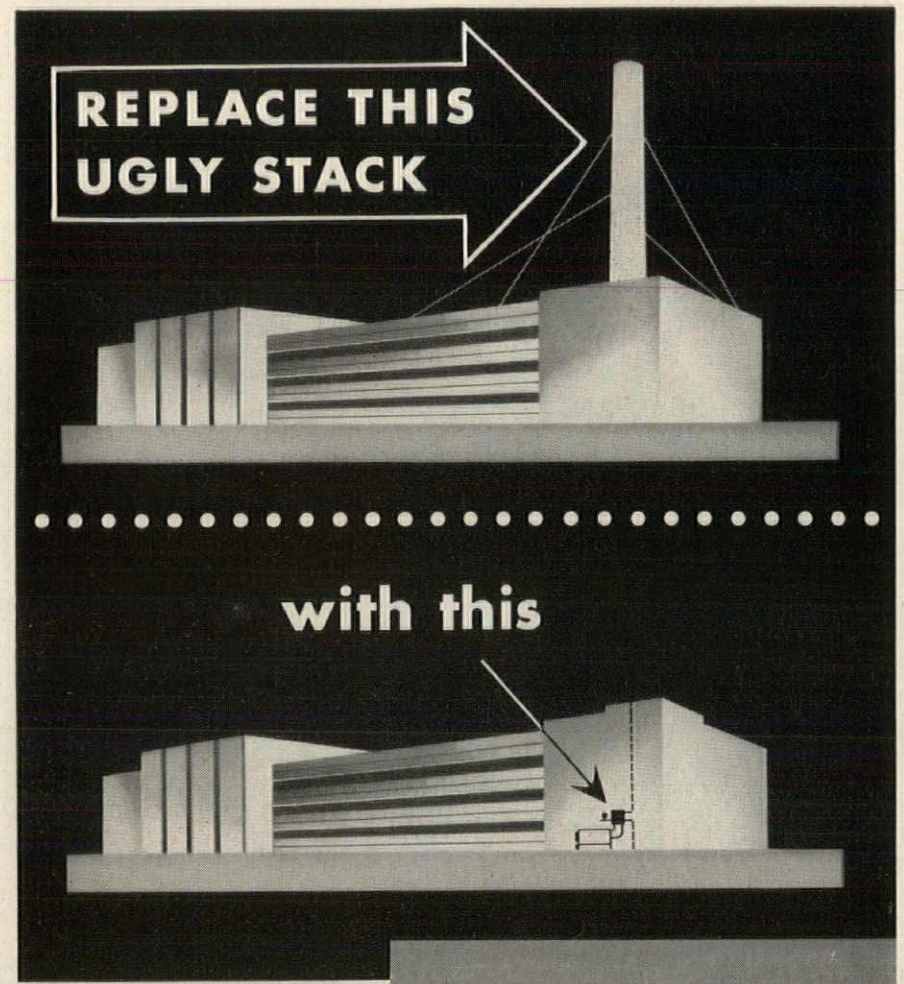
NEW 5½" HIGH TROFFER utilizes full plenum space. Exclusive *snap-up hanger*, with vertical adjusting screw, provides secure side-mounting for acoustical ceilings with support elements parallel to troffer. End-mounting brackets also available.

3 models offered to fit all types of ceiling systems:



ALL STANDARD TROFFER SHIELDINGS





and cut installation costs too with....

Wing DRAFT INDUCERS

Savings of over 25% in installed costs are possible when Wing Draft Inducers replace ugly smokestacks. • Fuel costs are also reduced as much as 15% because you get consistent, proper draft for complete fuel combustion.

WING DRAFT INDUCERS

Eliminate Tall Stacks in:

• *Schools* • *Apartment Buildings*
• *Motels* • *Restaurants* • *Churches*
• *Industrial Buildings*

WRITE FOR BULLETIN I-57

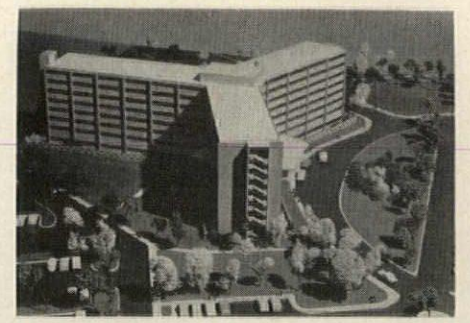
L. J. Wing Mfg. Co.

DIVISION OF AERO SUPPLY MFG. CO. INC.

151 VREELAND MILLS ROAD, LINDEN, NEW JERSEY

OTHER WING PRODUCTS: Fresh Air Supply Heaters, Unit Heaters, Fans, Turbine and Motor Blowers, Auxiliary Turbines

The Record Reports



New Kind of Concept for BOQ Approved by Air Force

Concept drawings for a multistory officers quarters building which may become a prototype have been approved by the Air Force for construction at Mather Air Force Base, Sacramento, Cal. Daniel, Mann, Johnson and Mendenhall, architects and engineers, developed the concept on the basis of Air Force definitive drawings also designed by them.

The eight-story scheme was developed to combat rising costs of land and site development after these factors had made an earlier design for a series of two-story buildings each housing 40 men too expensive.

As now conceived, the single building, containing more than 160,000 sq ft, will provide for 408 men in two-man living and sleeping suites (many comprising living room, two bedrooms, bath and provisions for a kitchenette), plus administrative facilities including lobby and lounge areas. Fourteen of the officers' suites will be set aside to accommodate transients. Storage and utilities are in the basement; utilities will be distributed through the building via vertical-type chasers.

Construction will be exposed concrete, with aluminum windows and louvers. The building will have two automatic elevators and a service ramp leading from the street level to the basement. The heating and cooling system will provide for individual room temperature control.

Parking facilities for 408 cars will be provided, and the site planning allows for future construction of two identical buildings.

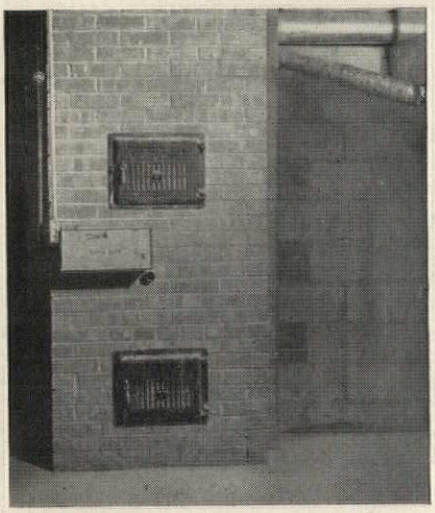
Estimated cost of approximately $3 million would be within the Congressional cost limitation of $7500 per man.

Construction bids for the first building are expected to be asked next October. The U. S. Army Corps of Engineers is the design and construction agency for the Air Force.

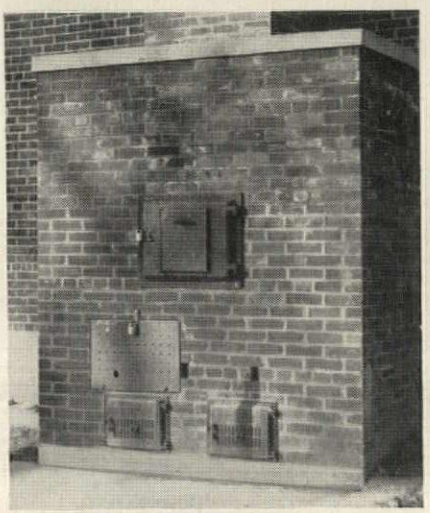
INCINERATION

Here's Incinerator Information exclusively for the Architect

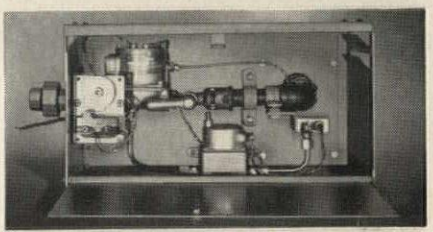
Donley offers a scientific approach to the problems of providing proper incineration for institutional, commercial and apartment buildings to increase their functional value and decrease fire hazards



APARTMENT AND INSTITUTIONAL flue-fed incinerator is fed through hopper doors on each floor.



COMMERCIAL AND INDUSTRIAL direct-fed incinerators for on-the-spot disposal of excelsior, rubbish, etc.



AUTOMATIC SAFETY BURNER (No. 300) features blowout-resistant safety pilot... adjustable electric timer . . . 100% flame-failure protection.*

*Patent pending

For years architects have needed a consistent scientific approach to the complex problems of incineration. Wide variations in city ordinances and building codes have further compounded their problems. In other cases, architects themselves have overlooked the importance of providing for waste disposal.

Donley offers guidance free of charge to architects to solve their special incinerator problems using Donley's field-tested designs and equipment that meet the standards of leading fire insurance companies.

Incinerators built with Donley parts and designs assure successful operation with different types and volumes of waste because they control or provide for the following essential operating features:

1. Combustion chamber design
2. Distribution of combustion air
3. Frequency of burning
4. Combustion time
5. Flame distribution
6. Temperature

Donley advocates the principle of frequent small fires for immediate waste disposal without high draft to minimize smoke, fly-ash and odor. This principle offers the added advantage of increasing incinerator life by avoiding prolonged high temperatures common to once-a-day burning.

When you specify a Donley Incinerator, detailed dimensional drawings, list of materials and all metal and mechanical parts are supplied by Donley for installation by local brick masons.

Write today for complete information.

Founded in 1895

Donley

A Member of the Incinerator Institute of America

7920-DB

THE DONLEY BROTHERS COMPANY
13972 Miles Avenue • Cleveland 5, Ohio

Please send me free of charge your Donley Incinerator Catalog.

NAME_____

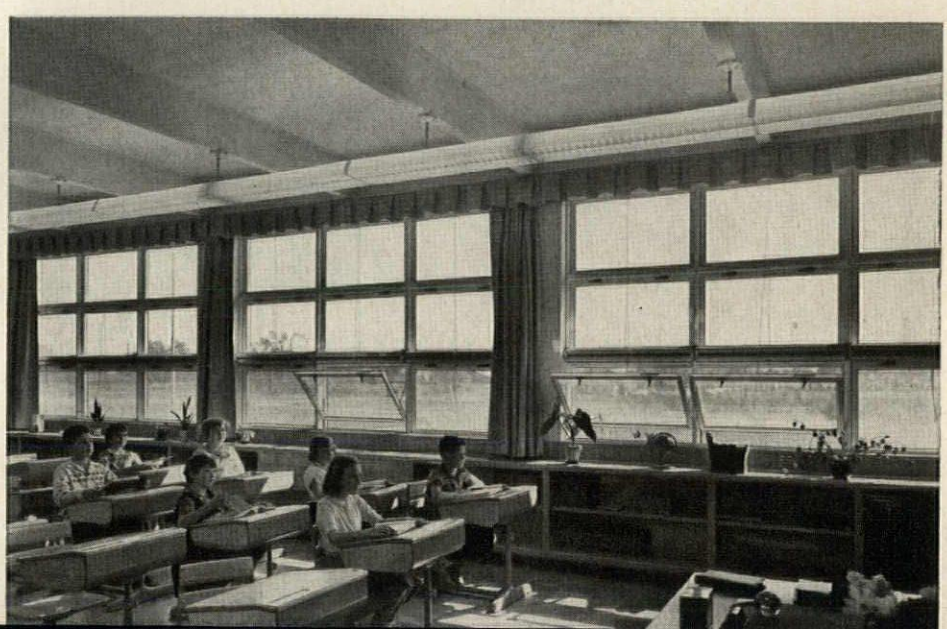
COMPANY_____

STREET_____

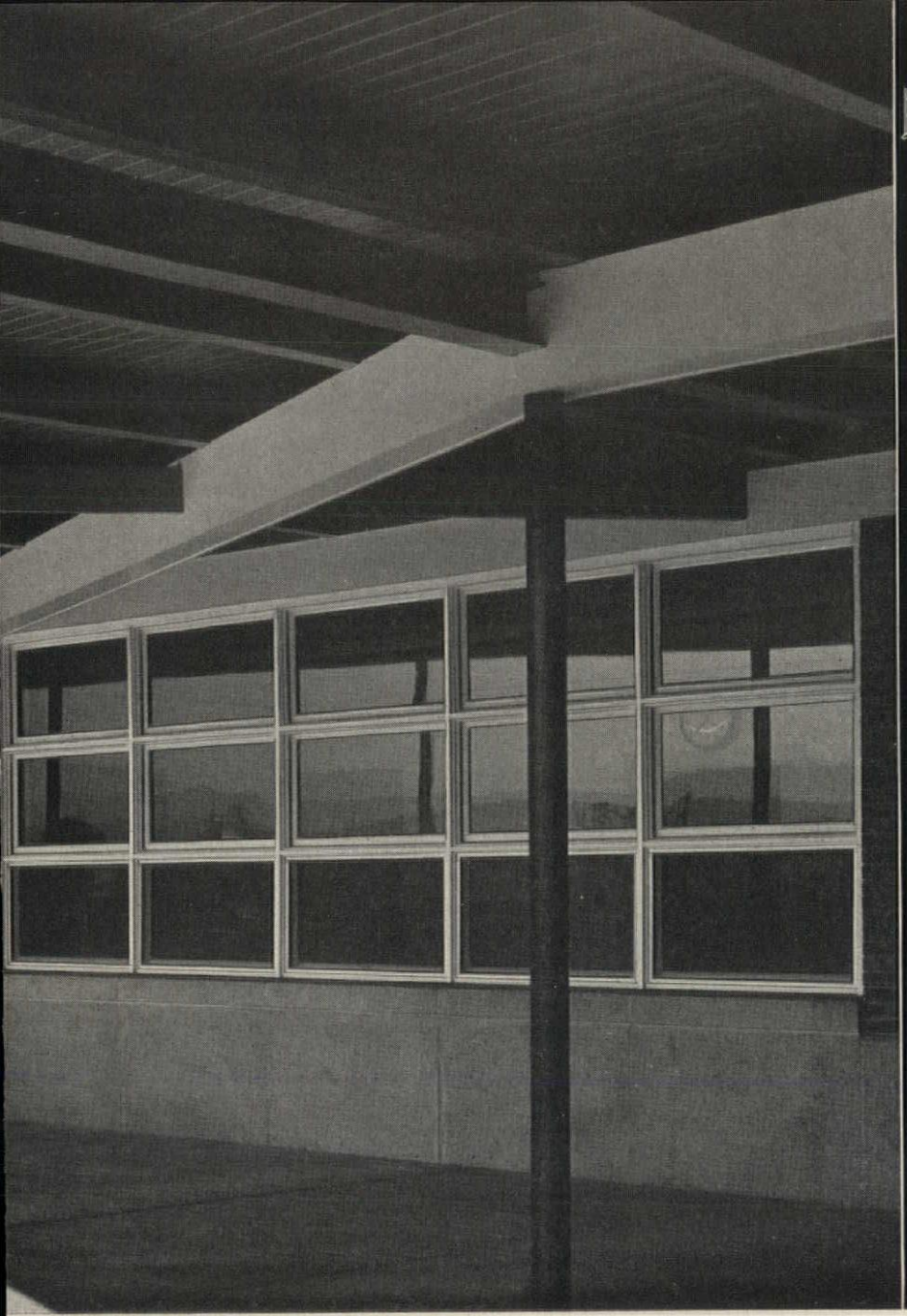
CITY_____ ZONE_____ STATE_____

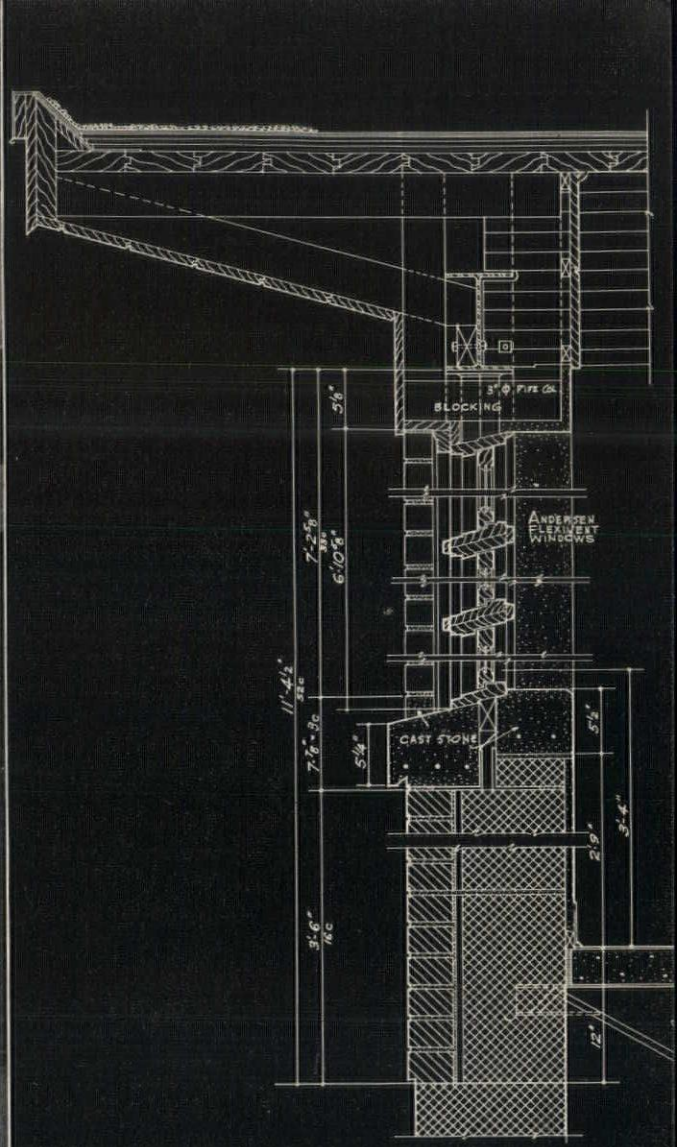
Classrooms of Salem School feature 3-high groups of Flexivents #322. Top row of windows is stationary.

"Flexivents® add warmth an



Classroom scene shows how Flexivent Units made of insulating wood bring atmosphere that Principal Rhinard describes as "warm and homelike . . . so important to elementary schools."





Vertical section showing Flexivent installation specified by Mr. Boodon.

...eauty to our new school"

says Pennsylvania school principal

"We are glad Architect John Boodon specified Flexivent Windows for our new building," says Theron R. Rhinard, principal of Salem Township School, Berwick, Pa. "They fit tightly, are free from drafts, yet are opened easily to admit fresh air."

Like so many others across the country, Architect Boodon finds Andersen Flexivent Windows adapt perfectly to the design demands as well as operational requirements of modern school buildings.

We'd like you to have the complete story on advantages offered by Andersen Flexivent Units in designing schools and light commercial structures. Our catalog is in your Sweet's Files or you can write Andersen for Detail Catalog and Tracing Detail File. Andersen WINDOWALLS are sold throughout the United States and now in Canada.

ANDERSEN CORPORATION • BAYPORT, MINNESOTA

Andersen *Windowalls*

TRADEMARK OF ANDERSEN CORPORATION

A BOQ With a View Proposed For San Diego by the Navy

Bachelor officers of the U. S. Naval Training Center at San Diego will be housed in this new BOQ designed by Welton Becket and Associates of Los Angeles. A generous allotment of glass and balconies will open views of San Diego Bay to the south and Point Loma to the west and north.

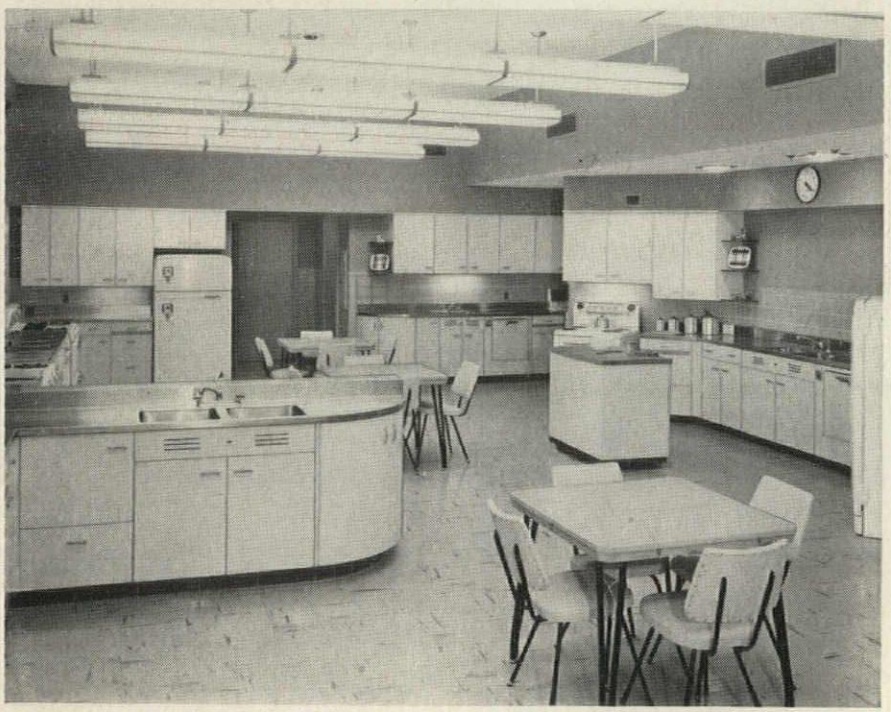
The structure will be arranged in two parts: a long narrow (351 ft by 41 ft) three-story wing for housing, fronted along the bay, and a smaller, one-story wing to contain lounge, galley and mess hall. Space in the housing wing is planned around a central core of bathrooms; it can be arranged variously as one-, two- or three-room suites, each accommodating one or two officers. Access to the rooms will be from the balconies, and traffic between floors will be handled by three outside stairways at the center and at either end of the wing. The main entrance to the building will be located between the two wings.

Rendering of bachelor officers' quarters of San Diego naval training center shows outlook over part of the Navy's base; long wing with galleries contains apartments; smaller wing, lounge and mess hall

The building is designed to house 140 officers of the Fleet Sonar School and the Naval Training Center. If necessary, it can be expanded in the future to house 300, by the addition of galley equipment and of two wings across the center of the main building, and by removing the walls of the lounge and the mess hall outward.

The structure of the BOQ will be of flat-slab reinforced concrete; balconies will be metal. Estimated cost of construction is $1,234,500.

St. Charles custom-flexibility helps solve teaching problems



Custom-designed food laboratory at St. Joseph Academy, St. Louis, Mo. Architect, Maurice Carroll

More and more, home economists and school administrators are finding St. Charles school storage furniture the answer to expanding classes, limited space, shortened lab periods and other modern-day teaching problems.

Because, only St. Charles can give them *true* custom-built flexibility.

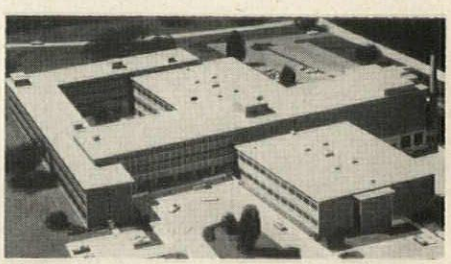
A flexibility that is possible because each St. Charles installation is custom-planned and custom-built for one particular classroom and teaching situation.

That is why St. Charles can offer a *complete school line* of quality-constructed storage units to meet individual classroom needs—*at all levels of teaching.*

For Free Book,
PLANNING HOMEMAKING CLASSROOMS,
write, on your letterhead, to Dept. ARS-5.

Custom school storage furniture

ST. CHARLES MANUFACTURING COMPANY, ST. CHARLES, ILLINOIS

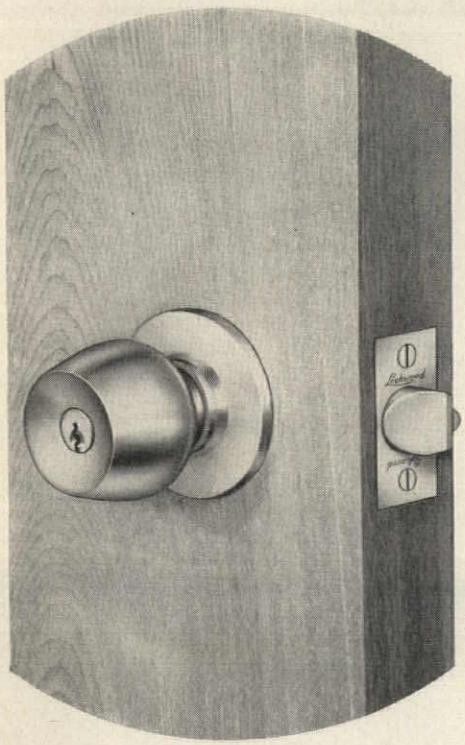


New Building Nears Completion For Army Staff College

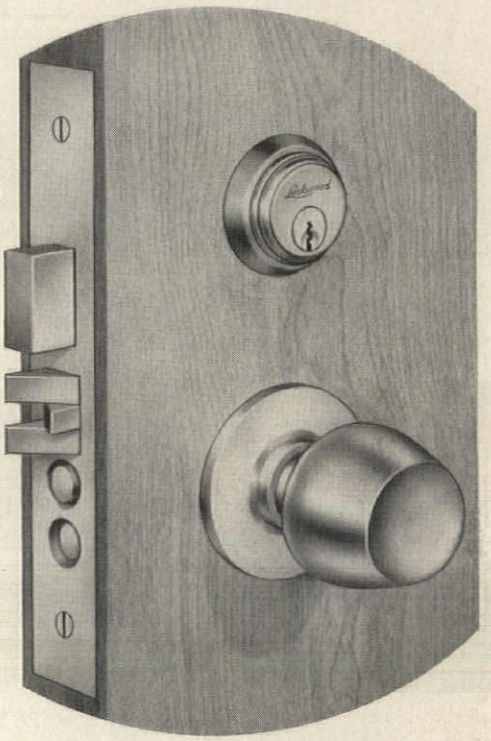
A $5 million academic building which will add 300,000 sq ft of classroom space at the Command and General Staff College, Fort Leavenworth, Kan., is expected to be ready for occupancy this summer. It will be completely air conditioned. Architects: Kivett & Myers; Angus McCallum, Associate.

twins

(but not identical)



CYLINDRICAL AND MORTISE with matching trim



ZEPHYR DESIGN
heavy duty cylindrical
lockset in cast
brass, bronze or aluminum

ZEPHYR DESIGN
heavy duty mortise
lock in cast
brass, bronze or aluminum

When Lockwood is specified, it is possible to utilize the advantages of cylindrical and mortise locks with matching trim in one installation.

Leader in modern, heavy duty cylindrical locks, Lockwood's "H" Series features compactness, ease of installation and complete range of functions . . . despite space limitations of the cylindrical housing.

Lockwood engineers pioneered the standardization of external dimensions of mortise locks, so that today one standardized mortise enables installation of any function, whether doors are wood or metal. Architects can now specify mortise locks for the complete installation or just for certain doors.

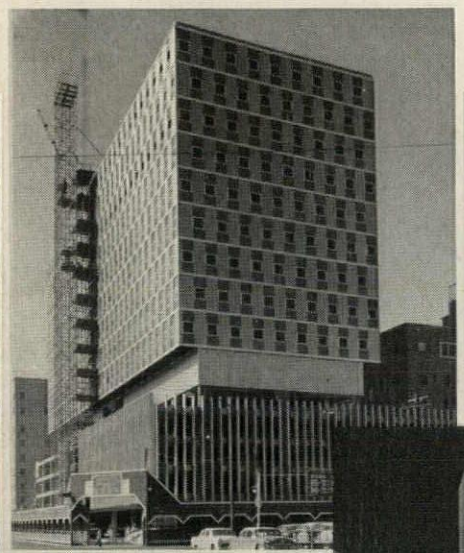
There are many advantages in specifying Lockwood locks, panic exit devices and door closers. See our catalog 18e-LO in Sweet's Architectural File or write for a copy.

LOCKWOOD

LOCKWOOD HARDWARE MANUFACTURING COMPANY, FITCHBURG, MASS.

Here...there and everywhere...and now particularly

Here's How Architects Brought and provided "*Extra Rewards*"



MEDICAL & PROFESSIONAL BUILDING FOR MEMORIAL HOSPITAL, Houston. Architect: Wirtz, Calhoun, Tungate & Jackson. General Contractor: Manhattan Construction Co. of Texas. Plastering Contractor: Price Plastering Co. Zonolite Portland Cement Plaster for insulating spandrel wall back-up; Zonolite Plaster Fireproofing of beams, columns, floors.

SOUTHLAND CENTER, Dallas. Architect: Welton Becket & Associates, Los Angeles and Dallas. Associate Architect: Mark Lemmon, Dallas. General Contractor: J. W. Bateson Co., Inc. Plastering Contractor: Huntley & Blazier, St. Louis. 42-story Tower and Sheraton Hotel: Zonolite Direct-to-Steel-Floor Fire-proofing; Zonolite Plaster Fire-proofing of beams, columns.

ZONOLITE Vermiculite products always do something *PLUS* something else

... As machine-applied direct-to-steel fireproofing Zonolite fireproof plastic achieves top ratings—*PLUS* a big saving in application time, sound-conditioning, a 7-inch gain in ceiling height per floor, with savings in dead weight and structural material costs.

...As an insulating back-up for spandrel or panel walls Zonolite portland cement plaster provides fire protection—*PLUS* light weight, and wind-resistance.

... As a plaster fireproofing Zonolite plaster provides incombustibility—*PLUS* light weight and speedy application by modern plaster machines.

BRANIFF AIRWAYS BUILDING, Dallas. Architect: Lane-Gamble & Associates General Contractor: Robert E. McKee. Plastering Contractor: L. S. Goldman. Zonolite Direct-to-Steel Fireproofing.

MERCANTILE DALLAS, Dallas. Architect: Broad and Nelson. General Contractor: Robert E. McKee. Plastering Contractor: Storbeck, Gregory, and Dillard. Zonolite Plaster base coat for ceiling fireproofing. (Adjoins the Mercantile Bank Building, first lightweight Zonolite fireproofing job, constructed in 1944).

WARD BUILDING FOR MEXIA STATE SCHOOL, Mexia, Texas. Architect-Engineers: Thomas, Jameson & Merrill, Dallas. General Contractor: Eitze-Kitchen Construction Co., Dallas. Roof Applicator: Rodco Roofing Co., Waco. Zonolite Concrete over corrugated metal deck.

presenting new structures in Texas

Down the Cost of Fireproofing for Owners with ZONOLITE®

The result is savings in construction time and cost, and betterments in design

...As a roof deck Zonolite concrete is monolithic, fire safe, and quickly poured or pumped—*PLUS* light weight and insulating.

Zonolite "plusses" add up to better construction and time-saving, cost-saving benefits. It makes sense to specify Zonolite for roofs, fireproofing, or acoustical treatments, as these Texas architects and engineers have done.

While planning your next project, have complete Zonolite data handy. Mail the coupon now!

DALLAS FEDERAL SAVINGS & LOAN, Dallas. Architect & Engineer: George L. Dahl. General Contractor: Robert E. McKee. Plastering Contractor: Storbeck, Gregory, and Dilliard. Zonolite Direct-to-Steel Fireproofing.

LOVE FIELD TERMINAL, Dallas. Architect: Broad & Nelson and Jack Corgan. General Contractor: T. C. Bateson Construction Co. Plastering Contractor: E. E. La Roche, Grand Prairie, Tex. Roof Applicators: Estes & Stout; Macatee, Inc. Zonolite Concrete over corrugated metal roof decking; Zonolite Plaster Fireproofing; Zonolite Acoustical Plastic ceilings for sound-conditioning.

BANK OF THE SOUTHWEST, Houston. Architect: Kenneth Franzheim. General Contractor: W. S. Bellows Construction Co. Plastering Contractor: A. A. Greer, Inc. Zonolite Plaster on metal lath for fireproofing suspended ceilings and columns.

EXCHANGE PARK BANK BUILDING, Dallas. Architect: Lane-Gamble & Associates. General Contractor: Robert E. McKee. Plastering Contractor: E. E. La Roche. Zonolite Direct-to-Steel Fireproofing.

ZONOLITE COMPANY, Dept. AR-58
135 S. LaSalle St., Chicago 3, Ill.

Send me booklets I have checked:

- ☐ PA-41, "Plaster and Acoustical Systems"
- ☐ PA-35, "Data Sheet, Direct-to-Steel Fireproofing"
- ☐ CA-42, "Roof Deck Specifications"

*Name*_____

*Firm*_____

*Address*_____

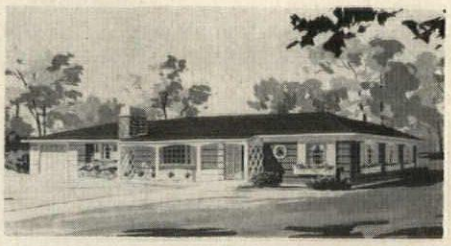
*City*_____ *Zone*_____ *State*_____

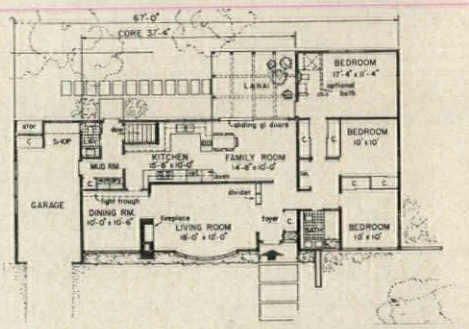
Seven Houses Planned by Matern For Masonic Promotion

A model home promotion for local lumber dealers aimed at "strengthening their bonds with builders and adding new ones to their clientele" was launched last month by Masonite Corporation as the "Showcase of Famous Brands." Participating dealers get their choice of seven house plans and an elaborate promotional kit and will be supported with a major national promotional program.

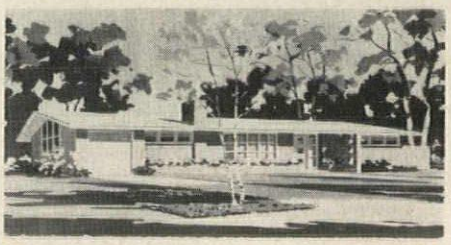
For the promotion, Rudolph A. Matern and Associates of New York were commissioned to design seven model houses. The seven, including three varieties of "ranch house," are described as offering a "new concept of living," based on a "living core" concept which consists of an entrance foyer, a living room, a dining room, a kitchen, a half bath and a family room.

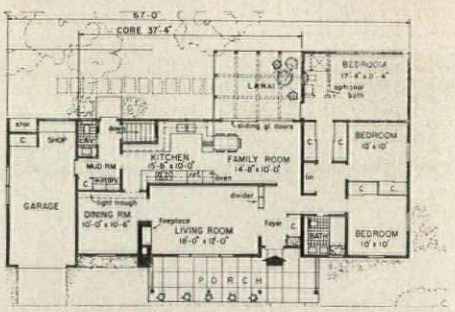
Design "types" besides the ranch houses include two kinds of "trilevel"—"contemporary" and "modern"; and two one-and-a-half story "Cape Cod" models.



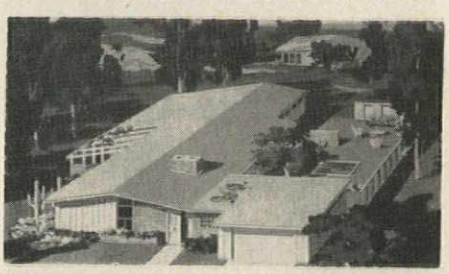


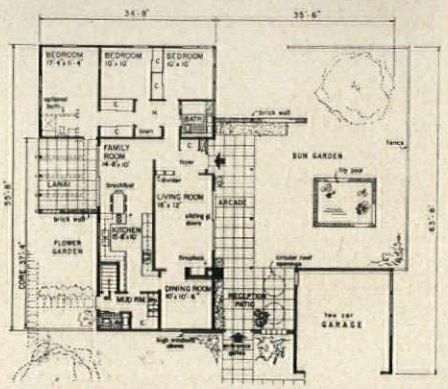
"The Healthcliffe," described as "traditional ranch design"





"The Plainsman"—"modern ranch design"



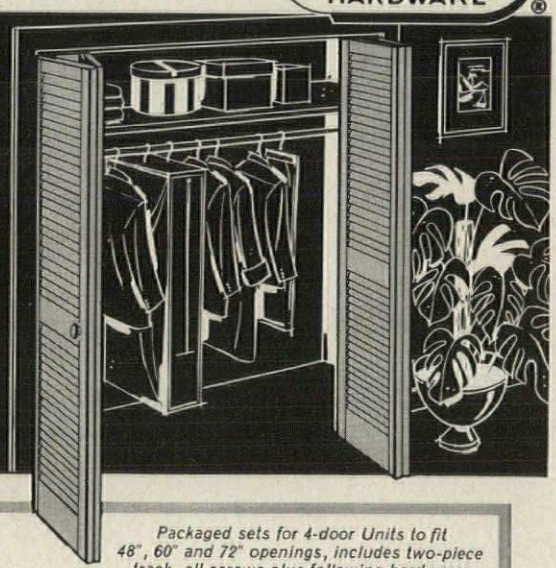


"The Monterey"—"western ranch design"

QUALITY

that is typically Sterling HARDWARE®

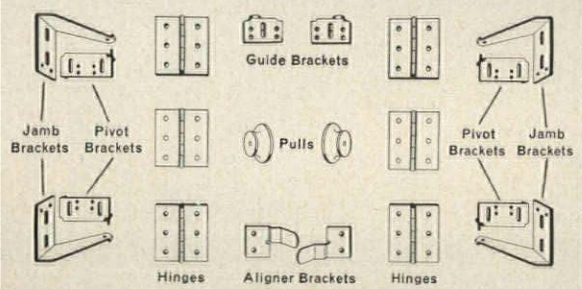
...now in new FOLDING DOOR HARDWARE



FASCIA TRACK
Satin aluminum or Satin brass finish

NON-FASCIA TRACK
Plain finish

Packaged sets for 4-door Units to fit 48", 60" and 72" openings, includes two-piece track, all screws plus following hardware:



NOTHING ON THE FLOOR!
Jamb brackets eliminate track and pivot plates on floor. Aligner brackets mount on doors.

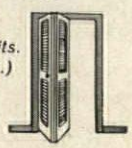
NO HOLES TO RE-DRILL!
Door pivots are mounted on jambs—track can be cut to fit opening without interfering with door pivots.

EASIEST INSTALLATION!
Pivot brackets fit corners of doors. No templates necessary.

TROUBLE-FREE PERFORMANCE!
Doors fold back at a finger-touch. Nylon guide brackets provide smoothest, quietest operation. Aligner brackets keep doors flush.

FOR ALL WOOD FOLDING CLOSET DOORS ¼" TO 1¾"

Also packaged sets for 2-door units. (To fit 24", 30" and 36" openings.)



WRITE TODAY FOR LITERATURE

John Sterling Corporation

RICHMOND, ILLINOIS

ARCHITECT: THOMAS TWERDAHL, EVANSTON, ILLINOIS

Pella®

CONVERSATION PIECE WINDOWS

Architects mention the well-proportioned designs. Builders tell us about the ease with which they go into place. Homeowners praise the *screens that roll up and down* like window shades...the self-storing insulating glass...easy operation. Want to talk PELLA? See our catalog in Sweet's or send coupon. Distributors throughout U. S. and Canada. Consult classified telephone directory.

WOOD CASEMENT WINDOWS

SEND COUPON TODAY

ROLSCREEN COMPANY, Dept. J-76, Pella, Iowa

Please send detailed literature on
PELLA WOOD CASEMENT WINDOWS.

NAME

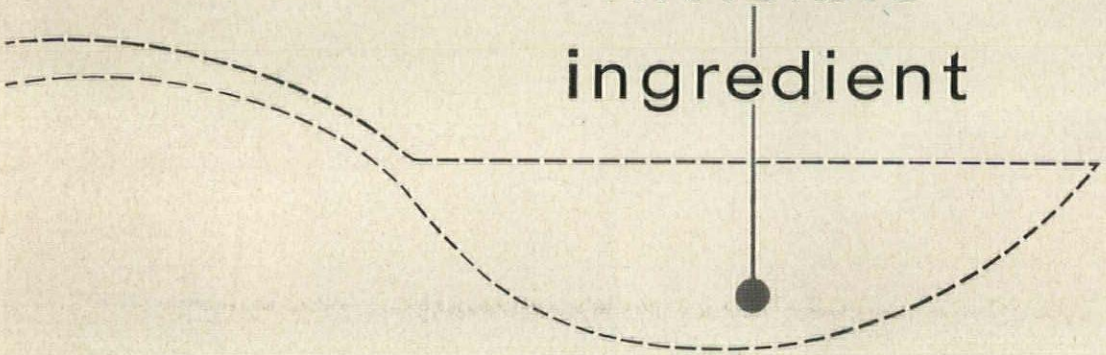
FIRM

ADDRESS

CITY ZONE STATE

EXPERIENCE

is
the
invisible
ingredient



in every RIXSON DOOR CLOSER

IT'S NO ACCIDENT that Rixson door closers require so little attention, maintenance or replacement. Integrity in the selection of raw materials, precision manufacturing, careful assembling and testing . . . these have been traditional with Rixson for nearly 60 years. But, EXPERIENCE, the important factor in Rixson quality, has been in the making since Rixson produced the original "checking floor hinge." In manufacturing hundreds of thousands of door closers and observing how they meet the rigors of public usage, an invaluable EXPERIENCE has been acquired. With every product improvement and new product development, this experience is a guiding hand, just as experience guides the trained Rixson representative who serves you in the field. Rixson quality is always identified with smooth, trouble-free door closer performance . . . through the years. The Rixson door closer you specify is always guaranteed, but . . .

your best guarantee is quality in the first place

RIXSON

THE OSCAR C. RIXSON COMPANY
9100 west belmont avenue • franklin park, illinois

CANADIAN PLANT:
43 Racine Road
Rexdale, Ontario

WILLIAM F. BERNBROCK, ARCHITECT

Bring out the beauty of modern materials with Pella® wood folding doors

Convenience is just one big point you can talk up with PELLA WOOD FOLDING DOORS. See too, how handsomely they harmonize with the wood cabinets and furnishings, dramatically accent the masonry wall, create an eye-catching interplay of textures among appliances and floor materials.

PELLA WOOD FOLDING DOORS are the truly decorative answer to builder's problems in organizing modern open-plan living areas. Supplied ready for custom-finishing, or factory finished in pine, oak, birch and Philippine mahogany veneers. Packaged...ready for fast installation.

MAIL COUPON TODAY

Pella®

ROLSCREEN COMPANY, Dept. J-77, Pella, Iowa

Please send me illustrated literature on PELLA WOOD FOLDING DOORS

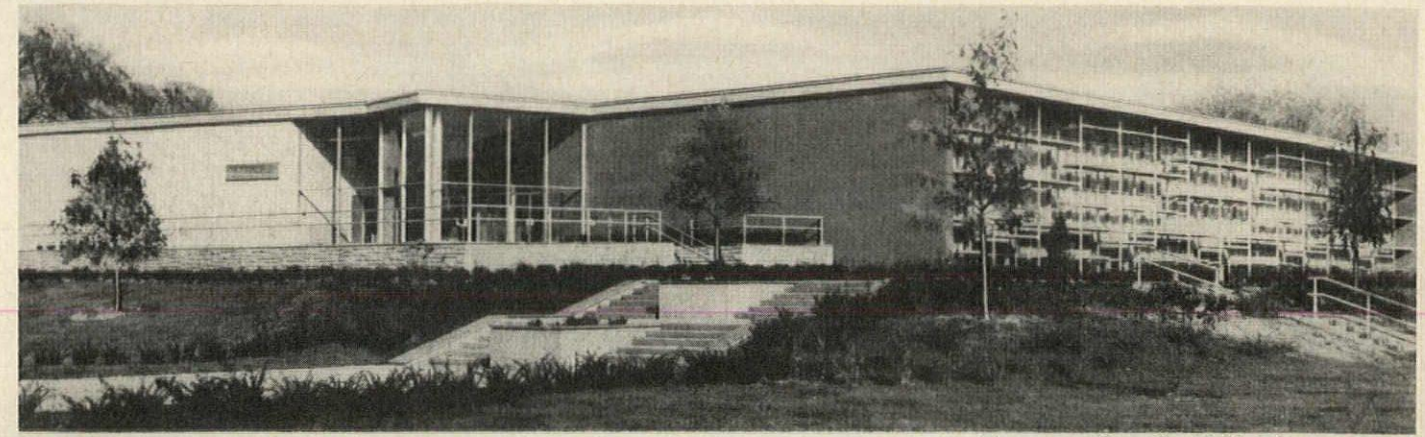
FIRM

ADDRESS

CITY ZONE STATE

ATTENTION MR.

WOOD FOLDING DOORS



Above: south wall shielded by wood and metal vanes. Below: stand in main hall holds city charter, signed by Jefferson

University of Louisville Library Planned for Efficient Control

A two-level arrangement that groups all of the principal reading spaces around a circulation work area on the upper floor and open stacks around an administrative and service area on the lower floor has given the new library of the University of Louisville a high degree of the efficiency of control which was a major objective of the planning. Transfer from the old library with its 125,000-volume, 200-reader capacity to the new one with its 400,000-volume, 600-reader capacity was made with almost no increase in staff. Architects were O'Connor and Kilham; Nevin and Morgan, Associated Architects.

Special facilities include listening booths equipped for listening to records and programs by leased wire from the downtown public library's excellent collection.

Exteriors are brick, limestone and glass. Glass walls face north and south, with teakwood and aluminum vanes sheltering the south side; the west wall is windowless, and the Main Hall (above) is given 73-degree tubular skylights to compensate for this loss of light without admitting direct sunlight. These measures resulted from a climatological survey made by Aladar Olgyay of Princeton. The building is completely air conditioned.

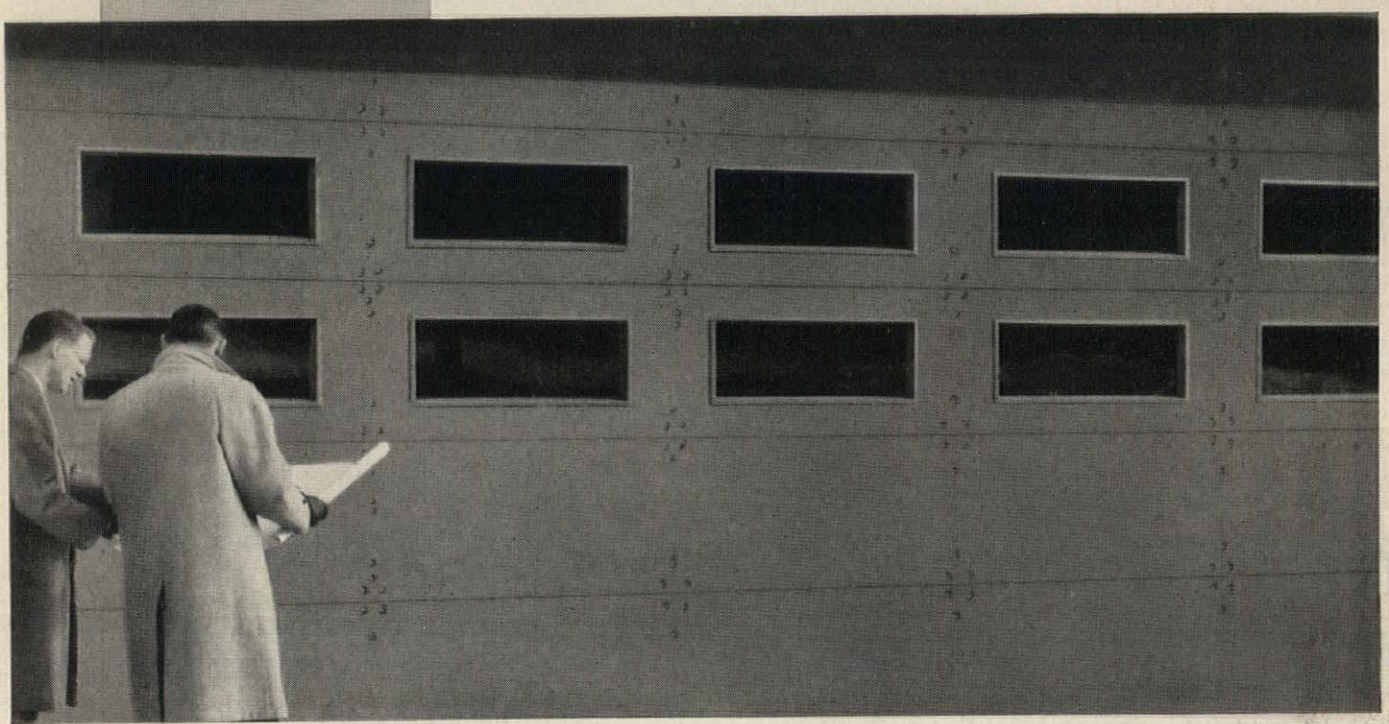
Cost (including site development, landscaping, equipment and furnishings) was $1,800,000.

THE MARK OF QUALITY

BARBER COLMAN

Now Barcol helps you predict how much each OVERdoor feature will cut plant's operating cost!

BOOKLET OFFERED BELOW ILLUSTRATES METHOD *



Architects can readily identify *three ways* Barcol OVERdoor installations cut operating expenses for the plant:

1. Barcol Cam Action closing hardware gives a tighter air seal than conventional wedge-type closing hardware . . . *reduces cost of heating and cooling space inside.*

2. New Barcol WEATHER-KING Flush Door Sections are guaranteed weatherproof and have a U factor of .257 — twice the insulation value of a 12" poured concrete wall — three times the insulation value of ordinary door panels! Combined with Cam Action closing, these new sections *materially add to savings on heating and cooling.*

3. Barcol Electric Operators applied to both exterior and interior doors and gates *eliminate costly starts and stops* in plant traffic and *save many man-hours annually* by freeing workers from nonproductive opening and closing of doors.

Now the Barcol engineers can predetermine the average amount of each of these savings, and the method is ready for use on your present door problems. Variables like local average weather conditions and intended use of each door are realistically applied. In many cases it can be predicted that these features will pay for themselves in two years or less through measurable *extra* plant economies. In other cases the tests show whether or not a feature of the installation is economical. Ask your Barcol distributor (under "Doors" in the phone book) for a savings estimate on your present project or use the coupon on the right.

* **SEND** for this new 8-page booklet demonstrating through specific case material the method by which your Barcol distributor helps you predict *how much* OVERdoor features can reduce heating costs and save on labor. Also describes and illustrates Barcol Cam Action, WEATHER-KING Flush Doors, and Electric Operators — features that, in many areas, can now be *proved* to pay for themselves in as little as two years through measurable direct savings.

send this coupon for your FREE copy

BARBER-COLMAN COMPANY

Dept. P85, Rockford, Illinois

NAME_____

COMPANY_____

STREET_____

CITY_____ STATE_____

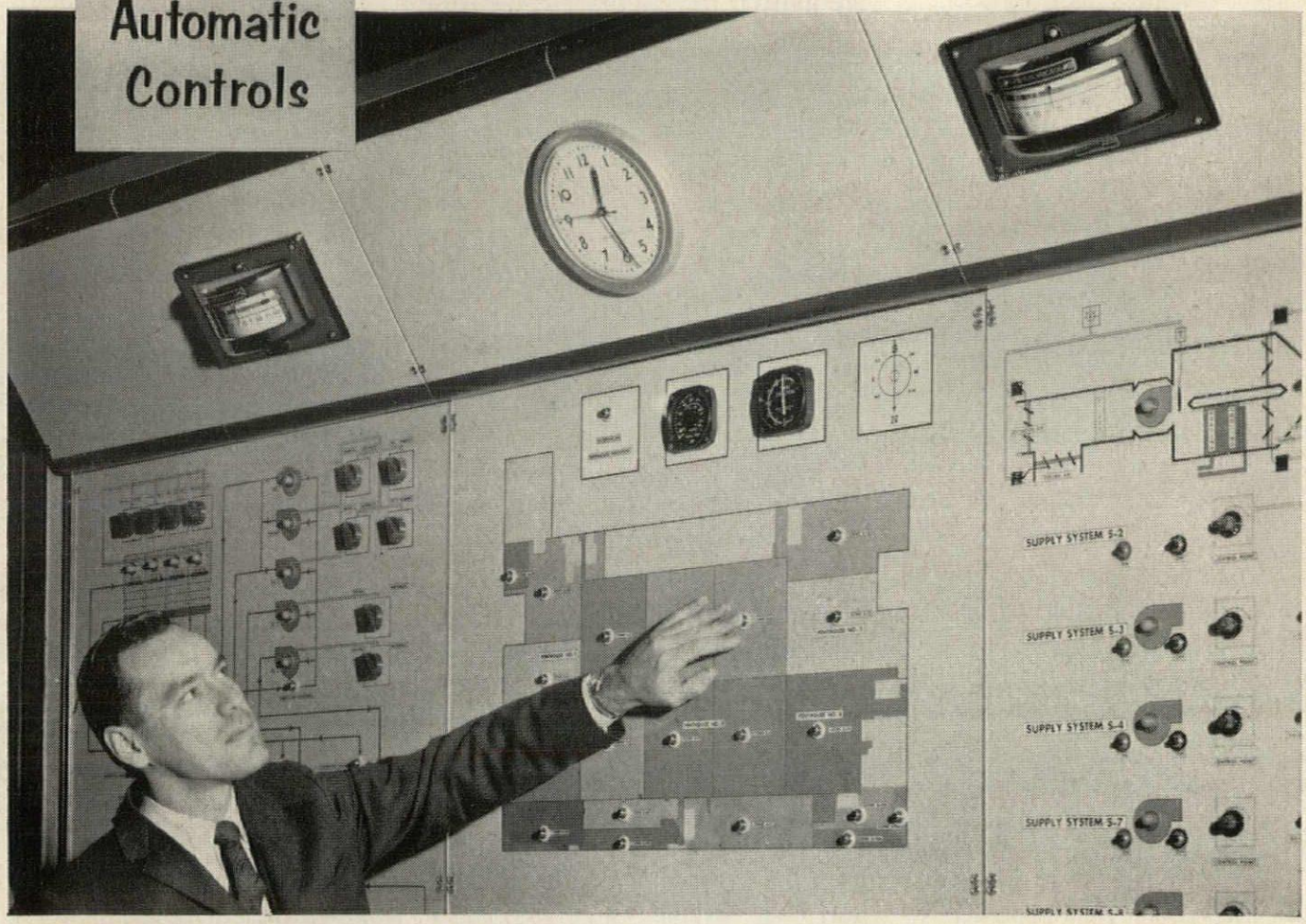
THE MARK OF QUALITY

BARBER COLMAN

Automatic Controls

NOW, THE LOGICAL QUESTION IS . . .

Why not specify an Electrionic Control Center?



Electrionic Control Center assures automatic air conditioning control of the large new Teletype plant in Chicago. J. M. Anderson, architect and industrial builder; Dell Corporation, heating and air conditioning contractors and engineers.

Electrionic Control Centers by Barber-Colman are the rule rather than the exception with more and more architects and engineers. This is because no other control form gives the building management such convenient, dependable command of the entire heating and air conditioning plant. Fast electronic sensing and positive-positioning electric operators are clearly today's best control combination for maintaining comfort in all parts of a large building all the time. And, by simplifying installation, a Control Center can reduce the initial cost of the comfort system. Specify an Electrionic Control Center for your next building. For the very best results use *combined* Barber-Colman Automatic Controls and Air Distribution.

Ask your Barber-Colman field office for this eight-page color brochure . . . describes and illustrates in detail the features, advantages, functions, designs, and specifications of custom-prefabricated Barber-Colman Electrionic Control Centers. Brochure F-8031.

BARBER-COLMAN COMPANY

Dept. E, 1304 Rock Street, Rockford, Illinois

Automatic Controls • Small Motors • Industrial Instruments • Aircraft Controls • Electrical Components • Air Distribution Products • Overdoors and Operators • Molded Products • Metal Cutting Tools • Machine Tools • Textile Machinery

JUNIOR BEAMS
the lightest hot-rolled steel structural available

JUNIOR CHANNELS
exclusive lightweight J&L hot rolled channel sections

Architect: Hill and Wupper, Inc. • Fabricator: Geiger & Peters, Inc.
Contractor: Cannon Construction, Inc.

"LET THE STEEL SHOW"

Indiana school illustrates functional beauty and practicability of exposed JUNIOR BEAMS

"School board members like the functional use of exposed Junior Beams in this Warren Township Elementary school," reports Hill & Wupper, Inc., AIA, Architects and Engineers, Indianapolis.

This trend to exposed steel construction is finding wide application across the country in schools, residences, shopping centers and other light occupancy structures. Versatile JUNIOR BEAMS can be adapted to a wide range of architectural designs.

JUNIOR BEAMS are economical to use. They reduce steel tonnage required and they cut labor costs because they are easily fabricated, raised and positioned.

Get complete data on these and other J&L lightweight structurals. Call your local warehouse or write Jones & Laughlin Steel Corporation, 3 Gateway Center, Pittsburgh 30, Pennsylvania.

35 tons of 12" JUNIOR BEAMS were used in this Warren Township Elementary School, Indianapolis, Ind. The exposed beams were covered with 3" Tectum insulation, which was topped with roofing. Modular design has windows and columns on 4' centers.

J&L STEEL

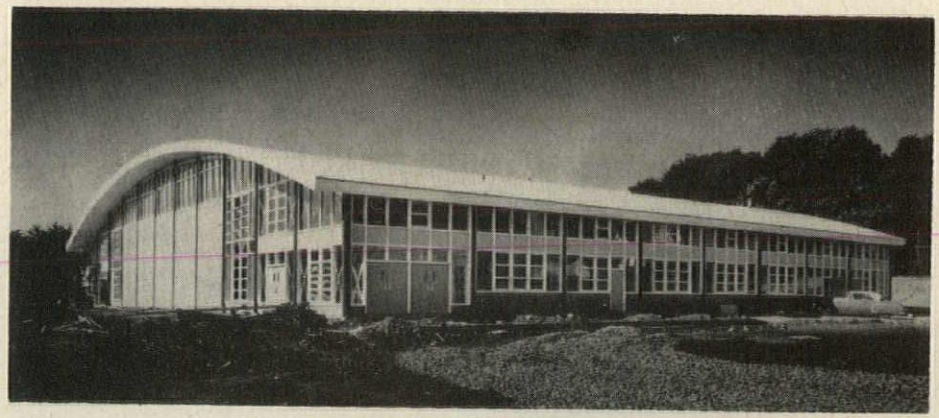
Jones & Laughlin Steel Corporation

PITTSBURGH, PENNSYLVANIA

Field House for Many Uses Built at Low Cost

An all-purpose building on a slender budget was required in this project just completed for the Academy of the New Church in Bryn Athyn, Pa. Thalheimer and Weitz of Philadelphia were the architects.

The Asplundh Field House must serve as gymnasium, recreation center and convention hall. As Bryn Athyn is the world center of Swedenborgianism, it must accommodate large conventions, up to 2600 people.

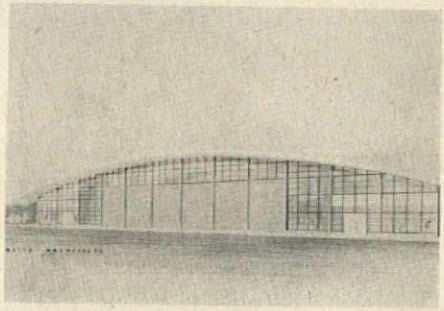


Additional gymnasium space was needed for the student body, and evening recreational facilities for members of the church—including space for indoor roller skating.

The building, 160 ft by 150 ft, contains a gymnasium large enough for three official-size basketball courts, with one providing seating capacity for 500 spectators; wrestling room; all of the usual gymnasium facilities; a kitchen and serving areas to accommodate 1800 people. Cost was $13.30 per sq ft.

Structure is all wood, with seven laminated wood arches spanning 100 ft across the gym. Windows are also wood. While wood requires maintenance, the Academy has a full-time maintenance crew which can service the building; and wood construction was therefore considered feasible. Exterior of the building is natural concrete block; inside, concrete block is painted a soft green.

Ceiling is cement wood fiber slab, to give some acoustical properties along with sufficient strength to withstand gymnasium use.



SPECIFY HAWS FROM A COMPLETE LINEUP OF...

ELECTRIC WATER COOLERS!

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

Specify HAWS! Get *Complete* Water Cooler specification data from one *dependable source* . . . write today, for the new 1958 HAWS Catalog!

HAWS DRINKING FAUCET CO.
1441 FOURTH STREET (since 1909) BERKELEY 10, CALIFORNIA

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. AR-5, 2252 East Grand Boulevard, 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

Fenestra
SCHOOL DESIGN
NEWS

LOOK WHAT FENESTRA WINDOWS DO FOR MODERN SCHOOL DESIGNS!

Fenestra® Intermediate Steel Windows are selected by architects and school officials for many of the finest and best-looking schools in America. The reason is not appearance alone.

They provide *more and better daylight* for school classrooms. Their slim, but strong, steel sections give you *more glass area* and *clear-vision view* per window opening. Fenestra Windows are engineered and precision built to be rigid and rugged without excess bulk.

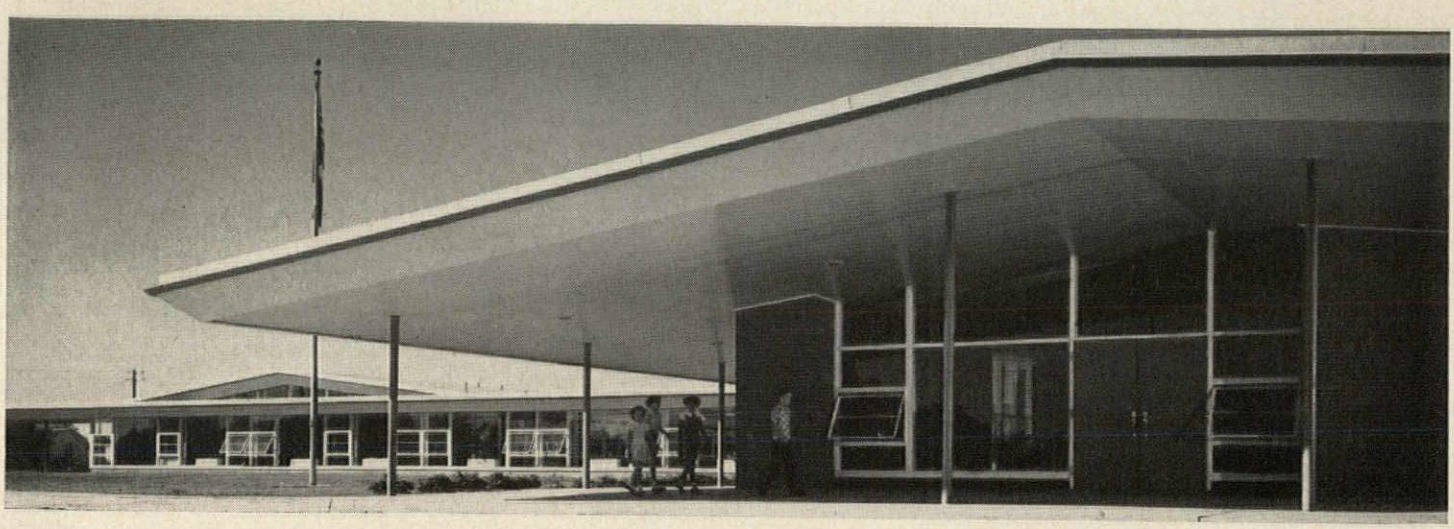
You get *better ventilation*, too. Project-out vents form weather-protective canopies over the openings. Tilt-in vents bring in abundant fresh air *without drafts* . . . shed rain outside. All vents open smoothly and easily with a finger touch.

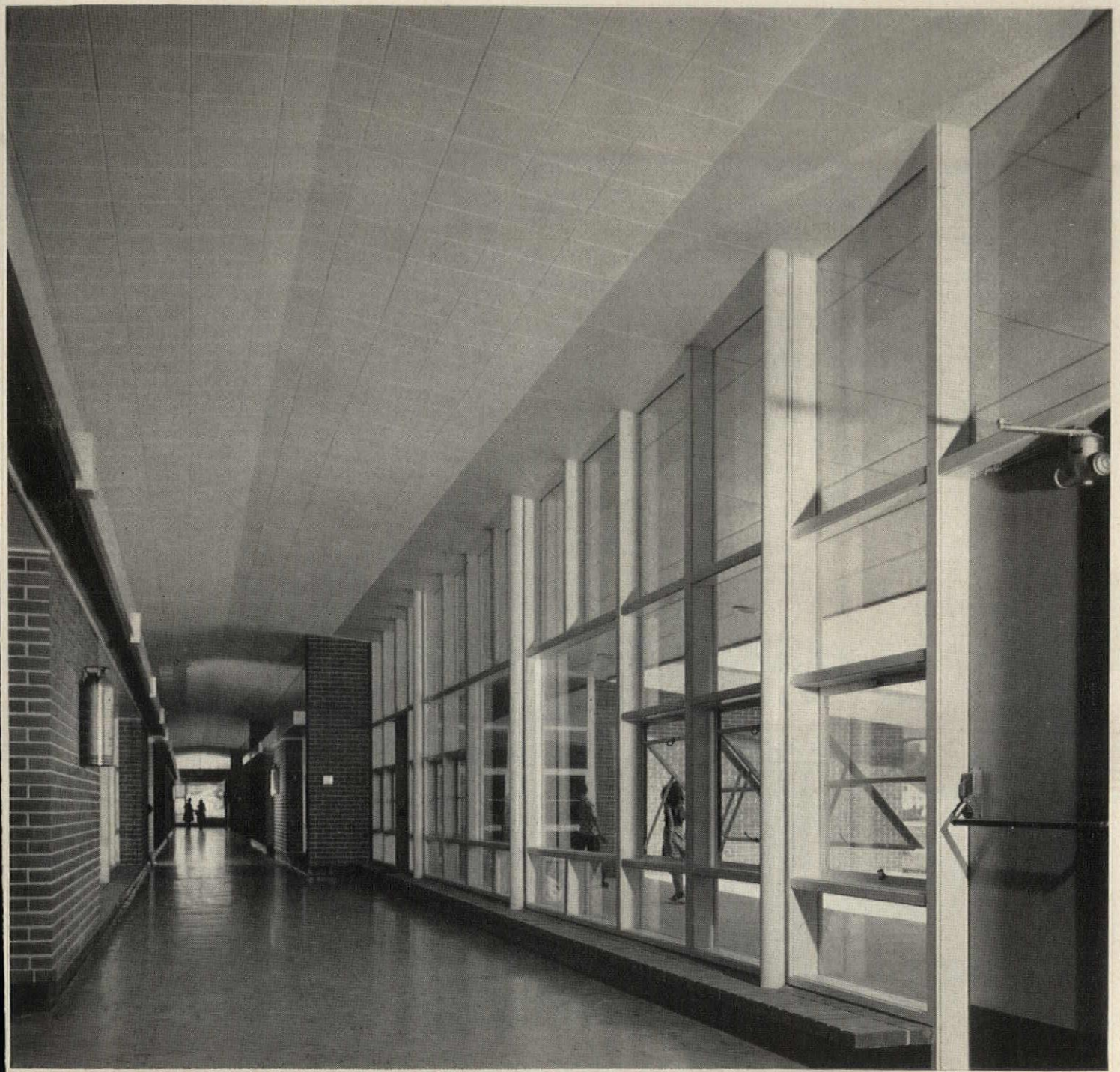
You *save on maintenance*. Sturdy hardware and steel-strong window members assure years of trouble-free service. Cleaning and screening are done safely and economically *from the inside!*

New Fenestra FENLITE Finish

Fenestra Intermediate Windows are now available with the New FENLITE Finish that gives longer window life *without painting* plus a distinctive new window beauty. The FENLITE process is an exclusive Fenestra development based on years of experience and research with corrosion-resistant finishes for steel windows. It saves you the cost of maintenance painting year after year.

Inside and out, Fenestra Intermediate Steel Windows give your schools modern window beauty, more daylighting and better ventilation. Specify them for your new school buildings. Mail the coupon, today, for complete information or call your local Fenestra representative — listed in the Yellow Pages of your telephone directory.





Sam Houston Elementary School, Port Arthur, Texas, features Fenestra Intermediate Steel Windows. This outstanding school demonstrates the functional beauty of their slim, modern design and the pleasant classroom atmosphere created by their better daylighting and ventilation. **Associated Architects:** Caudill, Rowlett, Scott & Associates, Bryan, Texas; Oklahoma City, and J. Earle Neff, Port Arthur, Texas. **Contractor:** Schneider Construction Co., Houston, Texas.

SEE OUR CATALOG IN SWEET'S OR WRITE FOR COPY

17B
FEN

Fenestra
INCORPORATED

INTERMEDIATE
STEEL WINDOWS

Your Single Source of Supply for
DOORS • WINDOWS • CURTAIN WALLS • BUILDING PANELS

Fenestra *Incorporated*
Dept. AR-5, 2252 East Grand Blvd.
Detroit 11, Michigan

Please send me complete information on Fenestra Intermediate Steel Windows for school design and construction.

NAME_____

FIRM_____

ADDRESS_____

CITY_____ STATE_____

regardless of date of enactment of the measure. This means that if the bill becomes law, this feature would be retroactive in the sense that applications made before final passage would be honored after it was signed by the President.

At the time the Frelinghuysen measure was introduced, there did not appear to be sufficient supporting strength in the House committee to force its being scheduled for hearings. Supporters were confident, however, that this support could be mustered after the Easter recess.

Presidential Support Sought

Meanwhile, 13 House Democrats wrote a letter to the President urging him to throw his full weight behind Federal aid to school construction.

Signers significantly included Representatives Roosevelt (D-Calif.), and Powell (D-N. Y.), who supported the measure last year but were deeply involved in anti-segregation arguments that influenced its defeat. In the letter to the White House both Mr. Roosevelt and Mr. Powell promised to back Federal assistance to school construction all the way.

Noting President Eisenhower had not proposed any such legislation this year aside from the impacted-area program, the 13 Democrats asked, "Which is more important, Mr. President, adequate classrooms or chrome-trimmed letter chutes?"

Pinpointing the absence of any school construction proposals in the Administration's many public works moves aimed at lessening the recession, the letter stated, "If our recovery needs to be stimulated by new Federal programs, surely united action to build schools for our children is the most worthwhile of all the programs now under construction."

Also, the President was reminded by the House Democrats signing the statement of his special message to Congress last year in which he described classroom shortages in many localities as the most critical problem in education. That, of course, was before Sputniks I and II.

The letter to Mr. Eisenhower contended that the classroom shortage still persists.

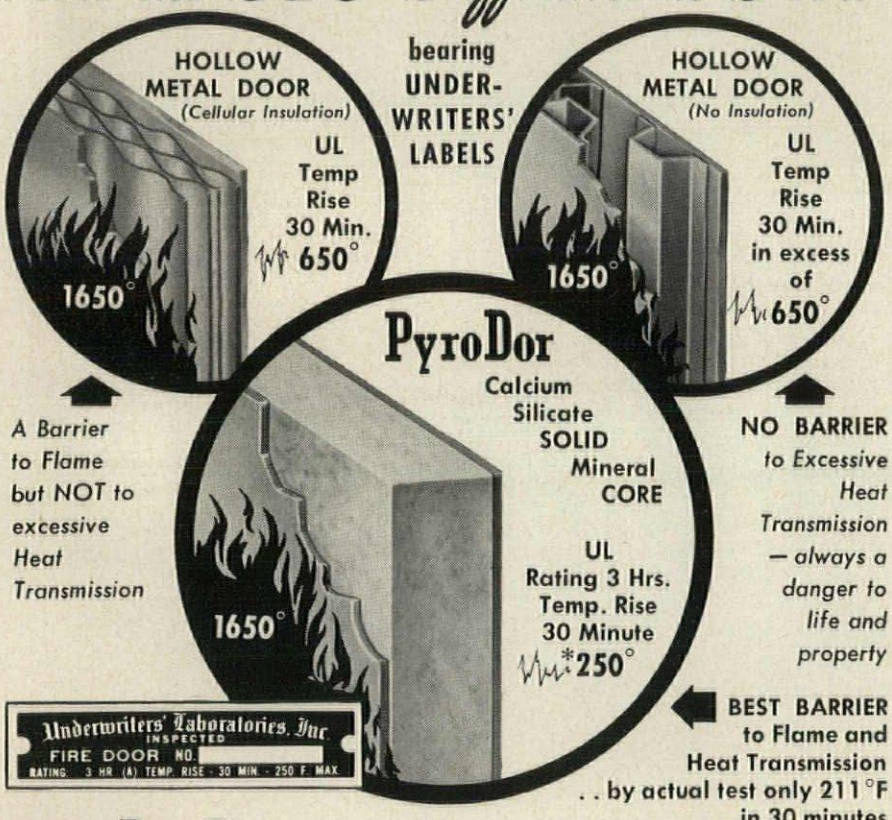
New School Aid Bill Proposes Tax Rebate Approach

Another Federal aid to education bill was tossed into the Congressional mill just before the Easter recess by Rep. Patrick J. Hillings, California Republican. It was the first measure this year proposing a rebate of Federal taxes to each state to be used for improving educational systems. Because of its method of financing school improvement—including emphasis on school building construction—the bill was referred to the Ways and Means Committee rather than to the Education and Labor Committee which handles most school construction aid legislation.

The Hillings measure provides for a return to the states, territories and the District of Columbia of a portion of all Federal taxes collected during a calendar year. Each political unit would receive a percentage of Federal taxes collected from it, that portion depending upon the size of the tax take. States with $10 billion or more in Federal tax collections would be entitled to a one per cent refund; those with $5 billion to $10 billion in annual Federal tax receipts would receive two per cent, and those with Federal tax collections running from $1 billion to $5 billion could take a three per cent refund. The states and

When Life and Property are at Stake...

Note the BIG Difference in Doors



EVERY PyroDor® BUILDING — LIFE GUARANTEED

Recent revisions in Underwriters Labels now rate fire doors strictly on a performance basis. Now enables architects and engineers to select a fire door with the assurance of maximum protection.

D & H *PyroDors,* with solid mineral core standard for all doors, provides the maximum in hourly ratings and heat transmission — (3 hr. Class A 250°F. in 30 min.) *at no extra cost!* No other fireproof door enjoys this distinction.

Request Bulletin DHS-2458. Contact your nearest D & H Distributor through the Yellow Pages of your phone book or write.

D AND H **DUSING & HUNT, Inc.**

61 LAKE STREET • LEROY, NEW YORK

STAINLESS STEEL FACADE still like new after QUARTER-CENTURY

Facade of the Union Carbide Corporation Building, New York, after more than 25 years of service. (Unretouched photographs taken in January, 1958.)

These stainless steel mullions and spandrels were erected in 1932 when an addition to the Union Carbide Corporation Building in New York was built. Throughout their quarter-century exposure, the only maintenance has been an annual cleaning to remove accumulated dirt. A thorough inspection last year disclosed no pitting, discoloration, or any other deterioration. It looked as good as it did 25 years ago.

PERMANENT BEAUTY PLUS ECONOMY

Armco Stainless Steel offers *you* the same opportunity to give your buildings time-defying beauty and your clients the economy of lasting durability and little or no maintenance. Stainless combines high hardness and strength with excellent corrosion resistance. It won't tarnish or gray with age, has no plated or chemically-treated surface to wear off, retains its structural integrity and handsome appearance despite severe service.

Throughout the buildings you design, make full use of the beauty, durability and economy of Armco Stainless Steel by specifying it for curtain walls, facades, mullions and entrances as well as doors, hardware, partitions and other standard units. Just fill out and mail the coupon for complete information on stainless steel in architecture. Also refer to Sweet's, File 3b/Ar and 6c/Ar.

Armco Steel Corporation, 1928 Curtis Street, Middletown, Ohio · Sheffield Division · Armco Drainage & Metal Products, Inc. · The Armco International Corporation.

ARMCO STEEL CORPORATION
1928 Curtis Street, Middletown, Ohio

Send me

☐ Information on Armco Stainless Steel for architecture.
☐ Names of manufacturers of stainless steel building products.

Name_____

Firm_____

Street_____

City_____ Zone_____ State_____

ARMCO STEELS
for architecture

ARMCO®

STAINLESS
ENAMELING IRON
ZINCGRIP® PAINTGRIP®
ALUMINIZED STEEL

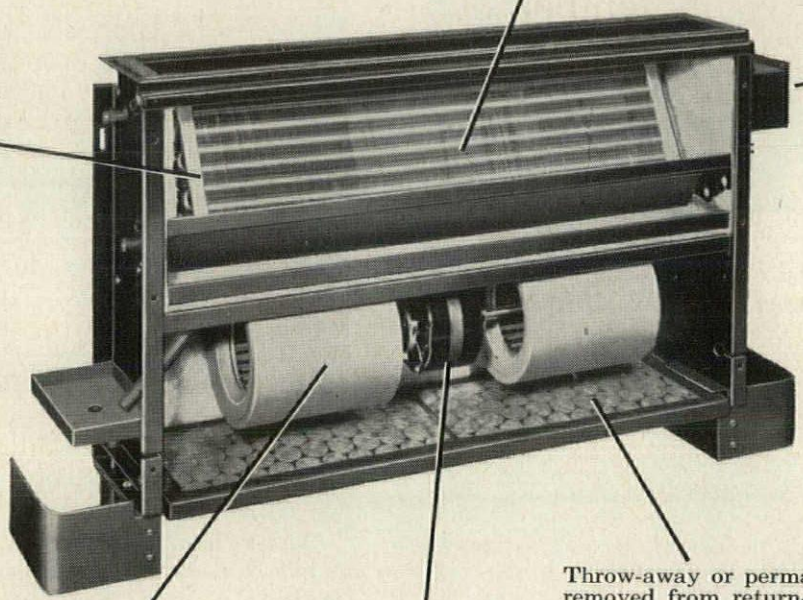
ALL NEW AMERICAN

FAN-COIL-TYPE

Universal coil—provides summer cooling and dehumidifying with chilled water, and hot-water heating in winter

Reversible coils—easily removed on the job for opposite-hand connections

Individual room control readily accessible

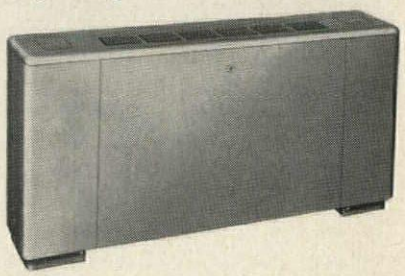


Available in four sizes: 200, 300, 400, and 600 cfm

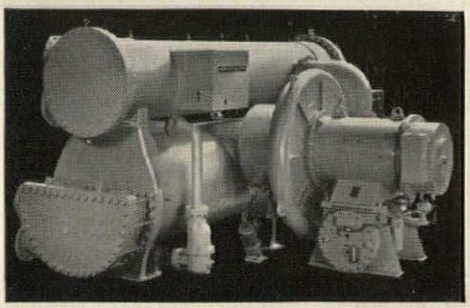
Throw-away or permanent filters easily removed from return-air opening without removing casing

Motor furnished with 3-speed control

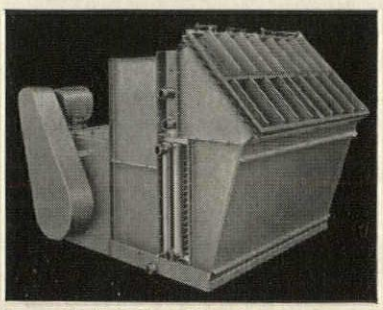
Lightweight aluminum fans provide long bearing life



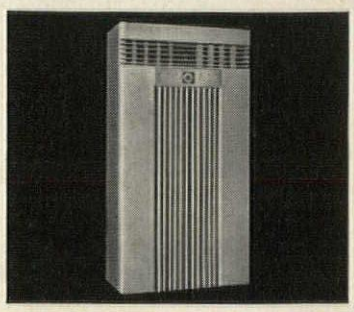
Enclosure for Diaflo room air conditioner is made of furniture steel, and can be furnished in a tan-primer or leathertex-enamel finish.



Tonrac® Centrifugal Refrigeration Machines maintain constant chilled-water temperature regardless of load. Advanced design, quiet operation.



Type AB Multi-Zone Unit. Single arrangement provides either vertical or horizontal blow. Designed for either low-pressure or high-pressure systems.



American Blower Packaged Air Conditioners. Sizes from 3 to 20 tons. Air- or water-cooled models for use with or without ductwork.

BLOWER DIAFLO®

UNIT AIR CONDITIONERS

Diaflo units are designed, engineered, and manufactured to meet the professional requirements of each member of the building team

Architect

"They provide the design flexibility and pleasing appearance an architect likes in a unit air conditioner. They adapt readily to both new and existing buildings, with a choice of lengths to fit modularly spaced partitions. Diaflo units are completely suitable for new curtain-wall-type buildings or for other types of construction."

Consulting Engineer

"They're versatile mechanically, too, with rugged, heavy-gauge construction. Two basic units permit either vertical or horizontal installation. Front or top discharge is available on vertical unit. Universal coil permits summer cooling with chilled water, and winter heating with hot water. Coil is suitable for manual, electrical, or pneumatic control."

Mechanical Contractor

"Diaflo units provide a really 'clean' installation. Base unit is easily mounted with free access on both ends for all connections. Installer can work freely without being cramped. This saves time and money. Then just prior to start-up, clean, undamaged enclosure can be hung in place."

Owner

"Diaflo units certainly fit the requirements of modern building air conditioning. They harmonize well with practically any interior decor—are quiet, draft-free, and permit room occupants to select their own temperature. Maintenance is economical, too. Filter removal is easy, and there is ready access to all controls."

You can pinpoint responsibility for equipment performance, delivery dates, user satisfaction on any air-conditioning system you plan by using American Blower equipment . . . the complete line that's designed, engineered, and manufactured to work together.

And 73 branch offices offer local product help or nation-wide sales-service coordination. American-Standard,* American Blower Division, Detroit 32, Michigan. In Canada: Canadian Sirocco products, Windsor, Ontario.

* American-Standard and Standard ® are trademarks of American Radiator & Standard Sanitary Corporation.

AMERICAN-Standard

AMERICAN BLOWER DIVISION

territories with less than $1 billion per year in Federal tax collections would be entitled to five per cent in refunds.

The states would be free to use this money to construct new schools, enlarge existing ones, increase teachers' salaries and for other educational purposes. The only restriction imposed by Representative Hillings' bill would be that states would have to agree not to reduce their normal expenditures for schools upon receipt of the Federal rebates.

It is claimed this proposal circumvents two strong objections to previous Federal aid to education measures where direct appropriations by Congress were required. The author said his plan eliminates any threat of Federal control over the public education system, and is so set up that no state would be called upon to subsidize education in another state.

The Treasury is expected to oppose the measure if and when hearings are scheduled by the Ways and Means group.

With every institution laundry job you face these key questions.

1 How big should it be?

2 What type equipment is needed?

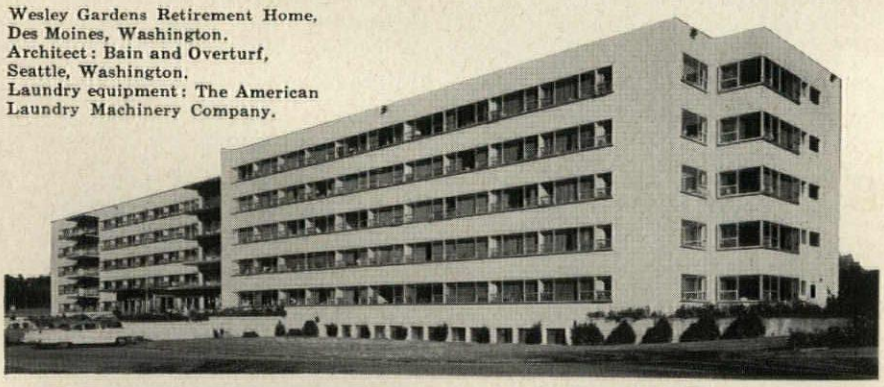
3 How should equipment be arranged?

4 What will it cost to operate?

5 What supply services are needed?

You can get helpful answers to these and any other questions, *including the vital question of laundry location in relation to other departments,* from The American Laundry Machinery Company's laundry planning service. This service is available to architects without obligation. Call your nearby American Man from the Factory, or write for complete information.

Wesley Gardens Retirement Home, Des Moines, Washington. Architect: Bain and Overturf, Seattle, Washington. Laundry equipment: The American Laundry Machinery Company.



The American Laundry Machinery Company, Cincinnati 12, Ohio

You get more from American

Death Blow for Lease-Purchase? No Funds Allotted for 1959

The Federal government's program of acquiring building space by the lease-purchase method trailed off in the wake of a death blow administered by the House Appropriations Committee. The Committee's report on a $6.5 billion independent offices appropriations measure for fiscal 1959 recommended no funds for the lease-purchase program and approved $177.2 million for the erection of 66 public buildings in 28 states with these direct appropriations.

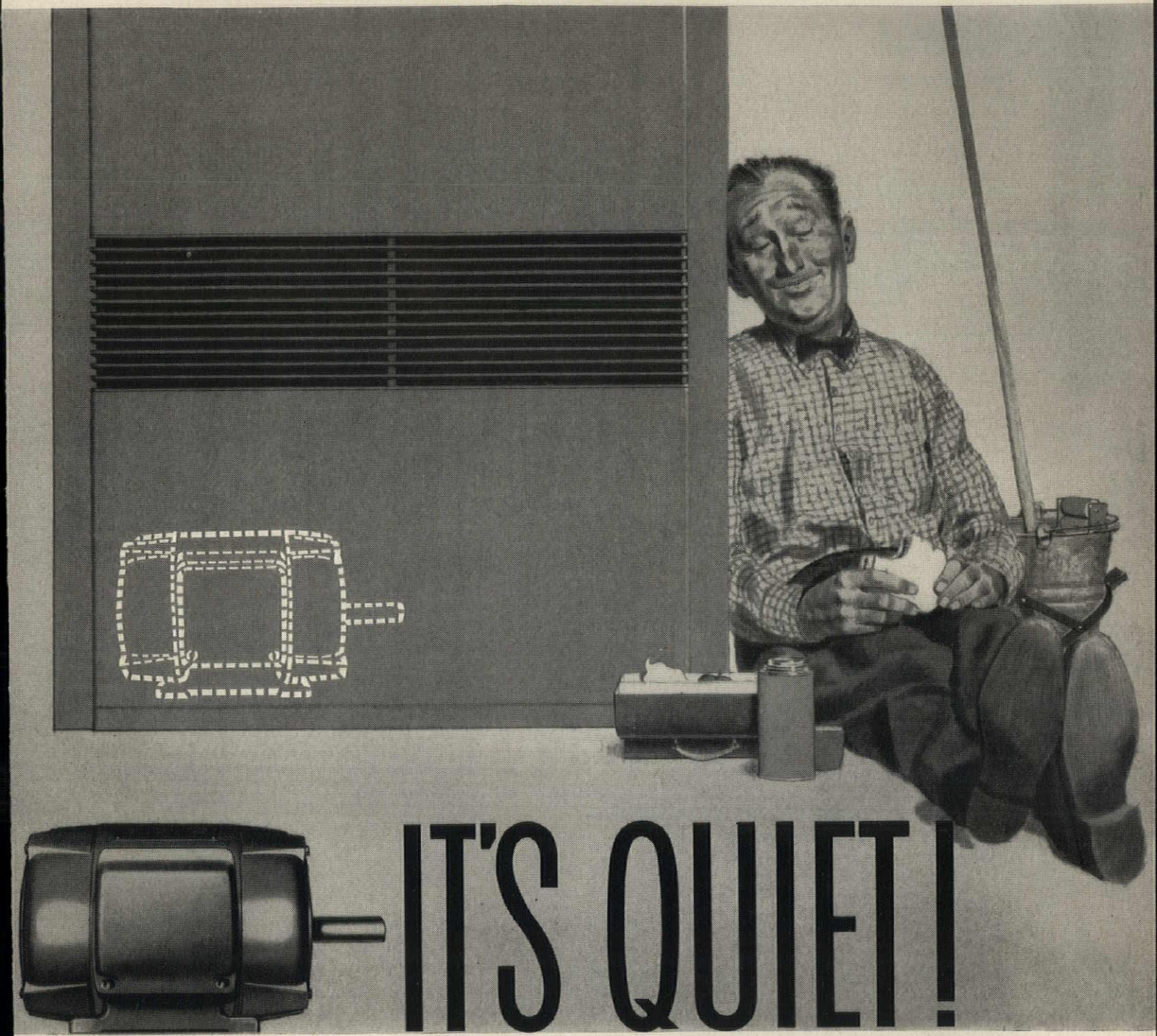
Applicable to fiscal 1959, beginning July 1, the committee's action could raise some fine legal points regarding lease-purchase contracts entered into before mid-year if Congress were to take the recommendation and the President sign the bill. The latter was almost automatic, assuming Congressional passage, since a major money measure is involved.

Meanwhile, General Services Administration, administering agency, was faced with the delicate task of carrying on with what was left of lease-purchase in the shadow of the new report which expressed the committee's intent unequivocally.

Running directly against Administration policy in the matter, the report termed the lease-purchase method of building construction expensive and cumbersome when compared with direct appropriation methods. It carefully pointed out that the taxpayer pays $1.64 under lease-purchase for every $1.00 he would spend under the use of direct appropriated funds. A General Accounting Office tabulation testified to this.

The report had its acrimonious side too. Committee members complained that GSA Administrator Franklin G. Floete had refused to halt the program until the legislative unit could review it. His action was called arbitrary and without respect for the Congressional request.

The dispute was argued again on the House floor where the bill was passed with the committee's wishes respected. Representative McGregor (Ohio) led the futile fight against direct appropriations for the building program, answering charges of a five per cent interest rate by those opposing lease-purchase with an explanation that the rate on projects now being bid by the GSA run closer to four per cent. The cost differential stands at only 1.6 per cent, he said, because under direct funding the money must be borrowed by the government. He noted, too, that under lease-purchase Uncle Sam pays taxes on the property. Under the direct method, the tax responsibility is re-



IT'S QUIET!

. . . the Westinghouse Life-Line A motor

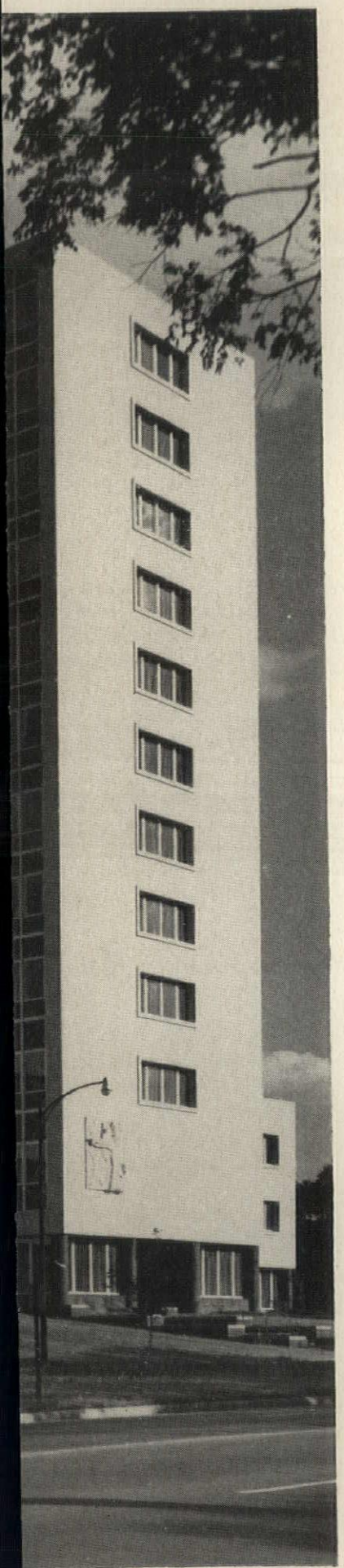
Everybody appreciates a motor which runs quiet . . . especially when it comes to motors for air conditioning systems.

That's why more and more people find the Westinghouse Life-Line® "A" the ideal choice for air conditioning units in industrial and commercial establishments . . . places where quietness counts. The Life-Line "A" is sound-engineered; it is the most quiet standard motor available today. Precision manufacturing, dynamically balanced rotor, well-balanced, low-velocity ventilating system and minimized vibration make the Life-Line "A" the motor with the built-in hush.

Maintenance is a thing of the past, too. Prelubricated bearings which keep grease in, dirt out, Bondar® and Bondite insulation and close-tolerance machining offer the nearest thing to a service-free motor.

For complete information, contact your nearby Westinghouse representative. Or, write Westinghouse Electric Corporation, P. O. Box 868, 3 Gateway Center, Pittsburgh 30, Pa. J-22126

YOU CAN BE *SURE* . . . IF IT'S Westinghouse



New Kansas State Office Building features SOLEX-TWINDOW Heat-Absorbing Insulating Glass for optimum interior comfort and exterior beauty

In designing the splendid State Office Building in Topeka, Kansas, shown here, prime consideration was given to the importance of having the greatest interior comfort, as well as an exterior of commanding eye-appeal. That is why SOLEX®-TWINDOW® units were chosen for the many window openings in this building, as well as SOLEX Polished Plate Glass for the exterior doors.

The SOLEX-TWINDOW units, as utilized in this structure, provide the dual advantages of solar-heat and glare reduction afforded by SOLEX, with the exceptional insulating properties inherent in TWINDOW. These units are constructed of two panes of Plate Glass: the outer pane is *green-tint* SOLEX . . . the inner pane is clear Pittsburgh Polished Plate Glass . . . with a ½" sealed air space between them. A stainless steel channel frames each unit. This means that there are no bare glass edges to chip or mar, and handling and installing these units is easy, quick and safe.

With SOLEX-TWINDOW, interiors are cooler in summer . . . warmer in winter. Cold air downdrafts are substantially reduced. Sun heat and glare are reduced, while adequate, soft daylight is let in. These units eliminate the need for storm windows . . . help reduce outside noises. Heating and cooling costs are lower, and the initial cost of the heating and air-conditioning equipment is less.

Your Sweet's Architectural File contains complete information on the many types of Pittsburgh Glass that are available to help you in your creative designs. For specific details, write direct to Pittsburgh Plate Glass Company, Room 8183, 632 Fort Duquesne Blvd., Pittsburgh 22, Pennsylvania.

PITTSBURGH GLASS

. . . the basic architectural material

75 ANNIVERSARY 1883–1958 PPG

SYMBOL OF SERVICE FOR SEVENTY-FIVE YEARS

PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

Architect: John E. Brink, Topeka, Kansas

lieved as soon as a construction contract is signed, he added.

Congress voted lease-purchase authority per se out of existence a year ago, but it said the 92 projects in the program and approved by House and Senate Public Works committees at the time could go forward. GSA has been working on these with better success since the four per cent interest limitation was removed some months ago.

In its controversial report, the House Appropriations Committee eliminated funds for half a dozen large office buildings in the District of Columbia. It said the unemployment problem was not so pressing here, so approval of money for these projects would be deferred. Its action left unaffected the Post Office Department's direct lease program, which allows private capital to construct needed facilities and lease them to the government.

Not many weeks before the House Committee's report was made public, Administrator Floete told a subunit of the group that if Congress were to pass an expanded public buildings program, his agency could not get projects underway until early in 1959. He felt GSA could not spend more than the $165 million scheduled for construction outlay this year—$100 million for 41 lease-purchase projects and $65 million for repair and improvement of government buildings.

Asked about the velocity of a $2 billion post office construction program if that were to be approved by the White House, Mr. Floete testified it could have no immediate effect on the current economic slump. His reply, in part: "We think we could get going on a crash program of a substantial number of smaller post offices, such as were built in the thirties, in about nine months. But this would take us through the calendar year 1958."

GSA's future plans for lease-purchase construction had called for spending around $224 million in fiscal 1959 on 34 projects in addition to the regular repair and improvement activity. The agency had hoped to complete 72 of the 93 jobs in the program and finish the remainder the following year. Mr. Floete disclosed that another 160 cities where Federal building space is vitally needed had been studied by his agency.

The Administrator estimated that approximately $300 million would be required to construct the 72 projects his agency has been planning for lease-purchase erection in the remaining part of fiscal 1958 and fiscal 1959.

Administration Steps Up Spending On Three Aid Programs

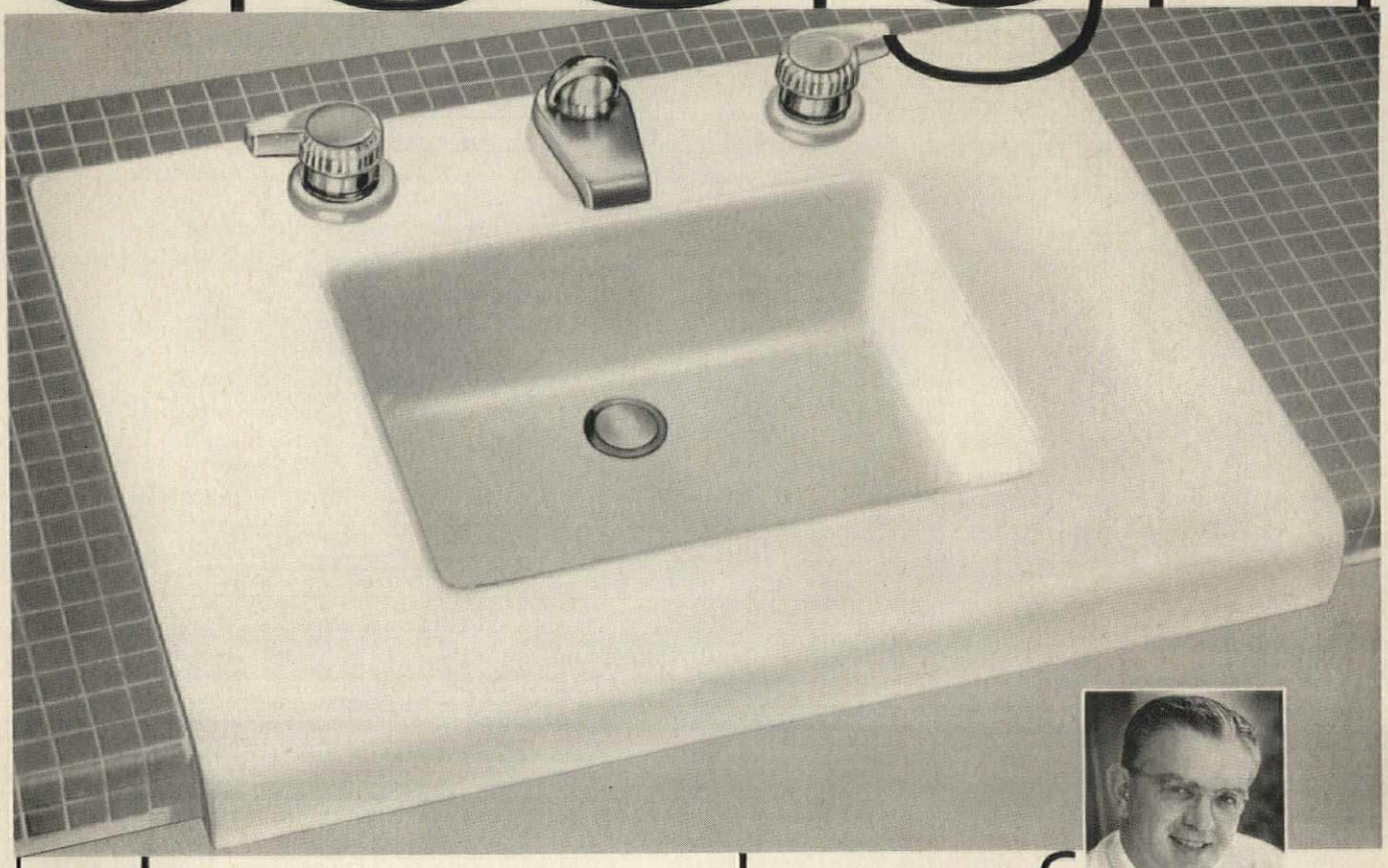
The Administration moved early in April to pump an additional $130 million into three Federally aided construction programs, raising January expenditure estimates of $670 million to more than $800 million by mid-year.

The affected programs were Hill-Burton hospital construction; medical research facilities construction by universities, hospitals, and other institutions; and the building of municipal waste treatment plants.

All under the Department of Health, Education, and Welfare, these programs involve appropriated funds which pay a portion of the construction cost of these health facilities in partnership with local nonprofit institutions.

The speed-up in construction will be achieved by giving higher priority in the allocation of these funds to those projects on which construction can start quickly. Largest increase will come in the field of medical re-

design



by henry dreyfuss

(Every Crane fixture has it—regardless of price)

The Criterion. *A Dreyfuss design awarded a gold medal by the Architectural League of New York. Note its deep basin, broad rim, fluted plastic handles mounted on ceramic pads. Finest hand-finished vitreous china. Fits any countertop—or stands alone.*

Crane fixtures give you a free hand in bathroom planning. Because the Crane line offers such unusual versatility in styles, colors, and prices.

But most important—*every* Crane fixture offers design by Henry Dreyfuss. Crisp, clean, simple design that looks new for years. Design that recognizes the practical side of a plumbing fixture. And every fixture reflects Crane master craftsmanship—whether it's vitreous china, cast iron, or sturdy steel.

The result is you can design a distinctive Crane bathroom for any home—the one in the popular price range as well as the mansion. Why not discuss this now with your Crane Representative?

CRANE CO. 836 S. Michigan Ave., Chicago 5 · VALVES · FITTINGS · PIPE · PLUMBING · KITCHENS · HEATING · AIR CONDITIONING

CRANE THE PREFERRED PLUMBING

Architects and Engineers are planning a

Are you giving them every reason to specify your products?

Again in 1958, according to F. W. Dodge Corporation estimates, contracts for new school construction will reach a new high in *physical volume* (216 million sq. ft.). *Dollar volume* will approach $3.0 billion.

Equally important—the outlook beyond 1958 warrants a strong long-range program to win preference for your products among architects and engineers who year in and year out plan over 99% of all U. S. schools.

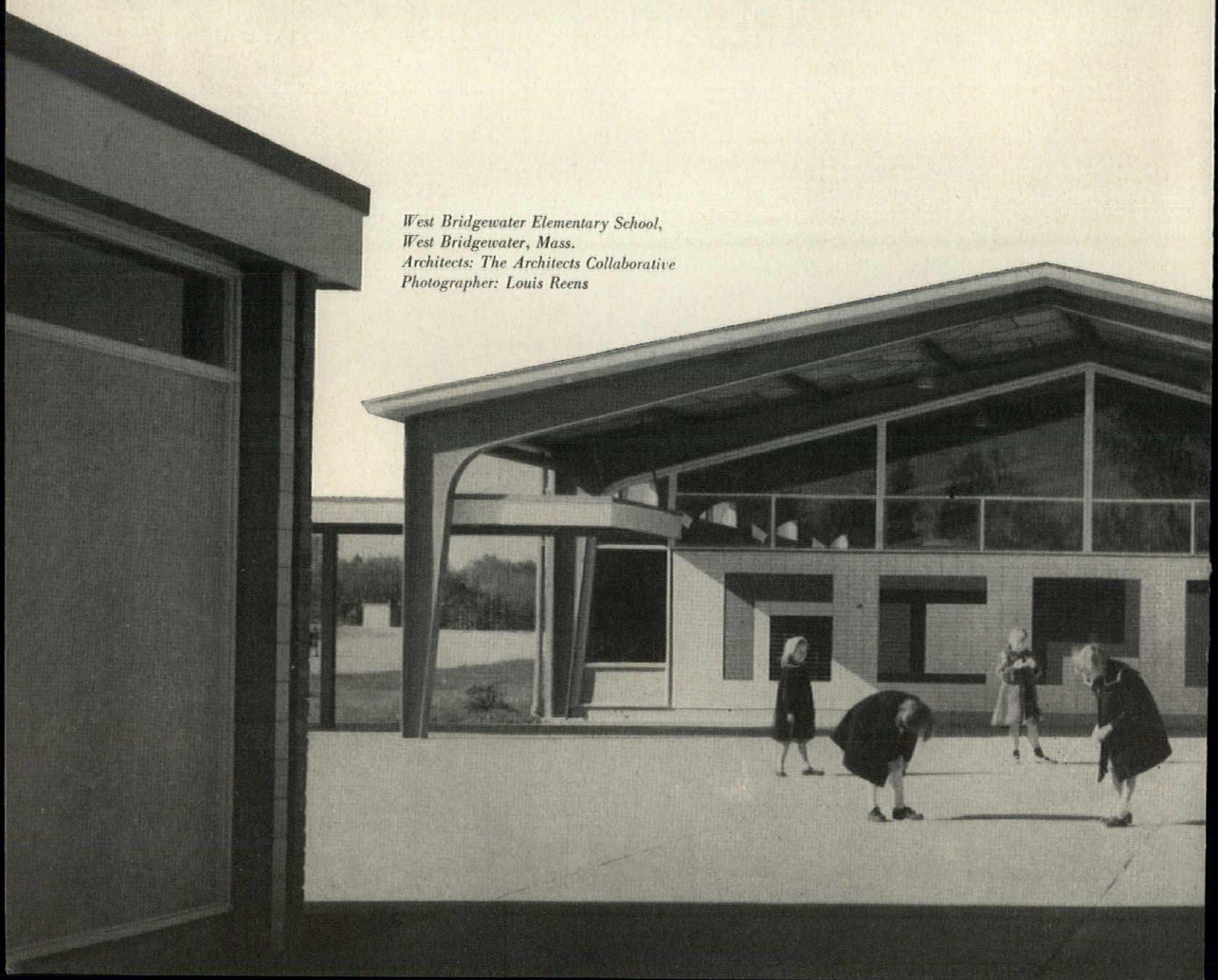
After a decade of unprecedented school construction, classroom shortages in public elementary and secondary schools remain acute and are variously estimated from 140,000 to 300,000.

Moreover, between now and 1965 a 20 per cent expansion of public school plant is needed to accommodate some seven million additional students. And the problem is compounded by population shifts.

Beyond that, new educational methods and programs, served by better building products and better-planned buildings, are rendering obsolete large numbers of older schools.

Architects and engineers are multiplying school markets by demonstrating that well-designed schools are not only *places* for learning but efficient and economical *instruments* for learning. They are raising America's school building sights from educational capacity to educational capability.

To inform architects and engineers of changing educational needs and the finest achievements in school design,



West Bridgewater Elementary School,
West Bridgewater, Mass.
Architects: The Architects Collaborative
Photographer: Louis Reens

record volume of school construction

Architectural Record in the last five years has published 41 per cent more pages on schools than any other magazine.

This is one reason why in a recent study conducted by a prominent advertising agency* architects and engineers —by a margin of better than 2 to 1—voted Architectural Record the magazine supplying them with "the most helpful information on school design."

Architectural Record will deliver your advertising message to architects and engineers *verifiably* responsible for planning over 94% of all U. S. school construction.

**Name—and results of study—on request.*

Five Exclusive Values for Building Product Advertisers in Architectural Record.

- *Verifiable* coverage of 88% of *all* architect-planned building, nonresidential and residential, small and large.
- Largest architect—and engineer—circulation.
- Lowest cost per page per 1,000 architects and engineers.
- Architect and engineer preference, revealed in 111 out of 117 studies *SPONSORED BY BUILDING PRODUCT MANUFACTURERS AND ADVERTISING AGENCIES.*
- Advertising leadership—by a margin of 82% more advertising pages than the second magazine in the field (2 months, 1958).

Architectural Record

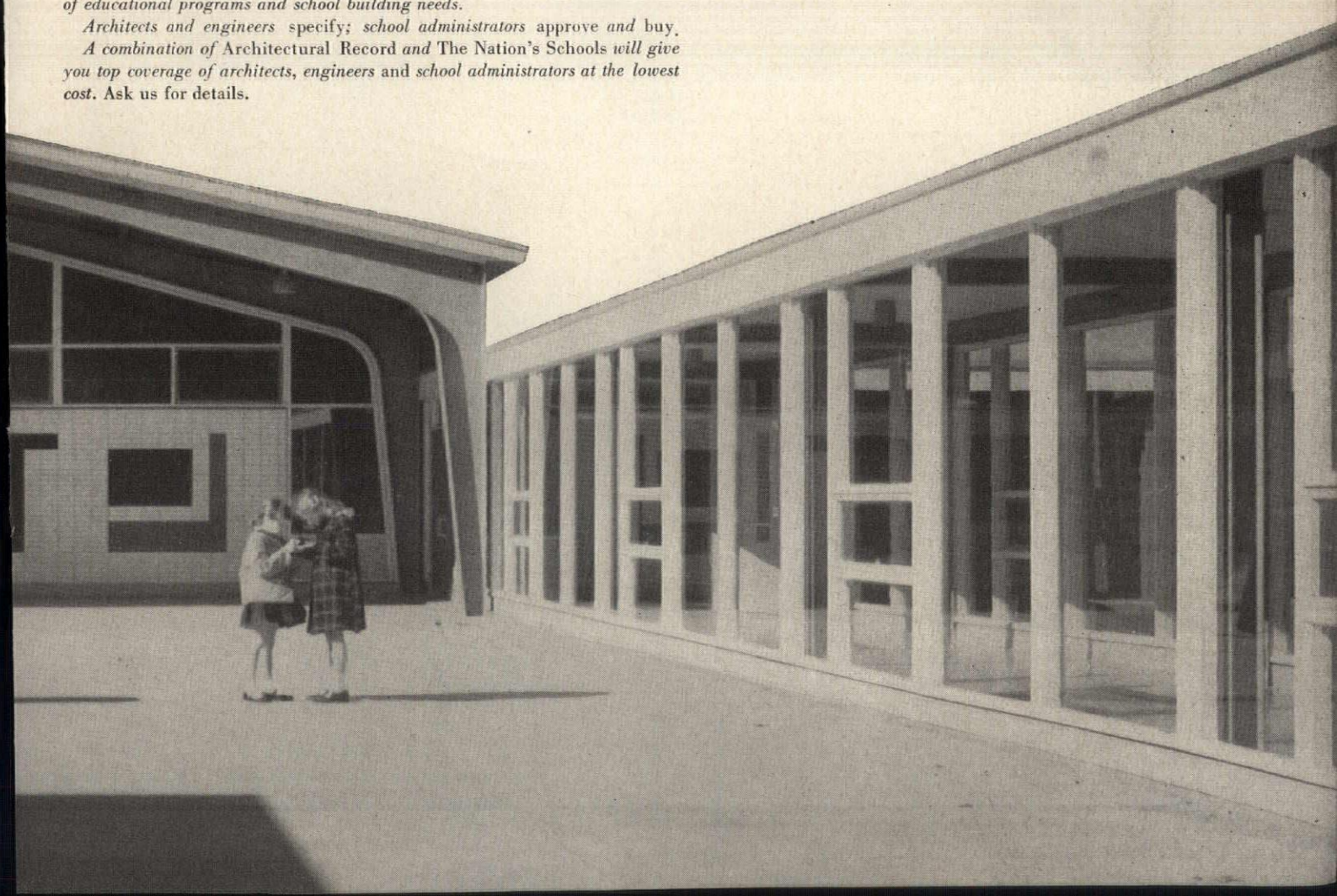
an F. W. DODGE CORPORATION publication

119 West 40th Street, New York 18, N. Y., OXford 5-3000

NOTE: *A well-rounded sales program for most products in the new school market must include the* school administrator, *focal point for the formulation of educational programs and school building needs.*

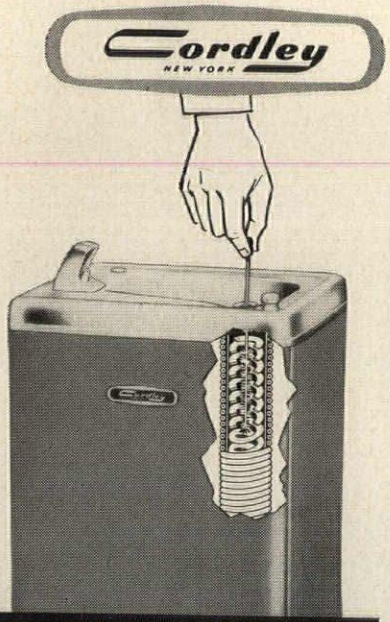
Architects and engineers specify; *school administrators* approve *and* buy.

A combination of Architectural Record *and* The Nation's Schools *will give you top coverage of architects, engineers* and *school administrators at the lowest cost.* Ask us for details.



ANOTHER BIG REASON WHY YOU GET MORE with a

Cordley
NEW YORK



EASY-TO-CLEAN PRE-COOLER

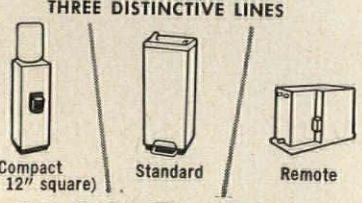
Cooled, waste water flowing down clean drains, helps pre-cool incoming water. To clean drain and pre-cooler simply lift the strainer and use an ordinary bottle brush. No serviceman is required and both drain and pre-cooler stay sparkling clean and efficient.

7 Features that spell value

- Dual, mechanically-operated controls—power failure does not affect water flow.
- Extra service connections—for glass fillers and remote fountains.
- * Easy-to-clean pre-cooler—just a few strokes with a bottle brush.
- Uniform-pressure, splash-proof jet—for easy, natural drinking.
- Contamination-proof — all coils bonded externally.
- 7-point thermostat—maintains water at temperature most desired.
- Generous five year Guaranty—your assurance of long-term dependability.

Cordley Water Coolers Give You *All* The Advantages

NOW AVAILABLE IN THREE DISTINCTIVE LINES



Compact (Just 12" square) | Standard | Remote

There's a Cordley Water Cooler for any drinking water requirement. Write today for complete information on each model . . . plus data on new Cordley Hot and Cold Water Dispensers.

Ask for Catalog 58.,

Look for your nearest Cordley Distributor in the Yellow Pages.

CORDLEY & HAYES
443 Fourth Avenue, New York 16, N. Y.

Washington Topics

search facilities. Federal grants of $30 million each year for three years are authorized under a 1956 law. Now, contracts to be let in the current 1958 fiscal year—before June 30—have increased from an estimated $120 million to $182 million.

In hospital construction, contracts scheduled for letting in the current fiscal period have jumped from an estimated $381 million to around $405 million. The Federal share would be approximately $135 million. President Eisenhower, as part of his effort to increase Federal spending as rapidly as possible as a counter-recession move, increased the Administration's request for appropriations for Hill-Burton hospital construction during fiscal 1959 from the January budget estimate of $75 million to $121 million. If this appropriation increase is forthcoming from Congress, as it almost certainly will be, contracts let during fiscal 1959 would increase from $298 million—the original estimate—to $423 million.

Contracts to be let this fiscal year for building municipal waste treatment plants will jump from the original estimate of $170 million to $215 million, with the Federal share estimated at around $57 million.

Despite the effort to speed the last-named program immediately, the Administration had not altered its position spelled out in the January budget calling for a termination of the aid to waste treatment plant construction. This White House attitude has been criticized severely by proponents of the Federal water pollution control grants. Bills have been introduced in Senate and House to increase the aid, from $50 million each year to $100 million, and to raise the ceiling on individual project grants from $250,000 to $500,000.

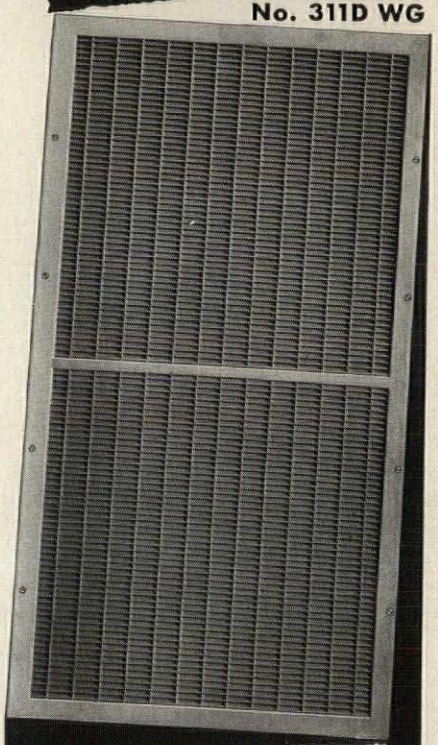
The current law's author, Rep. John A. Blatnik (D-Minn.), has attacked the Administration's position on grounds the taxpayers will be pouring out billions of dollars needlessly in the years ahead to correct water pollution if the plan is discontinued. The President's budget proposes cutting the $50 million annual authorization by $5 million for fiscal 1959, then ending the program altogether in fiscal 1960. In this proposal, Mr. Eisenhower was following the recommendation of his joint Federal-State Action Committee formed as a result of the Governor's Conference in Williamsburg, Va., nearly a year ago.

Officials of HEW's Public Health Service who administer the three

"Fabrikated"®
WALL GRILLES

Made To Order In Special LARGE SIZES

No. 311D WG



CHECK THESE FEATURES:

- ✓ Vertical or horizontal bars strengthened by interlocking cross bars; no vibration.
- ✓ Tamper-proof. Changes in air distribution cannot be made by unauthorized persons.
- ✓ Mesh (⅜ x 1 11/16) filters 72% of free area yet darkens the duct and reduces highlights from back of the grille.
- ✓ 14 gauge steel solid bars ½" deep—strong enough to be "kick-proof"—(a must for schools).
- ✓ All bars made from round edge stock. No sharp edges. (A must for schools.)
- ✓ The only grille for taking abuse in school gyms and hospital psychopathic wards.

Independent famous "Fabrikated" construction makes these grilles especially adaptable to large sizes for schools, hospitals, hotels, and other commercial buildings. Immediate service because we always stock grille parts for any size.

THE INDEPENDENT REGISTER CO.
3747 E. 93rd St., Cleveland 5, Ohio

MILWAUKEE COUNTY WAR MEMORIAL CENTER

MILWAUKEE, WISCONSIN

Architects: Eero Saarinen & Assoc., Bloomfield Hills, Mich.
Associate Architect: Maynard W. Meyer & Assoc., Milwaukee
Engineers: Aman & Whitney (structural)
Samuel R. Lewis & Assoc. (mechanical)
Richard Klees & Assoc. (electrical)
General Contractors: James McHugh Construction Co., Chicago

ADT *Automatic* Protection Specified for 'Round-the-Clock Security Against FIRE, BURGLARY and Other Hazards

Dedicated to the arts of peace, and built through public subscription, the Milwaukee County War Memorial Center is a magnificent tribute to the county's dead of World War II and the Korean conflict. The first unit, officially opened on Veterans' Day, November 11, 1957, houses a Community Art Center, and offices and meeting-room space for veteran and civic organizations. A second and final unit will be a Music Hall for concerts, opera and other cultural programs.

The Art Center and its priceless contents are safeguarded by ADT Aero Automatic Fire Alarm Service to detect and report fire in those vital first few minutes. ADT Burglar Alarm Service, including Invisible-Ray devices, is on guard to notify police **automatically** of attacks by intruders. ADT Holdup Alarm Service provides means for prompt summoning of police in emergencies. Watchmen report to the ADT Central Station while on patrol.

Whether your project is civic or private, large or small, there is an ADT Protection Service to meet your requirements. Let us show you how combinations of ADT **Automatic** Services can give better protection for property, profits and employees' jobs—**at lower cost.**

Call our local sales office, or write to our Executive Office.

ADT

Controlled Companies of

AMERICAN DISTRICT TELEGRAPH COMPANY

Executive office: 155 Sixth Avenue, New York 13, N. Y.

A NATIONWIDE ORGANIZATION

THE Nation's Schools

wanted: by 10,170 public school administrators, their assistants & business managers

plus 8134 other paid subscribers who are important in the public school field

10,170 school administrators, their assistants and business managers pay for subscriptions* to THE NATION'S SCHOOLS.

This is the largest paid audience among the top management group in the public school field ever achieved by any comparable magazine—and is a continuation of the leadership of THE NATION'S SCHOOLS in this evidence of "wantedness" by school administrative officers that has prevailed for more than twenty-three years. The reason is clear: THE NATION'S SCHOOLS provides an alert, authoritative and interesting editorial service covering the entire range of professional, educational and business interests of the professional educational and business leaders of American public school education, today, as it has since its founding in 1928.

an F. W. DODGE CORPORATION publication

*Based on an analysis of paid circulation of the November 1957 issue, the latest for which figures are available.

THE NATION'S SCHOOLS DIVISION, THE MODERN HOSPITAL PUBLISHING CO., INC.
919 NORTH MICHIGAN AVENUE, CHICAGO 11, ILLINOIS

THE Nation's Schools

could you convert this to a gym in 12 minutes?

Without taking up valuable wall space? . . . With children doing the converting?

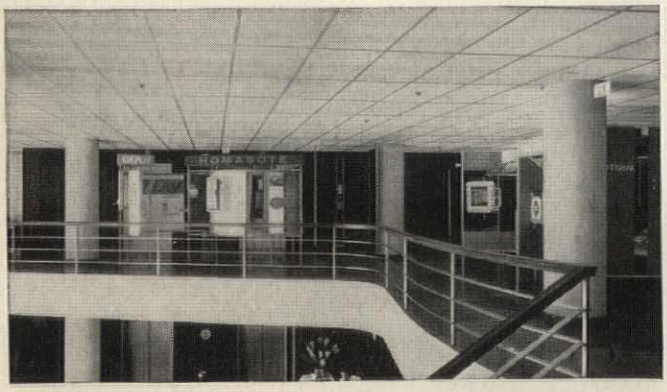
You can with Sico System Rolling-Folding Tables. Sico's exclusive "Floating-Fold" substitutes precision balance for dangerous locks and latches—even small children can fold a Sico table safely and easily in seconds, then roll it away to a storage area. A whole room can be converted from one use to another in minutes. The architect can choose from four scientifically designed rolling-folding bench-table units and one stationary table with folding benches. Whatever Sico System unit you choose, you have complete architectural freedom in your multi-purpose room planning—there are no construction limitations with the Sico System.

For complete architectural information on the Sico System write to . . .

Sico Manufacturing Company, Inc., Dept. 960 **SICO** 5215 Eden Ave. So., Minneapolis 24, Minn.

PROBLEM: Find the Grinnell Automatic Sprinklers.

SOLUTION: Hardly noticeable, they extend but an inch and a quarter below the ceiling — ideally fit the modern design of this building.



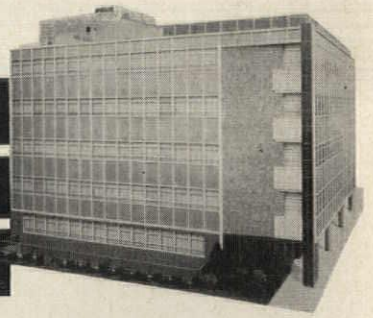
Grinnell has been a leader in the engineering, manufacture, fabrication, and installation of fire protection systems for more than 85 years. For architecturally right solutions to your fire protection problems, contact Grinnell Company, 277 West Exchange St., Providence, Rhode Island.

GRINNELL
Whenever Fire Protection Is Involved

Duraspeed Spray Sprinkler | Ceiling-Type Spray Sprinkler | Sidewall Quartzoid Sprinkler

---

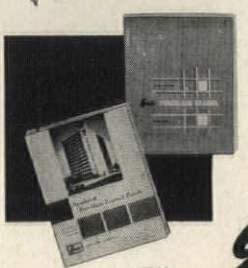
COMPLETE
PORCELAIN
SERVICE



American Casualty Company • Reading, Pa.
Architect: Muhlenberg, Yerkes & Muhlenberg

√ DETAILING
√ FABRICATION
√ ERECTION

INSULATED PANELS
VENEER PANELS



SEE US IN SWEET'S 3c / Er

write

for 16-page Design and Specification Catalog and 22-page Insulated Curtain Wall Manual.

The **Erie**
ENAMELING COMPANY
Erie, Pennsylvania
Chicago • Philadelphia
Representatives in Principal Cities

SPECIFY Cabot's

"...more Architects specify Cabot's stains than all others combined"

"We applaud their specifications because of past experience of owner satisfaction and trouble-free years of beauty."

J. Jerold Norman
Norman Builders,
Portland, Oregon

House in Portland, Oregon, Builder: J. Jerold Norman, Architect: Richard Marlitt, Portland. Cabot's Creosote Stain on exterior siding. Photograph: Courtesy West Coast Lumberman's Association.

Cabot's RANCH HOUSE HUES®

- need no thinning, priming, sanding or scraping
- won't crack, peel or blister
- permit moisture to escape
- can be restained in another color
- ideal for wood siding, shingles and trim
- cost only ½ as much as paint

Choose from 18 decorator colors — many exclusive with Cabot including Highland Rose, Mariposa Redwood, Turquoise, Spruce Blue.

A quality product from Cabot Laboratories ...manufacturing chemists since 1877

Samuel Cabot

SAMUEL CABOT INC.
529 Oliver Building, Boston 9, Mass.

Please send color card on Cabot's Ranch House Hues.

_____

_____

_____

_____

Washington Topics

stimulated aid programs praised state and local agencies and private institutions for their cooperation in these efforts to step up construction work.

Senate Postpones Final Action on $1 Billion Loan Program

The Senate dropped its pell-mell attitude toward anti-recession legislation when it reached consideration of the $1 billion community facilities loan program and postponed final consideration of the liberal measure until after the Easter recess. It took nearly an afternoon of debate and a narrow vote of 41 to 39 to put the bill over, however. The anti-recession Sparkman housing bill had been rushed through on a 63-0 vote earlier and the big highway expenditure program also received enthusiastic endorsement on its first trip through the Senate.

Argument on this measure, introduced by Sen. Fulbright (D-Ark.), chairman of the Senate Banking and Currency Committee, and others, revealed a partisan division that was not present in consideration of the other bills.

The bill (S. 3497) would increase from the present $100 million to $1 billion the loan fund administered by the Community Facilities Administration of the Housing and Home Finance Agency. This money goes out at comparatively low interest rates to communities ready to build sewer and water systems. HHFA has confined it pretty much to construction of this type but the Fulbright proposal would open the categories to all types of facilities. Named in the bill as being eligible for the low-interest loans are:

Construction, repair, or improvement of public streets, sidewalks, highways, parkways, bridges, parking lots, airports and other public transportation facilities; public hospitals, rehabilitation and health centers; public refuse and garbage disposal facilities, water, sewage and sanitary facilities and other public utility facilities; public police and fire protection facilities; public schools, libraries, offices and other public buildings; and public land, water, and timber conservation facilities.

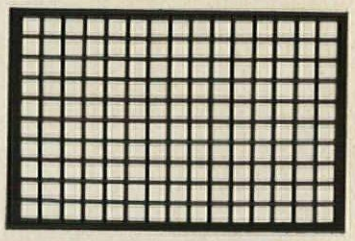
The original Fulbright bill, the one on which hearings were conducted before the full committee, called for a $2 billion program and an interest rate formula equalling three per cent. In marking up the measure, however, the committee voted the $1 billion figure as a compromise and

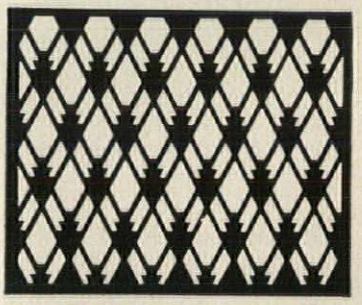
Classic or MODERN

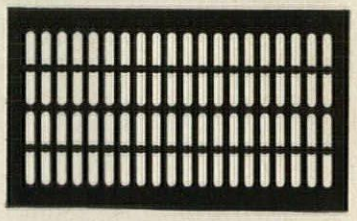
there is an

H&K GRILLE

for every application







For the next building you plan, specify architectural grilles from the many designs available at Harrington & King. Grilles can be furnished in practically any type and gauge of metal in the finish desired.

H & K grilles are perforated and finished in accordance with the architect's specifications and details. Perforated holes are clean and free from burrs. Margins are in alignment with the pattern. H & K grilles are leveled and inspected before shipment.

Wherever architectural grilles are required, specify "Grilles by H & K."

See our file in Sweet's—30f/Ha

Write for H & K Grille Catalog No. 33—Today!

FIND NEAREST H&K AGENT IN THE 'Yellow Pages'

Listed under "Grilles."

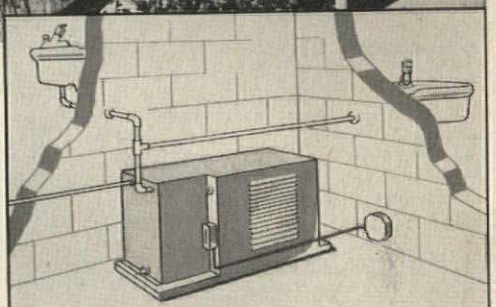
THE Harrington & King PERFORATING CO. INC.

Chicago Office and Warehouse
5624 Fillmore Street
Chicago 44, Ill.

New York Office and Warehouse
106-6 Liberty Street
New York 6, N. Y.

Why drinking water at the Jack Tar is Temprite cooled

Remote drinking water coolers by Temprite are ideal for outside areas, such as the swimming pool area adjoining the Jack Tar Hotel in Galveston, Texas. The Remote Cooler can be installed behind building walls or any concealed area, and connected to one or more bubblers located on the outside walls. There's no costly piping and the condensing unit is fully protected from the elements.



CAPACITIES of Temprite Remote Water Coolers range from 6 to 24 g.p.h. and from 1/5th to 1/2 h.p.

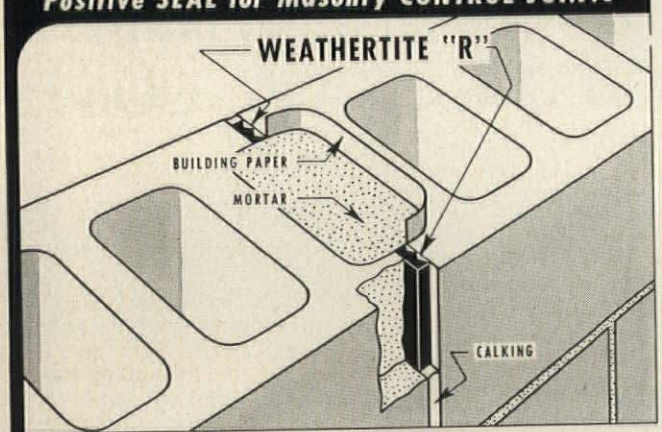
Temprite
PRODUCTS CORPORATION

THE QUALITY LINE

BOX 72 F
Birmingham, Mich.

WEATHERTITE

Positive SEAL for Masonry CONTROL JOINTS



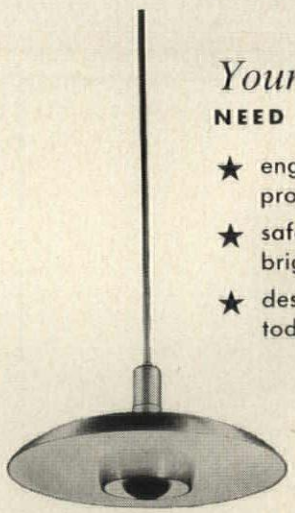
To guard against cracks in block-constructed masonry walls, caused by shrinkage, always use an approved Control Joint . . . to prevent water seepage through these very necessary control joints, always use WEATHERTITE for a permanent SEAL. This time-tested product is a continuous strip of expanded Polyvinyl Chloride . . . it is formed with serrations on one side to permit adequate compression when installed, and to provide the positive expansion which so effectively and permanently seals control joints in block constructed masonry walls. WEATHERTITE is available in three sizes which are designed to effectively seal any type of masonry control joint.

See Sweet's Architectural File, Section 9, or write for information.

WILLIAMS EQUIPMENT and SUPPLY COMPANY
6001 E. McNichols Rd., Detroit 12, Michigan

Young Eyes
NEED GOOD LIGHT

- ★ engineered for proper efficiency
- ★ safe, comfortable brightness levels
- ★ designed for today's architecture



R.A. MANNING COMPANY INC.
P. O. BOX 643
SHEBOYGAN, WIS.

CHURCH AND PUBLIC BUILDING LIGHTING

in plumbing drainage... it costs no more for the... VERY BEST

Josam

series 1480

SHOCK ABSORBERS

ELIMINATE "WATER HAMMER"!

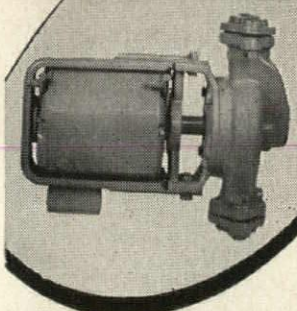
• Noisy, destructive water hammer is unpredictable — it will occur on the finest installations — it happens without warning on any water or liquid plumbing supply line — in schools, hotels, theatres, hospitals, institutions — and even in homes. Josam Shock Absorbers eliminate this disturbing noise, the possible damage to equipment, and destructive leaks in valves and connections. You get "hospital quiet" on all plumbing lines! Their cost is so little compared with the protection they provide, that Josam Shock Absorbers should be installed on every new and old piping system.

Send for free literature.

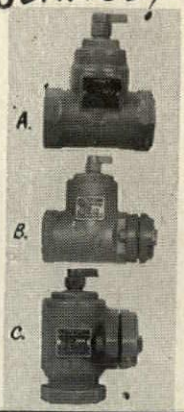
JOSAM MANUFACTURING COMPANY
Dept. AR-5 Michigan City, Indiana
Representatives in all principal cities

Josam products are sold through plumbing supply wholesalers.

here's a CIRCULATOR



THAT SAVES ON HEATING *COSTS* WITH LONG, *DEPENDABLE*, TROUBLE-FREE *SERVICE!*



Ask for TRIPLEX *CIRCULATORS AND* FLOW CONTROL VALVES →

Accept Nothing But The Best! Triplex Circulators and Flow Control Valves Give you Silent Circulation and Uniform, Economical Heat at Lower Cost in Fuel! Room Temperatures Will Not Vary Regardless of the Season.

Install Triplex Today and Save Material and Installation Costs.

A. Horizontal Flow Control Valve. B. Horizontal Flow Control Valve. C. Angle Flow Control Valve.

Triplex HEATING SPECIALTY CO.,
INCORPORATED
PERU, INDIANA

The estimating handbook that cannot go out of date

CONTENTS

PREFACE

1. INTRODUCTION
2. EARTHWORK
   Excavation • Compaction • Earthmoving
3. REINFORCED CONCRETE WORK
   Form fabrication • Form erection • Placing reinforcing steel • Placing concrete • Concrete finishing
4. STRUCTURAL STEEL WORK
   Steel erection with welded, bolted, and riveted connections. Types: Commercial buildings, Mill type buildings, Multi-storied buildings
5. MASONRY WORK
   Brick • Clay tile • Glazed tile • Concrete blocks • Stone veneer • Ledgestone • Flagstone • Terra cotta
6. CARPENTRY
   Rough carpentry • Finish carpentry

APPENDIX
Estimate form sheets for each type of operation

COMPLETE INDEX

ESTIMATING GENERAL CONSTRUCTION COSTS

by Louis Dallavia

Here is a book that has only one purpose: to enable the architect, engineer, and contractor to estimate realistically, and thus narrow the gap between all estimates and final costs. It provides an accurate, foolproof method of estimating all direct production costs in earthmoving, concrete, masonry, steel, and timber construction.

SIMPLE • ACCURATE • QUICK

Presents an index set of unit costs for shift crews, against which you compare your own crews, obtaining a productivity percentage. For each operation, you check that figure against 3 special tables, arriving at unit cost for the operation. There are over 160 tables and checklists in all.

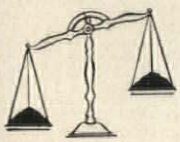
205 pages, 6 x 9", only $8.50

Order your copy from —

DODGE BOOKS

119 West 40th Street New York 18, N. Y.

THE CONCRETE PRODUCTS plant in your area that furnishes Waylite Masonry Units has been carefully selected. It has the material, the facilities and the experience for making the best masonry units.



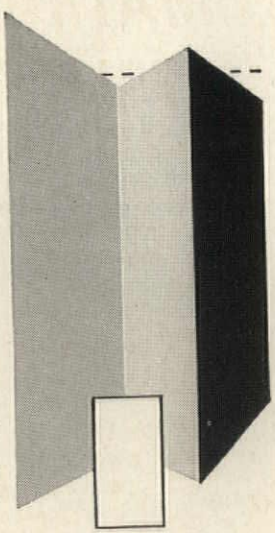
WAYLITE MASONRY UNITS give (1) an insulative wall (2) with an attractively decorated interior that (3) needs no acoustical treatment —(4) all at one low cost.

WAYLITE

20 N. WACKER DRIVE, CHICAGO 6 • BOX 30, BETHLEHEM, PA.

P&L ®

COLOR PLANNING SERVICE



Professional-level, Color Planning Service perfected by Pratt & Lambert offers you these advantages:

PROMPT...At the proper stage of job development, when it best suits your schedule:

PERSONAL...On the job or in your office, by a trained representative.

ORIGINAL...Not mass produced... but custom made, to bring out the best design features.

CORRECT...Developed according to tested, established principles of Color Calibration.

COMPLETE...Perfectly integrates *all* surface treatment colors into harmonious balance.

Pratt & Lambert Architectural Service is yours...*the way you like it*...No obligation. Please write nearest Pratt & Lambert Architectural Service Department: 3301 38th Avenue, Long Island City 1, N. Y...75 Tonawanda Street, Buffalo 7, N. Y...326 West 26th Street, Chicago 16, Ill...254 Courtwright Street, Fort Erie, Ontario.

PRATT & LAMBERT-INC.

A Dependable Name in Paint since 1849

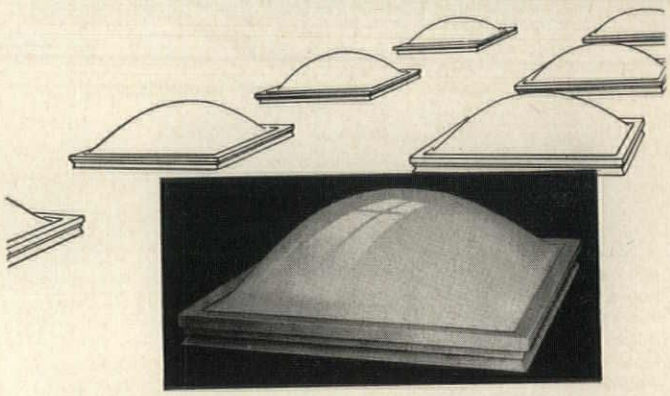
NEW YORK • BUFFALO • CHICAGO • FORT ERIE, ONTARIO

Specify leak-proof

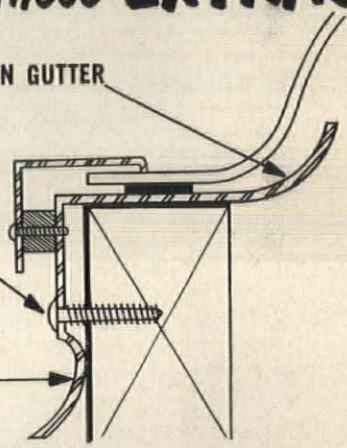
BOHEM

COSMODOMES

PLEXIGLAS* SKYLIGHTS



because of these **EXTRAS**



- HIGH CONDENSATION GUTTER
- EASY, QUICK INSTALLATION FROM ROOF
- COUNTER-FLASHING FOR EXTRA WEATHER PROTECTION

IDEAL FOR SCHOOLS, INDUSTRIAL PLANTS, RESIDENCES

- *One-piece dome*
- *White translucent (or clear colorless) Plexiglas*
- *Extruded aluminum frames*
- *All gaskets and fasteners provided, shipped assembled*

Reduced building costs through simplicity of design and installation are made possible with BOHEM Plexiglas Cosmodomes. Standard square and rectangular sizes range from 20″ x 20″ to 98″ x 98″ . . . plastic thicknesses from ⅛″ to ¼″. Dome rises range from 5″ to 22″.

ALSO AVAILABLE IN MANY SIZES:

Bohem Circular Skylights
Bohem Double Dome Skylights
Bohem Access Skylights
Bohem Fibreglas Insulated Curb (aluminum, galvanized or 16 oz. copper), assembled with plastic dome skylight.

Write for Detailed Data and Installation Procedure

BOHEM SINCE 1897 SKYLIGHTS

Bohem Manufacturing Co., Inc.
P. O. Box 169, Bryn Mawr, Pa.
Telephone: LAwrence 5-7171

*TM Rohm & Haas Company, Phila., Pa.

for the first time...

quality
mail handling products
...from one source!

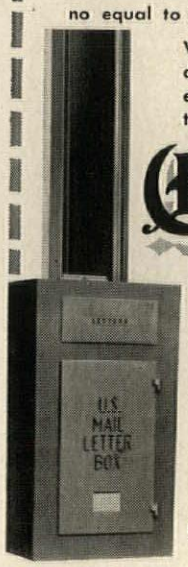
- **For incoming mail**
  lock type letter boxes
- **For outgoing mail**
  mail chutes and mail boxes
- **plus mail workroom equipment**

Federal Lock-type Letter Boxes — combination or key type in two models and four compatible sizes, styled to complement your interiors.

Mail Chutes and Boxes expertly designed to harmonize with modern building interiors — by CUTLER

75 years of experience with the world's finest edifices prove there is no equal to the Cutler line.

Write for latest catalogs describing mail handling equipment and installation specifications.



Cutler

MAIL CHUTE CO.
Rochester, N. Y.
a subsidiary of The
Federal Equipment Co.
Carlisle, Pa.

SEE OUR CATALOG IN SWEET'S

CUTLER 23b/Cu FEDERAL 23b/Fe

"No other equipment costs so little for the service rendered . . . and is appreciated so much."

Washington Topics

changed the interest rate formula to equal 3½ per cent. Maximum term of the loans were to be increased from 40 to 50 years.

An important provision was that removing the 10,000 population limitation on communities eligible for the loans. Actually, the loans have been made during the past few years only to towns of 5000 population or less as HHFA policy. The Fulbright bill was written to remove all limitations and open the benefits of the program to all cities and towns in the country. This opened the proposal to argument that under its terms the metropolitan centers would gobble up the bulk of loan funds, leaving too little for other cities.

An amendment in committee would increase the authorization for the advance planning program—also administered by CFA—raising its ceiling from the present $48 million to $98 million. These advances are made to communities interest-free with repayment required upon start of construction.

CFA spokesman and the U. S. Chamber of Commerce were among those opposing the legislation in hearings. The American Municipal Association and other trade association groups supported it.

Propose Extending and Increasing Federal Aid to Airports

New legislation has been introduced in Congress to extend the Federal Aid to Airports act for four more years. It would provide an additional $75 million in emergency aid this fiscal year.

In introducing the bill, its sponsor, Sen. Mike Monroney (D-Okla.), said financing in the present program is not sufficient to meet the needs of local communities which have voted airport funds and now wait in a long line to receive the money promised them for airport construction.

He estimated that cities expecting to be on the jet schedules will have to spend from $5 million to $15 million to be ready for these new, faster planes, adding, "If there are available only the limited funds which we prorate at a maximum of $1 million a year to any one airport to match the funds that have been voted by the cities, we will stretch out the work program by five to seven years."

The Monroney bill proposes adding $75 million to the fund immediately and increasing the present annual $63 million authorization to $100 million. The present act expires June 30, 1959.

Colorful Library Shelving by

DELUXE

Handsome plastelle colors of lifetime baked enamel over chem-a-cote bonderizing at no extra cost when you order colorful Deluxe Library Shelving. Because Deluxe shelving is boltless, it's erected quickly. Adjust shelf height without using tools in a minute. Clean, modern lines. Rigid construction. Outstandingly attractive. By America's leading maker of boltless steel shelving.

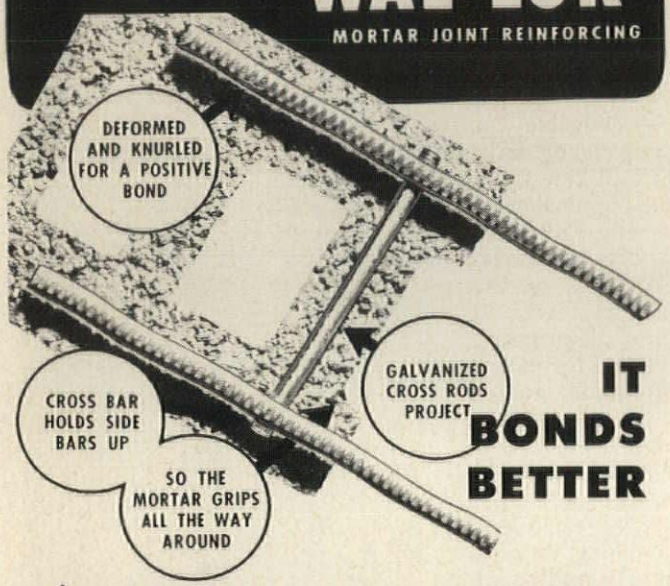
Send for full color Deluxe Catalog No. 504 or call your Deluxe dealer.

DELUXE METAL FURNITURE CO.
WARREN 11, PA.

Adivision of the Royal Metal Mfg. Co.

DELUXE

FOR BETTER, STRONGER WALLS
USE WAL-LOK
MORTAR JOINT REINFORCING



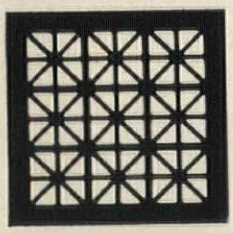
IT BONDS BETTER

WAL-LOK

WRITE TODAY FOR BROCHURE!!

ADRIAN PEERLESS, INC.
1406 E. MICHIGAN • ADRIAN, MICH.

Think of HENDRICK for
ARCHITECTURAL GRILLES



ATTRACTIVE

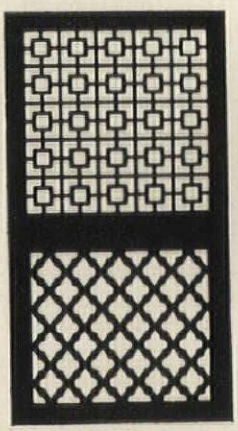
Hendrick Architectural Grilles combine the functional with the decorative. Many designs are obtainable only from Hendrick.

ECONOMICAL

Hendrick Grilles cost less to install than most architectural materials.

VERSATILE

Each design can be furnished in a wide range of dimensions, with varying numbers and sizes of perforations.



EASY TO INSTALL

Hendrick Grilles always lie flat . . . do not bend or warp. They provide more than enough open area for free passage of air.

Write today for more information about Hendrick Grilles

Hendrick
MANUFACTURING COMPANY
38 Dundaff Street Carbondale, Pa.

Perforated Metal • Perforated Metal Screens • Wedge-Slot Screens • Hendrick Wedge Wire Screens • Architectural Grilles • Mitco Open Steel Flooring—Shur-Site Treads • Armorgrids • Hydro Dehazers • Distillation Column Internals.

It happened at Teaneck

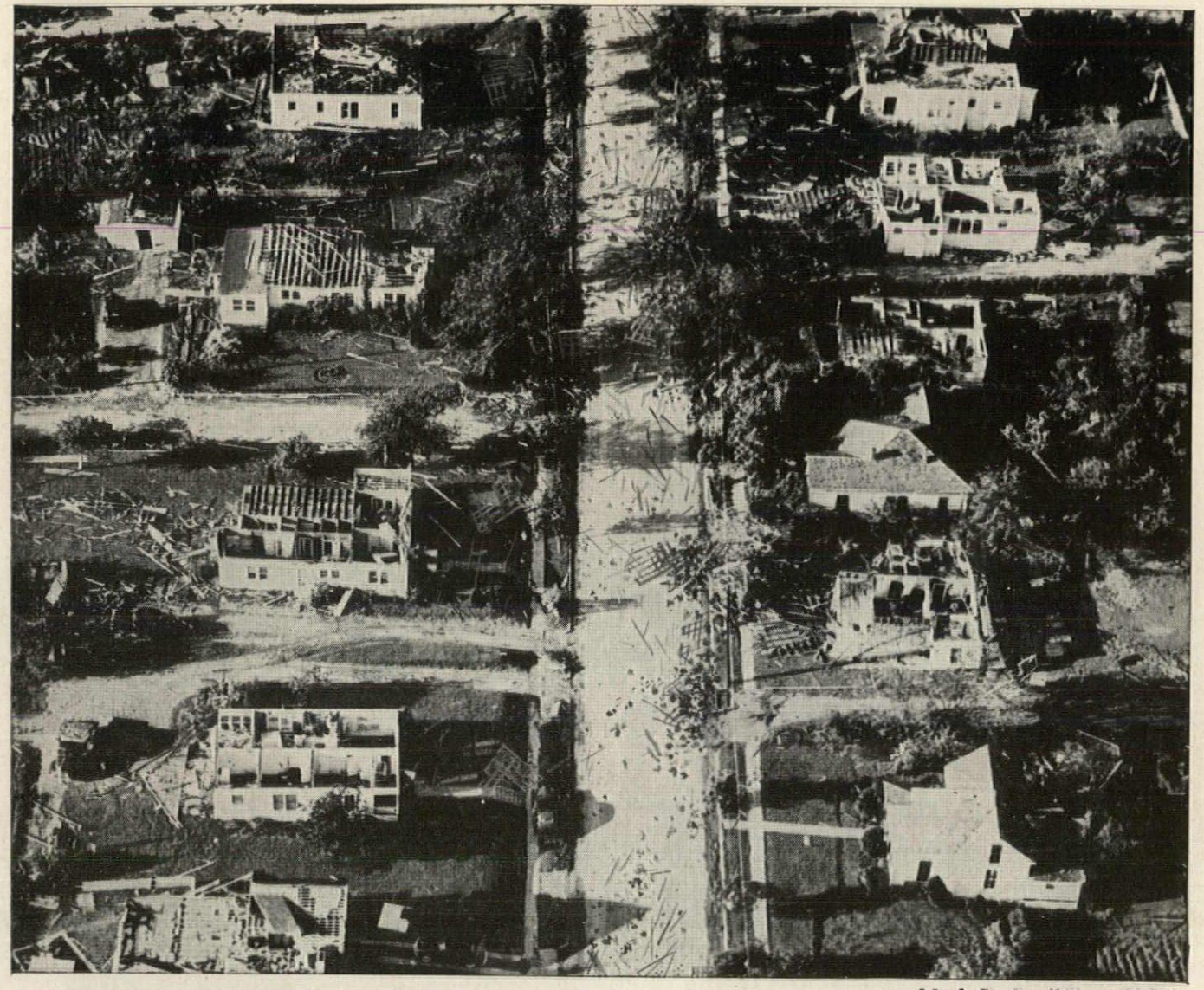
. . . the conductor raised his baton. Backstage, a hand set a reading on a dimmer. The concert mood of sound and light filled the Teaneck Jewish Center social hall.

Lighting for this arena of varied interests demanded a special control system of Architect Max M. Simon, the engineering firm of Barnett-Ross, and Century. The system was built on a Century Interplug Switchboard and Dimmerpak unit

Complete control concentrated in simplest terms was provided by Century Interplug Switchboard and Dimmerpak system. Within minutes, any amateur can learn to simulate a stroke of lightning, a sunset, or any of a full gamut of color, form, movement and intensity effects. Dimmers in each Dimmerpak add this dramatic power with quick-changing or static effects, needed for dramatizing or glamorizing the events of a community center or school auditorium, a museum or manufacturer showroom, exhibit hall or nightclub.

Century Interplug & Dimmerpak systems can be built, custom fashion, to provide intricate lighting controls easily, economically. These addable units can be combined and installed at minimal cost, can be expanded with additional units as needs or budgets grow. Send for complete data, from Century . . . the name in lights.

CENTURY LIGHTING, INC. 521 West 43rd Street, New York 36,
1477 N.E. 129th Street, North Miami, Fla.
1820-40 Berkeley Street, Santa Monica, Calif.



Maple St., Small Town, U.S.A.

A TOWN WHERE "NOTHING EVER HAPPENS"...

A home town—like your town. A place where people said "it couldn't happen to us."

But it *did*. Like a whip, a great tornado lashed down Maple Street, splintering houses, leaving people hurt—homeless—panic-stricken.

A desperate call went out for the Red Cross and quickly, automatically, the team went into action.

Red Cross nurses slipped into uniform . . . volunteers set up first aid stations . . . canteens fed the hungry. Later, Red Cross money and work helped rebuild the town.

Last year was one of the worst disaster years of this century, and the year before, 1956, was almost as bad. Every month and in every state, the Red Cross strained to the limit as hurricanes, floods, tornadoes, forest fires swept across the country.

Red Cross receives no government funds—depends entirely upon *you* for support. Give as much as you can. Your dollars may go to your own town when it needs them most.

Join and Serve

SPACE CONTRIBUTED BY

a V.I.P.'s decor . . .

rates a Bigelow on the floor

Though tastes may differ, you're bound to please *all your clients* with carpets from Bigelow's unlimited variety of patterns, colors, textures . . . and prices. To insure the right carpet for the job, top value for every dollar invested, see your Bigelow dealer. He'll make available the services of his experienced staff *plus* Bigelow Carpet Counsel, a group of commercial carpet specialists unmatched in the industry. Bigelow Rugs and Carpets, 140 Madison Avenue, New York 16, N.Y. *The new ideas in carpet begin with* BIGELOW.

Bonded "Electro-Sheet" Copper in

CONCEALED FLASHING

Gives Enduring Protection

"Electro-Sheet" is pure thin copper produced by electro-deposition in long, wide rolls—in weights of from 1 to 7 ounces per sq. ft.

Durable and Economical—When bonded to other materials, for flexibility and easy handling, it provides a lasting product for concealed flashing and dampproofing uses at relatively low cost.

In a Variety of Forms—"Electro-Sheet" is furnished to manufacturers who bond it to high-grade building papers and fabrics, or coat it with asphaltic compounds. The finished products are available in long lengths, and widths to 60". For names of manufacturers, write: The American Brass Co., Waterbury 20, Conn. In Canada: Anaconda American Brass Ltd., New Toronto, Ont.

5648

ANACONDA® "Electro-Sheet" COPPER

DON'T BE "FLOORED"

by Concrete Floor Problems

hydroment

Tested & Proved in Varied Industries for 17 years.

is the SIMPLE, ECONOMICAL, answer to the need for Greater

Hardness • Density • Wearability • Corrosive Resistance • Appearance

When you're considering concrete floors or service areas, it has been proved wise to specify HYDROMENT if you're an architect and to use it if your a cement contractor.

Write for complete data and HYDROMENT color card.

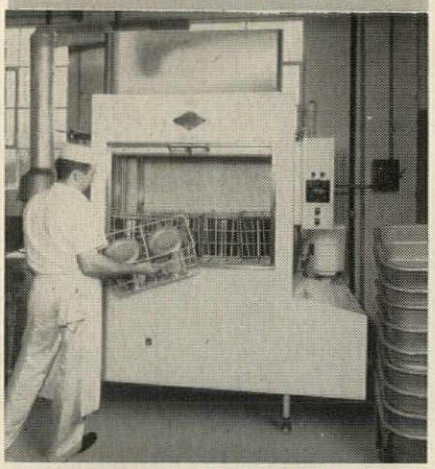
4805 LEXINGTON AVE. CLEVELAND 3, OHIO

THE UPCO COMPANY

PIONEERS IN INDUSTRIAL RESEARCH SINCE 1881

FOR MORE EFFICIENT KITCHENS IN

- **SCHOOLS**
- **INSTITUTIONS**
- **HOSPITALS**
- **RESTAURANTS**



Specify A-F "PANHANDLER"

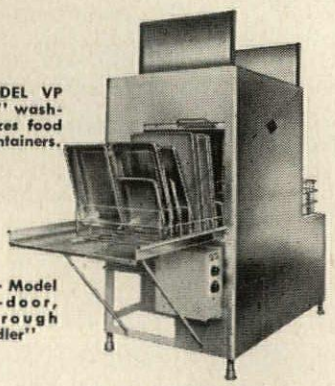
PAN and UTENSIL WASHERS

A-F "Panhandlers" not only wash, but *sanitize*, all types of pots, pans, utensils and food transport containers *automatically* . . . eliminating the factor of human error and assuring *fast, thorough, uniform* cleaning.

Operator simply loads, sets the dial and the A-F "Panhandler" does the rest. The oscillating A-F "Super Spray" system covers all surfaces — from *above* and *below* — with *overlapping curtains* of *high-pressure spray* . . . eliminating the "dead spots" so common with "splash" or flooding action.

Two space-saving models are available to fit any kitchen layout — the two-door, pass-through Model SD and the single-door Model VP with exclusive hold-down grid. Available for steam, gas or electric heating.

For complete details of A-F "Panhandlers", write for illustrated folders — today!



TOP — MODEL VP "Panhandler" washes *and sanitizes* food transport containers.

RIGHT — Model SD two-door, pass-through "Panhandler"

THE ALVEY-FERGUSON CO.

162 Disney Street, Cincinnati 9, Ohio

Representatives—Coast to Coast

A Washington Report

continued from page 32

pant that occupants regarded first floor rooms as the most desirable.

"In several instances existing structures had been acquired and converted to good advantage. However, one committee member, who had experience with converting a hotel, recommended construction of a new building because hotel renovation can involve closets that are too small, inadequate wiring and electrical outlets, and plumbing facilities which may have to be completely replaced. One participant had considered purchasing a frame hotel for conversion but did not do so because of the fire hazard.

"A member of the committee with experience in directing a number of residential projects felt that accommodations for 250 was an ideal size; that capacity for over 300 tended to make the group too large and to deprive the project of the individuality that can be obtained with a smaller number of occupants. Another member with a different type of establishment stated that economical operation required more than 200 residents."

A committee summary of selected recommendations on equipment and facilities:

—Elevators should be of sufficient size to carry a bed.

—No door sills.

—Two-way communicating system with red light turning on to insure privacy.

—Telephone booths on each floor, if there are not telephones in each room.

—Electric wiring system sufficient to carry a heavy load.

—Grab bars in bathrooms and rails in hallways and elevators.

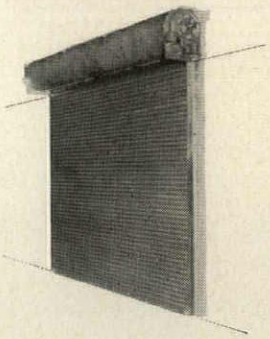
—Non-skid floors. Carpets ideal wherever possible. One director stated that in his residence a fracture had never resulted from a fall on a carpeted floor.

Hill-Burton Total at 3808; Cost Tops $3 Billion

Latest figures on hospital and medical facility construction status under the Hill-Burton program showed that as of March 1 there were 3808 projects involved with total estimated construction cost of $3,156,060,513. The Federal share was placed at $977,309,987. This construction, including buildings in all phases from initial approval by the agency to final completion, is adding 164,524 hospital beds and 1000 health units to the nation's inventory.

Balfour

automatic rolling fire doors



- **U. L. labeled for 3 hour protection**
- **efficient service doors whenever wanted**
- **automatic fire doors whenever needed**
- **invisible guardians against fire loss**

Only rolling fire doors have so many advantages . . . day to day opening and closing ease . . . 3 hour fire retarding effectiveness . . . space saving compactness . . . unmatched security features . . . easy installation.

Balfour rolling fire doors have additional advantages. They take less space and can be completely hidden above the ceiling. Balfour's rolling fire doors shut automatically at a safe, constant speed and can be manually operated for emergency exit. After exit they automatically close again.

Write for full specification details, a complete catalog or see our insert in Sweet's.

Walter Balfour & Co. Inc.

Brooklyn 22, New York

Office Building, Kansas City - 1/8" scale - Kivett, Myers & McCallum

Mitchell Models

LEADING ARCHITECTURAL MODEL MAKERS SINCE 1946

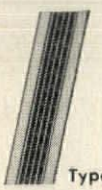
FORWARD SKETCHES FOR PROMPT ESTIMATE

We photograph our own models

MAKE OUR STUDIO A PART OF YOUR OFFICE

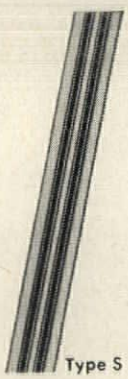
Telephone YUkon 3-5893
2930 NILES AVENUE • SAINT JOSEPH • MICHIGAN

Where?

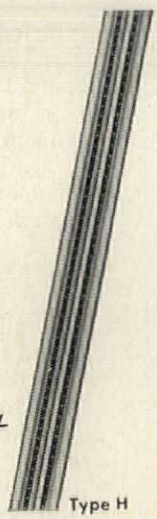


Type F

Anywhere!



Type S



Type H

STRIPLINE Diffusers
by AGITAIR®

STRIPLINE combines the best features of both slots and efficient air diffusers to provide equalized air flow throughout its entire length.

STRIPLINE slot diffusers are slenderly designed, inconspicuous, practical and versatile. These slot diffusers can be located in walls, ceilings, coves, moulds, window reveals and stools or almost anywhere to suit interior design.

Write for complete Stripline catalog.

AIR DEVICES INC.
185 MADISON AVE., N. Y. 16
Air Diffusers Filters Exhausters

New **WIDER** Structoglas panels
save labor, waste and money

Don't buy *any* fiber glass panels until you get a quote on new *wider* Structoglas corrugated. Two new widths (51½" for skylights, 50" for glazing, both covering 48") give you more installed coverage area per dollar than any other panel. Wider Structoglas has fewer overlaps, needs less fasteners, takes less time to install. You actually save 10c per square foot when you install 51½" Structoglas instead of ordinary 27½" panels.

Specify Structoglas—the reinforced plastic panels that eliminate glass breakage, transmit diffused natural light.

structoglas®

5809

Write for specs and prices to
Structoglas Division, International Molded Plastics, Inc.
Dept. AR5, Cleveland 9, Ohio

YOUR SCHOOL PLANS DESERVE THE FINEST BASKETBALL EQUIPMENT

THE *RECREATION* LINE

Exclusive Design Backstops

Provide the finest and newest forward-swing basketball backstop ever developed for the school gyms you design—specify RECREATION! With RECREATION'S exclusive rear pivot design, the backboard is mounted on curved oblique supports and every impact of the ball *increases* the bracing action. Hoist cable automatically retracts out of the way when backstop is lowered to playing position. Precision manufactured and factory assembled—can be installed more easily in less time.

RECREATION EQUIPMENT CORP.

DEPT. AR–724 WEST 8TH STREET • ANDERSON, INDIANA

Write today for your copies of Recreation's catalogs:

☐ Playground Catalog ☐ Swimming Pool Equipment Catalog ☐ Basketball Backstop Catalog

more than 300 sound system experts

No matter where the job, or how complex, DuKane's nation-wide network of more than 300 distributors—supervised by factory district managers—is available to you for solving your most difficult sound system problems.

DuKane Corporation, Dept. AR-58s St. Charles, Illinois

Please send me full information on DuKane sound systems. I am especially interested in

☐ schools ☐ hospitals ☐ industrial buildings ☐ churches ☐ _____

Name _____

Firm _____

Address _____

City & State _____

DuKane sound systems are sold and serviced by a nation-wide network of engineering distributors.

DUKANE

Mr. Architect!

Get the Facts about trouble-Free

ST. CLAIR INSULATION ADHESIVES

ST. CLAIR Insulation Adhesives are specifically designed for bonding insulation materials to metal. They provide easier handling of insulation for ducts, which can be bonded immediately or up to 45 minutes later.

They supersede pins and clips, wires, screws and caps because they save on cost of installation, while providing a better, neater and more permanent job.

ST. CLAIR line includes adhesives formulated for every bonding problem, and they are recommended by *many of the leading producers of insulation.*

Free Catalog sheet and Sample

ST. CLAIR RUBBER CO.

440A E. Jefferson Ave. Detroit 26, Michigan

CONNOR

forest products since 1872

"LAYTITE" maple birch oak FLOORING

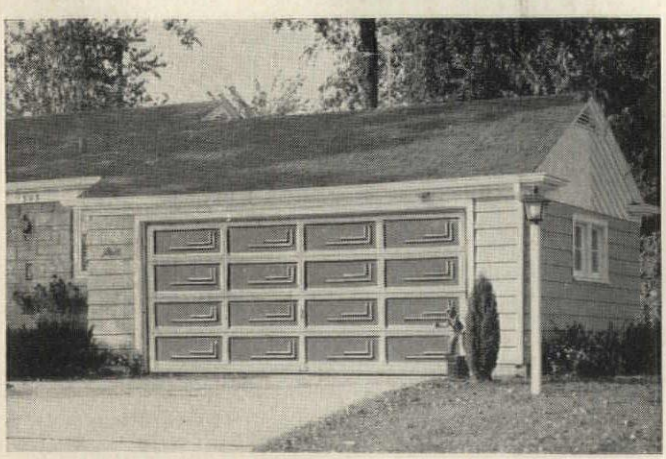
has been first choice for gyms, playrooms and classrooms

"CONTINUOUS STRIP", Blocks,
Regular Strips and Slats
School and Gym Floors our specialty
MFMA grades and trade marked
See Sweet's file specs # 13J/Co

CONNOR LUMBER & LAND CO.

P. O. BOX 810-G, WAUSAU, WIS.
Phone No. 2-2091

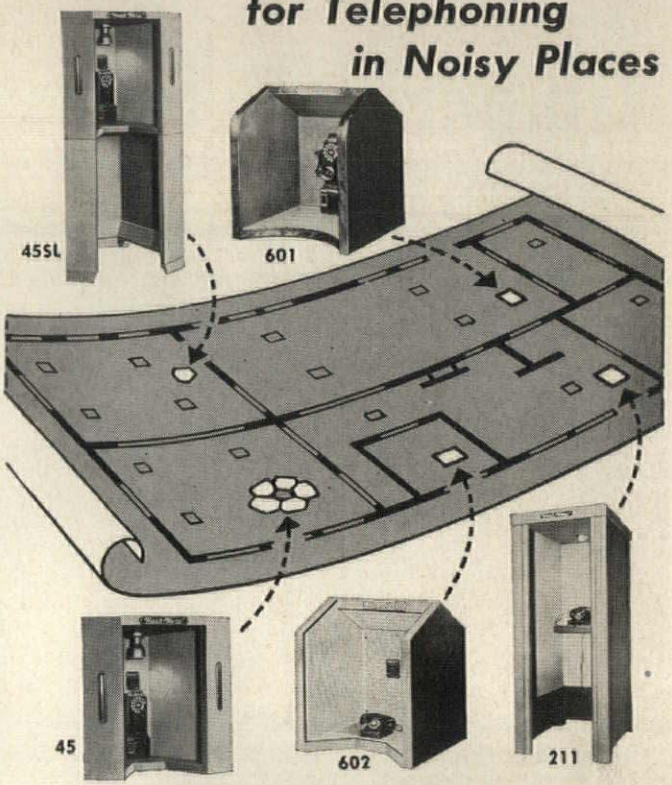
Rō-Way
OVERHEAD TYPE DOORS



there's a Rō-Way for every Doorway!

ROWE MANUFACTURING CO.
1299 Holton St., Galesburg, Ill.

Designed Especially for Telephoning in Noisy Places



BURGESS-MANNING

"Hear-Here"

ACOUSTI-BOOTH

(The Original Isolation Booth)

Here is the telephone booth that is more than "just a booth." It effectively shuts out extraneous noises in the most critical spots to permit telephoning in the comfort and quiet of home. Many years of acoustical research and development experience is built into every "Acousti-Booth" — and in design careful consideration has been given to the dictates of modern architecture. The "Acousti-Booth" is doorless and never harbors a foul odor — its open, simple design discourages deposit of rubbish — and maintenance is no problem. The "Acousti-Booth" belongs in every commercial building, institution, hospital, school, air and rail terminal, store, and other locations having a heavy traffic and noise condition — specify Burgess-Manning "Hear-Here" Acousti-Booths in all your plans for most effective telephone comfort.

Performance Guaranteed

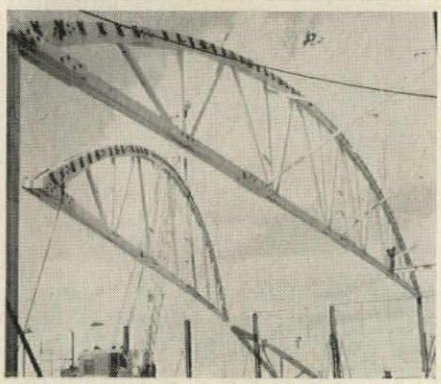
For complete description and prices on all models, send for Bulletin A-142-2A

3 Heating Cooling Acoustical

BURGESS-MANNING COMPANY

Architectural Products Division
5970 Northwest Highway, Chicago 31, Ill.

Rosboro Timber Fabrication



Rosboro owns and logs its own timber from a sustained yield of old growth Douglas Fir. This assures a dependable and uniform quality for all types of structures.

Rosboro's fabrication crew has almost two decades of experience in engineered timber fabrication. The department is a unit of our mill at Springfield, Oregon, taking advantage of a large inventory, storage and shipping facilities. Rosboro can fabricate all types of solid sawn trusses and roof structures to meet your needs for modern engineering in wood.

Send for Free booklet

ROSBORO
LUMBER COMPANY
SPRINGFIELD, OREGON

Please send me your Timber Fabrication folder

Name_____

Firm_____

Address_____

City_____ Zone_____

State_____

Required Reading

continued from page 64

perhaps prepare a solar analysis kit for sale to supplement their book, containing transparent plastic charts and diagrams as well as their "Shade D Dial". With such a kit, it would be an excellent textbook for students. Sun control should be a required part of the curriculum in all architectural schools. Questions on insolation should take their place in registration examinations along with those on building materials and principles of design.

The Olgyays have given us a new tool for creating better architecture. I know personally that numerical calculations based on their methods helped Breuer, Nervi and Zehrfuss convince the UNESCO engineers and advisors of the value of the several devices incorporated in the new building in Paris. Architects will find their understanding of the problems of the sun made broader and more precise by spending the few hours required to study this excellent book.

Gardens of Japan
By Tetsuro Yoshida. (Translated from German by Marcus G. Sims.) Frederick A. Praeger, Inc. (N.Y.), 1957. 187 pp., illus., $12.50

Gardeners and architects throughout the world are fortunate that Mr. Yoshida was able to complete this book before his death in 1956. It is a perfect complement to "The Japanese House and Garden," by Mr. Yoshida, which was published in English for the first time in 1955.

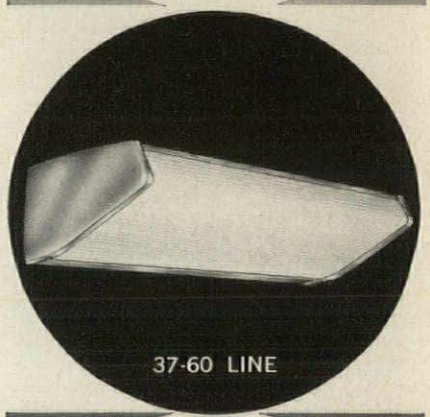
Mr. Yoshida has now extended his brief summary on the Japanese Garden, which appeared in the earlier work, to a detailed analysis of its basic materials and principles of design. The historical development of the Japanese garden is covered briefly and introduces the three traditional garden types: the landscape garden with lake and hill, the level garden and the tea garden. From this point to its conclusion, Mr. Yoshida uses his book to discuss and illustrate his subject from the point of view of design and design details.

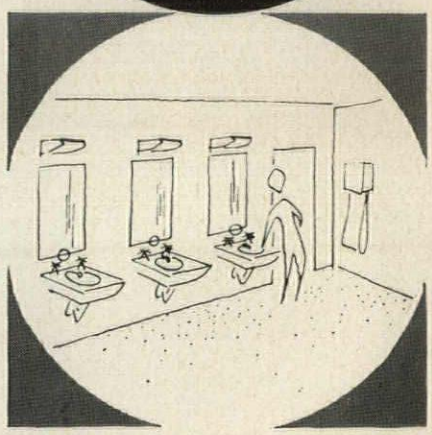
The three basic styles in which the garden types are laid out—*Shin* or objective, *Soo* or subjective, and *Gyo*, the intermediate form—are then examined and illustrated with excellent photographs of complete designs and details of the separate elements.

The formalization and standardization of these styles, at the outset popularized them to the broader mass

continued on page 414

new
lighting design by mcPhilben





mcPhilben's new 37-60 line designed by E. Allan Rothman provides the most efficient lighting of fitting rooms, mirrors, stair landings, telephone bookstands . . . wherever localized illumination is desirable.

Available in both fluorescent and incandescent models offering these exclusive features: continuously hinged doors for easy relamping . . . all metal construction . . . baked on grey enamel finish . . . removable reflectors for easy access to electrical components.

37-60 Two 60 watt lamps
37-65 Two 15 watt T-8 fluorescent lamps

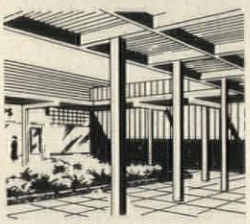
Contact your mcPhilben representative for full details. See our insert in Sweet's file 32a or write for data sheet C/27 mc

mc Philben
LIGHTING COMPANY
1329 WILLOUGHBY AVENUE, BROOKLYN 37, NEW YORK

ESPRO STRUCTURAL STEEL TUBING

for contemporary architectural effects

Perfect for strength, utility, and low-cost attractiveness. Girths, square or rectangular: 12″ to 48″. Wall thicknesses: ⅛″ to ½″. Straightness tolerance of tubing is $\frac{1}{32}$″ in three feet. Get full facts today on this modern structural medium for virtually limitless uses. Supplied hot-dip galvanized, when desired. Available nationally through warehousing distributors. Patent pending.



Write for Literature

EQUIPMENT STEEL PRODUCTS
DIVISION OF UNION ASBESTOS & RUBBER COMPANY
2900 W. Vermont St., Blue Island, Ill.

FOR BUILDINGS OF ALL TYPES
. . . first in efficiency, economy and client satisfaction

★

TODD BURNERS
GAS OR OIL

★

PRODUCTS DIVISION
TODD SHIPYARDS CORPORATION

Headquarters:
Columbia & Halleck Streets, Brooklyn 31, N.Y.
Plant:
Green's Bayou, Houston 15, Texas

TODD
NEW YORK, U.S.A.

picked by professionals

Reach for a Venus drawing pencil . . . and get the clearer, consistent, precision line blueprint and drafting work demands. The lead in all 17 degrees of Venus drawing pencils is homogenized by the exclusive Venus Colloidal Process. Result: sharper prints . . . smudge-free tracings. Clean erasures are easy to make.

And because Pressure-Proofing seals the lead to the wood along its entire length, the Venus is stronger, holds a needle point longer. See why Venus sets the standard for fine drawing pencils. Also try Venus Refill drawing lead that fits all holders.

SEND FOR the Venus Technical Test Kit. State degree wanted—also choice of pencil or refill lead.

Venus . . . trademark of fine craftsmanship in Pencils & Pens

VENUS
drawing pencils

©VENUS PEN & PENCIL CORPORATION, HOBOKEN, N. J.

GLASS makes it LAST!

Permaglas® smokestacks offer your clients:

- ★ 3 to 5 times longer life than unlined steel stacks
- ★ corrosion resistance regardless of excess acid condensate
- ★ low maintenance, no painting—glass can't rust
- ★ lightweight—lower foundation cost
- ★ lower cost—glass protection now within reach of all
- ★ flexible, tough, durable glass—remarkable resistance to impact or abrasion

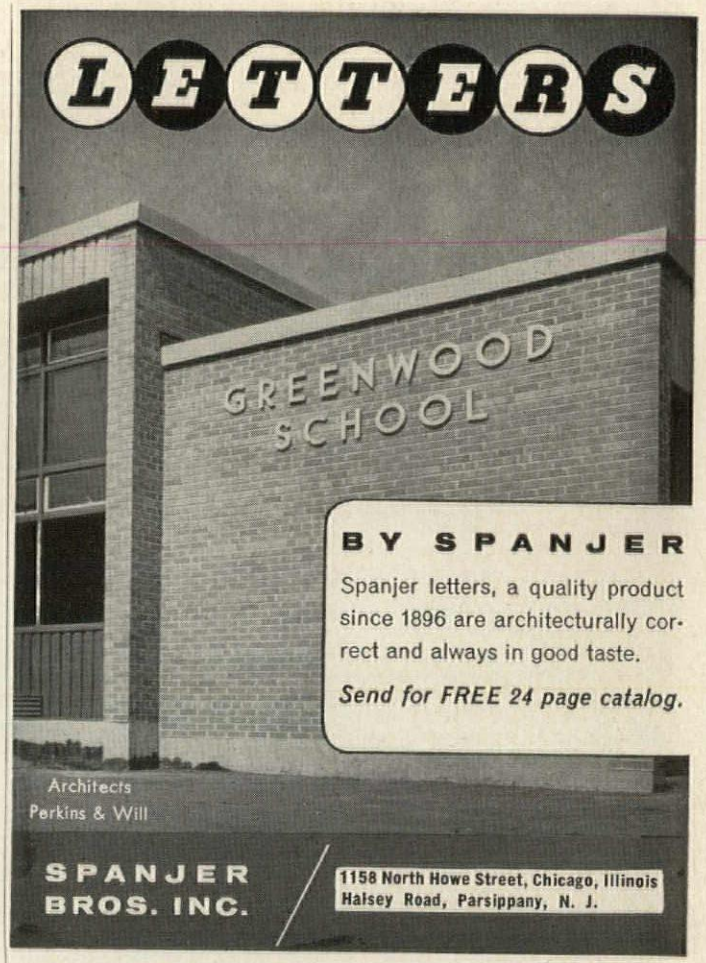
Write Dept. AR-5 for the Permaglas® savings analysis—Bulletin SS-202

Through research A.O. Smith *... a better way*

A.O.Smith CORPORATION

PERMAGLAS SMOKESTACK SALES
PROCESS EQUIPMENT DIVISION
MILWAUKEE 1, WISCONSIN

LETTERS



BY SPANJER

Spanjer letters, a quality product since 1896 are architecturally correct and always in good taste.

Send for FREE 24 page catalog.

Architects
Perkins & Will

SPANJER BROS. INC.

1158 North Howe Street, Chicago, Illinois
Halsey Road, Parsippany, N. J.

BOECKH'S MANUAL OF APPRAISALS

5th Edition — just published

Over 100,000 individual unit costs—more than 300 buildings, with hundreds of variations, all easily converted to local cost conditions.

YOU CAN FIGURE YOUR BUILDING COSTS
..... quickly and accurately .....

BUILDING COSTS — published monthly

A supplementary service giving an analysis of current market conditions and latest cost indexes for the major metropolitan areas of the U. S. and Canada to convert to local cost conditions.

SEND TODAY FOR COMPLETE DETAILS

E. H. Boeckh & Associates
1406 M Street, N. W.
Washington 5, D. C.

a book of rare quality and beauty

JAPANESE TEMPLES AND TEA-HOUSES

by Werner Blaser

A magnificently illustrated study of classic Japanese architecture. Its thoughtful text and brilliant photographs give a meaningful insight into the cultural, religious, and social forces which produced these buildings.

Depicts 30 separate structures, ranging from 9th century temples clearly showing the Buddhist style, to the Katsura Palace at Kyoto, a magnificent example of 17th century Shinto architecture. Blaser emphasizes the integration of exterior and interior in Japanese buildings, as well as their unity of purpose, structural form, and material.

Structural details are shown and discussed, for the author feels that these buildings contain valuable lessons for Western architects. Over 90 photographs (8 in full color), excellent typography, finest coated stock, and a beautiful full-color jacket.

156 pages, large 9¼ x 12½" size, $12.75

Order on approval from

DODGE BOOKS

F. W. DODGE CORPORATION
119 West 40 St., N. Y. 18, N. Y.

MARMET
Series 1400
CURTAIN WALL

for Classic Contemporary at low erection cost!

Designed for contemporary structures that require a complete aluminum, curtain wall grid framing, Series 1400 is engineered for buildings of any vertical or horizontal measurement. First, vertical mulls are hung, or base supported, at each story of the building. Lite sections and wall panels can then be stacked one atop the other with a horizontal locking system that fits any condition. Units are small enough that two men can easily handle and install them . . . working from the inside in most cases . . . saving the time and cost of erecting scaffolding. Expansion or contraction of sash members is engineered to coincide with vertical movement in the mulls . . . and double weatherstripping assures excellent mechanical control of water shed. Consult MARMET's engineering staff for successful execution of your next contemporary classic.

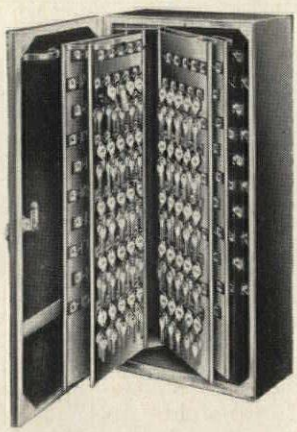
Photo by Leep Zelones, Niagara Falls, N.Y.

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

MARMET Corporation
300-T Bellis St., Wausau, Wis.

For detailed specifications on MARMET products—consult SWEET's Catalog File No. 3a or write to MARMET. Mar

TELKEE
MODERNIZES
KEY CONTROL



ARISTOCRAT WALL CABINET
Dimensions:
27" high, 13" wide, 7⅞" deep.
Capacity: 150-450 keys.
Also available fully recessed. Write for dimensions.

and is a low-cost investment that pays for itself in a short time.

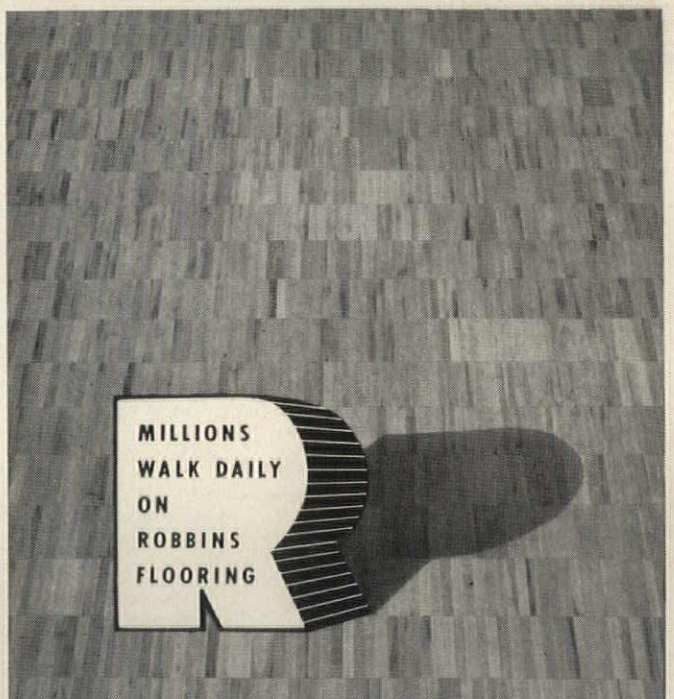
Telkee will . . .

save on replacement costs for locks because better duplicate keys can be cut. Add complete security to all keys. Control unlimited number of keys, and make any key available in seconds. *Savings in time alone are worth the price of a Telkee System.*

FREE BOOKLET: Write today for the complete story of Telkee Systems. Ask for free booklet: "The Key To The Whole Thing."

Address Dept. F 58

TEL KEE *The* **MOORE KEY CONTROL®** *Systems*
P. O. MOORE, INC.
A SUBSIDIARY OF SUNROC CORPORATION, GLEN RIDDLE, PA.



ROBBINS FLOORING COMPANY

Reed City and Ishpeming, Michigan

Ironbound* Continuous Strip* Hard Maple Floors ● Parma-Cushion* Resilient Floor Systems ● Other hardwood floors ● Dri-Vac Protection Treatment available on all wood

of the people. That this simplification and standardization have not led to degeneration of the art form is clearly demonstrated throughout this book.

The predominantly monochromatic, landscape idiom that characterizes the Japanese garden, and has made it outstanding in the connection between house and garden, is fully explored in over 100 full page illustrations. The author opens the way for us to gardens successfully expressing the simplicity and tranquility essential to harmony between man, his dwelling and nature. Gardens of limited and expanding space illustrate in every aspect a unity with nature that deserves the attention of architects, landscape architects and gardeners everywhere.

George Brower Cash

An Investigation

. . . *of the Small House,* is a 38-page booklet written and illustrated by a team of architectural students at Pratt Institute in New York. It is pitched to the small-house client, and is designed to stimulate his imagination; clarify his understanding of what an architect can do for him; help him recognize his present requirements and foresee long-term needs, and to communicate them to his architect. Subjects covered include plan, structure, and mechanical equipment. The booklet would be a good thing to have around an architect's office and available for the perusal of clients. *Pratt Institute School of Architecture,* Brooklyn, N. Y.

Technical References

Engineering Surveys:

. . . *Elementary,* by Rubey Lommel Todd. This 320 page textbook (plus 141 pages of charts and tables), is a third edition, retaining the traditional information necessary to the execution of engineering surveys while providing for the most modern approach. The text is identical with the first part of the larger complete text and reference, *Engineering Surveys: Elementary and Applied. The Macmillan Co., 60 Fifth Ave., N. Y. 11, N. Y., $5.00.*

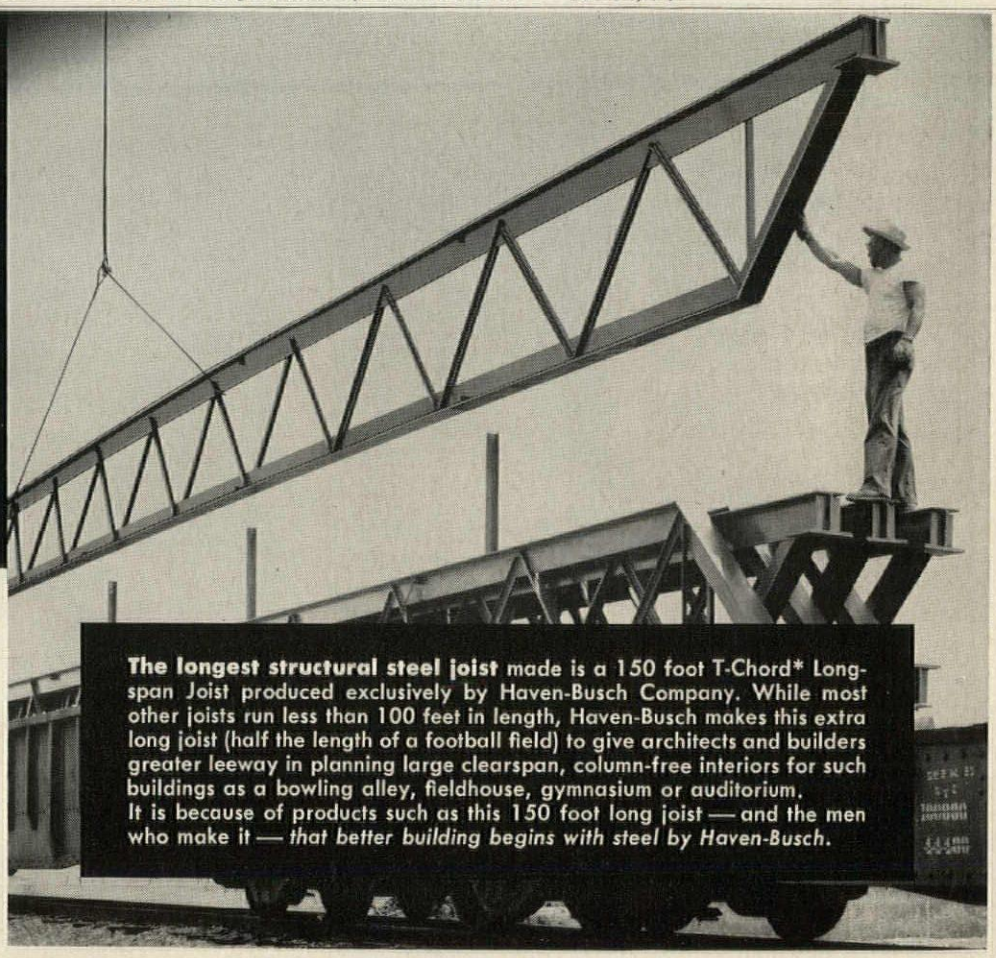
Highway Surveying Tables

This pocket-sized volume in a loose-leaf binder contains complete technical data on the preparation of road plans, highway location and design, horizontal and vertical curves and instrument adjustments, observations for Azimuth Stadia methods and tables. Also included are the tables of functions of a one-degree curve, spiral curve tables, short radius curves, angular deflections, natural sines, tangents, cotangents, cosines, versed sines, exterior secanes, functions of numbers, earthwork tables, grades and grade angles. *Lefax Publishers,* Sheridan Bldg., *Philadelphia, Pa.,* 190 pp., $3.25.

Standards-

. . . *Key to Progress and Profits.* The proceedings of the Eighth National Conference on Standards, held in San Francisco during the fall of 1957, have been published in the form of a 158-page soft-bound booklet which, when studied as a total thesis, covers a wide range of approaches to the national standardization movement, including the need for standards in various industrial, scientific, and construction areas. Topics discussed include: Government and Industry Use of Common Standards; Cost Improvement Through Standardization; Partners in Standardization: Purchasing, Engineering, and Design; Value of Standards in Construction Specifications; and Standardization for Technical Communication. *American Standards Association, Inc., 70 E. 45th St., N. Y. 17, N. Y., $4.*

HOW LONG IS A LONGSPAN JOIST?



HAVEN-BUSCH Company

DESIGNERS — FABRICATORS — ERECTORS

SINCE 1888

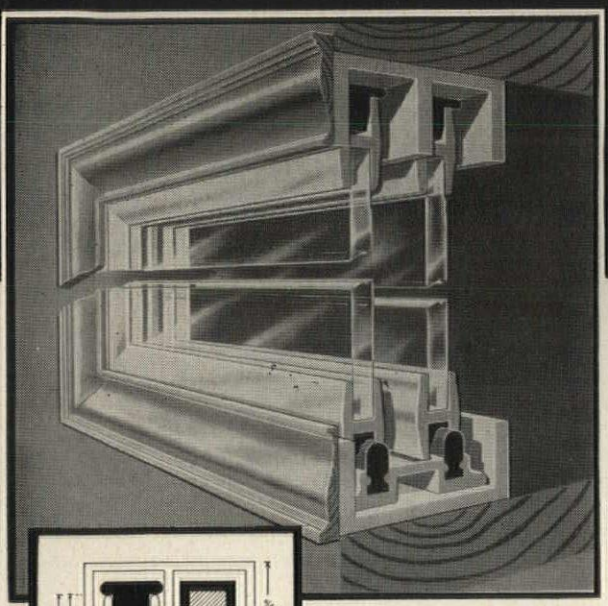
T-Chord* Longspan Joists Structural Steel

Miscellaneous Iron

3443 CHICAGO DRIVE, S.W.—GRANDVILLE, MICH.

PHONE: LEnox 2-3641

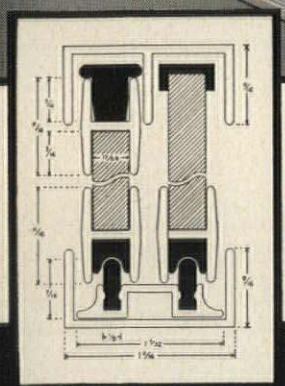
*T.M. Reg.



The Modern Concept in Hardware for large Sliding Glass Doors!

#700 Aluminum Track Assembly

This new track assembly for large sliding glass doors provides every desirable feature and eliminates the objections. Large glass doors slide easily and quietly—but with a controlling action that saves mashed fingers. There are no moving parts to wear out or become clogged . . . no wheels, balls or rollers to go flat. Glass gains a finished look and structural strength. Glass doors are easily removed—simply lift up and out.



Installation is amazingly simple and quick, whether for surface or flush mount, partially or fully recessed. Extruded Aluminum parts are available in mill finish or satin smooth anodized finish. Stock lengths are 4, 6, 8, 12 feet. Special finishes available.

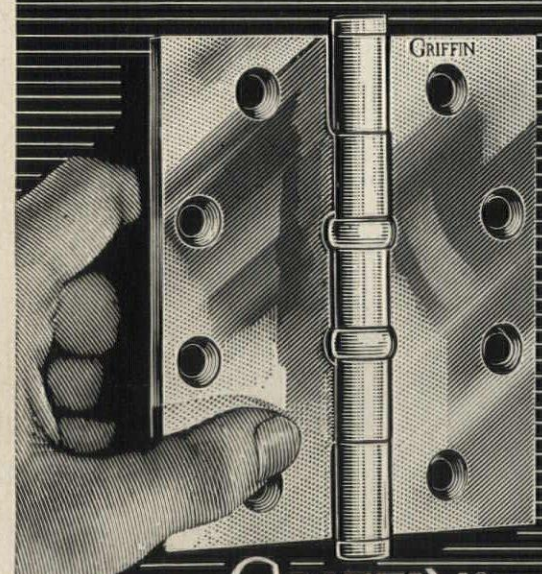
- **Use for any size sliding Glass Doors**
- **Quiet and sure gliding action**
- **No moving parts to cause trouble or wear**
- **Installation is quick and easy**
- **Offers wide variety of mountings**
- **Mill or anodized finish available**
- **Interchangability of parts permits minimum of stock**

SEE YOUR JOBBER OR WRITE TO—

The ENGINEERED PRODUCTS CO. EPCO

P. O. BOX 118 FLINT, MICHIGAN

GRIFFIN HINGES



GRIFFIN®

For handsome appearance during life-long hinge performance. A full line of top-quality butts in all popular finishes. Well-designed buildings deserve fine hardware. Why not specify Griffin hinges?

GRIFFIN MANUFACTURING CO., ERIE, PA.

SINCE 1899

Identify every room, door and desk . . .

NOW CUSTOM ENGRAVED PLASTIC NAMEPLATES

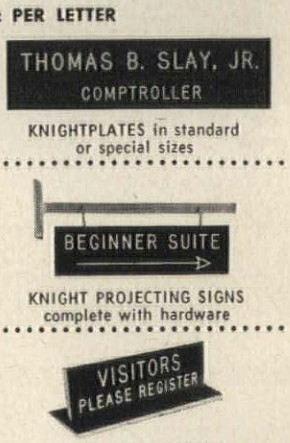
AS LITTLE AS 15c PER LETTER

In Colors and Wood Grains

The lettering is deeply engraved into the tough, weatherproof, pressure-laminated plastic, to expose the contrasting core for high readability and permanent attractiveness.

KNIGHTPLATES can't fade nor chip like paint; do not rust, tarnish or peel; can be easily removed when desired; require no maintenance. 9 stock color surfaces and 6 smart wood grain designs harmonize perfectly with any decorator scheme.

Guaranteed Satisfaction.



KNIGHTPLATES in standard or special sizes

KNIGHT PROJECTING SIGNS complete with hardware

KNIGHT DESK PLATES in 6 attractive styles

·KNIGHT· *Manufacturing Co.*

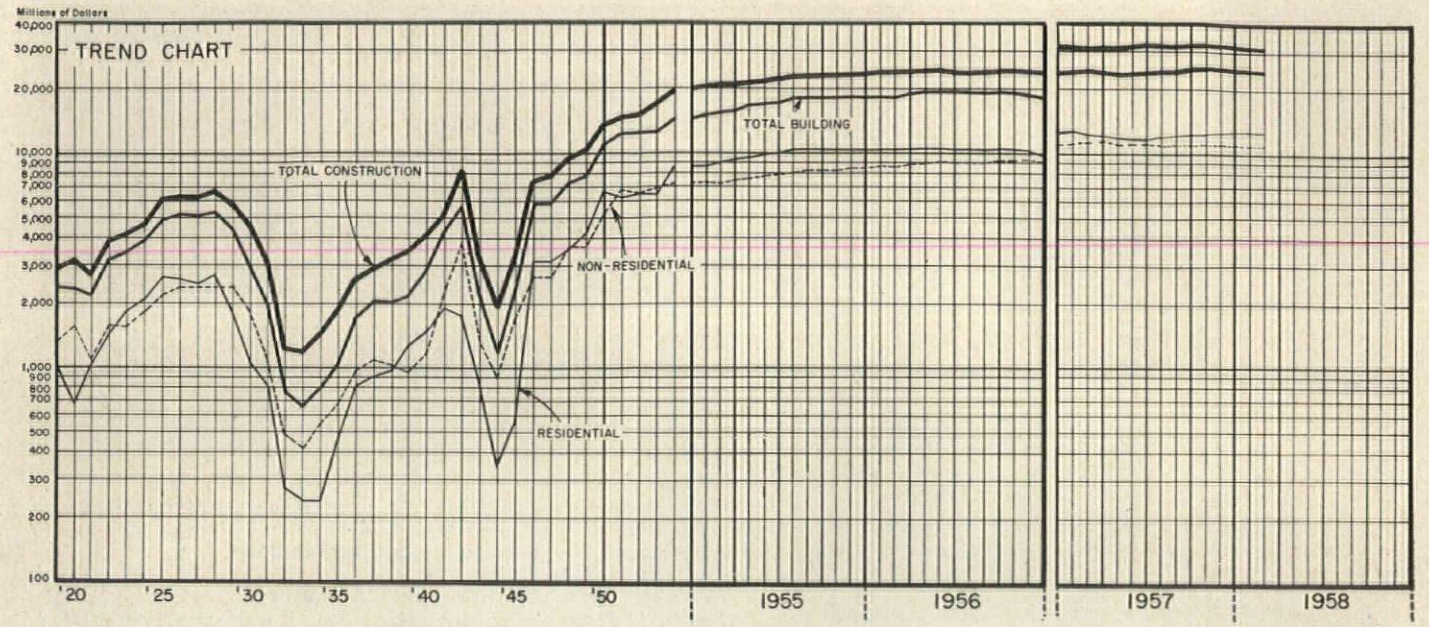
5975 Armour Drive
Houston 20, Texas

WRITE FOR FREE SAMPLES, CATALOG AND PRICES ON YOUR ORGANIZATION'S LETTERHEAD

Dept. AR-4
Dealer Inquiries Invited
SEE SWEETS CATALOG

Current Trends in Construction

As Reflected in Contracts for Future Construction in the U.S. **Reported and Tabulated by F.** W. Dodge Corporation



CONTRACTS OFF TEN PER CENT FOR SECOND CONSECUTIVE MONTH

The total of construction contracts warded in the U.S. in February was $1,953,422,000, a ten per cent decrease from February 1957 and the second consecutive month in which contracts showed a ten per cent decline, according to F. W. Dodge Corporation.

The decrease was sharpest in the residential category, where a dollar volume of $727,282,000 reflected a 17 per cent decrease. On a numerical basis, there was a sharp decline in one- and two-family housing units; but apartment projects continued to show strength, registering an increase of two per cent over February 1957.

Nonresidential contracts in February declined eight per cent; total stood at $750,819,000. The decline was due primarily to decreases in contracts for manufacturing and commercial buildings; hospitals also showed a sharp decrease. Contracts for educational and science buildings were up two per cent.

Heavy engineering registered the only gain of the three major categories. Its February total of $475,321,000 was a gain of two per cent over the 1957 month, with a 29 per cent increase in public works offsetting a 38 per cent drop in utility contracts.

On a cumulative basis, the contract total of $4,013,416,000 for the first two months of the year declined ten per cent from the first two months of 1957—nonresidential off 13 per cent, residential 11 per cent and heavy engineering three per cent.

EDUCATIONAL AND SCIENCE BUILDINGS

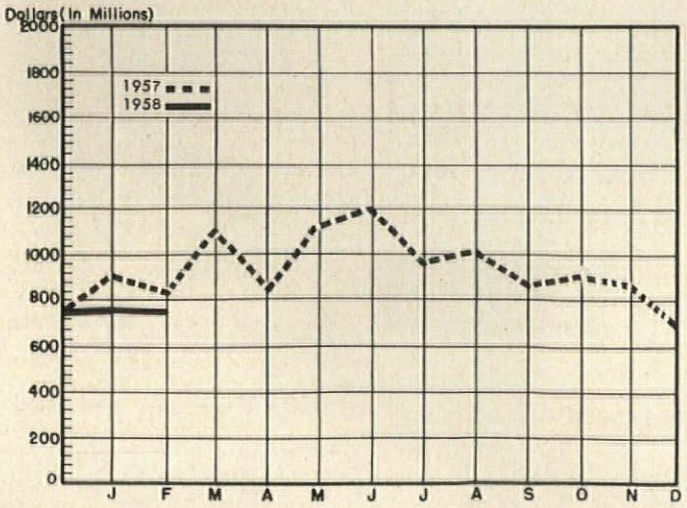
Construction Contracts—48 States

Valuation (in thousands of dollars)

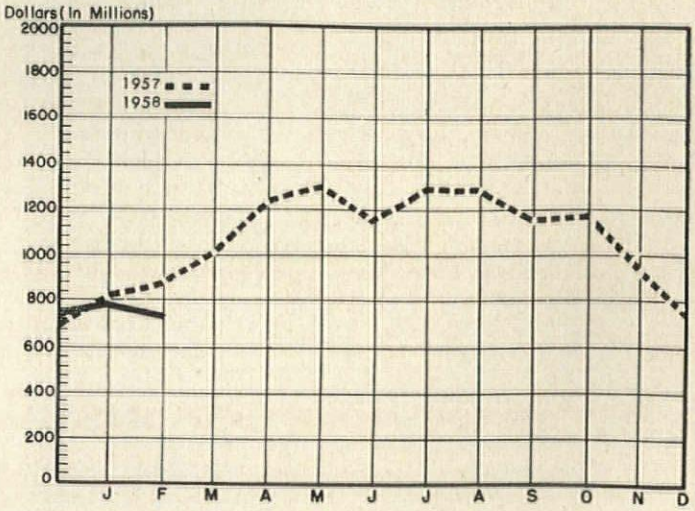
	1956	1957	1958
JAN.	239,296	223,941	214,092
FEB.	179,716	220,008	224,105
MAR.	261,761	273,955	
APR.	259,507	227,380	
MAY	251,144	291,412	
JUNE	245,297	273,471	
JULY	249,456	219,845	
AUG.	238,857	264,672	
SEPT.	221,453	241,525	
OCT.	235,371	265,354	
NOV.	264,618	244,318	
DEC.	236,556	190,433	
TOTALS	2,883,032	2,936,314	

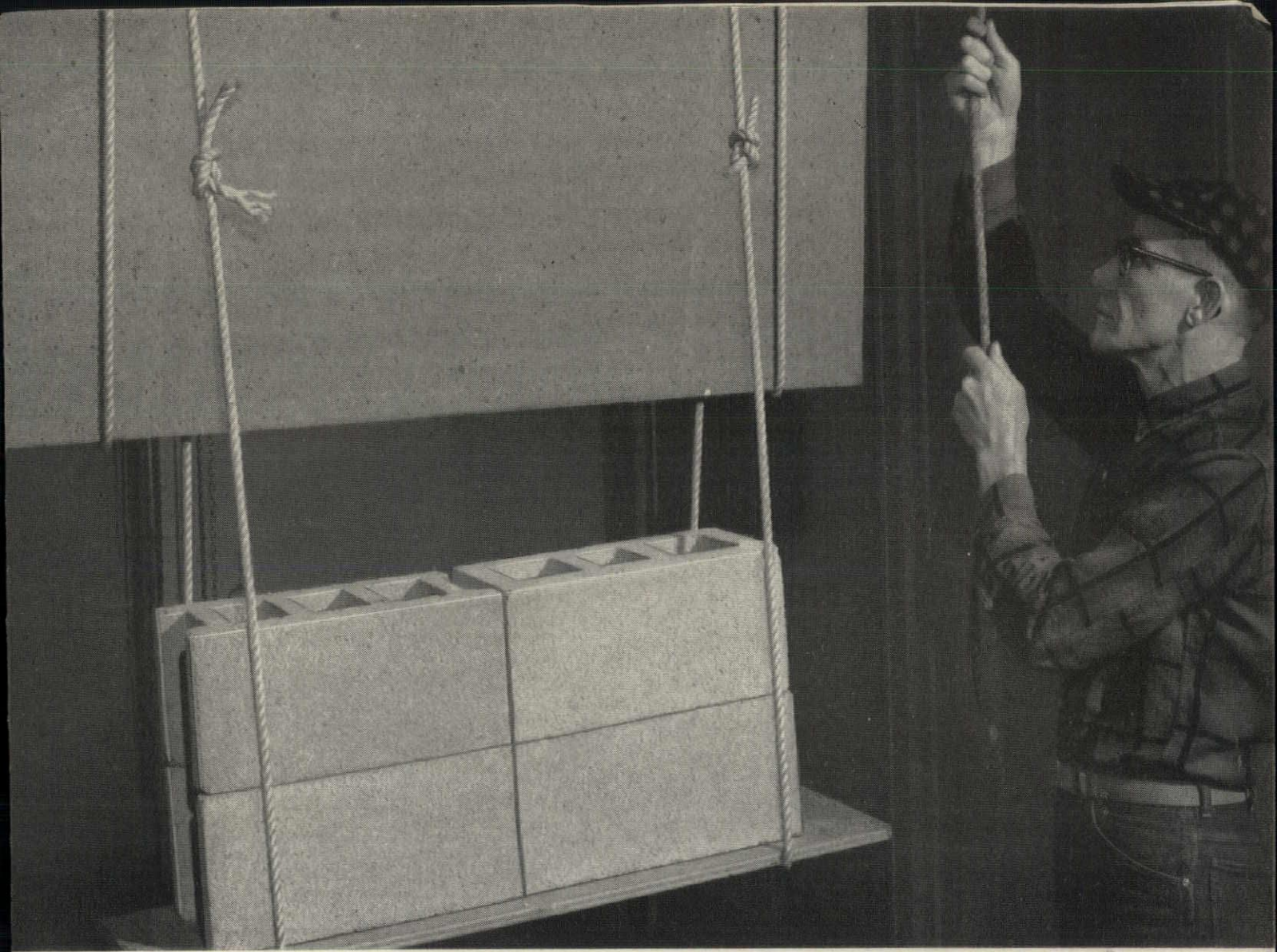
*Schools are the subject of Building Types Study No. 258, pages 213-244.

NONRESIDENTIAL BUILDING



RESIDENTIAL BUILDING





Four 40-pound cement blocks add weight to Temlok Roof Insulation as it is hoisted 10 feet by rope slings.

Hoist test proves rough handling won't damage Armstrong Temlok Roof Insulation

Any kind of roof insulation material that has been damaged by on-the-job handling can seriously affect the performance of the installation.

Insulation materials with broken corners or deeply dented sides result in soft spots under the felt courses. Breakdown of roofing over the spots will cause leakage. Besides, damaged material costs more to apply.

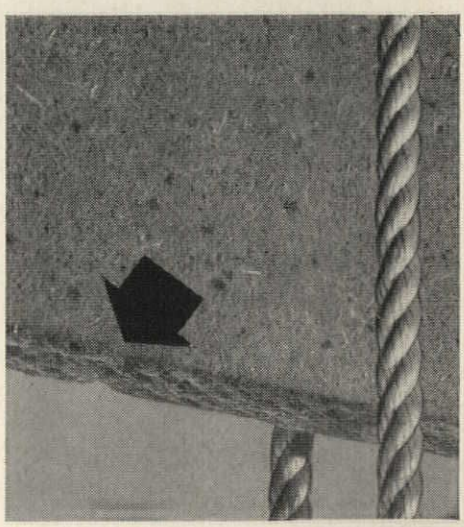
The test you see in the illustration explains why architects and engineers specify Armstrong Temlok Roof Insulation. They want edge and corner strength as well as insulation efficiency.

The test was conducted under actual job-site conditions. Four cement blocks, weighing a total of 160 pounds, were hung by ropes to an upright panel of Temlok Roof Insulation. Rope hoists then lifted the weighted panel ten feet. At the conclusion of the test, the only evidence of damage was slight marks where the ropes had chafed the edges. This in no way impaired the performance of the material.

Temlok Roof Insulation is a sturdy fiberboard material that provides a firm base for felt courses. Installation crews can push wheelbarrows on it, rest mopping buckets, or use mechanical equipment without denting the surface.

Temlok Roof Insulation is manufactured to meet 5 guaranteed "C" values—0.36 - 0.24 - 0.19 - 0.15 - 0.12—in nominal thicknesses from ½" to 3".

For complete information on Armstrong Temlok Roof Insulation, write to Armstrong Cork Company, 3805 Rock Street, Lancaster, Pennsylvania.



Arrow in photograph shows a typical point where the rope slings supported the weighted piece of Temlok Roof Insulation. Notice how the rope did not pull through the material. There was no serious damage to the edges that would prevent a tight fit.

Armstrong ROOF INSULATIONS

Temlok Asphalt-Impregnated Temlok Corkboard

Index to Advertising

PRE-FILED CATALOGS of the manufacturers' listed below are available in the 1958 Sweet's Catalog Files as follows: (A) Architectural File (green), (IC) Industrial Construction File (blue), (LC) Light Construction File (yellow).

Acme Industries, Inc. 100
A-IC-LC Adam, Frank Electric Co. 137
A Adams-Rite Manufacturing Co. 50
A Adams & Westlake Company .. 255
Adrian-Peerless, Inc. 403
Advance Transformer Co. 129-130
Aerofin Corporation 114
A Aetna Steel Products Corp. 337
Air Devices, Inc. 407
A Alberene Stone Corporation ... 304
A-IC Allegheny-Ludlum Steel Corp. .. 132
A-IC Allen Cooler & Ventilator, Inc. 135
A-IC-LC Allied Chemical Corp. 152-153
A All-Steel Equipment, Inc. 98
A Alumiline Corporation 121
A-IC Aluminum Company of America 268-269
Alvey-Ferguson Co. 406
IC American Air Filter Co., Inc. 262 to 265
A-IC American Blower Division .. 384-385
A-LC American Brass Company ... 41-405
A American Chemical Paint Co. .. 295
American District Telegraph Co. 395
American Gas Association .. 324-325
A-LC American Hardware Corp. 67-160-161
American Iron & Steel Institute 164-165
American Laundry Machinery Co. 386
A American Louver Company 282
A-IC American Machine & Metals 390
A American-Olean Tile Co., Inc. 42-43
A-LC American-Standard 384-385
American Steel & Wire Division 104-105
A-LC American Welding & Mfg. Co..... 79
A-LC American Window Glass Co. ... 76
A-LC Andersen Corporation 364-365
A Anemostat Corp. of America 320-321
Architectural Record 392-393
A Armco Steel Corporation 110-383
A-LC Armstrong Cork Company 62-63-284-285-417
A Azrock Floor Products Division.. 27

A-IC Balfour, Walter & Co., Inc. 406
A-IC Barber-Colman Company 375-376
A Barclite Corp. of America 150
A-IC-LC Barrett Division 152-153
A-IC Bayley, William Co. 22
A-LC Bell & Gossett Co. 151
A-IC Bethlehem Steel Company 287
A Bigelow Rugs & Carpets 405
Bituminous Coal Institute 162
Boeckh, E. H. & Associates 412
Bohem Manufacturing Co., Inc. 401
A-IC Borden Metal Products Co. 57
A-IC Bradley Washfountain Co. 314
Bulldog Electric Products Co. .. 336
A Burgess-Manning Company 409
A-IC Byers, A. M. Company 4

A Cabot, Samuel, Inc. 398
A-LC California Redwood Association . 147
A-IC-LC Carrier Corporation 288-289
A-IC Carter-Waters Corp. 115
A Case Manufacturing Corp. 159
A Caterpillar Tractor Co. 312-313
A Century Lighting, Inc. 403
A Chase Brass & Copper Co. 20
A Claridge Products & Equipment, Inc. 274
A-IC Cleaver-Brooks Company 64
Committee on Steel Pipe Research 164-165
A Conco Engineering Works 326
A-IC Concrete Reinforcing Steel Institute 136
A Congoleum-Nairn, Inc. 78
A Connor Engineering Corp. 70
A Connor Lumber & Land Co. ... 409
A-LC Corbin P & F Division 67
A-IC Cordley & Hayes 394
Couch, S. H. Company 350
A-LC Crane Co. 391
A Curtis Companies Service Bureau 140-141
A Cutler Mail Chute Co. 402
A Cutler Metal Products Co. 61

DeLuxe Metal Furniture Co. 402
A-LC Devoe & Raynolds Company, Inc. 163
Dodge Books 400-412
A-LC Donley Brothers Co. 363
A Dor-O-Matic Division 330
A-IC-LC Douglas Fir Plywood Assoc. . 316-317
A-IC Dukane Corporation 408
A-IC Dusing & Hunt, Inc. 382

A Eastern Products Corp. 279
Electric Storage Battery Co. ... 334
Electro-Silv-A-King Corporation 358
Engineered Products Co. 415
Equipment Steel Products 411
A Erie Enameling Company 397
A-IC Executone Co. 278

A-IC Facing Tile Institute 49
A Fairhurst, John T. Co., Inc. 346
A Fenestra Incorporated ... 379-380-381
A-LC Fiat Metal Manufacturing Co. .. 145
A-LC Formica Corporation 34-35
A Fyr-Fyter Company 29

A General Bronze Co. 283
A-IC General Electric Co., Air Conditioning 256-332
A-LC General Electric Co., Textolite 3rd Cover
A General Tire & Rubber Co. 45
Globe Company 322
A Gold Seal—Congoleum-Nairn 78
A Goodrich, B. F. Company 333
A Goodyear, Flooring Dept. 1
A-IC Granco Steel Products Co. 14-15
A Grant Pulley & Hardware Corp. 300
A-IC Great Lakes Carbon Corporation 338
Griffin Manufacturing Co. 415
A-IC Grinnell Company, Inc. 397
A Guth, Edwin F. Company 87

A Hako Building Products 58
A Haldeman-Homme Mfg. Co. 113
A Hall-Mack Company 311
Hamilton Manufacturing Co. ... 342
A-IC Hanley Company 335
A Harrington & King Perforating Co., Inc. 398
A-IC Haskelite Manufacturing Corp. 347
A-IC Hauserman, E. F. Company 19
A-IC Haven-Busch Co. 414
A Haws Drinking Faucet Company 378
A-IC Hendrick Manufacturing Co. ... 403
A Hillyard Chemical Co. 116
A Hobart Manufacturing Co. 103
A Hoffman Specialty Mfg. Corp. .. 315
A-LC Homasote Company 48
A Hope's Windows, Inc. 258
A Hubbell, Harvey, Inc. 82-83
A Huntington Laboratories, Inc. .. 131
A Hussey Manufacturing Co. 354

Ideal Cement Company 120
A Independent Register Co. 394
Infra Insulation, Inc. 13
Ingalls Iron Works Co. 96
A-IC-LC Inland Steel Products Co. ... 126-127
A Insulrock Company Division of Flintoke Company 107
A International Molded Plastics, Inc. 407
A-LC Iron Fireman Mfg. Co. 91

A Jamison Cold Storage Door Co. 355
Janitrol Heating & Air Cond. Division ..... 51 to 54
A-IC Jennison-Wright Corp. 154
A-IC-LC Johns-Manville 27
Jones & Laughlin Steel Corp. .. 377
A-IC Josam Manufacturing Co. 400

A Kawneer Company 92-93-94
A-LC Kentile Company 17
Killark Electric Mfg. Co. 47
Kimble Glass Co., subsidiary of Owens-Illinois 108-109
A Knight Manufacturing Co. 415
Kohler Co. 296
Koppers Company, Inc. Industrial Sound Control Dept. 124

A LCN Closers, Inc. 266-267
Lehigh Portland Cement Co. 166
A-IC Lennox Industries, Inc. 328-329
A-IC-LC Libbey-Owens-Ford Glass Co. 71 to 74
Lighting Products, Inc. 319
A Lockwood Hardware Mfg. Co. .. 367
A-LC Louisville Cement Company, Inc. 125

A-IC Macomber, Inc. 86
A-IC Mahon, R. C. Company 356-357
A-IC Maintenance, Inc. 270
Manning, R. A. Company 399
Marietta Concrete Corp. 95
A-IC Marlo Coil Company 301
A-IC Marmet Corporation 413
Masland Duraleather Co. 118
A-IC Master Builders Co. ..... 2nd Cover
A-LC McKee Door Company 55
A-IC McKinley Iron Works 419
A McPhilben Lighting Co. 410
McQuay, Inc. 119
A Meadows, W. R., Inc. 352-353
A Medart, Fred Products Co., Inc. 299
A-LC Miami Window Corp. 25
A-IC Miller Company 68-69
A Miller, Frank B. Company, Inc. 286
Mitchell Lighting Co. 298
Mitchell Models 407
A-IC Montgomery Elevator Co. 158
A Moore, P. O., Inc. 413
A Mosaic Tile Company 111-112
A-LC Mueller Brass Co. 156-157
A Murray Tile Company, Inc. 143
A-LC Mutschler Brothers Co. 323

A National Steel Corporation .. 117-144
Nation's Schools 396
A Natural Slate Blackboard Co. ... 44
Nelson, Herman ..... 262 to 265
A Neo-Ray Products, Inc. 155
A Nicholson, W. H. & Company ... 146
A Norton Door Closers 128

Oakite Products, Inc. 420
A-IC-LC Owens-Corning Fiberglas Corp. . 303

A Pass & Seymour, Inc. 97
A-IC Peelle Company 106
A-IC Peerless Electric Company 30
Pioneer Plastics Co. 158
A-IC Pittsburgh Corning Corp. ... 344-345
Pittsburgh-Des Moines Steel Co. .. 81
A-LC Pittsburgh Plate Glass Co. 272-273-388-389
A-IC Pittsburgh Steel Products 340-341
A Pomeroy, S. H. Company 80
A Powers Regulator Company 149
A Pratt & Lambert, Inc. 401

A-IC Raymond Concrete Pile Co. ... 84-85
A Recreation Equipment Corp. 408
A Republic Industries, Inc. 330
A-LC Republic Steel Corp. 348-349
A-IC-LC Revere Copper & Brass, Inc. 142
A-IC Reznor Manufacturing Co. 318
A-IC Richmond Fireproof Door Co. ... 106
A Rilco Laminated Products Co. ... 66
Rittling Corporation 275
A Rixson, Oscar C. Company 372
A Robbins Flooring Company 413
A-LC Roddis Plywood Corp. 276-277
A Rohm & Haas Company 23
A Rolscreen Company 371-373
Rosboro Lumber Co. 410
A-IC Rotary Lift Company 2-3
A Rowe Manufacturing Co. 409
Royal Metal Mfg. Co. 31
A-LC Russell & Erwin Division 160-161
A-LC Russell, F. C. Company 65

A St. Charles Manufacturing Co. .. 366
St. Clair Rubber Co. 408
A Safway Steel Products, Inc. 38
A Schlage Lock Company 139
A-IC Schundler, F. E. & Company, Inc. 280-281
Sico Manufacturing Co. 397
Sjostrom, John E. Co., Inc. 40
A-IC Sloan Valve Company .... 4th Cover
A Smith, A. O. Corporation 412
A-IC-LC Sonoco Products Co. 138
Southern Equipment Company .. 290
A-LC Southern Sash Sales & Supply Co., Inc. 339
A Spanjer Bros. Inc. 412
Sperti-Faraday, Inc. 102
Staedtler, J. S., Inc. 297
A Standard Products Co. 75
A-IC Stark Ceramics, Inc. 133
Stem, Chester B. Inc. 292-293
A-LC Sterling, John Corporation 370
A-IC Stran-Steel Corporation 144
Structoglas Division 407
A Structural Slate Co. 44
A Summitville Tiles, Inc. 39
A-IC Sunbeam Lighting Company 291
Surface Combustion Corp. .. 51 to 54
A Swedish Crucible Steel Co. 99
Sweet's Catalog Service 419
A Sylvania Electric Products, Inc. 360-361

A-IC Taylor, Halsey W. Co. 302
A-IC Tectum Corporation 343
A-IC Temprite Products Corp. 399
Thompson Electric Co. 294
A-LC Thrush, H. A. & Company 260
A Tile Council of America, Inc. .. 46-47
A-IC Timber Structures, Inc. 148
A Titus Manufacturing Co. 122-123
Todd Shipyards Corporation 411
A Tremco Mfg. Company 374
Triplex Heating Specialty Co. .. 400
A Troy Laundry Machinery Division 390

A-LC United States Plywood Corp. ... 7
A-IC US Steel Corporation (subs.) 77-104-105

A Universal Atlas Cement Co. 77
A-IC Upco Company 405
A Uvalde Rock Asphalt Company . 27

A-LC Valley Metal Products Co. 309
Vance Industries, Inc. 359
A Van Packer Company 351
Venus Pen & Pencil Corp. 411
Vilter Manufacturing Co. 310
A-IC-LC Visking Company 134
A Vonnegut Hardware Co. 88-89
A-LC Vulcan Radiator Company 59

A-LC Ware Laboratories, Inc. 8
A Wasco Products, Inc. 90
A Waylite Co. 401
Weirton Steel Company 117
A Weis, Henry Mfg. Co., Inc. 101
A West Chemical Products, Inc. ... 33
Western Pine Association 331
A-IC Westinghouse Electric Corp. .... 305 to 308-387
A-IC Westinghouse Elevators & Electric Stairways 327
A-IC Wheeling Corrugating Co. 37
A-LC Williams Equip. & Supply Co. ... 399
Wing, L. J. Mfg. Co. 362

York Corporation 270-271

A-IC-LC Zonolite Company 368-369

NEW YORK—H. Judd Payne, Publishing Director; Robert F. Marshall, General Manager; Tom Tredwell, Advertising Mgr.; Blake Hughes, Promotion & Research Mgr.; Richard C. Crabtree, Sales Service Mgr.; Benton B. Orwig, Director of New Business Development; M. A. Murphy, Advertising Production Mgr.; Harry M. Horn, Jr.; James E. Boddorf, Michael J. Davin, 119 W. 40 St.; BOSTON—Harry M. Horn, Jr., 855 Park Square Bldg.; BUFFALO—Benton B. Orwig, 70 Niagara St.; CHICAGO—Claude B. Riemersma, Regional Sales Mgr.; Robert T. Franden, David K. Bortz, James A. Anderson, Charles L. Reed, Jr., 700 Mdse. Mart; CLEVELAND—John C. Jackson, Regional Sales Mgr.; Joseph F. Palmer, Louis F. Kutscher, 321 Hanna Bldg.; LOS ANGELES—Bob Wettstein, 672 S. Lafayette Park Pl.; MIAMI—Benton B. Orwig, 802 N. W. First St.; PHILADELPHIA—Tom Tredwell, James E. Boddorf, 1321 Arch St.; PORTLAND—Bob Wettstein, 921 S. Washington St., ST. LOUIS—Claude B. Riemersma, John I. Howell, 721 Olive St., SAN FRANCISCO—Bob Wettstein, Howard Bldg., 209 Post St.

A-IC-LC

These symbols tell you which advertisers' catalogs are INSTANTLY ACCESSIBLE in your office

The great majority of *Architectural Record* advertisers employ Sweet's Catalog Service to maintain their catalogs continuously in the offices of qualified architects, engineers, and building contractors.

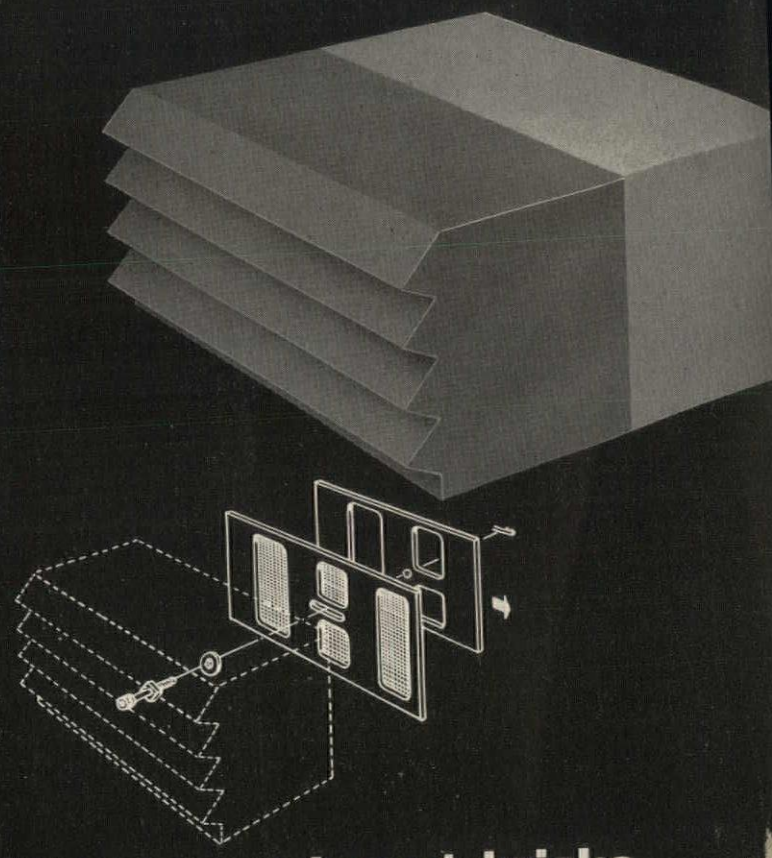
By doing so, these manufacturers make it easier than is otherwise possible for you always to have instant access to further information about their products or services.

The above symbols* are included in the facing Advertisers' Index as a quick guide to which advertisers' catalogs are in *your* Sweet's File — Classified by product type, indexed, up-to-date, and always ready for use whenever you want them.

Sweet's Catalog Service
Division — F. W. Dodge Corporation
119 West 40th Street
New York 18, N. Y.

*A (Architectural File) **IC** (Industrial Construction File) **LC** (Light Construction File)

another mckinley first . . .



louvered vent bricks
now with
front-operated sliding registers

superior features:

1. front operated sliding register
2. register locks in open or sealed position with allen head wrench
3. neat appearance—register and operating nut concealed behind louvers
4. modern design—all louvers extend evenly
5. exact modular sizes for brick and tile
6. heavy load-bearing vent bricks and ducts
7. bronze screen thermatically welded in rigid frame
8. water and condensation stop
9. available in 3 metals:
   cast iron:— plain—galvanized
   aluminum:— satin-finished—alumilited
   bronze:— satin-finished—polished
10. designed to last for the life of the building

see our catalogs in sweets files:
A—6i/Mc, 6e/Mc, 13b/Mc . . . IC—3e/Mc, 3h/Mc.

mckinley iron works
p. o. box 790 fort worth, texas

Send complete specification:
☐ ABRASIVE PRODUCTS ☐ CONSTRUCTION CASTINGS

name_____
firm_____
address_____
city_____ state_____

Memo: to Architects

Important specification:

"All steel architectural products to be

CrysCoated®"

When you specify Oakite CrysCoat as a pre-paint treatment for the steel products in your plans, you are specifying a top quality phosphating process for bonding paint to metal. It means the products will be protected against under-paint corrosion, unsightly peeling, and creeping rust surrounding accidental paint damage.

To the advantage of architects and building owners everywhere, a wide variety of steel products are now being CrysCoated. Write for more information about CrysCoated products. Oakite Products, Inc., 83 Rector Street, New York 6, N. Y.

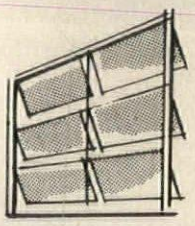
CrysCoat
paint-bonding treatment makes architectural products look better . . . last longer

SPECIALIZED INDUSTRIAL CLEANING
OAKITE®
MATERIALS · METHODS · SERVICE
SCIENCE

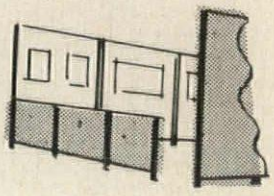
Partial list of products protected by **CrysCoat**

- Air Conditioners
- Awnings
- Cabinets
- Fans
- Kitchen Appliances
- Lighting Fixtures
- Lawn Mowers
- Office Furniture
- Radiator Enclosures
- Television Sets
- Typewriters
- Water Coolers

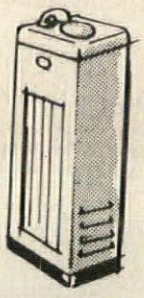
Typical examples of steel products now being CrysCoated



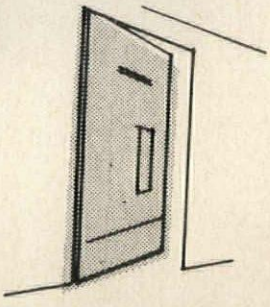
. . . WINDOWS



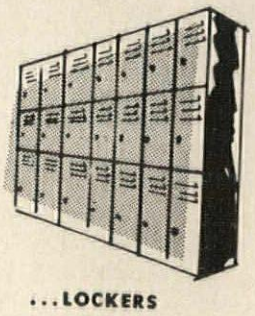
. . . PARTITIONS



. . . APPLIANCES



. . . DOORS



. . . LOCKERS