ARCHITECTURAL

RECORD

ARCHITECTURAL RECORD (Vol. 115, No. 4, April, 1954) is published monthly by F. W. Dodge Corp., 10 Ferry Street, Concord, N. H., with editorial and executive offices at 199 W. 40th St., New York 18, N. Y. $5.50 per year; Foreign, $20.00.
(Regular Edition)

Entered as second-class matter at the Post Office, Concord, N. H., March 16, 1946, under the Act of March 3, 1879.

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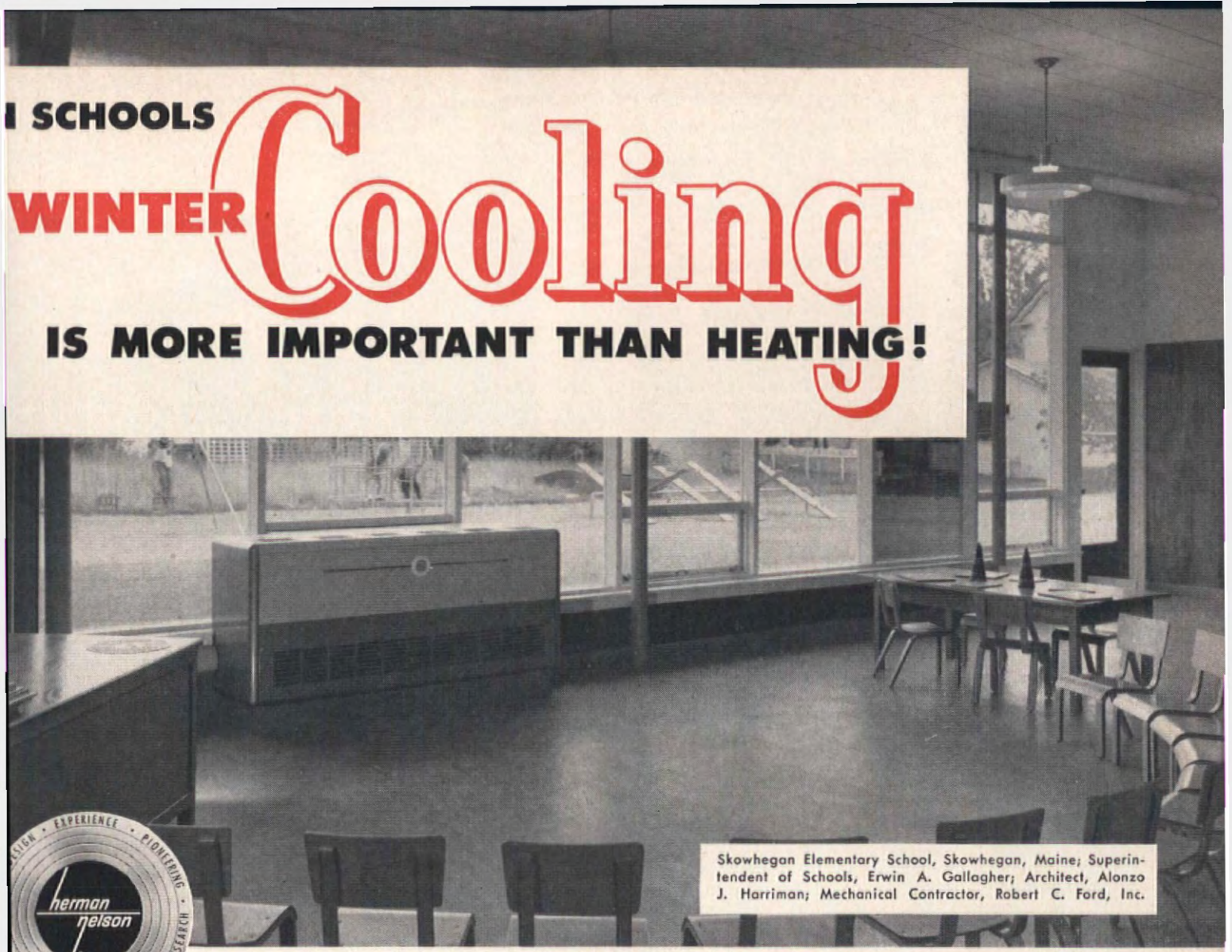

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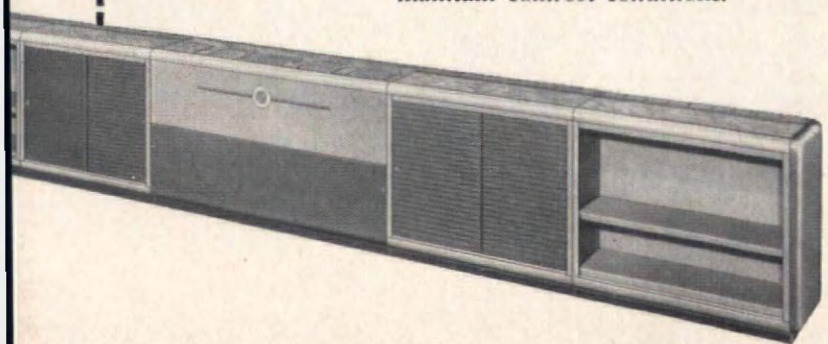

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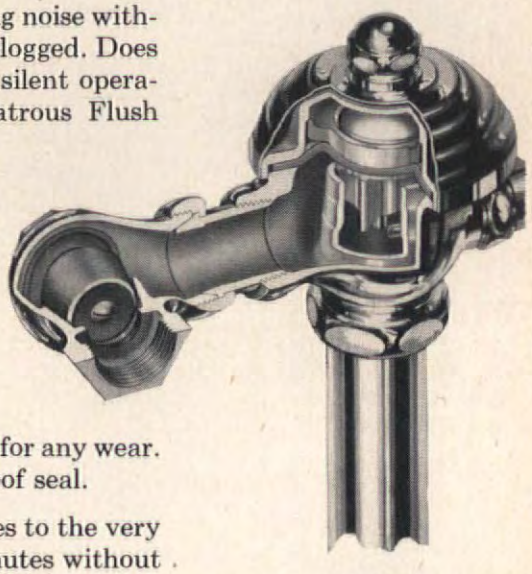

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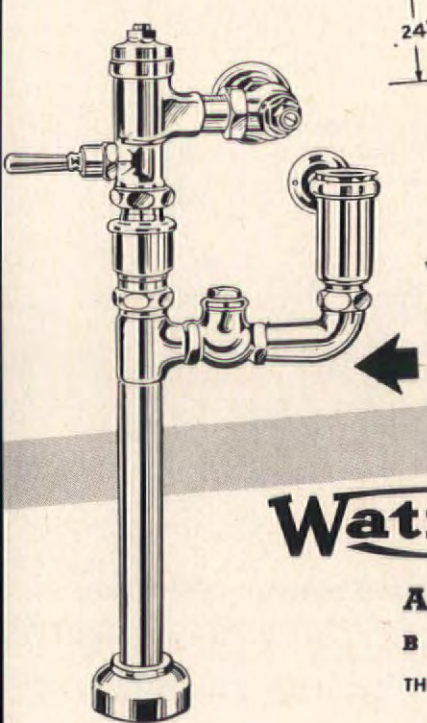

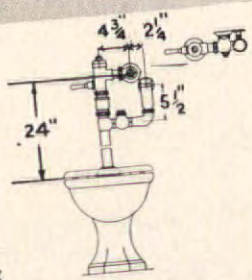

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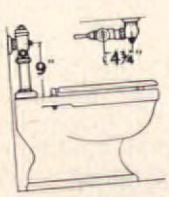

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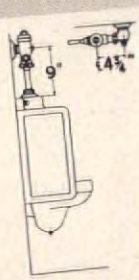

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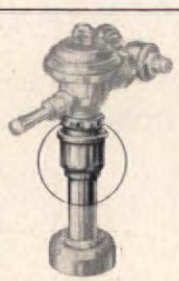

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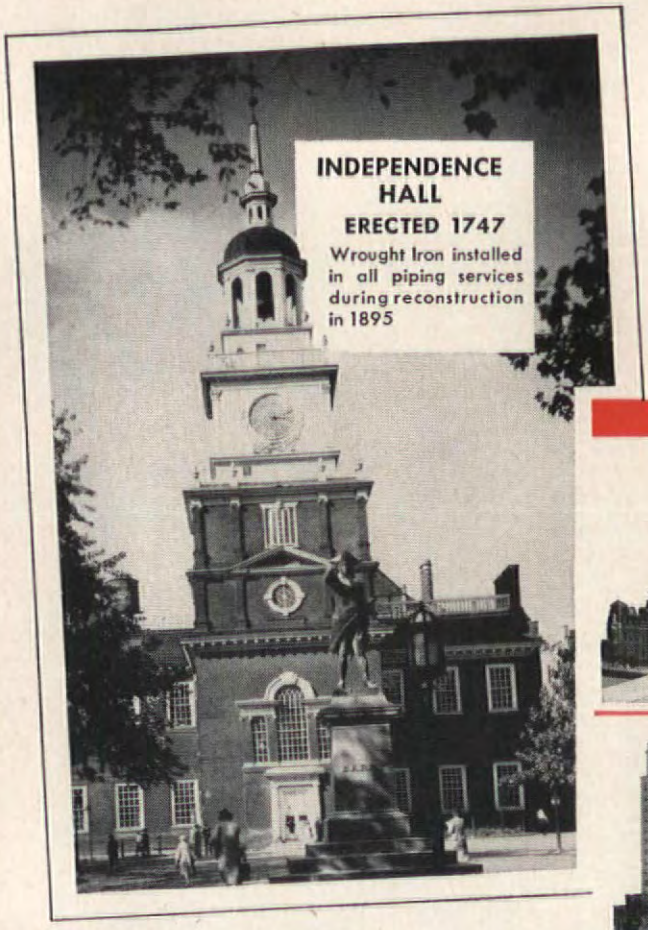

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	**ATLANTIC BUILDING** **Erected 1922** SERVICES: Drinking Water Piping, Fire Lines, Soil, Waste, Vents, Downspouts, Steam Supply, Steam Condensate Returns	32
	**GIRARD TRUST BUILDING** **Erected 1931** SERVICES: Cold Water Lines, Soil, Waste, Vents, Downspouts, Steam Supply, Steam Condensate Returns	23
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ARCHITECTURAL RECORD

April 1954 Vol. 115 No. 4

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

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Member of Audit Bureau of Circulations and Associated Business Publications. Architectural Record is indexed in Readers' Guide to Periodical Literature, 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 rates in U. S., U. S. Possessions, and Canada: $5.50 for one year, $9.00 for two years, $11.00 for three years. Elsewhere, subscriptions from those who by title are architects or engineers, $6.50 for one year, $11.50 for two years, $15.00 for three years; subscriptions from all others outside U. S., U. S. Possessions and Canada, $20.00 a year. Single copy price, $2.00. Circulation Manager: Marshall T. Ginn. Change of Address: Subscribers are requested to furnish both old and new addresses, sending if possible the stencil impression from magazine wrapper. Allow four weeks for change.

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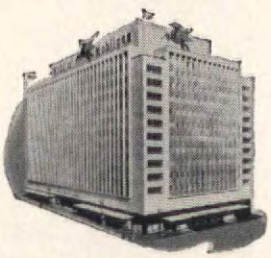
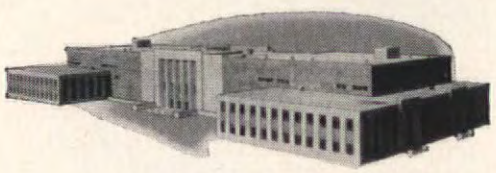


GENERAL PETROLEUM BUILDING
Los Angeles, California. Zonolite Plaster Fireproofing. Architects—Wurdeman & Becket.



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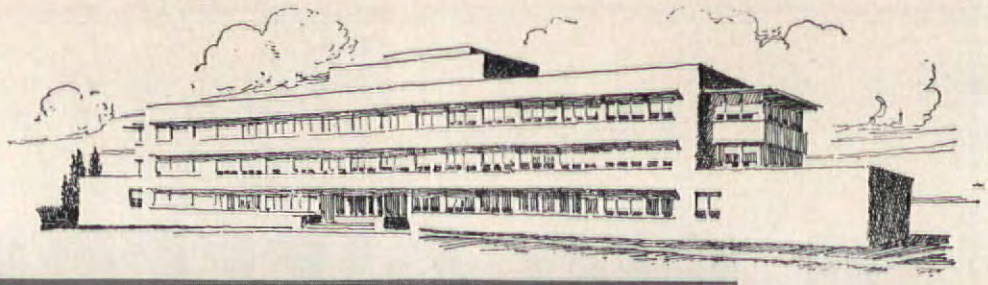

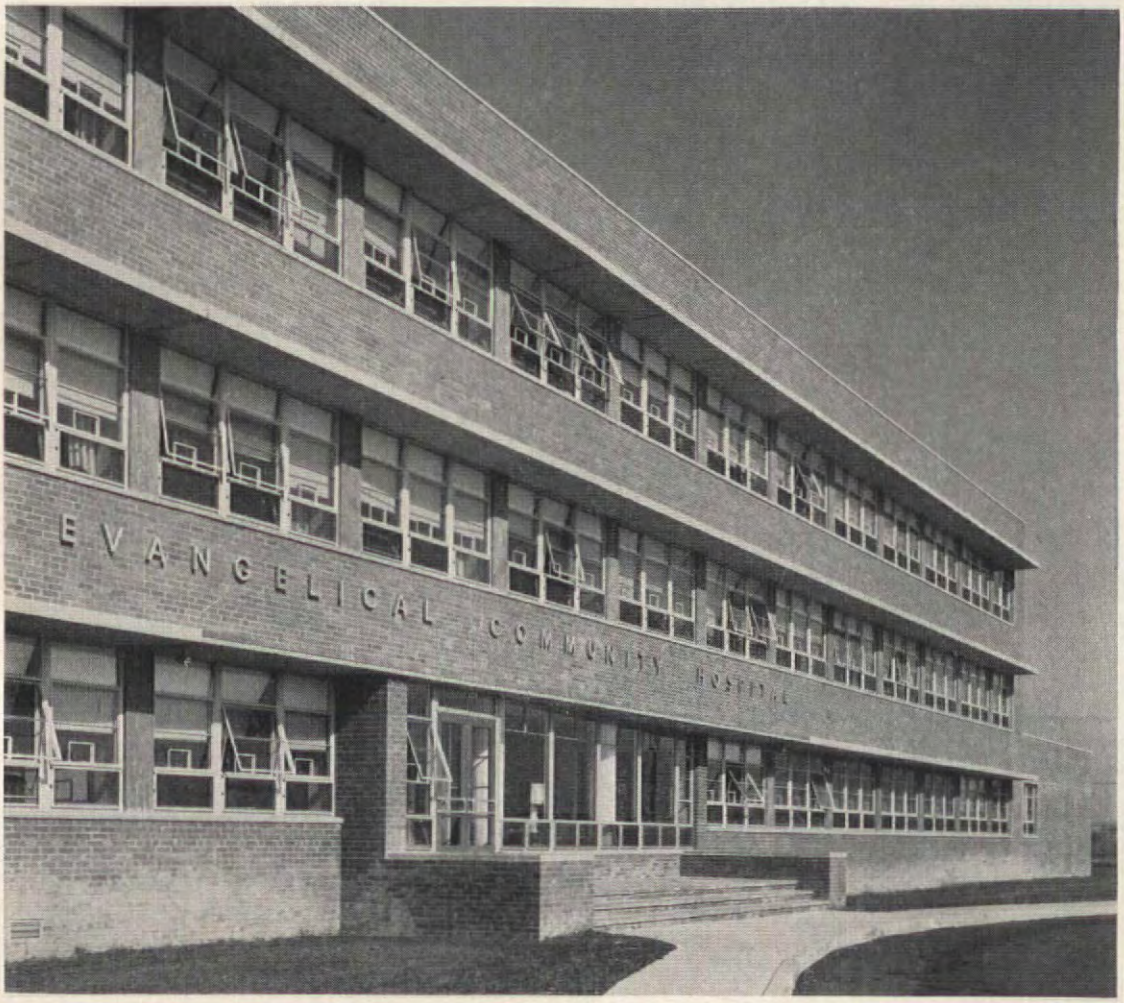

Evangelical Community Hospital, Lewisburg, Pa. Architects: Lawrie & Green, Harrisburg, Pa. Contractors: Ritter Brothers, Harrisburg, Pa. Windows: Lupton Steel Architectural Projected.
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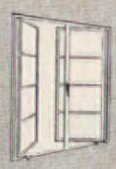

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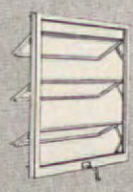

LUPTON ALUMINUM AWNING WINDOW

LUPTON ALUMINUM DOUBLE HUNG WINDOW

PERSPECTIVES

OBSOLESCENCE CAME EARLY to the exhibition buildings erected for the Festival of Britain — all of them except the Royal Festival Hall and a small cinema and restaurant went under the wrecker's hammer within a matter of weeks after the five-month exhibition closed in September 1951. The architect of one of them, H. T. Reifenberg of London, told on a visit to New York last month of getting the government's request for a complete set of working drawings of his Power and Industry Building "for demolition purposes." Although like the other Festival architects he had known the end from the beginning — "I was enraged," he said. "I went to the telephone and told them I would never give them drawings for that purpose — never." Mr. Reifenberg of course had to capitulate in the end. The photographs of the building he carries with him show a handsome structure of brick, concrete and special asbestos cement panels developed by the architect himself. Space-frame construction of the roof saved 30 per cent on steel, according to Mr. Reifenberg, who also tells a memorable story about his efforts to secure approval of the structure from Freeman, Fox and Partners, one of the oldest engineering firms in Britain and the Festival's official engineers. The late Sir Ralph Freeman (his son is Sir Ralph now) had doubts: it was a "radical" solution, he told Mr. Reifenberg on the day of decision. "So was the Crystal Palace in its day," was Mr. Reifenberg's rejoinder — as it happened, the perfect answer: quite unknown to Mr. Reifenberg, Freeman, Fox and Partners cherished above all its distinguished history the firm's historic commission as the Crystal Palace engineers.

PUBLIC RELATIONS NOTE: on the morning after the Architectural League of New York opened its 1954 nationwide Gold Medal Exhibition of architecture, landscape architecture, engineering, sculpture, mural decoration and "design and crafts," *The New York Times* covered it in a five-paragraph story on the woman's page. The first four paragraphs were devoted to announcement of the awards in the design and crafts classification. The fifth paragraph read, in full, as follows: "Other categories also represented in this exhibition include work in the field of architecture, engineering, landscape architecture, mural decoration and sculpture."

THE FEDERAL BUREAU OF PRISONS applauds the current effort of the American Institute of Architects to set up a special task force to study general principles to be considered in determining design criteria for penal institutions. "I know of no field of architectural design where there is less information than in the design of prisons," says the Bureau's director, James V. Bennett. "And there is scarcely any group of institutions so archaic and so in need of replacement as these ancient structures which are a millstone about the necks of all progressive penal administrators." Does the Bureau itself have any new view on prison design? Mr. Bennett: "I doubt that there has been any change in our views with respect to the need for penal facilities or in our emphasis on the need for more open-type institutions and less tool-proof steel bars, electrical cell locking gadgets and more dependence on brains rather than bars. We agree, of course, that for some prisoners there must be secure housing facilities, but our point of view is that the number who need to be kept in bastilles is far less than most architects and prison designers have heretofore believed. Prisons are presently being projected which will cost at least $15,000 a cell, which in my judgment is far more than the ordinary legislator or taxpayer is willing to pay. And some substitute must be found."

FOR "ARTISTICAL MASTERSHIP," an end to ideas: the Czechoslovakian architectural magazine *Architektura*, published in Prague, presents an English summary in each issue, and a recent one reports on a conference of Czech and Slovak architects. The heading is "Forward for the socialistic ideology, for artistical mastership for higher economy of Czech and Slovak architecture." What the conference achieved: "The greatest positive result brought by the conference was the ideological unity and a fighting spirit to [italics ours] *make an end to all ideas slowing down the development.*"

FROM THE OTHER SIDE of the Iron Curtain, and the other side of the world, comes a letter from the Chief Editor of the "Architecture-Today investigation agency," an organization set up by students in the Department of Architecture of the Taiwan, Formosa, College of Engineering to publish a bi-monthly pamphlet on architecture — "as we do feel the lack of a magazine on architecture written in Chinese on this island." The first issue of the pamphlet, enclosed with the letter, in its 55 pages covers ideas which range from Le Corbusier to Frank Lloyd Wright and from Red Square in Moscow to United Nations, New York — to judge from the illustrations, which are nearly all reproduced from ARCHITECTURAL RECORD, *Progressive Architecture* and *Architectural Forum*. "We can assure you," says Lee, "that we do appreciate your magazine very much, through which we have already learned a lot of new ideas and read many of the famous Architects' works in addition to many of the news about architecture." He asks if the students can get the magazine every month even though finances won't permit them to subscribe. "Besides," he adds, "we do need your spiritual help as well as your welcomed cooperation." And he concludes — the letter was long in transit — "Allow us to say: 'A Happy New Year' to you!" A happy New Year to Taiwan.

1

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ENGINEERING

1. Gold Medal—Rio Blanco Bridge, over Rio Blanco River, near Vera Cruz, Mexico; Thomas C. Kavanaugh and Camilo Picconi, Engineers. **2. Silver Medal**—S. E. Fourth Avenue Bridge, over Miami Canal, Miami, Fla.; Hardesty & Hanover, New York, Engineers. **Honorable Mentions** (not shown)—George P. Coleman Memorial Bridge, over York River, Va.: Parsons, Brinkerhoff, Hall & McDonald, New York, Engineers; Precast Concrete Warehouse: Arsham Amirikian, Engineer

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MURAL DECORATION

1. Gold Medal—32-ft fresco by Allyn Cox, New York, completing frieze in Capitol Rotunda, Washington, D. C.; shown, detail from "Birth of Aviation" panel. **2. Silver Medal**—Mural for U. S. Cemetery, Cambridge, England, by Francis Scott Bradford, New York; shown, detail of glass and stone mosaic

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SCULPTURE

1. Gold Medal—Torso (shown in plaster, 4 ft high), by Cecil Howard, New York. **2. Silver Medal**—Several sculptures, designed for buildings in Boston, by Ernest Morenon; shown, detail of Virgin above entrance, Carney Hospital, Boston, Mass. **3. Silver Medal**—Triad (wood, 6 ft high), by Oronzio Maldarelli, New York. **Honorable Mentions** (not shown)—Penelope, terra cotta figure 2 ft 9 in. high, by Clara Fasano, New York; Melody, marble figure 3 ft high, by Vincent Glinsky, New York; St. Joan of Arc, kneeling figure 4 ft high, by Henry Rox, Massachusetts

1

2

DESIGN AND CRAFTS

1. Gold Medal—Group of 10 pieces in wood by Wharton Esherick, Pennsylvania, including two staircases, a fireplace, several chairs and tables; shown, one of the tables. **2. Silver Medal**—windows by Robert Harmon of Emil Frei Inc. for St. Ann's Church, St. Louis. **Honorable Mentions** (not shown)—vault door for Mosler Safe Company, by Henry Dreyfuss; Sagittarius, a porcelain enamel decoration by Doris Hall of Bettinger Corporation, Massachusetts; design in mosaics by Paul D. Holleman, Massachusetts; rug design by George J. Wells, New York

57TH ARCHITECTURAL LEAGUE ANNUAL HONORS 29

THE 1954 GOLD MEDAL EXHIBITION of the Architectural League of New York, which produced the awards shown on these pages, was the 57th in a series that goes back to 1881, when the League was founded. There was a time when it was the most important exhibition of the year in the architectural world; it still is the only nationwide competitive exhibition which focuses — as does the League itself — on architecture *and* the allied arts. It invites entries from all architects, engineers, artists and craftsmen in the United States, whether or not they are members of the League; and there is no entry fee. From the preliminary submissions in each of six categories, a committee selects the works to be shown; the committee later becomes the jury of award for the exhibits in its field, and may bestow a gold medal and as many silver medals and honorable mentions as it feels are merited.

This year's exhibition, held March 2–26 in the League building, 115 East 40th Street, New York City, was comprised of 63 exhibits — 10 in architecture, six in landscape architecture, six in engineering (a new category last year), six in mural decoration, 25 in sculpture and 10 in design and crafts.

In landscape architecture, which had no entries last year, there were no medals but an honorable mention for each of the six exhibits. They were: gardens for R. Vance Norfleet, Memphis, by Ewald Associates, Tennessee; West Street Playground and Norstrand Avenue Playground, Brooklyn, by Richard C. Guthridge, New York; Michigan State College Campus, East Lansing, Mich., by Harold V. Lautner, Michigan; Shoppers' World, Framingham, Mass., by Arthur A. and Sydney N. Shurcliff, Massachusetts; Pittsburgh Conservatory and Aviary, by Simonds and Simonds, Pennsylvania; and Davis Cafeteria, Florida, by Frederick B. Stresau, Florida.

Committees on selection and juries of award were as follows:

Architecture — C. Dale Badgeley, chairman; Edgar I. Williams, William Lescaze, Edward D. Stone, Nembhard N. Culin, Richard E. Collins, Lorimer Rich.

Landscape Architecture — James H. Brooks Jr., chairman; Alfred Geiffert Jr., Norman T. Newton, Michael Rapuano, Markley Stevenson.

Engineering — Peter A. Strobel, chairman; Henry F. Richardson, Gilmore D. Clarke, Fred N. Severud, L. Andrew Reinhard.

Mural Decoration — J. Scott Williams, chairman; Charles Baskerville, Dean Cornwell, Helen Treadwell.

Sculpture — Leo Friedlander, chairman; Lee Lawrie, consultant; Albino Cavallito, Jean de Marco, Moissaye Marans, Cornelia Van Chapin.

Design and Craftsmanship in Native Industrial Art — Viggo F. E. Rambusch, chairman; H. Varnum Poor, Mrs. Vanderbilt Webb, Henry Lee Willet, Kurt Versen.

Architectural League President Daniel Schwartzman was an *ex officio* member of all the committees.

1

ARCHITECTURE

1. Gold Medal—Lever House, New York City; Skidmore, Owings & Merrill, Architects. **2. Silver Medal**—Corning Glass Center, Corning, N. Y.; Harrison, Abramovitz & Abbe, Architects. **3. Silver Medal**—Heathcote School, Scarsdale, N. Y.; Perkins & Will, Architects. **4. Honorable Mention**—William Foster Residence, Orinda, Cal.; Henry Hill, Architect. **5. Honorable Mention**—Housing Project, St. Louis; Hellmuth, Yamasaki & Leinweber, Architects

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FIRE PROTECTION: HOW MUCH IS NOT ENOUGH?

$50 Million GM Fire Spurs New Look at Requirements for Industrial Buildings

THE LARGEST FIRE LOSS in a single plant in this country's history — the destruction by fire of the General Motors HydraMatic Transmission Plant at Livonia, Mich., last summer — has served to focus the attention of industrial management on a problem which has for some time past concerned fire underwriters: the increased fire hazards arising from recent trends in industrial building, among them the well-publicized "move to the country" (and away from city fire-fighting facilities) and a concurrent tendency to "spread out," resulting in larger and larger undivided floor areas.

Who's Worrying

The Factory Insurance Association, the Associated Factory Mutual Insurance Companies, the National Board of Fire Underwriters and the National Fire Protection Association have all made recommendations to management, some or all of which may eventually become insurance rules and be incorporated into building ordinances. These same companies report a growing interest on the part of their clients in fire protection problems.

General Motors itself has launched a long-term program for the formulation of a General Motors building code the corporation hopes may be a model for industry. The Ford Motor Company has incorporated many new fire protection features into the plant it is building at Mahwah, N. J. (see pages 216–220) and recently conducted a series of roof tests to get information on the behavior of various roofing materials and methods, and the efficiency of various protective measures, under actual fire conditions.

Architects and engineers point out that the client's requirements, set in effect by insurance company requirements, are the arbiters of fire protection as of other aspects of design and any changes in the design of future industrial buildings to incorporate additional protection against fire hazards appear likely to come from the insurance companies via the clients. Some architects, however, decry the current concern on the part of clients and underwriters as "hysteria" and feel present codes are sufficient protection.

What's the Worry

The Livonia plant was a mainly one-story structure with limited two-story areas and had a total floor area of approximately 1,575,000 sq ft. Walls were steel frame with brick and glass in steel filling above, except for a small portion of the rear wall, which was of temporary construction, composed of hollow concrete block with steel sash, in contemplation of future expansion. The roof was asphalt pitch on steel decking. The factory was without fire walls and constituted one large open fire area in the main one-story portion. Except for continuity of roof covering, each of the seven units was structurally independent of the adjacent units. As an insurance risk, the plant was classified as having non-combustible construction and generally non-combustible contents.

At the same time, according to a National Fire Protection Association post-mortem, it presented well-known fire-protection weaknesses — failure to subdivide excessive fire areas; only partial (less than 20 per cent) sprinkler protection; incomplete protection of dip tanks containing flammable liquids; steel construction without fire-resistive protection; lack of a properly-trained industrial fire brigade; delayed fire department notification.

N.F.P.A. says the GM fire is "conclusive evidence" that it and "all others schooled in fire behavior and its control have not to date presented a convincing case for fire protection to those in industry in a position to put sound fire protection engineering principles into action." In fact, insurance companies say they would have tightened their requirements long ago but for their tight competitive situation and management's resistance to additional fire protection measures. Management, naturally motivated by *its* competitive situation and the need for utmost production efficiency at lowest possible cost, has not until recently appeared inclined to weight the fire risk more strongly than existing codes required.

FIRE LOSSES CLIMB

Figures for the last 10 years show a steady climb in building fire losses. The 1952 figure, the latest available, is 49.3 per cent greater than 1943. Industrial losses also have been rising steadily, though they form a slightly smaller (by 1.8 per cent) proportion of total 1952 building losses than they did of 1943's.

Totals for the 10-year period:

YEAR	INDUSTRIAL LOSS	TOTAL BUILDING LOSS
1943	$ 85,200,000	$403,000,000
1944	98,000,000	456,000,000
1945	85,400,000	485,000,000
1946	107,100,000	580,000,000
1947	140,500,000	703,000,000
1948	147,000,000	714,800,000
1949	133,800,000	672,500,000
1950	155,750,000	699,600,000
1951	172,750,000	739,550,000
1952	153,600,000	793,500,000

Prescriptions

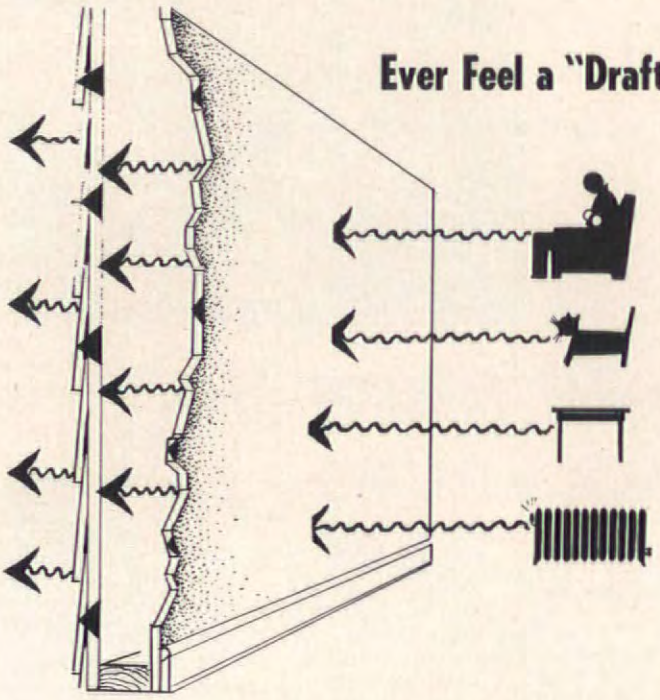
It is impossible, of course, to determine what lasting effect the current pressures by insurance companies and industry itself may have on industrial plants of the future; but some changes in thinking on layout, roof construction, ventilation and fire prevention methods in general appear to be among the possibilities.

N.F.P.A. makes these recommendations:

1. Reduce excessively large areas. Fire can spread easily and it is impossible to provide readily accessible exits.

(*Continued on page 304*)

Ever Feel a "Draft" in a Warm, Closed Room?



(RADIATION is the transmission of rays through space. Infra-red heat rays travel at the speed of light, are invisible, have no temperature, only energy. But when absorbed by a surface, they are transformed to HEAT. The surface of any object warmer than absolute zero – the Sun, You, Clothing, Wood, Plaster, an Iceberg, a Stove, a Chair, Paper, an Animal, will RADIATE to a colder surface.)

(CONDUCTION is the process by which warmth flows from a warmer object or particle by direct physical CONTACT, to a cooler one.)

People often complain of "drafts" in a room with air-tight walls and windows. Why? To a large extent because, by Nature's law, warmth *flows* to cold by RADIATION as well as by CONDUCTION. Cold walls, too, draw heat out of contacting air by conduction, causing a downward current of cold air.

The exposed skin of people and the outer surfaces of their clothing lose heat as infra red heat rays flow from them with 90% emissivity to a cooler wall surface which has 93% absorptivity, and transforms the heat rays again to heat. If insulation is lacking, or has settled down, most of this heat is transmitted by radiation to the colder outer wall with 93% emissivity, absorbed, and then dissipated to the colder, outer air. Ordinary materials in the wall space, or a solid wall, augment heat flow by direct conduction.

So people are uncomfortable, perhaps only in spots. More fuel is burned with the hope of obtaining greater comfort. Unnecessarily high, less wholesome temperatures result.

Multiple accordion aluminum in the wall space would retard convection; turn back heat rays with its 97% reflectivity. When plaster is sufficiently warm, no net heat loss radiates from bodies to walls. There is then no current of cold air on the surface of the wall. Comfort is maintained without unduly high temperatures or fuel costs.

In summer, the process is identical except for direction. Heat flow by radiation, conduction and convection is retarded by the multiple sheets of aluminum in the outer wall space. As a result, interiors of rooms stay cooler, and the plaster surfaces are also often cooler than the body. Then by Nature's law that warm radiates to cold, some heat would *leave* the body for the colder wall surfaces, increasing body coolness and comfort.

A *new multiple accordion aluminum, Infra Types 6-S*i* and 4-S*i*, gives edge to edge insulating coverage between beams or studs, forming a continuous "blanket" of uniform depth against heat and vapor flow, and condensation formation. *Patent applied for.

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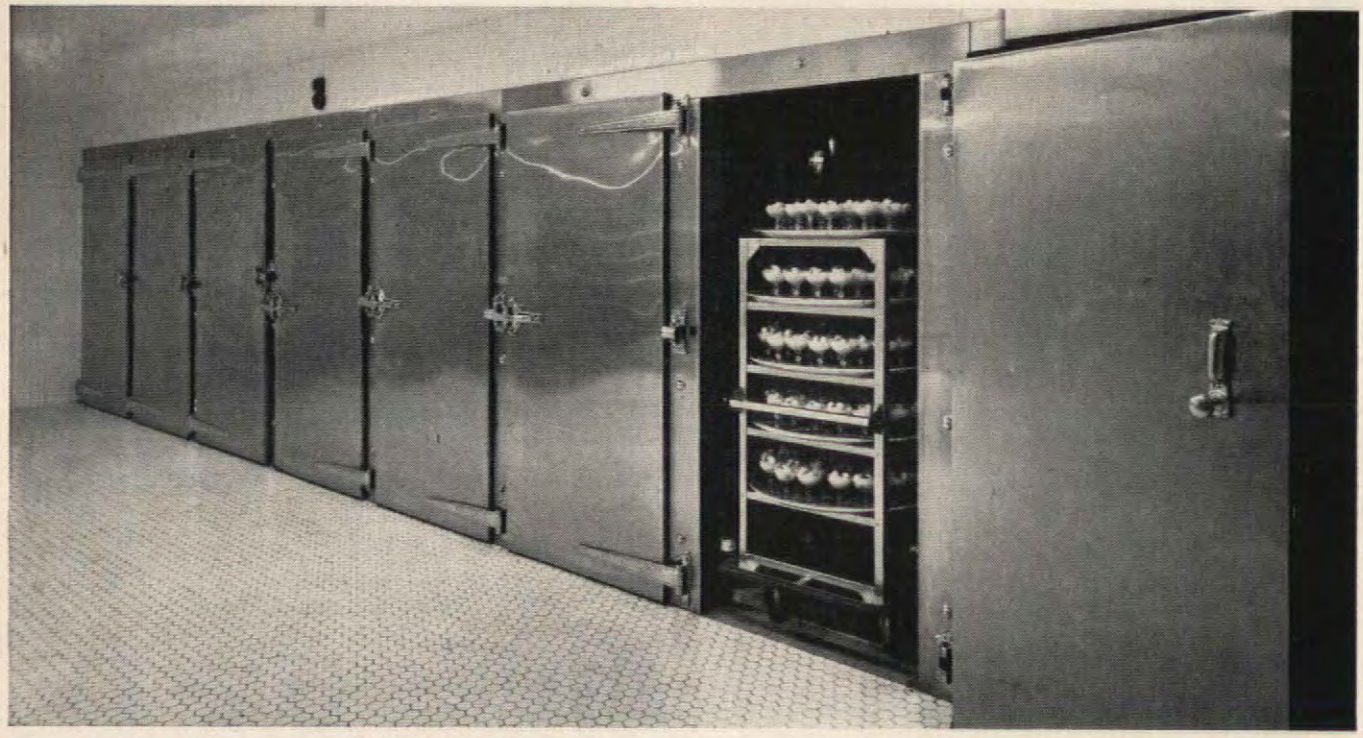

Seven Jamison cold storage doors in the salad kitchen at The Shoreham Hotel completely metal clad with polished stainless steel and equipped with chrome plated hardware.

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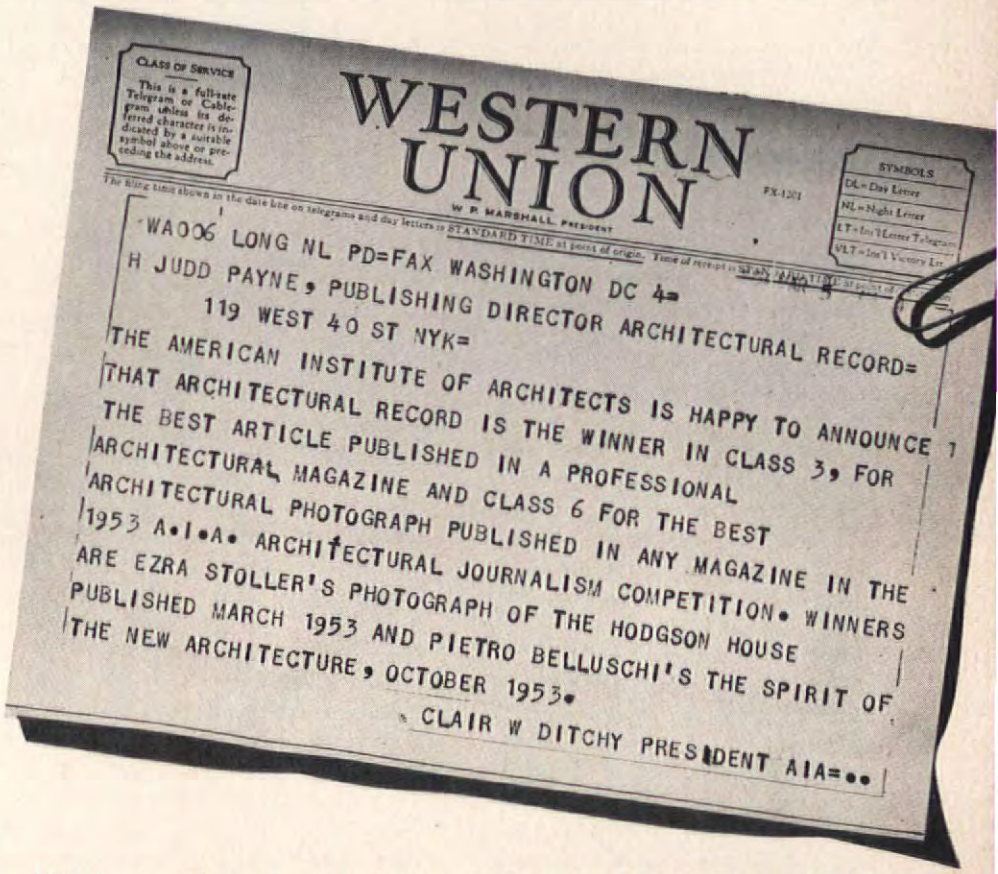
The Winner: Architecture

SIX FIRST AWARD WINNERS and four non-prize-winning Special Commendations have been chosen from nearly 800 entries in the American Institute of Architects' first annual journalism competition, initiated "to recognize and encourage writing . . . that will further public understanding of architecture and the architect."

In the two categories open to professional architectural magazines, the First Award for the best article was given to Pietro Belluschi, dean of the School of Architecture and Planning, Massachusetts Institute of Technology, for his article "The Spirit of the New Architecture," published in ARCHITECTURAL RECORD, October 1953; and the First Award for the best photograph of an architectural subject was given to Ezra Stoller of New York, for his photograph of the Hodgson house, New Canaan, Conn., designed by Philip Johnson, published in ARCHITECTURAL RECORD, March 1953 (pages 156–157). Special Commendations were given to Eero Saarinen, F.A.I.A., Bloomfield Hills, Mich., for his article "The Six Broad Currents of Modern Architecture," published in *Architectural Forum*, July 1953; and to G. E. Kidder-Smith, Springfield Center, N. Y., for the dramatic quality of his photograph of an Italian salt warehouse, designed by Pier Luigi Nervi, published in *Architectural Forum*, November 1953 (page 149).



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Winners in other categories were:

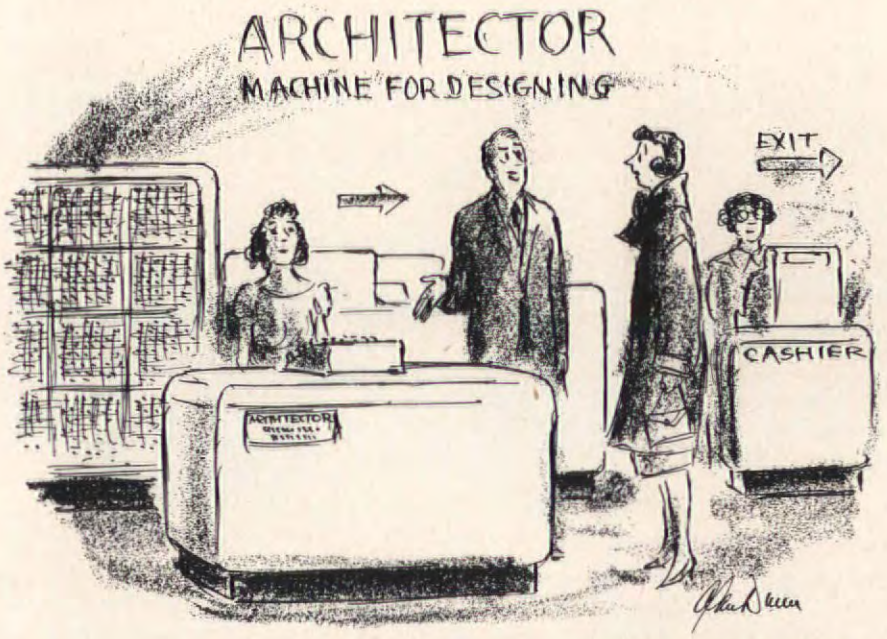
Best factual reporting on an architectural subject in the news columns of a paper — First Award, Robert J. Lewis, *The Evening Star*, Washington, D. C., for his story "Buildings Fail to Impress Contest Judges," published May 9, 1953; Special Commendation, John Woerpel, *Detroit Free Press*, for his story "University of Michigan Starts Building New Campus," published April 5, 1953.

Best feature story on an architectural subject or personality in a newspaper, newspaper supplement or newspaper magazine — First Award, Lilian Jackson Braun, *Roto Magazine, Detroit Free Press*, for her article "Dow, the Architect," published Jan. 4, 1953.

Best article in a popular magazine on an architectural subject or personality — First Award, Bruce Barton, Jr., New York, for his article on contemporary school design, "The Keynote Is Freedom," published in *Time* Magazine, Sept. 7, 1953; Special Commendations, Eric Larrabee, New York, for his editorial "Gently Sirs," in *Harper's* Magazine, July 1953, and Harrison Gill, Chattanooga, Tenn., for his article, "What Makes Architecture Modern?" published in *Harper's*, July 1953.

Best photograph of an architectural subject published in a newspaper — First Award, Margaret Stovall for her photograph of the home of U. S. Grant, San Gabriel, Cal., published in the *Pasadena Star-News*, Aug. 9, 1953.

Prizes of $250 each will be presented to First Award winners by the local A.I.A. chapters in the home cities of the winning publications this month. Certificates will also be given to the publications in which their work appeared.



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THE RECORD REPORTS

Improving the Press

THE ARCHITECTURAL PRESS was the subject of some informal meetings held during Columbia University's First Bicentennial Conference early this year so that some of the architects in New York for the Conference could join the local architects who arranged the get-togethers. The area of discussion ranged from publications of the American Institute of Architects and the architectural magazines to the whole picture of architects and architecture the public gets from newspapers, magazines and the spoken word.

There was agreement, according to a summary of the discussions released afterwards, that the central problem is the "need for improving the knowledge and skills *within* the profession, coupled with need for relating architecture to the society *at large*." The summary listed four possible avenues of approach: "1. professional publication of advanced research and theory in architecture and planning and related fields; 2. a high-quality magazine centering on architecture and encompassing all of the visual arts; 3. the school-to-office situation; that is, the interrelation of architectural education and practice and the strengthening of ties between students and professionals; and 4. the three architectural magazines and their place in relation to the profession, the interested public and the schools."

Among those who participated in the discussions were: Bruno Funaro, John Rannells, John H. Callender, Henry S. Churchill, Carlos Contreras, Talbot F. Hamlin, Frederick Gutheim, Harry Mahler (president of the student architectural group at Columbia), Geoffrey Baker, Olindo Grossi, Carl Feiss and John A. Parker.

Prof. Gustave Magnel (right), Belgium's wizard of prestressed concrete, at a Concrete Industry Board of New York luncheon, chats with C.I.B. Chairman Roger H. Corbetta (center), president of Corbetta Construction Company, Inc., and Dr. Jacob Feld, consulting engineer and chairman of the C.I.B. Program Committee

"Tell Me, My Little Beam—"

PROF. GUSTAVE MAGNEL of Ghent, Belgium, the internationally-known authority on prestressed concrete construction, addressed a recent luncheon meeting of the Concrete Industry Board of New York; and by the end of his talk, which might have been called "You Can Do It Here," stood revealed as the sympathetic advocate of all the concrete beams in the world which might have been prestressed but weren't.

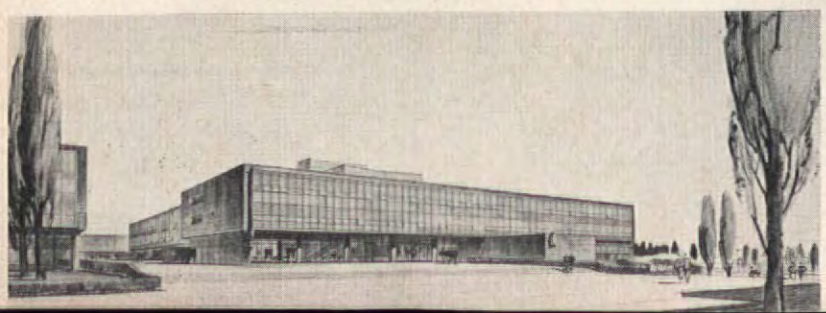
As a familiar visitor to a country where not many local building codes even acknowledge prestressed concrete, Professor Magnel insisted that there is no reason why the system should not be adopted as readily here as it has been in Europe — if certain existing but quite surmountable barriers can be overcome. Among them Professor Magnel listed building codes, the poor quality of concrete making and what he regards as over-emphasis on saving labor.

In Belgium, all civil engineering work is "controlled" — verified for insurance purposes — by an organization called SECO, founded 19 years ago by the Union of Professional Organizations of Contractors, Architects and Civil Engineers; and with SECO, said Professor Magnel, "instead of codes to be applied, we have the brains of our engineers."

On the subject of concrete, Professor Magnel was as emphatic as he was rueful. Prestressing requires no-slump concrete, he said, but he has found it hard to convince Americans that the quality of concrete which is entirely adequate for reinforced concrete is entirely *inadequate* for prestressing. He told the story of one such failure: "And then I came, the last time, to the site of the Philadelphia bridge. And when it was nearing completion I saw standing there, looking very sadly at me, one of those beams, the last one, which was not prestressed. And I said to that beam, 'Tell me, my little chap, why don't they prestress you?' 'Well,' the beam said, 'I am not strong enough. I am now weak and the City Engineers don't allow the contractor to prestress me because I have not the necessary curve strength.'"

Finally, Professor Magnel warned, poor design and poor execution mean accidents which are always a setback in the development of a new technique: "You must not allow people who are not qualified to design and to execute prestressed concrete."

Hardworking Boston Committee for 1954 annual convention of the American Institute of Architects in that city June 14–19: front row (left to right) Charles R. Strickland, Isidor Richmond, W. Bradford Sprout, Jr., and Thomas F. McDonough; back row (left to right) Burnham Kelly, Sherman Morss, James Lawrence, Jr., president of the Massachusetts State Association of Architects and general convention chairman, Mrs. Harold D. Walker, Walter E. Campbell, John W. Ames Jr., Neil A. Connor and Joseph D. Leland. Other committee members, not in photo: David J. Abrahams, Eugene F. Kennedy Jr., Chester L. Churchill, Henry R. Shepley, Joseph P. Richardson, Hugh A. Stubbins Jr., Dean José Luis Sert, Prentice Bradley



Victor N. Jones and Associates of Seattle are the architects of the proposed Plant Sciences Building for Washington State College, Pullman, Wash. The building, to cost $3 million, would house the complex research and teaching facilities required for such subjects as agronomy, plant pathology, plant physiology, entomology, horticulture, forestry and floriculture

(More news on page 20)

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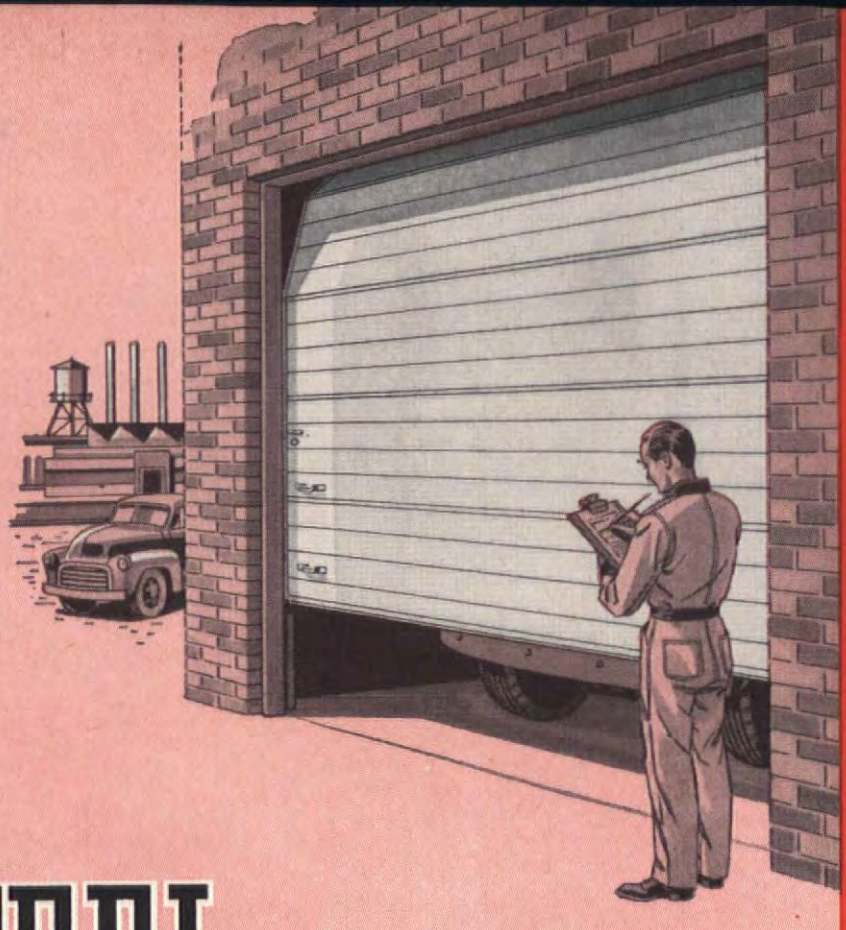

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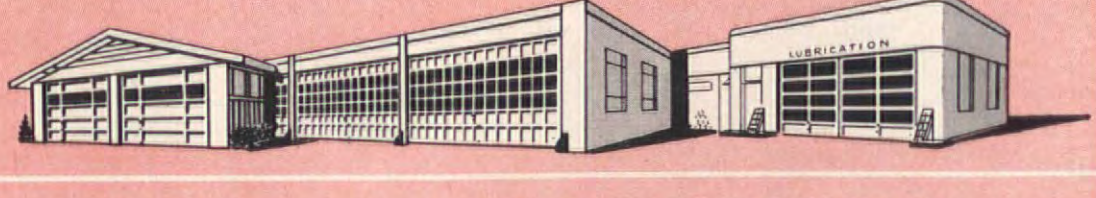

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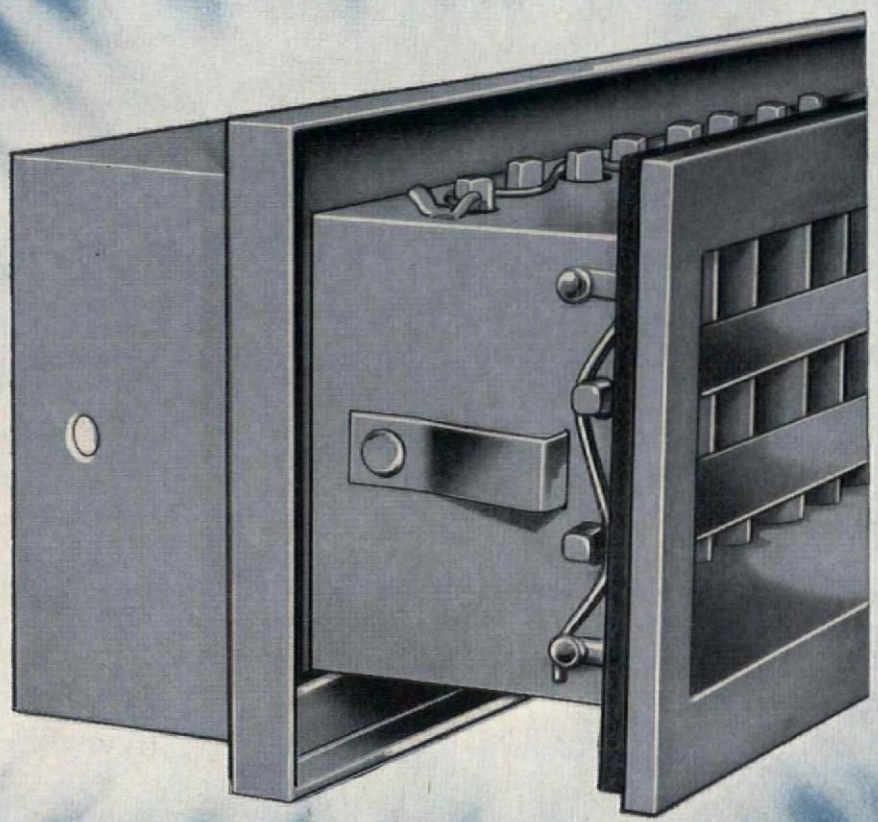

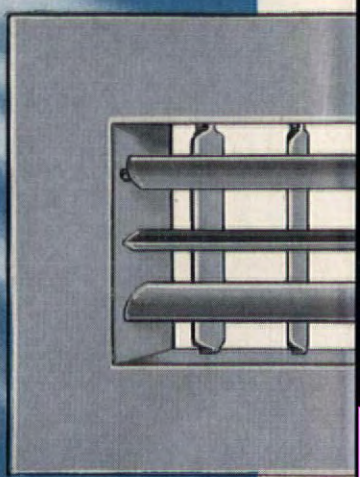

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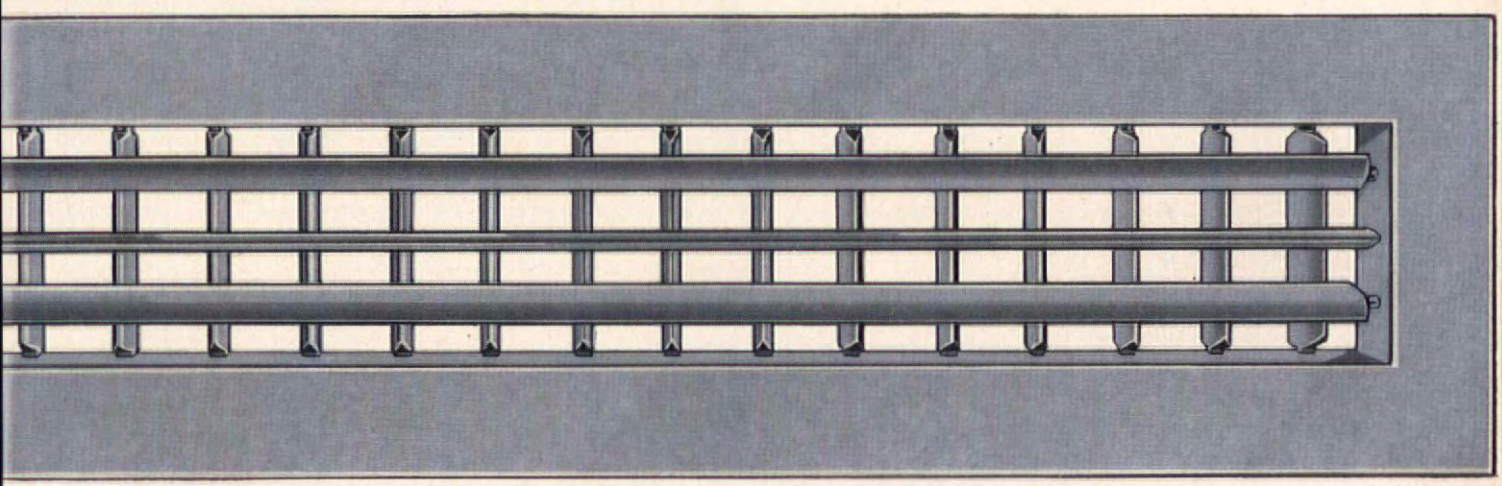

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SCHOOLMEN HEAR ARCHITECTS ON SCHOOL DESIGN

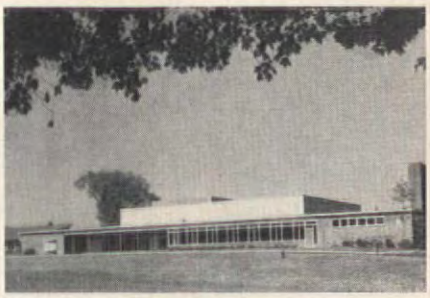
THE PROMINENCE OF THE BUILDING SHORTAGE among school problems was reflected in the program of the 80th annual convention of the American Association of School Administrators February 13–18 at Atlantic City in six discussion groups devoted primarily to this aspect of A.A.S.A. concerns. There were also two architectural exhibits of school buildings — the competitive exhibit sponsored jointly at each year's convention by A.A.S.A. and the American Institute of Architects (top award-winners shown on this page) and an exhibit of the winning entries in the third annual competition "for better school design" sponsored by *The School Executive* Magazine (to be shown next month).

Two of the six sessions on school building focused on architectural aspects; and one, which was billed as a "joint meeting with the American Institute of Architects" (actually the A.I.A. Committee on School Buildings) had a title which might have come out of the Handbook on Public Relations currently being distributed by the A.I.A. — "Architecture as an Educational Asset."

The A.I.A. group made the most of its opportunity, and its session was so popular that it had to be moved from the small conference room scheduled for it to the Grand Ballroom — and then it went over its scheduled time by more than an hour. The session, chairmanned by John McLeod of Washington, D. C., chairman of the A.I.A. Committee on School Buildings, led off with a talk by Fred Pawley, A.I.A. research secretary, in which Mr. Pawley pointed out that only the architect is equipped to integrate all of the esthetic, functional and technical requirements of school design in a building so satisfying that architecture becomes in truth "an educational asset." After a brief introduction by John Lyon Reid of San Francisco, who emphasized the need for humanity in school design — "schools are for children" — color slides of 20 or 30 recent school buildings were shown and informally discussed by all of the panel members, who also included William M. Caudill, Bryan, Tex., and Frank Lee Cochran (Perkins and Will), Chicago.

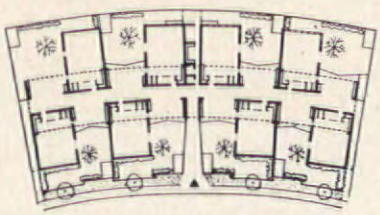
"Getting More for the School Building Dollar" was the title of the other

(*Continued on page 310*)



Award of Merit—Manchester, Mass., Memorial School; Shepley, Bulfinch, Richardson & Abbott

Award of Merit—Highlands (Elementary) School, Millbrae, Cal.; John Lyons Reid, Architect



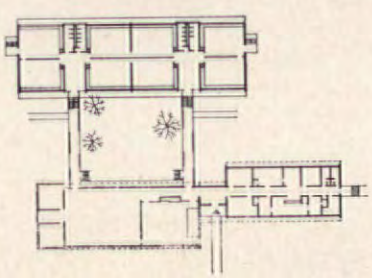
Award of Merit—White Oaks Elementary School Annex, San Carlos, Cal.; John Carl Warnecke

Award of Merit—School 198, Manhattan, N. Y.; Harrison and Abramovitz, Architects

Award of Merit—El Rancho High School, Whittier, Cal.; William H. Harrison, Architect

Award of Merit—Glenbrook High School, Glenview-Northbrook, Ill.; Perkins and Will, Architects

Award of Merit—Groton Senior High School, Groton, Conn.; Warren H. Ashley, Architect



Award of Merit—Waltham, Mass., Elementary School; The Architects Collaborative, Architects

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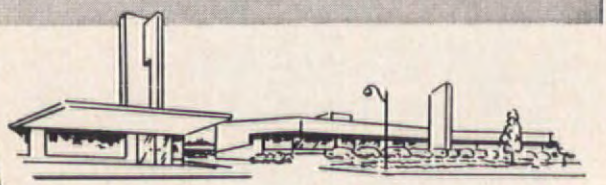

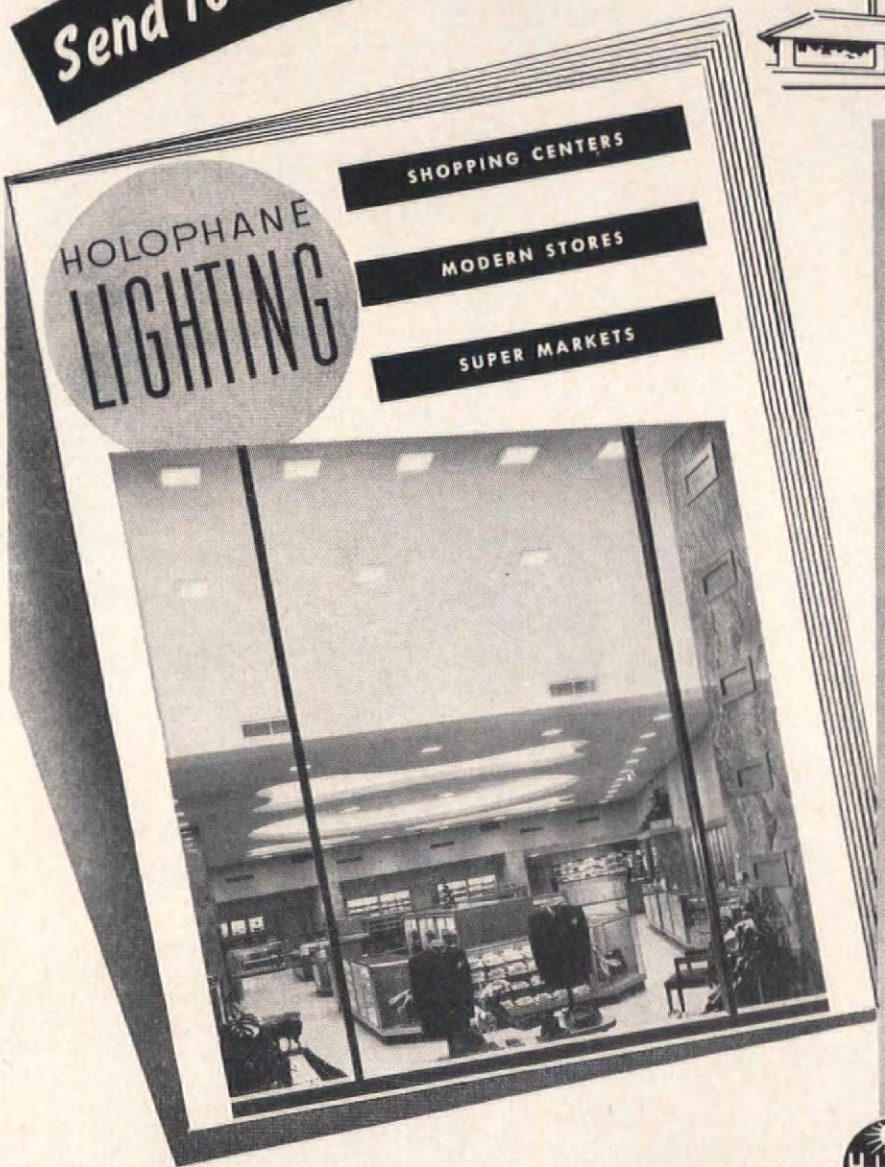

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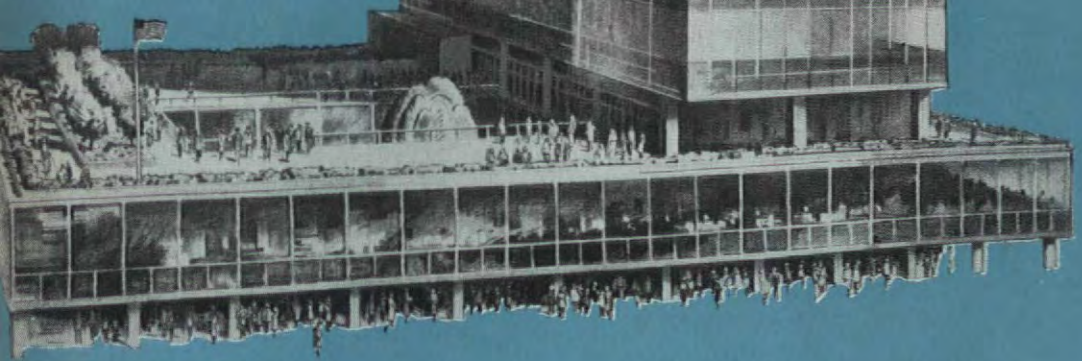
Engineers: Jaros, Baum, & Bolles
Contractor: Kerby Saunders, Inc.

Conditioned air in interior zones is controlled by POWERS Type D Sub-Master Thermostats located on various floors.



POWERS CONTROL
TEMPERATURE AND HUMIDITY

another New York landmark equipped with

POWERS Pneumatic System of AIR CONDITIONING CONTROL

Individual selection of desired temperature in each office and other spaces at Lever House provides year 'round comfort with important benefits of increased employee efficiency, less fatigue, absenteeism, illness, and lower cleaning costs.

Air conditioning here is by means of a split system — individual units shown below, for the glazed periphery of the building are fed with high pressure filtered and humidified air and heated or chilled water. In the center of the office space high velocity conditioned air is distributed thru ceiling diffusers.

Right-temperatured-air at proper humidity is assured at all times by a Powers pneumatic control system. Only a few of its important controls are shown below, most are "behind the scenes" performing their tasks with unfailing dependability.

Other Prominent POWERS Installations

United States Capitol Building
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New York Stock Exchange • Columbia Medical Center
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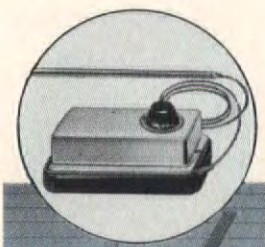
Esso Research Center, Linden, N. J.
New York City Veterans Administration Hospital
Washington National Airport • LaGuardia Airport

Experience we have gained in many installations such as these may be helpful to you. When problems of temperature or humidity control arise contact POWERS nearest office, there's no obligation.

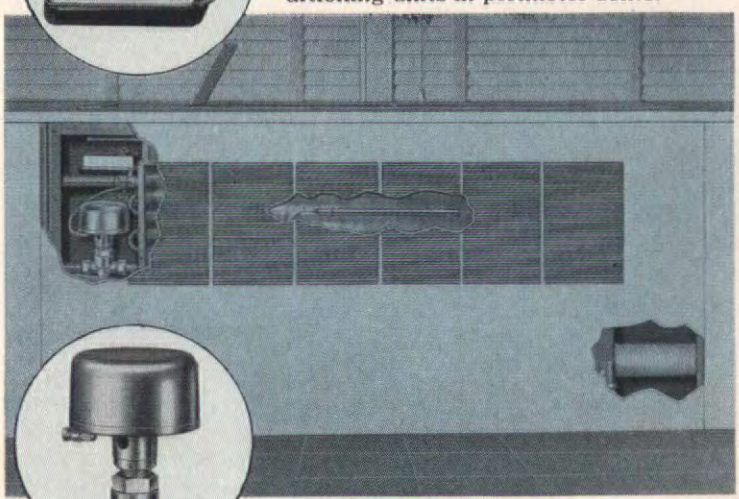
THE POWERS REGULATOR COMPANY

Over 60 Years of Automatic Temperature and Humidity Control

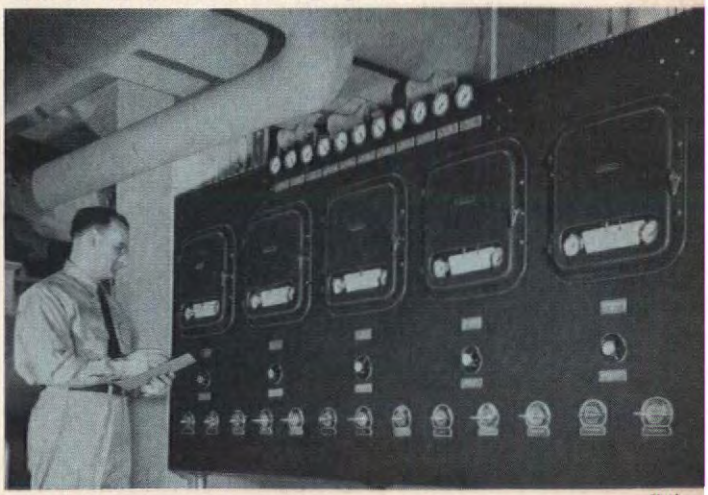
Skokie, Ill., Offices in Over 50 Cities, see your phone book

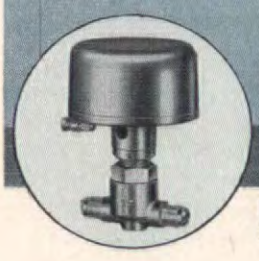


Powers Summer-Winter Thermostat and Packless Valve below, regulate air conditioning units in perimeter zones.



Powers Master Control Panel for primary air and water circuits plays an important part in the efficient regulation of the air conditioning system.





Powers Packless Valve has unique Duo-Seal feature. It prevents water leakage – requires no packing maintenance.

(b4)

U. S. HOUSING RESEARCH PROGRAM COMES TO AN END ON APRIL 30

HHFA Division Launched 89 Projects, Spent $4.7 Million; 30 Projects Are To Go Unpublished for Lack of Funds

THE FEDERAL GOVERNMENT'S brief plunge into housing research is scheduled to terminate April 30, when the Housing and Home Finance Agency's Division of Housing Research shuts up shop as directed by the first session of the Eighty-Second Congress. Only "liquidation" funds were provided for the Division in the fiscal 1954 budget.

The final score for the Division — statistically speaking — stands as follows: 89 separate research projects launched; 37 reports in print; 22 publications now "in the pipeline"; some 30 projects not to be published for lack of funds. In 52 months of its operating existence, the Division had $4.7 million to spend under the guidance of its successive directors — Dr. Richard U. Ratcliff of the University of Wisconsin and the present head (since the fall of 1951), Joseph H. Orendorff.

Set up by the Congress with HHFA itself in the Housing Act of 1949, the Division got an appropriation of some $2 million for 1950, $1.5 million for 1951 — but it had a stormy course in Congress from then on. Its annual appropriation never again reached the first-year level, and the figure for its final year was $125,000.

The general objective of the program has been the reduction of housing cost — without sacrifice of quality — by the most efficient use of labor and materials. How well has the objective been served? These are some examples cited by the Division in justifying its fiscal 1953 budget request:

— A research study of the formation of ice dams on roofs indicated that in Northern areas of the U. S. and in Alaska as many as 100,000 houses may suffer damage from this cause during a single severe winter. Cost of repairs, which often involve both repainting outside walls and redecorating interior finish, usually ranges from $100 to $500 per house and totals several million dollars annually. The Division claimed its published article would permit home builders to eliminate this trouble at little or no extra cost by a simple method of attic ventilation which also provides greater summer comfort.

— A research study of weight of accumulated snow pack on roofs in various parts of the country was completed in cooperation with the Weather Bureau. This, it was said, enabled building code authorities safely to reduce design loads for roofs, thus cutting costs from $25 to $50 per house.

— The National Plumbing Code was published in June 1951. This was a joint research effort of the Department of Commerce and HHFA. By permitting simplified installations, savings of 22,000 tons of cast iron, and 3200 tons of galvanized steel in each 100,000 units was claimed.

— A new method of applying wood sheathing (shown to be satisfactory, according to HHFA) if applied to 100,000 frame dwellings would save an estimated 136 million bd ft of lumber and 35,000 kegs of nails. The uniform application of such techniques, where feasible, said HHFA, would save millions of dollars annually in materials and labor.

— A series of publications coordinating results of staff and contract research on materials and cost savings techniques was presented in readily usable form for designers and builders. One such booklet was designed to show how careful consideration of the locations of plumbing fixtures and the resulting simplification of venting and drainage systems would permit, if followed generally, an estimated savings of 8.4 million lb of cast iron, 480,000 lb of copper, and 500,000 lb of lead for each 100,000 units constructed.

During its first two years of life, the Division of Housing Research awarded 89 contracts to colleges, private research institutions and government laboratories at an expenditure of some $2 million.

There has always been a good deal of argument in and out of Congress that private industry ought to be allowed to do its own research if it wanted to and was able to coordinate the task. The HHFA researchers took the view that Federal stimulation was needed. At one time former HHFA Administrator Raymond Foley told Congress: "I believe that very few of the projects that we have this far undertaken . . . would have commanded sufficient interest on the part of the building industry, so as to have them undertake the research." He had noted that there are many separate and distinct interests in the total housing industry. While considerable product research was always done, he contended, there never had been any one interest or one group with sufficient overall interest to undertake the basic types of research with which HHFA concerned itself.

One of HHFA's own objectives was interesting private industry in the idea of undertaking more of this research itself.

This was brought out in a statement by Mr. Orendorff when the 1953 bill was up for consideration. This said in part:

"A major portion of research in housing sponsored by the various segments of the building industry has been concerned with physical properties of materials and engineering of structures. . . . Practically none is concerned with research in the dwellings as a total product for family living. Very little research is concerned with the performance of the structure or with the assembly of various materials in combination. This generally held opinion of the nature of housing research was confirmed in a recently completed survey of housing research sponsored by HHFA and conducted by the Building Research Advisory Board, National Research Council. It is in these neglected areas where research is most urgently needed that the Division has concentrated its efforts."

When this year's appropriations were under consideration last spring, HHFA Administrator Albert M. Cole told Congress he was somewhat at a loss on how to proceed since the 1949 Act gave the authority for a comprehensive research program, yet the House bill provided nothing last year for housing research. "The statutory requirement that a housing research program be carried on thus has been abrogated," he said.

In a special statement prepared for entry in the record on that occasion, there was this reference to the program's worth:

"A greater degree of significance in

(*Continued on page 312*)

Bibliography

A complete list of HHFA research projects, published and unpublished, will be found on pages 312–316.

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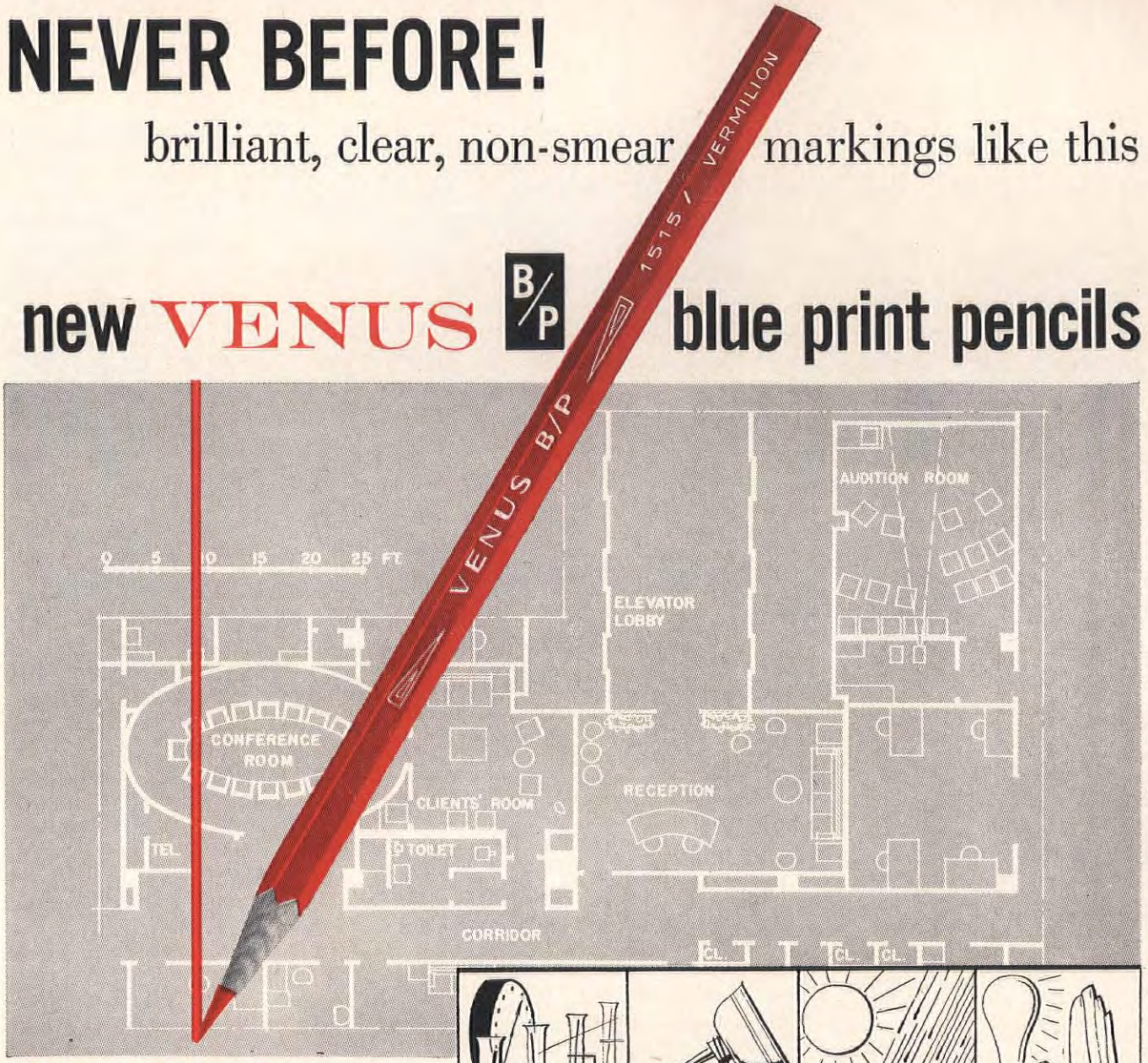

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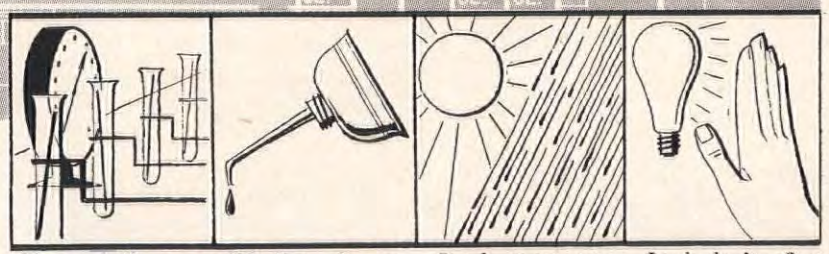

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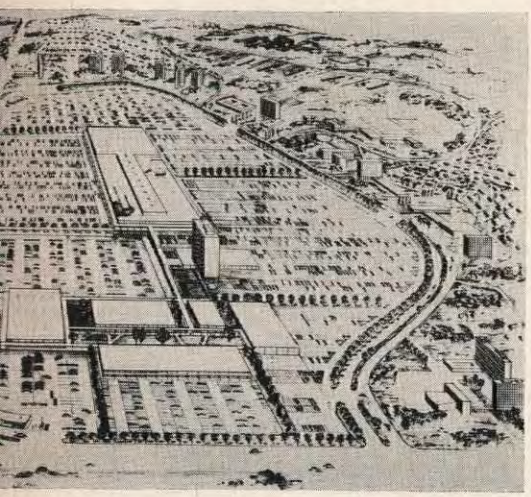
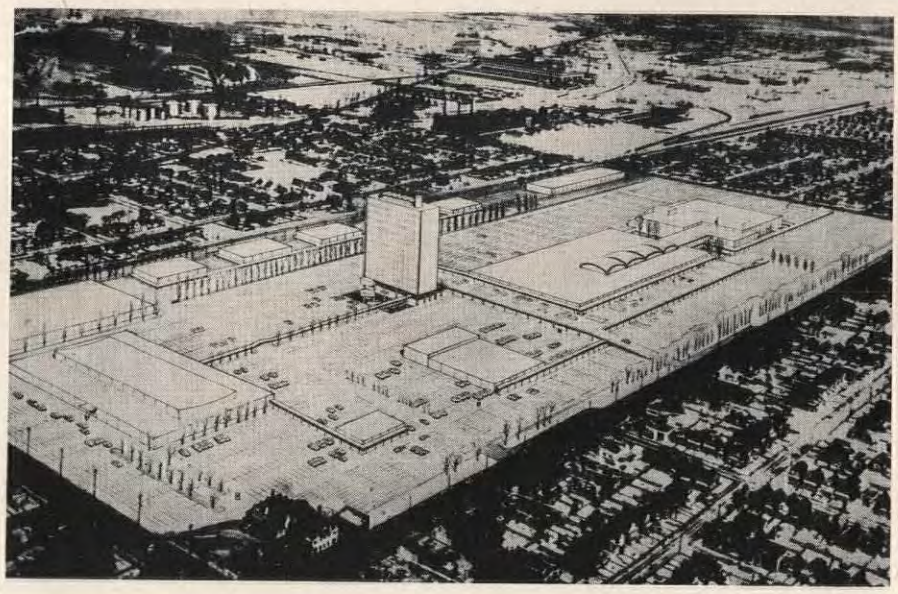
NEWS FROM CANADA *By John Caulfield Smith*





Left: architect's perspective of the 44-acre shopping center now under construction at Don Mills, the planned community in Toronto. Above: view of the 71-acre shopping center planned for Hamilton, Ont. Architects are John B. Parkin Associates

TWO SHOPPING CENTERS PLANNED FOR ONTARIO

CONSTRUCTION IS UNDERWAY on two new shopping centers in Ontario, both designed by John B. Parkin Associates, Toronto architects.

One is being built in Don Mills, the planned community near Toronto. In conformity with the policy of the developers, Don Mills Development Limited, the first stores in the center will be for "convenience goods" to accommodate shoppers in the new community; already under construction is a 20,000-sq-ft supermarket. About 18 of these convenience goods stores are planned for completion this year, and will include such shops as a drug store, a dry cleaning establishment, a barber shop and beauty parlor, and a hardware store.

Scheduled for construction for next year are one, or perhaps two, department stores, 50 to 60 smaller stores, plus banks and offices. Stores in the main section will open onto a mall, and walkways will cross the mall at second story level. Parking space is planned to handle 4000 to 4500 cars at a time.

The other shopping center, in Hamilton, Ont., is also under construction. Work has begun on the first building of the group — a two-story department store for Simpsons-Sears. Also planned for the center: another department store, 60 to 70 smaller stores, an office building, banks, warehouses and show rooms, medical and dental center. Under consideration is the possibility of including display space for automobile dealers, which would have the effect, say the developers, of a year-round automobile show.

Traffic arrangements include parking provisions for 5000 cars, and underground passages for supply trucks and delivery vans.

CONSTRUCTION SPENDING EXPECTED TO INCREASE

Total capital expenditures in Canada for construction of all kinds and for machinery and equipment is expected to rise nearly three per cent this year, according to a white paper recently introduced into the House of Commons by Trade Minister Howe. The paper, titled "Private and Public Investment in Canada, Outlook for 1954," forecast an increase of six per cent in construction expenditures against a drop of three per cent in spending for machinery and equipment.

Housing expectations for the year, disclosed previously in discussion of the new housing bill before the House of Commons, are for 104,000 units completed (about 3000 more than last year) and for 106,000 starts (about the same as last year). The paper predicts a slight increase in the cost of housebuilding.

In other categories of building it is anticipated that there will be an increase in store, office building and institution work, but some decline in industrial building.

The basis for the government's forecast was statements from some 17,000 business establishments as to their intended capital expenditures and surveys of proposed expenditures by governments, institutions and private housebuilders.

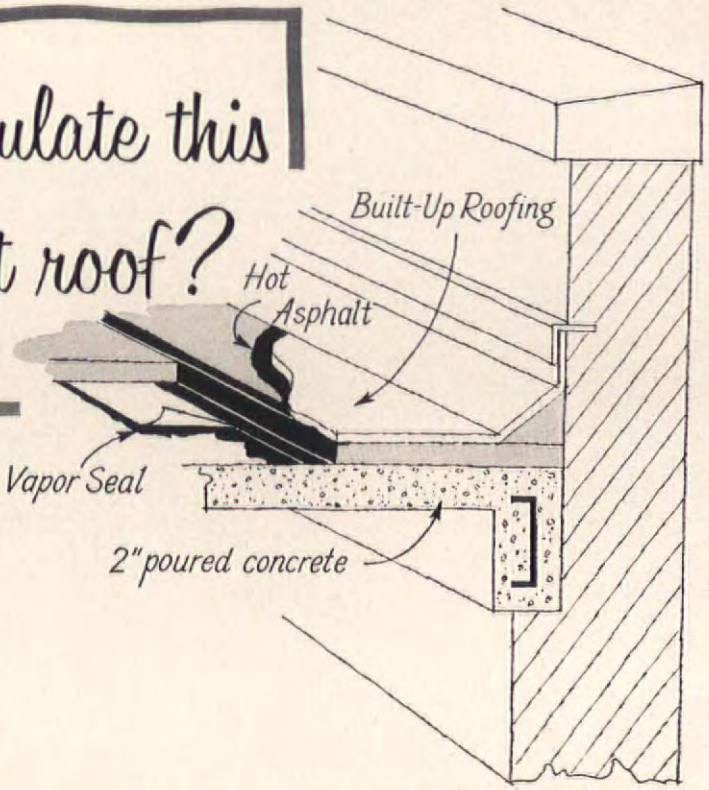
MINISTER STANDS UP IN DEFENSE OF ARCHITECTS

The architectural profession received a boost recently from Dr. Kenneth Glazier, moderator of the Toronto East Presbytery, who told members that projected Presbyterian churches must have plans drawn by an architect in order to receive financial support from the Presbyterian Church in Canada.

Dr. Glazier left the chair at a meeting of the presbytery to defend the policy of the Committee on Church Architecture, of which he is a member, against the re-

(*Continued on page 30*)

How would you insulate this auto assembly plant roof?



PROBLEM: An automobile manufacturer is planning a new assembly plant with almost 400,000 square feet of roof area. It will be built in a region where temperatures often drop to – 20° F. In winter, inside temperatures will average 70° F., and relative humidity will be about 50%. The roof deck is to be 2″ of poured concrete. To keep building cost down, conserve fuel, and prevent condensation under the roof, what insulation would you specify?

SOLUTION: Every roof insulation job has its own requirements. The type of building, average interior and exterior temperatures, and budget limitations are but a few of the factors an architect must consider.

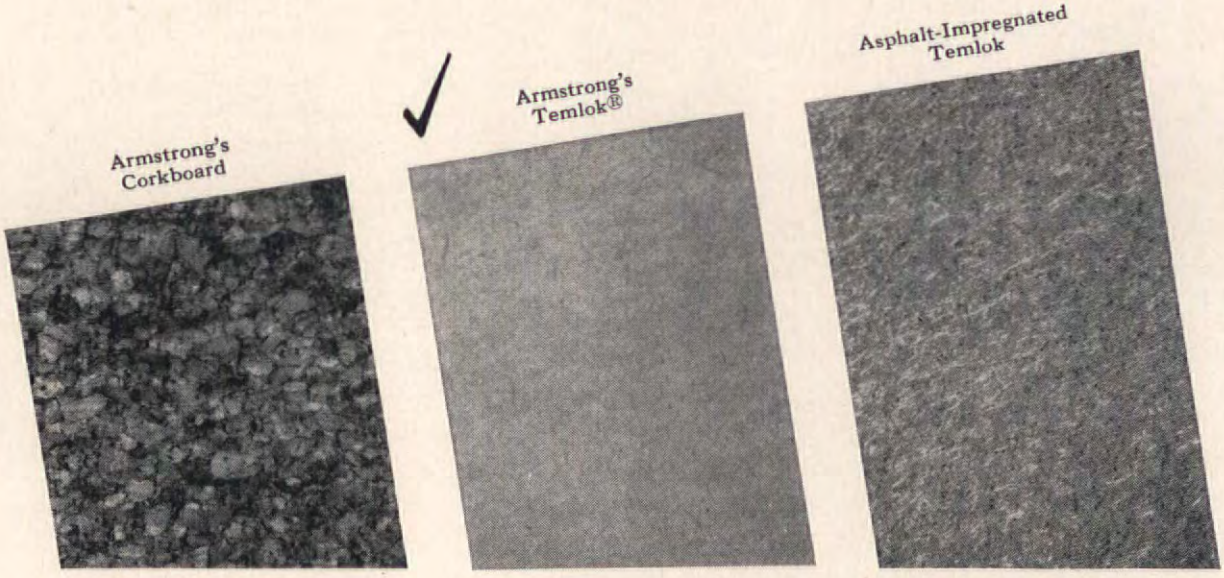
In this case, temperature and humidity conditions do not require an especially heavy-duty insulation. In view of the plant's large roof area, however, economy is important. The natural choice of many architects would be 1″ of Armstrong's Temlok®, a durable, low-cost fiberboard.

Temlok's insulating properties keep heat loss to a minimum, provide adequate protection against condensation. Applied over a vapor seal in accordance with Armstrong's specifications, a 1″ thickness of this material gives the roof a satisfactory U-factor of .24.

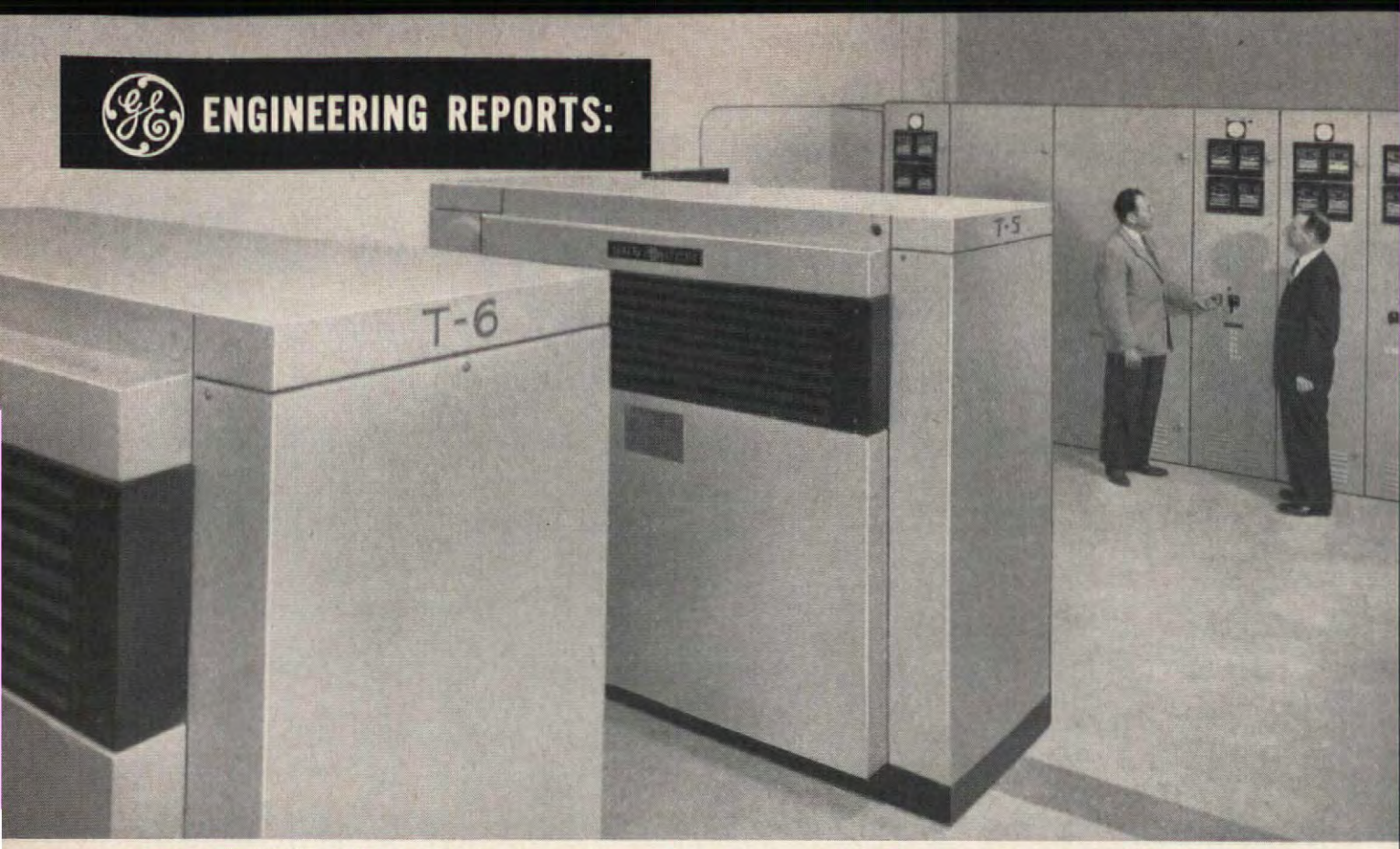
Temlok is lightweight but strong. It makes a firm base for built-up roofing and can take plenty of on-the-job abuse without breakage or crushing.

Where service conditions are more severe you may want to select Armstrong's Corkboard or Asphalt-impregnated Temlok. For full details on all three of Armstrong's Roof Insulations, call you local Armstrong office or write Armstrong Cork Company, 3804 Rock Street, Lancaster, Pa.

ARMSTRONG'S ROOF INSULATIONS

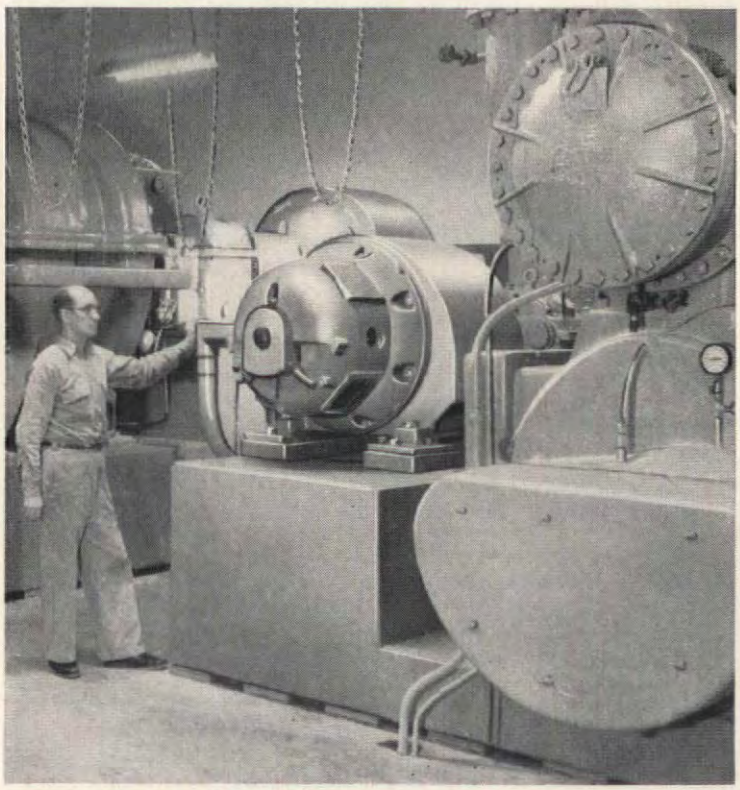


ENGINEERING REPORTS:



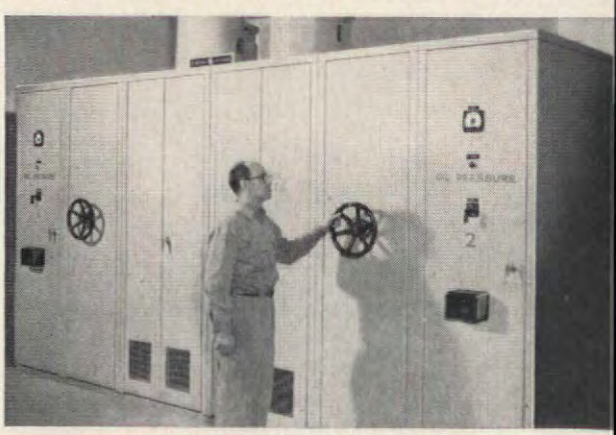
COMPACT POWER DISTRIBUTION for the entire new May Co. store in Lakewood is provided from these "packaged" units. G-E dry-type transformers, foreground, step down incoming voltage, while G-E switchgear, rear, controls it. Metal-clad enclosures h protect both men and equipment, make installation easier a provide a convenient basement layout.

Electrical system at May Co

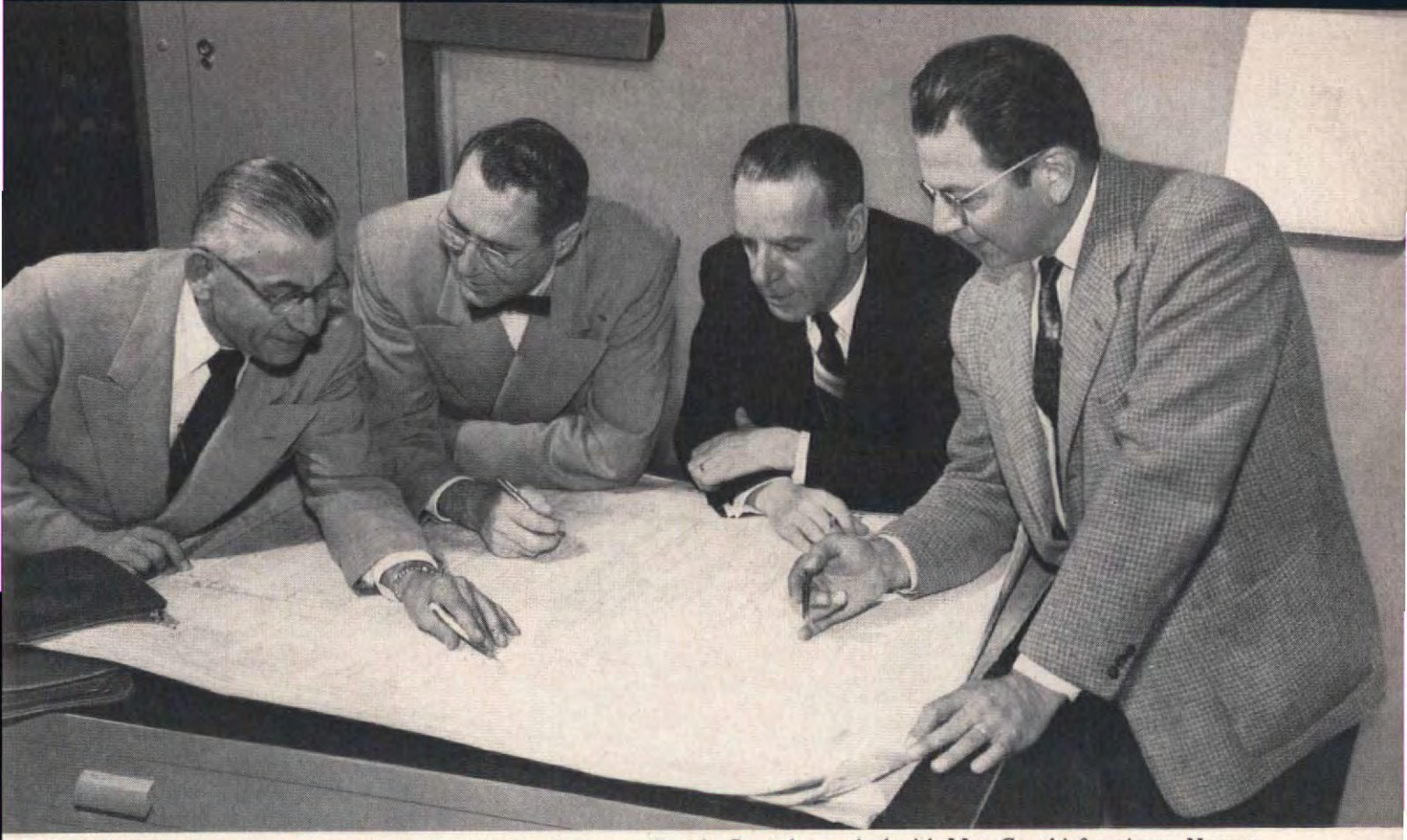


EASILY-INSTALLED G-E MOTORS drive building's refrigeration and air-conditioning equipment. Compressors, shown above, are powered by General Electric 700- and 300-hp motors.

NEW MAY CO. STORE in Lakewood, Calif., called upon G application engineers to help plan and design its power sy tem. Packaged G-E equipment made installation easi



DEPENDABLE CONTROL for motors driving Carrier co pressors is provided by this 5000-volt G-E unit, which w ready for operation upon installation.



ECTRICAL SYSTEM PLANNING for the building was based on gineering teamwork like this. Left to right are G-E Apparatus es Engineer Carl Degering and Kenneth C. Moulten of G.E. Supply Co., who worked with May Co. chief engineer, Norman Sneddon, and C. P. Haist of Albert C. Martin and Assoc., architects and engineers for May Co. and Lakewood shopping center.

helps assure shoppers' comfort

Engineering teamwork of consultants and General Electric specialists solves electrical design problems at Lakewood, California store

t the new May Co. store in Lakewood, Calif., a imary consideration in preliminary planning was the sign of a complete electrical system which would be ghly efficient, simple to install, and easy to maintain.

While their plans were still on the drawing board, lbert C. Martin and Assoc., architects and engineers, d May Co.'s chief engineer, Norman Sneddon, teamed with General Electric application engineers to design co-ordinated electrical system.

As a result of this engineering co-operation, time, work d money have been saved. Dependable G-E power stribution system keeps economical high-voltage power supplied to refrigeration, moving stairways and elevators. G-E motors and control on air-conditioning equipment help keep service continuity high, maintenance low.

You, too, can take advantage of the same kind of specialized engineering assistance by letting a G-E engineering team help you and your consultants plan your commercial building project. Call in your local G-E Apparatus Sales Representative *early in the planning stage* when he can be of the most help to you in designing an electrical system just right for your project. Or, write on your letterhead to General Electric Co., Apparatus Sales Division, Section 665-121, Schenectady 5, New York.

Engineered Electrical Systems for Commercial Building

GENERAL ELECTRIC

CANADA

(*Continued from page 26*)

Williams Brothers Photos

Three views of a new bus depot recently built in Westminster, B. C., by the British Columbia Electric Railway Company Ltd. Fluted facings and spandrels are of aluminum sheets which have been polished and anodized. Architect for the building was Percy C. Underwood of Vancouver, B. C.

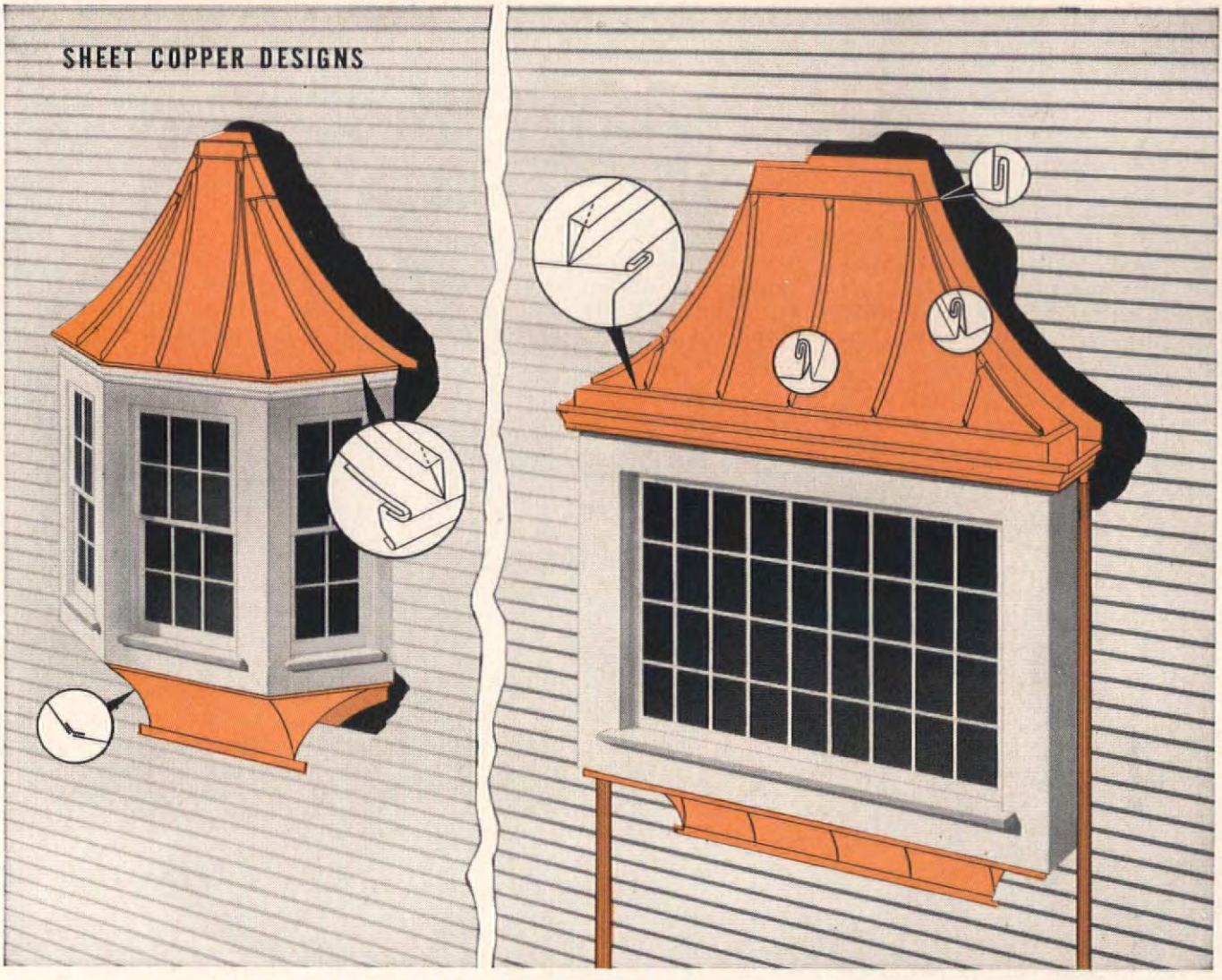
marks of a minority of members who felt architectural fees were an unnecessary expense and that congregations should not be limited in their spending by such a ruling.

"I can show you buildings in Toronto that are a disgrace to the Presbyterian Church," said Dr. Glazier. "Congregations get the idea they can put up any kind of structure, get a loan of $25,000 and $30,000 from the Presbyterian Church, and squander it. And I say 'squander' deliberately.

"I could take you to a church in this city that seats 200 people and cost $120,000 to build. It was built without the services of an architect. The Presbyterian Church contributed $40,000.

"There is a church in this presbytery, also seating 200 and built from an architect's plans, which cost $45,000," he said. "It is the most scandalous thing in the Presbyterian Church that a congregation was sent a check for $40,000 and the men in the church's head office didn't know what was being built."

(*Continued on page 32*)



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QUEBEC ARCHITECTS HOLD 63RD ANNUAL MEETING

Members of the Province of Quebec Association of Architects recently held their 63rd annual meeting at the Chateau Frontenac in Quebec City.

Bernard M. Deschesnes, the organization's executive secretary, reported to the assembled delegates results of a study made of some 340 sets of plans. Of these plans, most of which were from the Montreal area, Mr. Deschesnes said that 23 per cent were prepared by architects, 36 per cent were unsigned plans, 29 per cent were signed by the owners, and 12 per cent were irregularly signed. The organization is investigating further means of determining this information as it applies throughout the province.

New Officers Elected

At the closing session of the meeting, delegates elected as their officers: Lucien Mainguy, Quebec — president; Edward J. Turcotte, Montreal — first vice president; Henri Mercier, Montreal — second vice president; H. A. I. Valentine, Montreal — honorary treasurer; Gerard Venne, Quebec — honorary secretary. Also elected, as members of the council: G. E. de Varennes, R. C. Betts, R. E. Bolton, P. Morency, F. J. Nobbs, C. D. Goodman, P. J. Savard, all of Montreal; and Maurice Mainguy and J. Edouard Fiset, Quebec.

ELECTION RETURNS FROM B.C. AND SASKATCHEWAN

Dominion architects had a busy month of meetings. In other parts of the country annual meetings were also held by the Architectural Institute of British Columbia and the Saskatchewan Association of Architects.

Officers elected by the A.I.B.C. were: John H. Wade — president; J. W. Lovatt Davies — vice president; F. W. Nicolls — honorary secretary; R. A. D. Berwick — honorary treasurer; Keith B. Davison, Duncan S. McNab, Harold N. Semmens and Cecil W. White — councillors.

The new executive committee of the Saskatchewan association is: H. K. Black — president; Frank Martin — first vice president; Dan H. Stock — second vice president; and R. B. Ramsay, secretary-treasurer.

C.C.A. MEMBERS WARNED TO WATCH RISING COSTS

Members of the Canadian Construction Association, meeting recently in Vancouver, were cautioned to watch out for increasing building costs. In his address to the group, John N. Flood, president of the C.C.A., warned that when costs rise above competitive levels in any field, the buyer of goods and services invariably turns to other sources. "Only recently," he said, "we have seen Canadian merchant vessels change registry, mines closed down and production cut in our textile mills. The lesson is clear, and the construction industry must exercise constant vigilance to see that our cost structure does not get out of balance."

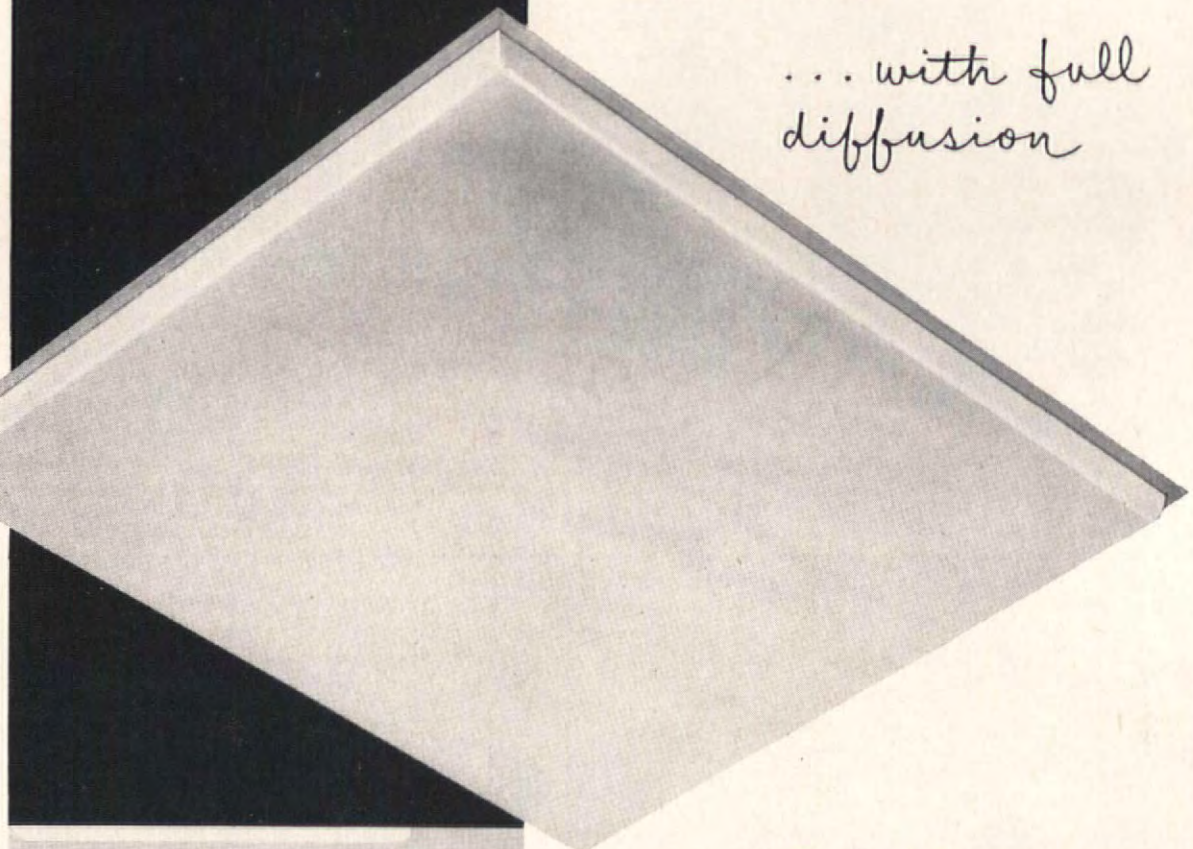
Brunet Elected President

Delegates to the meeting elected to the presidency Raymond Brunet, a general contractor from Hull, Que.

(*Continued on page 36*)

broad area lighting

. . . with full diffusion



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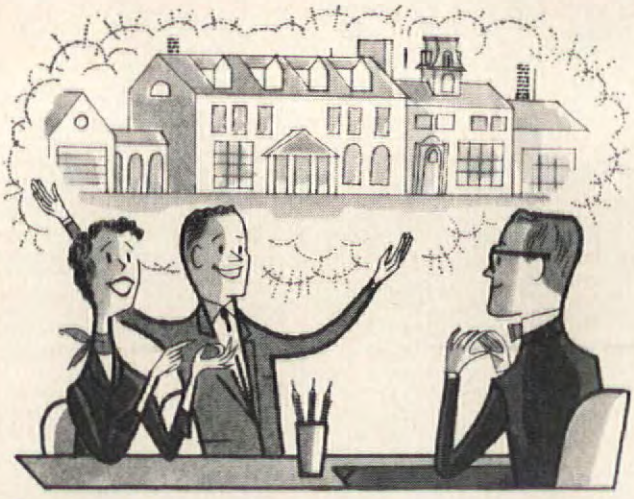
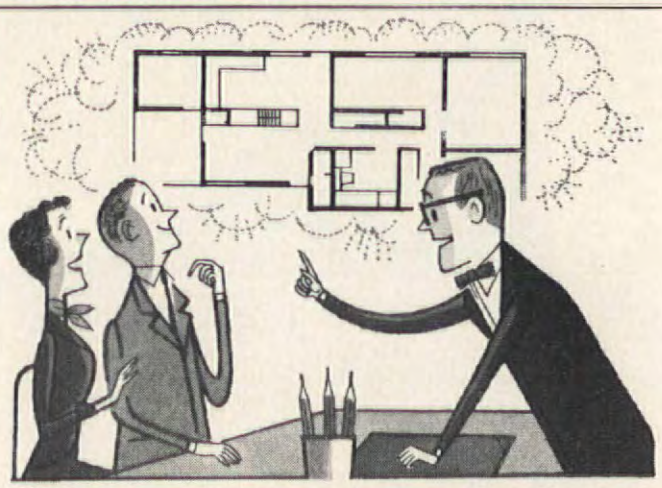


1 Well, they say, we'll need a bedroom for ourselves and two for the children and Aunt Edna visits so often we'll need one for her. John needs a den and the children a playroom and I want an enormous kitchen.

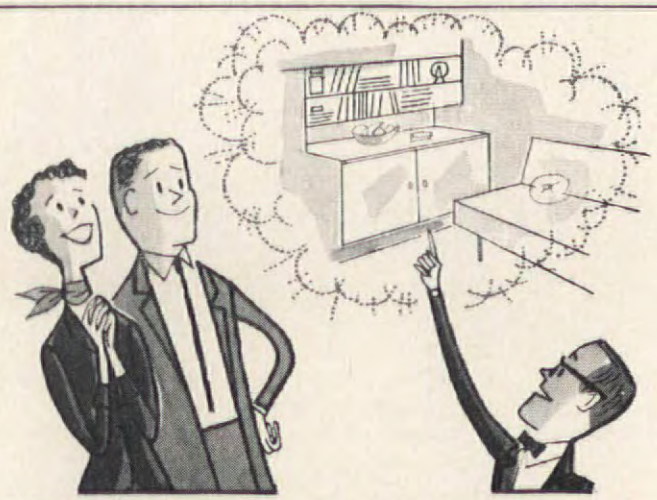
2 My, you think, he must be in oil or scrap iron at least. The house will be Carrier air conditioned, of course. They might even want a marble bath. Perhaps I should hire an extra draftsman and where can I take them for lunch?

5 They'll save, you say, on movable sash and screens. They won't need an attic fan, porch or breezeway. They won't spend as much on dry-cleaning drapes and upholstery. Paint and paper will stay clean longer.



6 You explain that they won't need wings and ells to catch a breeze in their Carrier air conditioned house. A compact, rectangular floor plan will reduce costs. It will be more convenient; they'll save thousands of steps.

9 Moreover, you say, the whole house will be a better house. Since the windows are no longer important to comfort, they can be grouped for a feeling of space, better light, and a view. You can put them high or low.



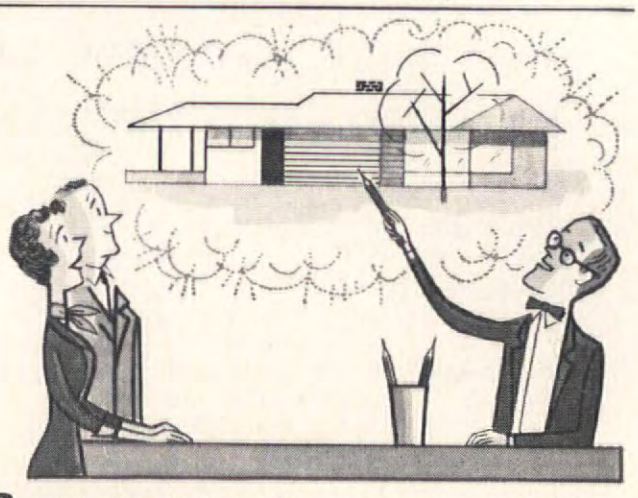
10 Grouping the windows, you add, permits solid walls into which you can fit built-in storage units. Solid walls make furniture arrangement easier, keep out the hottest sun of summer, shut out an undesirable view.

FERENCE

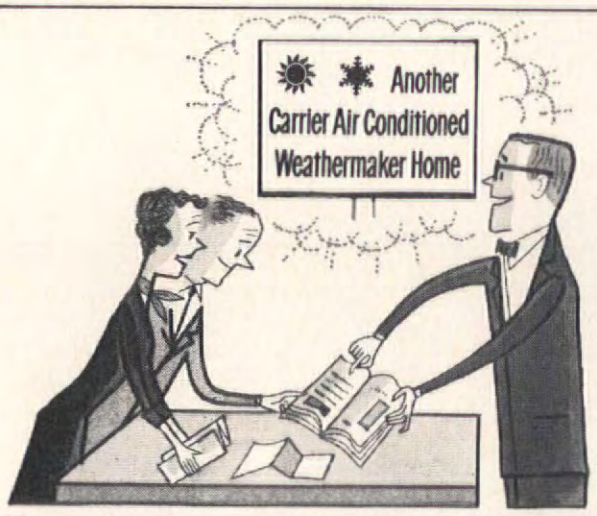
3 Then they tell you they've got a 70′ x 100′ lot and finances to match. You decide on linoleum instead of marble for the bathroom. You fire the draftsman. And decide to have your receptionist bring you in coffee and a sandwich.

4 But, you resolve, the Carrier air conditioning stays—and you tell them why. You explain that in a house planned around air conditioning, the cost of the air conditioning is small. Because it substitutes for many "necessities."

7 But, they ask, doesn't air conditioning cost a lot to operate? Not at all, you tell them, the refrigeration unit runs for a full day on small change. And an air-cooled condenser eliminates the expense of water.



8 More than that, you'll design the house so it lets less heat in, saves them the cost of taking it out. You'll use, you say, a light-colored roof, overhangs to shade the windows, small windows or none on the west.



11 They've heard something about these ideas before? Yes, you say, it's the Carrier Weathermaker Home idea . . . the idea of a home planned around its air conditioning. Well, they ask, can they still have four bedrooms?

Carrier

air conditioning
refrigeration
industrial heating

CARRIER CORPORATION

312 S. Geddes Street, Syracuse, New York

Please send me your Weathermaker Home idea books. I've got a conference coming on.

Name_____

Street_____

City_____ State_____

THE RECORD REPORTS

CANADA

(*Continued from page 32*)

NEWS NOTES

The current **shortage of engineers** will persist for another quarter of a century, according to a prediction by Dr. Austin Wright, secretary of the Engineering Institute of Canada. . . . The removal of **sales taxes on building materials** was urged by a delegation from the Canadian Construction Association, which met recently with the Federal cabinet. . . . **January construction contracts awarded** showed a 20 per cent decline under those of January 1953, according to MacLean Building Reports; the drop was ascribed to a decrease in activity in engineering work and in business building.

CORRECTION

The RECORD regrets an error in the architectural credit on two Ontario school projects shown on page 26 of the February 1954 issue. Architects of the Markham District High School and the Stouffville District High School were Shore & Moffat.

LOW-RENT HOUSING: PRIVATE

The Toronto Metropolitan Home Builders Association, in an effort to show that private enterprise can provide quality low-rent housing without public subsidy, erected and exhibited these demonstration units designed by architects Jackson & Ypes.

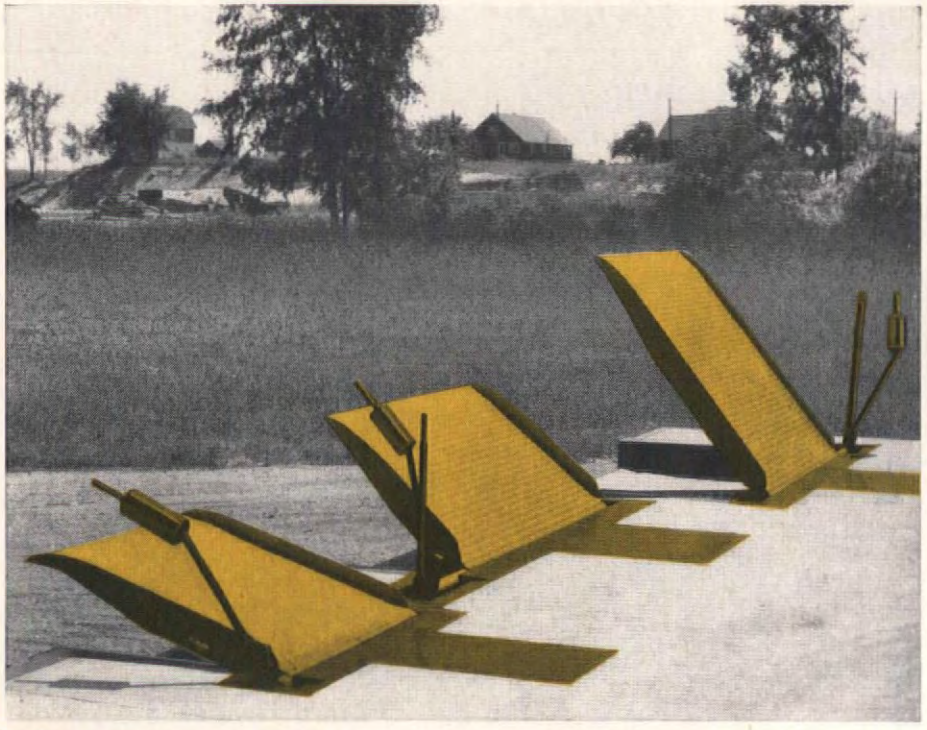
Each unit includes living room, dining alcove and kitchen on the first floor; two bedrooms, a short hall and a bath upstairs. There is a basement under each unit. Each house measures 18 ft 6 in. across the front, 23 ft in depth.

Cost per unit is $7300 plus the cost of servicing the land.

(*More news on page 38*)

DESIGNING A FACTORY? WAREHOUSE? TRUCK TERMINAL?

then it will pay you to include these in your plans . . .



RITE-HITE ADJUSTABLE LOADING RAMPS

RITE-HITES enable you to utilize space available for loading dock to best advantage. They insure parking of trucks in an orderly manner, providing maximum use of dock approach space and efficient loading and unloading.

RITE-HITES can be installed singly or in multiples as requirements dictate. Simple mechanical design insures dependable all-weather operations. Little or no maintenance is needed.

RITE-HITES add practically nothing to new-construction costs and can be economically installed in existing loading docks. Detailed installation drawings and instructions are furnished with each unit.

RITE-HITES leave dock edge unobstructed. They can be modified at no extra cost to permit closing overhead doors when ramp is in raised position.

RITE-HITES are available in 3 types, 5 models, capacities: 10,000 and 20,000 pounds. Priced from $395.00.

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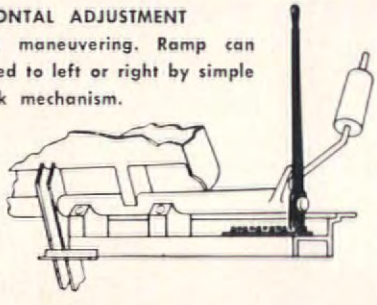
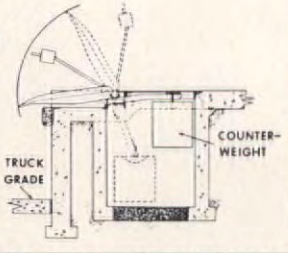
Reduces truck maneuvering. Ramp can easily be shifted to left or right by simple lever and rack mechanism.



Precision balanced. Simple design. No pipes, pumps, gears, motors.



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ASK FEDERAL CHIEF FOR PUBLIC WORKS PLANNING

APPOINTMENT OF AN ADMINISTRATOR directly responsible to the President for immediate planning and coordination with state and local governments of all Federal public works and community development has been recommended by the Joint Committee on the Economic Report.

The committee warned, however, after completing lengthy hearings on the President's January Economic Report, that it would be well for the Federal government to keep public works in proper perspective lest they be overrated as a tool capable of solving unemployment problems by themselves. While the committee recognized that public works and their planning had an important role in anti-recession actions, it saw little hope that these works might be speeded up administratively alone in any important way.

"Works Reservoir" Favored

The committee's report acknowledged the need for a "works reservoir," a shelf of planned public works projects. It also called attention to a Bureau of the Budget memorandum to all executive agencies dated July 9, 1953, which stated: "Increased emphasis will be given to the development of plans for authorized high priority projects to a stage where these projects could qualify for construction at a time when new construction starts would be consistent with a less restrictive budgetary policy."

Prompt Action Sought

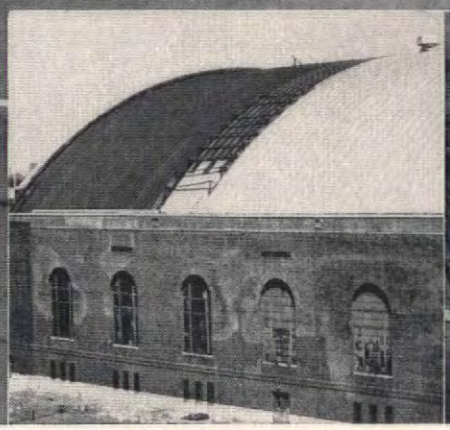
In its study of this phase of the economic situation, the committee seemed to realize the need for prompt action if a planned public works program was to be effective in halting recession trends. It was noted that the President's economic report to Congress estimated that outlays for Federal public works could be stepped up within a year by about $2 billion, or one-half of Federal expenditures for those purposes in 1953. The President's report also stated that if financial arrangements were adequate, state and local outlays might be expanded by another $3.5 billion. Commenting on this, the committee's report said:

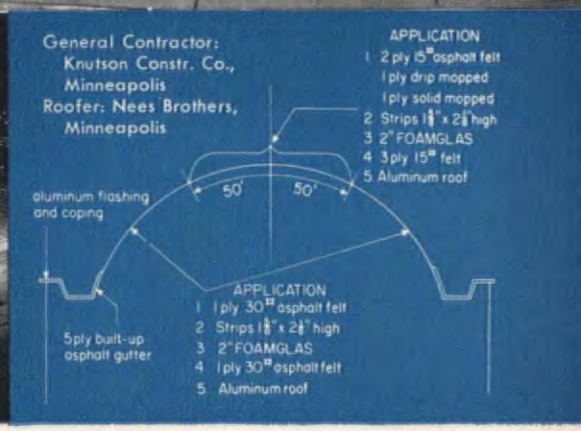
"Expenditures in these amounts would, without question, be helpful if we should suddenly find ourselves in a seriously declining economy, but the attainment of even these moderate aggregates would be dependent upon the prompt action of the Congress and other authorizing bodies. The committee finds little confirmation for the hope that Federal public works might be speeded up administratively alone in any important way."

Housing: Flexibility Wanted

As for government aids to housing, it was recommended that this program be flexible enough to be expanded in case of need and contracted should too rapid expansion threaten. The committee agreed that the President should be given permissive authority to regulate within statutory limits the maximum loan value ratios, the terms of maturity, and interest rates on government-insured loans.

(*Continued on page 290*)





18,000 Gopher fans made "rain" until field house roof was insulated with FOAMGLAS

Large crowds in the University of Minnesota Field House used to be crackerjack "rainmakers." How? . . . They generated so much humidity that the original insulation on the roof became water-soaked. Then there was nothing to prevent condensation from forming on a cold underside of the roof deck. "Rain" literally fell in the field house. During a basketball game, for example, play had to be stopped frequently to mop up the floor.

FOAMGLAS, the cellular glass insulation was picked to solve this problem in 1948. It hasn't rained since. The sealed glass cells of FOAMGLAS *can not* absorb moisture, assuring constantly high insulating performance despite the high humidity inside and the frequently extreme outside temperatures in the Minneapolis area. The roof curvature was no problem with easily handled blocks of FOAMGLAS, readily shaped and fitted where necessary and with sufficient strength and rigidity to permit easy, efficient application to the roof.

Whatever *your* insulating problems may be, FOAMGLAS is the ideal answer. This strong, stay-dry insulation guarantees efficient insulating service plus unique design advantages. Let us send you our new booklets describing the use of FOAMGLAS to insulate roofs, walls, floors, ceilings, piping or equipment in normal or low temperature buildings. Write today, using the handy coupon below.

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- ☐ Send engineer to discuss specific problem.

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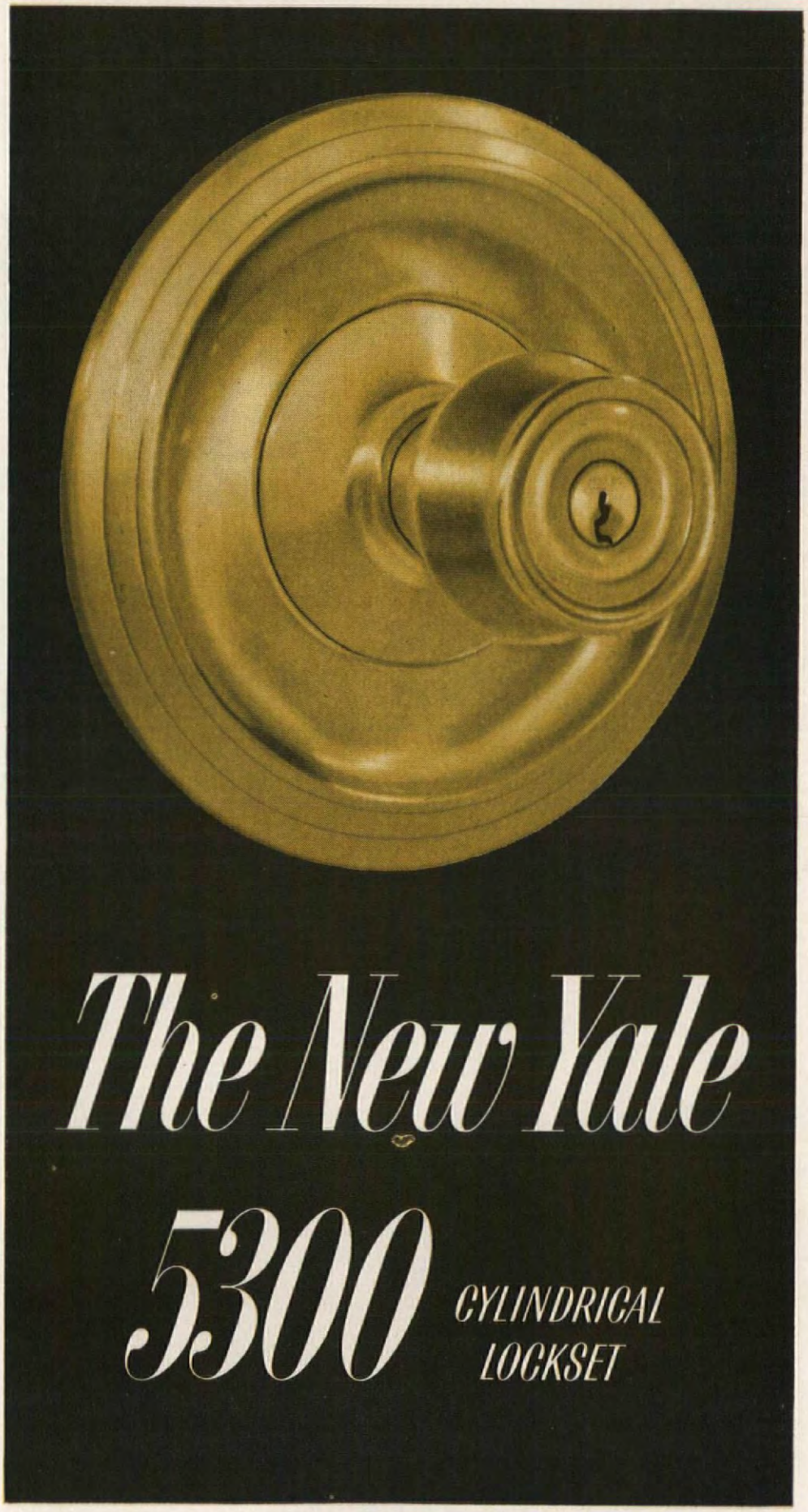


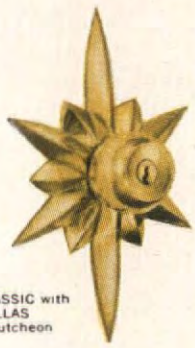
A GENERAL PURPOSE LOCK MEETING FEDERAL SPECIFICATIONS TYPE 160

TROY with MADISON escutcheon

NASSAU with NEWPORT escutcheon

CLASSIC with NEWPORT escutcheon

NASSAU with CONSTELLATION escutcheon

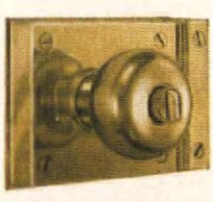


CLASSIC with DALLAS escutcheon

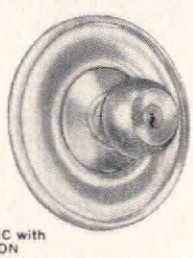
TROY with NORFOLK escutcheon

LITCHFIELD with SAVOY escutcheon

LITCHFIELD with WILLIAMSBURG escutcheon



LITCHFIELD with WILLIAMSBURG escutcheon



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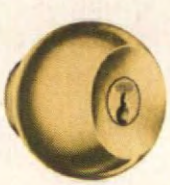
Troy



Classic

Nassau

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Deauville

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YALE & TOWNE

CONSTRUCTION COST INDEXES

Labor and Materials — **U. S. average 1926–1929 = 100**

Presented by Clyde Shute, manager, Statistical and Research Division, F. W. Dodge Corp., from data compiled by E. H. Boeckh & Assocs., Inc.

NEW YORK

Period	Residential Brick	Residential Frame	Apts., Hotels Office Bldgs. Brick and Concr.	Commercial and Factory Bldgs. Brick and Concr.	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
1940	126.3	125.1	132.2	135.1	131.4
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	246.4	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
Nov. 1953	283.2	277.5	288.3	295.2	291.0
Dec. 1953	286.1	280.6	292.6	298.5	295.2
Jan. 1954	285.2	279.5	292.2	298.2	294.8
	% increase over 1939				
Jan. 1954	130.9	128.3	123.5	123.5	126.6

ATLANTA

Period	Residential Brick	Residential Frame	Apts., Hotels Office Bldgs. Brick and Concr.	Commercial and Factory Bldgs. Brick and Concr.	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
1940	91.0	89.0	96.9	98.5	97.5
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	223.3	224.6	221.3	221.8	223.0
Nov. 1953	225.1	225.8	226.0	226.9	227.0
Dec. 1953	223.7	224.1	225.7	226.7	226.6
Jan. 1954	221.8	221.9	224.1	225.4	225.2
	% increase over 1939				
Jan. 1954	157.0	167.0	135.6	131.4	137.8

ST. LOUIS

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
1940	112.6	110.1	119.3	120.3	119.4
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	267.6	259.2
Nov. 1953	266.4	260.0	263.3	272.0	264.8
Dec. 1953	265.8	259.3	263.2	271.9	264.7
Jan. 1954	263.8	257.0	261.5	270.6	263.3
	% increase over 1939				
Jan. 1954	139.4	140.2	120.3	125.9	121.3

SAN FRANCISCO

1930	90.8	86.8	100.4	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
1940	106.4	101.2	116.3	120.1	115.5
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	261.6	259.7
Nov. 1953	257.9	250.1	264.3	271.1	266.3
Dec. 1953	258.6	251.0	264.4	271.2	266.5
Jan. 1954	255.8	247.8	262.3	269.6	264.7
	% increase over 1939				
Jan. 1954	142.2	149.5	123.4	121.2	127.2

The index numbers shown are for combined material and labor costs. The indexes for each separate type of construction relate to the United States average for 1926–29 for that particular type — considered 100.

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.

These index numbers will appear regularly on this page.

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3. STORING SCREENS
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6. STORING STORMS

With PELLA WOOD CASEMENTS, you don't have to allow a single extra inch of costly storage space for storm windows and screens. Pella Casements are equipped with self-storing ROLSCREENS and DUAL GLAZING. Once in place, always in place! Prospective home builders and buyers appreciate their many time and work saving features.

Pella Casements save money on the job, too, because they are completely assembled and pre-fitted at the factory. Stock-size Pella units combine to give countless custom-like effects.

Only Pella Casements provide all three: Rolscreens, Dual Glazing, stainless steel weatherstripping. Glass openings are available up to 60" high and 24" wide. Low air infiltration factor permits use of more glass without increasing heat loss.

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Famous architect comments o

Mr. Richard Roth is well known for his achievements in the field of office building design. His firm, Emery Roth & Sons, has recently designed many of New York City's newest office buildings, including: 380 Madison Avenue, 99 Park, 430 Park and the twin buildings at 575-589 Fifth Avenue, now under construction.

Here are Mr. Roth's comments on Cushionlok carpet:

"Quietness is an essential quality in an office. We have found that Bigelow's Cushionlok carpet fights noise by absorbing distracting sounds.

"Contractors report that Cushionlok is easily installed; its own rubber cushion backing is built right into the carpet.

"Experience has proved to us that Bigelow Cushionlok is good-looking, long-wearing carpet."

Are you planning an installation? If you are, consult Bigelow's experts as early in your planning as possible.

Bigelow's trained specialists are ready to help you find the best color, pattern and weave for your purpose—at a price that fits your budget.

For a sample of Cushionlok, write on your business stationery to Dept. A, 140 Madison Avenue, New York 16, N. Y.

Architect's rendering of office building at 575 Madison Ave. designed by Emery Roth & Sons.

*Reg. U.S. Patent Office

Bigelow Cushionlok* carpet

Bigelow Cushionlok carpet as it appears in the Colorado Fuel & Iron offices, 575 Madison Ave.

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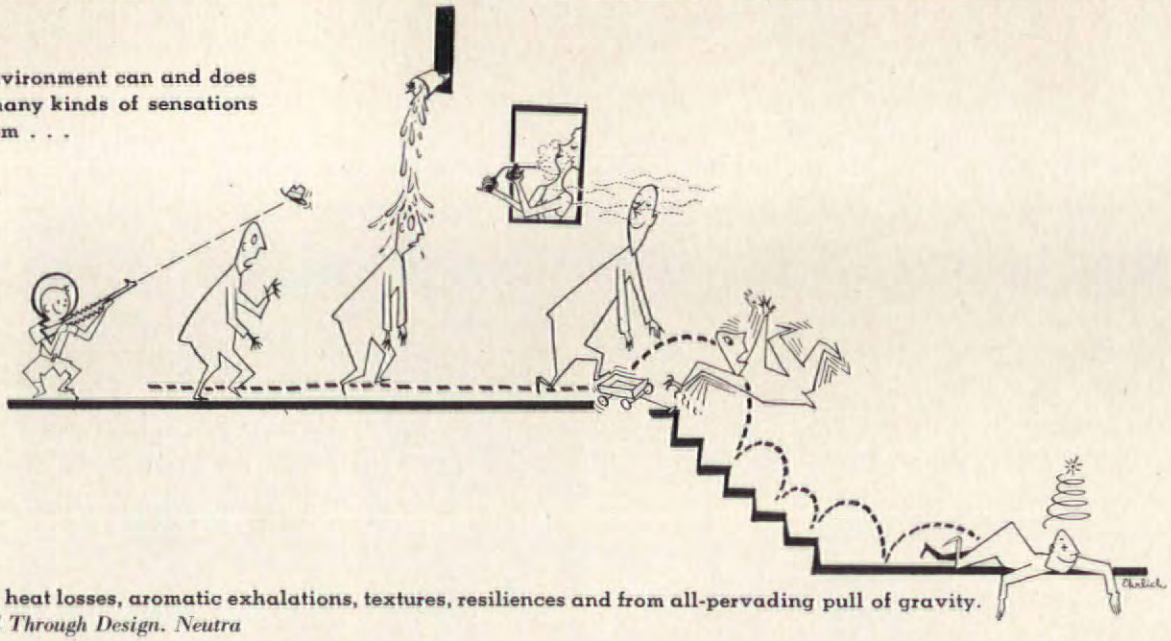
REQUIRED READING

The designed environment can and does pattern for us many kinds of sensations which derive from . . .



. . . . air currents, heat losses, aromatic exhalations, textures, resiliences and from all-pervading pull of gravity.
Survival Through Design. Neutra

SURVIVAL THROUGH DESIGN

Survival Through Design. By Richard Neutra. Oxford University Press (New York, N. Y.) 1954. 5½ by 8¾ in., 384 pp. $5.50

BY JOHN RANNELLS

RICHARD NEUTRA has written a book, intended for the general reader, in which his chief message is the vital importance of design.

> "Design is the cardinal means by which human beings have long tried to modify their natural environment, piecemeal and wholesale." (p. 5)
> "Design . . . is the specific responsibility to which our species has matured and constitutes the only chance of the thinking, farseeing, and constructive animal, that we are, to preserve life on this shrunken planet and to survive with grace." (p. 7)

It is good indeed to have this broad concept of design presented forcefully by an architect who is best known for the visual beauty of his houses. That visual satisfaction is only one of the merits of a successful house design is very clear to anyone who has studied Neutra's. He places visual esthetics where it belongs — as one important component of a designed environment for living. And in this book he calls for a thoughtful search into the other components — physiological and psychological responses less familiar to most architects, where the *behavior sciences* have so much to show us.

It is a challenging, stimulating book — a compendium of observations, generally illuminating, sometimes exasperating, into which the author has put (as he tells us in the preface) "a loose and yet linked cycle of writings collected over almost a lifetime."

A chief virtue of the book lies in the number of urgent problems to which it calls attention. Another great virtue is the insistence on scientific method in the solution of design problems. The author, in a host of examples, gives us glimpses into specific responses to environmental conditions which we should take into account in designing for human use.

(Continued on page 330)

VOICES OF SILENCE

The Voices of Silence. By André Malraux. Doubleday and Co., Inc. (Garden City, N. Y.) 1953. 661 pp., illus. $25

BY JOHN E. BURCHARD

André Malraux is a rare person. As a young man he was an archeologist in Cambodia and became an authority on Asiatic art. Subsequently he has been soldier, politician, novelist, art critic, revolutionary, communist, de Gaullist, Maquis hero, member of the Council of French National Museums. His novel "Man's Fate" won the Goncourt Prize in 1933 and is one of the great modern novels of revolt. Another, "Man's Hope," is scarcely inferior. He is the kind of man who turns up so seldom in history, the kind Callicles said was impossible, the man who combines skill and force in action with sensitivity and imagination in reflection.

All of these experiences and traits show through in "The Voices of Silence" which challenges the brilliance of the Malraux novels. This book is an exhaustive, informed, spectacular, provocative, lyrical and sometimes rhapsodic analysis of art. It is an analysis which breaks the shackles of conventional art criticism and is better thereby. If I wanted to excite an adult novice about art I might prefer Malraux to Gombrich although the results would certainly be different.

It is a big book. It is thick, heavy, and expensive. It has 661 pages and some 500 illustrations, many of which are full-page. The text is eminently readable but it is a book to have at home, not one to borrow from a public library because then the fines will mount up.

Malraux is a Westerner. He uses more Occidental than Oriental examples of course but the choice is still wide-ranging. He draws from all over the world and from all time, from the great productions of China and India, the art of the Steppes and of Egypt, of Africa and the New Hebrides as well as from the Classic continuum of the West. He strides across the centuries from Sumer of the third millennium B.C. to Miro of the second millennium A.D.

Yet this book is neither a chronological history nor an atlas and compendium of art. It transcends what we usually

(Continued on page 48)

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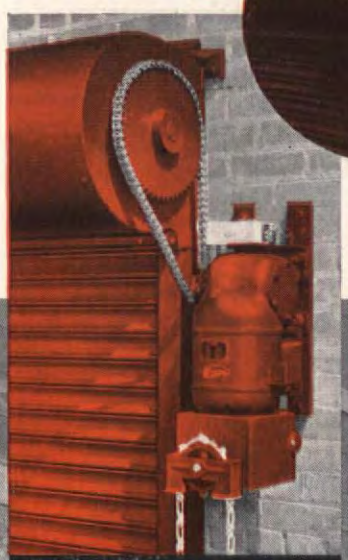

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REQUIRED READING

(*Continued from page 46*)

think of as art criticism. It is really a series of extended, interconnected, and distinctly controversial essays on art, advancing the theories of a sharp mind. These theories will be familiar to those who have read his earlier "The Psychology of Art." Indeed, the present book owes much both of text and illustration to the previous works, but the new one is greater.

Malraux begins with his familiar attack of the museum. It is a new, exclusively Western institution, quite incompatible for example with the Asiatic view of artistic contemplation, having a tendency not only "to isolate the work of art from its context" but "to make it foregather with rival or even hostile works." It cannot display forms which are an integral part of the whole such as a Last Judgment of Bourges, or immovable such as a fresco of Arezzo, or too large such as an equestrian statue from an Italian square. It cannot effectively juxtapose the large and the small, a Book of Hours and a Moses of Michelangelo. The gallery, as we know it, is, then, principally a repository of the easel painting, the framed picture, something which is really quite new in art, and by no means universal.

As the conqueror of these difficulties, Malraux evokes the camera, the genius of the magic carpet which will let the home-bound range the museums and buildings of the world.

Here the controversy always begins. It is hardly necessary to tick off the forces. Color reproductions are not reality, they lack color, texture and scale; monumental things cannot seem monumental on a book page be it never so large; little things may be overemphasized on the same page when blown up by photographic process. The camera can choose its angles and thus deceive. Colorists such as Chardin may be penalized, draughtsmen such as Durer premiated. Malraux knows all this of course and does not propose his book as a substitute for the Louvre. But he might tell us that there is no Louvre in Sapulpa, Oklahoma, and that all the people of Paris cannot visit the Uffizi while none of us can longer visit the Hermitage. My own opinion is that the young man from Sapulpa or even from Boston or New York is more likely to want to visit the Louvre after he has read Malraux and that he will get more

(*Continued on page 334*)

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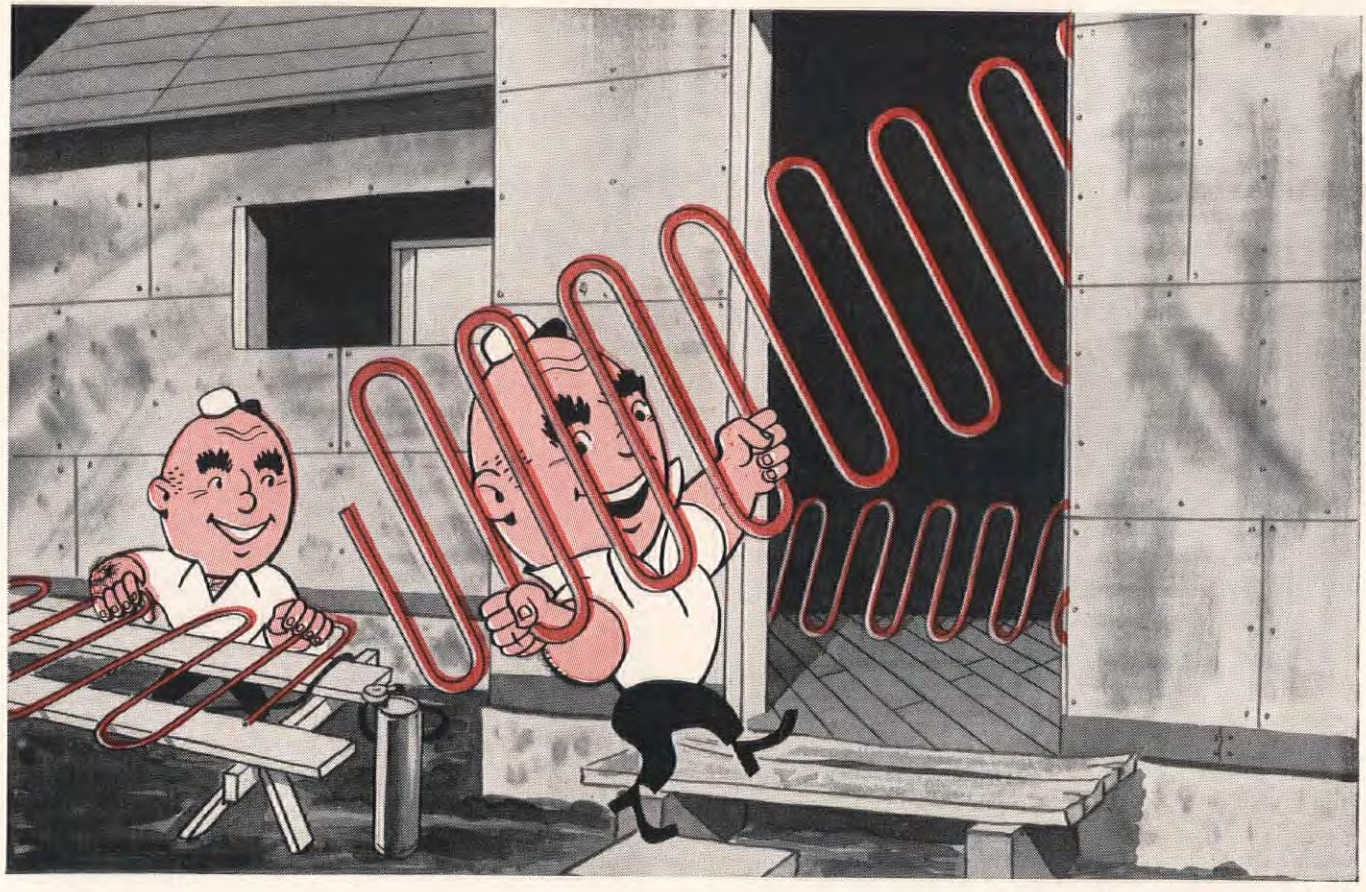

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One of a series of papers prepared by leading authorities on air conditioning. The opinions and methods presented are those of the author and are not necessarily endorsed by the Du Pont Company. Reprints of this article, and others in the series, may be had free upon request.

Air Conditioning Existing Office Buildings

Walter B. Moses, member of the firm of Leo S. Weil & Walter B. Moses, consulting engineers, New Orleans, La., is a graduate of Tulane University. The partnership was formed in 1918, and some of the early work was devoted to the design of large power plants. Since 1930, the firm has specialized in air conditioning designs.

While much has been written regarding the air conditioning of new buildings, little has been said about existing buildings, a field that should be attractive to both architect and engineer. It is imperative that old buildings be air conditioned and modernized to compete with the large number of modern buildings that have been and are being erected in large cities.

TYPES OF SYSTEMS

Although individual self-contained or packaged units can be used in the air conditioning of existing buildings, the central system has a number of advantages, such as reduced maintenance problems, less noise and greater economy of operation.

From the central refrigeration plant, chilled water is pumped through coils in air handling units installed adjacent to the conditioned areas. These air handling units consist essentially of cooling coils, fans, filters and controls. Each of these units usually serves several rooms or offices.

Another system, which employs a central refrigerating plant, depends on individual fan and coil units in each room so that duct work is not necessary.

WHERE TO PLACE THE EQUIPMENT

Although it has been normal in the past to place the refrigeration plant in the basement, there is a growing tendency, where possible, to place the equipment on the roof and thus release the basement as rentable or storage space.

For a roof installation, it is necessary that building columns and footings be checked carefully to be sure that this added load can be carried safely. Unless special provisions are taken, noise may easily be transmitted from the compressors to points throughout the building. However, if the equipment is set on properly designed foundations and isolating bases, and flexible piping connections to the condensing water and chilled water pipes are used, vibrations and noise will not be objectionable.

Ductwork suspended from ceiling of existing office.

FAN ROOMS

Although the area required for air circulating equipment may be less than that required for the refrigerating plant, the fact that the fan rooms must be near the spaces they serve usually means that rentable space must be appropriated. It is sometimes possible to select an inside office space, of not too great rentable value, for use as a fan room, providing that it is centrally located in the area to be served. Fresh air may be drawn through the outside or court wall, and the chilled water pipe risers run vertically through the fan rooms or up the court wall. When such space is not available, other areas must be considered.

Old office buildings sometimes have extra-wide elevator lobbies or corridors. If these passages can be narrowed in the process of remodeling the building, it may be possible to secure fan-room space in this manner.

Another arrangement, where floor space is not available but where there is sufficient ceiling height, is to use horizontal-discharge, ceiling-mounted units. These units may be mounted over work areas or closets, or even in corridors.

COOLING TOWER

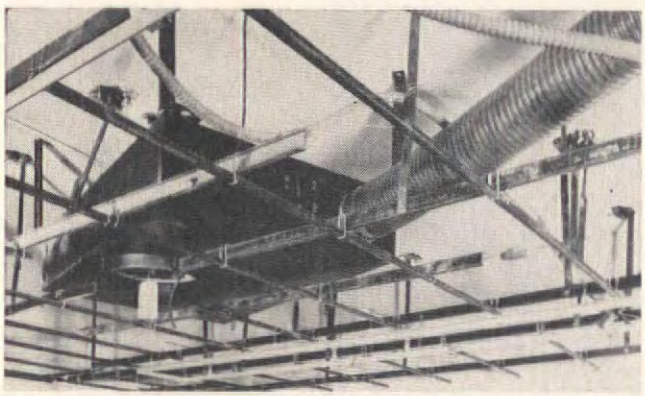
The cooling tower is almost always located on the roof of the building, and therefore does not occupy any rentable floor area. Since its weight concentration is not very great, it can usually be borne by the existing building columns.

When the refrigerating plant is also located on the roof, there is no condensing water piping problem. When the refrigerating plant is on a lower level, vertical space must be found for these pipes. The pipes can sometimes be enclosed in the centers of winding stairways or, if new elevators are being installed, it may be possible to make provisions for a new pipe chase adjacent to the elevators. In many cases, the piping is run exposed up the court wall.

CHILLED WATER PIPES

Chilled water pipes present a greater problem for there are also lateral runs to be considered. The thickness of the insulation and the space necessary to apply the insulation mean that even lines of small diameter require a great deal of space. If the fan rooms on each floor are ideally located with one fan room above the other, the lines may be run vertically through the fan rooms. The runouts to the units are then short, and the pipes are concealed. Otherwise the chilled water pipes may be brought up through any of the existing locations mentioned for condensing water lines, with the runouts extending across the ceiling and furred in.

Preferably, lines should be run inside the building to avoid cutting walls at each floor on which the coils are located and to avoid exposing the lines so that they will be affected by weather. In some cases, a considerable saving can be effected by furring in the exposed piping with sheet metal instead of using the conventional plaster. The metal is then painted to match the building color scheme.



Showing how high-velocity system was installed by lowering ceiling.

DUCTS AND CEILING OUTLETS

If no remodeling or furring is to be undertaken, the ducts are usually run through the offices or rooms, adjacent to the corridor partition, with side wall outlets discharging toward the windows. If the corridor is high, the ducts can be run in the corridor against the ceiling, with side wall outlets discharging through the corridor walls into the offices on both sides of the ducts. The corridor ceiling is then dropped below the ductwork and is usually equipped with recessed lighting to give it a modern and pleasing appearance. If complete remodeling is to be undertaken with new dropped ceilings, then the ducts may be routed in the most direct way possible, and air supplied through ceiling outlets in the proper locations.

If the ceiling is of the metal-pan type, sections can be removed for access to the concealed work. A number of air outlets as well as lighting fixtures are designed to fit into these ceilings by replacing one or more pan sections.

Greater refinements of design follow the use of ventilating ceilings which allow the entire space between the structural ceiling and the acoustical ceiling to serve as a supply-air plenum. The air enters the conditioned area through perforations in the pans, and these perforations may be so balanced as to give uniform temperatures through the entire area.

The use of high-velocity air distribution systems and the accompanying smaller ducts offers obvious advantages when there is little space available for ductwork. Care must be taken to allow for special silencers in conjunction with larger air outlets in order to absorb the noise.

DESIGN CONSIDERATIONS

With a few exceptions, design calculations for old or existing buildings are similar to those for new ones, but the infiltration rate will be higher for there will be more cracks around windows. Doors and windows are usually weatherstripped to reduce this entrance of outside air.

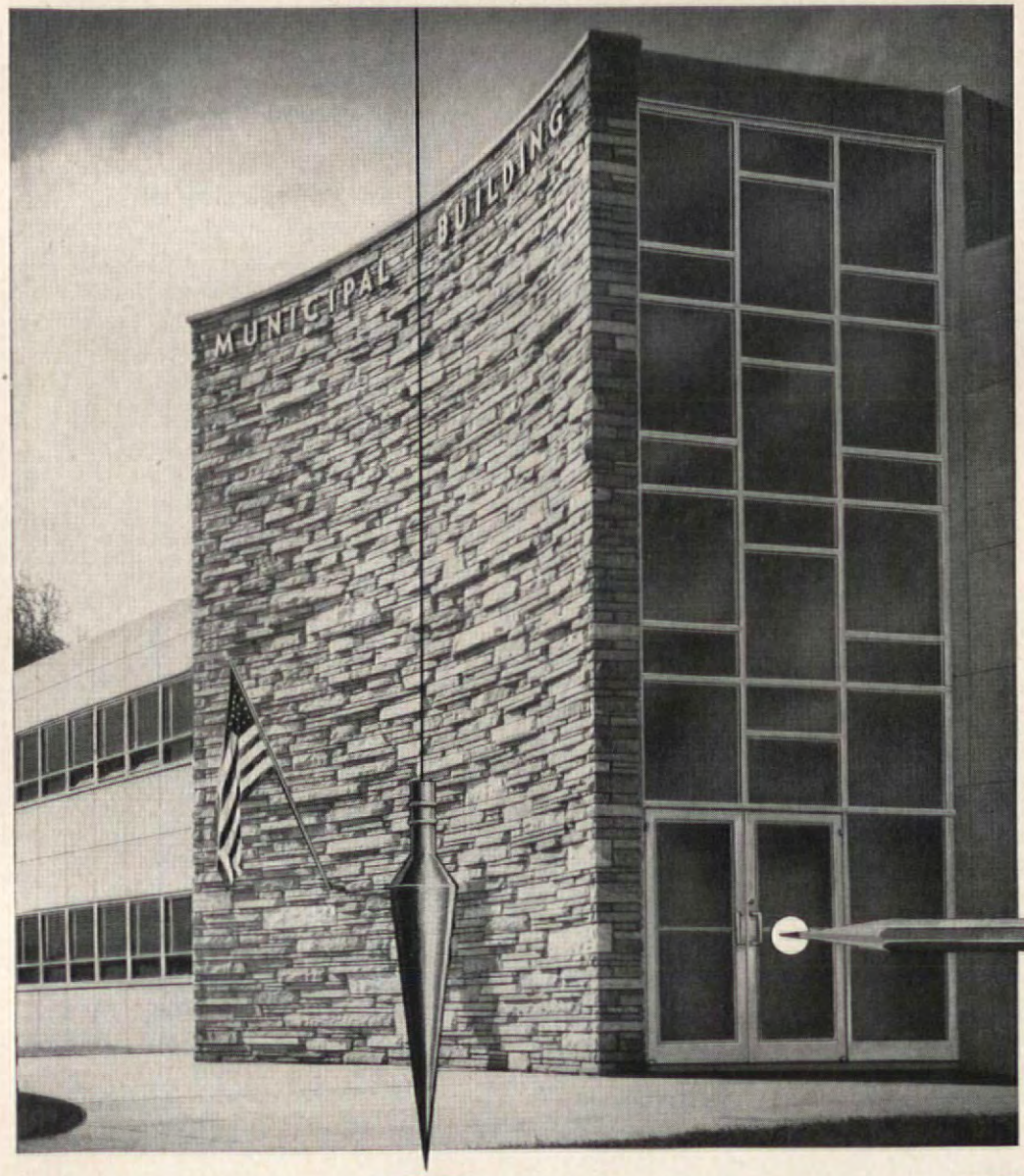
As mentioned before, a new lighting installation is often provided coincident with air conditioning. Better lighting is installed, and where modern fluorescent lights are used, this means less consumption of watts and a consequent reduction in the heat emitted from lights.

Since the proper air conditioning of an existing building will attract more tenants or customers, an expenditure for such an improvement becomes a profitable investment. Also, as new buildings are constructed, it becomes imperative for the owners of older buildings to modernize their buildings in order to meet competition.

• • • • •

The air conditioning of existing office buildings should prove of urgent concern to owners and their tenants for a long time to come. As new, fully air conditioned structures are built, owners of buildings that do not have this modern improvement will be forced to install a system in order to protect their investment. The alternative may be a reduction in rental rates.

While every air conditioning modernization job will present its own problems, the basic handling of the job remains the same. As Mr. Moses points out, there are various types, styles and sizes of equipment to meet practically every requirement. Units charged with Du Pont "Freon"* fluorinated hydrocarbon refrigerants are highly recommended and widely used because they are ideal for this purpose. These refrigerants are safe . . . nonflammable, nonexplosive, virtually nontoxic and are made by scientific, laboratory-controlled methods that insure their quality and uniformity. They comply with building-code requirements everywhere. You can always recommend with confidence air conditioning apparatus operated with "Freon" safe refrigerants. E. I. du Pont de Nemours & Co. (Inc.), "Kinetic" Chemicals Division, Wilmington 98, Delaware.



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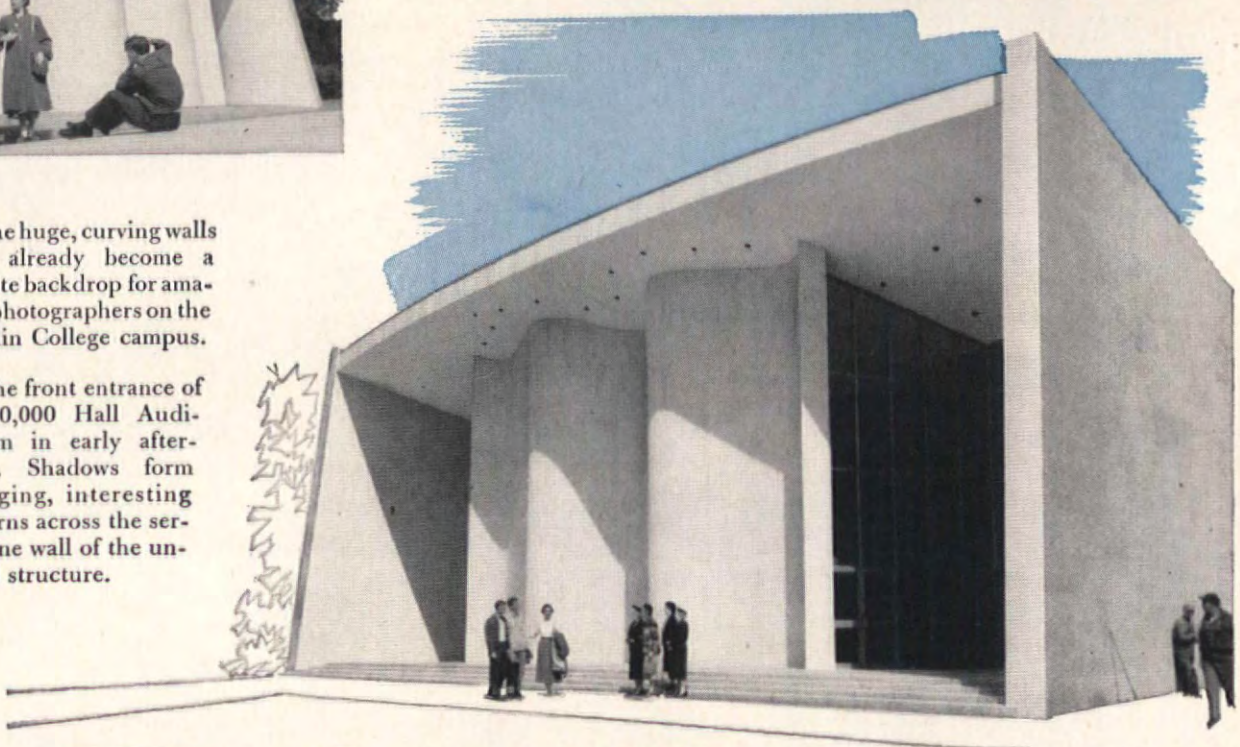

In the opinion of many, the newest, most modern public building in the state of Ohio is Oberlin College's Hall Auditorium. It was designed by Harrison & Abramovitz, and Eldredge Snyder, who were also directors of planning for the United Nations Building and co-designers of Rockefeller Center.

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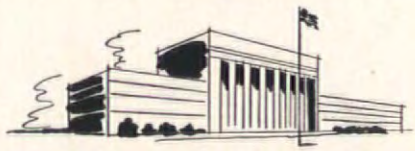

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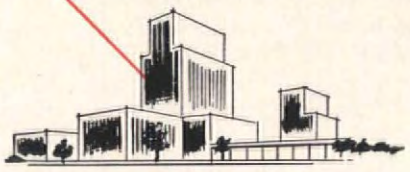

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3. Gets a building under cover so fast inside work is greatly accelerated.
4. Ideal for cluster type school layouts and unit module additions.
5. Engineered to Macomber standards for industrial purposes but perfect for the modern glass enclosed home.


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MODERN SCHOOL BUILDINGS


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Complete freedom for architectural finish, mechanical layouts and floor arrangement.

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V BAR JOISTS • LONGSPANS

BUILDING PRODUCTS
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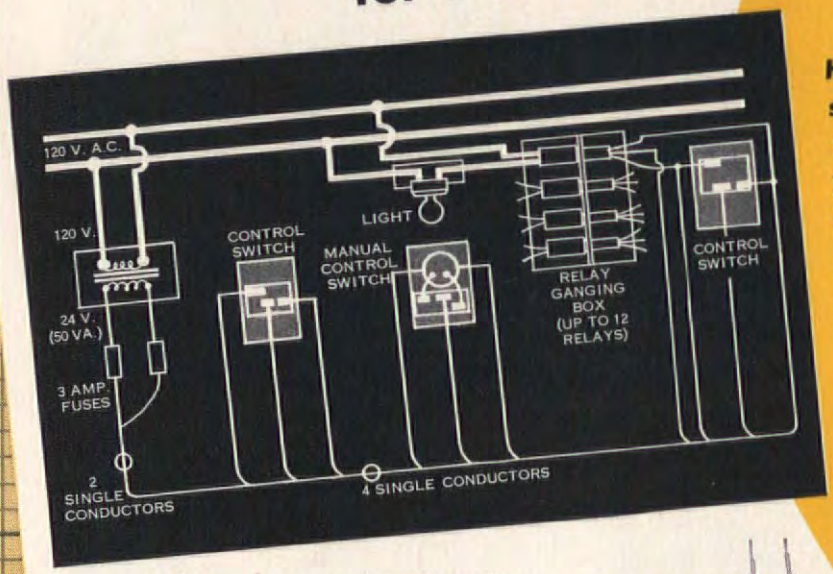
• ENGINEERING • FABRICATING AND ERECTING •

The Swing is to LOW VOLTAGE CONTROL

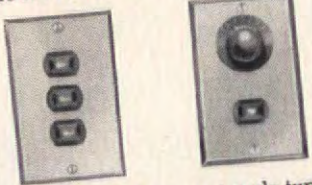
. . . and you'll prefer SQUARE D for a lot of reasons



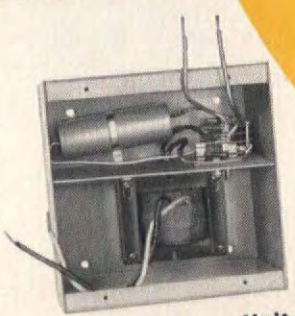
Here is a low voltage remote control system with all the features you've wanted . . .

Because it saves so much installation time, the cost of this very flexible system compares favorably with conventional systems. Actually less, in many cases. It offers a super-convenient means of switching lighting and appliance circuits. It has scores of applications—in homes, office buildings, schools, churches, warehouses, factories.

Relays are extremely rugged. 20 amperes, 120 volts A.C. Also 20 amperes, 277 volts A.C. for low voltage control of high voltage fluorescent lighting. All relays mount in ½" knockouts.

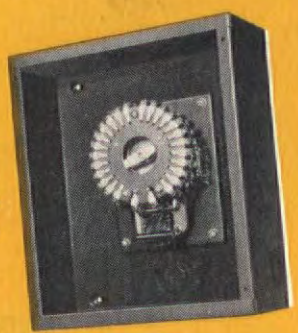


Control Switches are toggle type and fit Despard plates and straps. One, two, or three control switches (*left, above*) or one **Manual Selector Switch** and one control switch (*right, above*) can be mounted on a single strap. Manual selector switch controls from 1 to 9 circuits. Key-operated switch also available.



D.C. Power Unit, designed for consistent and trouble-free service. Eliminates A.C. hum.

Relay Ganging Box for speedy, convenient and quiet installations.

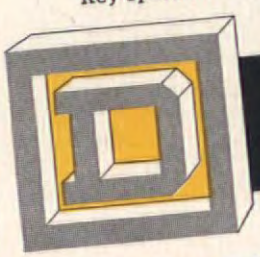


Master Controller automatically controls up to 23 individual circuits from any location.

Write for Low Voltage Control Bulletin.

Address Square D Company, 6060 Rivard Street, Detroit 11, Michigan.

ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS



SQUARE D COMPANY

BRIGGS beautyware

announces

a new color! two new lavatories!

THE LOWELL

THE KILMER

BRIGGS BATHROOM FIXTURES ARE NOW AVAILABLE IN EXCITING

CORAL

Here's a bright new Briggs Beautyware color—Coral—with loads of eye-appeal and buy-appeal! It's a color that's designed to sell on sight—selected to harmonize perfectly with almost endless decorator schemes. Added to the other Briggs Beautyware pastel colors—Sandstone, Sea Green, Sky Blue—Coral gives you a selection to please any discriminating client. Once you've seen exciting new Briggs Beautyware Coral, you'll agree it's just what you—and the home-buying public—have been looking for! It's available in most Briggs models.

Here's modern styling plus a new color—designed to appeal to your most discriminating clients!

BRIGGS NOW OFFERS TWO SMARTLY STYLED FLAT-RIM LAVATORIES IN QUALITY

VITREOUS CHINA

These two new Briggs Beautyware flat-rim lavatories are designed to give a de luxe, custom-built look to any bathroom. Made of sleek vitreous china, they are especially designed to fit today's "modern-living" style trends. Both have twin concealed front overflows, a wide anti-splash rim, a wide ledge extending around the bowl, twin soap spaces and a deep bowl for maximum water capacity. They are available in white and the four Briggs Beautyware pastel colors—including the glamorous new Coral! You'll find these two new Briggs Beautyware products are ideal for filling the needs of today's quality-conscious new-home buyer—or for modernizing an older home.

BRIGGS MANUFACTURING COMPANY, DETROIT 26, MICHIGAN

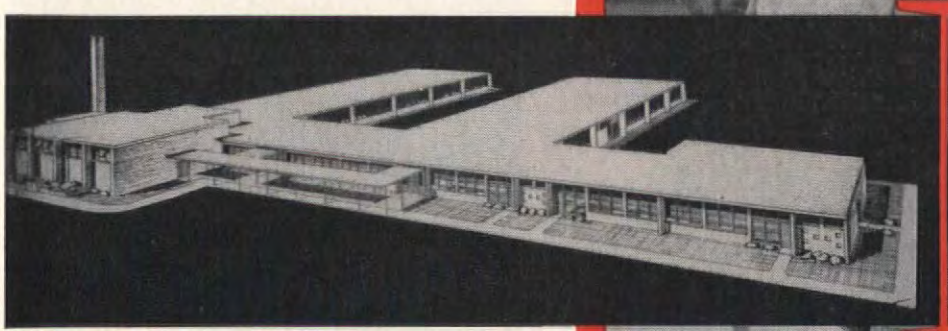
J&L STEEL

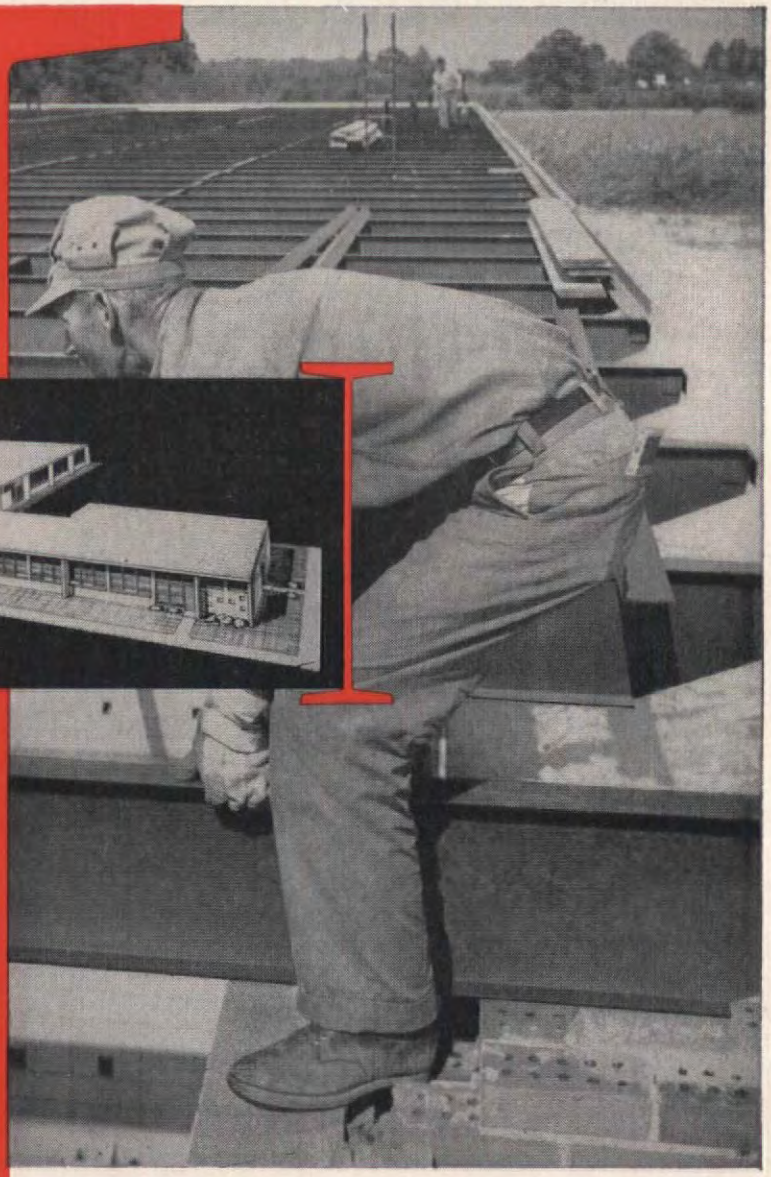
Junior Beams

fit modern design and building budget of Bascom Elementary School

Today's new school must be functional, permanent, safe and economical to build.

To realize these features in the Bascom Elementary School, Leavittsburg, Ohio, Architect Arthur F. Sidells specified J&L Junior Beams for purlins throughout the entire roof area. These 12 in. Junior Beams—11.8 lbs. per ft., 29 ft. long—proved a good choice to keep material and handling costs to a minimum.





The Campbell Construction Company of Warren, Ohio was the general contractor and J. A. McMahon, Inc., of Niles, Ohio was the steel fabricator. On the job, both found Junior Beams easy to handle and quickly adaptable to the ultra-modern design of the building. The raising, positioning and fastening of these lightweight structurals required only 3 men and a portable gin pole.

At the eaves, the pre-fabricated Junior Beams were fastened atop the masonry walls and lintel beams and cantilevered four feet beyond the outside walls to support an attractive overhang as well as the main roof. Thus Junior Beams solved a difficult problem in modern design.

There are many other ways versatile J&L Junior Beams can help solve your design problems and facilitate construction. They're *easy to install, rigid, vibration resistant, shrink proof, and have the lowest deflection factor of any structural section of equivalent weight.*

Find out! Write today for our new booklet "J&L Junior Beams." It shows how Junior Beams are used as floor joists and roof purlins with loading and spacing tables for various spans.

J&L STEEL *Jones & Laughlin* STEEL CORPORATION — *Pittsburgh*

Jones & Laughlin Steel Corporation
Dept. 466, 3 Gateway Center, Pittsburgh 30, Pa.

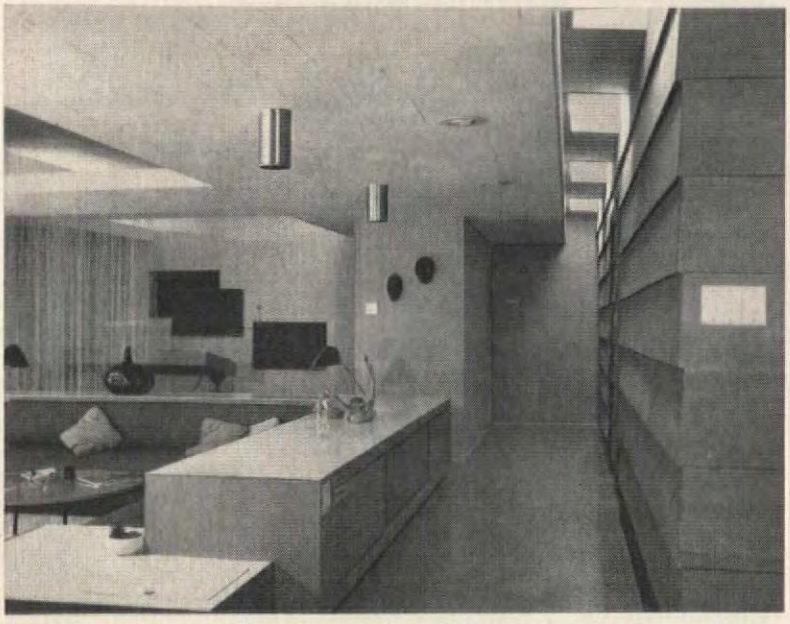
Please send me a copy of the booklet entitled "J&L Junior Beams."

Name_____

Company_____

Address_____

TOPS IN TOPLIGHTING

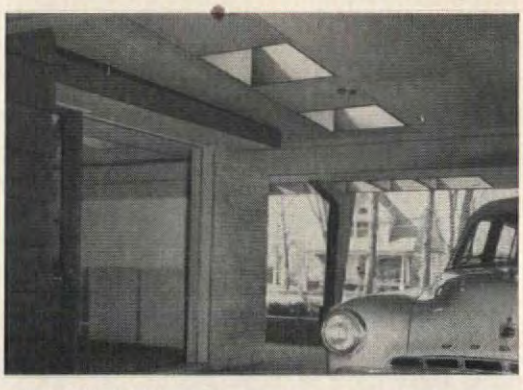


CHEERFUL DAYLIGHTING, evenly distributed, brightens the home of Architect Ken Fryar. In designing his new home, Mr. Fryar specified Wascolite Skydomes because they admit maximum daylight . . . eliminate dark corners . . . permit functional use of space. Skydomes also enabled Mr. Fryar to improve his creative design . . . add a distinctive, modern appearance to his home.

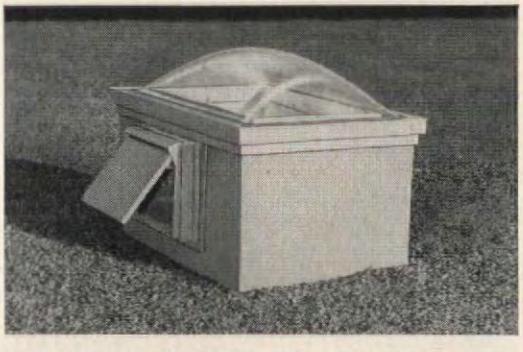
WASCOLITE SKYDOMES are lightweight, prefabricated units that do not require special roof construction. Their extruded aluminum frames have a built-in weepage arrangement that assures leakproof installation. Skydomes are weatherproof, shatter-resistant and virtually self-cleaning. They can be installed in minutes — using only a screwdriver.

CREDITS: Architect (and owner): Ken Fryar, Michigan City, Indiana.
Contractor: Tonn and Blank, Inc., Michigan City, Indiana.

IDEAL FOR ANY ROOM. Domes are available in White Translucent acrylic plastic for glarefree daylighting, or in Clear Colorless acrylic plastic for efficient daylighting of task areas.



WASCOLITE SKYDOMES can also be used to daylight carports and attics. When added insulation is required, specify Wascolite Ceiling Domes.



NEW WASCOLITE VENTDOME, with motor-driven air exhaust, provides toplighting and ventilation through one roof opening. FHA has now approved interior bathrooms and utility rooms. Use Ventdomes to daylight and ventilate these areas.

wascolite skydomes

See Sweet's Catalog or write . . . . . **WASCO FLASHING COMPANY,** 82 Fawcett Street, Cambridge 38, Mass.

4 sales aces

Plywood has come a long way since the early days of the industry.

Here at Associated, in addition to standard, high quality Douglas fir plywood, we manufacture specialty panels. These products present new sales and profit opportunities to you. They are:

SEA SWIRL decorative fir plywood. Interior and exterior, in 4'x8' panels (other sizes to order).

KNOTTY SEA SWIRL decorative fir plywood. A companion product to select *Sea Swirl,* and now being manufactured in response to steady requests.

BIRCH faced plywood with solid cores. In standard size panels, ¼" and ¾" thickness.

PHILIPPINE MAHOGANY faced plywood with solid cores. A companion product to Birch faced panels.

APMI quality plywood products are available at company warehouses, and through selected independent jobbers. Your inquiries are welcomed.

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4814 Bengal St., Dallas, Texas
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Worley Road, Greenville, South Carolina
925 Toland St., San Francisco, California
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SALES OFFICES:

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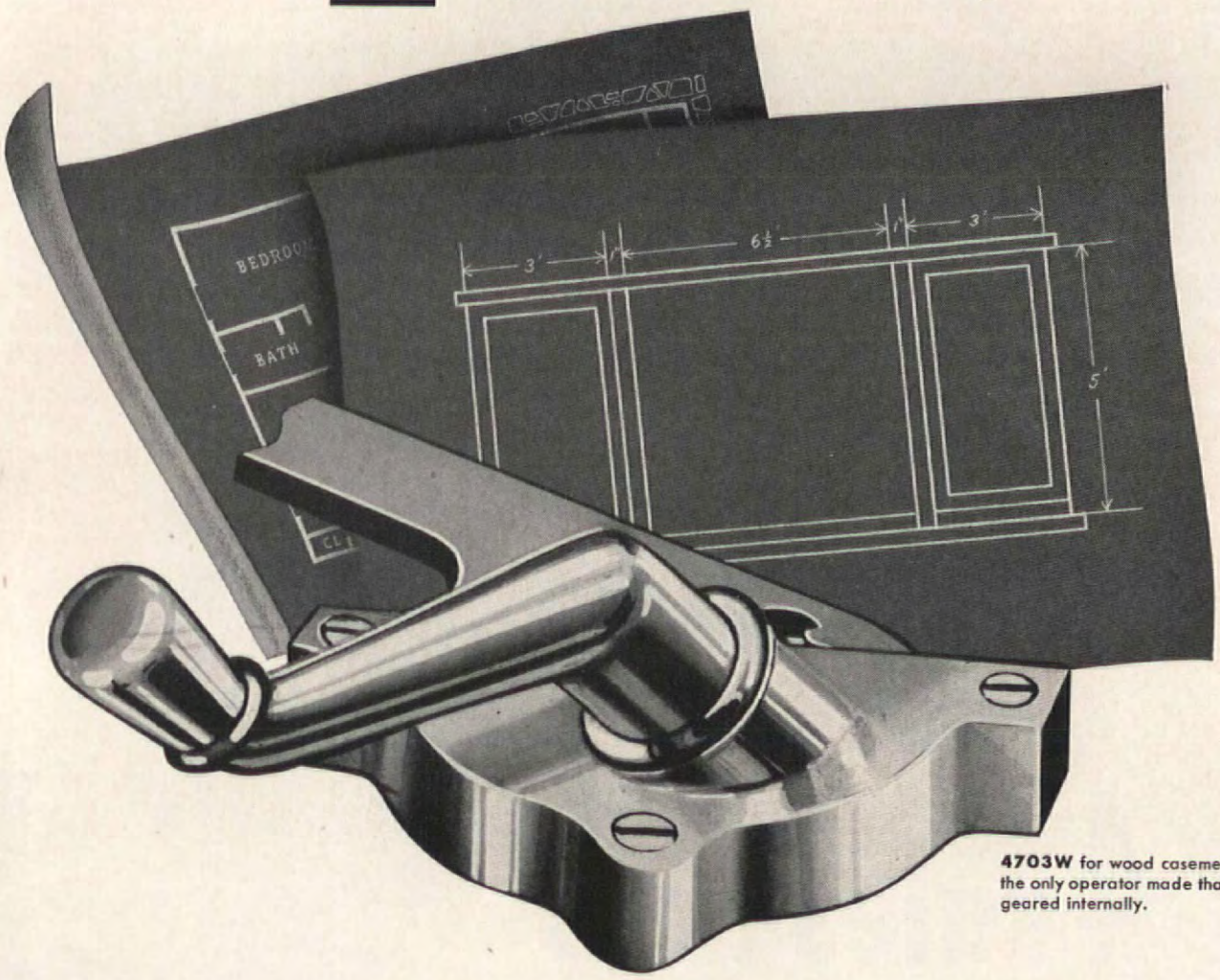
APMI

ASSOCIATED PLYWOOD MILLS, Inc.

General Offices: Eugene, Oregon | Plywood plants at Eugene and Willamina
Lumber mill at Roseburg

When the plans specify casements be sure you specify Getty operators



4703W for wood casements, the only operator made that is geared internally.

Just opening and closing, casement windows may move hundreds of miles in several years of service. Make sure, on your next job, they move easily and smoothly by specifying Getty operators.

Getty offers you a complete line—to fit every wood or metal casement.

Getty backs you with a record for long, maintenance-free performance in every type commercial, institutional and residential building.

Remember—more Getty operators are used today than all other makes combined. Why take chances with lesser known brands? On your next job specify Getty operators for all casement windows.

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see our CATALOG in SWEET'S FILE ARCHITECTURAL

Getty Operators Are Found on More Casement Windows Than All Other Operators Combined

STOP RUST!

with

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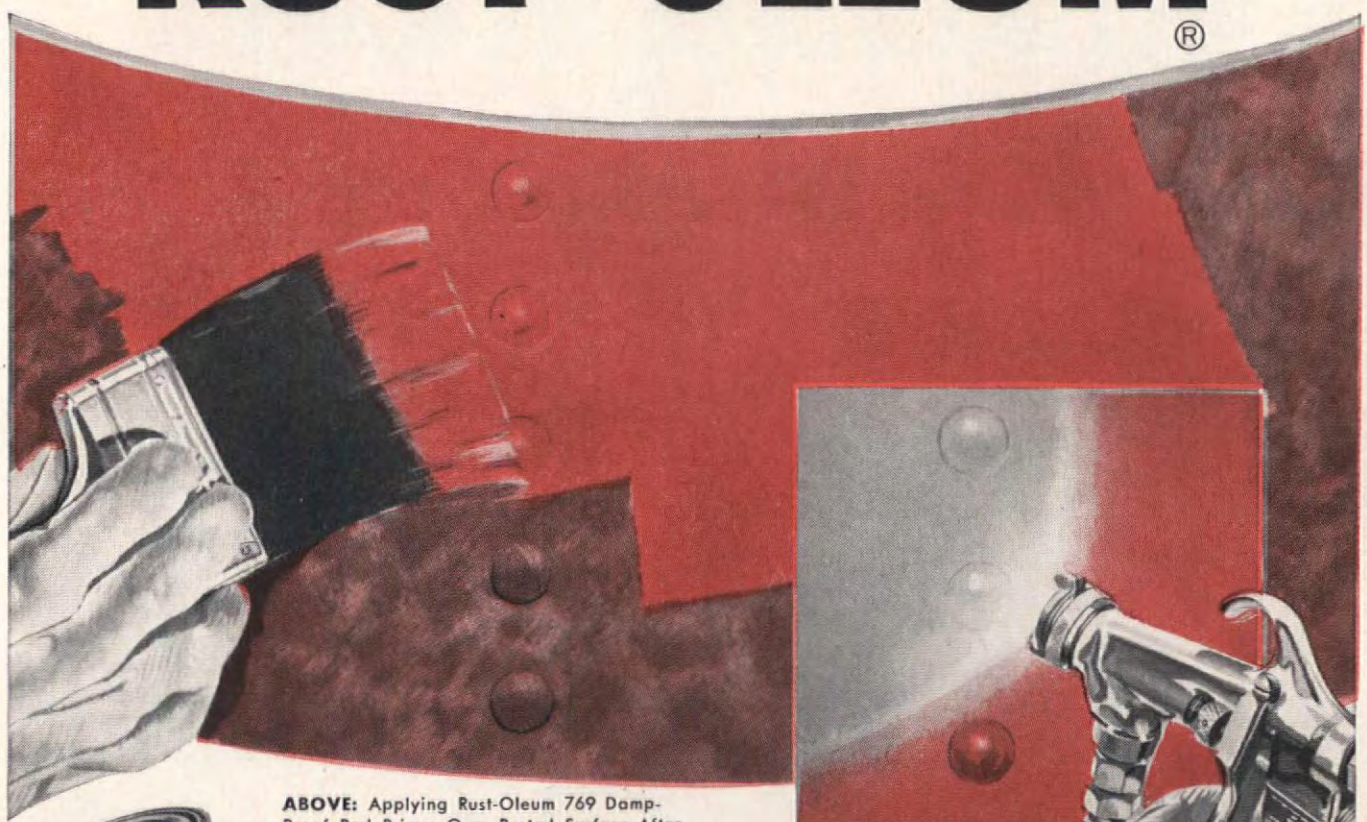
Beautify As You Protect

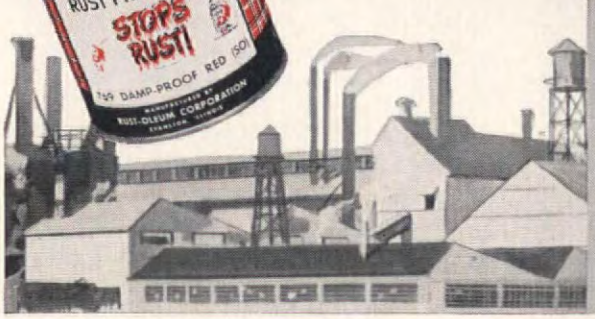
Simply brush Rust-Oleum 769 Damp-Proof Red Primer directly over the rusted surface after scraping and wire-brushing to remove rust scale and loose rust. Rust-Oleum's specially-processed fish oil vehicle penetrates rust to bare metal—saving time, money, and metal! Then—beautify as you protect with Rust-Oleum's brilliant array of finish coatings. Specify Rust-Oleum for new construction, maintenance, and re-modeling. See Sweet's for complete catalog and nearest Rust-Oleum Industrial Distributor, or clip coupon to your letterhead . . . and mail today.



ABOVE: Applying Rust-Oleum 769 Damp-Proof Red Primer Over Rusted Surface After Scraping and Wire-Brushing to Remove Rust Scale and Loose Rust.

AT RIGHT: Applying Rust-Oleum Gray (One of Many Rust-Oleum Colors for Rust Prevention and Decorative Beauty).

See local classified telephone directory under Rust Preventives or Paints for nearest Rust-Oleum Industrial Distributor.

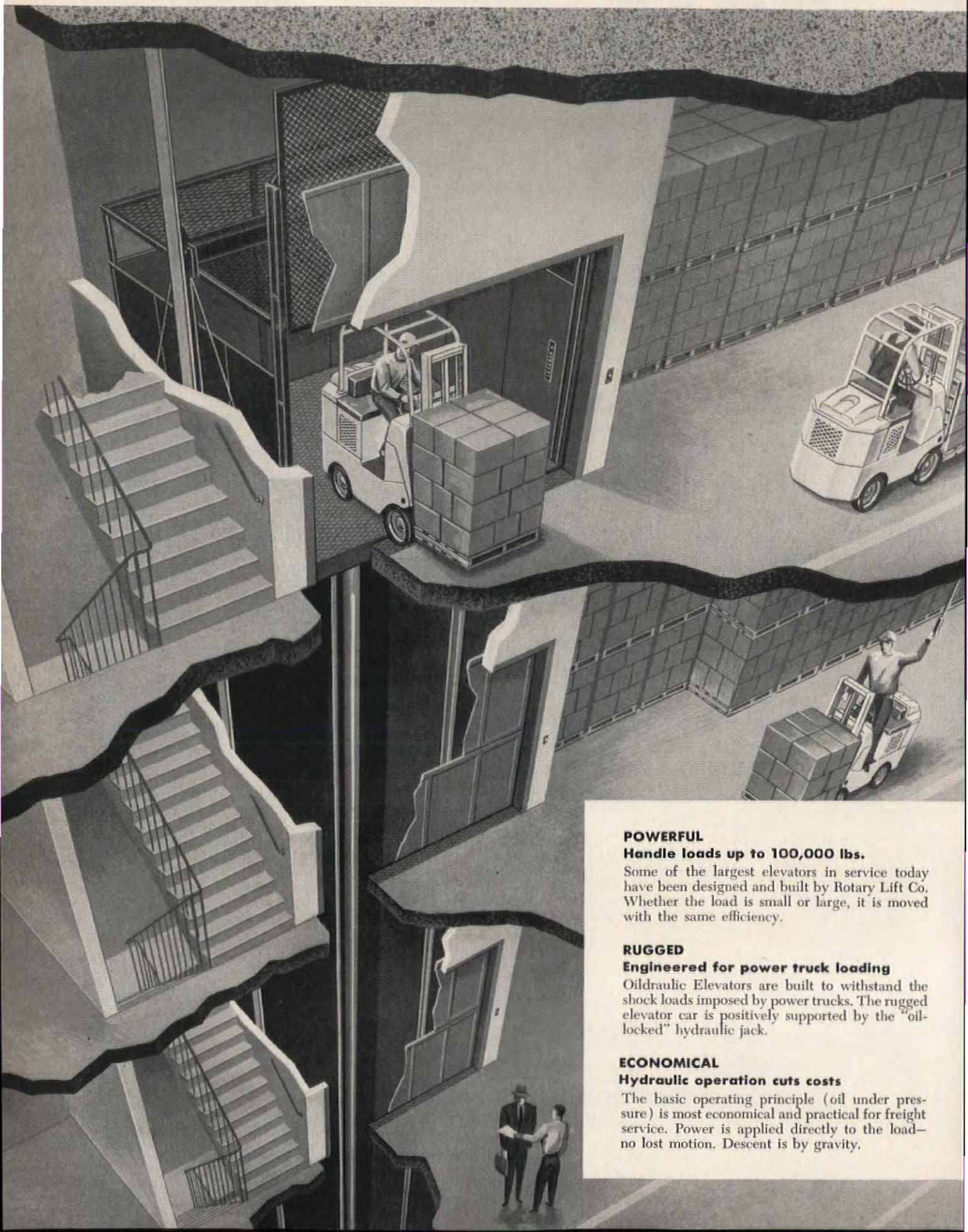


There is only one Rust-Oleum. It is distinctive as your own fingerprint.

ATTACH TO YOUR BUSINESS LETTERHEAD AND MAIL TO:
Rust-Oleum Corporation, 2534 Oakton St., Evanston, Ill.

- ☐ Please Show Me the Rust-Oleum "Rusted Panel Demonstration."
- ☐ Test Application of Rust-Oleum Over Rusted Metal Surfaces in My Plant.
- ☐ Complete Literature with Color Chart.
- ☐ Nearest Rust-Oleum Industrial Distributor.

New efficiency and



POWERFUL

Handle loads up to 100,000 lbs.

Some of the largest elevators in service today have been designed and built by Rotary Lift Co. Whether the load is small or large, it is moved with the same efficiency.

RUGGED

Engineered for power truck loading

Oildraulic Elevators are built to withstand the shock loads imposed by power trucks. The rugged elevator car is positively supported by the "oil-locked" hydraulic jack.

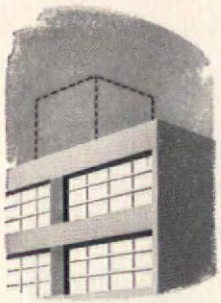
ECONOMICAL

Hydraulic operation cuts costs

The basic operating principle (oil under pressure) is most economical and practical for freight service. Power is applied directly to the load—no lost motion. Descent is by gravity.

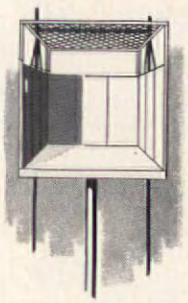
economy in freight elevators

Rotary Oildraulic Elevators have these architectural and operating advantages



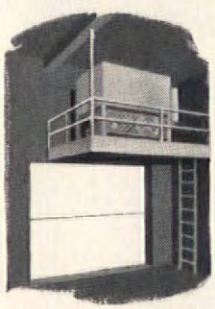
No costly, unsightly penthouse

Because it's pushed up from below, not pulled from above, the Oildraulic Elevator requires no unsightly penthouse. This permits a saving of several hundred to thousands of dollars, and improves the design of a building.



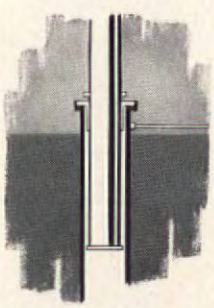
Lighter shaftway structure

There's no need for heavy, load-bearing sidewall supporting columns and footings to carry the car, counterweight, overhead machinery, and the load. Rotary's Oildraulic jack supports the entire system from below.



Flexibility in power unit location

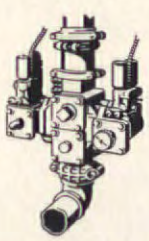
A machine room can usually be dispensed with because Rotary's compact power unit can be located at any convenient spot on any landing and on any side of the hatchway . . . or in an area with other equipment.



Low operating and maintenance cost

As the pump, all valves and the plunger operate in oil at all times, wear is negligible. Motor is used only when car rises—half the usual service. Smooth operation reduces shock and wear. No cables to replace periodically.

New Rotary Development



PATENTED OILDRAULIC CONTROLLER guarantees smooth starts, accurate landings

The revolutionary Rota-Flow oil-hydraulic power system gives velvet-smooth starts and cushioned stops. Oildraulic automatic floor leveling positions the elevator car to each landing with exactness . . . ¼" accuracy guaranteed. The new Oildraulic Controller is a very remarkable device that handles the functions of seven separate control valves . . . simplifies adjustments and maintenance.

Rotary electric control systems are tailored to exact requirements and any desired type of operation can be furnished. For planning assistance call on our Engineering Department.

Rotary® OILDRAULIC®

Freight Elevators

THE MODERN ELEVATOR FOR MODERN BUILDINGS

Engineered and built by Rotary, world's oldest and largest maker of oil hydraulic lifts

SEE OUR FILE IN SWEET'S—For catalog and complete architectural data, write

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...because it offers these 4 features!

B. F. Goodrich Koroseal Floor Tile combines the four important features that are essential for such installations as stores, offices, super markets, schools, institutions, laboratories and homes.

When you specify B. F. Goodrich Koroseal Floor Tile you are assured of all these famous features:

NEVER NEEDS WAXING — Minimum care — stays bright with an occasional washing and light buffing.

DEFIES DESTRUCTION — Super-resistant to oils, fats, greases . . . even cleaning fluids and alkalies.

ANTI-SLIP SURFACE — Safe to walk on, always.

MAXIMUM WEAR — Same material from top to bottom — no coating, no lamination.

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FLOORING PRODUCTS

For B. F. Goodrich aids for architects, write to *Dept. A4, B. F. Goodrich Co., Flooring Division, Watertown 72, Mass.*

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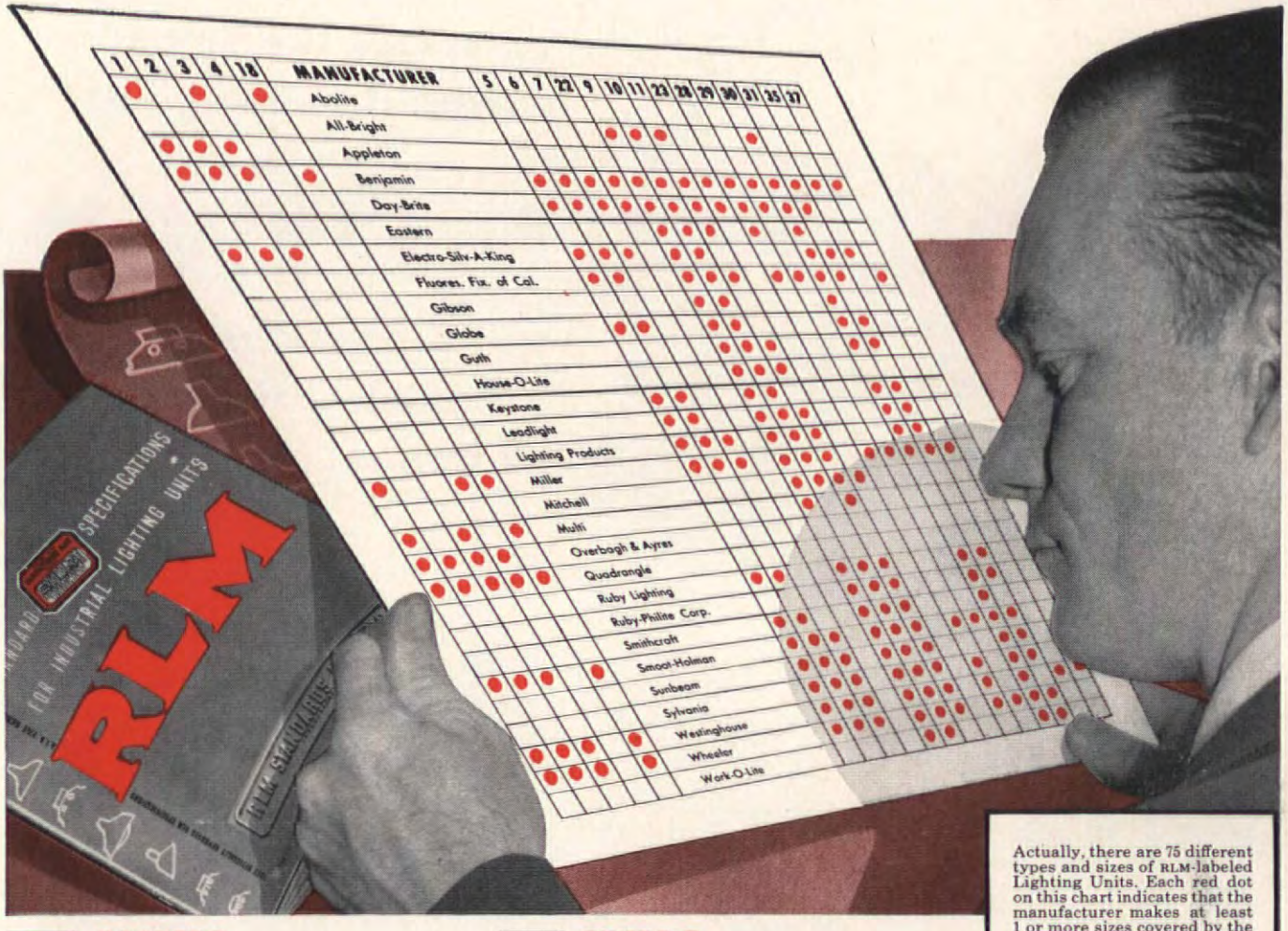
Here are your answers to 2 IMPORTANT QUESTIONS about Industrial Lighting Units



Actually, there are 75 different types and sizes of RLM-labeled Lighting Units. Each red dot on this chart indicates that the manufacturer makes at least 1 or more sizes covered by the particular RLM Specification.

Key to Spec. Nos.:

INCANDESCENT UNITS:

1. Dome (100-1000w)
2. Deep Bowl (100-1000w)
3. Sym. Angle (100-1000w)
4. High Bay (500, 1000w) Porcelain Enameled
18. Glassteel Diffuser (200-1000w)
40. High Bay Aluminum (500, 1000w)

FLUORESCENT UNITS:

Closed-End Reflectors:

5. 2-40w lamps, 48"
6. 3-40w lamps, 48"
7. 2-85w lamps, 60"
22. 2-40w w/shield, 48"

Open-End Reflectors:

9. 2-40w lamps, 48"
10. 3-40w lamps, 48"
11. 2-85w lamps, 60"
23. 2-40w w/shield, 48"
28. 2-58w, 72"
29. 3-58w, 72"
30. 2-75w, 96"
31. 3-75w, 96"

Semi-Direct Units:

35. 2-40w, 48"
36. 2-58w, 72"
37. 2-75w, 96"

Chart as of Jan. 1, 1954

1 WHY are RLM Specifications Important to me?

ANSWER: RLM Specifications furnish you with basic, nationally-accepted minimum standards of efficiency, design, performance and quality in industrial lighting equipment. This latest-edition 52-page RLM Specifications Book puts all 21 RLM Specifications at your fingertips, complete with coefficient of utilization tables and candlepower distribution curves. In addition, there are four pages of reasons why RLM Specifications are important to everyone who buys, sells or specifies industrial lighting equipment. Send for your COMPLIMENTARY COPY of the RLM Specifications Book ... there is no obligation!

2 WHO makes RLM-Labeled Units I want to Specify?

ANSWER: As shown by this chart, which is also included with the RLM Specifications Book, there are 29 different manufacturers who make RLM-labeled lighting equipment. Each RLM Unit must conform to the minimum performance and quality standards required by RLM Specifications. However, every manufacturer is free to incorporate his own special features, construction refinements and operating advancements — such as sockets, control equipment, wiring, etc. Send for your FREE RLM Book for more details. RLM Standards Institute, Suite 827, 326 West Madison Street, Chicago 6, Illinois.

RLM STANDARDS INSTITUTE INCORPORATED

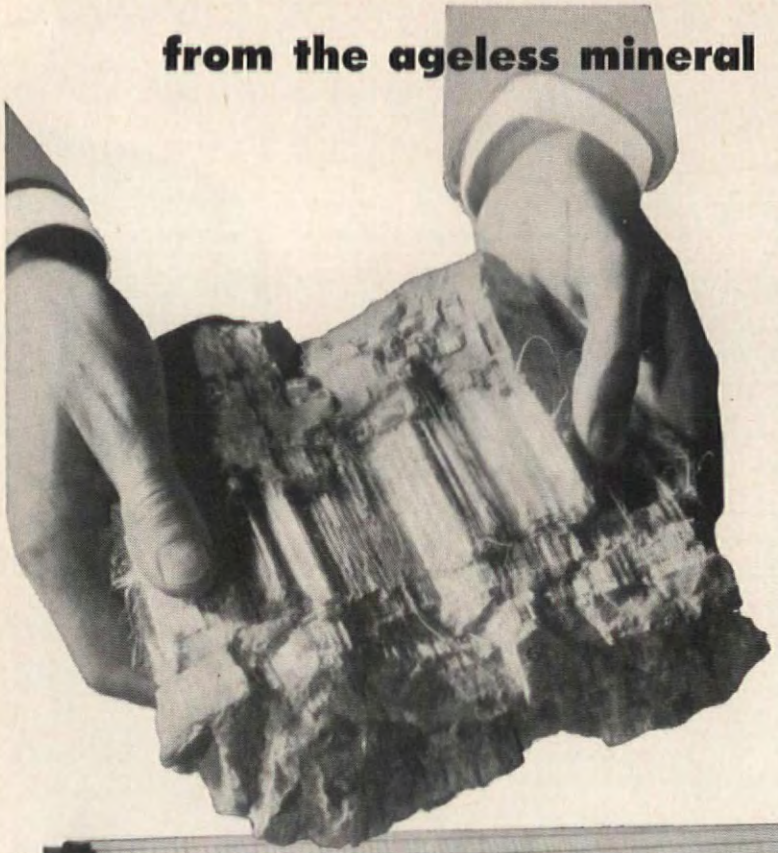
The letters RLM stand for Reflector and Lighting Equipment Manufacturers

LOOK FOR MANUFACTURER'S NAME HERE

COMPLIANCE WITH SPECIFICATIONS UNDER APPROVED INSPECTION PROCEDURE BY RLM STANDARDS INSTITUTE AND LABEL GRANTED BY ELECTRICAL TESTING LABORATORIES, INC.

R568

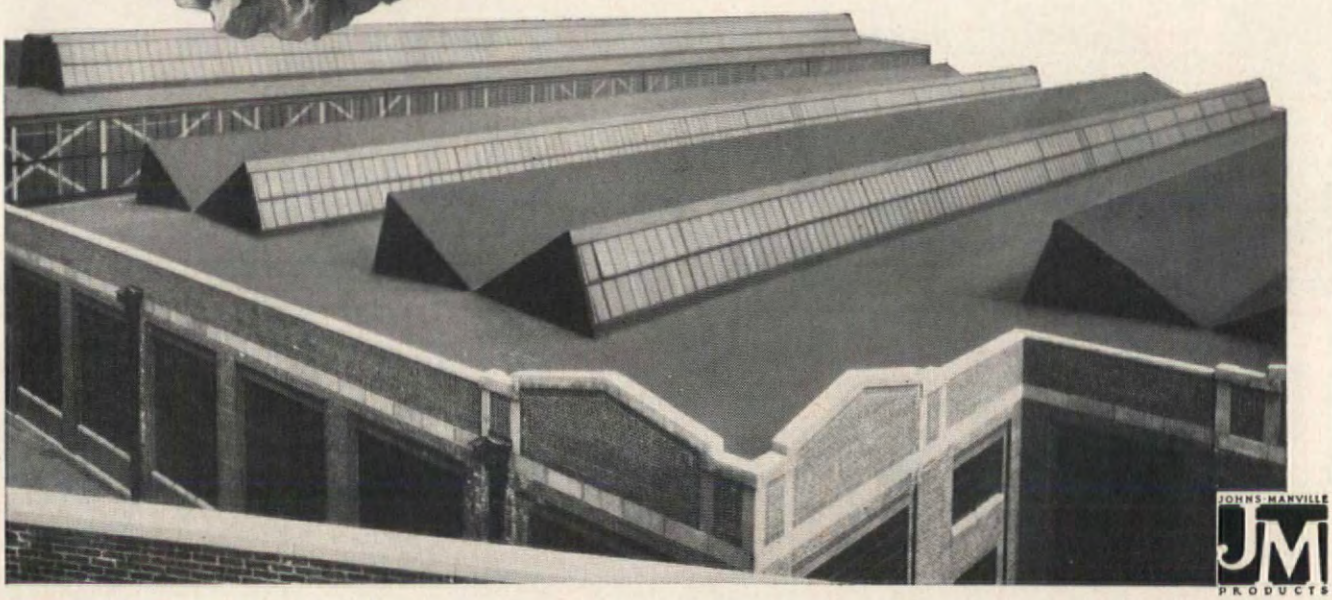
from the ageless mineral ASBESTOS



... comes the smooth-surfaced built-up roof

FLEXSTONE*

which provides a flexible covering of stone...



Because they are made of the mineral, asbestos, the felts of a Johns-Manville Flexstone Built-Up Roof assure lasting service and protection. They will not support combustion. They effectively resist the drying-out action of the sun . . . won't rot, are weatherproof and need no periodic coating.

Flexstone Built-Up Roofs are smooth-surfaced . . . permit thorough drainage . . . make damage easy to locate and repair. These superior advantages are also provided by the J-M Flexstone Special Built-Up Roof . . . developed especially for dead-level decks.

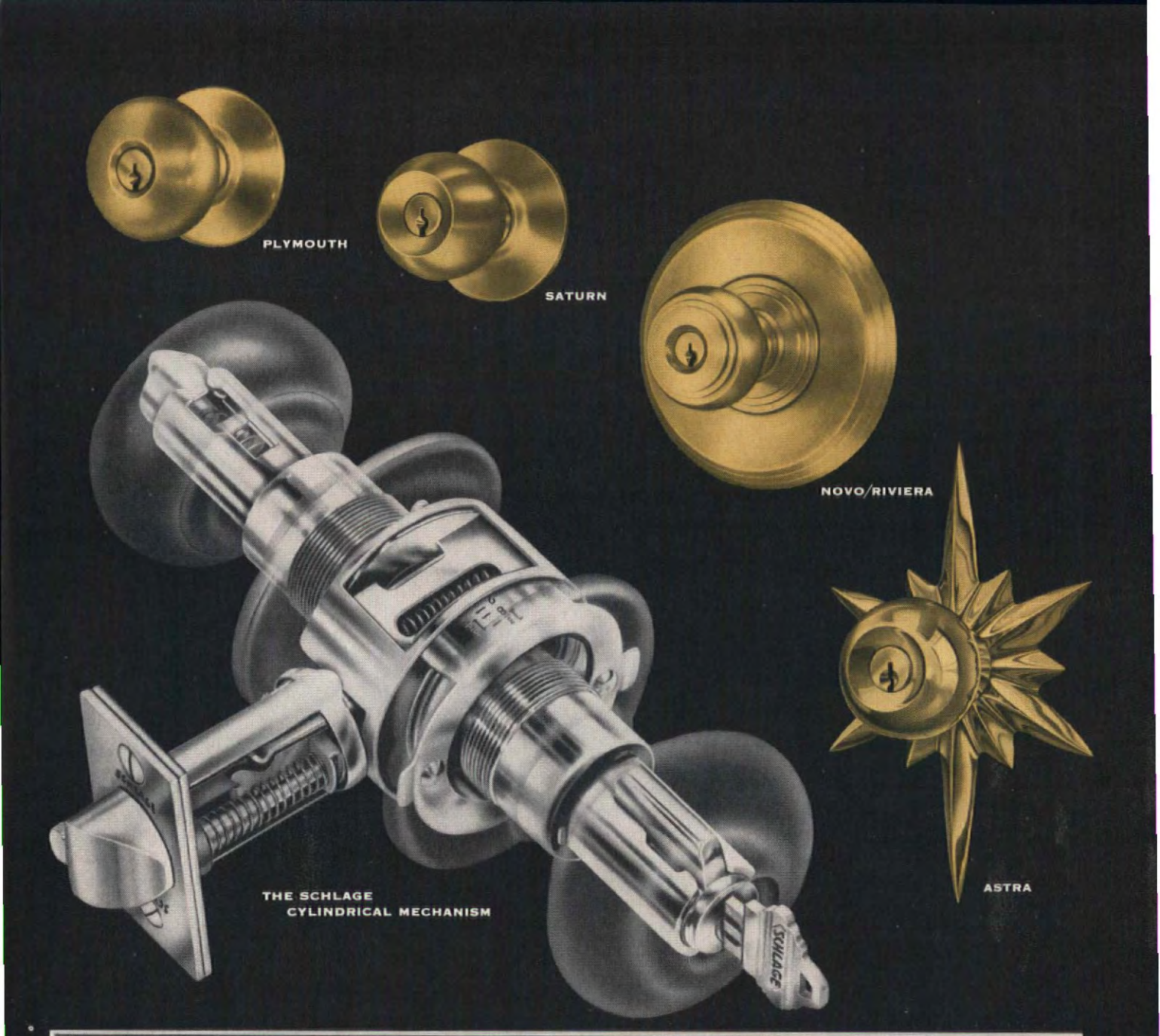
For complete information about Flexstone Roofs and J-M Asbestile* Flashing System that provides thorough water tightness and effective treatment for critical roof areas, see your Approved Johns-Manville Contractor. He's listed in the Classified Section of the telephone directory. Or send for folder BU-51A. Write Johns-Manville, Box 158, New York 16, N. Y. In Canada, write 199 Bay St., Toronto 1, Ont.

*Reg. U. S. Pat. Off.

Johns-Manville FLEXSTONE* Built-Up Roofs

ASBESTOS CORRUGATED TRANSITE* • ACOUSTICAL CEILINGS

DECORATIVE FLOORS • MOVABLE WALLS • ETC.



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In 1924, Schlage introduced the first cylindrical lock. Today there is no greater testimony to the acceptance of Schlage Locks than the almost universal imitation of Schlage's precision mechanisms and outstanding designs. Schlage engineering and skilled craftsmanship is still unequalled—and continued research will keep Schlage products years ahead in style and lock performance.

®SCHLAGE©

THE WORLD'S MOST IMITATED LOCK

SCHLAGE LOCK COMPANY • SAN FRANCISCO • NEW YORK • VANCOUVER B. C.

First Wisconsin National Bank, Milwaukee, Wisconsin

Beauty and efficiency plus ...for the modern bank

A perfect combination of functionalism and beauty is being continually demonstrated in today's banks . . . thanks, in countless cases, to the efficiency of Acousti-Celotex Sound Conditioning.

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- **He is a member of the world's most experienced acoustical organization with hundreds of thousands of expert installations to its credit.**
- **His professional training and experience embrace acoustical installations of every type, size, and application technique.**
- **He has a complete line of specialized acoustical products to meet every job requirement, and can make recommendations to fill exact architect specifications.**

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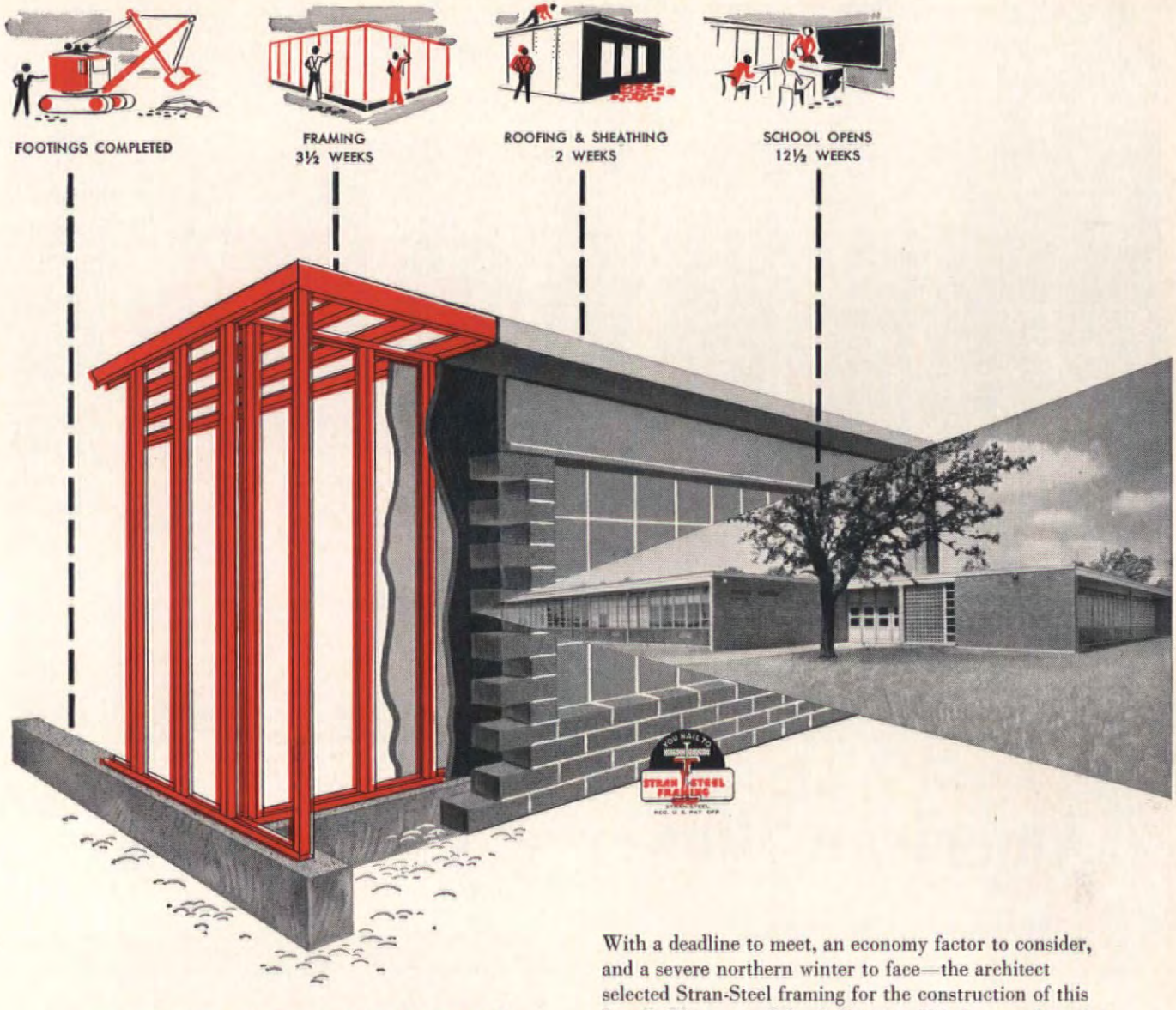

STRAN-STEEL® FRAMING

opened this school on schedule at a saving of $5,000!

With a deadline to meet, an economy factor to consider, and a severe northern winter to face—the architect selected Stran-Steel framing for the construction of this Lovell, Minnesota School, District #48. It proved a wise choice for many reasons. The architect, H. B. Crommett, St. Paul, Minnesota, could not afford to take a chance on weather stoppages. Quick erection of nailable Stran-Steel wall frames and the roof-joist system in early fall permitted him to begin immediately on closing-in. With the finished built-up roof and insulating sheathing, and windows installed, a weatherproof interior was completed to permit the building trades to start work. The brick veneer could be installed at any date when weather permitted.

Actual working time was approximately 4½ months and the cost was estimated by the architect to be $5,000 less than any other comparable material he might have used. Again, the versatility and adaptability of Stran-Steel framing helped the architect and the general contractor to do a good job, quickly and economically. Adolphson and Peterson, of St. Paul was the general contractor.

Write for this explanatory booklet.

GREAT LAKES STEEL CORPORATION
Stran-Steel Division **Ecorse, Detroit 29, Mich.**
NATIONAL STEEL CORPORATION

Michigan's Angell Hall is a popular meeting place for students.

American Blower goes to college

UNIVERSITY OF MICHIGAN uses
American Blower air-conditioning and ventilating equipment in many of its campus buildings

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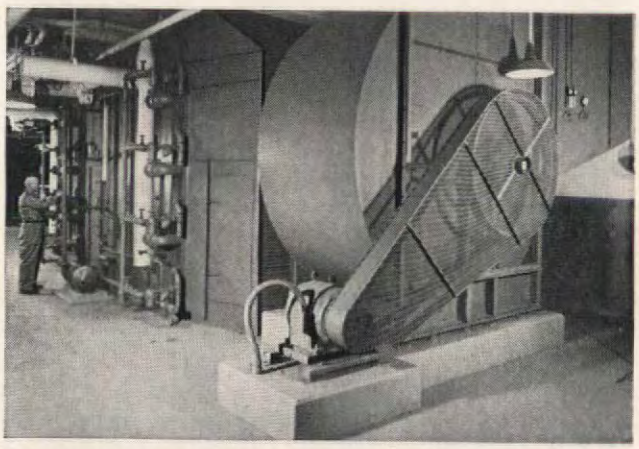
For example, Angell Hall is the largest classroom building on the U. of M. campus. Every day, thousands of students attend classes here. Yet, throughout each day, rooms are comfortable and well ventilated – thanks to American Blower Supply and Exhaust Fans, Humidifiers and Heating Coils that are part of the building's conditioned-air system.

Other American Blower equipped buildings on campus are the Kresge Medical Research Building and Institute, Woman's Hospital, Outpatient Building, School of Public Health, Law Quadrangle, men's South Quadrangle Residence Hall – and many, many more!

American Blower engineers have a complete knowledge of the air cycle and the special problems of many industries. If you have an air-handling problem, phone your nearest American Blower or Canadian Sirocco Branch Office.



Each of the five Air-Tempering Units in Angell Hall consists of an HS Supply Fan (rated 58,425 cfm), a Capillary Air Washer and Heating Coils. American Blower equipment in other U. of M. buildings includes: Supply and Exhaust Fans, Capillary Air Washers, Heating Coils, Venturafin Unit Heaters, Nesbitt Syncretizers, Forced- and Induced-Draft Fans.

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February 1953, saw the introduction of a narrow stile entrance door—The Overline Door. Today, Overline Entrance Doors in Steel and Stainless Steel are installed all over the United States. Overly has just completed construction of a modern factory for increased production of Hollow Metal Doors, and has designed an Overline Panel Hollow Metal Door and an Overline Flush Hollow Metal Door. Now, today, Overline means complete line. The Entrance, Panel and Flush design Overline Hollow Metal Doors incorporate the principles of quality, engineering, design and economy that have been synonymous with Overly since 1888. For a dependable specification, specify Overly Overline Hollow Metal Doors.

OVERLY MANUFACTURING COMPANY
GREENSBURG, PENNSYLVANIA
LOS ANGELES 39, CALIFORNIA

METAL PRODUCTS SINCE 1888

When you specify KENTILE asphalt tile you cut installation labor costs

The low-cost durability of Kentile makes it ideal for installations like this office reception room. A Kentile floor retains its colorful beauty during its long life... resists dirt, stain and wear... cleans easily and economically.

A. I. A. 23-G

KENTILE is cut to exacting tolerances by precision dies maintained at peak efficiency. The resultant *straight* edges and *true* corners mean faster, easier, more economical installation ...far more accurate alignment. Further, Kentile seats faster... can be walked on without delay.

Every stage of manufacture is regulated by quality-control checks and tests... to assure that only perfect tiles are shipped. Modern packaging machinery and methods cut down breakage in the carton... reduce costly on-the-job wastage. For full details, consult the Kentile Flooring Contractor. He's listed under FLOORS in your Classified Telephone Book.

Specifications and Technical Data

INSTALLATION: Over any smooth, firm interior surface free from spring, oil, grease and foreign matter... over metal, wood, plywood, concrete, radiant heated concrete slab, concrete that is in direct contact with the earth; on or below grade.

THICKNESSES: Kentile is available in two gauges: 1/8" for residential and most commercial uses—3/16" for industrial use and where extra-heavy duty flooring is needed.

SIZES: Standard tile size is 9" x 9".

SPECIAL KENTILE: Greaseproof asphalt tile for industrial use in a wide range of marbleized colors—extremely resistant to petroleum and cooking greases and oils, alcohols, alkalis and most acid solutions.

Samples and Technical Literature available to architects, builders and designers on request. Write the Kentile, Inc. office listed below stating the samples and information desired. And, be sure to request samples of ThemeTile die-cut inserts, colorful Feature Strip and KenBase.

APPROXIMATE INSTALLED PRICES
(per sq. ft.)

	1/8" Gauge	3/16" Gauge
KENTILE: A Colors	20¢	25¢
KENTILE: B Colors	25¢	30¢
KENTILE: C Colors	30¢	40¢
KENTILE: D Colors	35¢	40¢
SPECIAL KENTILE	40¢	50¢

These costs are based on a minimum area of 1,000 sq. ft. over concrete underfloor. Color groupings range from Group "A," the darkest solid colors... to Group "D," the lightest marbleized colors. Special Kentile is available in Regular and DeLuxe Colors.

Kentile is the floor your clients know and want...
BACKED BY MORE FULL-COLOR ADVERTISING THAN ANY OTHER ASPHALT TILE FLOOR

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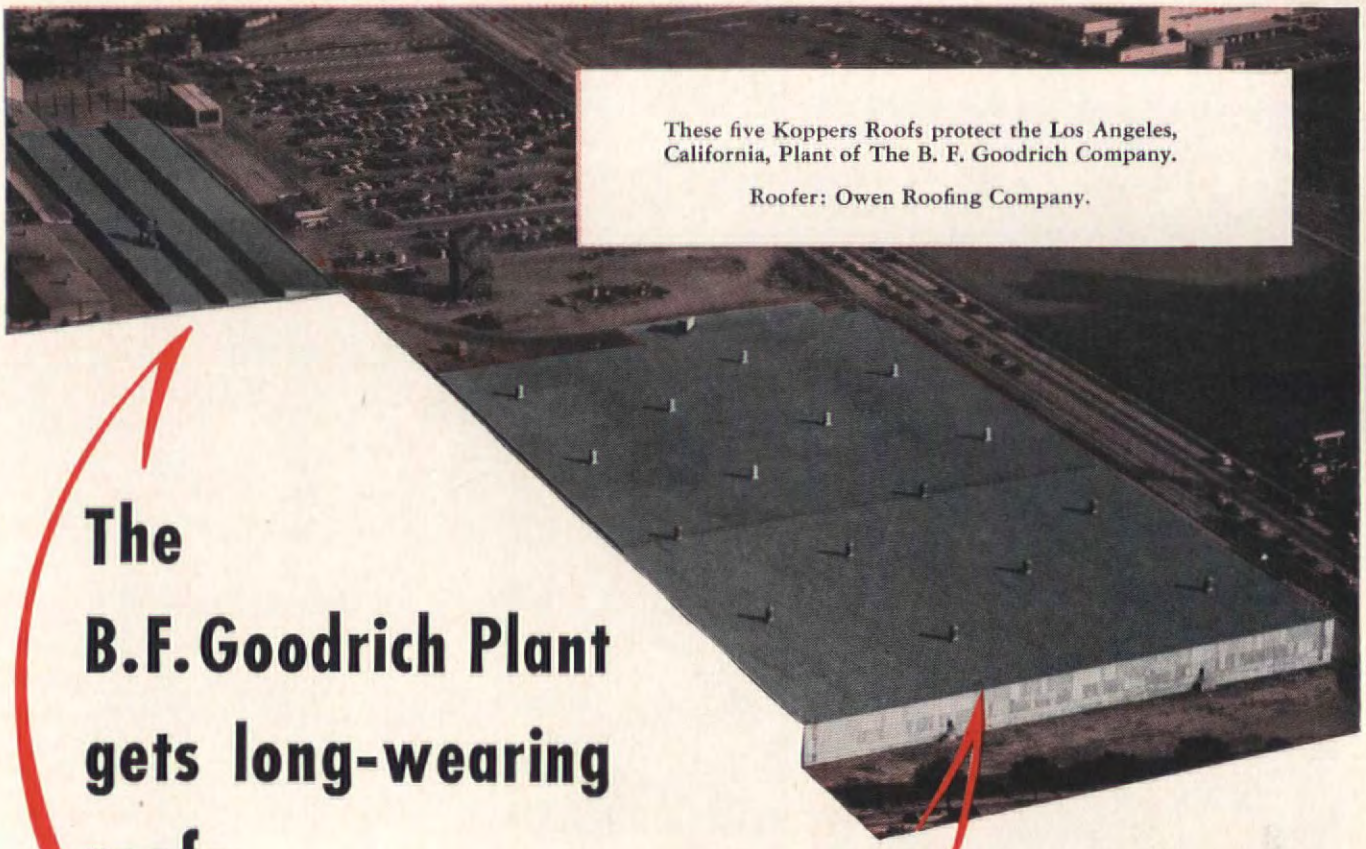

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Roofer: Owen Roofing Company.

The B.F.Goodrich Plant gets long-wearing roofs . . . KOPPERS!

THE B. F. Goodrich Company has a well-earned reputation for selling products that wear well. For its Los Angeles Plant, B. F. Goodrich *bought* a product that wears well—Koppers Built-Up Roofing.

All five Koppers Roofs shown here — some 246,000 square feet—are bonded roofs. Koppers has guaranteed the performance of its roofing materials for twenty years.

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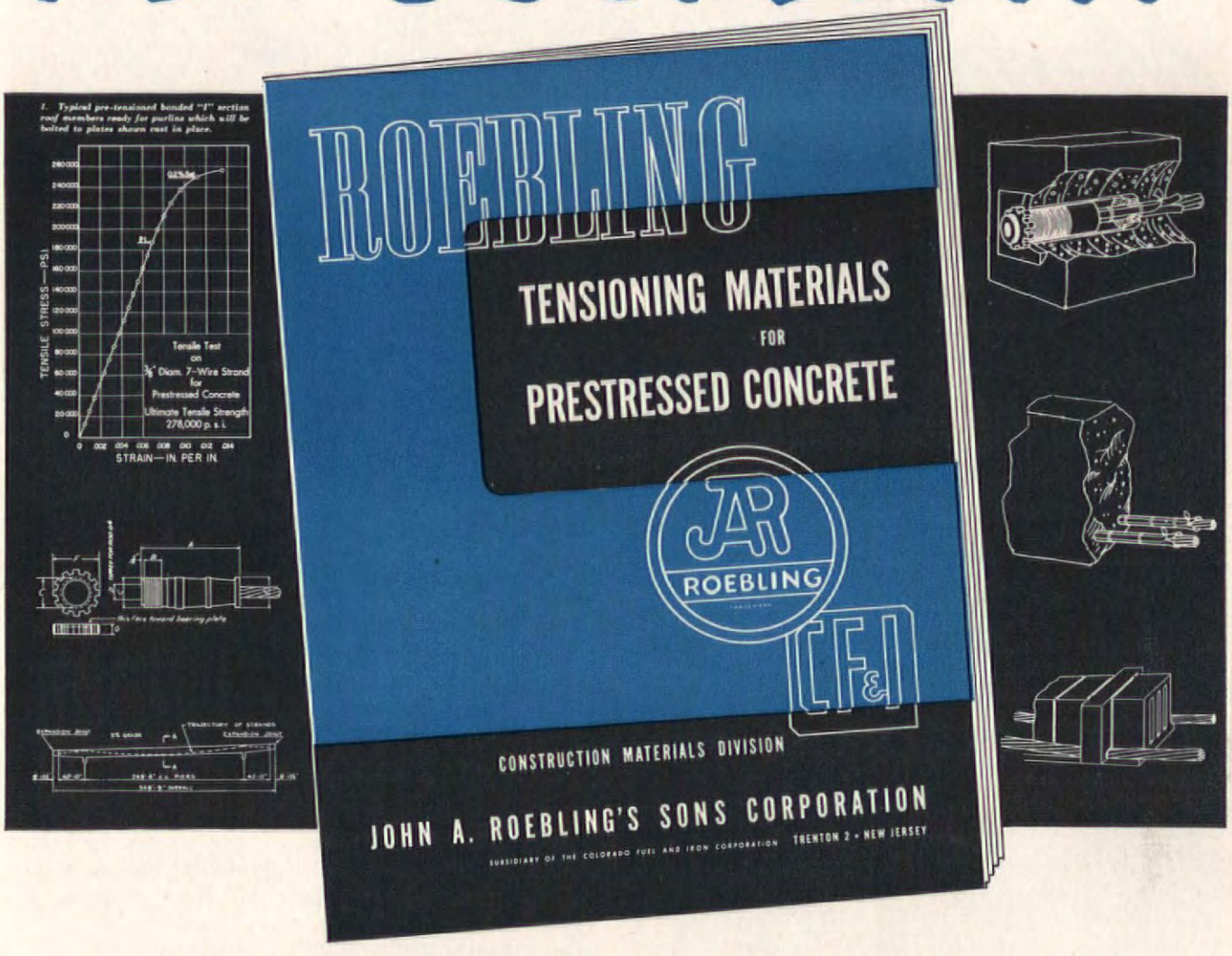

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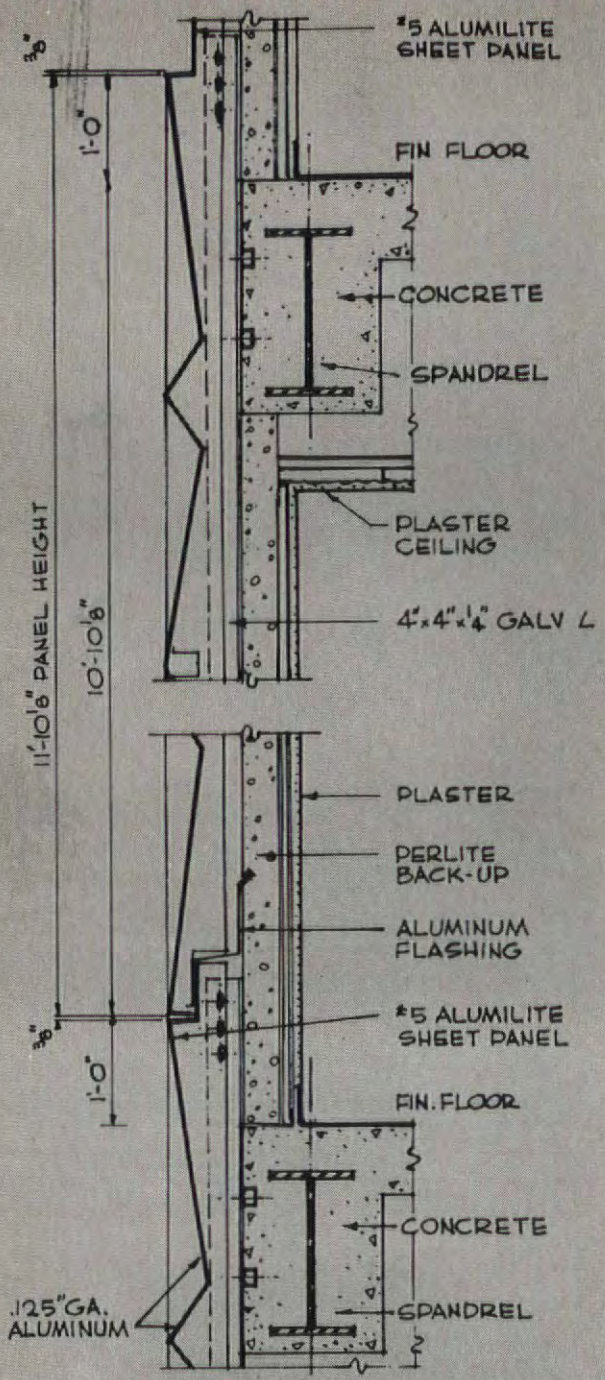
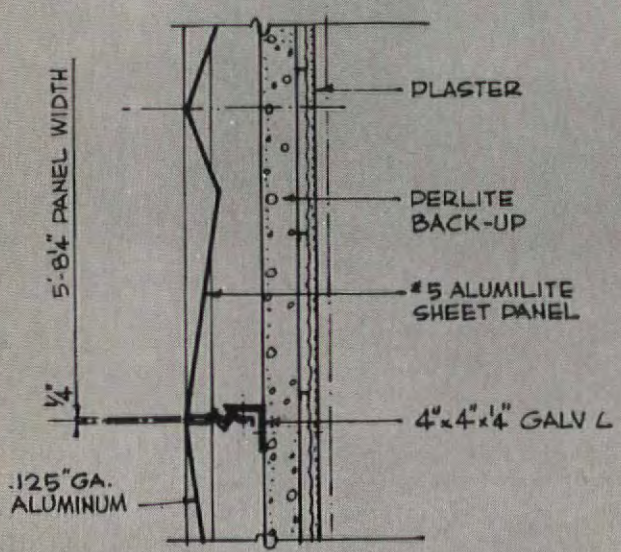
Look inside for details on the thinnest curtain wall!



PANEL B
TYPICAL OF ONE WALL



PLAN AT JOINT
OF PANEL B

CREDITS

Harrison & Abramovitz, Gill & Harrell, *architects.*

Jaros, Baum & Bolles, Zumwalt & Vinther, *mechanical and electrical engineers.*

Edwards & Hjorth, *structural engineers.*

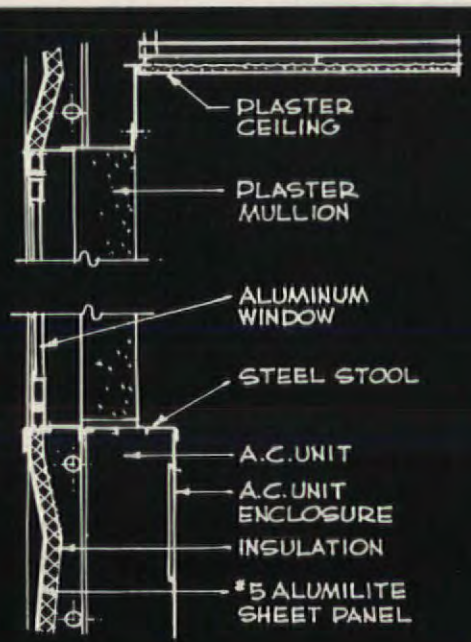
J. W. Bateson, *general contractor.*

Flour City Ornamental Iron Company, *subcontractor, aluminum.*

PANEL A—typical of three walls, incorporates windows pivoted on vertical axis. ⅛" anodic-treated aluminum sheet is backed only by 1½" of aluminum foil vapor seal insulation.

PANEL B—west wall is sheathed completely with light aluminum panels that contrast with the continuous windows on other three sides. ⅛" aluminum panel has perlite back-up.

WINDOW—detail shows 5' 7 15/16" double-glazed, vertically pivoted windows, set in 11' 10⅛" by 4' 5¾" aluminum panel. Panel weighs only four pounds per square foot.



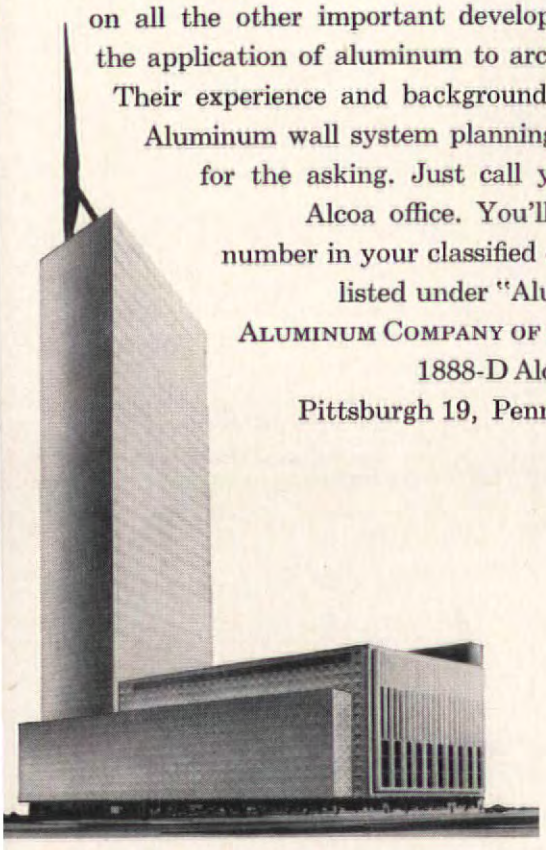
• The Republic Bank Building, designed by Harrison & Abramovitz, demonstrates the flexibility and adaptability of the Alcoa® Aluminum wall system pioneered in Alcoa's Pittsburgh headquarters. This latest application of Alcoa's Aluminum wall system departs from the original design in two particulars:

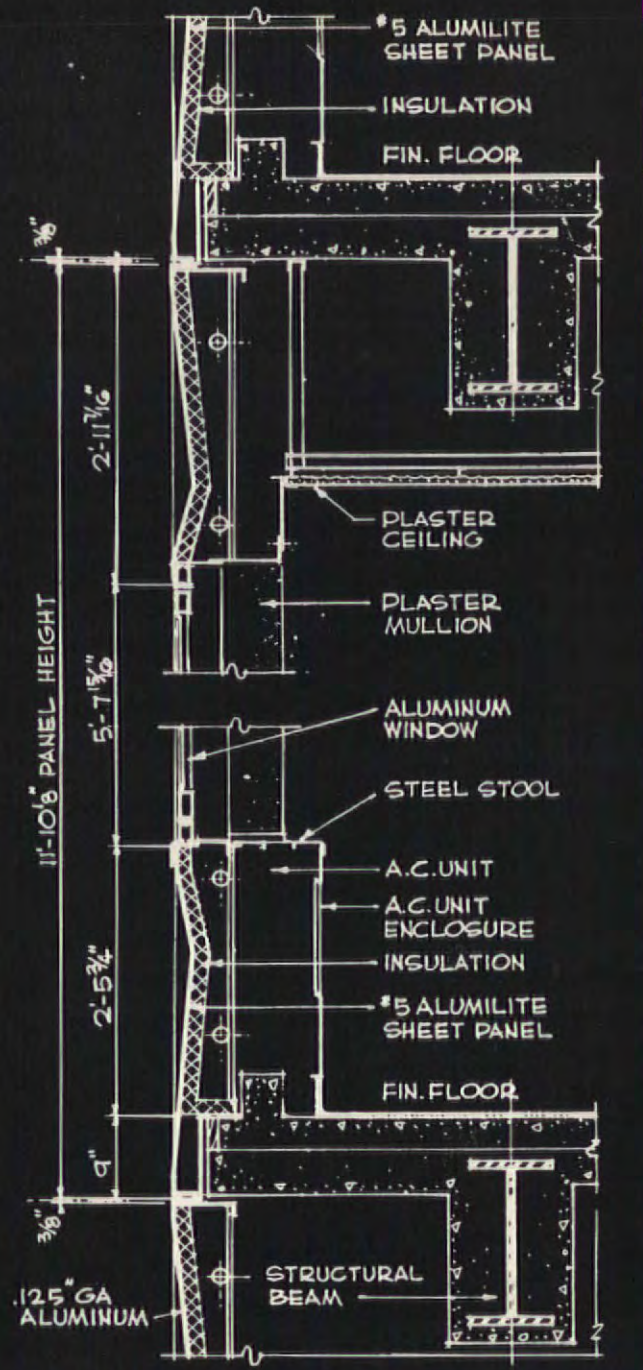
The curtain wall is the thinnest yet used. The anodic-treated aluminum panels, stamped in a star pattern which is decorative, self-cleaning and stiffening, are complete wall sections. ⅛" thick, backed by 1½" of aluminum foil vapor seal insulation, they weigh only four pounds per square foot.

The window design departs from the small, separate windows of the Alcoa Building in favor of a continuous design which permits flexible partitioning. Retained are the double-glazed, vertically pivoted, aluminum frames.

Alcoa's architectural departments worked closely with the architects and the sub-contractor for the aluminum facing just as they have on all the other important developments in the application of aluminum to architecture. Their experience and background in Alcoa Aluminum wall system planning is yours for the asking. Just call your local Alcoa office. You'll find the number in your classified directory, listed under "Aluminum".

ALUMINUM COMPANY OF AMERICA,
1888-D Alcoa Bldg.,
Pittsburgh 19, Pennsylvania.

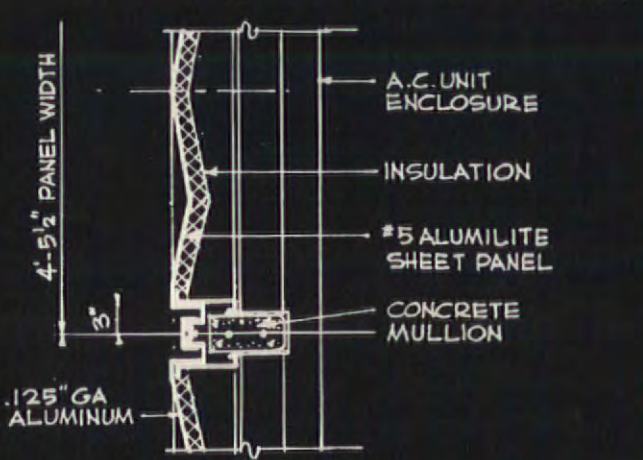




PANEL A
TYPICAL OF THREE WALLS

WALL SECTIONS

SCALE 0 2 3 FEET



PLAN AT JOINT OF PANEL A

Award winning building details now available!

When the Wyatt Building with its wall system of Alcoa Aluminum appeared amid the traditionally stone architecture of our nation's capital, it not only harmonized with its surroundings, but was promptly judged a prize-winning design by the Washington, D. C., Board of Trade in 1953.

Full details of the exterior aluminum wall designed by architect A. R. Clas are now being distributed by Alcoa. An interesting adaptation of the aluminum wall system, worked out by the architect and Alcoa's architectural advisers, the wall and its details point the way to numerous applications in construction.

If you have not already received your set of details of the Alcoa Aluminum wall system in the Wyatt Building, call your local Alcoa office or write: ALUMINUM COMPANY OF AMERICA, 1888-D Alcoa Building, Pittsburgh 19, Pennsylvania.

Advantages of Alcoa Aluminu Wall System

- **Design and Construction Advant**

Light weight permits:

1. Smaller foundations, lighter str tural steel framework.
2. Larger and fewer wall facing un
3. Preassembly methods in shop.
4. Low transportation load to constr tion site with less freight char

High radiant heat reflectivity of natu color aluminum means:

1. Greater interior heat retention winter.
2. Better exterior heat resistance summer.

Design versatility offers an almost limited variety of architectural effe through cast, extruded, sheet sha with wide range of colored and textu finishes.

Workability permits speedy fabricati with less equipment and lower fabri tion investment.

Thin wall construction can incre rental income by providing more usa square feet of floor area.

- **Erection Advantages**

Larger and fewer wall facing u permit:

1. Efficient handling.
2. Fewer joints.

Inside installation of wall system eli nates scaffolding.

Panel storage on floors or roof redu need of ground storage space.

Ease and speed of wall erection (wh anchoring and alignment devices properly engineered.)

1. Reduces labor costs.
2. Normal construction time can substantially reduced.
   a. Savings in overhead constr tion costs.
   b. Savings through earlier oc pancy and rental return owners.

- **Maintenance Advantages**

Permanent finish eliminates paint need.

Fewer joints provide greater weat tightness and reduce wall deteriorati

Special joint design eliminates need caulking.

Cleaning of wall areas is done by ra fall.

ALCOA ALUMINUM

ALUMINUM COMPANY OF AMERICA

LATEST BUILDING Edition

FLORON FLASH

WEATHER: *Favorable for Installing Floors*

Vol. 4 — San Francisco, California

ARCHITECTS LAUD NEW PLASTIC TILE!

Pabco Floron Offers Beauty, Resiliency Even Over Concrete

A perfect answer to the problem of creating comfortable, colorful, easy-to-clean floors that are economical and long-lasting has been developed by Pabco Products Inc. It's sensational new Pabco Floron Tile, acclaimed enthusiastically by architects, builders, commercial and institutional buyers.

Easily installed on any floor, including grade-level concrete slabs, this new plastic tile solves the "Big 9" complaints about commercial floor tiles. Floron eliminates objections about "priced too high; can't install on grade; not resistant to rot; too hard on feet; indents too easily; unmatched joints; unattractive colors; installation cost too high; or difficult maintenance."

Tough and long-wearing, yet resilient, Floron gives excellent resistance to alkali, acid and grease. It withstands dampness and rot; the surface resists indentation. Its attractive brushed design is available in seven rich colors to blend well into any color scheme.

The result of five years of intensive research by Pabco's laboratories, this great new plastic tile outscores all other floor tiles in actual on-the-job installations, as well as rugged laboratory tests.

For complete details write:

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PABCO FLORON—THE ALL-PURPOSE FLOOR—The phenomenal success of Pabco's new plastic tile across the country is attributed to its versatility. Beautiful in design and color, tough in wearing qualities, so simple to maintain, and, best of all, so suprisingly low in price—Pabco Floron Tile has proved the ideal floor covering for offices, stores, schools, hospitals, restaurants, hotels, motels and homes. Seven colors are available—gray, light green, dark green, cocoa and yellow, coral gray, woodtone, and red.

"Big 9" Complaints on Floor Tiles Answered by Floron

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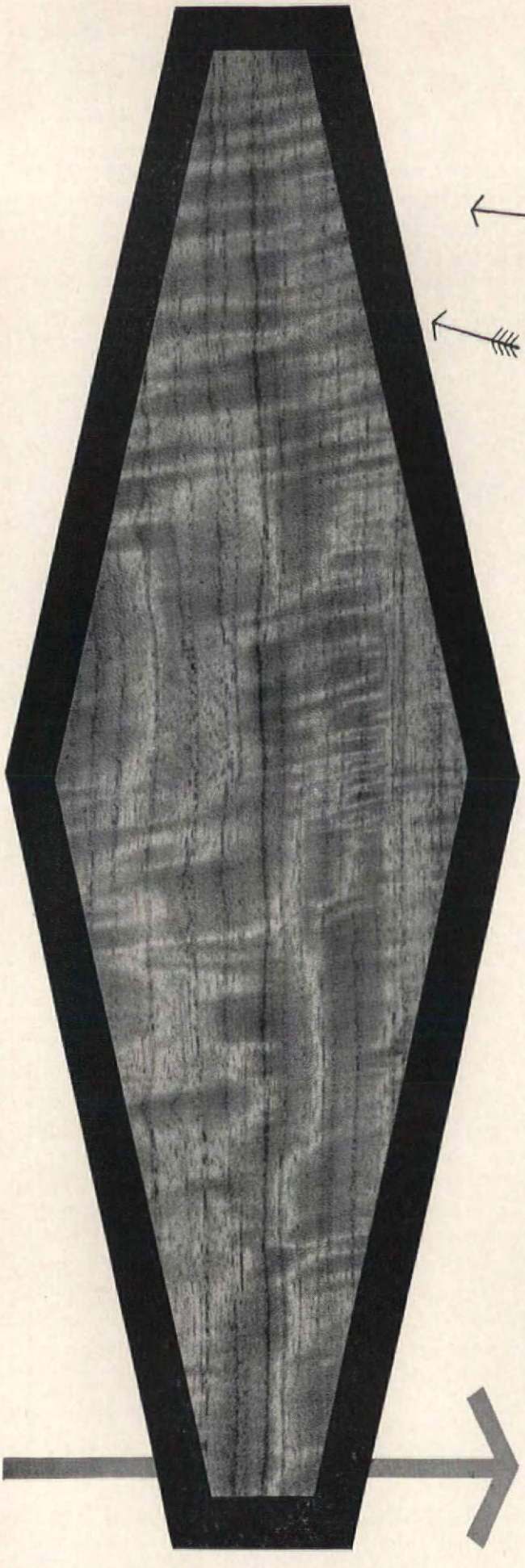
2. **NO COMPLAINTS ABOUT CONCRETE INSTALLATIONS**—Designed for direct application over concrete. Ideal for wood floors, of course.
3. **NO COMPLAINTS ABOUT ROT**—Exclusive rubberlike water-resistant backing unaffected by dampness or rot . . . even over grade-level slab concrete.
4. **NO COMPLAINTS ABOUT TIRED FEET**—Backing has surprising "spring." Gives Floron amazing resiliency for comfort underfoot.
5. **NO COMPLAINTS ABOUT INDENTATION**—Resilient yet mirror-smooth surface resists indentation.
6. **NO COMPLAINTS ABOUT UNMATCHED TILE JOINTS**—Tiles don't expand or contract. Can be laid simply and quickly with T-square precision. Seams are virtually invisible.
7. **NO COMPLAINTS ABOUT MAINTENANCE**—Extreme alkali, acid and grease resistance minimizes cleaning. Smooth non-porous surface defies "enemies" of many floorings.
8. **NO COMPLAINTS ABOUT LACK OF BEAUTY**—Smart decorator colors featured in Pabco's beautiful brushed directional design.
9. **NO COMPLAINTS ABOUT INSTALLATION COSTS**—Floron lays quickly—easily. Precision-fitted tile that is so simple to trim cuts down installation time and wasted tiles.



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Send us the approximate square footage needed for paneling and stipulate required or desired lengths.

Chester B. Stem will send you samples of the actual veneer you can specify or have one of our resident representatives call on you with further information about our rare Teak architectural veneers such as this Burma Teak Flitch 11-114.

We urge you to come first to Chester B. Stem for your selection of exotic Teak veneer. Our world-wide buying organization has selected Teak from Burma, Siam and Java for your consideration. Experts in the most modern equipped plant in this country in New Albany, Indiana, determine how best to bring out the grain character, the cross figure and color to show off nature's handiwork in all its richness and beauty.

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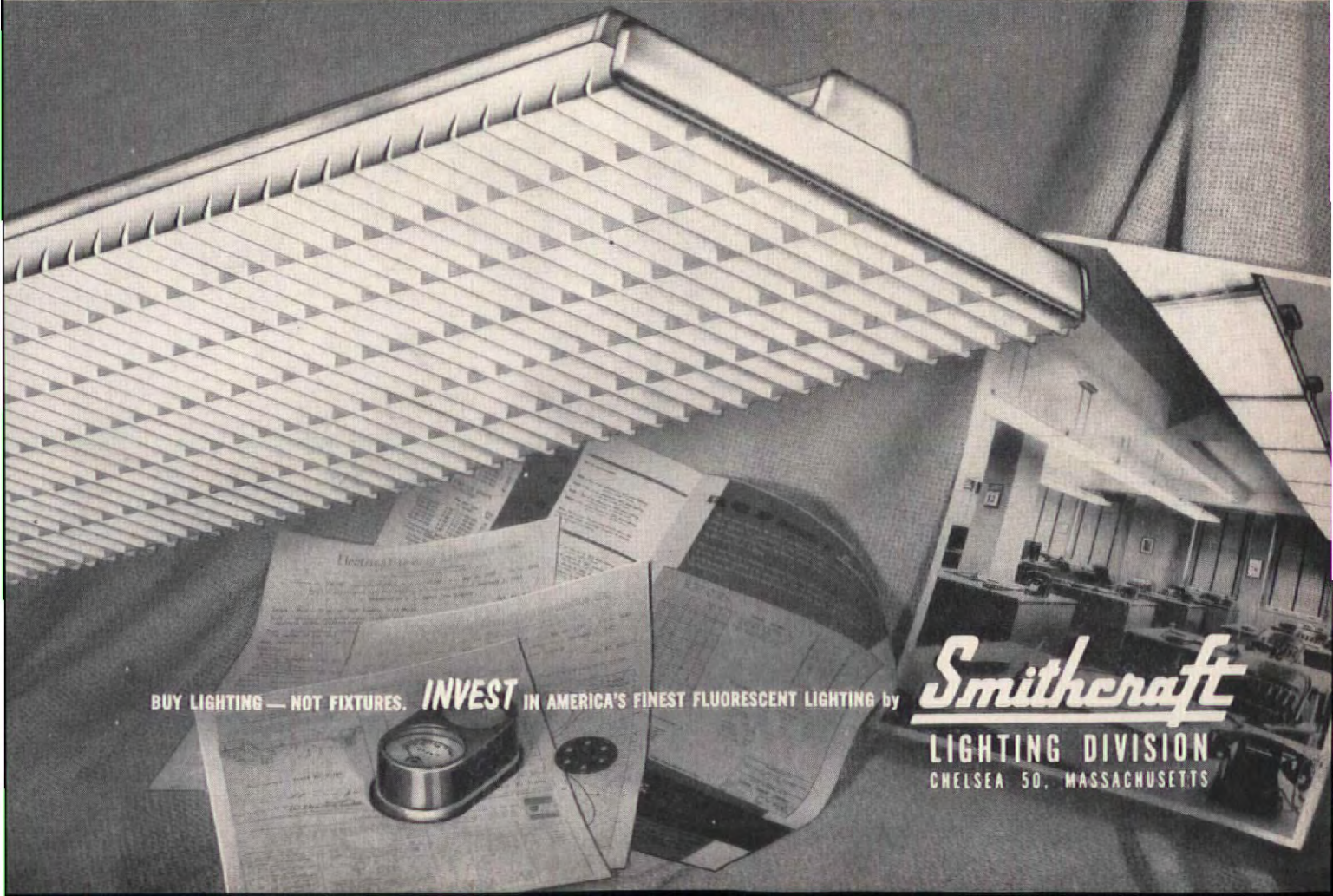
Take the Smithcraft DIRECTOR, for example. A recent comparison test by one of the nation's leading electric utilities clearly demonstrates that the Director produces more light and better light than ordinary fixtures.

Installed in literally thousands of banks, stores, schools and similar locations across the United States, the Smithcraft Director is in a class by itself for appearance, for quality of lighting and for soundness of investment. Be sure to get the complete story on the Smithcraft Director before relighting or when planning new installations. Ask us to send you our Smithcraft Director folder.

Photograph shows Director installation in the offices of the Credit Representative of the First National Bank of Boston, Empire State Building, New York.



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TABLET ARM CHAIR THAT *FOLDS*

IMITATED BUT UNEQUALED

• **Only** *Clarin* chairs can be used equally well for ordinary seating . . . with the arm folded down at the side.

• **Only** *Clarin* chairs let you lift the arm out of the way as you sit down or stand up.

• **Only** *Clarin* chairs are engineered and built to Clarin standards of strength and quality.

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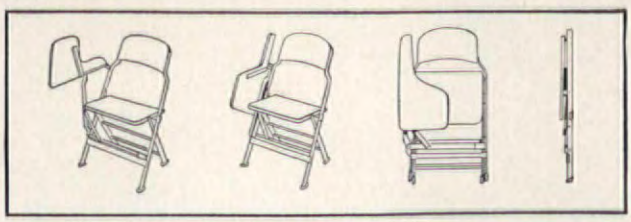
Foam rubber cushioning a CLARIN PLUS feature.

FOLDS FLAT IN 3 EASY STEPS



There is a Clarin Steel Folding Chair for every age from nursery school to adult—and for every need—the only complete line made. Write for Free Illustrated Catalog.

Clarin

ENGINEERED QUALITY MAKES THE BIG DIFFERENCE IN FOLDING CHAIRS

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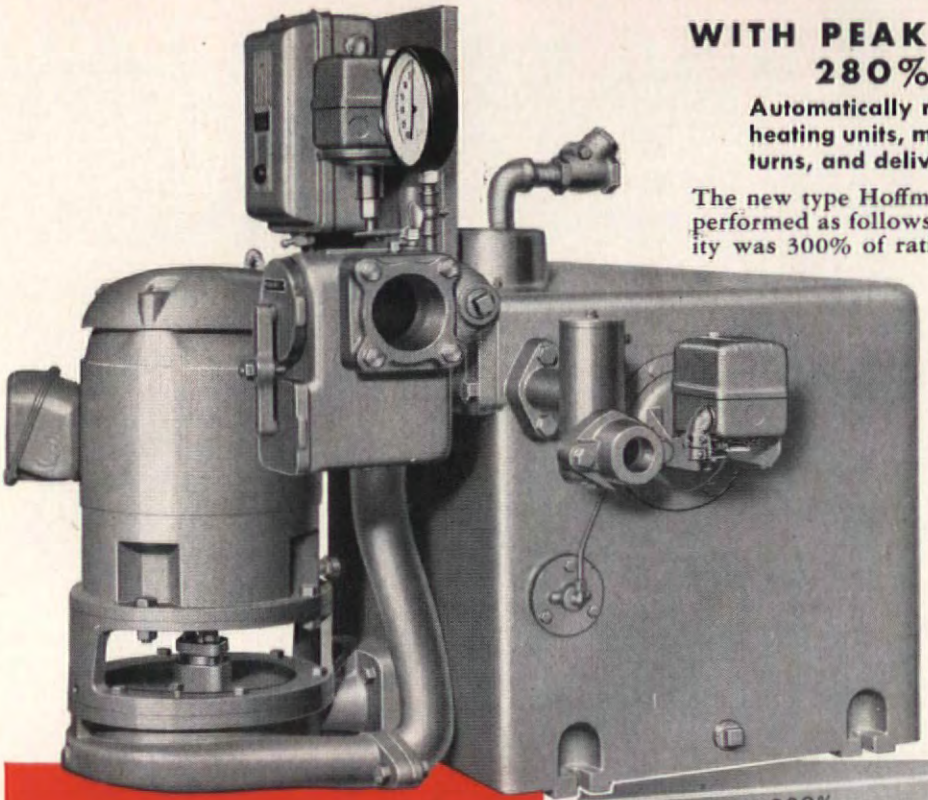


WITH PEAK WATER CAPACITY 280% OF RATING

Automatically removes air and water from heating units, maintains a vacuum in the returns, and delivers condensate to the boiler

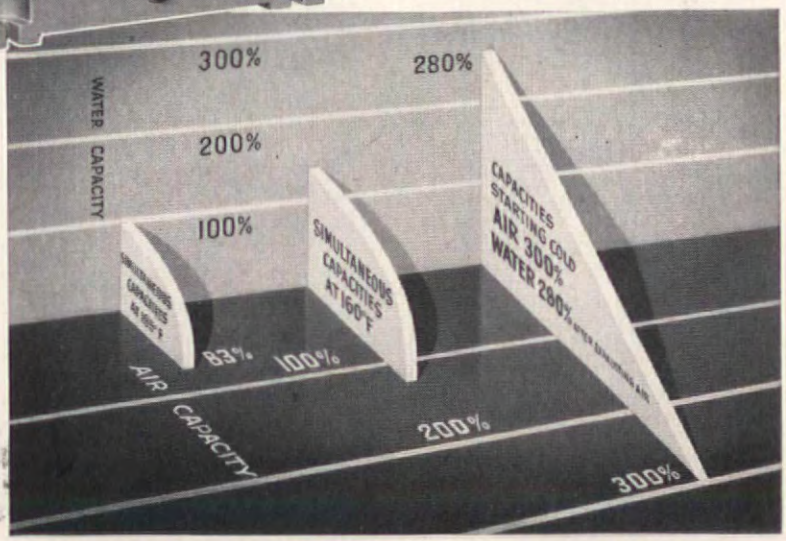
The new type Hoffman Vacuum Pump on official test performed as follows: When started cold, the air capacity was 300% of rating. When air was exhausted and the flood of initial condensate reached the pump, it was removed at the astounding speed of 280% of rated capacity.

At 160° water temperature and 6" vacuum, pump capacity was 100% for simultaneous removal of air and water. Note the simultaneous performance!

At 195° water temperature and 3" vacuum, the pump discharged 83% of rated capacity in air and 100% in water.

These Hoffman performance figures defy comparison. Remember, too, that all this super-efficiency is available at lower maintenance cost due to the featured Hoffman Jet-Type Vacuum Producer.

JET VACUUM PRODUCER ENABLES PUMP TO HANDLE ALMOST BOILING WATER

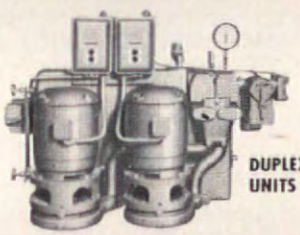


CAPACITIES: From 2,500 to 100,000 sq. ft. EDR.

DISCHARGE PRESSURES: From 20 lbs. to 60 lbs. per sq. in.

● Bronze fitted throughout ● Enclosed, precision balanced bronze impeller ● Renewable bronze wearing ring ● Split bronze packing gland ● Stainless steel impeller hub ● Impeller has top suction inlet—eliminates air or vapor binding ● Rigid motor support, very quiet ● Easily handles 200°F condensate.

Write today for Cat. No. VP 853, no obligation.



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

MEASURE THE EXTRA VALUE

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Stainless Steel

DOORS with PANIC BOLTS

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Specifically designed for use wherever that "extra-quality" look is desired. Fully welded, honest construction of heavy gauge stainless steel...no wonder TWINSTILE as well as FULITE are universally recognized as the "extra-quality" glass doors.

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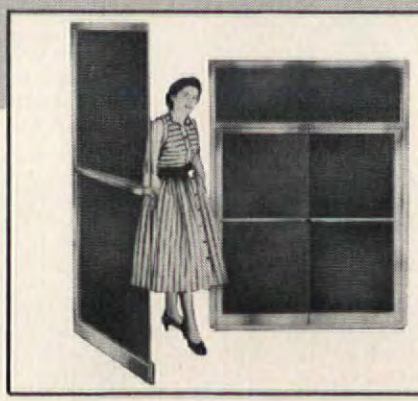

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½" plate glass exposed edge doors. Available in stainless steel or bronze.

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LUMBER
a uniformly treated product
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1 Uniform treatment The uniform, unvarying standards of treatment that are characteristic of Wolmanized clean pressure-treated lumber begin with the production of the preservative chemical itself. Controlled by a single exacting standard, Wolman brand preservative never deviates from its chemical formula. And the high-pressure treatment process by which Wolman salts, in solution, are driven deep into wood is also completely controlled, always the same. Retorts and other pressure-treatment equipment must meet strict AL&T requirements before a preserver is licensed to produce Wolmanized pressure-treated lumber. Since the preservative is forced deep into the fibers of the wood by pressures up to 150-p.s.i., equipment must have at least that capacity before approval is granted. Thus, from all 14 sources operating 24 pressure-treatment plants, Wolmanized clean treated lumber is always the same. Wherever you specify, use or buy Wolmanized lumber you are assured that uniform treatment is providing a product with undeviating quality.

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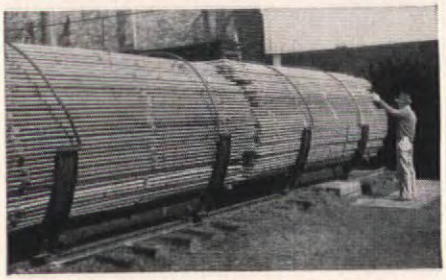

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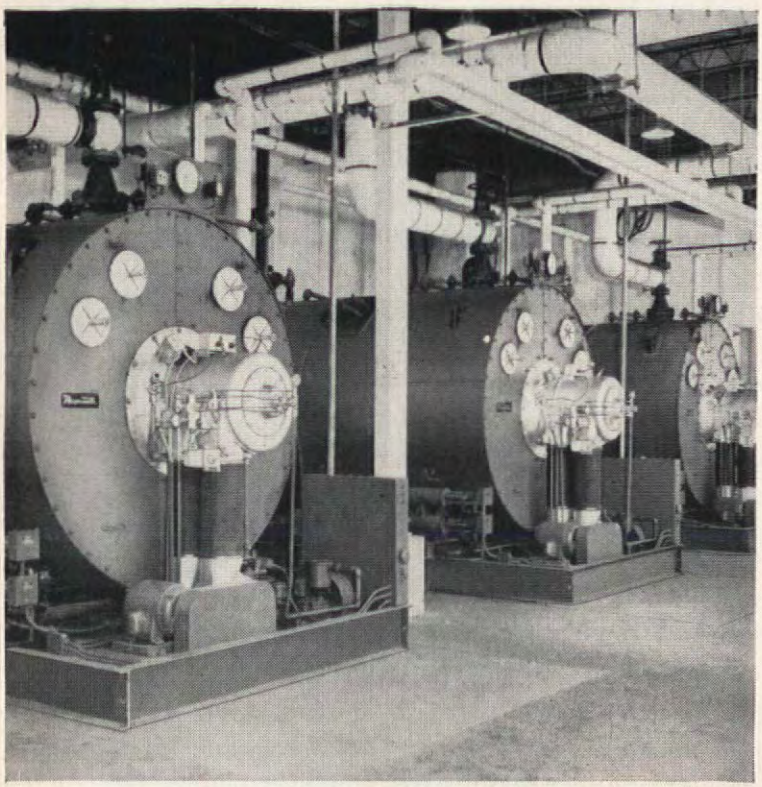
Now . . . for the *first time* you can get packaged boiler units in the wide range of capacities from 15 to 500 HP, with *complete interchangeability of fuels* . . . light or heavy fuel oil—natural or manufactured gas—or combination gas and oil . . . and you get this cost-saving advantage *only* with *Powermaster* Packaged Automatic Boilers. Find out more about this new, wide-range service today from your *Powermaster* representative. He will help you with recommendations and suggestions for selecting the most economical units to supply steam or hot water requirements in any kind of service—industrial plants, institutions, public buildings, schools, laundries, apartment houses, hospitals, dairies, motels, and shopping centers.



- Complete Fuel Flexibility: Light or Heavy Oil, Any Gas or Combination Oil and Gas.
- Choice of:

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- Full-Range Modulation with VORIFLOW Combustion.
- All Middle-Range and Large Capacities.
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- Instant Change from Fuel to Fuel.

Model 3 *Powermaster*—Experienced-proved to be the standard of industry. These three 350 HP units are supplying process steam at pressures up to 200 psi.

Send for bulletins describing Model 3 and Model 4 *Powermaster* units.

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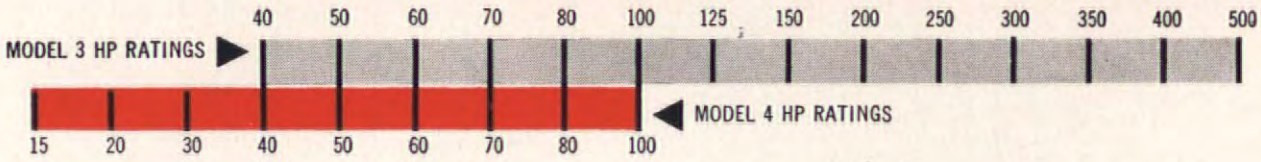
BUILDING DEPENDABLE BOILERS SINCE 1885

a choice of 2

Powermaster Packaged Automatic Boilers to meet your specific operating requirements... to your best advantage.

for 15 to 250 psi. steam or hot water



- Choice of Fuels:
  Light Distillate—Natural Gas—Manufactured Gas—Combination Oil and Gas.
- Choice of:
  Mechanical Pressure Atomizing Oil Burner—Pre-Mix Gas Burner—Combination Oil and Gas Burner—All Designed and Built by O & S.
- On-Off and Low-Fire Start Burners.
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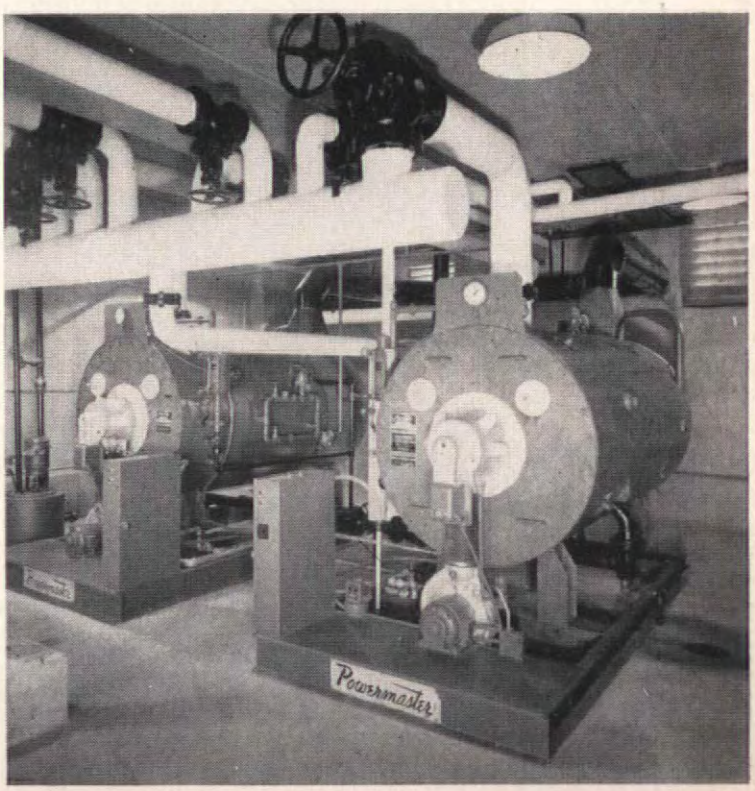
- Selection of Automatic Operating and Safety Controls.
- Quick Change from Fuel to Fuel.



Model 4 *Powermaster*—Already service-proved in wide variety of successful applications. This installation of 40 HP units supplies 15 psi. steam for heating.

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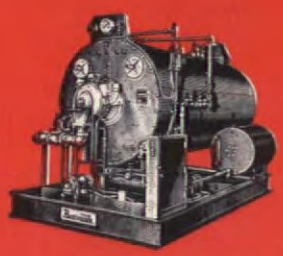
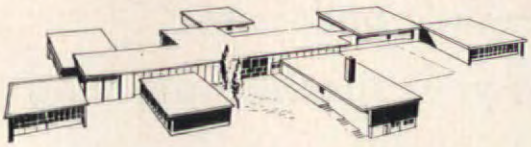
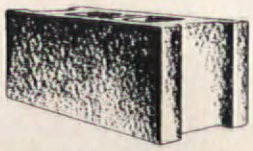
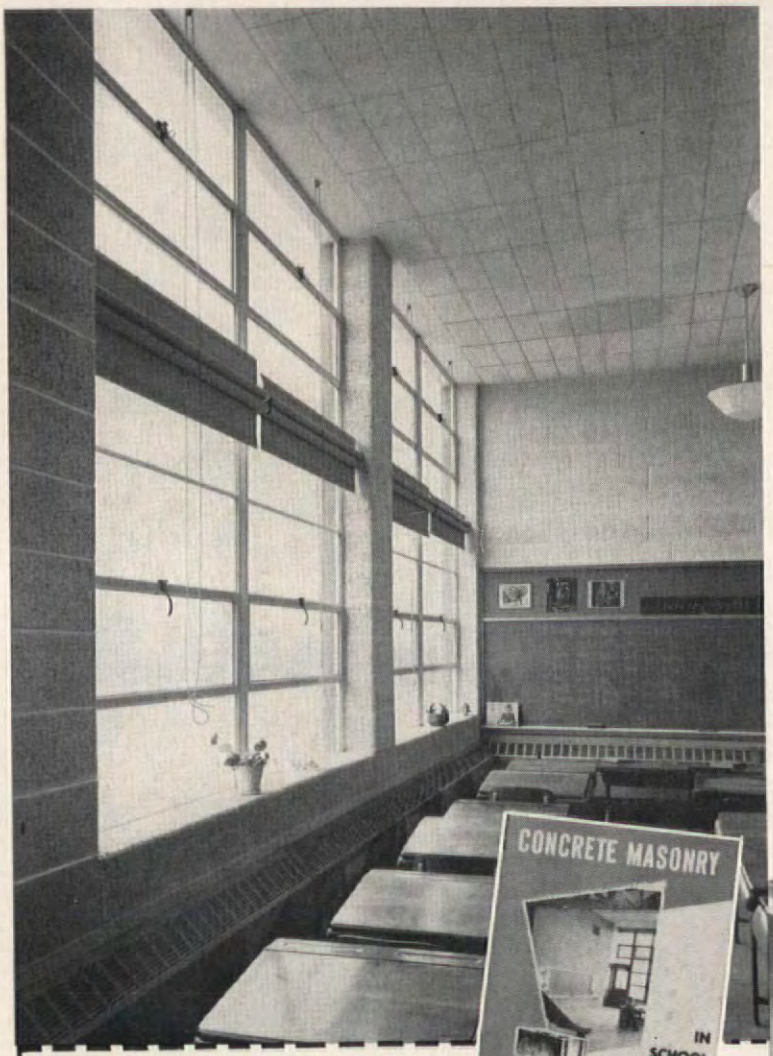
PACKAGED AUTOMATIC BOILERS





3 ways to s-t-r-e-t-c-h that school building dollar with CONCRETE MASONRY





Whether you favor the cluster plan, the loft plan, or another of the new school design trends, you are certainly concerned with the problem of getting more and better classroom space at less cost. Many architects are finding in **concrete masonry** a perfect team-mate for these new cost-saving designs. Here are a few reasons why:

1. **Save on interior finishing** — A great part of the building dollar is usually spent on interior walls and finishes. Attractive exposed concrete block walls can save an average of 25c per square foot by elimination of plaster alone.
2. **Save on sound insulation** — Concrete masonry walls and partitions combine strength, durability, and fire-resistance with efficient noise reduction. Often exposed concrete block classroom or gymnasium walls need no additional acoustic treatment.
3. **Save on construction cost** — Concrete masonry usually costs less installed-in-the-wall than any other permanent building material. Modular-size units eliminate cut and trim, permit an attractive and cost-saving exposed interior structure. Maintenance costs on C/M walls are among the lowest.

NATIONAL CONCRETE MASONRY ASSN.
38 South Dearborn Street, Chicago 3, Illinois

National Concrete Masonry Assn.
Dept. AR-4, 38 So. Dearborn St.
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☐ Please send a copy of the booklet CONCRETE MASONRY IN SCHOOL CONSTRUCTION.

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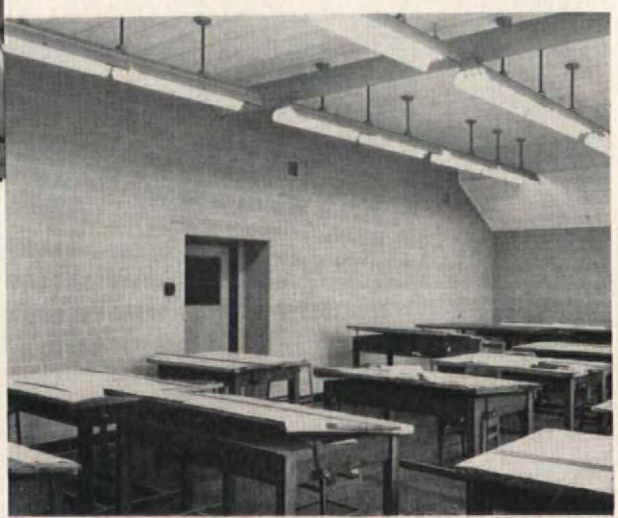


TOP LEFT: An attractive classroom in the Clara B. Ford School in Wayne County, Michigan. Architects: Eberle M. Smith Assoc., Inc.

ABOVE: Alternating courses of 8"x 16" and 8"x 4" face size units make an attractive pattern in this University of Michigan Engineering Building addition. Giffels and Vallet, Architects, Inc.

Sargent Announces the New "Quick" Exit Devices with Featherlight Touch

...Unique quick exit...positive easy closing!

Yes, now you can specify for your clients exit devices of greater beauty and safety than ever before!

Sargent has developed them for you! The new line of "Quick" Exit Devices.

The Sargent SHELL MOLDING PROCESS gives new beauty! Design is massive, yet graceful. A variety of exterior trims go with any style of building.

Safety! "Quick" Exit Devices are equipped with lightning-fast Safety Roll-Back Latch that opens at the lightest touch and also closes as easily.

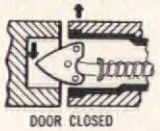
The lever arm is designed to prevent pinching of fingers. It's impossible to retard the unlocking movement by catching an arm or hand between bar and door.

"Quick" Exit Devices have stainless steel pivots and springs — the device will always open.

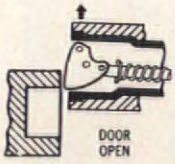
Call your Sargent Representative today. Or write us, Dept. 7D, for complete information about the new "Quick" Exit Devices and other builders hardware products in the Sargent Line.

Sargent Safety Roll-Back Latch overcomes binding due to warpage or inside pressure

DIRECTION OF OPENING



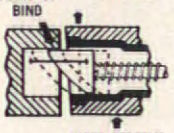
DOOR CLOSED



DOOR OPEN

Pressure Binds Conventional Latch

POINT OF BIND



FORCE EXERTED IN THIS DIRECTION

The new Sargent "Quick" Exit Devices are available in a *family of bolts* . . . Rim Types, Vertical Rod Types and Mortise Types . . . with mullions and threshholds. All three types of bolts harmonize when used together in the same building.

SARGENT of New Haven

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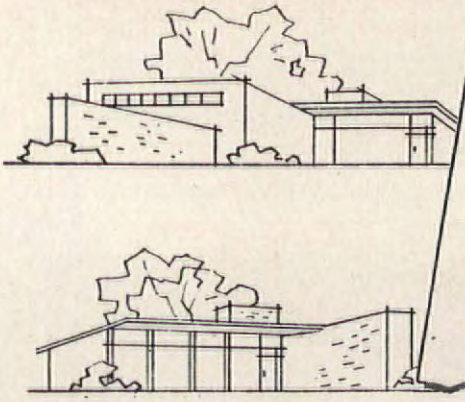
Hardware of Character

want to sell more air conditioned homes?



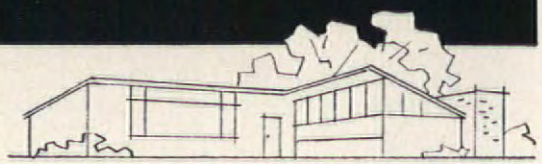
Please Note!

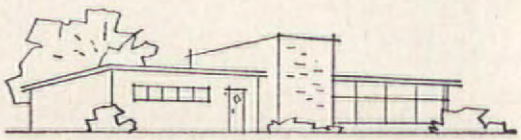
The water-cooled air conditioning system costs at least 20% less to operate than an equal capacity air-cooled system, because it operates at lower condensing pressures. For instance, a 1½-hp water-cooled system produces as much air conditioning as a 2-hp air-cooled unit.

HALSTEAD & MITCHELL

RESIDENTIAL COOLING TOWERS

SAVE 95% ON AIR CONDITIONING WATER BILLS





To sell more air conditioned homes, your potential customers must be convinced that operating their air conditioning is inexpensive. The Halstead & Mitchell Residential Cooling Tower saves cooling water by the thousands of gallons each month, slashing water bills by over 95%. Here is a major buying incentive for home air conditioning, proven by performance in thousands of industrial and residential installations.

PRICED FOR THE HOME AND SMALL BUILDING MARKET

Halstead & Mitchell Residential Cooling Towers are the first quality cooling towers specifically designed and *priced* for the small building market. Built in a complete range of sizes, from 2 through 7½ tons, they are available to meet every small building specification.

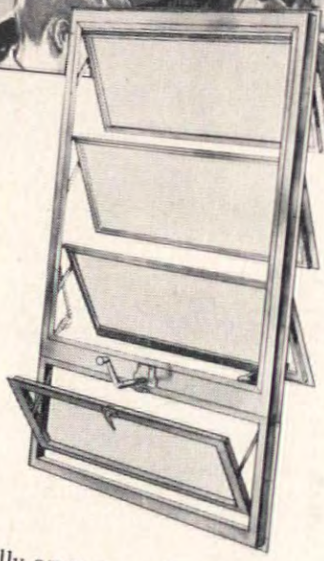
20-Year Guarantee! ON THE WETTED DECK SURFACE

All the quality built into Halstead & Mitchell Industrial Cooling Towers is incorporated in these Residential Cooling Towers . . . including the famous 20-Year Guarantee on the Wetted Deck Surface against attack by rotting due to fungi growth . . . *exclusive with Halstead & Mitchell.* Five individual cabinet coatings of Vinsynite, Vinyl Zinc and chlorinated rubber add important years of protection against rusting, as does stainless steel for fans and shafts. And advanced design provides the easiest maintenance possible!

At Leading Refrigeration & Heating Wholesalers Everywhere

for *controlled ventilation* and large window areas!

Ualco®
U-AL-CO
ALUMINUM
AWNING HOPPER



You know the old school story . . . cold floors, drafty rooms, chilly areas around windows! A regular breeding place for annoying colds and a source of complaints from students, parents and teachers!

Because architects the country over are making draft-free ventilation a prime factor in modern school design, the Ualco Awning Hopper is often specified. The Awning Vents open up to 90 degrees for 100% ventilation, while the Hopper Vent provides healthy, draft-free ventilation during inclement weather.

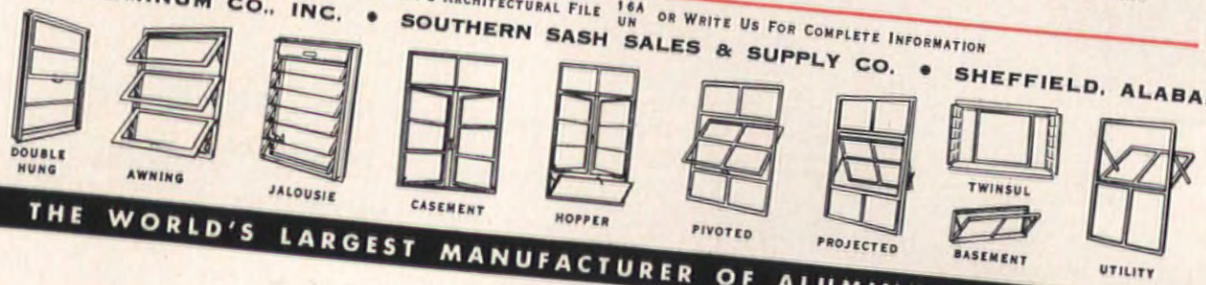
This, plus natural daylight and greater visibility afforded by the large window area, contributes to the all-round comfort and pleasing atmosphere which makes for better study and happier students!

School boards approve the long-term economy of the Ualco Awning Hopper, too! It won't rust, warp, rot! Never needs painting. Requires no upkeep—ever!

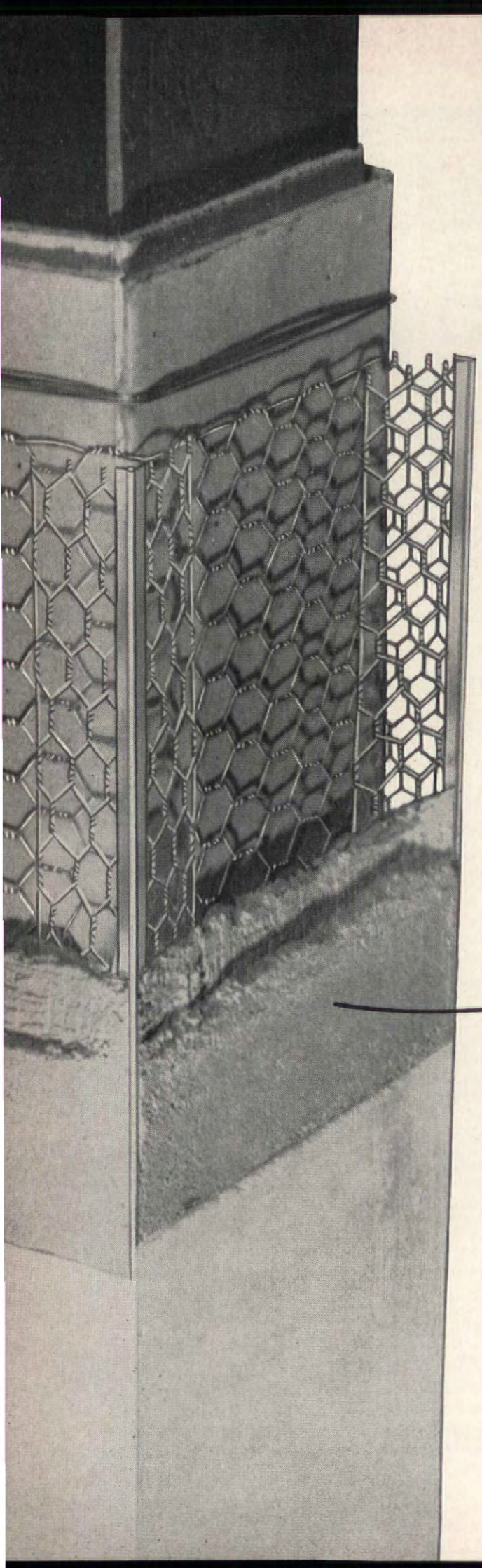
OTHER FEATURES: Integral Fin completely surrounds window. Takes brick fin and fin trim.—Jiffy Quick Sill Clips slide in channel from each side; locate as many as wanted, where wanted. — EXCLUSIVE strip-proof Awning Operator has no external locking gear. Makes one operation of unlocking, opening and locking in any position.—Hopper Vent operates and locks separately.—Completely weatherstripped both on jamb and bottom of all vents.

SEE OUR CATALOG IN SWEET'S ARCHITECTURAL FILE 16A UN OR WRITE US FOR COMPLETE INFORMATION

UNION ALUMINUM CO., INC. • SOUTHERN SASH SALES & SUPPLY CO. • SHEFFIELD, ALABAMA



THE WORLD'S LARGEST MANUFACTURER OF ALUMINUM WINDOWS

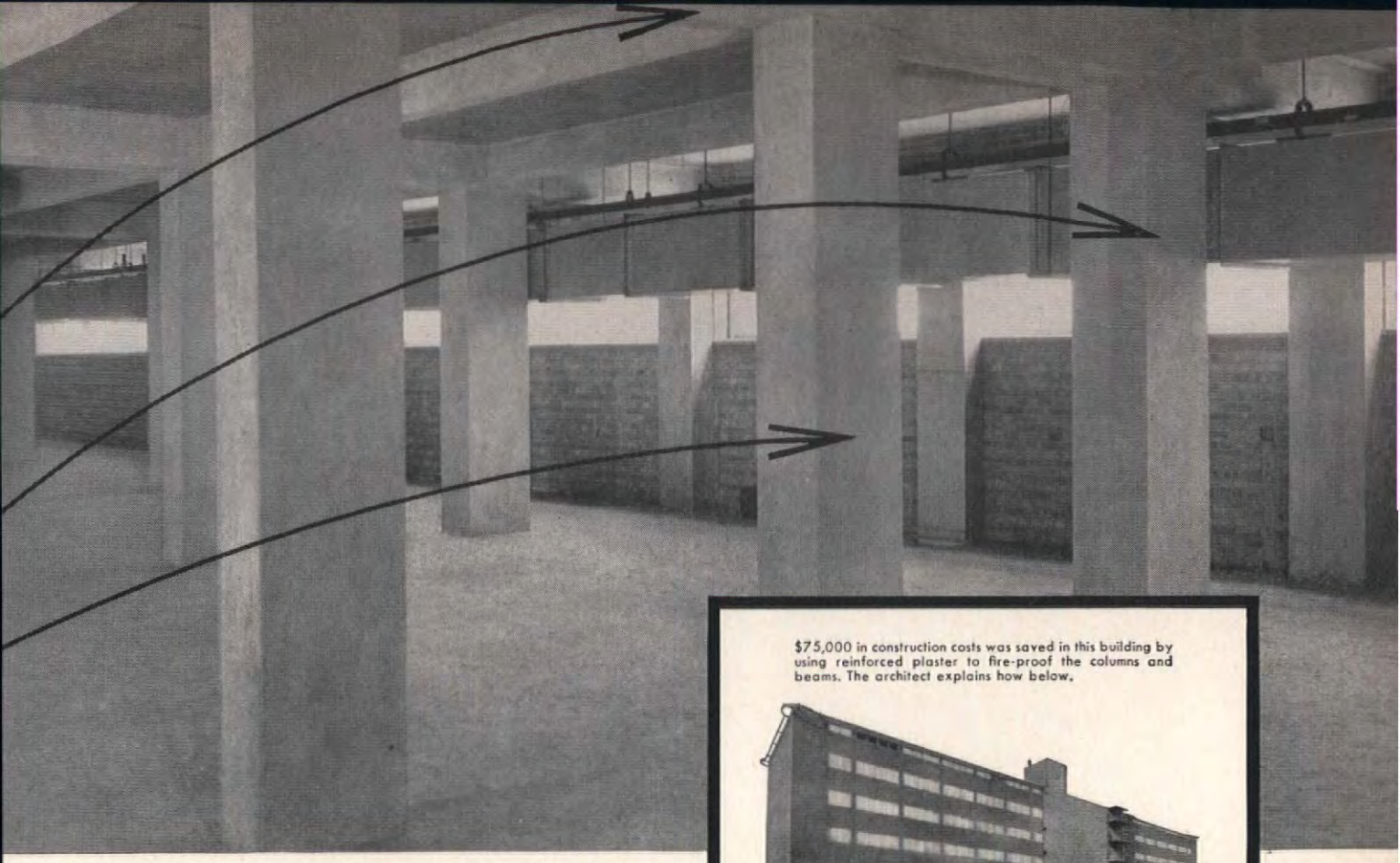


reinforced
plaster

cut costs 30%

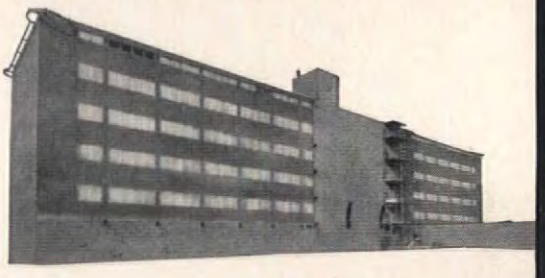
for column and beam
fire-proofing

- less weight
- no forms
- fewer piles
- easier conduit installation
- quality finish
- saves space



Column and beams with reinforced plaster fire-proofing.
East Dentistry-Medicine-Pharmacy Building—University of Illinois, Chicago
Architects—Pace Associates
General Contractor—Sumner Sollitt Company
Plastering Contractor—McNulty Bros. Company

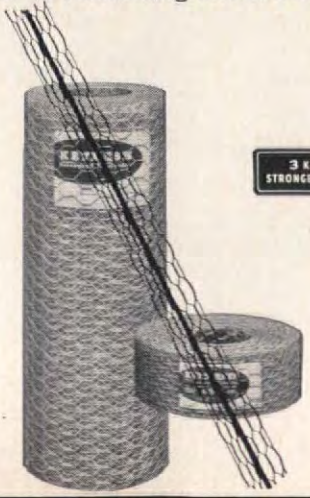
$75,000 in construction costs was saved in this building by using reinforced plaster to fire-proof the columns and beams. The architect explains how below.



Pace Associates tell why they specified LATH AND REINFORCED PLASTER FIRE-PROOFING

"Seven years ago when this building was in the preliminary design stage, we had faith in plaster fire-proofing, but only a few fire tests had been made. We knew that if we could find a simple plaster construction that would pass code ratings, we could produce this $7-million structure for about $75,000 less than we could with concrete fireproofing. This saving represents 31 cents per square foot of gross floor area resulting from the reduction of steel tonnage, piles, yardage of concrete and omission of forms. This rough plaster fireproofing, which is concealed behind finished walls and ceilings, cost about 70 cents per square foot, or about 30 cents less than the cost of column and beam forms. Many fire tests of plaster coverings have been made in recent years and we are sure that plaster will have a long and active future in the protection of steel structures."

W. H. Binford, Pace Associates, Chicago
Planners–Architects–Consulting Engineers



3 KEYS TO STRONGER PLASTER
KEYMESH
KEYCORNER
KEYBEAD

Specify Keymesh for the finest, most economical reinforced plaster fireproofing . . . Architects and contractors everywhere are finding Keymesh the most economical reinforcement for all types of plastering. It's the heart of Keystone's 3 Keys to strong plaster—Keymesh, Keycorner and Keybead. These three products guard against cracking and make stronger corners, joints and junctures. Make your structures better at less cost—specify Keystone's 3 Keys. Write Keystone Steel and Wire Company for complete details.

KEYSTONE STEEL & WIRE COMPANY

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KEYSTONE TIE WIRE • KEYSTONE WELDED WIRE FABRIC
KEYSTONE NON-CLIMBABLE AND ORNAMENTAL FENCE

see our CATALOG in SWEET'S FILE
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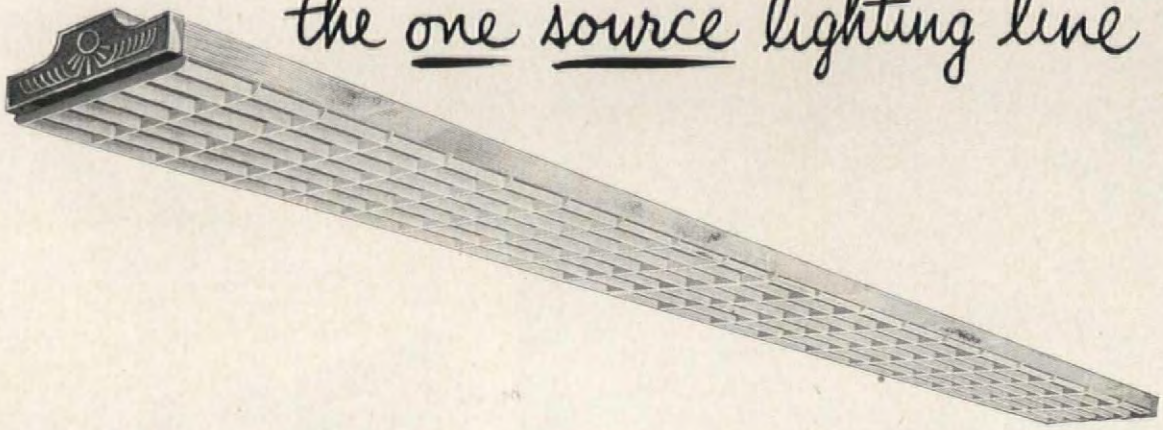
(about KAYLINE)
IF THIS BE REASON...MAKE THE MOST OF IT!



the one source lighting line

FACTS ABOUT LIGHTING THAT WILL INTEREST MOST ARCHITECTS

What can KAYLINE offer an architect that he is not already getting?

Every architect eventually has the problem of selecting lighting fixtures... and is then confronted by a number of choices.

Shall he buy from a large manufacturer with big production runs, and perhaps lower prices?

Shall he buy from a company whose line is limited, but highly stylized, with perhaps higher prices?

Or should he buy from a firm like KAYLINE, a complete source for fixtures, where the primary interest is in providing proper, correct lighting?

As an architect, you must answer these questions because you are responsible for the lighting—the type of lighting that will be right for its purpose whether it be in a schoolroom, a hotel lobby, a department store, or an office.

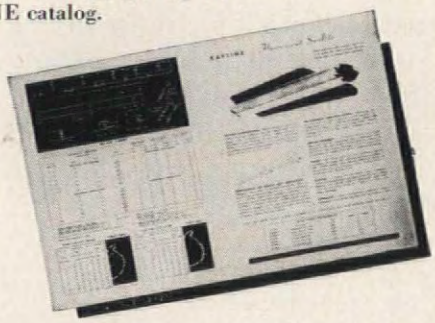
To architects who feel a special responsibility for lighting, KAYLINE offers a "tailormade" service. It does not offer a profusion of fixtures for every location but will provide you with a selection of the best for every purpose. It does not claim the most extensive manufacturing operations, but you will never experience better cooperation or service.

This is the policy that has guided KAYLINE from the days of acetylene lighting down to the present—a policy of creating fine fixtures, carefully made, accurately assembled and tested, easy to install—fixtures designed to meet correct lighting standards, not price. We seek to serve those who, like ourselves, believe in the importance of good lighting.

If this reasoning makes sense to you, let's make the most of it by getting better acquainted. The first step is to write for the KAYLINE catalog.

EVEN OUR CATALOG IS DIFFERENT!

● *Kayline's 74 Page Catalog No. 53 not only shows the complete line of fluorescent, incandescent and slimline fixtures but gives information and charts on footcandles of light, light patterns, installation suggestions and other important data. Get a copy for yourself AND your specification writer. Send your request today.*



THE KAYLINE COMPANY

2480 EAST 22nd STREET • CLEVELAND 15, OHIO

ESTABLISHED 1895

stains roll off **Gold Seal Vinylbest** like water!

New Gold Seal Vinylbest Tile has the *acid and alkali resistance* of all true vinyls! Plus the *moisture resistance* of asphalt tile! Plus the *easy maintenance features* of inlaid linoleum! Plus the *clear, true color characteristics* of rubber tile! Plus the *fire-resistant* properties of asbestos! You can install it *anywhere* confident it will do the job because it combines these finest features of other tiles. In fact—Gold Seal Vinylbest is so versatile it can go into schools, homes, or hospitals . . . over suspended wood or concrete . . . on, above or below grade! And because the colors and designs go all-the-way-through every tile, Gold Seal Vinylbest is exceptionally long-wearing. Upkeep and replacement costs are low, too. So, on a 20-year basis, it is less expensive than hard brittle flooring! Add up these facts . . . you'll come to one compelling conclusion . . . you just can't make a mistake when you specify Gold Seal Vinylbest Tile. 12 premium colors at a standard price. ⅛" gauge. 9" tiles.

Our duck's head and tail are "Dublin Green," her beak and feet are "Camellia," her wings are "Antique Black," her neck is "Columbia Blue," her body is "Mocha Tan," and her hat is "Lemon Yellow."

GOLD SEAL® Floors and Walls

CONGOLEUM-NAIRN INC.

Kearny, New Jersey © 1954

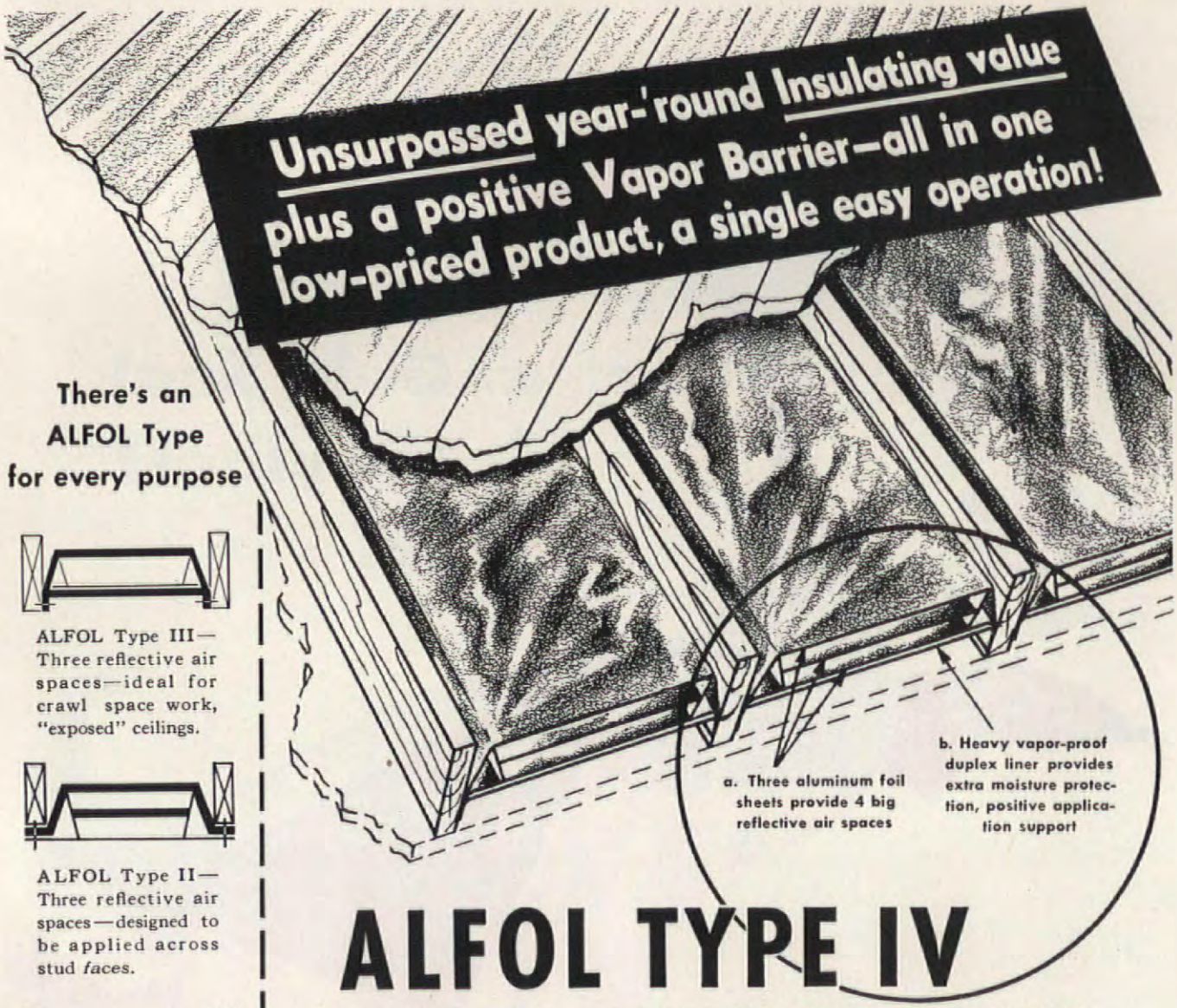
Architects' Service Dept. AR-4
Congoleum-Nairn Inc., Kearny, N. J.

Please send me the illustrated booklet "Which Floor Goes Where in Commercial Areas" which shows the advantages and disadvantages of various floor coverings and recommends where each type should be installed.

Name_____

Address_____

City_____ State_____

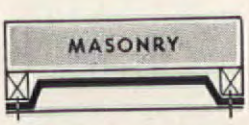


There's an ALFOL Type for every purpose

ALFOL Type III—Three reflective air spaces—ideal for crawl space work, "exposed" ceilings.

ALFOL Type II—Three reflective air spaces—designed to be applied across stud *faces*.

ALFOL Type I—Two reflective air spaces—Low cost efficiency, ideal for mild climate use.



ALFOL Type IA—Two reflective air spaces—specially designed for masonry construction.

ALFOL TYPE IV

BUILDING BLANKET INSULATION

Here's top insulation value in America's cleanest, most compact "package"—ALFOL Type IV! Design is simple: 3 aluminum foil sheets automatically expanding to create 4 reflective air spaces. Yet as applied above, for example, the year-round value of Type IV surpasses that of full-thick bulk insulation! (Basis: ASHVE calculations.)

Its base foil layer is backed with heavy duplex. Vapor-proof, this backing is an exclusive ALFOL "plus." It enhances the already-great vapor-resistance of the foil . . . and gives the extra support that makes ALFOL sag-proof, rip-resisting.

Application is rapid, positive, fool-proof . . . because the aluminum foil sheets space themselves automatically. And ALFOL usually costs less to buy, less to apply. More good reasons why more and more architects are using the entire ALFOL line to "pin-point" their insulation specifications.

Write for free literature, complete details
—Address letterhead to our Dept. AR-3

ALFOL
BUILDING BLANKET INSULATION
"FIRST IN REFLECTIVE INSULATION"

REFLECTAL CORPORATION
A Subsidiary of Borg-Warner
155 EAST 44th ST. NEW YORK 17, N. Y.

when office buildings modernize . . .

JOHNSON CONTROL
automatically solves the
TEMPERATURE REGULATION PROBLEM

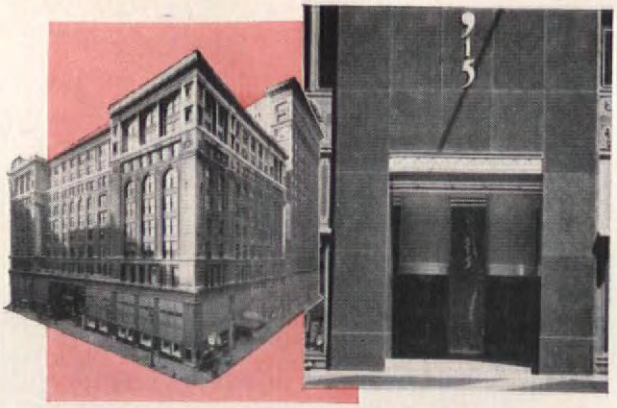
When modernizing older buildings, skillful and thrifty planners wisely entrust their temperature regulation problems to Johnson, because they know Johnson engineers apply the same specialized knowledge and service to existing buildings as they do to new construction.

In the Syndicate Trust Building in St. Louis, for example, a complete system of Johnson Automatic Temperature and Air Conditioning Control was installed nearly 40 years after the building was built!

With Johnson Control in command of the heating and air conditioning systems, there is automatic comfort control every minute of the day for the occupants of each office in the building.

In addition to *individual room* control, behind the scenes Johnson Thermostats operate Johnson Valves and Damper Operators on 17 central fan air conditioning systems which serve the entire building. All control apparatus is combined in one "Planned-for-the-Purpose" automatic control system, resulting in maximum comfort and savings for every heating and cooling dollar spent.

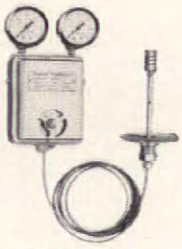
Johnson Automatic Control Systems are designed specifically for each individual installation. Let a Johnson engineer from a nearby branch provide the answer to your control problems. A talk involves no obligation. JOHNSON SERVICE COMPANY, Milwaukee 2, Wisconsin. Direct Branch Offices in Principal Cities.



Syndicate Trust Building, St. Louis, Mo. (Air conditioning and modernizing of heating system). Leo S. Weil and Walter B. Moses, mechanical engineers, New Orleans, La.; Sodemann Heat and Power Co., mechanical contractors, St. Louis, Mo.

Modern Johnson Automatic Temperature Control Systems promote higher worker efficiency and help office buildings attract prestige tenants. In the Syndicate Trust Building, a Johnson Heating-Cooling Room Thermostat permits the occupants of this typical office to select their own weather.

"The Johnson Control System in our building does exactly the job required—providing year 'round comfort with a minimum of maintenance and at substantial fuel savings," says E. B. Shannon, the building manager.

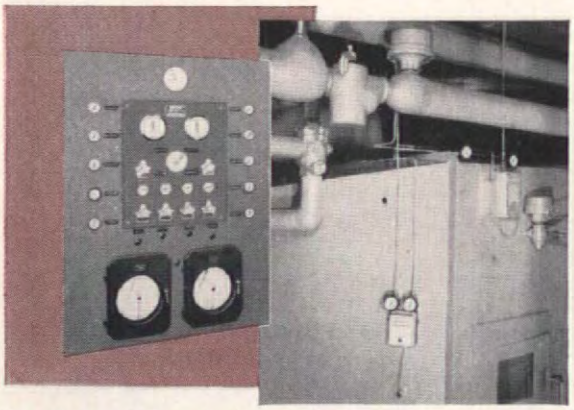


T-800 Remote Bulb Thermostat

T-901 Submaster Thermostat

T-432 Heating-Cooling Room Thermostat

D-251 Piston Damper Operator



Remote temperature selections for the heating and air conditioning systems are made from this convenient central control panel.

Johnson Remote Bulb Thermostats control Valves and Damper Operators on this typical central fan air conditioning unit.

JOHNSON *Automatic Temperature and Air Conditioning* **CONTROL**

MANUFACTURING • PLANNING • INSTALLING • SINCE 1885

"THE MANY DESIRABLE CHARACTERISTICS OF REVERE COPPER WATER TUBE MAKE IT THE IDEAL MATERIAL FOR RADIANT PANEL HEATING"

"PREFABRICATION IS EASIER, TOO, SAVES TIME AND LABOR ON THE JOB"

... say the "Bagley Boys"

OF ROBERTSON, MO.

Directly above you see Mr. Eble, Chief Design Engineer (left) and Mr. R. Bagley conferring on a radiant panel heating job. Says Mr. Bagley, "Because of the superiority of radiant panel heating we recommend it every chance we get. We must give copper the credit for putting radiant panel heating on a competitive basis with inferior methods of heating, because of its many outstanding features. As it has been pointed out many times that: 'There is not another metal or alloy that has *all* the desirable construction characteristics of copper.' Why shouldn't we prefer it?"

At top right, Mr. R. W. Hardy holds a preformed radiant panel heating coil assisted by Mr. Harry Smith who has a prefabricated distribution manifold in his hand. Says Mr. Smith, "One answer to keeping radiant panel heating costs down is prefabrication. That's why we prefer Revere Copper Water Tube: It is ideally suited to preforming and the techniques used to install radiant panel heating."

It's good advice the "Bagley Boys" offer. Next time be sure to specify Revere Copper Water Tube for radiant panel heating, hot and cold water lines, underground service lines, air conditioning and processing lines, waste stack and vent lines. There is a Revere Distributor near you who carries a full supply of Revere Copper Water Tube in various sizes and tempers. And if you have technical problems, he will put you in touch with Revere's Technical Advisory Service.

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Mills: Baltimore, Md.; Chicago and Clinton, Ill.; Detroit, Mich.; Los Angeles and Riverside, Calif.; New Bedford, Mass.; Rome, N. Y.— Sales Offices in Principal Cities, Distributors Everywhere.

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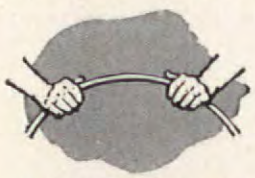
WHY REVERE COPPER WATER TUBE IS PREFERRED BY—

Architects, Builders, Plumbing & Heating Contractors



EASY TO BEND

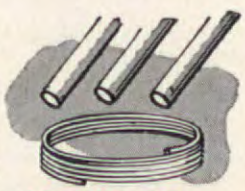
Saves Time

Revere Copper Water Tube is easy to bend. Soft temper can be bent by hand to meet installation conditions.

HANDY LENGTHS

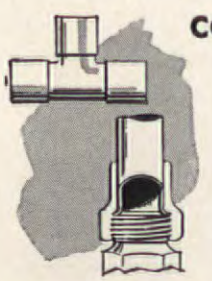
Save Fittings... Labor

Revere Copper Water Tube comes in straight lengths of 20′ in hard and soft tempers. 60′ coils of soft temper reduce the number of fittings needed.



SOLDER OR COMPRESSION FITTINGS

Need Less Work Room ... Save Metal



No worry about wrench room when you use Revere Copper Water Tube with solder fittings. Compression fittings can also be used. No threading is necessary with either type fitting. Wall thickness of tube used can thus be less than for threaded pipe.

NON-RUSTING

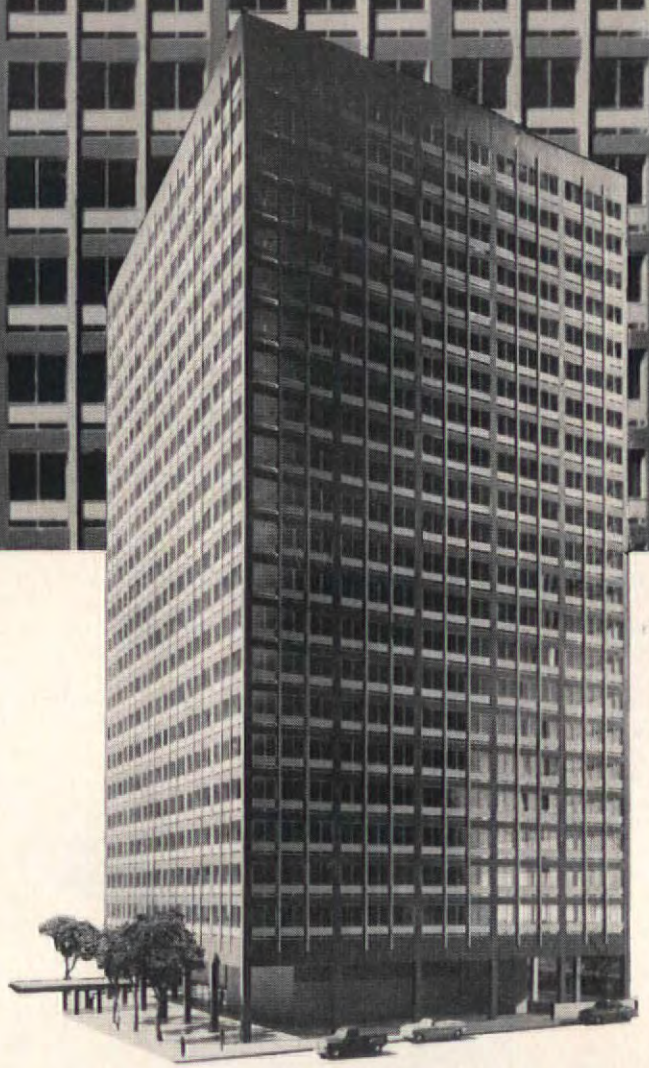
Rustable pipe eventually clogs as shown in drawing at top right. Non-rustable Revere Copper Water Tube suffers no loss of flow or pressure as shown at bottom right. No allowance in pipe size need be made for rust accumulation with Revere Copper Water Tube.

FUTURISTIC METAL-GLASS FACADES

Sealuxe ENGINEERED

Metal-Glass Facades of Aluminum—Bronze—Stainless Steel offer more to the Architectural profession than any other product in their field. Architects have found by using SEALUXE engineered products that they do not need to improvise; they can let their imaginations soar — capture sun and sky — and achieve outstanding design, free from limitations of conventional construction, combining functionalism with dignity, elegance and beauty.

SEALUXE engineering enables the Architect to give his clients more building per dollar — better buildings — more usable square feet of floor space — less maintenance cost — metals that retain their original appearance — more comfort for the occupant by use of the best nature has to offer in natural light and ventilation.



MILE HIGH CENTER, Denver,
featuring Universal's futuristic metal-glass facades

WEBB & KNAPP, INC.
I. M. PEI, director
architecture and planning department

KAHN & JACOBS, G. MEREDITH MUSICK
associated architects

"Miracles in Metals"

IMPORTANT: Sealuxe maintains a department of Design and Engineering whose services are available to the architect without charge or obligation. Send Universal Corporation your preliminary drawings for study and they shall be returned within three to seven days with worthwhile suggestions.

UNIVERSAL CORPORATION

J. P. TRAVIS, *President*

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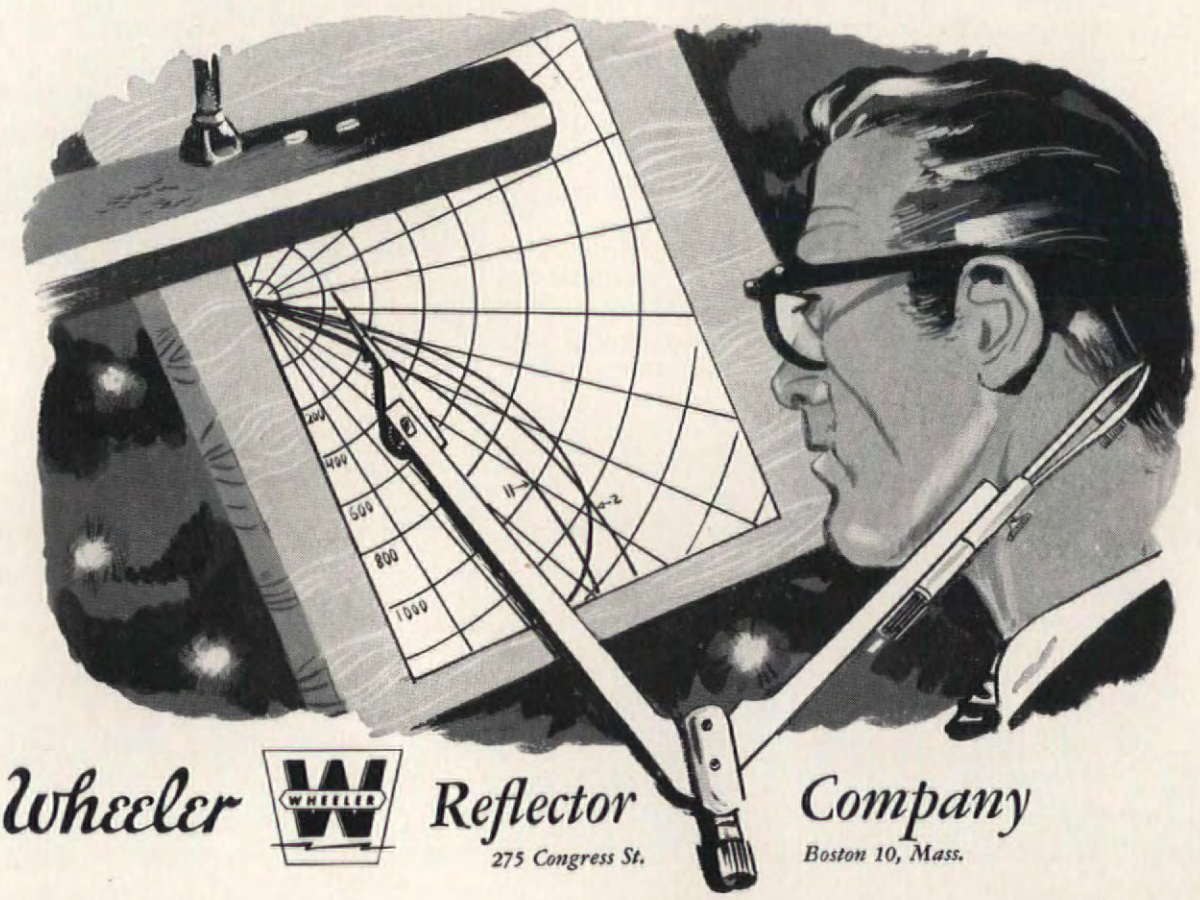
From Original Design to Final Installation . . .

Wheeler LIGHTING ENGINEERING follows through

Right down the line, from the original fixture design on factory drawing boards...*you know the lighting is right when it's Engineered By Wheeler!*

Yes, even at the point of actual installation, Wheeler Field Sales Engineering is constantly at your service . . . ready to aid you in planning the best Lighting Layout for any standard Commercial or Industrial installation. And whenever special lighting problems come up, again you will find Wheeler Lighting Engineering an experienced and cooperative partner.

This unique technical assistance has been available over the years to Architects, Industrial Engineers, Jobbers and Contractors at every level of field service. That's why, whatever the installation — Industrial, Commercial or Special, and whatever the problems involved . . . you can rely on Wheeler Reflector Company to provide the one best answer for your specific lighting requirements.



Wheeler *Reflector* *Company*

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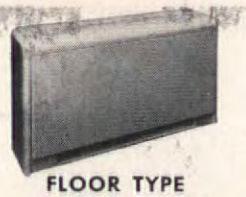
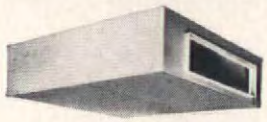
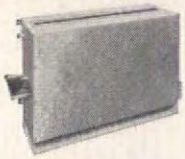
Distributed Exclusively through Electrical Wholesalers • Representatives in Principal Cities



FLOOR TYPE
For free standing mounting beneath windows or along walls.



CEILING TYPE
For suspended mountings.



BASIC TYPE
For fully recessed installations, floor mounted.

HIDEAWAY TYPE
For fully recessed installations, ceiling mounted.

644 McQuay SEASONMAKER

Individual room air conditioners

insure tenant satisfaction at 430 Park Avenue, New York City

644 McQuay Basic Type Seasonmaker individual room air conditioners were installed in the beautiful new 430 Park Avenue office building in New York City to satisfy the demand for individual room comfort and control. The Seasonmaker's quiet operation and attractive design make it a welcome addition to any multi-room building.

The Seasonmaker's year 'round performance actually "makes the seasons come to you" . . . providing heated, and filtered air in winter; cooled, dehumidified, and filtered air in summer.

All Seasonmaker Air Conditioning Units have the famous McQuay Ripple-Fin coil construction assuring long life and dependable service. Available in Floor Type, Ceiling Type, Basic and Hideaway Types as illustrated above. For use with central systems circulating chilled or hot water or Freon. Easy to install and maintain in old buildings as well as new. Write for Condensed Bulletin 703. Representatives in principal cities.

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Emery Roth & Sons, New York
BUILDERS:
Freeman & Gerla, New York
AIR CONDITIONING CONTRACTOR:
Mance Corporation, New York
MECHANICAL ENGINEER:
Mr. John Anselmo of Sears & Kopf, New York

McQuay INC.

1605 Broadway St. N.E., Minneapolis, Minnesota

AIR CONDITIONING • REFRIGERATION • HEATING

Manufacturers Trust Company, New York

Architects:
Skidmore, Owings & Merrill

General Contractors:
George A. Fuller Company

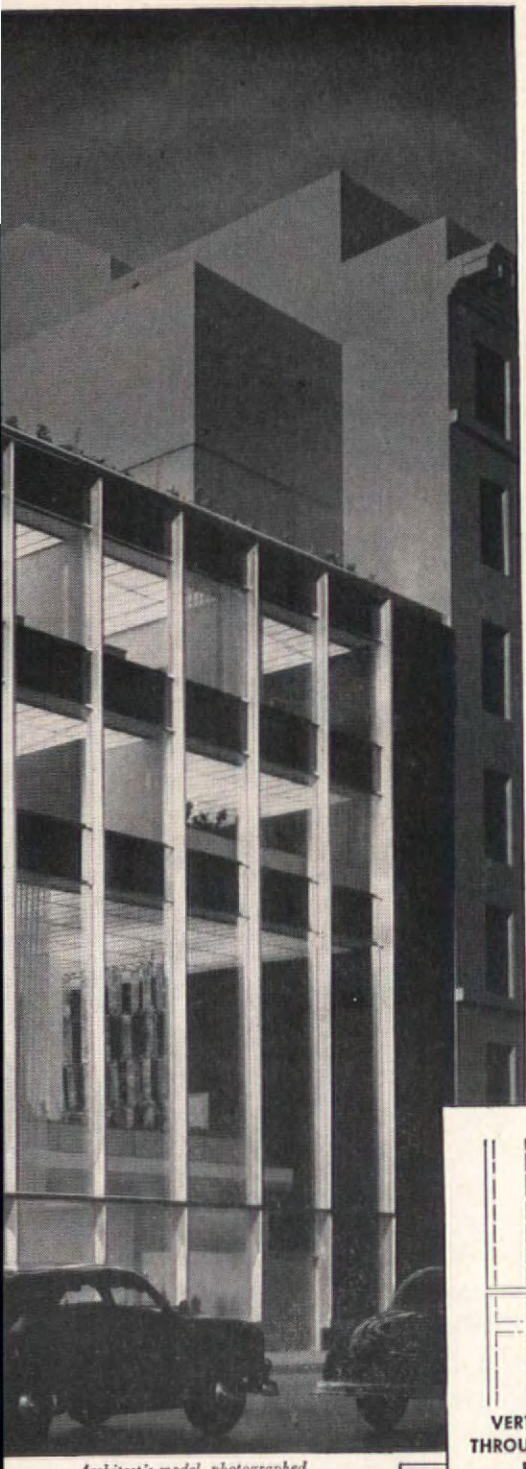
Architectural Metal Fabricators:
General Bronze Corporation

Interior Design Consultant:
Eleanor Le Maire

Reynolds Aluminum Applications in this Building:

Door jambs
Trim mouldings
Entrance door
Air diffusers
T-bar supports for luminous plastic ceiling
Column mullions *(detail as shown)*
Copings
Partitions
Extruded louvers
Exterior wall fascia
Tubular handrails
Convector enclosures *(detail as shown)*

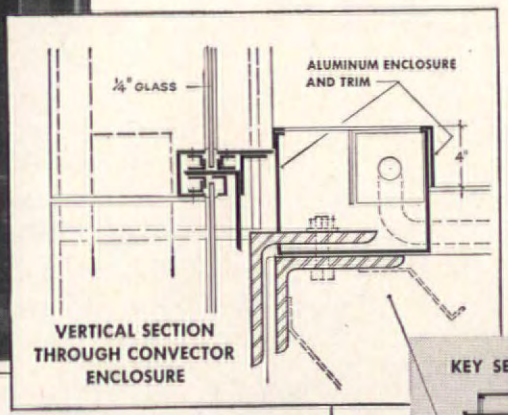
REYNOLDS

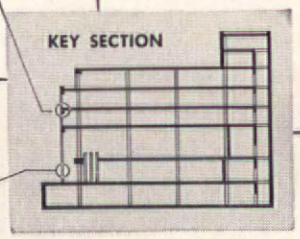


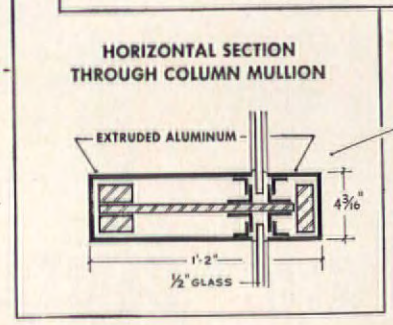
Architect's model, photographed by Ezra Stoller

REYNOLDS ALUMINUM SERVICE TO ARCHITECTS

Reynolds Architect Service Representatives offer specialized assistance on aluminum design problems, on applications of standard aluminum mill products, and on the use of commercially fabricated aluminum building products. They can help to coordinate varied aluminum requirements for procurement efficiency and economy. Please write to Architect Service, **Reynolds Metals Company,** Louisville 1, Ky.

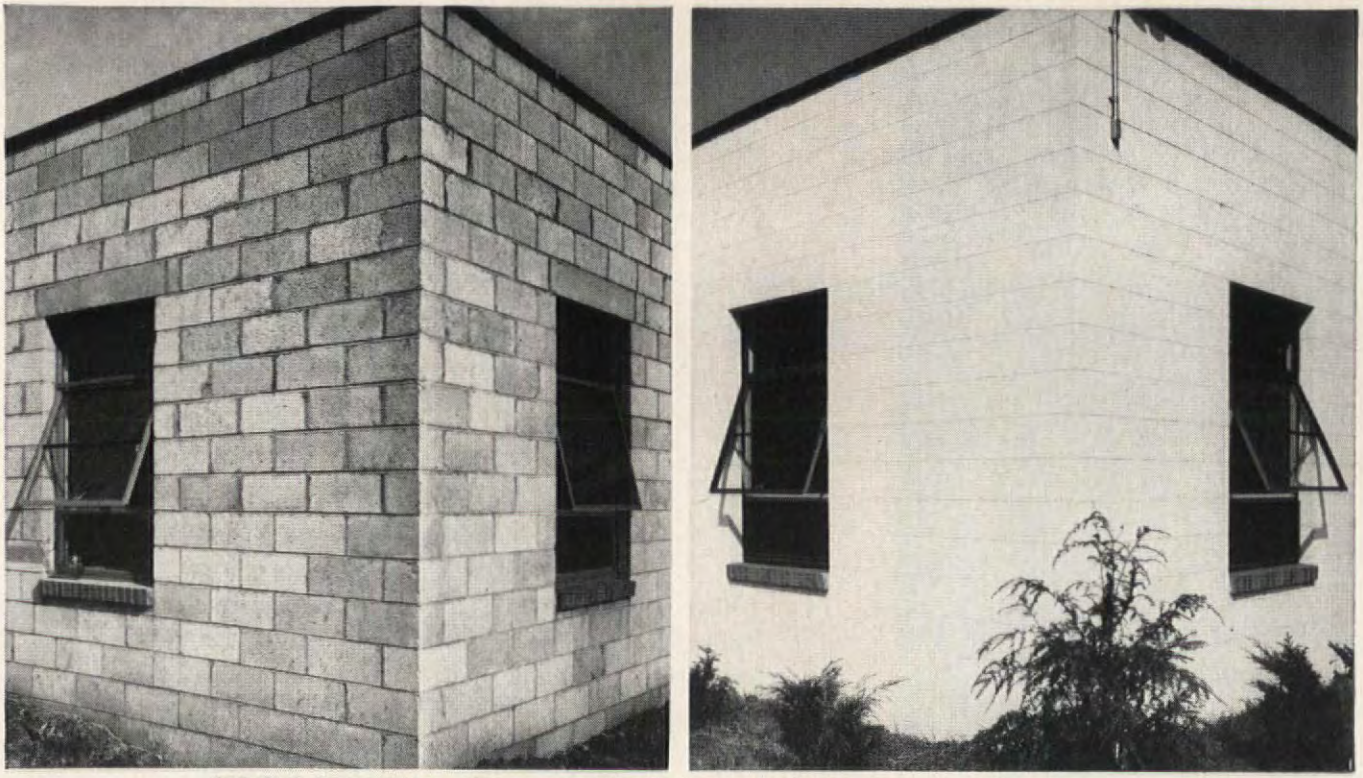






SEE "MR. PEEPERS", STARRING WALLY COX, NBC-TV

ALUMINUM



SEE THE DIFFERENCE: These surprising before-and-after pictures show the crisp new look that can be given to masonry walls in a matter of a few hours . . . for a matter of a few dollars. Flush vertical joints and tooled horizontal joints give the effect shown.

Here's a *NEW EXPRESSION* for masonry faces

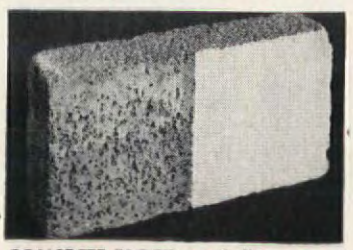
Today's architects are transforming concrete block and other masonry walls to surfaces as handsome as they are durable. With the application of a cement paint even the roughest-textured blocks take on a smooth, clean surface that will resist moisture, dirt and dust in any climate.

The paint forms a permanent bond with the wall —becomes an integral part of it. Economical cement paint is easy to apply to concrete or masonry. On a dampened surface the paint is simply brushed on—first over joints—then over the entire wall.

Color selection is complete. The true white of Atlas White gives full value to the delicate tones of pigment colors.

Cement paint and stucco manufacturers recognize the uniform and true whiteness of Atlas White. That's why they specify it in their superior products. Whether you use a convenient easy-to-use factory-prepared mix or job-mix your own paint, be sure it's made with Atlas White Cement.

For further information see SWEET'S Catalog, sections 4E/7a and 13C/5, or write to Atlas White Bureau, Universal Atlas Cement Company (United States Steel Corporation Subsidiary), 100 Park Avenue, New York 17, N. Y.



CONCRETE BLOCK partially covered with cement paint. Note how voids are filled and the rough texture smoothed to form a bright, clean surface.

Cement paint used on job above was made by Penn Crete Products Co., Philadelphia, Pa.

AR-WCP-22

FOR BEAUTY AND UTILITY

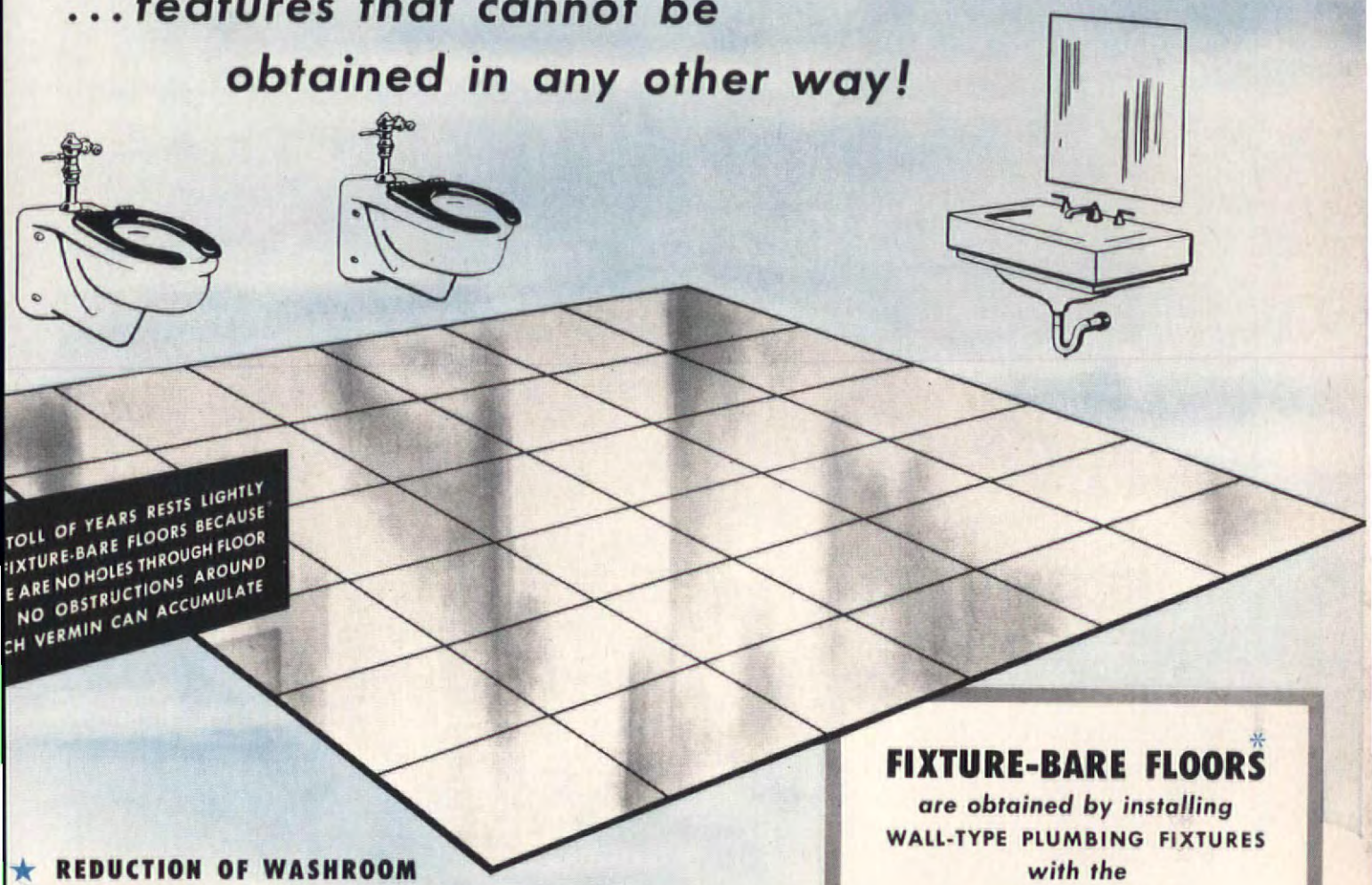
ATLAS WHITE CEMENT

FOR TERRAZZO, PAINT, SLABS, STUCCO

UNITED STATES STEEL HOUR—Televised alternate weeks—See your newspaper for time and station.

Four Features a Fixture-Bare Floor* gives your client

...features that cannot be obtained in any other way!



★ **REDUCTION OF WASHROOM MAINTENANCE COST TO AN ALL-TIME LOW**

★ **INSURANCE AGAINST UNTIMELY OBSOLESCENCE**

★ **MAINTENANCE OF CLEANLINESS AT AN ALL-TIME HIGH**

MAJOR SAVINGS IN THE OVER-ALL COST OF BUILDING

Off-the-floor wall-type plumbing fixtures installed with a Zurn System ffect many substantial savings in construction costs; permit the use of ny type floor construction and any type of wall construction; permit eduction in height of ceiling; eliminate need of furring-in drainage ines; eliminate caulking to floor; simplify drainage and vent piping layout; give greater flexibility for planning washrooms —and unrestricted opportunity to exercise your imagination, skill and ingenuity in a way that will win both owner and user approval for this all important convenience facility—the washroom.

WRITE FOR FREE BOOKLET entitled, "You Can Build It and Maintain It for Less, A NEW WAY". It presents new ideas for washroom installations in new and existing buildings.

Over 700,000 wall-type plumbing fixtures installed with the Zurn System in buildings of every type from coast to coast. Your Zurn Representative has list of buildings which have washrooms with fixture-bare floors.
*T. M. Reg. U. S. Pat. Off.

ZURN

PLUMBING DIVISION

J. A. ZURN MFG. CO. • ERIE, PA., U.S.A.

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er Divisions of the Organization:

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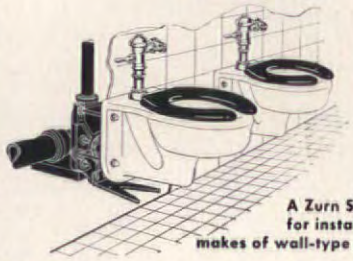
Affiliate: American Flexible Coupling Co., Amerigear Couplings with Fully Crowned Teeth

FIXTURE-BARE FLOORS* *are obtained by installing* **WALL-TYPE PLUMBING FIXTURES** *with the*

ZURN system*



A Zurn System is available for installing all types and makes of wall-type plumbing fixtures.

J. A. ZURN MFG. CO. • *Plumbing Division* • ERIE, PA., U.S.A.

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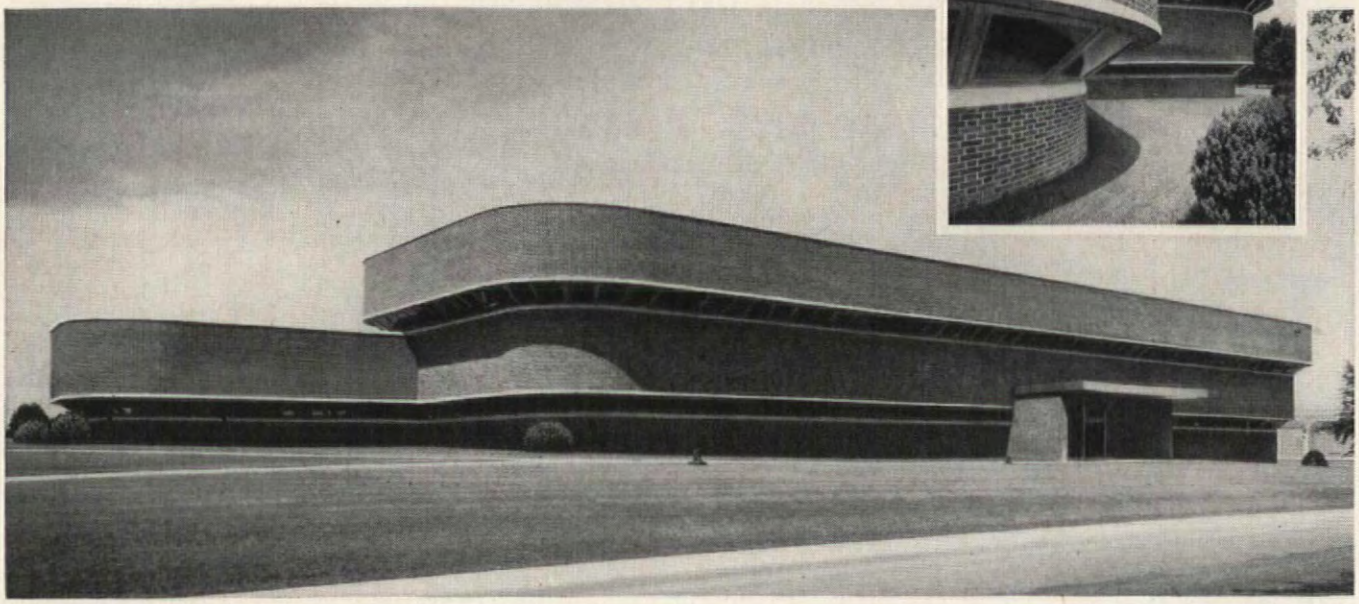
NEW OFFICE BUILDING FOR SPRINGMAID.
Architects and Engineers: Robert & Company Associates, Atlanta, Ga.
General Contractors: George A. Fuller Co., New York, N.Y.
Heating Contractors: Standard Engineering Co., Inc., Washington, D.C.



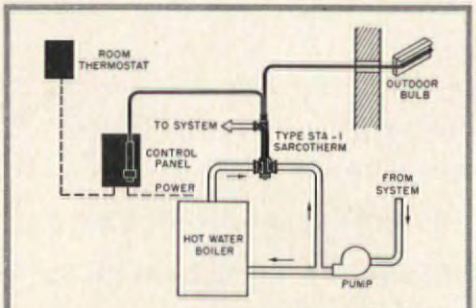
SARCOTHERM *Controls Radiant Heating System in Springmaid's Unique Home Office*

UPSIDE-DOWN WINDOWS, "floating" ceilings, and radiant heated walls tell the story of Springs Cotton Mills' remarkable new building in Fort Mill, S. C.

Sarcotherm weather modulated controls were specified for the building's unusual heating system which operates through radiant panels installed in the walls. The system is divided into seven zones, each of which is regulated by a Sarcotherm Indoor-Outdoor control. Thus each zone is assured comfort regardless of location and outside temperature conditions.

Sarcotherm provides a simple, low-cost way of achieving accurate, sensitive control of radiant and hot water heating systems. Coupled to these distinct advantages is Sarcotherm's extensive engineering service which can help you design and install the most efficient and trouble-free system possible.

A Sarcotherm heating engineer will be happy to talk over your next project with you. For complete details on Sarcotherm weather modulated controls contact your nearest Sarcotherm representative, or write direct to Sarcotherm Controls, Inc., Empire State Building, N. Y. 1, N. Y.



Typical of the Springmaid installation is this hookup. Proportioning type mixing valve continuously modulates water temperatures.

TAKE ADVANTAGE OF SARCOTHERM'S UNUSUAL ENGINEERING SERVICE

In a Class By Itself—Sarcotherm's engineering service begins with the inception of the job, *carries through* every step of the way.

Complete Installation Drawings and Wiring Diagrams—not just general drawings but complete, tailor-made Sarcotherm drawings and diagrams for each individual job.

On-the-Job Help—your contractor gets Sarcotherm's full cooperation and technical assistance backed by many years of specialized experience.

SARCOTHERM CONTROLS, Inc.

An Affiliate of SARCO COMPANY, INC.

Weather Modulated Controls for Hot Water, Radiant and Steam Heating Systems

Stainless Steel on the Empire State Building hasn't been touched since the building was erected

THE use of Stainless Steel as a material that is both decorative and functional has no better example than the majestic Empire State Building which towers 1,472 feet into the New York skyline.

When the building was completed in the early thirties, Stainless Steel was used for vertical trim along the windows, for the dome atop the mooring mast, for decorative bands around the tower, and for vertical strips which extend the full 20-floor height of the tower.

Today, this Stainless Steel is in perfect condition. Joseph C. Bergin, assistant operating manager, says, "We haven't so much as touched the Stainless Steel since it was installed. As far as we can tell, the condition of the steel is as good as it ever was."

Dirt in the air and high humidity have resulted in a coating of dirt over the steel. But this coating can be removed with relatively little effort, revealing a bright surface in undamaged condition.

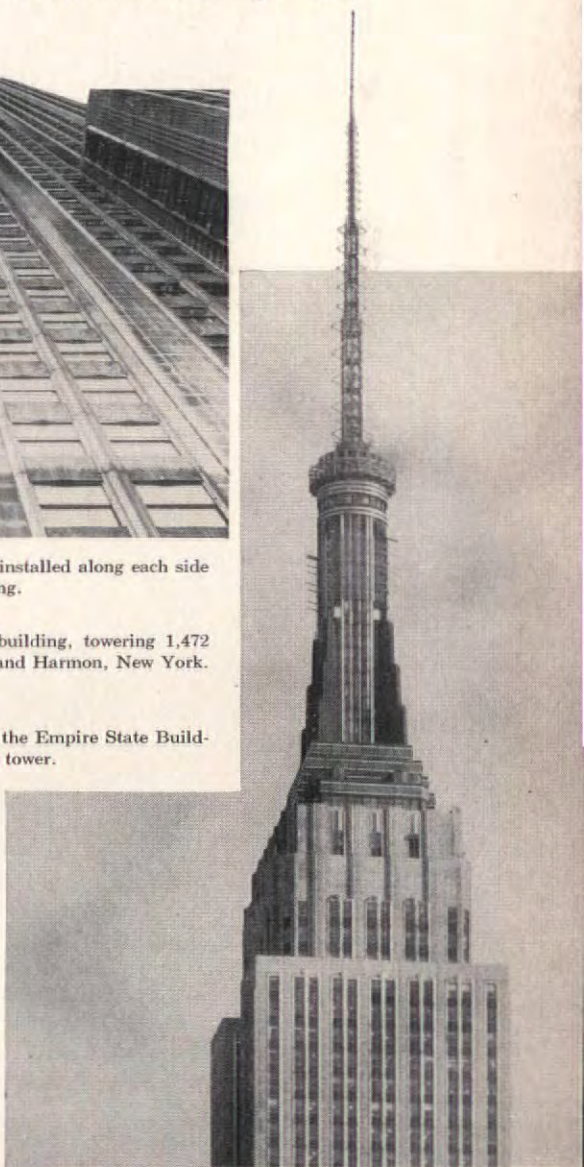
Today, Stainless Steel is one of the most versatile materials in the architect's hands. Not only can he use it for its decorative effect, but it is being increasingly used for entire exterior surfaces of buildings.

Perfected, service-tested USS Stainless Steel can play an important part in your plans. Always keep its beauty and its functional efficiency in mind.

TOP—Parallel strips of Stainless Steel, 18 inches wide are installed along each side of the windows, adding sparkling beauty to the tall building.

LEFT—The Empire State Building is the world's tallest building, towering 1,472 feet and having 102 floors. Architects were Shreve, Lamb and Harmon, New York. Contractor was Starrett Brothers and Eken, New York.

RIGHT—Stainless Steel is used extensively in the tower of the Empire State Building, now surmounted by a 222-foot television transmitting tower.



UNITED STATES STEEL CORPORATION, PITTSBURGH · AMERICAN STEEL & WIRE DIVISION, CLEVELAND
COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO · NATIONAL TUBE DIVISION, PITTSBURGH
TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA.
UNITED STATES STEEL SUPPLY DIVISION, WAREHOUSE DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

USS STAINLESS STEEL

SHEETS · STRIP · PLATES · BARS · BILLETS USS PIPE · TUBES · WIRE · SPECIAL SECTIONS

4-640

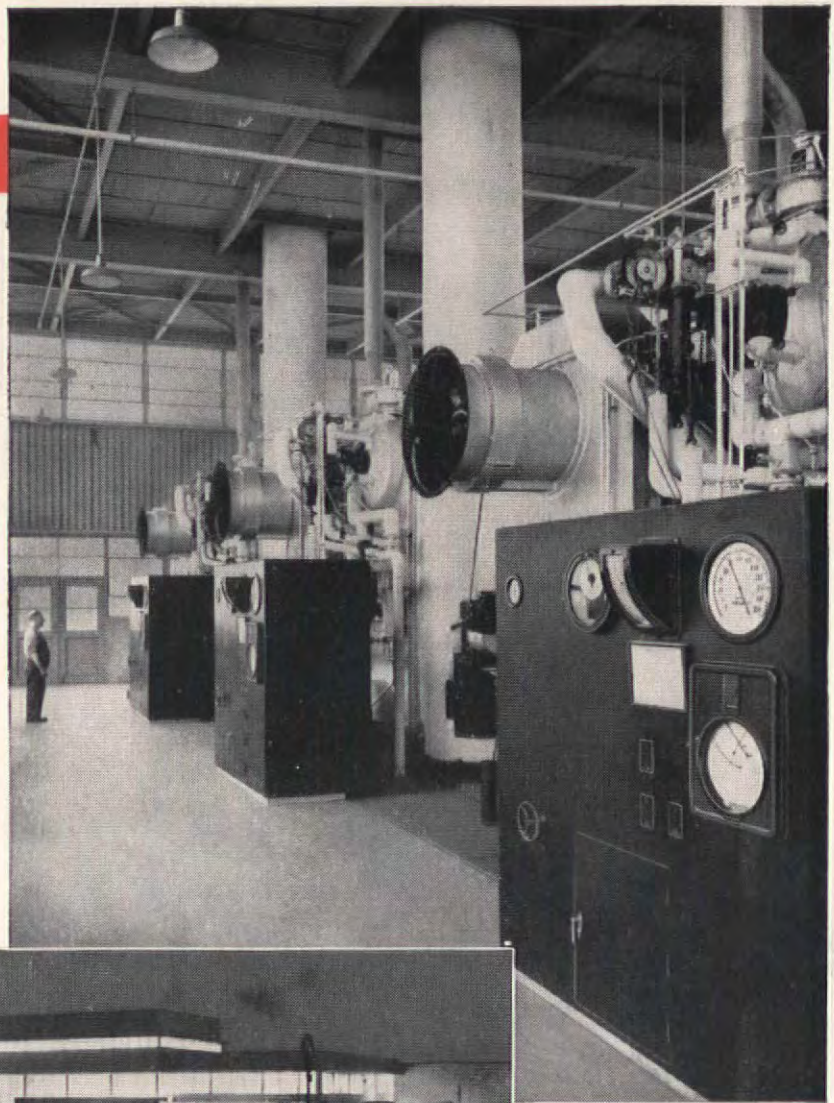
UNITED STATES STEEL

keeping steam cheap . . .

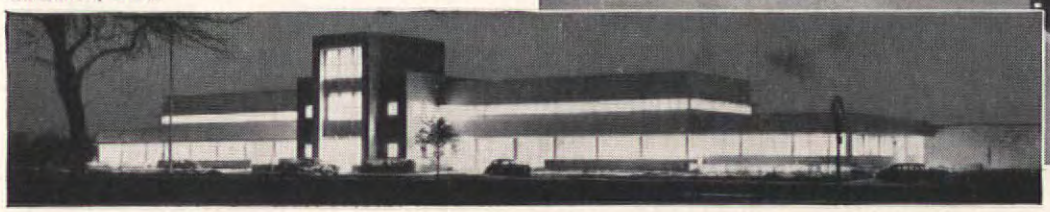
with a multiple-unit installation

at

WHITE LABORATORIES, INC.



Night view of new White Laboratories plant—
A. M. Kinney, Inc., Consulting Engineers,
Cincinnati, Ohio.



- Saves Erection Time and Cost
- Meets Wide Range of Service
- Handles Quick Load Changes
- Fast Steaming
- Low Maintenance
- Easy Accessibility
- Suitable for Outdoor Service
- Burns Oil and/or Gas
- Saves Fuel
- Saves Space
- Safe, Automatic Operation

Installation of 3 B&W Integral-Furnace Boilers, Type FM, to serve the steam requirements of the large, modern plant of White Laboratories, Inc. at Kenilworth, N. J., is one more indication of the industry-wide acceptance trend now firmly established by these shop-assembled, B&W Units. Choice of this multiple-unit application of FM boilers instead of a single, larger unit, was decided on after careful consideration of all the factors involved in designing this new, expanded plant to provide a solution to White's continuing space problem. Each of these compact, versatile B&W Units is oil-fired by a B&W Y-Jet oil burner equipped with steam atomizer, and each is capable of producing 23,800 lb of steam per hr at pressures to 235 psi.

Combining the benefits of "package" steam with cost-saving big boiler advantages, B&W's Integral-Furnace Boiler, Type FM, has already been selected for a variety of companies covering more than 50 different industries as well as utilities and other users. B&W Units having a total steam capacity of more than 6½ million lb per hr are now in service or on order. Over half of this total capacity consists of multiple-unit installations. Available in standard sizes for loads ranging between 2900 and 28,000 lb per hr at steam pressures between 15 and 235 psi, this self-contained B&W steam generator is also obtainable for operation at higher pressures.

Send for Bulletin G-76 describing and illustrating the many cost-saving features of this popular boiler. The Babcock & Wilcox Company, Boiler Division, 161 East 42nd St., New York 17, N. Y.

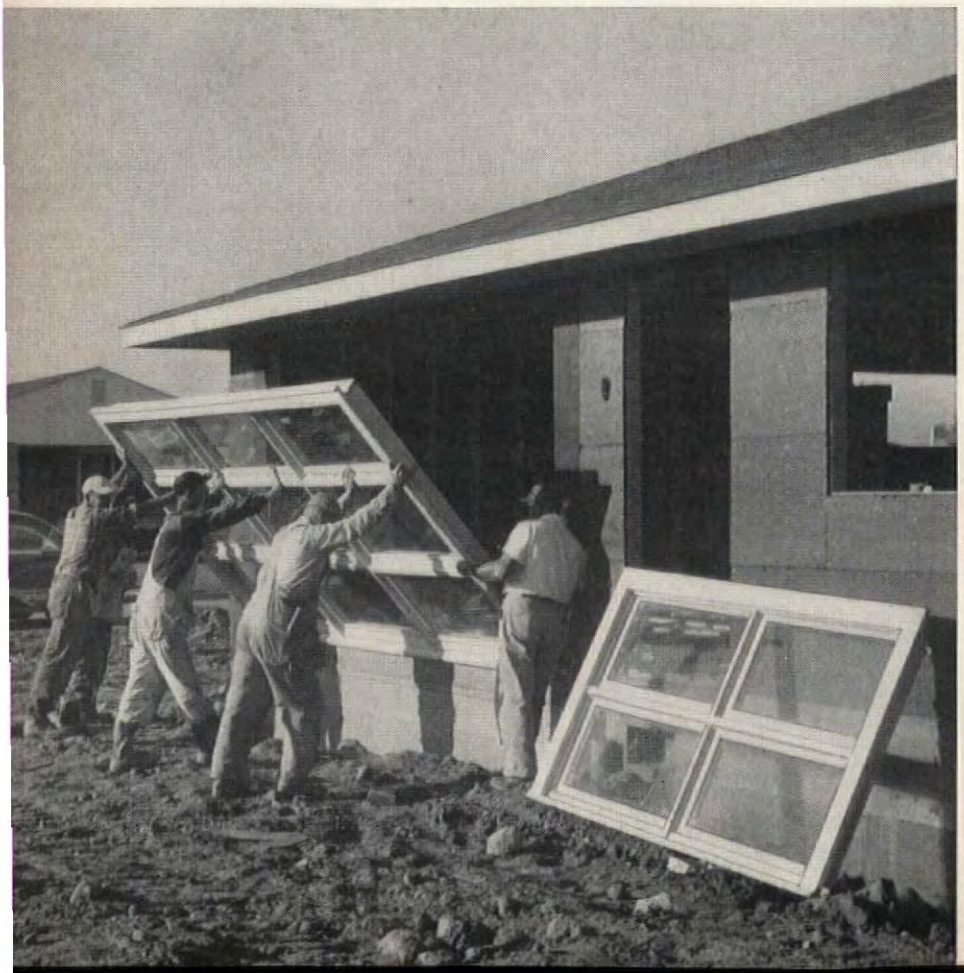
BABCOCK & WILCOX

G-594

In shop operations at River Road Lumber Company, North Tonawanda, N. Y., "It is possible to produce more units using Flexivents with the same number of workmen than by any other method," says Henry Hilferding, vice president (right). That means furnishing more customers without increasing shop facilities.

"Versatile Andersen Flexivents," reports Hilferding, "make it possible to offer customers a wide selection with moderate inventory." Here, a shop workman places Flexivents in position for joining. Joining with corrugated fasteners is the best.

Builder hail
as easy and low



"ANDERSEN FLEXIVENT WINDOWS... WITHOUT A DOUBT, MORE POPULAR THAN ANY OTHER WINDOW WE HAVE USED"

... says William H. Pearce, executive vice president of Pearce & Pearce Co., Inc., whose Green Acres Village is Buffalo, N. Y.'s largest development.

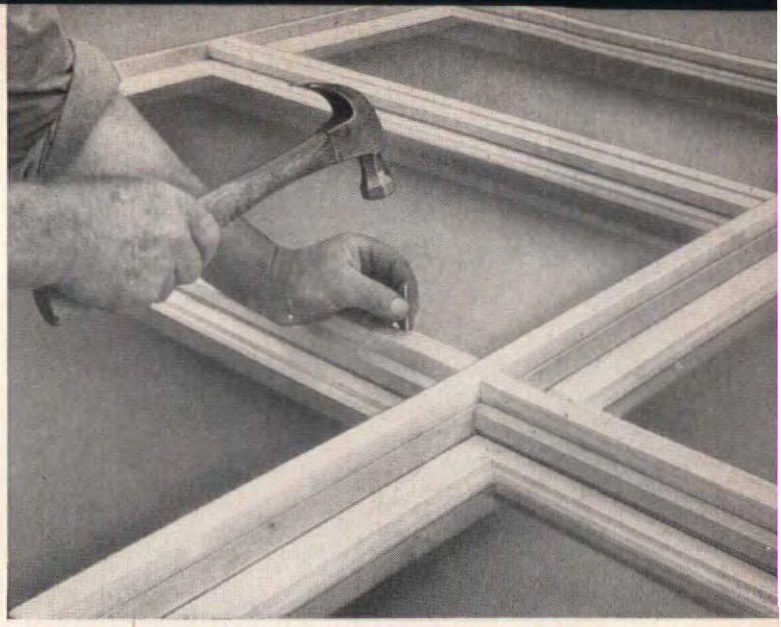
At left, workmen install shop-assembled group of Flexivents which Pearce finds "very easy and economical to install.

"Moreover we can place orders for a year's production (350 houses) in advance and achieve many variations in exterior elevations by different arrangement of Flexivent Units," says Mr. Pearce.

Pearce & Pearce finds "unusual home buyer acceptance" for Andersen Flexivent Units.

Why don't you look into the many advantages of Andersen Flexivents for the next project you build or furnish?

Mr. Hilferding states further that, "Flexivent permits adaption to any type of construction by the use of built-ups and casing." In building up Flexivent group, workman makes certain that units are kept square and properly aligned. This is important.

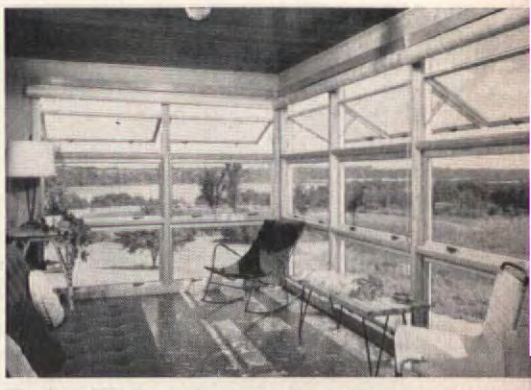


Workman applies outside casings, subsills and batten strips. "With Flexivents," says Mr. Hilferding, "we have found it possible to give our customers a picture window at lower-per-square-foot cost of area than with any other type of unit." Built-up groups of Flexivents are trucked to job ready to install.

FLEXIVENT* window cost to install!

Use Andersen Flexivents in ribbons

Build Flexivents into stacks



Combine Flexivents into extensive groups

Most flexible, most useful window you ever saw! That's hy builders from coast to coast have rushed to use ndersen Flexivent Window Units in homes built for sale.

Low in cost! Not just a low-per-square-foot cost in the arton . . . even more—low in cost, because they are easy o assemble into groups and install!

Hundreds of uses! Choice of awning, hopper or out-winging casement operation. Choice of 9 sizes. No end o possible combinations in ribbons, stacks and groups!

High in quality! Famed Andersen engineering and uality manufacture in every Flexivent. Yet simplicity in esign and hardware has kept cost low!

Write for Detail Catalog or Tracing Detail File; or ee Sweet's Files for specification data. WINDOWALLS sold y established millwork dealers throughout the United tates including the West Coast.

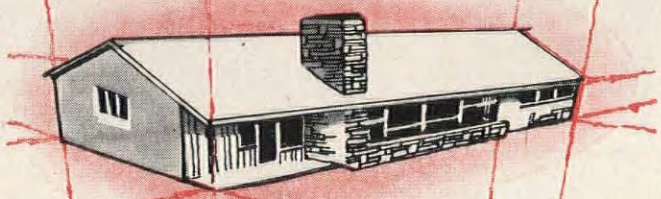
Andersen Corporation BAYPORT, MINNESOTA

Andersen Windowalls*

COMPLETE WOOD WINDOW UNITS

*TRADEMARKS OF ANDERSEN CORPORATION

The modern home is a DRY THOROSEALED home!



To fill and seal the masonry surface

To stop seepage and streams of water

For finish coats in color, Color Card 32-B

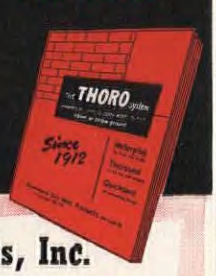
EXPERIENCE counts in getting quality materials.

PRODUCTION volume counts in getting the lowest cost to the ultimate consumer.

ORGANIZED DISTRIBUTION and **SERVICE** count in getting materials to contractor, when needed.

Distributors and dealers are located throughout United States, Cuba, Puerto Rico, Canada and Honolulu.

Get our pictorially-described literature, "HOW TO DO IT" and specification guide.



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NEW EAGLE, PENNSYLVANIA

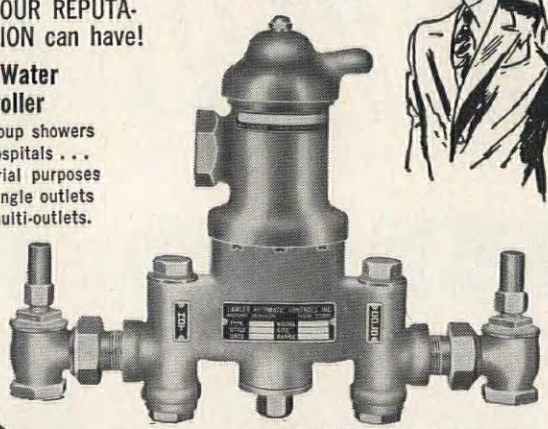
NOW and ten years from NOW

. . . contented customers will confirm YOUR reputation!

Lawler's "Performance-Tested" design combines pioneering experience with engineering leadership. The use of specially chosen metals assures YOUR customers years of positive accurate temperature control with lowest maintenance cost . . . the best insurance YOUR REPUTATION can have!

PLATE NO. 5220

BAM Water Controller
For group showers . . . hospitals . . . Industrial purposes . . . single outlets . . . multi-outlets.



Compare!

List the facts . . . Check them off . . . Lawler comes out first every time! YOUR REPUTATION is protected!

COMPARATIVE CHECK LIST

LAWLER BAM WATER CONTROLLER	Product "A"	Product "B"
Most Complete Line ✓	✓	
Hydraulic Thermostat ✓		✓
Polished Chrome ✓	✓	
Non-Ferrous Construction ✓		✓
Loose Key Angle Stops ✓		

The Lawler Line — *Thermostatic Controls*

"Performance-Tested" for Longer Life

LAWLER AUTOMATIC CONTROLS, INC.
453 North MacQuesten Parkway Mount Vernon, New York

Here's something to "kick around" for school applications...Westinghouse micarta®

PLASTIC SURFACE

Westinghouse MICARTA® is the answer to the question that has plagued school boards, builders and architects ever since the first braid was dipped into the first inkwell. Namely . . . "Where can we get a material that will hold up under generations of marching, kicking, scuffing students?"

This amazingly tough and versatile decorative plastic can be wiped clean in a matter of seconds. It eliminates the annual problem of refinishing and painting, stays bright and attractive even under assaults by mild acids, hot liquids, alkalis, and cosmetics.

In addition to wainscoting applications, MICARTA serves well on counter tops, cafeteria tables, school desks, cabinets...in fact, wherever there's a need for a long-lasting combination of utility and beauty! You can specify Westinghouse MICARTA with complete confidence.

For complete information call your nearest United States Plywood Corporation Representative or fill out the coupon below. J-06545-A

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Please send full information on MICARTA and its applications. (1118A-5305)

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NS-10-53

"EVERYTHING HINGES ON HAGER!"*

FREE! *If you enjoyed laughing at Tom Henderson's mirth-making cartoon this month, send for Hager's new book containing 28 full-size popular "Everything Hinges on Hager" cartoons! It's FREE! Just address*

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The answer to most of your questions about stainless steels are right at your finger tips, when you use Crucible's unique new Stainless Steel Selector.

Want to know the machinability characteristics of a stainless grade? Resistance to corrosion or scaling? Physical or mechanical properties? You can get the answers to these and other questions simply by setting the arrow on the Selector slide at the proper window. It's just as quick and easy as that.

And almost as fast as you get the answer, you can get the steel you need. For many of the REZISTAL stainless steels shown on the Selector are carried in stock in Crucible warehouses conveniently located throughout the country.

To get your free copy just fill in and mail the coupon. Better do it now.

HOW THE SELECTOR WORKS:

Start with the problem. For example, resistance to corrosion in contact with copper sulfate. Just set the slide at the proper index number shown on the Selector (in this case on the back), and you have the answer in a second – grades 302 and 316 are fully resistant to this form of attack.

Crucible Steel Company of America
Dept. RA, Henry W. Oliver Building
Pittsburgh, Pa.

Name_____

Company_____ Title_____

Address_____ City_____ State_____

CRUCIBLE first name in special purpose steels

54 years of Fine steelmaking

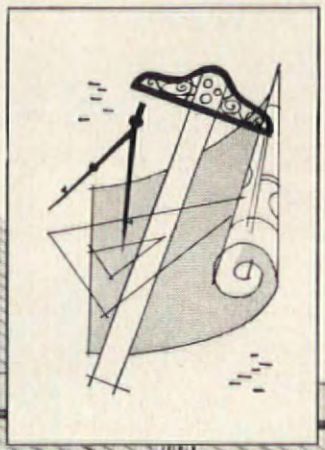
STAINLESS STEELS

CRUCIBLE STEEL COMPANY OF AMERICA, GENERAL SALES OFFICES, OLIVER BUILDING, PITTSBURGH, PA.

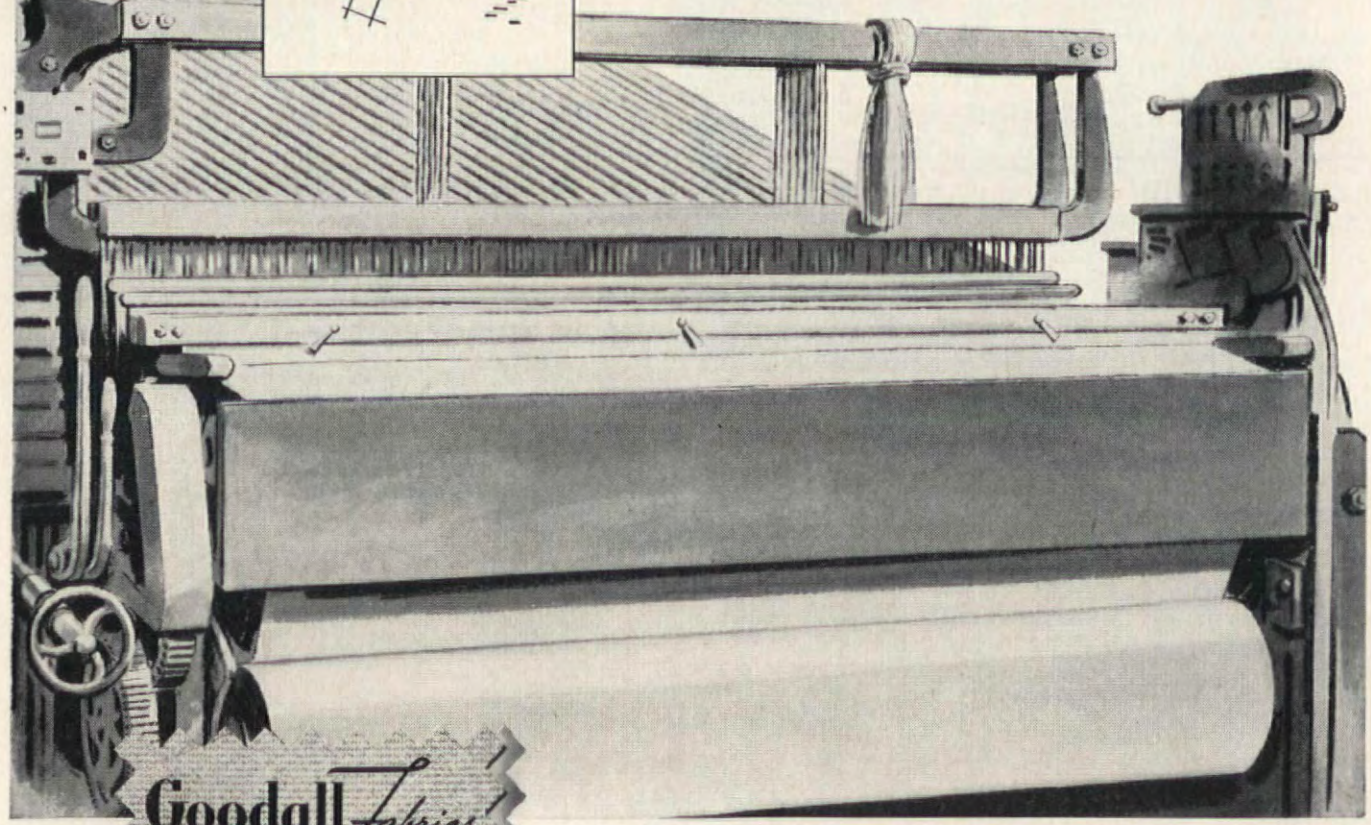
REX HIGH SPEED • TOOL • REZISTAL STAINLESS • MAX-EL • ALLOY • SPECIAL PURPOSE STEELS

Goodall specializes in serving YOU!

Blended-to-Perform Fabrics are created and designed to fit your clients' specific needs . . .



Goodall's Contract Division specializes in the only fabrics designed and engineered for specific uses from raw fibers to finished product...thus giving definite advantages in quality and price. Yes, from laboratory and pilot loom to final yardage, Goodall Fabrics are *Blended-to-Perform* from variable blends of selected fibers to give your clients every advantage of quality and price in fabrics that wear longer and cost less to maintain. For details on fabrics engineered specifically for hospitals, hotels, public buildings, offices or institutions contact Goodall Fabrics, Inc., Contract Division, 525 Madison Avenue, New York 22, N. Y.



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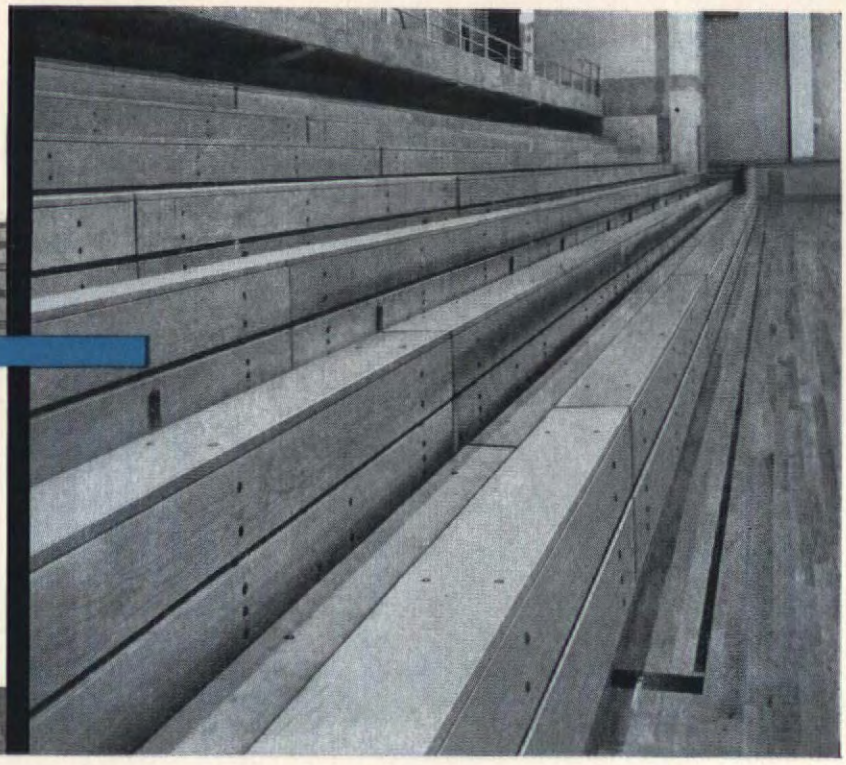
SHE'S SAFE...



She's uncertain

FULLY CLOSED RISER BOARDS MAKE WAYNE GYMSTANDS SAFE ALL-WAYS!

How many times have you hesitated cautiously and with concern when leaving the stands after a game? You could see the maze of understructure and look at the floor below. You were relatively safe, of course, but you didn't *feel* safe, and that's important!

Wayne Gymstands use "riser" boards that completely close the vertical gap between the foot and seatboards. They help the spectator to feel safe and secure. His feet can't slip because there's no place for them to go! And he doesn't *think* of falling because he doesn't see the understructure or floor directly beneath him.

The fully closed riser board is an *important* Wayne Gymstand feature. Like other Wayne construction features, it puts a premium on spectator safety. And, it's another good indication that *Wayne builds gymstands better.*

YOURS FOR THE ASKING! A new, revised Rolling Gymstand Catalog No. R-54. Write direct to Dept. A-4 please . . .

CHECK THESE WAYNE GYMSTAND FEATURES

- Greater angle of clear view and greater slope of sight line—for better visibility.
- Alignment frames keep rows parallel during opening and closing.
- Completely vertical front when closed—for a practical—smarter appearance.
- Column base plates transmit live load to floor.
- Column feet provide stability.
- Wheels travel *independent* parallel paths—for ease of movement—prevents floor grooving.
- Meets all and beats most grandstand safety codes and regulations, including California earthquake test.

WAYNE

WAYNE IRON WORKS

148 N. PEMBROKE AVENUE, WAYNE, PA.

WAYNE STANDS FOR SAFETY

BARBER COLMAN

"UNI-FLO" ENGINEERED

Air Distribution

removable cores simplify installation of air diffusers in home office building of DUN & BRADSTREET, INC.

Noteworthy edifice in downtown New York City is this progressive, functional office building at 90 Church Street . . . home of Dun & Bradstreet, Inc. Several years in the planning stages, the resulting structure is complete with the most modern equipment for efficient operation.

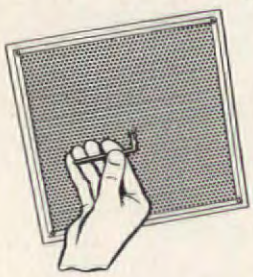
Seven hundred and sixty-nine Uni-Flo Air Diffusers contribute to the comfort of occupants. Easily adjustable to set up air patterns conforming with the building design and needs of the workers, the Barber-Colman equipment brings fresh conditioned air to all offices with minimum noise and maximum efficiency.

Removable cores in sidewall diffusers, plus simple mounting of ceiling diffusers, saved time and effort for the installing contractor. The usual plaster frames were omitted, yet there was no cracked plaster on the job to be patched and repainted.

As a protection for huge investments in air conditioning equipment, more and more owners, architects, engineers, and contractors are specifying the best in air distribution equipment to insure highest efficiency of the entire system. More and more are coming to Barber-Colman Company. Let us show you why.

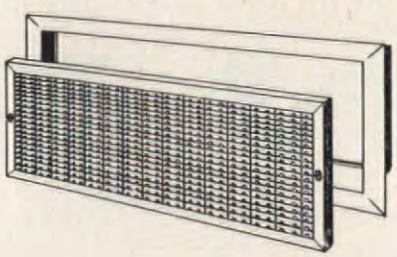
Home office building of Dun & Bradstreet, Inc., 90 Church Street, New York City. Uni-Flo air distribution equipment is installed in office areas from second through eleventh floors. *Architects:* Reinhard, Hofmeister and Walquist. *Consulting Engineers:* Syska & Hennessy, Inc. *Air Conditioning Contractor:* Kerby Saunders, Inc.

Square ceiling diffusers are *adjustable*



Unusually flexible to meet job conditions is this modern Uni-Flo Square Ceiling Diffuser which can be adjusted after installation to provide air deflection from vertical to horizontal and discharge air patterns in one to four directions. Attached to the standard T-bar construction of acoustical ceilings, it harmonizes perfectly with latest ceiling designs. Get Bulletin F-4728-1.

Removable cores also facilitate cleaning of ducts and grilles



Plaster and wall decorations are safe from damage when installing, adjusting, or cleaning Uni-Flo Sidewall Diffusers. Complete core slips in or out with ease—frame has continuous sponge rubber gasket to minimize leakage. 1" lap on frame covers opening irregularities. Get Bulletin F-1415-10.

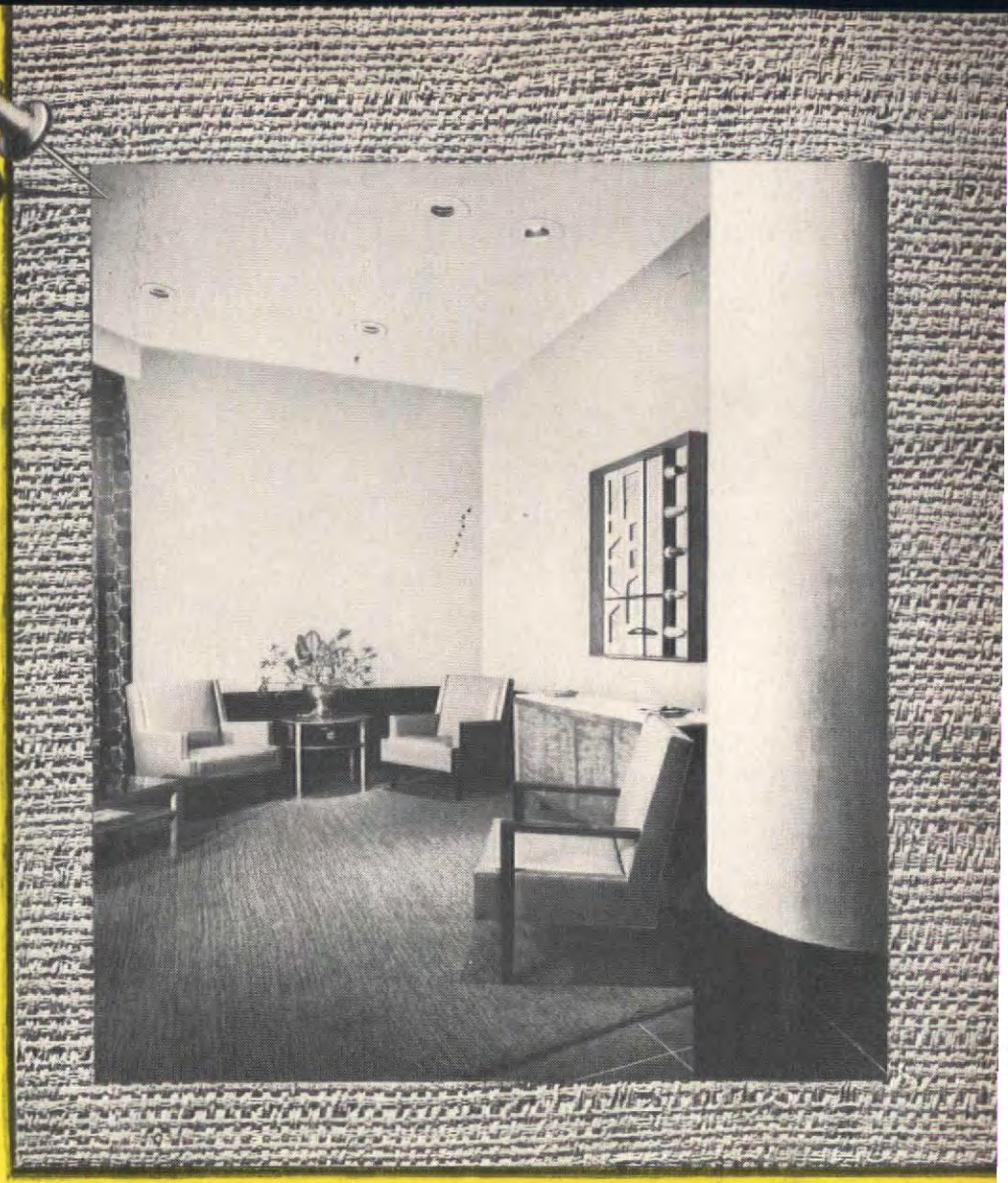
Uni-Flo Sidewall Diffusers in soffit provide a draft-free, comfortable atmosphere for office workers. Soundly engineered system is easily balanced, quiet and efficient in operation.

Uni-Flo Square Ceiling Return Grilles mounted in between fluorescent lights, blend gracefully with ceiling.

BARBER-COLMAN COMPANY, DEPT. D, 1104 ROCK ST., ROCKFORD, ILLINOIS

Air Distribution Products • Automatic Controls • Industrial Instruments
Aircraft Controls • Small Motors • OVERdoors and Operators • Molded Products • Metal Cutting Tools • Machine Tools • Textile Machinery

The magnificent new offices of Manhattan's Meinhard & Company will stay bright and cheerful with a minimum of care, thanks to the good offices of Vicrtex MADAGASKA — in white and bright mustard yellow — on walls and columns.



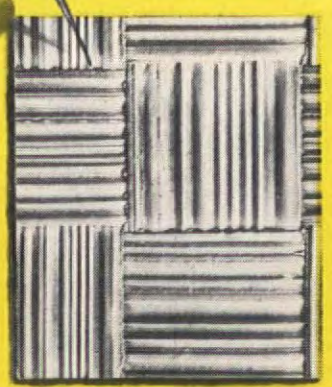
MADAGASKA

VICRTEX V.E.F.* FABRICS

COMBINE GOOD BUSINESS WITH EVERLASTING BEAUTY

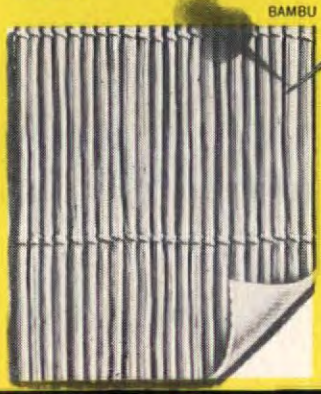
IN MEINHARD & COMPANY'S N. Y. HEADQUARTERS

There's good reason why Intramural, Inc., decorators of the handsome Meinhard & Company suite, employed Vicrtex V.E.F.* Fabrics. Visitors and employees alike feel better — and *work* better — in the relaxed and charming Vicrtex setting, while overhead costs are substantially reduced. Deep-textured Vicrtex is virtually indestructible: the more than 20 three-dimensional V.E.F.* patterns can't chip, peel, scratch or scuff . . . and their 36 fade-proof House & Garden colors wipe clean with a damp cloth. As wall coverings, or as upholstery, Vicrtex V.E.F.* Fabrics guarantee a lifetime of loveliness and economy. Why not incorporate them in *your* plans, and put a permanent end to the high cost of maintenance and replacement.



IRISH BASKET

BAMBU



VICRTEX V.E.F.* HAS THE BEST REFERENCES IN THE COUNTRY! Photographs of Vicrtex at work in the nation's foremost hotels, restaurants and institutions are included — together with actual Vicrtex swatches — in Carpenter's new brochure. Write for it today.

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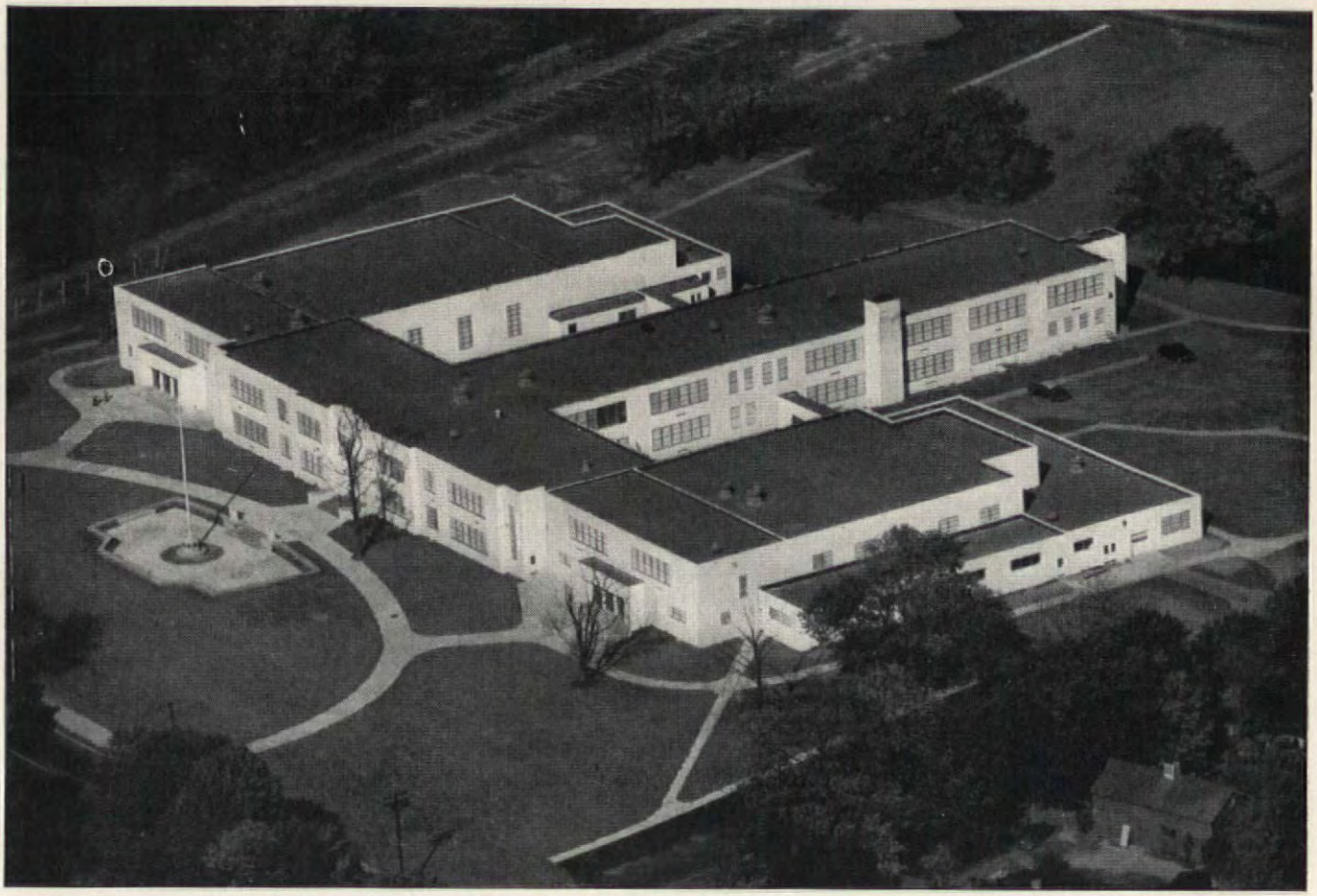
VINYL SUPPORTED FABRIC . . . needs no backing, however used.
*vinyl electronically fused.



THIS SCHOOL MAJORED IN FIRE-SAFETY

Amityville Memorial High School, Amityville, N. Y., is a two-story structure, laid out in an efficient E-shape, with 37 classrooms, a cafeteria, library, auditorium, gymnasium and other special-purpose rooms. The planners of this school insured the fire-safety of the building and protection of the 1200 students against the hazard of fire by specifying Bethlehem Open-Web Steel Joists combined with concrete floor slab and plaster ceiling.

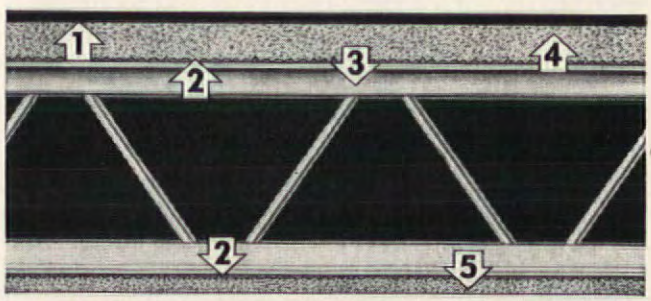
Your new school, too, can have this protection against fire, even if you're working on a slim budget. Bethlehem Open-Web Steel Joists, in combination with plaster ceiling and concrete floor slab, provide a non-combustible barrier against the spread of fire for up to four hours.

In addition to fire-safety, Bethlehem Open-Web Joists offer other important advantages. They are easy and economical to install, and provide stiff, solid floors that are resistant to vibration and sound. Because they won't sag or shrink, there's no chance for dirt-catching cracks to form between baseboard and floor. Pipes and wiring can be run right through the open webs.

For more information about Bethlehem Open-Web Steel Joists get in touch with us, either at the nearest Bethlehem sales office, or at Bethlehem, Pa.

Architect: William I. La Fon, II, Southampton, N. Y.

Contractor: John H. Eisele Co., Inc., New York City.



1. ASPHALT TILE OR OTHER FINISH. 2. METAL LATH. 3. STEEL JOIST. 4. CONCRETE SLAB. 5. PLASTER CEILING.

Cross-section of typical installation of Bethlehem Open-Web Steel Joists. The concrete floor slab and plaster ceiling prevent the spread of fire. Asphalt tile, linoleum or other finishes may be used.

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 OPEN-WEB STEEL JOISTS

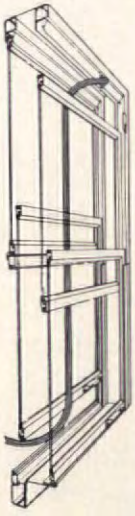
BETHLEHEM STEEL

Shaker Towers, Cleveland, Ohio. DeLuxe apartment equipped with Rusco Prime Windows with insulating sash. Architect: Joseph Ceruti.

Wherry Housing Development, Selfridge Air Force Base, Mt. Clemens, Michigan. Equipped with more than 5,000 Rusco Prime Windows.

Town House Apartments, Detroit, Michigan. Rusco 3-panel "Fulvue" Prime Windows used throughout. Builders: Byrne Organization, Inc.

Specification: RUSCO PRIME WINDOWS



because . . .

1. FAST, EASY INSTALLATION

Rusco Prime Windows are fully pre-assembled, ready-to-install units. Glazed, finish-painted with baked-on enamel, fully weatherstripped and complete with metal or wood casing or steel fins. Can be fully installed in a fraction of the time required for conventional windows.

because . . .

2. MINIMUM MAINTENANCE

Hot-dipped galvanizing, bonderizing and baked-enamel finish make Rusco Windows extremely resistant to the ravages of corrosion and weather. No sash cords, weights, balances or chains to get out of order. Glass inserts are removable and interchangeable. Consequently, "spares" may be stocked to permit handling of broken glass replacement, etc. in maintenance shop.

because . . .

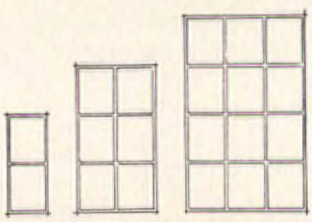
3. SUPERIOR FEATURES

Insulating sash (optional) permits MagicPanel® year 'round, rainproof, draftfree ventilation, as shown in diagram at left, reduces fuel consumption, makes air-conditioning far more efficient. Removable glass inserts simplify cleaning. Fiberglas screen cannot rust, rot, corrode, burn or stain. Inserts slide smoothly, quietly in felt-lined slides.

because . . .

4. REMARKABLY LOW INSTALLED COST

Because of the speed and ease of installation, and the elimination of field glazing and painting, the installed cost of Rusco Prime Windows is usually less than that of the *cheapest windows obtainable!*



Rusco Prime Windows are available in a wide range of sizes, in 2-panel-high, 3-panel-high and 4-panel-high units. Easily joined in series with Rusco's streamlined non-load-bearing mullions.

RUSCO

HOT-DIPPED GALVANIZED STEEL

PRIME WINDOWS

SEND FOR COMPLETE CATALOG

Rusco Prime Window Division • The F. C. Russell Co.
Department 7-AR44 • Cleveland 1, Ohio
In Canada: Toronto 13, Ontario

Gentlemen:

Please send me, without obligation, illustrated catalog and specifications on Rusco Prime Windows.

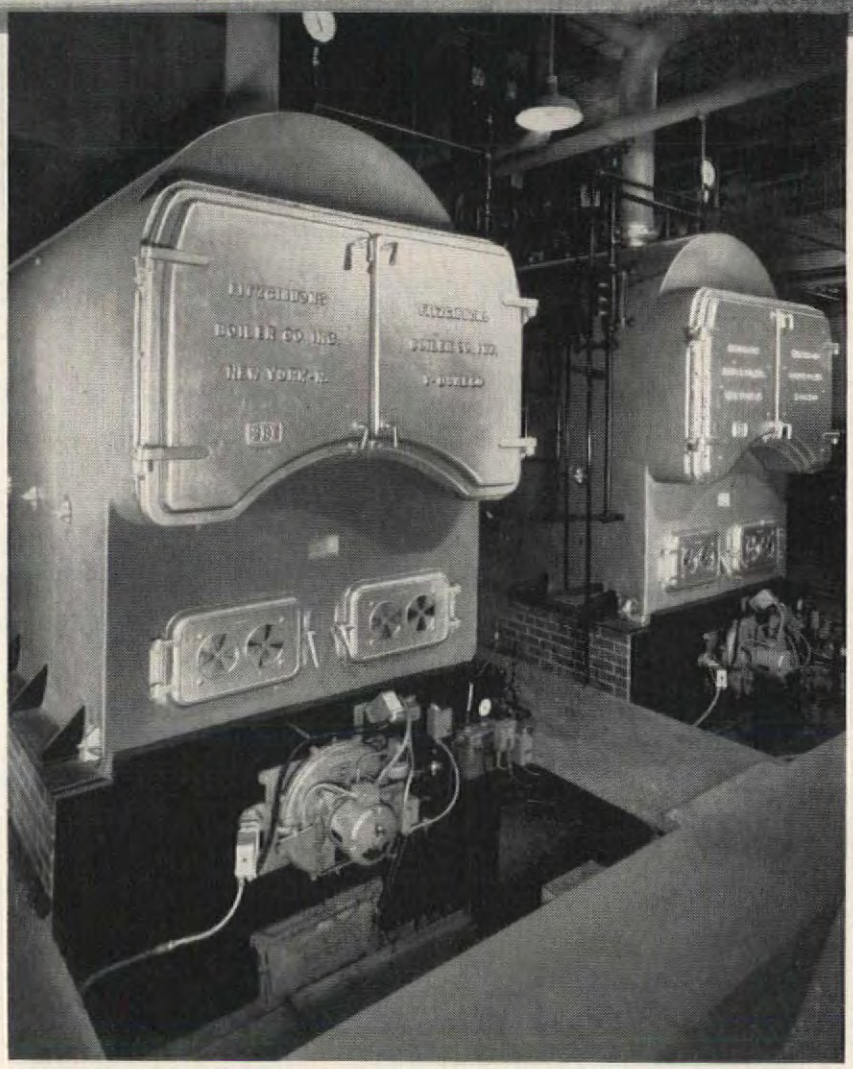
Name _____

Address _____

City _____ Zone ____ State _____

Above: The Physical Education Building, Albright College, Reading, Pa. Architects: Muhlenberg Brothers, Wyomissing, Pa., Consulting Engineers: Moody & Hutchison, Philadelphia, Pa., Heating Contractor: Corbit's, Inc., Reading, Pa.

At right: Boiler room of the Physical Education Building, Albright College, Reading, Pa. The two Fitzgibbons "D" Type boilers are SBI rated at 24,290 sq. ft. steam.



In a class by itself for educational buildings

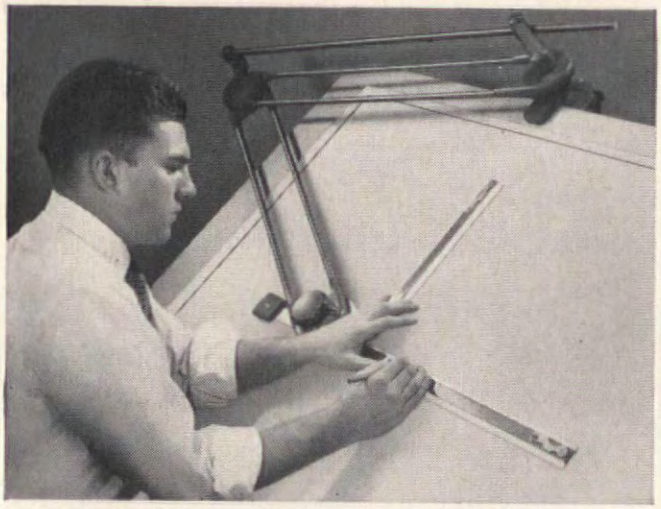
FITZGIBBONS "D" TYPE STEEL BOILER has time and time again passed every test, with highest honors, in providing the comfort-warmth essential to modern education, and doing it with the economy that school boards and taxpayers applaud. The answer is Fitzgibbons design, with its complete combustion of fuel, rapid circulation of boiler water, and construction that more than meets ASME Code requirements.

Everywhere you will find schools, colleges, institutional buildings—in fact, all types of big buildings—heated by Fitzgibbons boilers. For all the reasons, and complete specifications, write Fitzgibbons Boiler Company, Inc., 101 Park Avenue, New York 17, N.Y.

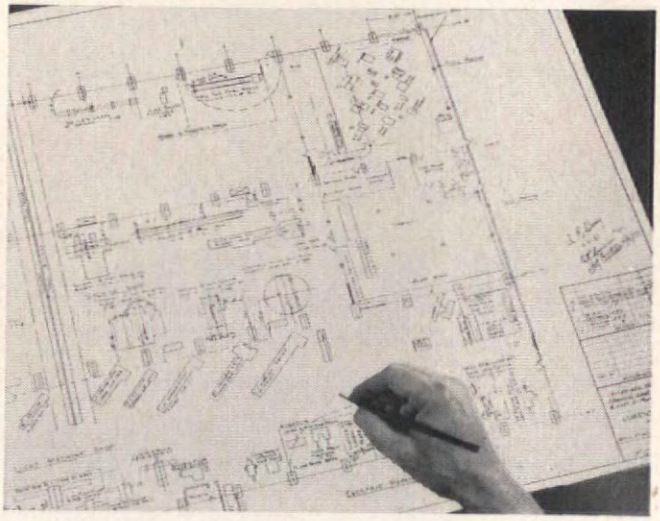
SINCE 1886 MOST ECONOMICAL IN FUEL 1886 THE FITZGIBBONS BOILER

The Fitzgibbons Boiler®

SBI



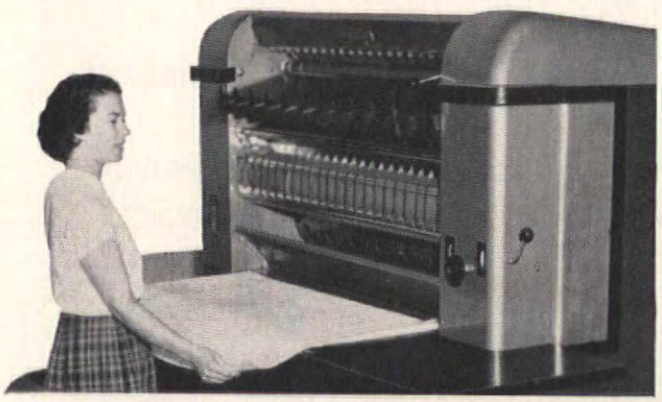
Instead of starting all over again



. . . he begins here

Here's how the Lukens Steel Company, Coatesville, Pa., uses Kodagraph Autopositive Paper to eliminate retracing in preparing flow diagrams and piping layouts.

THESE diagrams and layouts must also show the floor plans and fixed equipment installations of the departments involved. But instead of retracing this information from the basic plant layout drawings, Lukens Steel simply reproduces the drawings on Kodagraph Autopositive Paper—gets *positive, photographic* duplicate tracings directly. This gives the draftsman a tremendous head start . . . for he only has to add the new detail to the Autopositive print . . . *and another job is done instead of being barely begun.*



Low-cost Autopositive reproductions are made this easily at Lukens Steel:

Kodagraph Autopositive Paper is exposed with the drawings in a direct-process machine . . . and processed in standard photographic solutions. A fast, convenient room-light operation that produces positive photographic intermediates *without a negative step . . . without a darkroom.* These intermediates, in turn, assure highly legible prints.

Lukens Steel Company also uses Autopositive Paper *to produce print-making masters* from vendor blueprints; *to simplify filing,* by combining small vendor drawings on Autopositive intermediates in the standard Lukens drawing size; *to get low-cost protection* for original drawings which must be sent out of the plant.

Kodagraph Autopositive Paper

"THE BIG NEW PLUS" in architectural drawing reproduction.

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Industrial Photographic Division, Rochester 4, New York

Gentlemen: Please send me a free copy of your illustrated booklet, "Modern Drawing and Document Reproduction."

Get the full story on the sensational line of Kodagraph Materials which you, or your local blueprinter, can process easily, at low cost. Write today for free booklet.

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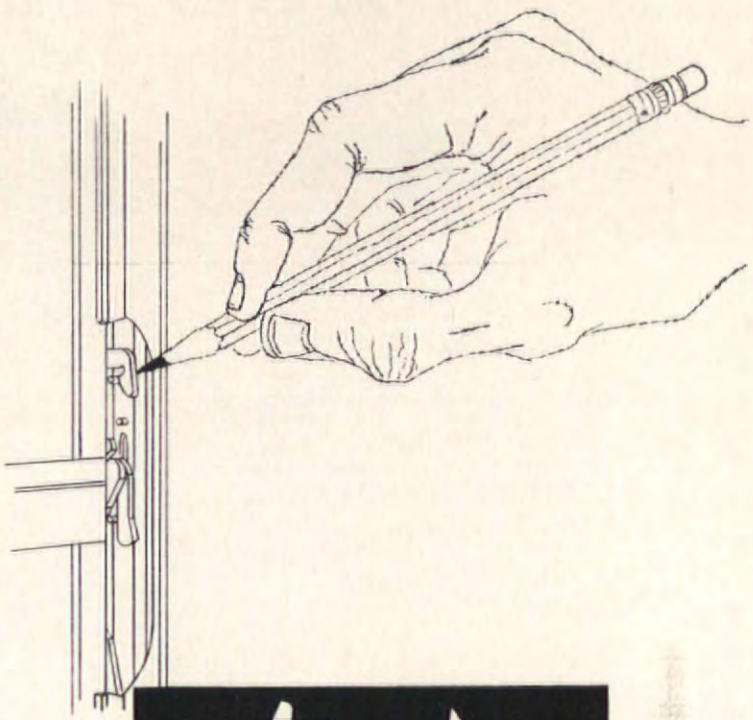
Kodak
TRADE-MARK

Auto-Lok has no "equal"...

When you specify Auto-Lok make sure this superior window is used on the job because there is no "equal" for Auto-Lok. Only Auto-Lok has the exclusive automatic-locking mechanism which closes windows ten times tighter than generally accepted standards.

Remember, too, that Ludman is the world's largest manufacturer of awning windows and jalousies . . . produces Auto-Lok in the largest plant of its kind in the world . . . has complete quality control of its products from raw metal to finished windows. Ludman...and Ludman alone has the skill, resources and know-how to guarantee superiority in not one or two—but all 10 requisites of a perfect window.

So specify Auto-Lok . . . with full assurance that you're choosing the one window which will please your client best . . . and reflect maximum credit on you. In quality, in performance, in exclusive features . . . Auto-Lok *has no equal!*



LUDMAN
Auto-lok
AUTOMATIC LOCKING
PATENTED
ALUMINUM OR WOOD WINDOWS

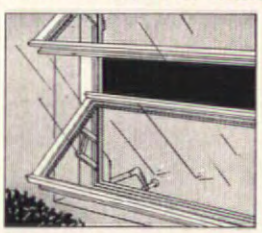
SEALS TIGHTER THAN A REFRIGERATOR

LUDMAN ENGINEERING AND PLANNING SERVICE is available for any job, large or small.

FIVE STANDOUT FEATURES IN LUDMAN'S 10-POINT SUPERIORITY

NO WEARING PARTS

With exclusive Auto-Lok operation, no destructive force is applied on hinges... no pressure created on operating mechanism. No wear, no maintenance, no adjustment ever.

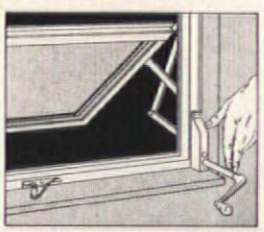


CONCEALED HARDWARE

No unsafe, unsightly, exposed mechanism as in other windows. No "dust traps" —no rust or corrosion. Hardware perfectly balanced for smoothest, easiest operation known.

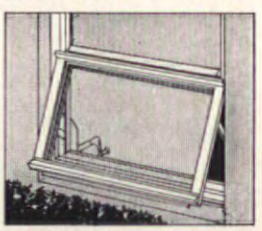
EXCLUSIVE CONTROL BAR

Another example of Ludman's world leadership in window engineering. Simplest, fastest operator ever designed for opening and closing windows. Rugged and foolproof.



OVER-SILL OPERATOR

Friction-free feathertouch control. Wearproof oil impregnated (bronze-steel) gear, rolled thread worm, only operator with 4-tooth engagement for smoother performance.



EXCLUSIVE "NITE-VENT"

An Auto-Lok original. Bottom vent may be left slightly open for fresh air—yet it, as well as all upper vents, will remain securely locked for maximum night protection.

LUDMAN
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North Miami, Florida
WORLD'S LARGEST MANUFACTURERS OF AWNING WINDOWS AND JALOUSIES

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Refer to SWEET'S FILE 16

Member of The Producers' Council, Inc.

LUDMAN CORPORATION Dept. AR-4
North Miami, Florida

Gentlemen: Please send complete information about Auto-Lok Windows.

☐ Wood ☐ Aluminum ☐ Windo-Tite Jalousies

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Address_____

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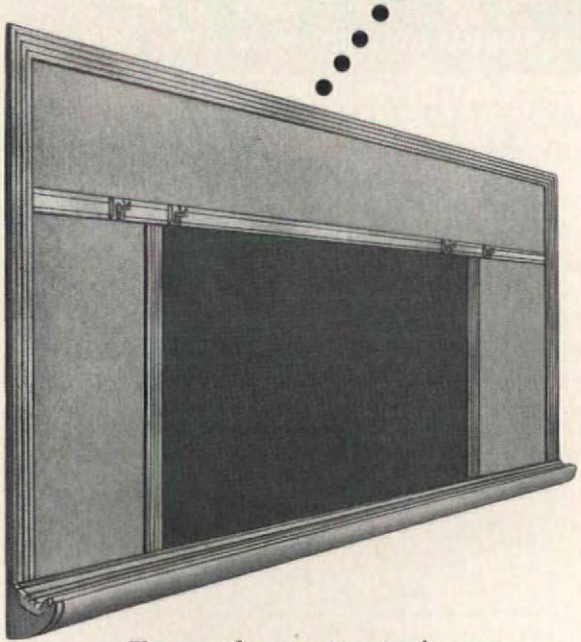
The RIGHT ANSWER.....

LOXIT COMPLETE CHALKBOARD SYSTEM



To get the most out of your building dollar, consult your architect and follow his advice

Architects, engineers and school authorities know that the physical properties of a classroom have a direct bearing on the attentiveness and the efficiency of the average pupil. To proper lighting and ventilation must be added the chalkboard set up as an important factor for better attentiveness and greater efficiency. More and more school authorities are finding that the Loxit Complete Chalkboard System is providing the right answer in this regard.

LOXIT TRU-SNAP Trim — LOXIT-TYLAC RITE GREEN Chalkboards — LOXIT-TYLAKORK Tackboards

Frankly, the Loxit Complete Chalkboard System answers ALL your chalkboard problems. The installation is simple. There is practically no maintenance expense. The appearance is beautiful—and stays that way. Years of trouble-free service are assured. The beautiful all-aluminum TRU-SNAP trim with its smooth, non-glare GLO-DULL* finish is fireproof; doesn't warp, expand or contract; cleans easily and never needs repainting. The RITE GREEN chalkboards provide an excellent writing surface with low reflectivity—the ultimate in eye-ease — and can be washed as often as necessary. Pins and tacks go in the tackboards easily, hold tightly, and the holes close when they are removed.

*Reg. U. S. Pat. Office

WRITE FOR FURTHER INFORMATION, DETAILS AND SAMPLES

LOXIT SYSTEMS INC

LOXIT SYSTEMS, INC., 1217 W. WASHINGTON BLVD., CHICAGO 7, ILLINOIS

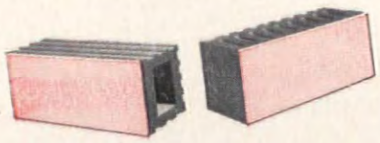
where time's verdict counts . . .

Thanks to walls of glazed Facing Tile, this pasteurizing and bottling room at Sheffield Farms Company's Long Island City plant looks as clean and bright today as it did when the plant opened 19 years ago.

Says Bernard Lynch, Sheffield's head of maintenance, "All of our Facing Tile walls have stood up very well, and they've been easy to keep clean. I have recommended this material highly for our new plants."

Stohldrier & Zetsche, architects

use Facing Tile—it's proved by years of varied use!



NO REFINISHING COSTS—Glazed or unglazed, Facing Tile saves your clients the expense and inconvenience of redecorating—its tough ceramic finish takes all sorts of heavy punishment without harm—year after year.

MINIMUM MAINTENANCE—Facing Tile's smooth impervious surface offers no foothold for dirt or grime, washes down easily with plain soap and water.

PERMANENT "COLOR-ENGINEERING"—Facing Tile colors are scientifically designed by color expert Faber Birren to help you fit the surroundings to the task —and you can rest assured that the color you specify will *last*.

STRUCTURAL STRENGTH—No need to worry about material failures—Facing Tile provides the time-tested structural stability of burned clay products.

CONSTRUCTION ECONOMY—Made in large modular sizes, Facing Tile lays up fast, with a minimum of cutting and fitting, builds a load-bearing wall and finish in one.

For complete data, contact any Institute Member, or write us direct. Address: Dept. AR-4.

FACING TILE INSTITUTE

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CHARLESTON CLAY PRODUCTS CO.
Charleston 22, West Virginia

THE CLAYCRAFT CO.
Columbus 16, Ohio

HYDRAULIC PRESS BRICK CO.
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McNEES-KITTANNING CO.
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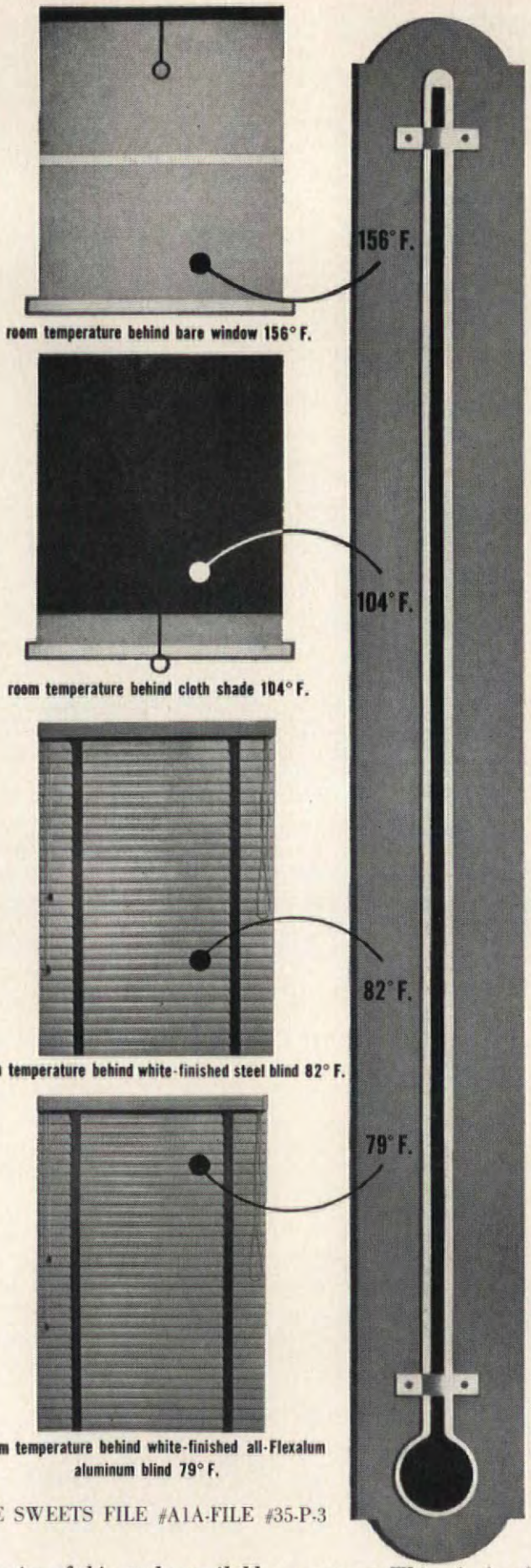
NATCO CORPORATION
Pittsburgh 22, Pennsylvania

STARK CERAMICS, INC.
Canton 1, Ohio

WEST VIRGINIA BRICK CO.
Charleston 24, West Virginia

LOOK FOR QUALITY FACING TILE F T I Member of FACING TILE INSTITUTE **THIS SEAL**

Used only by the members of the Facing Tile Institute, it is your assurance of highest quality. In the interest of better Facing Tile construction the companies listed above have contributed to the preparation of this advertisement.



room temperature behind bare window 156° F.

room temperature behind cloth shade 104° F.

room temperature behind white-finished steel blind 82° F.

room temperature behind white-finished all-Flexalum aluminum blind 79° F.

SEE SWEETS FILE #A1A-FILE #35-P-3

no window covering controls temperature like the all-*Flexalum* blind

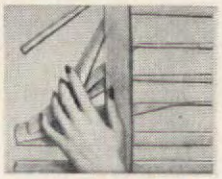
An objective study by the Faber Birren Company* shows: the all-FLEXALUM aluminum blind controls room air temperature more effectively than any other window covering—including venetian blinds made with other materials. An even more dramatic difference was obtained by measuring the surface temperatures of unfinished FLEXALUM aluminum and raw steel exposed to solar heat... the FLEXALUM reading was 19° F. lower. This study points to all-FLEXALUM blinds as an effective way to reduce heat.

PRODUCERS COUNCIL

Guaranteed by Good Housekeeping

only all-Flexalum blinds have all these long-life and low-maintenance advantages:

Wipe-Clean Plastic Tapes—Won't fade, fray, shrink or stretch.



Spring-tempered aluminum slats—Snap back to perfect shape. Won't rust, chip, crack or peel.

Long-Wear Nylon Cords—Won't fade or fray. Tassels are noiseless, unbreakable plastic.

**Copies of this study available on request. Write for local Flexalum sources, free file of venetian blind information*

HUNTER DOUGLAS CORP., 150 BROADWAY, NEW YORK 38, N. Y. • IN CANADA, HUNTER DOUGLAS LTD., MONTREAL 3, QUEBEC

Cool the entire house *at lowest cost*

A cool home is no longer a luxury!

Today's home buyers are demanding cool comfort . . . and a Hunter Attic Fan is the economical, efficient way to provide it. This modern ventilating fan pulls cool, refreshing breezes through every room in the house. Cost of operation is negligible (only a few cents a night) and there is no maintenance through long years of service.

The Hunter Package Attic Fan, complete with ceiling shutter, is easily installed in any new or old home. It requires only 18" attic clearance . . . ideal for low pitched roofs. Sizes from 5000 to 16000 cfm (air deliveries certified) fit any home size and climate.

This new, improved attic fan has the same smooth, quiet operation and dependable performance that have made Hunter Fans famous for 67 years. Fan unit is guaranteed 5 years; motor and shutter, 1 year.

Easily installed — Simply place the Hunter Attic Fan over ceiling opening on attic floor or joists. Modern automatic ceiling shutter with metal trim screw-fastens from below.

Write for new 1954 Hunter Catalog

HUNTER FAN AND VENTILATING COMPANY

396 S. Front St., Memphis 2, Tenn.

HUNTER *Attic Fans*

SEE OUR CATALOG IN SWEET'S

Enter: Colorful Flexachrome!

EXIT: DRABNESS AND WEAR!

When beautiful Flexachrome* Vinyl Plastic-Asbestos Tile enters the picture the entire atmosphere of a reception room *perks up!*

Flexachrome's sharp, brilliant colors *radiate* cheerfulness! And there are 28 of these beauties to choose from, colors that never lose their bloom because they go through from surface to surface.

Sanitation and cleaning are easy as pie with Flexachrome because this material has such a tight, closely-textured surface. Daily sweeping and periodic washing are all that is necessary. *No* waxing needed unless a high gloss finish is desired.

Tile-at-a-time installation has *two* big advantages. It allows you and your clients an almost unlimited range of designs... and it makes repairs quick and inexpensive . . . if they ever are required.

Flexachrome is completely *greaseproof*, too . . . which makes it ideal for use in all food areas. As for *wearing ability*, your clients can always count on this beautiful, durable material to hold its own, year after year, against the most punishing traffic.

So get in touch with your Tile-Tex* Contractor. He is listed in the classified pages of your phone book . . . and you'll find his recommendations invaluable. Or look us up in Sweet's Files.

THE TILE-TEX DIVISION, The Flintkote Company, 1234 McKinley Street, Chicago Heights, Illinois

Tile-Tex—Pioneer Division, The Flintkote Company, P. O. Box 2218, Terminal Annex, Los Angeles 54, California

The Flintkote Company of Canada, Ltd., 30th Street, Long Branch, Toronto, Canada

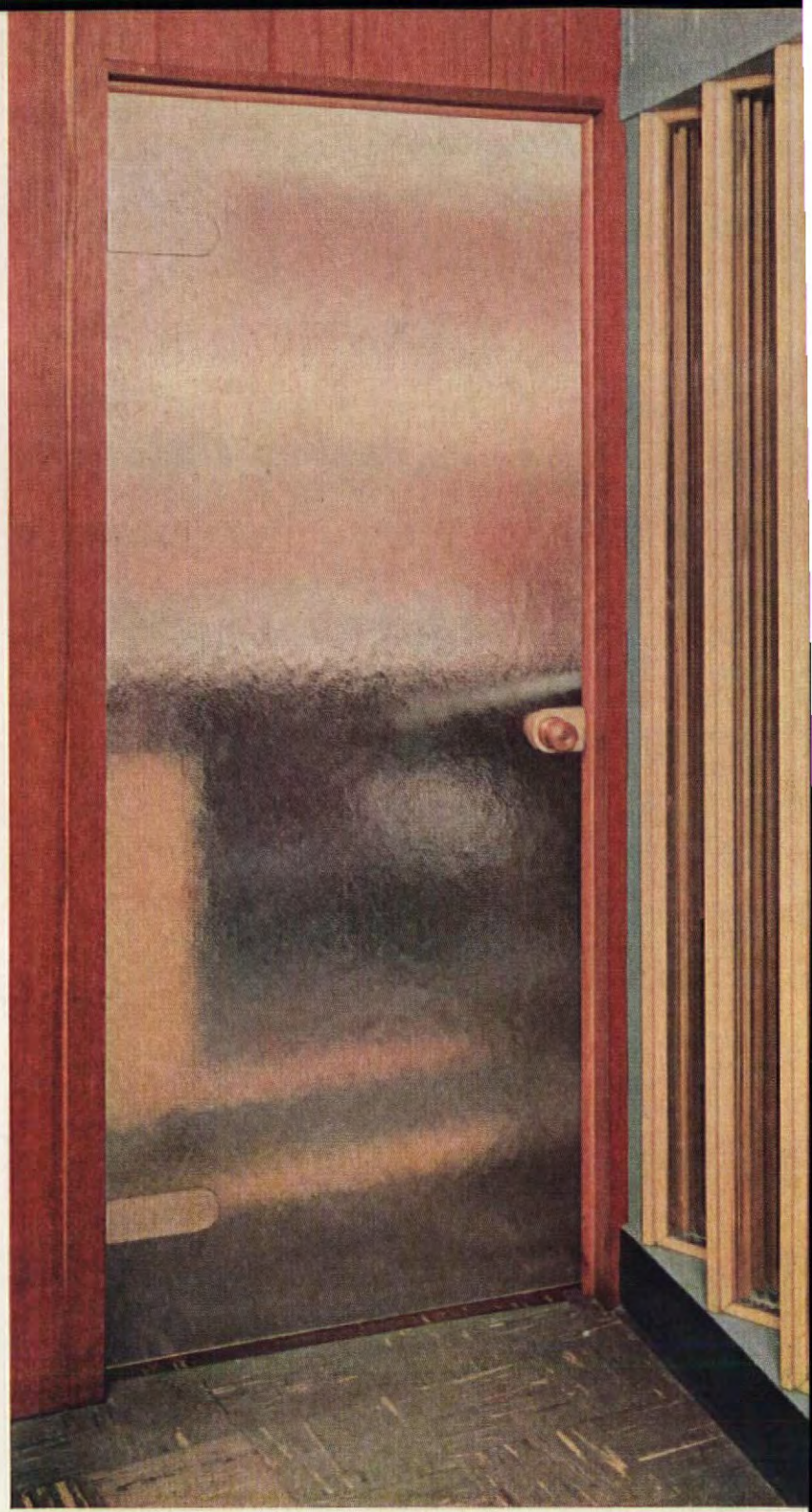
*REG. U.S. PAT. OFF.

TILE-TEX... *Floors of Lasting Beauty*

Borrow color and light

through

a closed door



Designer—Richard B. Pollman, Detroit
Architects—Palmquist & Wright, Detroit

See how this attractive translucent glass door picks up light and colors in the designer's office beyond—how it lets them through in a lovely blend. Yet it obscures the view for privacy.

The Blue Ridge *Securit** Interior Glass Door has a soft, shimmering pattern on both sides. And the glass is tempered—toughened to take hard usage.

Here is new decorative appeal for offices or homes, for stores or institutions. This lovely neutral glass blends with all colors, combines in harmony with other building materials.

The *Securit* Door is easy to hang. It needs no cutting, no mortising. Distinctive, easily applied hardware arrives at the job with the door.

The cost of this door compares favorably with high-quality doors of ordinary materials—and you save on installation and maintenance costs.

Ask your L·O·F Glass Distributor or Dealer about the *Securit* Door. Look for his name in the phone book yellow pages. Or write Libbey·Owens·Ford Glass Company, Patterned & Wire Glass Sales, B-2444, Nicholas Building, Toledo 3, Ohio.

*®

securit® L·O·F GLASS

INTERIOR GLASS DOORS

BRIEF DATA

Glass—3/8" thick. Muralex patterned on both surfaces.

Tempered—three to five times stronger than untempered glass of same thickness.

Reversible—can be used right or left hand.

Standard Sizes—

2'6" x 6'8"	2'5 1/16" x 6'7 1/16"
2'8" x 6'8"	2'7 1/16" x 6'7 1/16"
3'0" x 6'8"	2'11 1/16" x 6'7 1/16"
3'0" x 7'0"	2'11 1/16" x 6'11 1/16"

Closers—when specified, the door can be shipped with a Sargent closer or prepared for use with an LCN concealed closer.

For more complete information, see the Securit Door insert in Sweet's Architectural File.

Libbey·Owens·Ford Glass Company
Patterned & Wire Glass Sales
B-2444 Nicholas Building, Toledo 3, Ohio

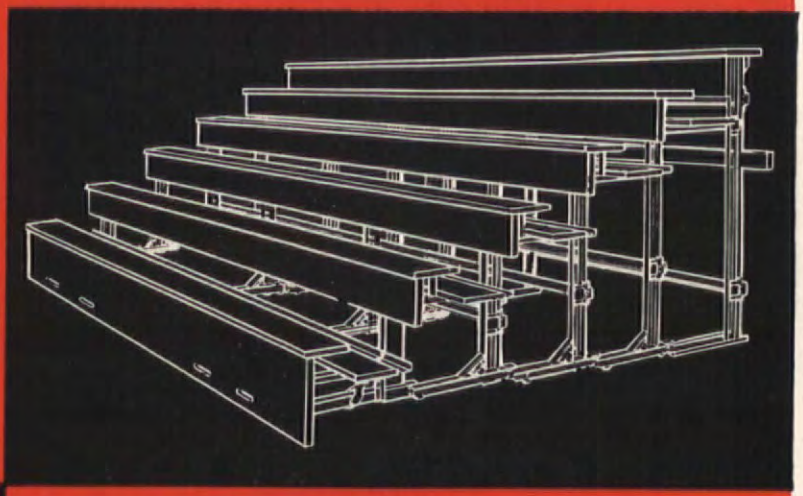
Please send me your folder, *Blue Ridge Securit* Interior Glass Doors.

NAME (PLEASE PRINT) _____

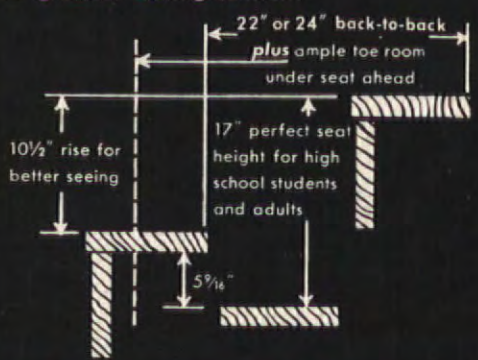
ADDRESS _____

CITY _____ STATE _____

BEST BUY!



TWO DEPTHS . . . 22" row depth for maximum seating capacity—24" row depth for greatest seating comfort.



MEDART *New*

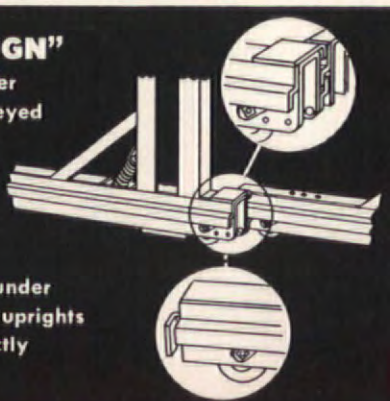
TELESCOPIC GYM SEATS*

NEW DESIGN has achieved weight reduction up to 70 pounds per row—the easiest gym seat to open and close.

SELF-SUPPORTING understructure now stronger than ever—wood parts give *additional* strength.

4 VERTICAL UPRIGHTS support each row—controlled weight distribution—no extra wall reinforcing required.

"DUAL-ALIGN" cushioned roller housing are keyed together and interlocked for straight-line trackage. Non-marring rollers retract under load—vertical uprights then bear directly on floor.



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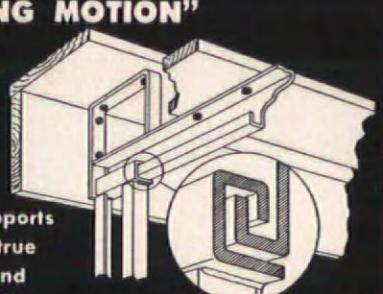

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Detroit, Michigan
City and County Building
Macabee's Building

Erie, Pennsylvania
Baldwin Building

Evanston, Illinois
Washington Life Insurance Company

Findlay, Ohio
Ohio Oil Company

Hartford, Connecticut
Aetna Life Insurance Company

Houston, Texas
Houston Club Building
Southwestern Bell Telephone Company

Indianapolis, Indiana
Indiana National Bank

Jacksonville, Florida
Prudential Insurance Company of America

Los Angeles, California
National Auto Casualty Insurance Building
Police Facilities Building
Southern California Gas Company
University of California Medical Center
Western Pacific Building

Mare Island, California
U. S. Navy Electronics Building

Miami, Florida
Ainsley Building

Milwaukee, Wisconsin
Wisconsin Telephone Company

Minneapolis, Minnesota
Mayo Memorial Medical Center

Monterey, California
U. S. Navy Post Graduate School

Montgomery, Alabama
State Office Building

Nashville, Tennessee
General Shoe Corporation

Newark, New Jersey
Prudential Insurance Company of America

New York, New York
Carnegie Endowment for International Peace
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Reiss Manufacturing Company
Seamen's Bank for Savings
Singer Sewing Machine Company
State Insurance Fund Building
Webb and Knapp Building

Oklahoma City, Oklahoma
Hales Building

Peoria, Illinois
First National Bank Building

Philadelphia, Pennsylvania
Federal Reserve Bank
Finance Building
#3 Penn Center
Rittenhouse Claridge
Rittenhouse Savoy

Portland, Oregon
Pacific Telephone and Telegraph Company
University of Oregon Teaching Hospital

Reading, Pennsylvania
Hotel Abraham Lincoln

St. Paul, Minnesota
Minnesota Mining Company

San Francisco, California
California Commercial Union
Federal Reserve Bank
Kohl Building
Pacific Gas and Electric Company
Shreve Building
Union Carbide and Carbon Building
University of California Teaching Hospital

Seattle, Washington
Fourth & Pike Building

Washington, D. C.
Acacia Mutual Insurance Company
Providence Hospital
U. S. Department of Justice
U. S. Department of the Interior
Willard Hotel

• • •

Calgary, Alberta
Bank of Toronto
Calgary General Hospital
New Pacific Petroleum Building

Hamilton, Ontario
Canadian Bank of Commerce

Montreal, Quebec
Canadian Pacific Railway
Imperial Tobacco Company, Ltd.
Montreal Trust Company
Royal Victoria Hospital
1980 Sherbrooke Corporation

St. Boniface, Manitoba
St. Boniface Hospital

Toronto, Ontario
Adelbay Corporation Building
Confederation Life Insurance Company
Continental Casualty Company
Hydro-Electric Power Commission
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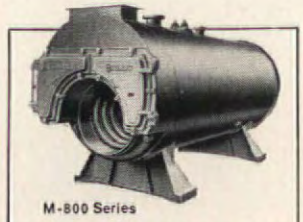
Kewanee Reserve Plus means boiler selection is made with confidence, guesswork is eliminated . . . the most economically sound expenditure is guaranteed . . . protection against emergencies and fluctuating loads, provision for expansion are provided . . . lower boiler maintenance and lower operating costs are assured.



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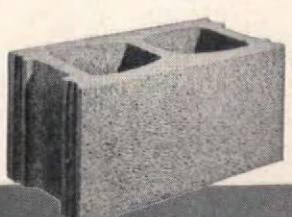
Vibrapac Block are produced on Besser Automatic High-Production Block Machines. Ask your nearby Vibrapac-equipped Products Plant for literature describing the many styles and sizes available. Or write directly to the Besser Manufacturing Company, Box 173, Alpena, Michigan.



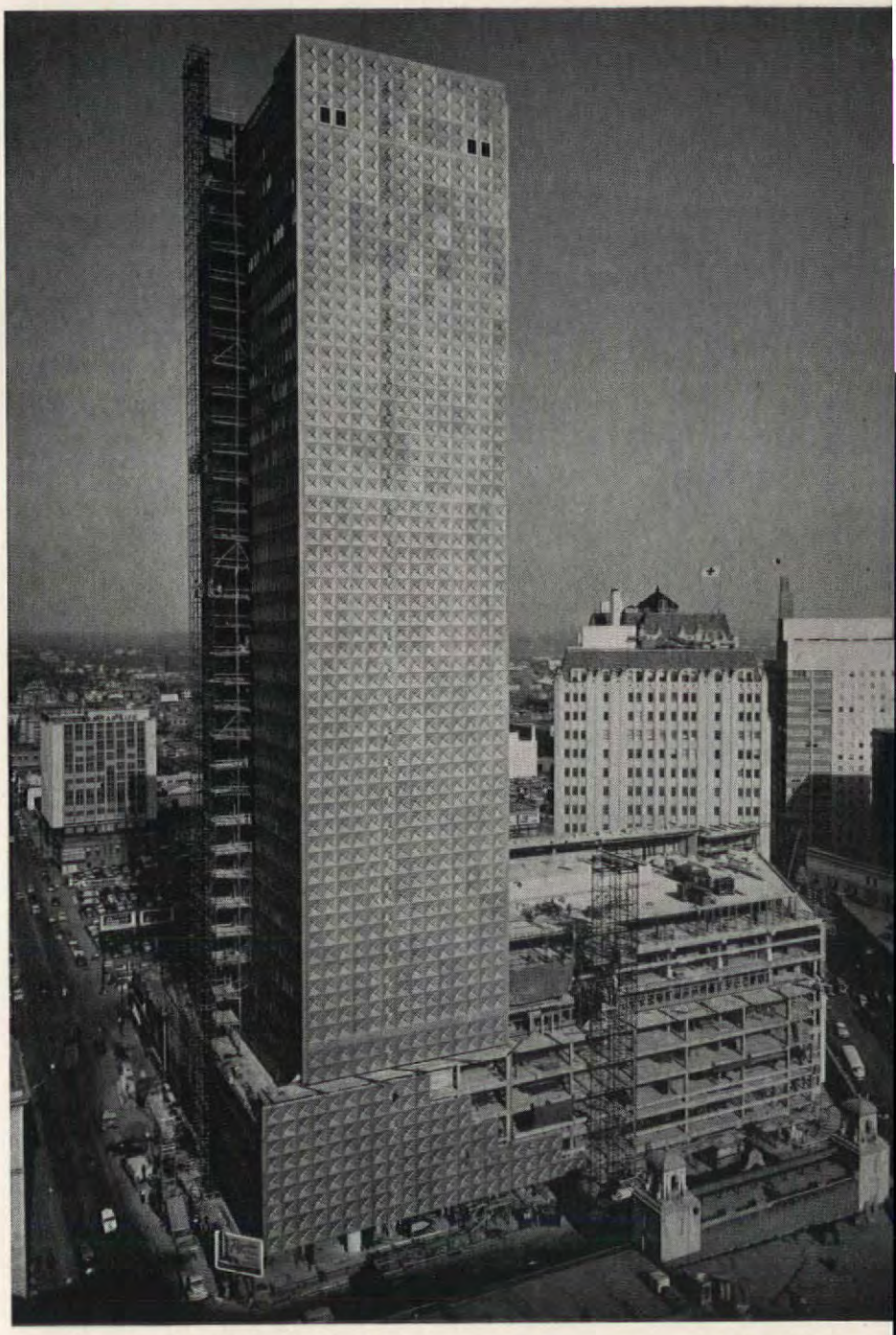
..a Half Century of Concrete Masonry Progress!

Casa de los Picos
Segovia *Spain*

With its rooms arranged about a central court or patio, an urban house in Spain has but few openings in its street facade, often none but its entrance doorway at the ground floor level. Spanish builders cleverly employed various devices to soften the starkness of the resulting unbroken areas of masonry.

An example of such a device may be seen in the Casa de Los Picos at Segovia where each stone, above a level which would hazard passers-by, is cut to form boldly projecting pyramid.

Faced with a problem akin to that encountered by the Spanish builders, the architects of the Republic Bank building designed the windowless Ervay Street facade, an enormous area comprising the thirty-six story office building tower plus six stories of the banking room wing, as a field of square prismatic forms. Vaguely reminiscent of the Casa de Los Picos in that the prisms occupy the entire area, the square pyramids are here depressed rather than projecting as in the Spanish building and are given additional interest by being each centered by a four pointed projecting star. The star not only gives added sparkle with its play of light and shade, it also serves to bring the motif more in scale with the material and its mode of fabrication. This material, aluminum, one-eighth inch in thickness, is fabricated in story height panels

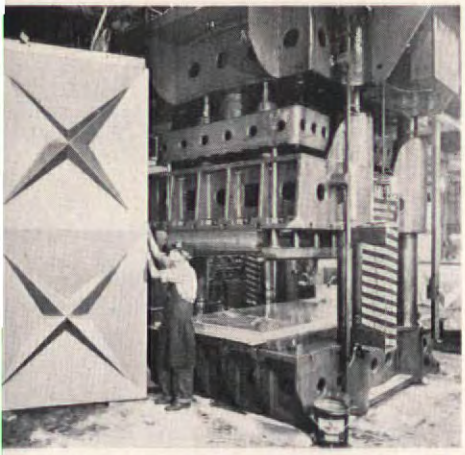


Republic National Bank Building *Dallas, Texas*
Harrison & Abramovitz, Gill & Harrell — Architects
J. W. Bateson Company, Inc., Builders

with two design units to each. Horizontal joints are 11′ 10½″ apart with 5′ 8½″ between vertical joints.

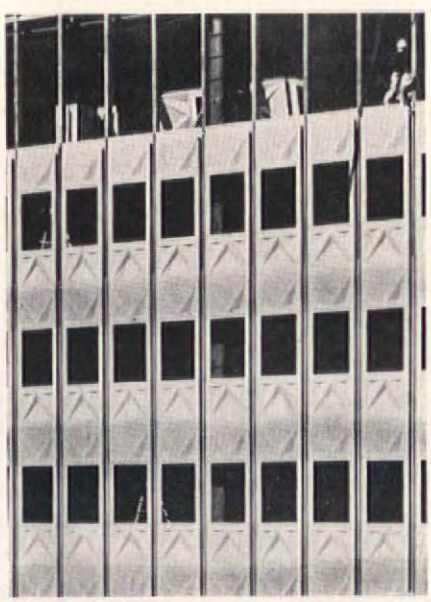
Panels are secured to the building structure by steel angles bolted to flanges at vertical joints. These flanges, plus those at top and bottom which incorporate a six inch lap, require that the plates from which panels are pressed be some seven by thirteen feet in size. Insulation is here achieved by a four inch perlite concrete wall erected after the aluminum panels are in position.

The widowed facades are enclosed by means of story height panels,



750 Ton Hydro Press in the Plate Shop at Flour City

Three Men Erect Panels from Floors Without Scaffolding



Progress Photo of Windowed Facade Showing Concrete Struts

the mid portion of each being blanked out to receive a Flour City reversible window. These windows arranged to be opened for cleaning only are pivoted at top and bottom. Both interior and exterior faces of sash are cleaned from within with sash closed and locked. Double weatherstrips completely seal sash at all times. See Sweet's Architectural File 16-a/Flo for details.

The window is open for but an instant during the reversing operation, a marked advantage with differences in interior and exterior temperatures, incident to hot or cold weather.

Insulation for the windowed facades is provided by 1½" pads of fiber glass pasted to the back of the aluminum panel. This is backed by a vapor seal of aluminum foil.

Precast reinforced concrete struts, shown in the accompanying progress photo, provide supports to which the aluminum panels are secured.

Advantages of metal walls are many. The large size of the units reduces the footage of joints.

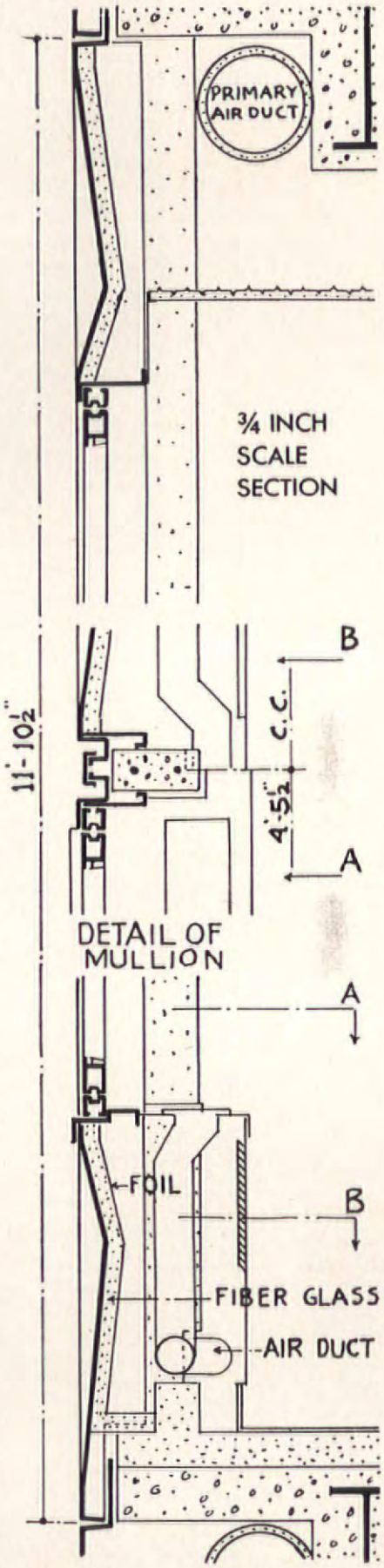
Joints are engineered to function with no caulking or filling and thus require no maintenance.

Reduced weight of walls saves many tons of structural steel in the building frame as well as the omission of shelf angles and other devices required to support masonry.

The chief gain however is the addition of about a foot of floor area for the entire perimeter of the building. Rental on the added floor space will pay dividends for the life of the structure.

Flour City solicits inquiries regarding metal walls or any other problem in the design or fabrication of architectural metal. Consultation service is available without obligation.

With its complete equipment, adequate plant area and experienced personnel, Flour City Ornamental Iron Co. offers complete service — making press dies, pressing panels, fabrication of panels and windows, thus concentrating responsibility in one competent organization.



THE FLOUR CITY ORNAMENTAL IRON COMPANY

2637 TWENTY SEVENTH AVENUE SOUTH, MINNEAPOLIS 6, MINNESOTA

ACOUSTICAL MATERIALS AT WORK

Easily cut and fitted to the curved ceiling of this office area, Travertone is an important element of the bank's décor. Besides adding beauty, it absorbs noise and helps promote comfortable quiet.

FIRST NATIONAL BANK, Temple, Texas

Architect: Wyatt C. Hedrick
Associate Architect: Lee R. Buttrill
General Contractor: Robert E. McKee General Contractor, Inc.
Acoustical Contractor: United Tile Company, Inc.

The employees' recreation room is efficiently and economically sound conditioned with Cushiontone. Cushiontone's white paint finish can be washed or repainted without loss of acoustical efficiency.

Every detail of Temple's First National Bank has been planned to combine modern efficiency with dignified beauty. In banking and vault areas, offices and corridors, there is a comfortable yet businesslike atmosphere.

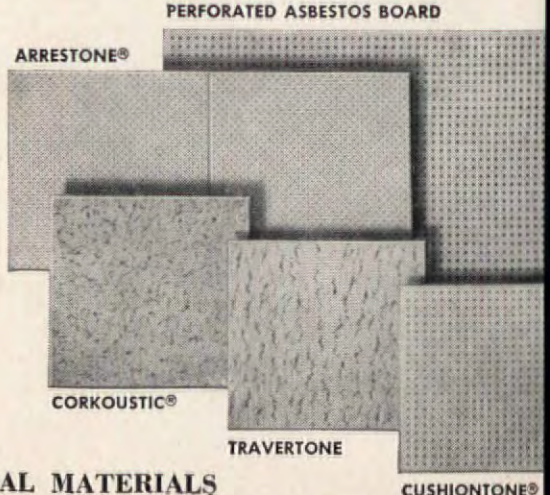
Much of this feeling is due to the architect's choice of materials. The ceilings, for example, are of Armstrong's Travertone and Cushiontone . . . attractive materials that absorb distracting sound.

Travertone is a fissured mineral wool tile. Chosen primarily for its distinctive beauty, Travertone promotes undisturbed quiet for the bank's private offices, directors' room, and vault area. Travertone's incombustible composition was also an important factor in its selection.

The employees' dining area, recreation room, and several corridors are sound conditioned with ceilings of Cushiontone. A perforated wood fiber tile, Cushiontone is surprisingly low in cost, high in sound-absorbing efficiency.

Get complete details on Travertone, Cushiontone, and Armstrong's other acoustical materials from your Armstrong Acoustical Contractor. For the free booklet, "How to Select an Acoustical Material," write Armstrong Cork Company, 4204 Rock Street, Lancaster, Pennsylvania.

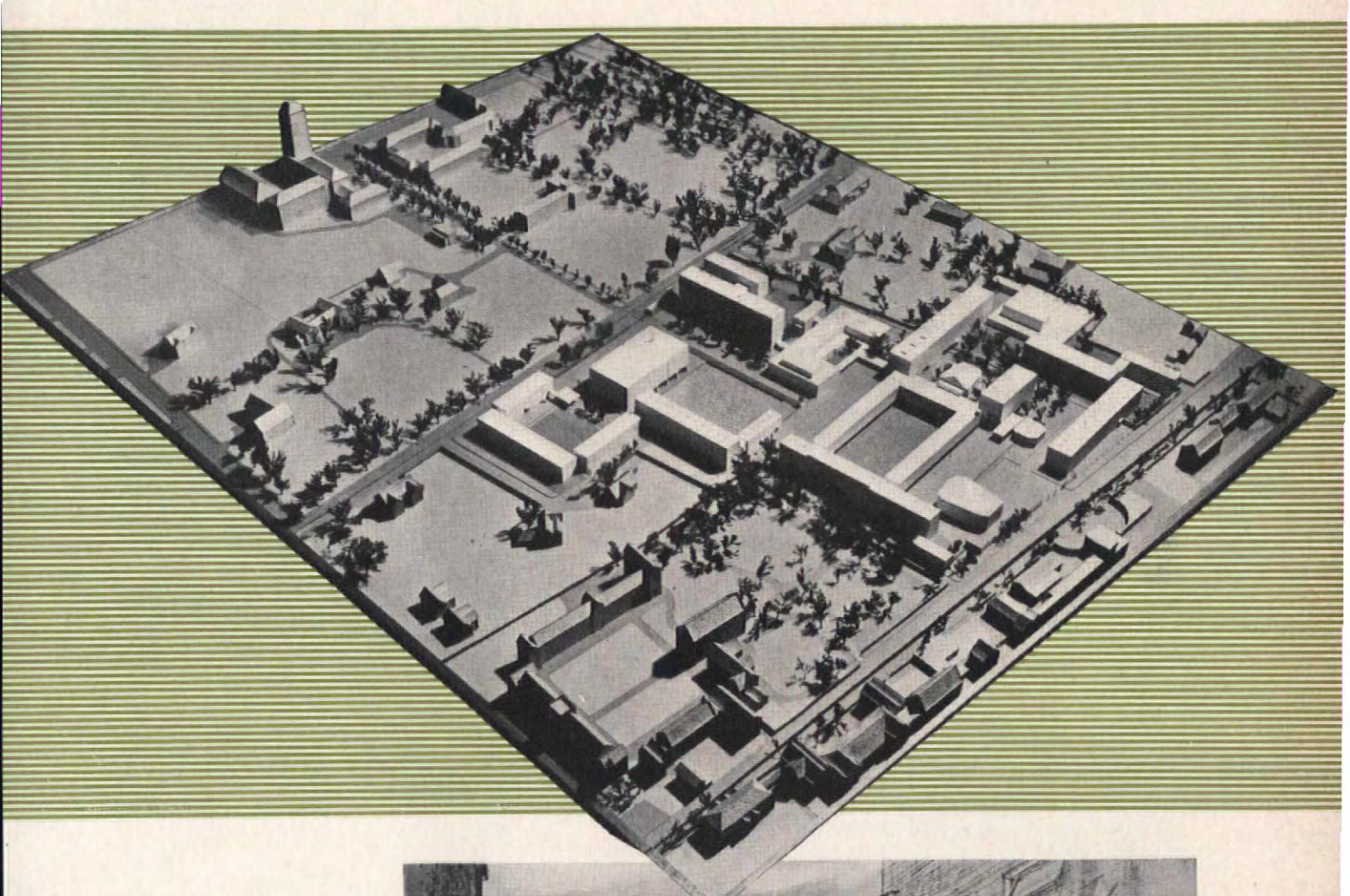
Recessed lighting and air-conditioning fixtures are readily installed with a Travertone ceiling. In the vault area, Travertone prevents the sounds of business machines from building up to disturbing levels.

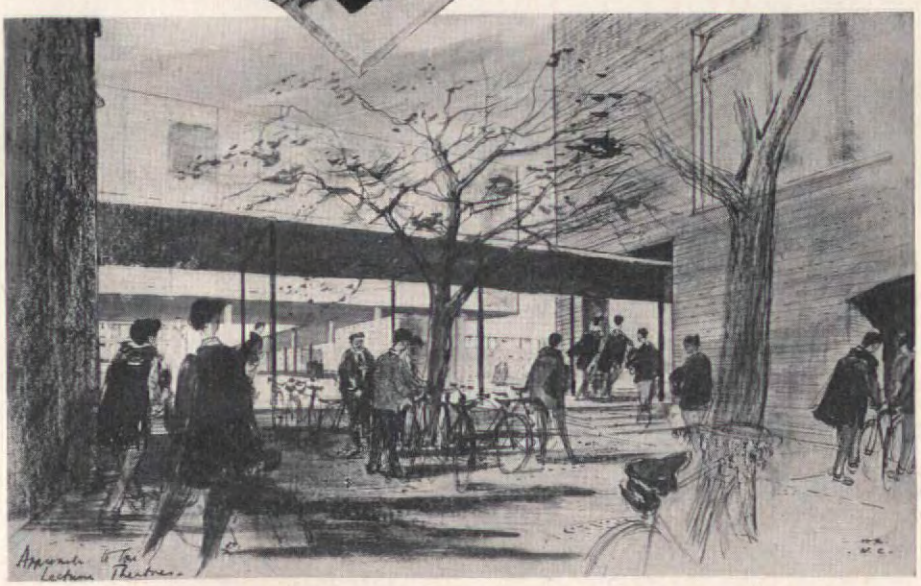


ARMSTRONG'S ACOUSTICAL MATERIALS

CAMBRIDGE UNIVERSITY DEVELOPMENT

Plan for Cambridge University's Sidgwick Avenue site utilizes the full range of contemporary thinking to develop a campus with all of the delights traditional to an English University



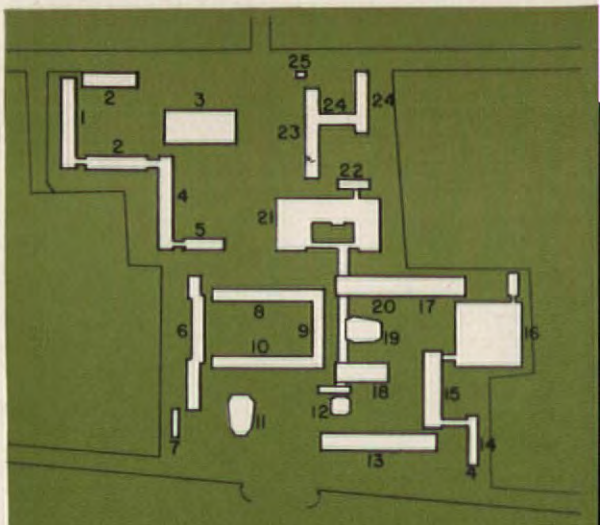


Sir Hugh Casson & Neville Conder
Architects

THERE IS NO NEED to emphasize the difficulties which beset those who, directly or indirectly, are responsible for new building in Cambridge. These difficulties have existed for many centuries, although two hundred or so years ago they were perhaps somewhat simpler than they are today, and certainly . . . they were faced in those days with greater ease and self-confidence than later circumstances have seemed able to permit. It was not of course to be expected that Cambridge would escape the conflicts of architectural taste so characteristic of the last century. Indeed the results of those conflicts are part of her fascination. But there are times it must be admitted, when to the art historian at least, Cambridge must look less like a university than a battlefield across which have passed and repassed the armies of architectural controversy. Like all battlefields it has seen its share of courage and of indecision, of chances seized and of opportunities missed. There is scarcely, it seems, a building which does not today bear the scars of victory or of defeat in some major engagement of principle or some minor skirmish of detail. With such a prospect before him then it is not surprising that the architect who is lucky enough to be given the chance of preparing designs for new buildings in Cambridge, faces his problems with the mixed feelings of a raw recruit. Before his eyes, as inspirations or as warnings, stand the efforts of his predecessors — as brave as flags, and as solid as tombstones — some of them too often serving the same melancholy function for the reputation of their designers. Even the most enthusiastic architect would be wise therefore to approach his task with humility as well as with determination. But humility is one thing, timidity is another. We believe that your committee would welcome the first as warmly as they would resent the second. It is in this belief that we have set about our task.

The Sidgwick Avenue site is fortunately free from the most prickly of all architectural problems, that of reconciling the new and unfamiliar with the old and well-beloved. The site possesses no outstanding natural features, other than a few trees, which demand to be respected. The architecture of the surrounding buildings sets no stylistic theme which it would be ill-mannered to ignore.

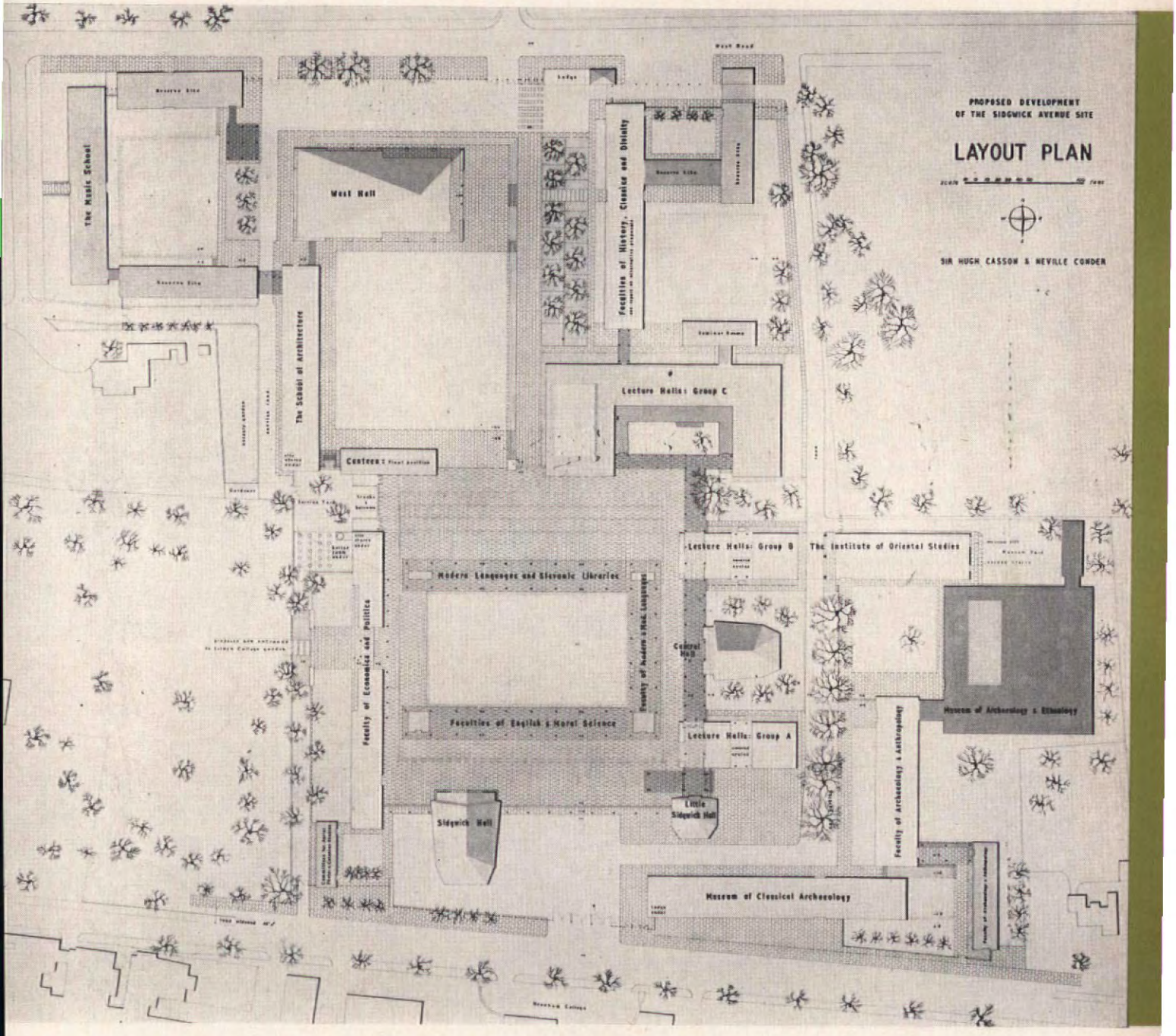
It would be possible to lay out the Sidgwick Avenue site, by reason of its character and placing, as an enclosed and totally self-centred area independent of its neighbourhood — a secret walled city, as it were, to be discovered during a suburban stroll and disclosing its delights only after the entrance gates have been passed. This method, despite its many attractions, we have rejected. No group of Faculties and Lecture Rooms, however closely linked their functions, can afford to be too sharply separated from the living stream of university life, and in our view the physical distance



LEGEND

1. The Music School
2. Reserve Site
3. West Hall
4. The School of Architecture
5. Canteen
6. Faculty of Economics and Politics
7. Committees for Aerial Photo and Colonial Studies
8. Modern Languages and Slavonic Libraries
9. Faculty of Modern and Mediaeval Languages
10. Faculties of English and Moral Science
11. Sidgwick Hall
12. Little Sidgwick Hall
13. Museum of Classical Archeology
14, 15. Faculty of Archeology and Anthropology
16. Museum of Archeology and Ethnology
17. The Institute of Oriental Studies
18. Lecture Halls: Group A
19. Central Hall
20. Lecture Halls: Group B
21. Lecture Halls: Group C
22. Seminar Rooms
23. Faculties of History, Classics and Divinity
24. Reserve Site
25. Lodge

This plan has evoked considerable enthusiasm in England, the architects being acclaimed for sympathetic handling of the always touchy problem of fitting contemporary planning into traditional



areas of English life. The text comprises extracts from their report to the University, which, incidentally, was prepared as thoughtfully as was their plan

from the Colleges is already disturbing enough without emphasizing this separation by devising a self-centred layout.

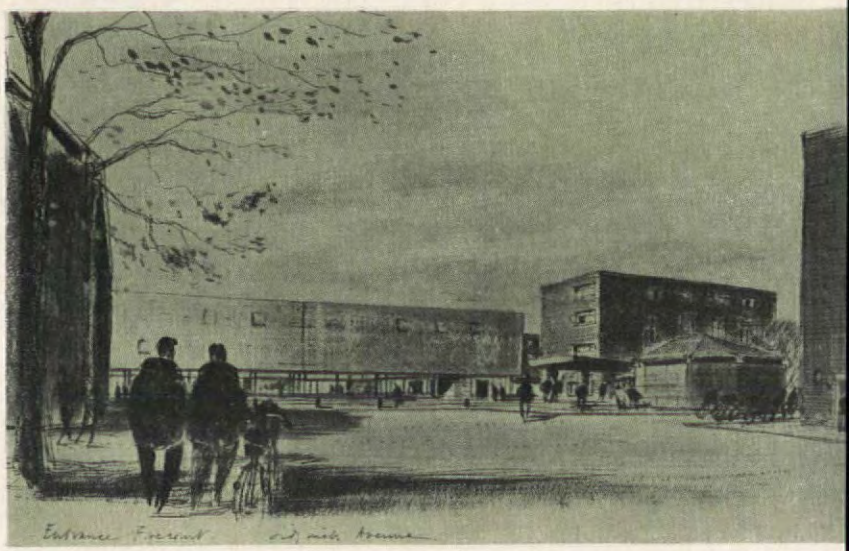
We have preferred the alternative approach of relating the site and its buildings not only to the principal groups of buildings which now adjoin it (Newnham and Selwyn) but also to those which are at present more distant but which in the future may become more closely related.

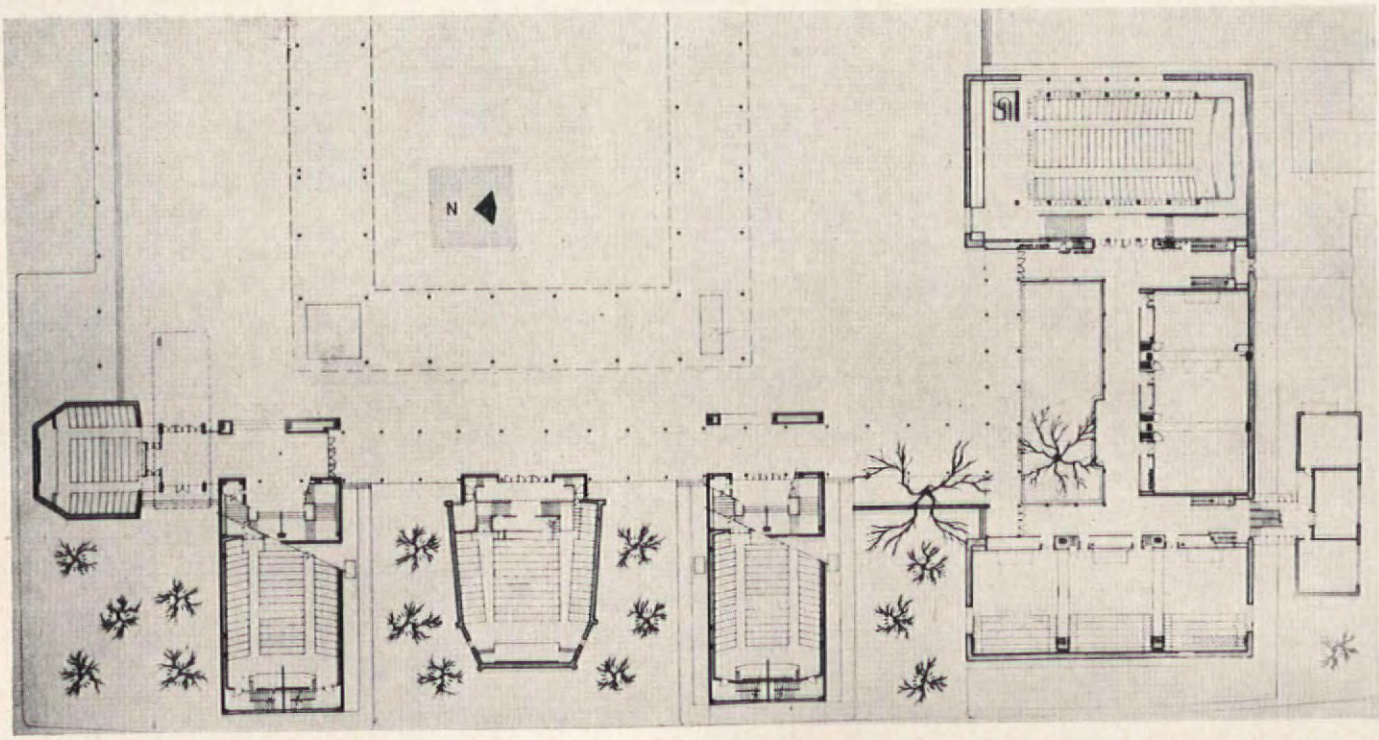
A group of Faculties and Lecture Rooms of this size and complexity demands a degree of formality in its setting. There are various methods of achieving this, but the one which we would firmly reject is the strict control of façades and architectural treatment. Such a device is constricting both to the clients and to the architects of the future: a mask is after all as unwelcome to a designer as a gag would be to a University Lecturer. We have preferred to obtain the necessary formality in two dimensions and upon the ground, by designing a simple and direct layout, within the controlling framework of which are grouped, in a coherent, but basically informal and perhaps even mildly argumentative manner, the buildings themselves. To use a rather fanciful analogy, it is as if these buildings were a group of Dons seated round the strong linking geometrical form and pattern of the High Table.

This arrangement, assisted by our proposal to link the different buildings by such unobtrusive and neutral devices as canopies, covered ways, bridges and stair-

CAMBRIDGE UNIVERSITY SCHEME
Sir Hugh Casson & Neville Conder

Right: view from Sidgwick Avenue, at main entrance, is open and dramatic. "But the eye can pass beneath and beyond the buildings . . . and catch a sparkle of the Water Square." Opposite page, left: view toward Faculty of Economics and Politics; building is pierced at ground level, opening view toward Selwyn College. Opposite page, right: view toward Institute of Oriental Studies: character is kept intimate and friendly

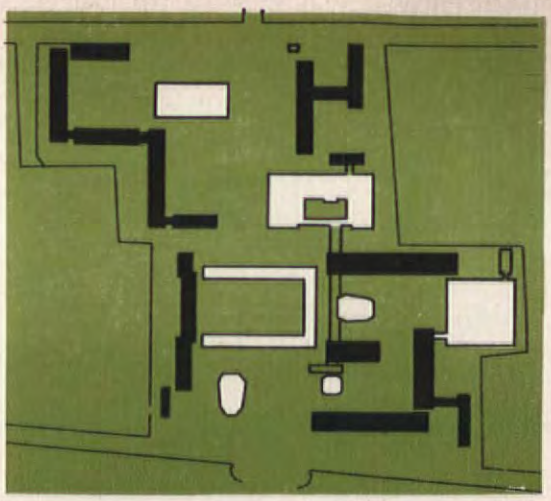




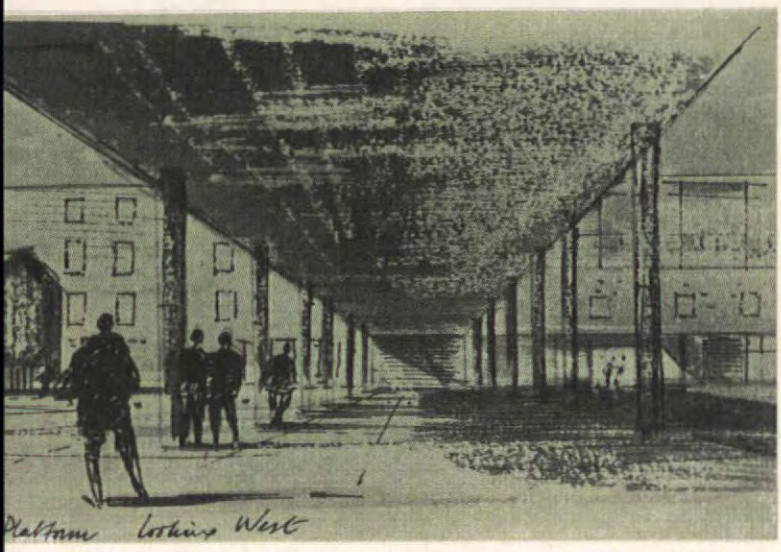
case blocks, permits greater freedom of design to the architects of these buildings. They are then only limited by the minor discipline of frontage and silhouette lines. This informal method of grouping the buildings will also be a great asset in a long-term programme, where needs are likely to change, demanding alterations that can easily be made without disturbing unduly the basic scheme.

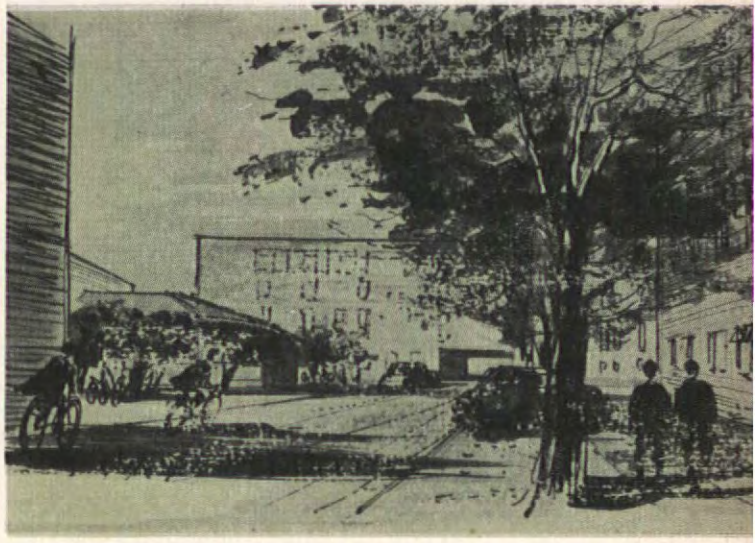
This formal ground pattern referred to above takes the form of two main features, one in each zone.

Zone A. (i.e. that part of the site that is immediately available). Here the centre of the site is covered with a paved platform, approximately 300 feet square, raised 2 feet above ground level to increase its importance and to provide a sharper definition of its edges.



". . . the buildings (white) chosen to provide the accents of interest and character, the larger lecture halls and faculty block, should be serene, timeless, and almost monumental in feeling, in contrast to the rougher and less sophisticated . . . (black)"



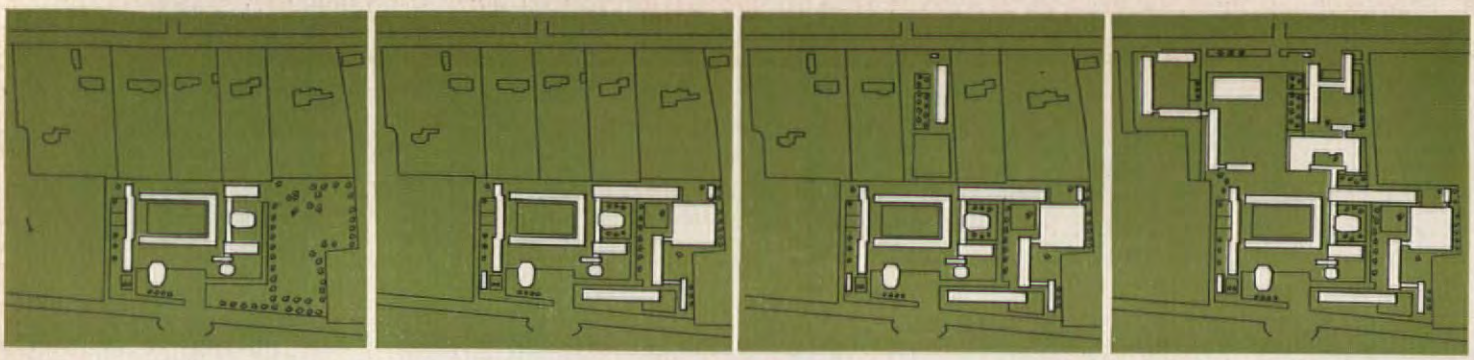


This platform forms the main pedestrian approach to the buildings which immediately surround it, and in particular to the Lecture Halls along its eastern flank. Centrally upon it stands a three-sided Faculty block, set round a turfed courtyard, and raised on columns above the level of the platform to permit clear views from end to end of the site, even as far as the New Library Tower. This platform also serves as the visual preparation or "entrance hall," for the new development which may take place eventually to the north, and its geometric formality is emphasized by the crisply outlined pattern of the paving upon its surface.

Zone B. (i.e. that part of the site — 6.317 acres — occupied by houses and gardens). Here the main formal feature is a Water Square approximately 160 feet square. The buildings of Cambridge are traditionally associated with their riverside setting and the introduction of water on a large scale upon this "inland" site, seems to us both appropriate and enlivening. This sheet of water, quiet, flat and rectangular, not only sets a mood of serenity for the buildings immediately around it, but will we hope be an "off stage" presence for the whole of the site — its sudden glitter catching the eye, sometimes perhaps almost unawares, from an upper window or between the shoulders of buildings.

Round these two accents — the Paved Platform and the Water Square — are grouped the various buildings, the planning and mutual relationship of which are described in greater detail below.

The buildings on this site, because they are most of them similar to each other in function, size and height, could easily look monotonous to the eye. There are no chapels, towers or structures of strongly individual character required to provide those visually essential points of sudden interest in the scene. To meet this difficulty we have followed two principles. First, the larger Lecture Halls, which could have been amalgamated into one large composite block and therefore visually lost, have been extricated and carefully dispersed to provide those points of architectural interest which would otherwise be lacking. Secondly, we



Four construction stages planned, with modest beginning, left; full realization at right

have throughout the site adopted the courtyard system of planning which is traditional to Cambridge. This, with its continually changing views and intricately arranged building patterns of different sizes, silhouettes, colours and textures, keeps the eye constantly alert, interested, and indeed to some extent deceived into thinking that the site is larger and composed of a wider variety of buildings than is in fact the case.

Architecture, it has been said, is space enclosed. This definition can be reasonably extended to mean that the design of the space between buildings is almost as important as the design of the buildings themselves.

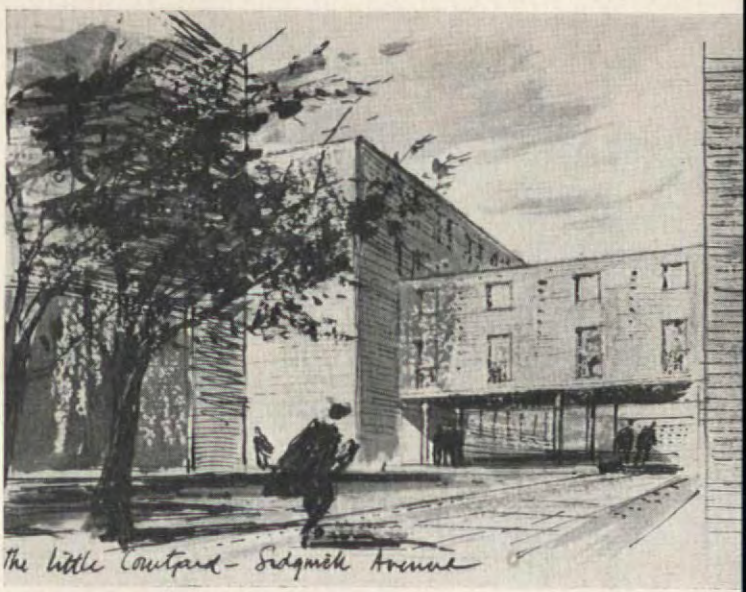
In the designing of such areas one of the most important (and most frequently neglected) elements at the disposal of the architect is the ground or "floor" upon which the buildings stand. This can be modelled, textured and coloured as required to match the mood and function of the area concerned, by a controlled variation of levels, ground patterns and planting.

In this case the site is basically flat, and the minor variations of level that are suggested to create certain effects must be artificially created. The raised paved platform and the sunken Water Square and courtyard in which stands the thousand seat auditorium, create the principal accents, but these are echoed on a more modest scale elsewhere throughout the site.

The main function of these changes of level — in addition to their visual purpose — is to delineate cycling areas, and the whole centre of the site — comprising platform and terrace — surround to the pool — is thus kept free for the undisturbed pleasure of the pedestrian.

Throughout the site the ground is used for different purposes, for access and assembly, for cycle parks or strolling, for driving or contemplation. Each of these activities, being different in character, demands its own setting, and should enjoy its own virtually exclusive areas. To do this by the municipal corsetry of fences, railings and heavy kerbstones would be out of character with the site. We propose therefore as far as possible to delineate changes of ground-use principally by changes of ground texture and material.

As shown on the drawings, a large number of the existing trees have been kept. It is proposed to add



generously to these, particularly along the eastern edges of the site where the junction between the formal and urban character of the new development and the heavily-treed suburban garden of Queens Road requires softening.

Fencing is confined to the two main road frontages. It will be seen that we have set out to avoid the discouraging appearance of a boundary fence, following without deviation the building line for the complete width of the site. To provide interest to the eye we have in places substituted brick and stone screen walls, their outline softened occasionally by trees and even buildings themselves set at different distances back from the building line. Internal control of circulation is provided by the two-dimensional devices described above, assisted by bollards and screen walls.

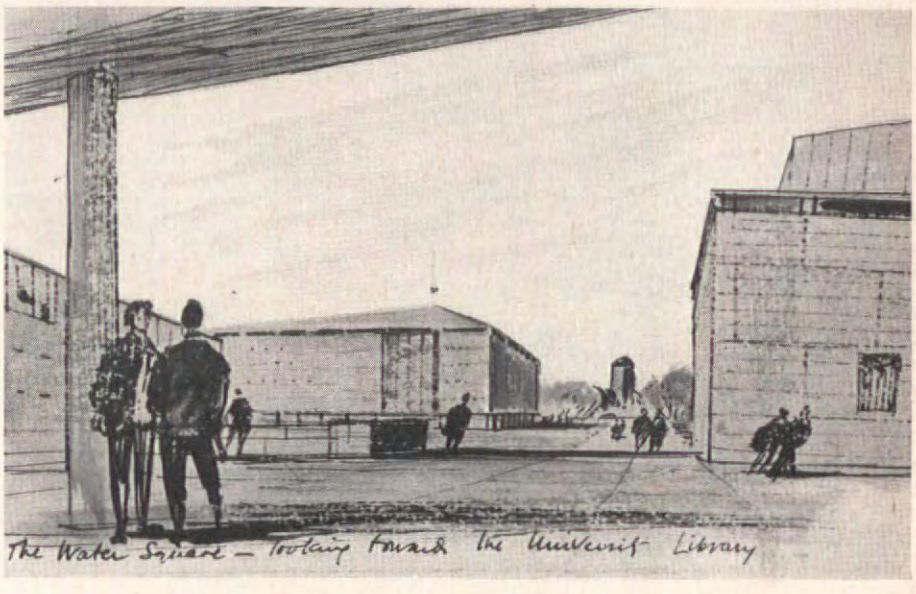
In studying the circulation problem, we have considered the needs and delights first of the pedestrian, second of the cyclist, third of the motorist. It is, in our view essential that the ground pattern of the site is not broken up by a network of kerbed roads merely for the sake of the occasional motorist and service vehicle.

We do not in fact visualise much service traffic there.

The carefully balanced combination in the layout of the formal and of the picturesque, of the spacious and of the intimate should, we recommend, be emphasised and enriched by the architectural character of the buildings and in particular by the materials to be used. In general we have followed the principle that the buildings chosen to provide the accents of interest and character, the larger lecture halls and the raised faculty block, should be serene, timeless and almost monumental in feeling, in contrast to the rougher and less sophisticated character of the buildings comprising the remainder of the development. The former group might well be faced in stone, crisp in outline, delicate in detail and smooth in texture, while the remaining buildings, which provide a strong setting for their more delicate neighbours, could exploit the rich texture of brickwork.

As will be seen from the plan (page 153), most of the buildings that we have suggested should be light in feeling, are placed so as to flank or punctuate our main visual axis, thus increasing the feeling of "penetrability" through the site, and supporting the basic thrust of the new Cambridge.

Opposite page: view of the small courtyard from Sidgwick Avenue, looking toward Archeology and Anthropology, open toward further buildings and lawns beyond. Right: view from the paved platform, at about the centre of the site; here the atmosphere is more formal. View is to the north toward the Library Tower. Below: looking backward from the northern boundary of the site, toward buildings surrounding the Water Square

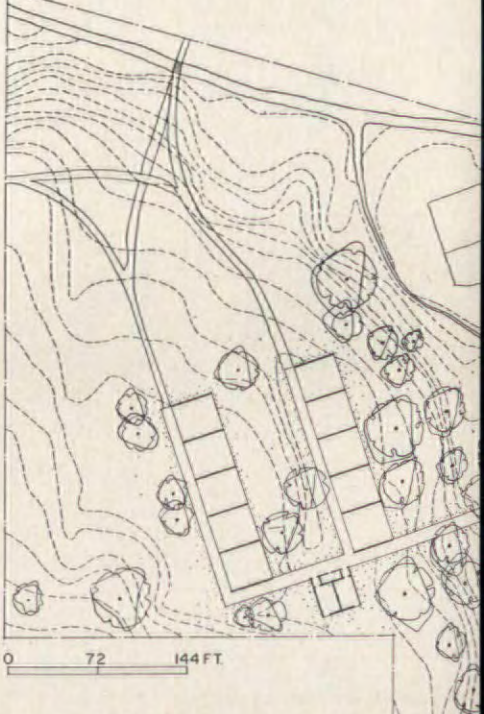


Joseph W. Molitor

SPLIT SITE YIELDS WELL INTEGRATED

AN IRREGULAR piece of property bisected by a stream and a 23-ft-deep swale seems hardly the ideal location for an elementary school. A school was badly needed in the vicinity, however, to serve extensive Negro housing developments built during World War II, and no other site was available. The success with which the architects solved the problem brought them one of the top awards in the 1954 *School Executive* Competition for Better Schools.

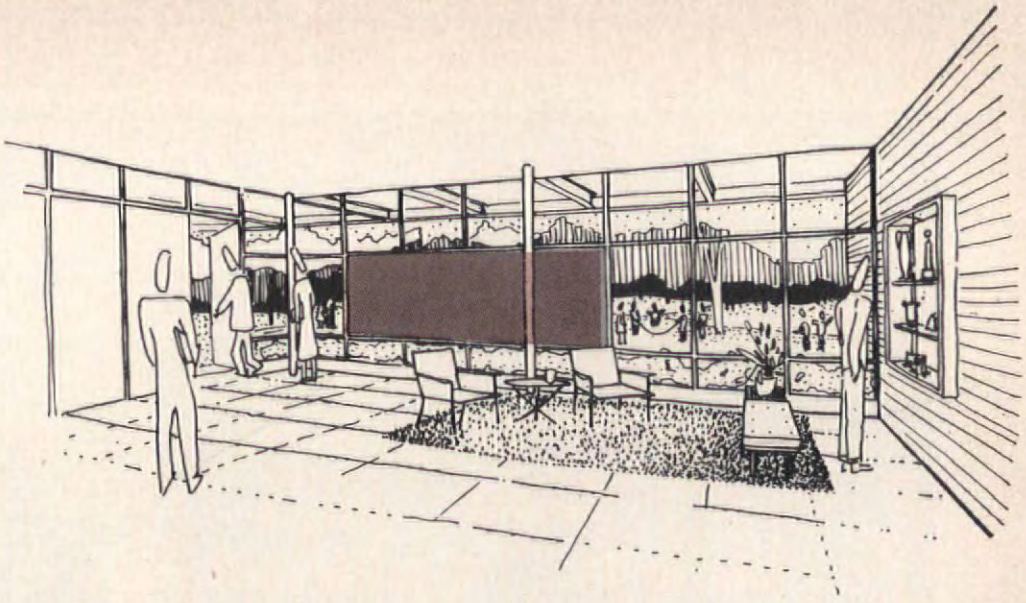
It is not just the excellent use of the site, however, which makes this school outstanding. The section already completed (eight lower-grade classrooms and the administration unit) is alive with color. Materials are chosen and used both for durability and for effect. Lighting is uniformly good.

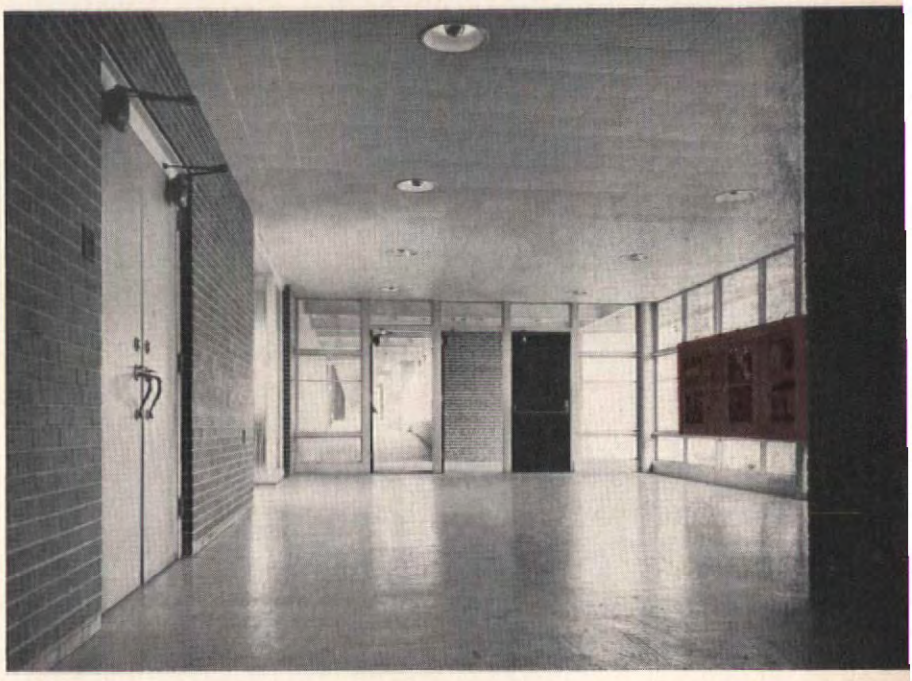


Double Oaks Elementary School
Charlotte, North Carolina

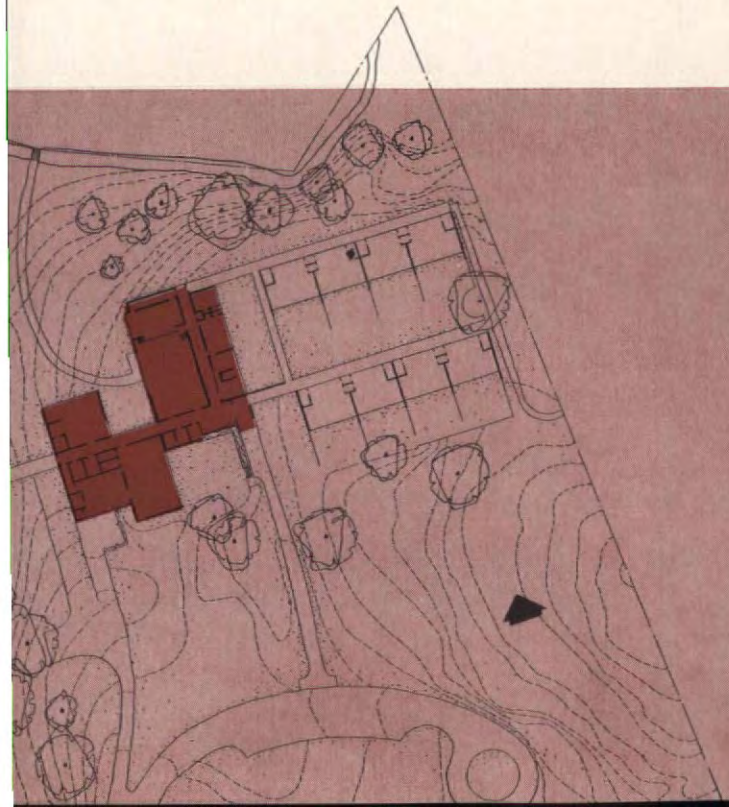
A. G. Odell, Jr. & Associates
Architects

Engelhardt, Engelhardt & Leggett
Educational Consultants

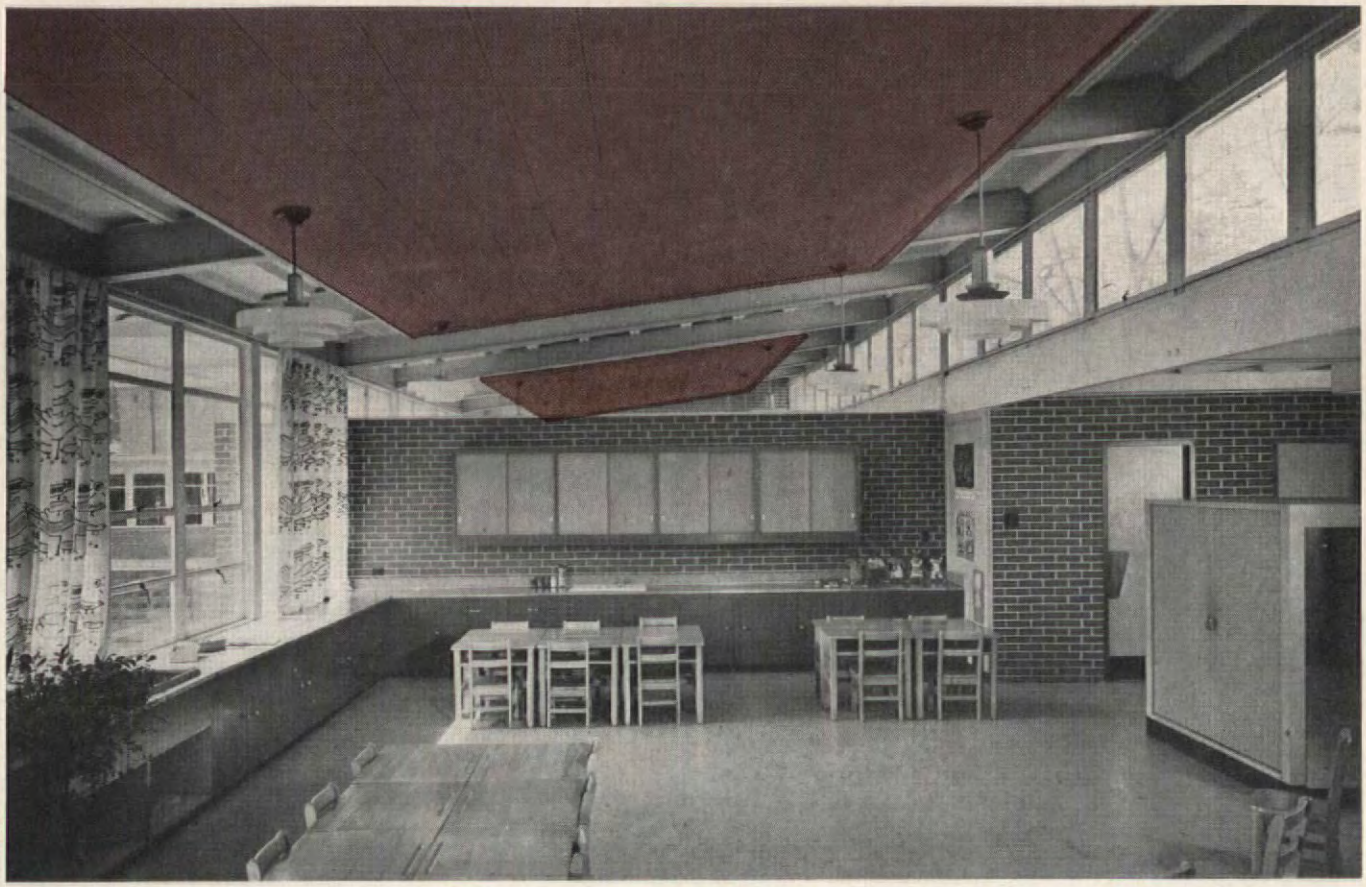




IX-GRADE SCHOOL

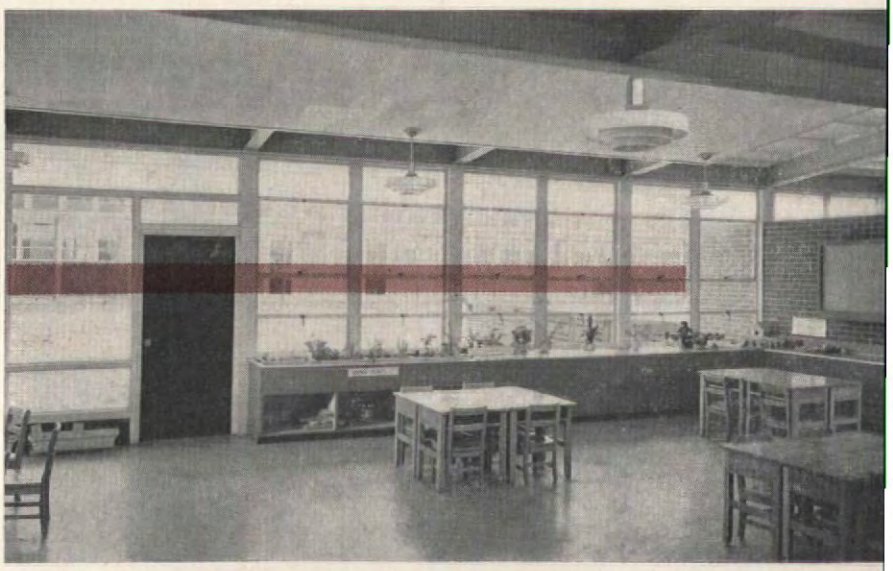


Enclosed corridors in administrative wing (above) are enlivened by bulletin boards and showcases intended to give children on way from classrooms to cafeteria or auditorium a feeling of "going downtown." Left: site is bounded on north by a stream, and bisected by a smaller stream and a north-south swale some 23 ft below mean elevation of property. Administrative unit and eight lower-grade classrooms occupy east half of site; section to west of swale, not yet built, will consist of ten upper-grade classrooms. Covered walkway and bridge will connect two sections



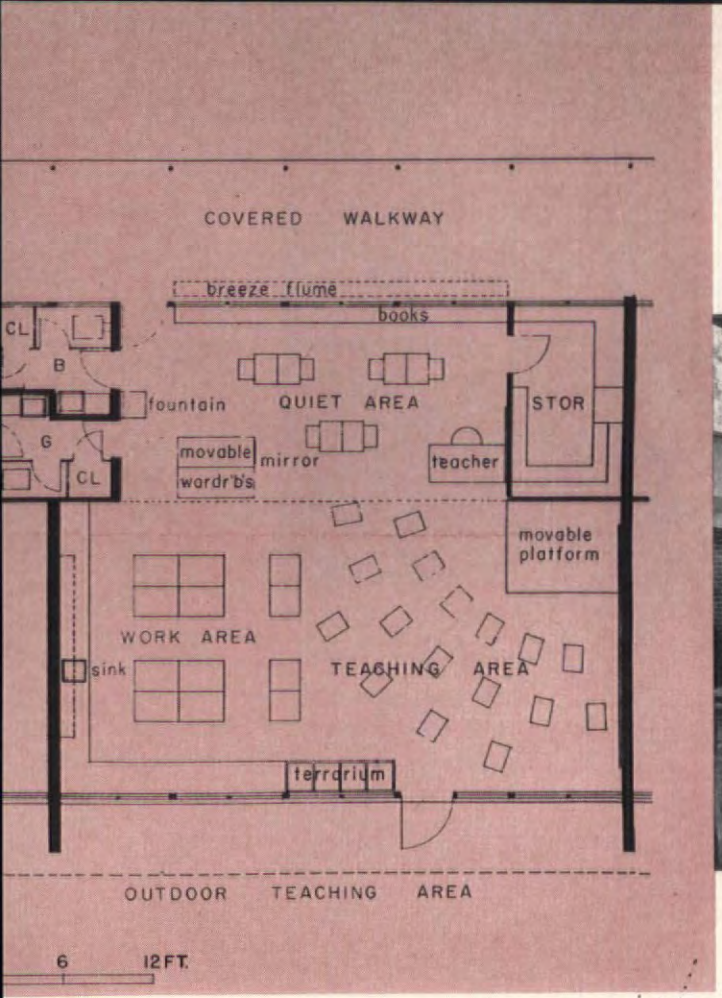
Joseph W. Molitor

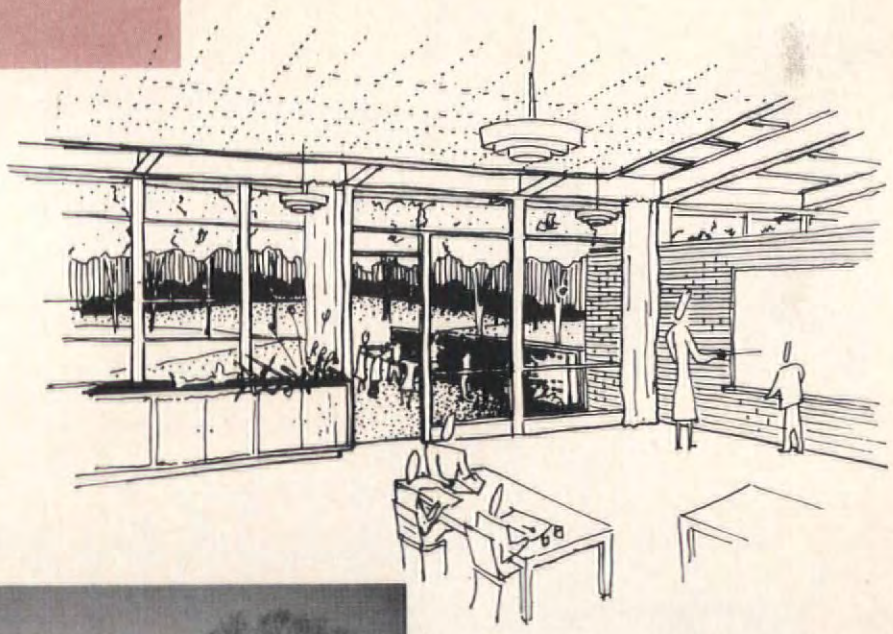
The eight classrooms so far built (for grades one to three) contain approximately 1200 sq ft each, have adjacent toilets and individual outdoor areas. Steel, concrete and brick construction are exposed in the interest of economy everywhere except where acoustical ceilings or wall panels were required. For ease of maintenance, exterior spandrels and wainscots are of porcelain enamel in bright, light colors. South walls are largely glass with roof overhang. Lighting is incandescent: the initial cost of fluorescent lighting was not considered justified because of the extensive glass areas, the few days when natural light falls below 35 foot candles, and the fact that the classrooms are not used at night.

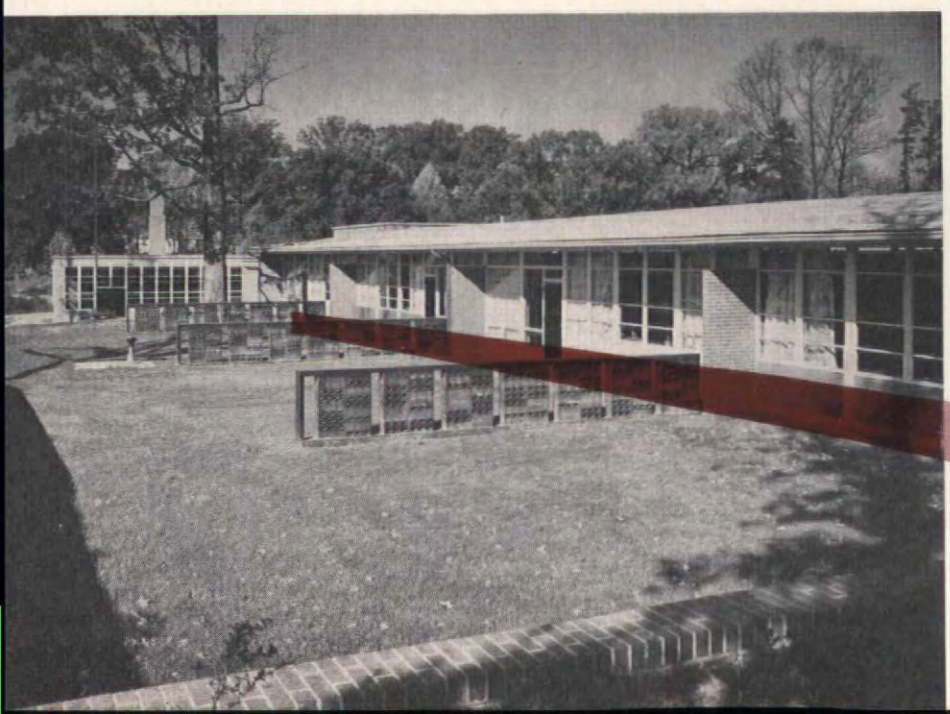


SPLIT-SITE

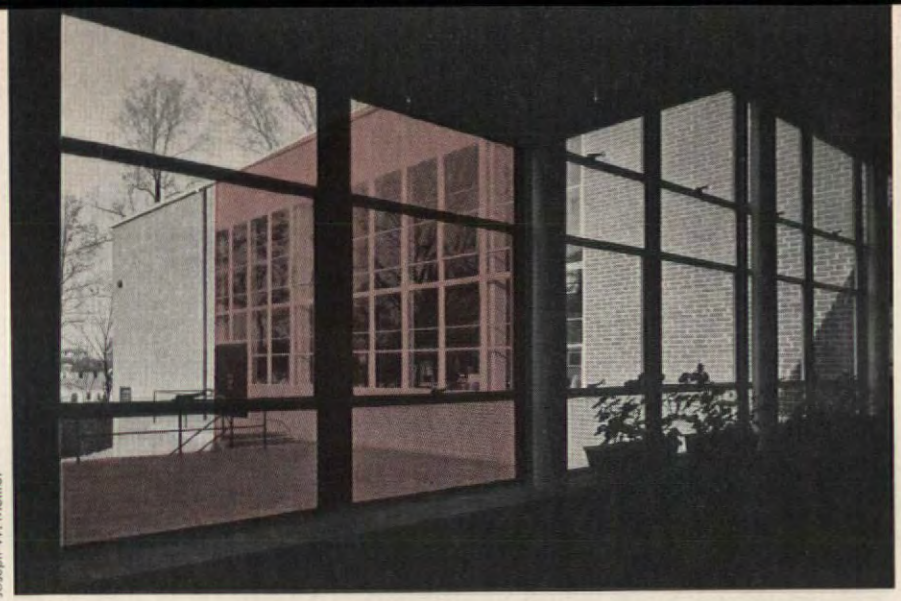
ELEMENTARY SCHOOL



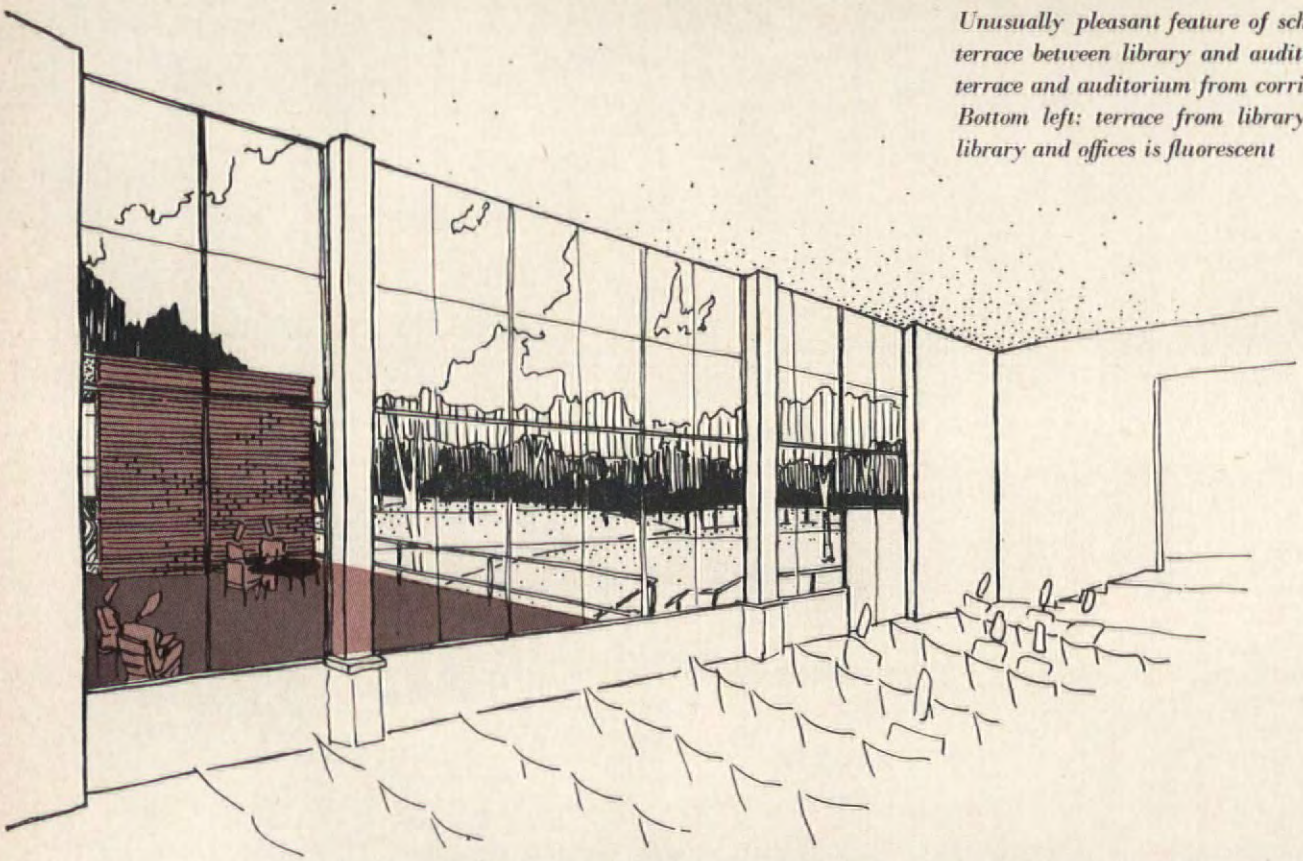




Porcelain enamel panels on classroom exteriors are of different colors — red, yellow, blue, etc. Dividers between outdoor areas are hollow concrete block, some with open sides exposed; the children love to climb on them. Within the classrooms bright colors (in combinations such as red, yellow and green) emphasize structure, give youngsters a sense of architecture. Rooms accommodate 30, have movable platforms, movable storage cabinets, asphalt tile floors



Joseph W. Molitor



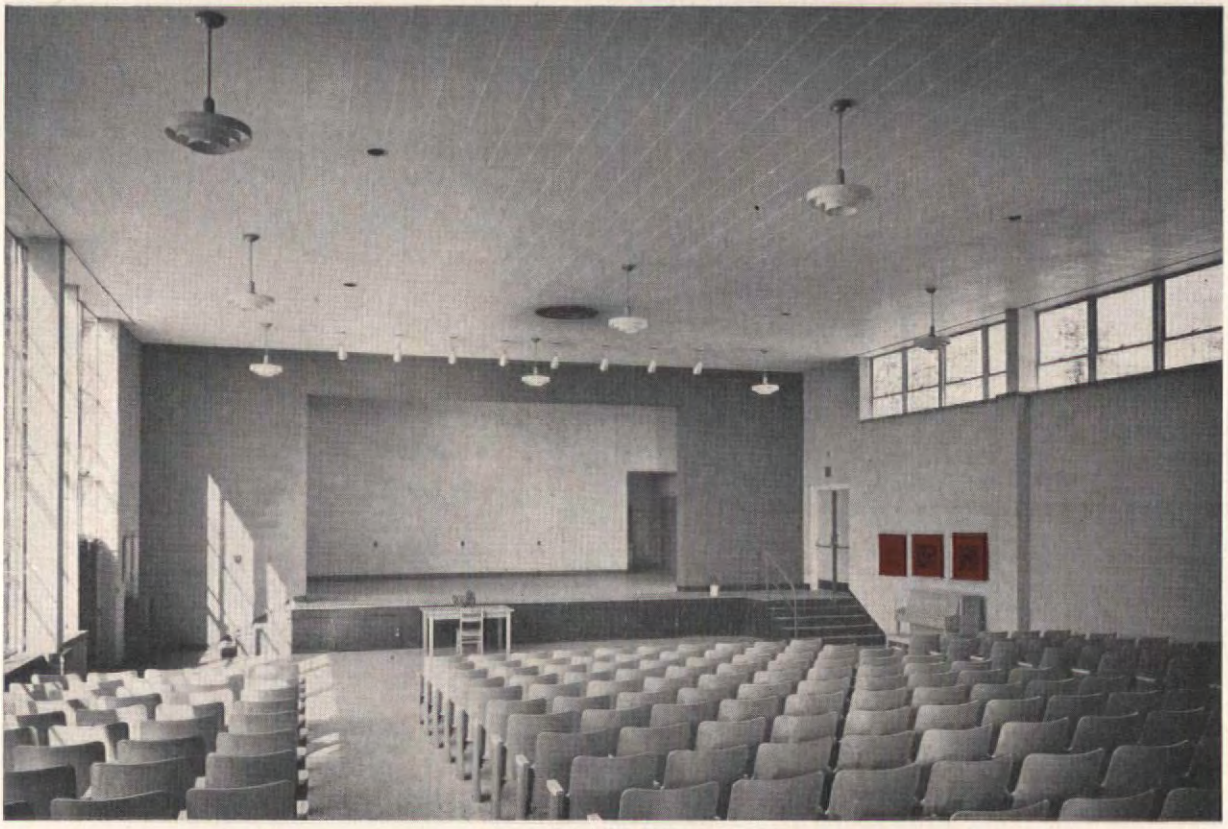
Unusually pleasant feature of school is reading terrace between library and auditorium. Above: terrace and auditorium from corridor to library. Bottom left: terrace from library. Lighting in library and offices is fluorescent

SPLIT-SITE

ELEMENTARY SCHOOL

The administrative unit, at one end of the existing building, contains, in addition to offices and health room, the auditorium, cafeteria and kitchen. It will serve upper grades as well as lower, and will be linked directly to the new building by the bridge across the swale. Here, too, color plays an important part. In the library, for instance, one wall is yellow and another is rose; flooring is blue and gray.

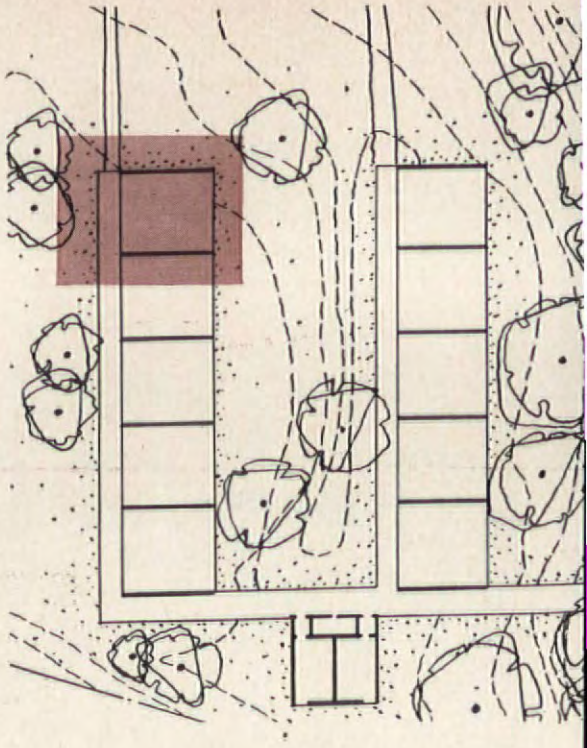
Lobby and auditorium walls are used by the School Board's alert art director as miniature art galleries where reproductions of high-quality paintings are hung in small groups and changed often.

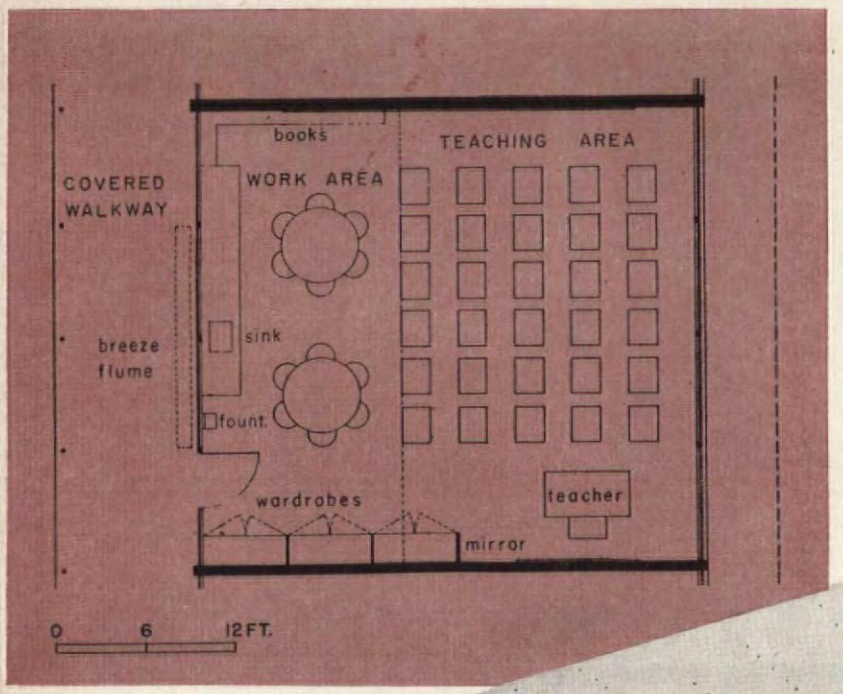


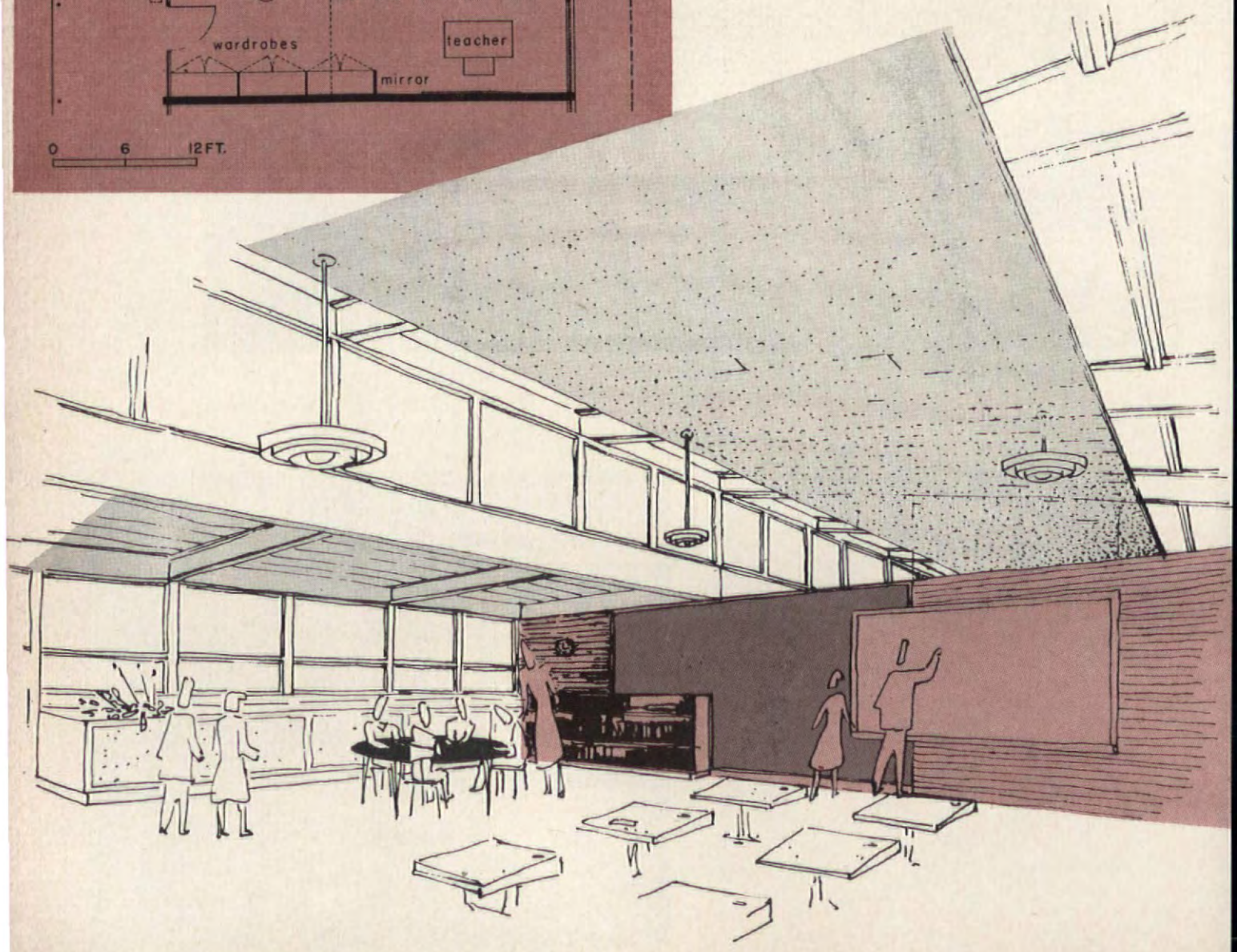
Chalkboards, tackboards and acoustical wall panel in cafeteria are in bright colors; one end wall is vivid mural. Use of color carries over into kitchen, where serving counter is between in and out doors

SPLIT-SITE ELEMENTARY SCHOOL

Upper-grade classrooms, 10 of which are to be built shortly on western half of site, will have east and west exposure and will contain approximately 1000 sq ft each. Future plans call for two additional rooms in this building and four in existing building, bringing classroom total to 24







R. Wenkam

FREAR HALL, UNIVERSITY OF HAWAII

Angled Dormitory Wings Combine Good Ventilation with Protection from Sudden Storms

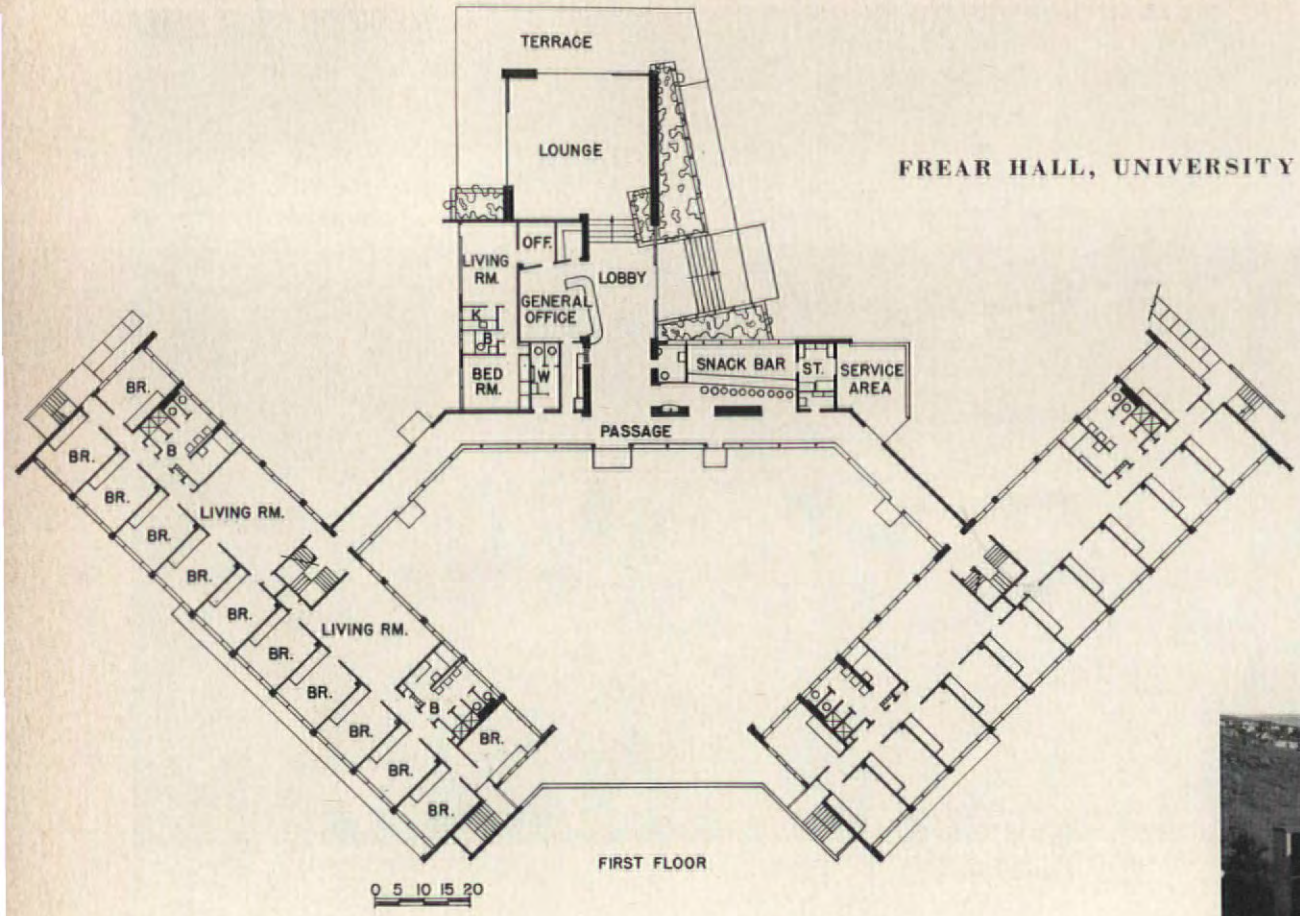
Richard Windisch
Edwin L. Bauer
G. J. Wimberly
Howard L. Cook

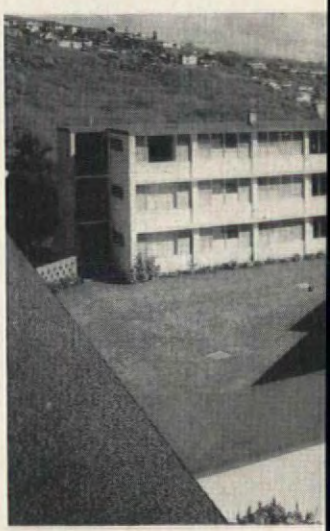
Associated Architects

ORIENTATION was the special problem in the planning of this women's residence hall for the University of Hawaii. As many rooms as possible had to face the trade winds to assure a good breeze in warm weather — and the trade winds come from the same general direction as the frequent and unexpected storms which sweep down Manoa Valley; both exposure and protection thus were required. The solution was a pair of dormitory wings, each placed at a 45 deg angle to the prevailing breeze, with a separate lounge and administration wing between the two.

The building occupies a dramatic site on the edge of a 65-ft rock cliff overlooking the city of Honolulu. Original plans called for a wide cantilevered terrace over the edge of the cliff, but the cost proved prohibitive and a more conventional lanai off the main lounge had to be substituted.

FREAR HALL, UNIVERSITY OF HAWAII

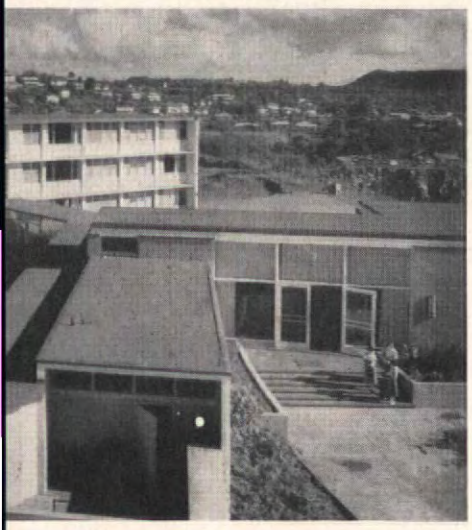




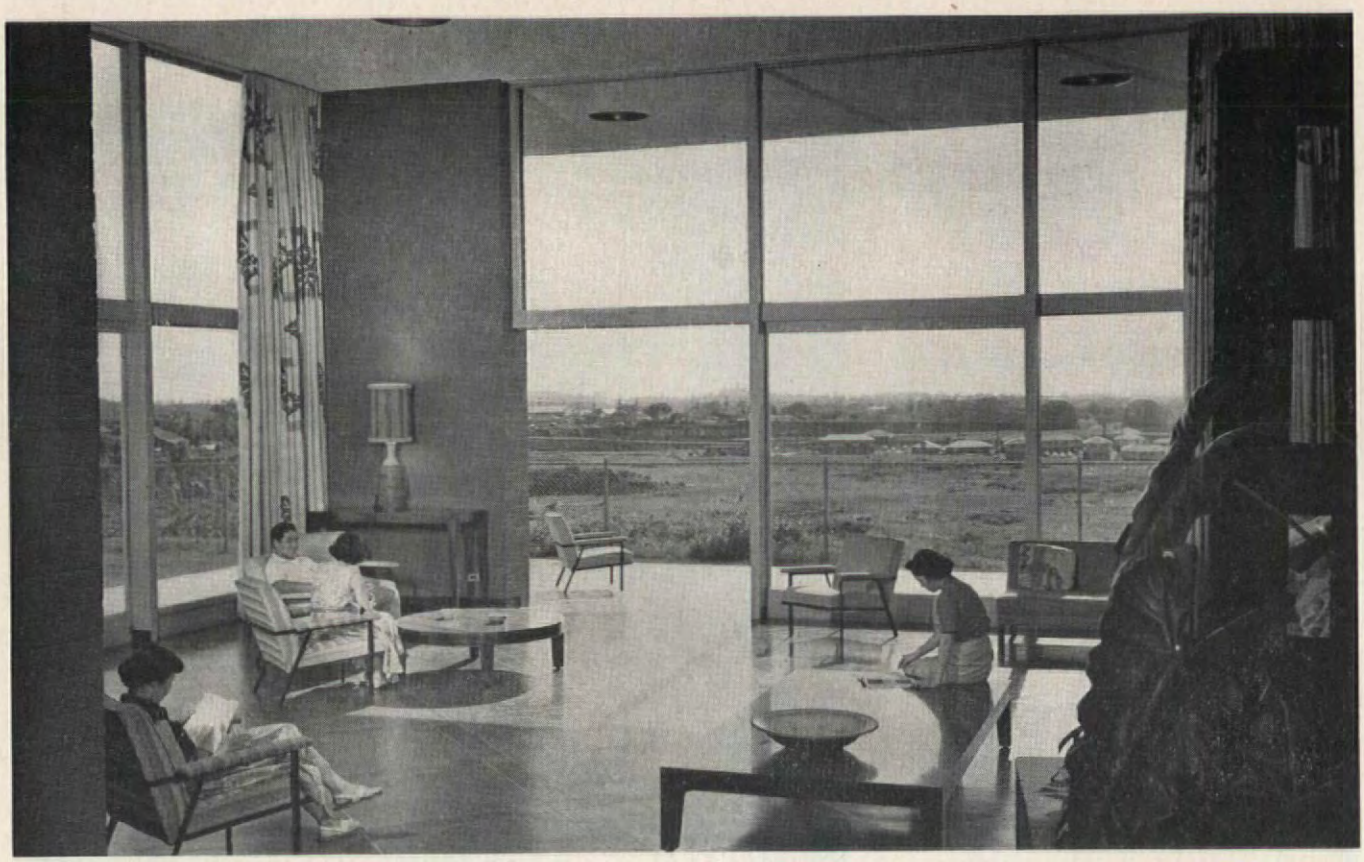
The dormitory was planned to house as many girls as possible under the budget, with living units kept small to facilitate adjustment from home to dormitory life (the majority of students come from the non-cosmopolitan outer islands). It accommodates a total of 144 girls in 12 completely separate units, each of which has six double study-bedrooms, a central living room, and its own bath facilities. The "commons" wing contains a snack-bar but no dining room: plans call for two or three additional womens' residences of the same size, all to be served by one cafeteria.

R. Wenkam

Main entrance (right) leads to central lobby and reception desk. Desk has colorful mosaic front depicting marine life of the Islands. Floors throughout building are asphalt tile, ceilings are plaster, lighting is fluorescent. Site offers fine view over city to Pacific (below). Lounge overlooks site of new stadium, scheduled for construction in very near future, which is part of the University's long-range building program



Dormitory is really three separate buildings connected by a covered walk (right) and enclosing a central garden. Hawaii's mild climate permits use of garden and lanais through most of year; main lounge thus could be held to moderate size in keeping with "family" emphasis, with large-scale functions overflowing to outdoor areas. Garden is basically for students' private use, however, and is well separated from lounge and lanais



R. Wenkam

FREAR HALL, UNIVERSITY OF HAWAII

Main lounge (above) has sliding glass doors on two sides opening to broad lanais which considerably expand its size. Bedrooms (below left) have fixed plate glass windows for enjoyment of view toward rainswept tropical mountains, and jalousies of obscure glass for ventilation. Dormitory's unit plan gives each 12 girls a private living room (below)

Hedrich-Blessing

GREYHOUND'S NEW CHICAGO TERMINAL

Skidmore, Owings & Merrill, Architects

John W. Harris Associates, Contractors

A DESIGN FOR BUSINESS THAT INCORPORATES 4 SOUND IDEAS:

1. A concept for a downtown block development that provides both amenity and income
2. A scheme that preserves retail values by keeping busses below street level
3. A maximum income ground floor plan
4. A parking garage for convenience and revenue

DESIGNED BY THE ARCHITECTS who conceived Lever House, this project is in many respects comparable; in other respects completely different. The over-all concept, the idea of a clean, crystal shaft of relatively small area rising from a low stylobate covering the entire block — the concept of an office tower set in a landscaped park three or four stories above the street — the idea of breaking up the cliff-like monotony of downtown and giving your building identity and character and its own environment — the thought of offices that will have light and air in perpetuity; in these respects the terminal is comparable in basic thinking.

As far as the actual plan of the lower floors is concerned the dissimilarity is at once apparent; for here is a ground floor open in the center and with rentable space on every façade, while Lever House is open on every façade with the solid portion for lobby and elevators at the center. This variance logically enough resulted from the program requirements.

The property, in the heart of Chicago's downtown "Loop," faces three streets: Randolph, Clark and Lake. Automobile traffic is dense; street parking is difficult to impossible. Wacker Drive is a block north, approximately 400 ft away. Over ten years ago Greyhound purchased the property, occupied by a theater and shops which brought in only a fair rental.

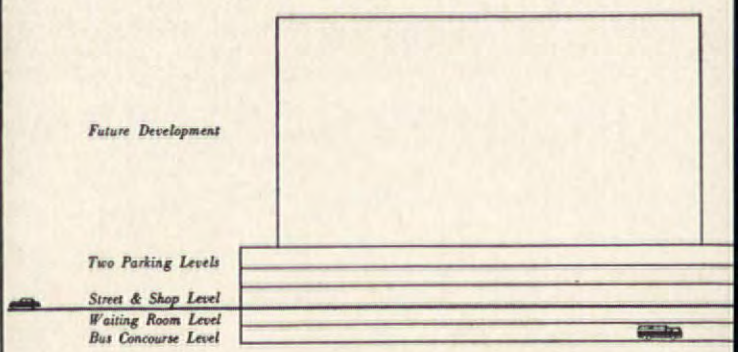
The program resulted from preliminary study by architect Nat Owings and realtor Hugh C. Michels, agent for Greyhound, who worked together on the requirements and how to meet them.

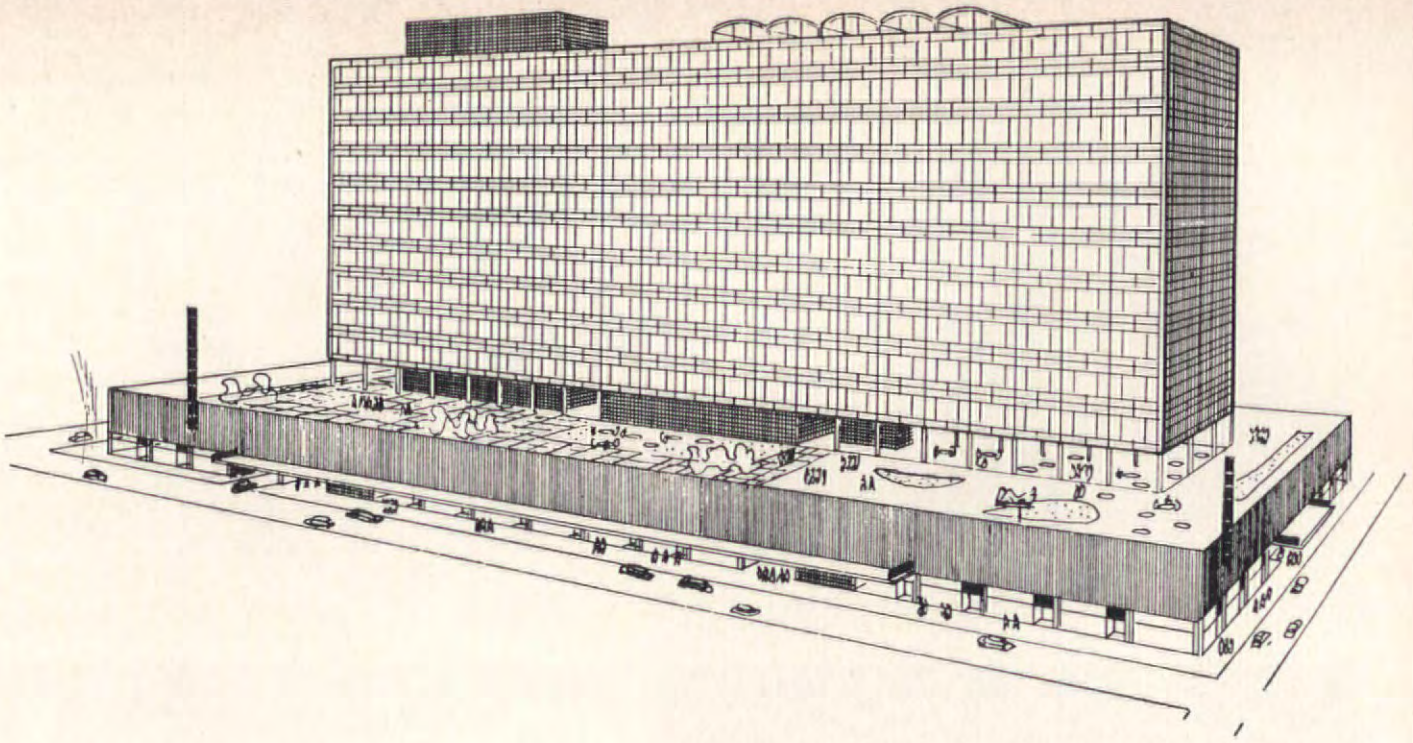
In broad terms, it was decided to keep all bus movement below grade by a tunnel to the lower level of Wacker Drive, thus clearing the way for maximum exploitation of the valuable areas at street level while simultaneously easing traffic congestion. It was further decided that parking for several hundred cars would enhance rentals and serve as a convenience for tenants and public. Finally, provision was to be made for a future tower on top of the aforementioned elements.

As presently constructed, the solution is a five-level building whose architectural key lies at street level. Picture there a square-cornered, rectangular doughnut; then place over it a two-story garage for 500 cars. All of this is rentable area. Cut three passages through it to electric stairs leading down through the large central open space to a concourse and waiting room one level below. Take another electric stair down to the bus concourse, the bottom floor, 25 ft below grade. This is the scheme, and one for other cities to study.

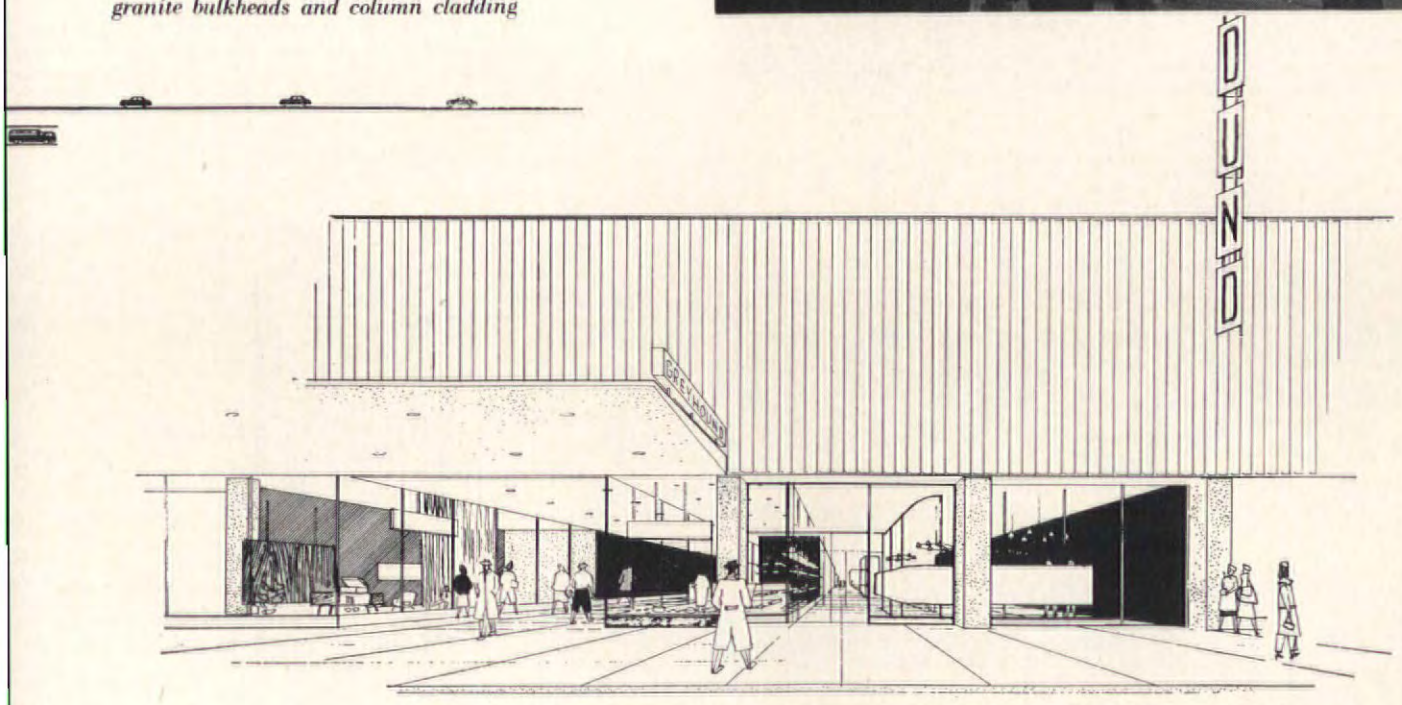
The structure is designed so that, in the future, the garage roof will become a park from which will rise the ten-story tower of glass and light curtain wall construction. The tenant would lease the rights and build the superstructure.

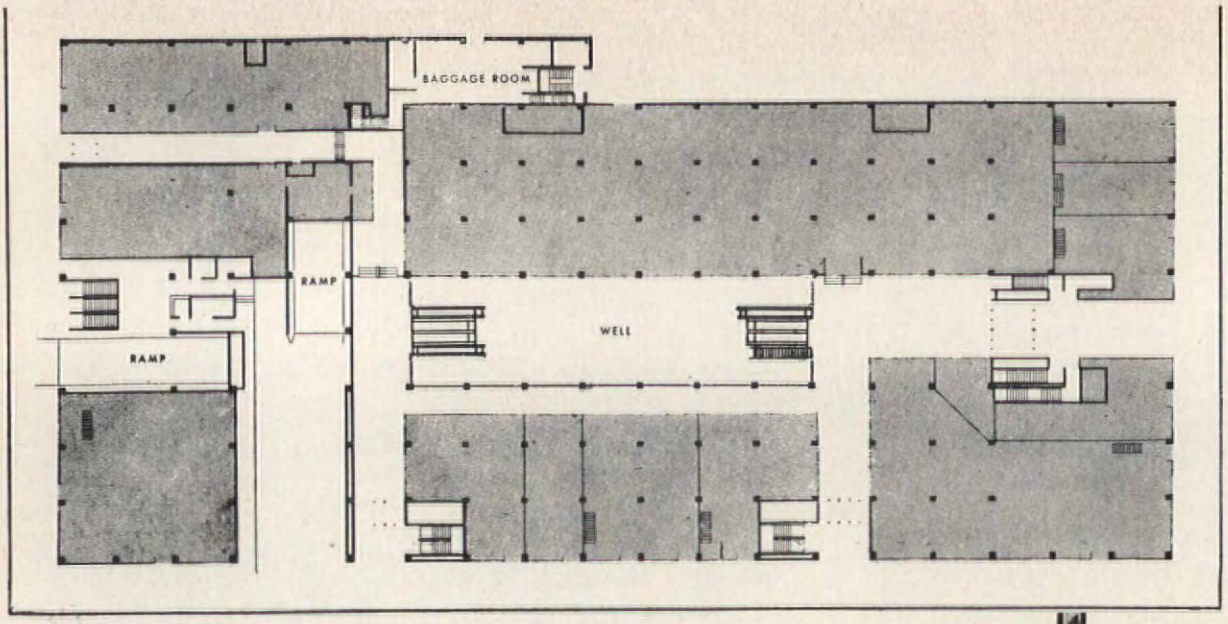
Hedrich-Blessing





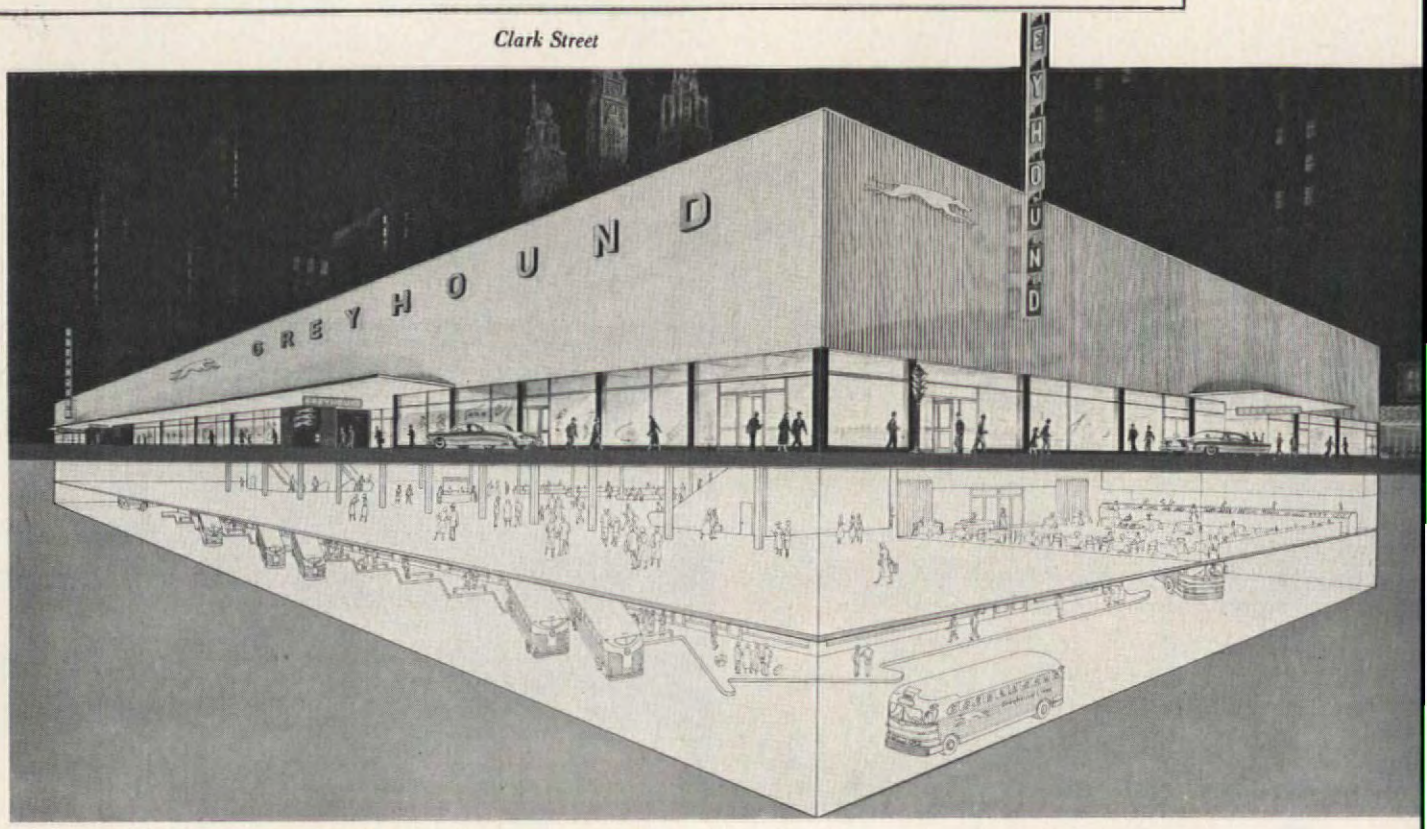
The architect's perspective sketch, above, shows the design for the future glass and steel tower. The scheme will comprise ten floors of 30,000 sq ft each. At left is a diagrammatic section and below, a rendering of the Randolph Street entrance. The two photographs are views of the completed exterior: 18 gauge corrugated stainless steel facing; granite bulkheads and column cladding

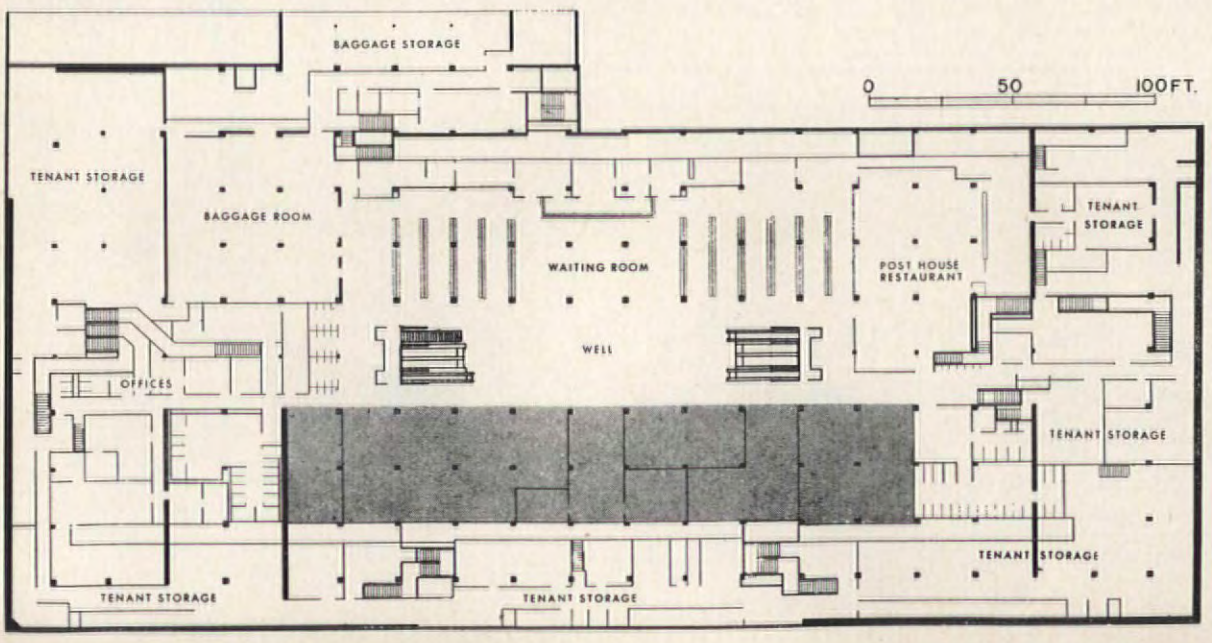




STREET LEVEL PLAN

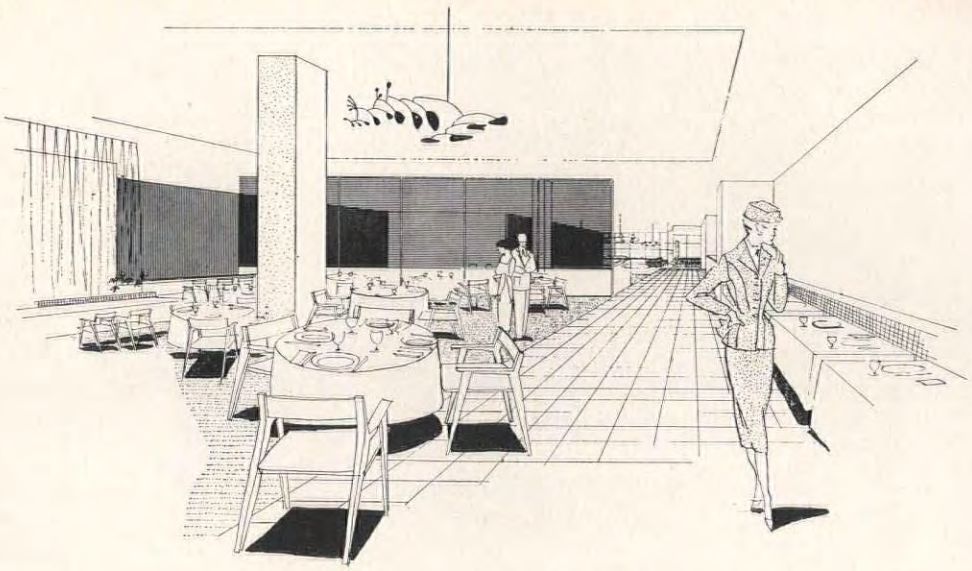
Clark Street





WAITING ROOM PLAN

GREYHOUND TERMINAL IN CHICAGO



As the plan at top left makes clear, the street level consists largely of rentable space (shown shaded), which fronts on the three streets and also has secondary entrance and display on the pedestrian arcades, as shown in the architect's rendering below. Of interest is the around-the-clock operation of these tenant enterprises, which have as a result become a night shopping center in the otherwise dark neighborhood. Rendering above and photo at right show two views of the large restaurant at street level.

The waiting room level, plan at bottom left, centers about the two-story well (about 50 by 160) and is reached by electric stair from sidewalk level. It contains a waiting room for 500 people; ticket windows; 800 lockers; a checkroom; mechanical baggage conveyors connecting with bus level below; the Greyhound Post House restaurant; offices for Greyhound; and rentable concession areas (shown shaded) close to principal circulation and to the waiting area.

Hedrich-Blessing

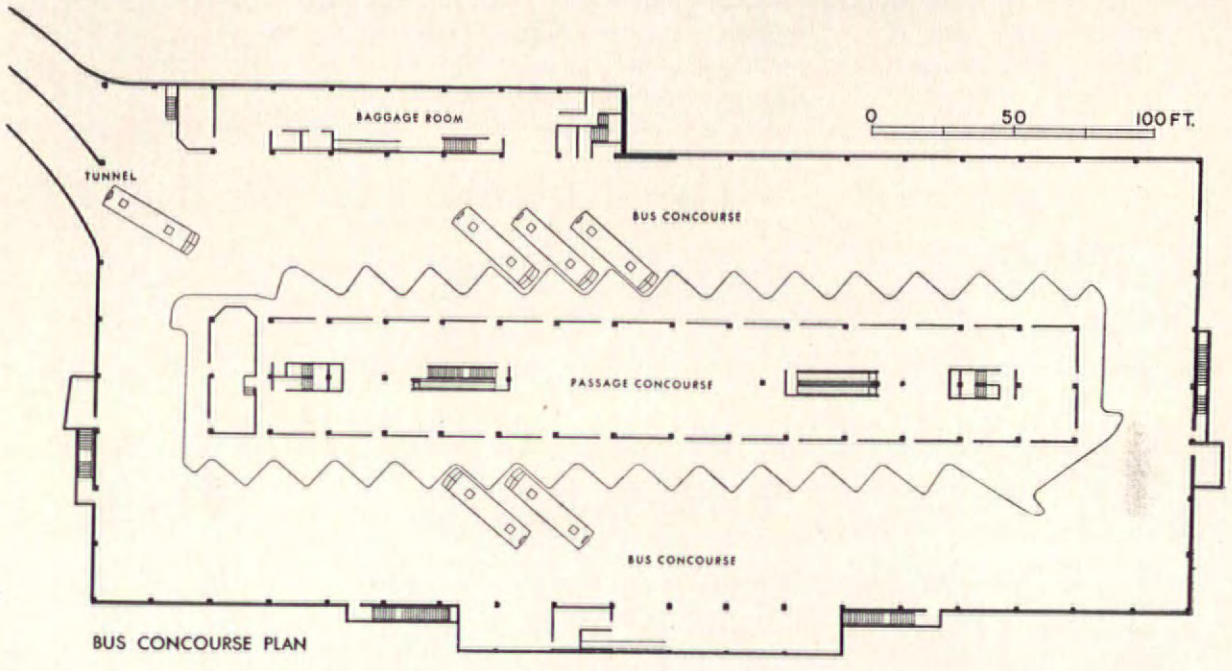
Hedrich-Blessing

GREYHOUND TERMINAL IN CHICAGO

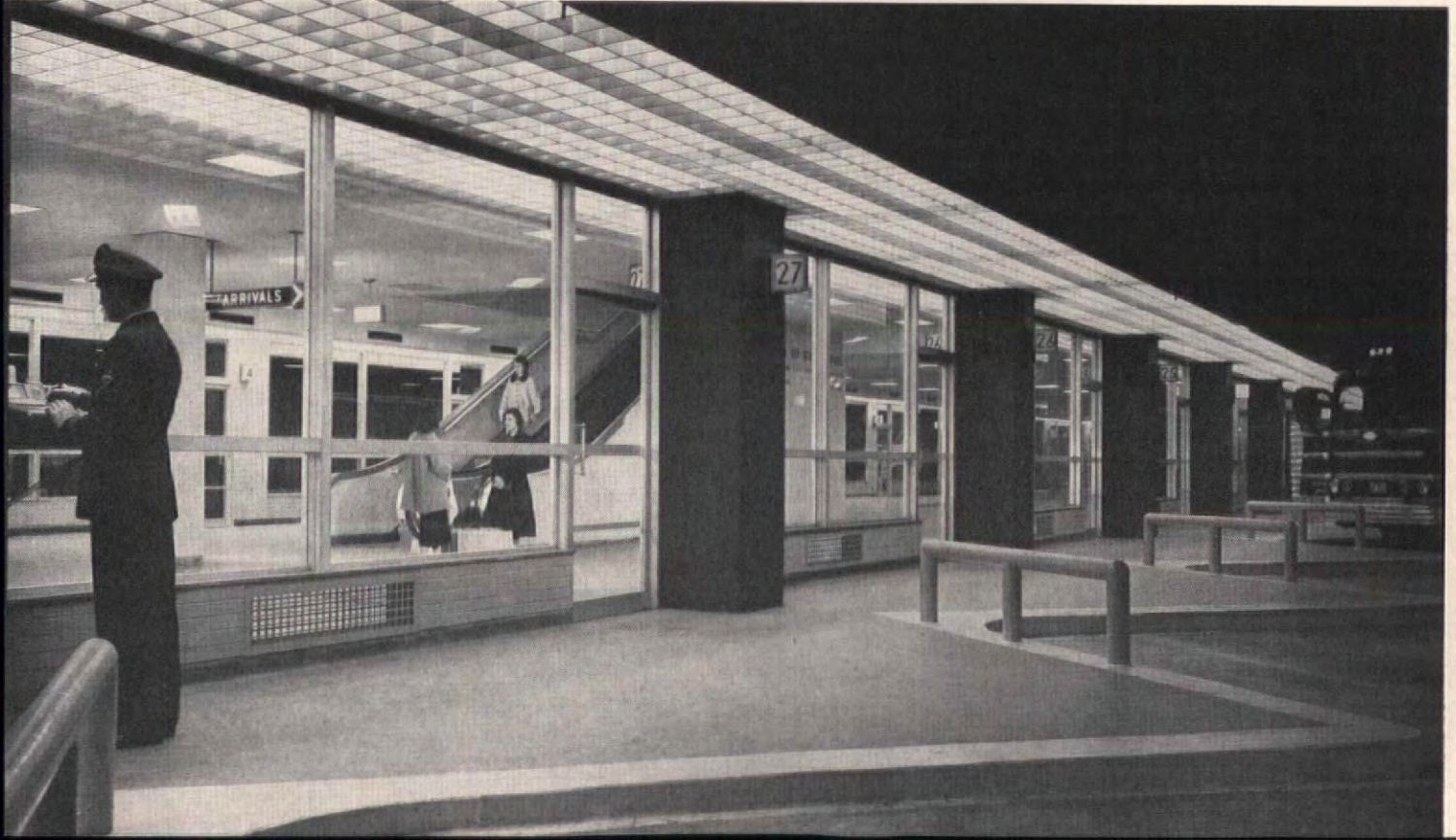
The photos on this page picture the waiting room with its large two-story concourse. This is the area where terminal and commercial building meet. Walls and columns are finished in marble; most of the interior trim and the doors are aluminum; the floor is terrazzo; the ceilings are mineral acoustic tile.

The plan and pictures on the right page show the bus concourse and loading level. Busses gain access to the loading docks and peripheral loop from a 225 ft twin tunnel, each barrel of which is 15 ft 9 in. wide by 13 ft high inside, slopes on an 8 per cent grade, and features an electric snow melting installation. Traffic is controlled both by dispatcher and by stop-and-go lights automatically actuated by electric eyes. There are docks for 31 busses and ample passing space beyond. Allowing 15 minutes for each loading, the terminal can thus handle 120 busses per hour, or 18,000 persons daily.

The glass and aluminum enclosure separates pedestrians and vehicles and is reached by electric stair from the waiting room above. Note how the long light strips on both sides of the glass tend to eliminate reflections and provide ample light for loading in such a manner that the driver can see comfortably.



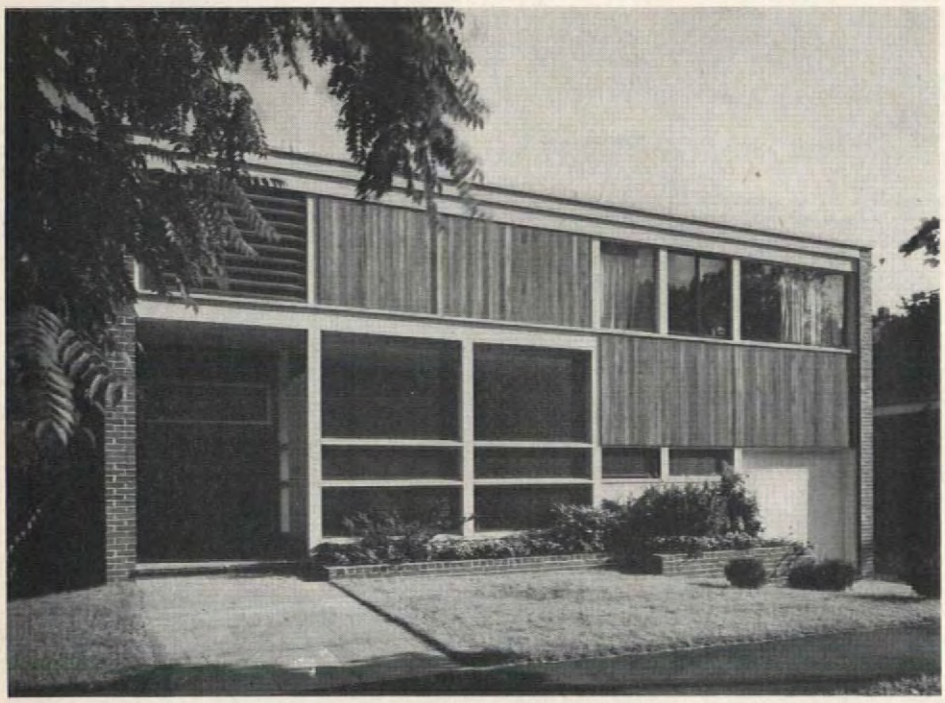
BUS CONCOURSE PLAN

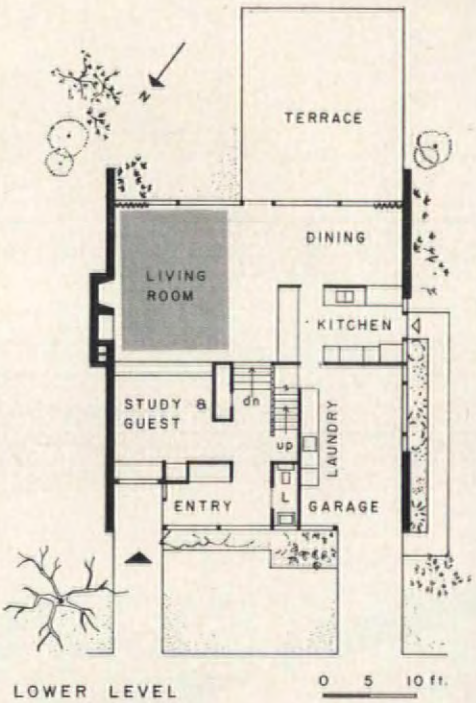


FOR HOUSES—OPEN OR CLOSED PLANNING?

THE VIRTUES OF THE OPEN PLAN have intrigued us all for quite a while, and stirred up a lot of arguments. By now, few can seriously question that it is a good method for gaining flexibility and a sense of space in today's smaller, more compact houses — and perhaps for lowering the cost. Public acceptance is gaining ground, too, with some of the consumer press leading with such glibly assured phrases as "The house these photographs were taken *through* . . .". But even a virtue can be overworked and used indiscriminately, at the sacrifice of other desirable qualities. There are certainly some individuals who would rattle around by themselves in an open-plan house, some who would be rattled by the more or less frenzied activities of others in a family group. There are many ways, some old, some fairly new, of combining both advantages of space and privacy: three houses are presented here that were designed to be used open or closed.

Joseph W. Molitor



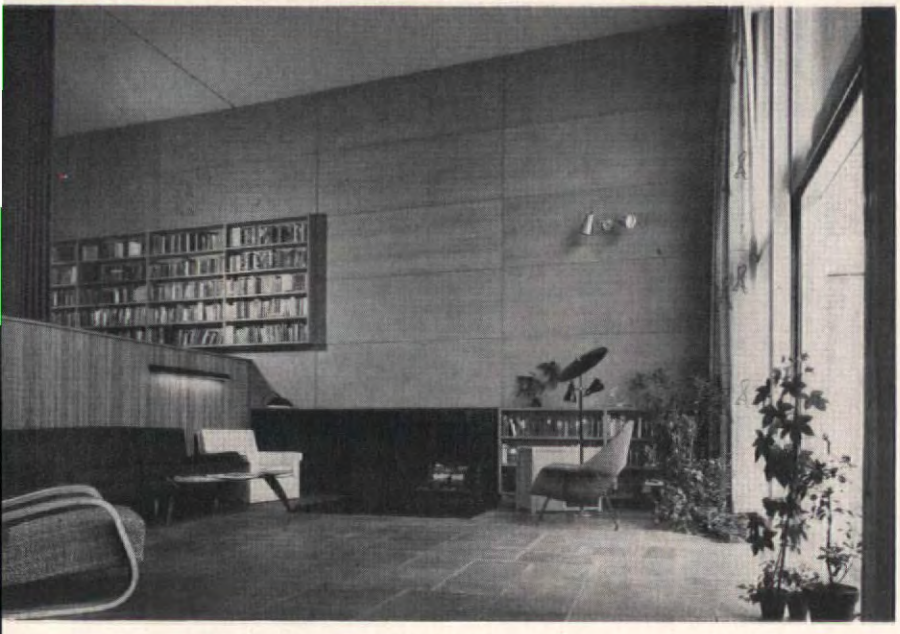


OPEN OR CLOSED PLANNING?

1. In Suburbia: equal demands on space and privacy

Cambridge, Mass. Carleton R. Richmond, Jr., Architect

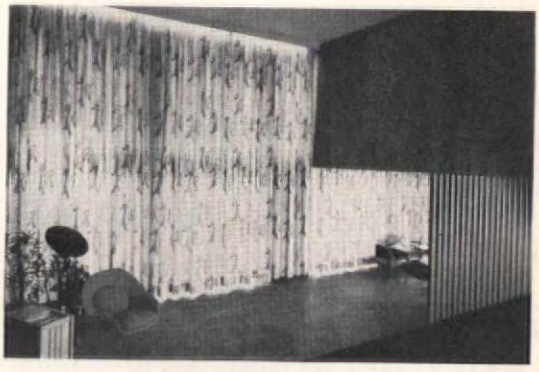
SITE LIMITATIONS and close-by neighbors can pose rather acute problems in many typical residential areas. In planning his own house, Carleton Richmond was faced with zoning restrictions limiting building width to 38 ft, and with a six story apartment house looming to the rear of his 150-ft-deep lot. The resulting compact design incorporates a variety of devices to give the occupants (a couple and one child) privacy from the neighbors, and an interior plan which can be as open or closed as desired. All living areas form a single large room, with plan elements carefully articulated by changes in ceiling and floor levels, and by movable partitions. Obscured glass shields the front entry, while glazing at the rear is protected by a large canopy and trellis.

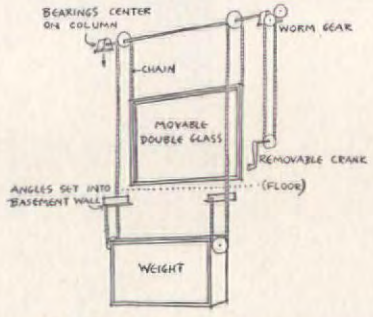


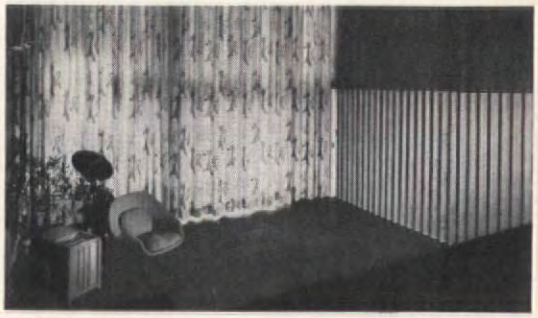
An illusion of space is created by downstairs open plan, though rooms are small. For privacy, surrounding rooms can be shut off from living area (gray area on plan). Study (right) doubles as an office, also as guest room

Joseph W. Molitor

Living room becomes part of garden when lower glass sections are raised (mechanism is similar to sketch, right). The spatial quality of the room can be altered in varying degrees by different arrangements of opening walls, folding partitions, blinds and curtains. Kitchen is closely integrated with dining and living rooms but may be completely shut off from both





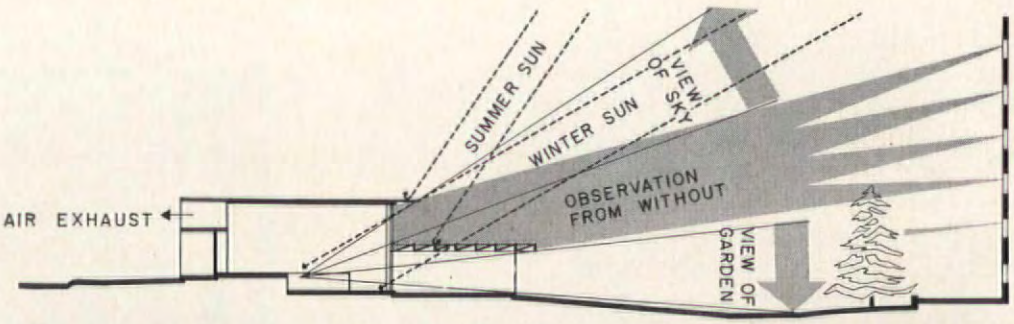


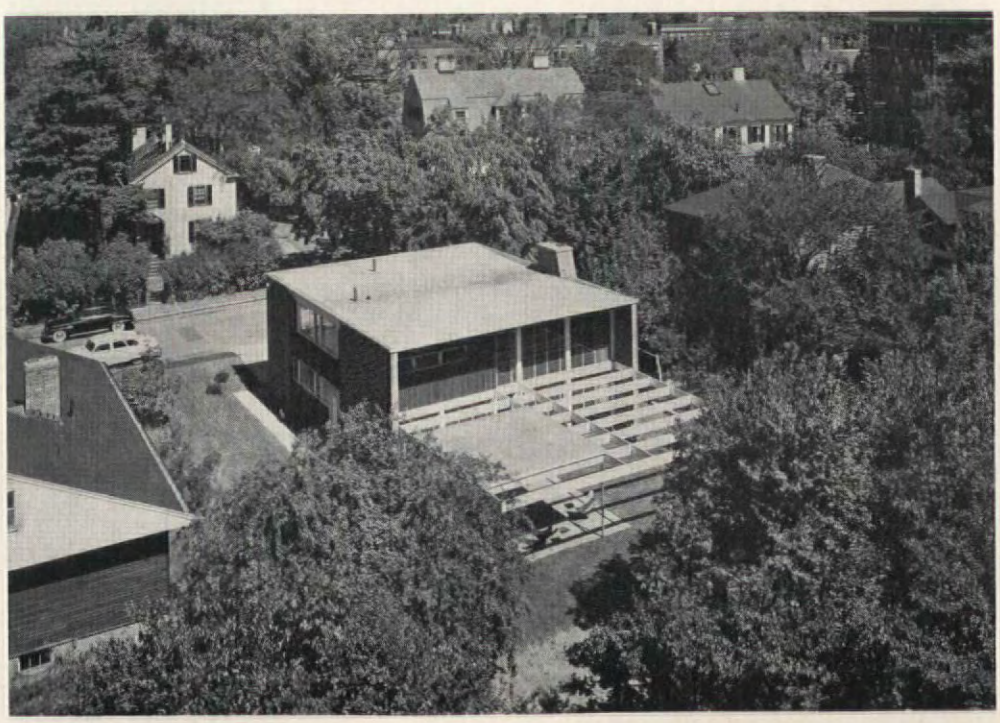
UPPER LEVEL


Joseph W. Molitor

Storage walls in bedrooms form sound barrier against living room. High windows in master bedroom help ventilation, privacy

Trellis members over terrace and trees are spaced to restrict view from apartment house at rear, yet pass winter sun and view of sky





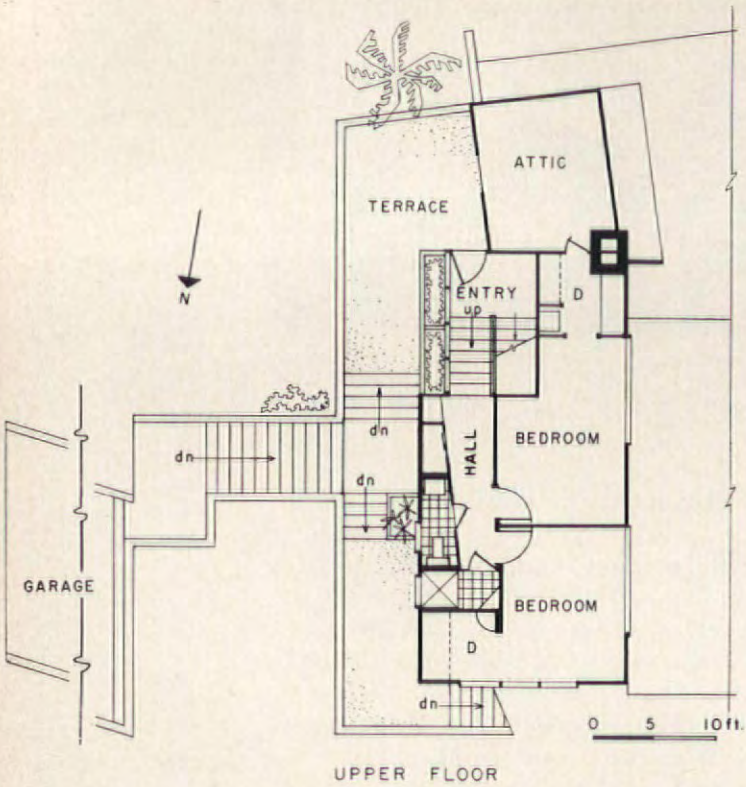
OPEN OR CLOSED PLANNING?

2. In Resorts: the setting is the capital, seclusion a profit

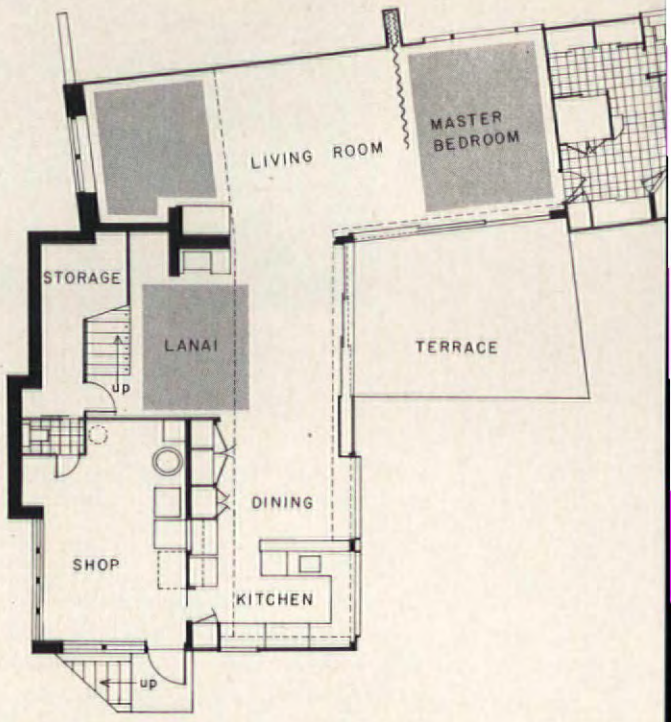
Honolulu, T.H. Lemmon, Freeth & Haines, Architects

APART FROM open-interior considerations, in surroundings as magnificent as Hawaii the average client is usually willing to trade a fair loss of privacy for a series of views. But any protection against the prying eyes of the curious and the tourists is a welcome asset. In this house for Dr. and Mrs. T. W. Cowan, roadside planting and a steep slope have been used to give considerable seclusion to the small terrace and big window at the front of the house.

R. Wenkam



UPPER FLOOR



LOWER FLOOR

RESORT HOUSE: HAWAII

A fairly unusual plan disposition provides all facilities for the owners at the lower level in an open arrangement, with extra bedrooms, each with dressing room and lavatory, and a split-bath on the upper floor

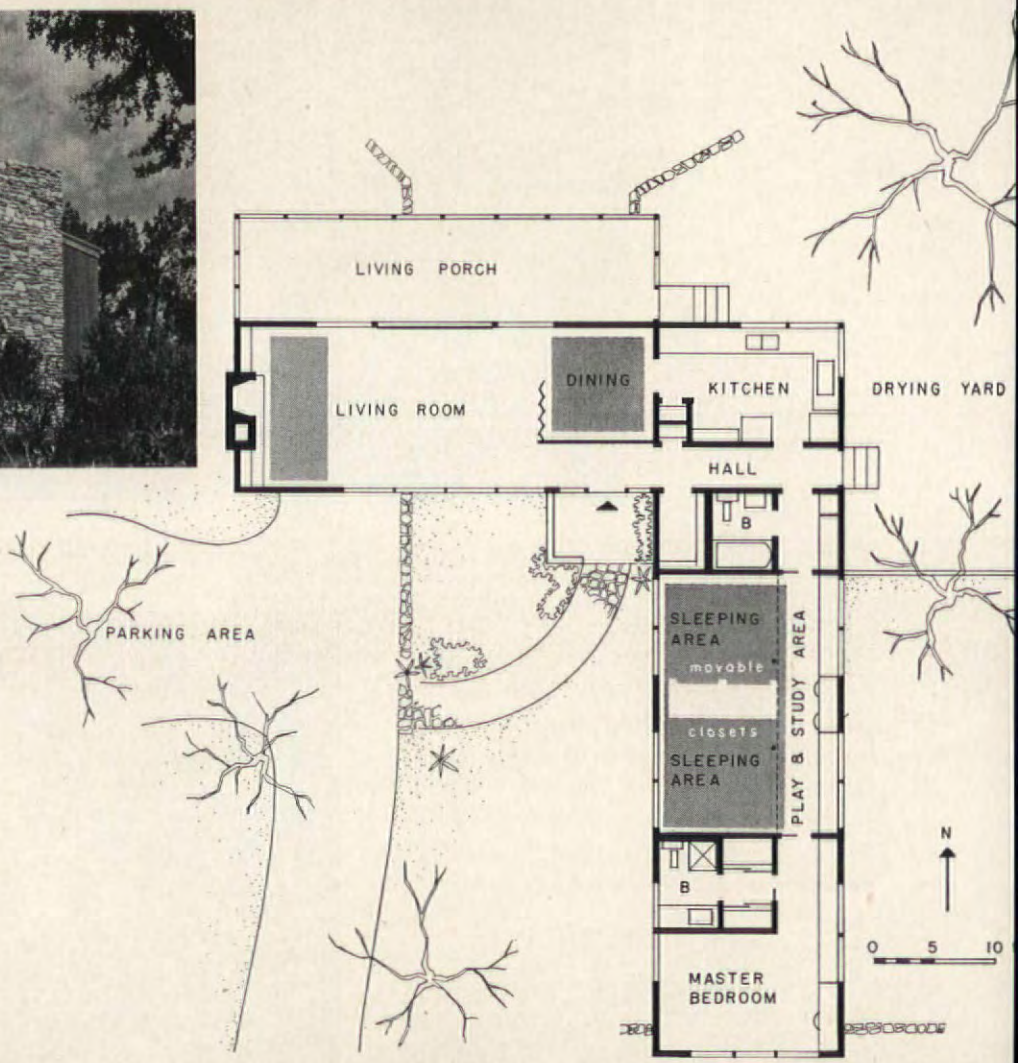
R. Wenkam

Open as it is, the lower level of the house does provide some corners for retreat in the alcoves and closeable bedroom (gray areas on plan). All dressing facilities for the bedroom adjoin the compartmented bath. The terrace may be closed off with sliding glass or screen panels. Deed restricted placement of house on lot so views of neighbors' houses aren't blocked

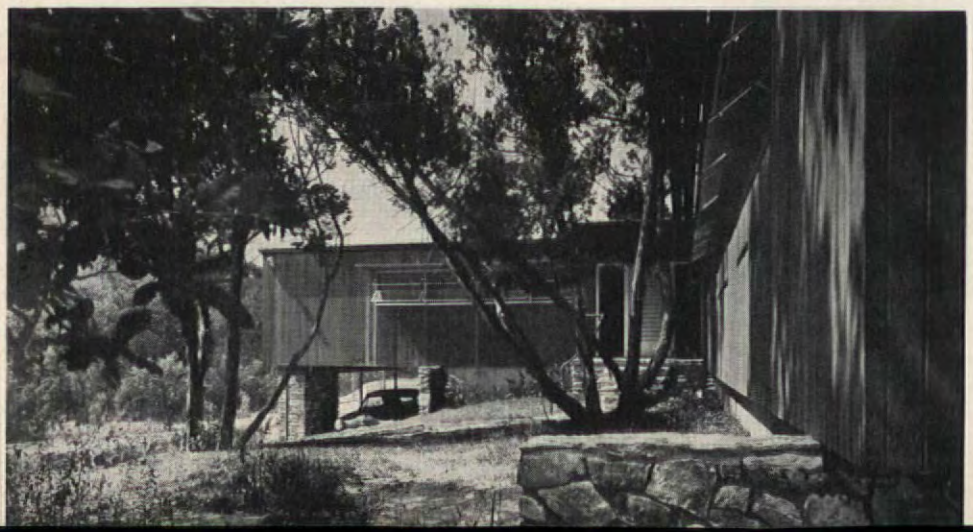
3. In the Country: interior flexibility gains importance

Austin, Texas *R. Gommel Roessner, Architect*

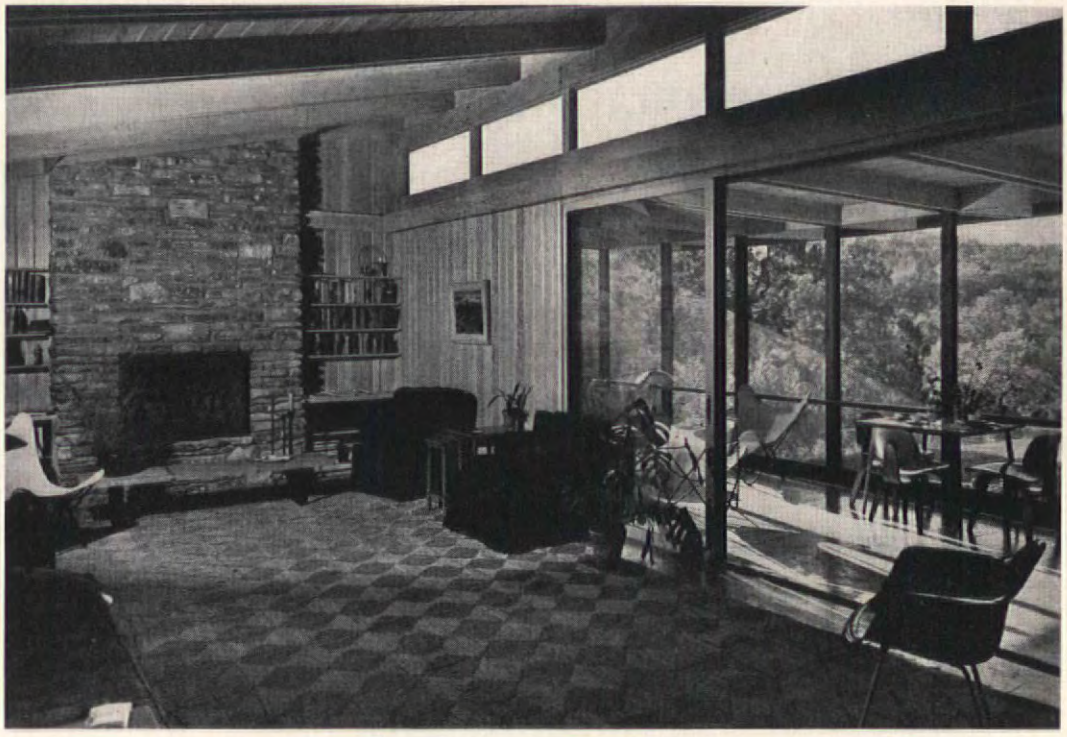
A CLIENT with a near-rural or rural site will sometimes demand a house flexible enough to entertain, feed and sleep a small army of guests or relatives from time to time, and yet be snug and efficient when just the family is present. A paragon somewhat along these lines has been achieved in this house for Mr. and Mrs. Millard Rudd on the outskirts of Austin. Both the living areas and children's room adapt to various arrangements.



In Texas, where insects are as gregarious as the people, screen porches are vital most of the year for outdoor living. This example seems unusually well integrated with the house, plan- and design-wise. Kitchen is placed to aid supervision of children anywhere in house or back yard

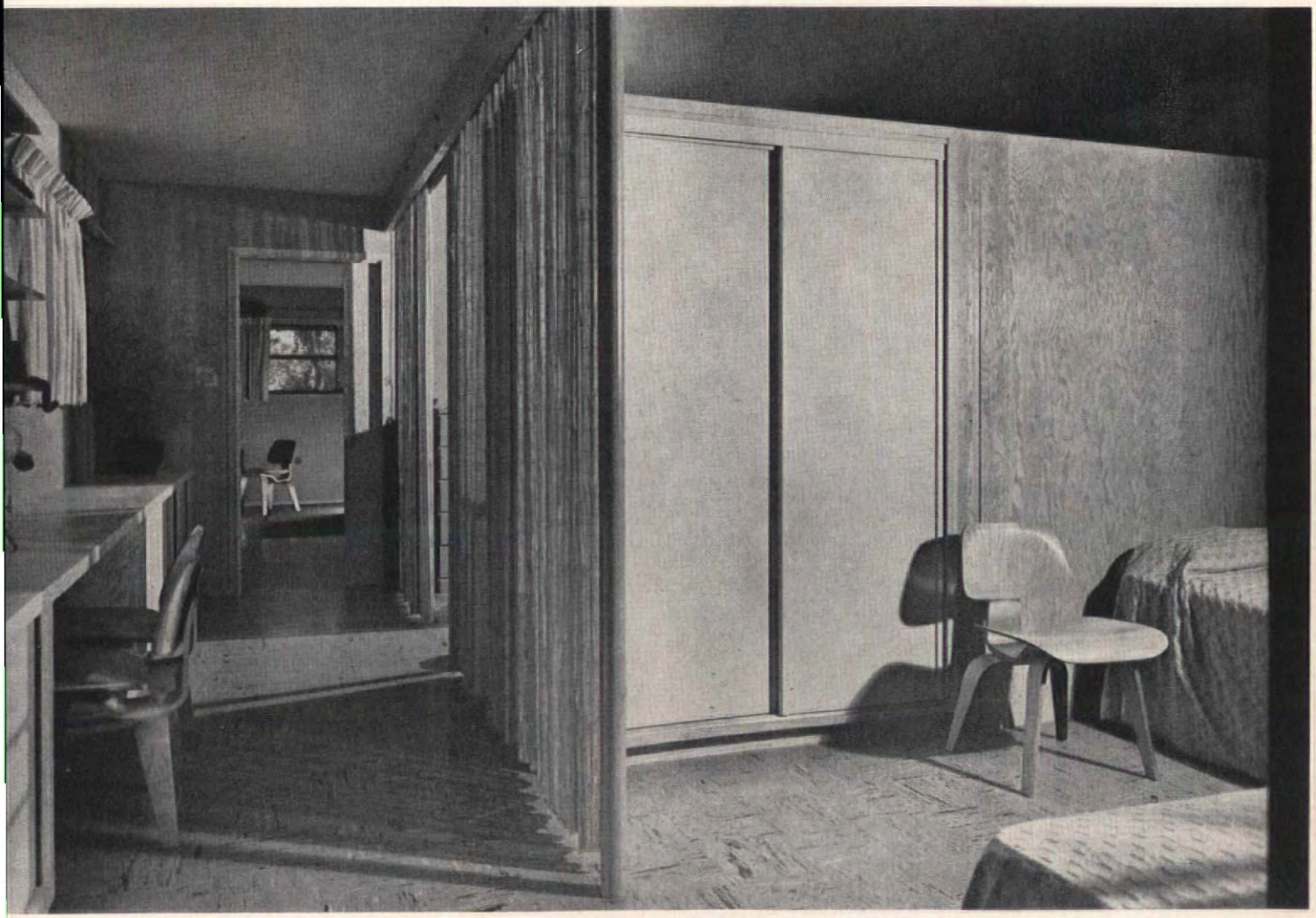


The children's room (right) is designed as an extremely flexible unit. A portable closet partition and reed curtains make it easily convertible from a single large room into three separate areas. Convenient rear door and bath help prevent children's tracking mud through house



The extra space added to living room by porch and dining area gives ample room for large groups. Fireplace end retains closed-in feeling. Wall between dining area and entry is louvered for ventilation

Mears



RESTAURANT WEARS ITS NEW LOOK GRACEFULLY

Ezra Stoller

REMODELED RESTAURANT MAYAN, NEW YORK

Carson and Lundin, Architects,
with the assistance of the
Planning Department, Union News Company

James King and Son, General Contractor

WHEN THE MANAGEMENT decided last summer to remodel the Restaurant Mayan, located in the International Building, Rockefeller Center, that establishment had been in operation for nearly twenty years, as had the building.

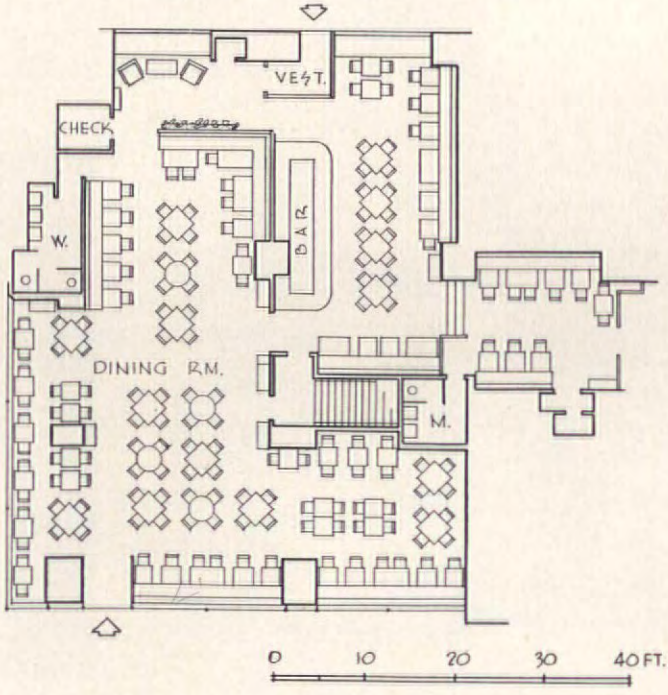
First change was a new marquee and entrance of bronze, mahogany and glass to brighten the single street façade. Immediately inside is a new entry and waiting area which serves both bar and restaurant. Located here are check room, public phone booth, and the headwaiter's station and phone. Privacy for the restaurant proper is provided by a half-partition of mahogany and translucent glass which supports a hanging plant box on the entrance side and backs up a banquette on the dining room side.

The vestibule and entrance doors are tempered glass; the new suspended ceiling is gypsum acoustical tile; the flooring of the entry and bar is large squares of terra cotta colored vinyl tile outlined in narrow black strips.

Bar before remodeling

The attractive bar features two plaster reproductions of ancient Mayan heads, mounted on a panel of natural mahogany. The heads, found only four years ago at Palenque in Mexico, are apparently fragments broken from sculptured panels in a burial tomb beneath a pyramid. Hieroglyphics place them at 633 A.D.

Remainder of the back bar is olive green vinyl plastic with bronze and glass liquor cabinets. The bar itself is mahogany with a dado of turquoise plastic and a footrest of black asphalt tile



ARCHITECTURAL INTERIORS

Design | *Details* | *Materials* | *Equipment*

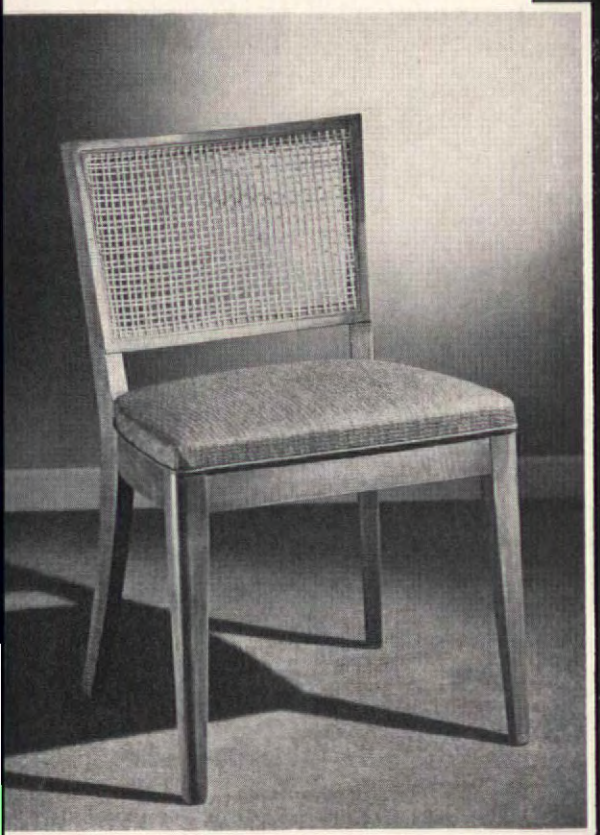
REMODELED RESTAURANT MAYAN

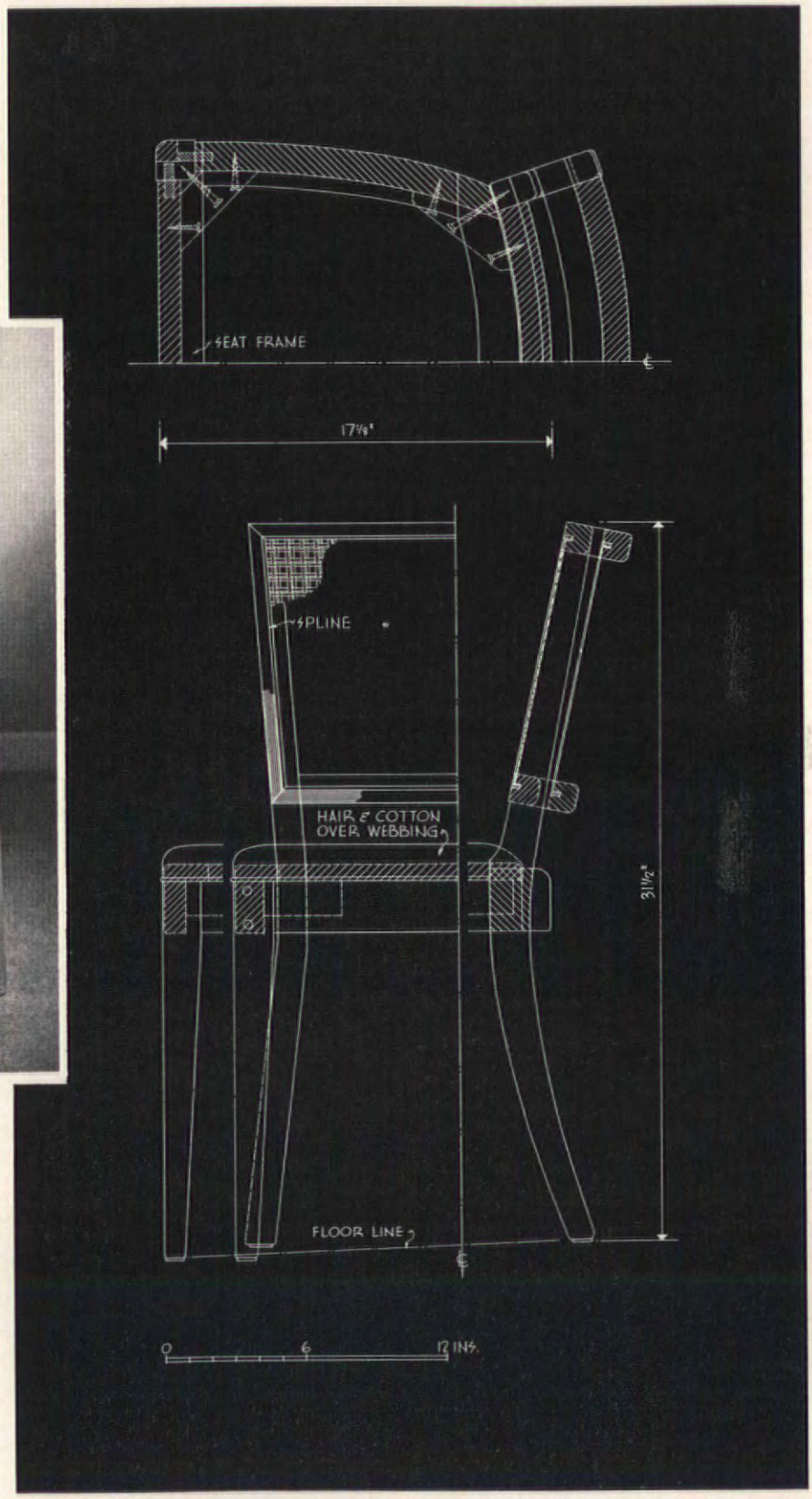
Greater intimacy and horizontal spaciousness result from lowering the ceiling, as can be seen in the before and after pictures. The alcove area, bottom, becomes a private room when the turquoise and yellow curtain, top, is closed. The true Mayan color scheme: earthy yellow and turquoise planes against mostly off-white walls and ceiling; terra cotta as noted; deep olive green carpeting

Ezra Stoller

Cambon Studios

The smart and comfortable typical chairs were designed by the architects, working in close collaboration with the design department of the maker, Brower Furniture Co. of Grand Rapids. The





frame is ebonized wood, the back is natural cane, and the seat is upholstered in a terra cotta colored plastic. All the banquettes are in matching upholstery

OFFICE BUILDINGS

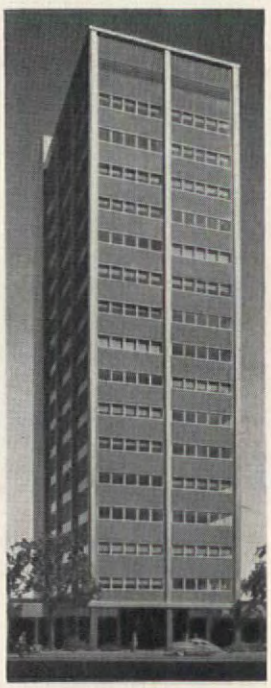
STRUCTURE, ENCLOSURE, EQUIPMEN

WHEN office building design is considered as a matter of satisfying tenants' needs profitably, one discovers that the prime questions are much the same for the small, horizontally planned suburban building as for the skyscraper downtown. The structural solution may be less or more complex; the air conditioning system may be peripheral or central or both; bay sizes, floor expanse in relation to subdivisions for tenancy — all these and many other structural, legal and economic considerations constitute the framework within which the designers work, a framework varying infinitely according to each building's situation.

The work of many technical experts is combined in today's office buildings, even the most pedestrian of them. When this coordinated effort is well directed we hit the design jackpot, so to speak, and the country has another landmark to boast of. Such a building the Republic National Bank of Dallas appears to be. It is the latest resolution of nearly all the problems met in office buildings.

About structural systems and "skins" and the like much has recently been said. Another group of engineering services, the complex mechanical systems we employ today, has been less thoroughly explored as to its effects on design, so much of this study is devoted to this intricate inter-relationship.

ARCHITECTURAL RECORD'S BUILDING TYPES ©



Ezra Stoller

ECONOMICS AND THE ARCHITECT'S TALENTS

REPUBLIC NATIONAL BANK OF DALLAS, TEXAS

To laymen, certainly to the people of Dallas, their new Republic Bank Building now under construction is exciting. There is excitement in it, too, for architects and engineers; not that aluminum-skinned buildings haven't been done before; but here the goal of total integration of the practical necessities into a sleek, architecturally impressive whole seems at last attainable. By now its slab-like tower of rentable space rising 35 stories; the 600 ft to the top of its eventual flèche; its rather conventional steel framing (utilized, however, in surprising ways); its four basements; its insulated aluminum skin and sealed, pivoted windows; its blue-green-tinted glass and its high pressure air conditioning, are not individually new. The understanding with which these means are related, each to all the rest, the architectural talent with which they are assembled, is the new element.

STUDY NUMBER **209**

Photos opp., left to right: Proposed office building for a southern city, Carson & Lundin, Archts.; Anaconda Wire & Cable Co. offices, Orange, Calif., Welton Becket & Associates, Archts.-Engrs.; 11-story building in New York, under construction, Emery Roth & Sons, Archts.; 23-story Denver Club Bldg., Denver, Colo., under construction to provide both rental of office space and club quarters, Ervin & Berne, Archts.; below, Republic National Bank building as it appeared against Dallas skyline, May 1953

Ulric Meisel

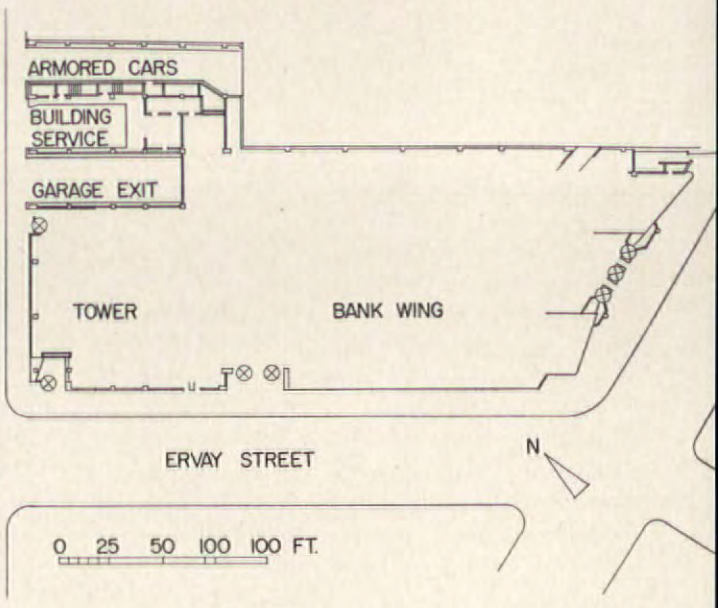
Kirby Studio

Architects:
Harrison & Abramovitz;
Gill & Harrell

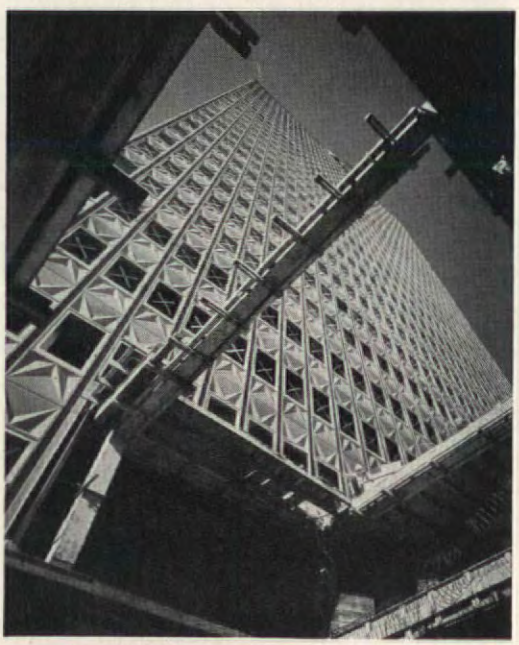
Structural Engineers:
Edwards & Hjorth

Mechanical, Electrical Engineers:
Jaros, Baum & Bolles

REPUBLIC NATIONAL BANK



Above, model; tower is rentable space; banking quarters in 8-story lower block; spire is designed to make the building tallest (600 ft) in Dallas. Below, status on Feb. 8, 1954; completion scheduled for fall

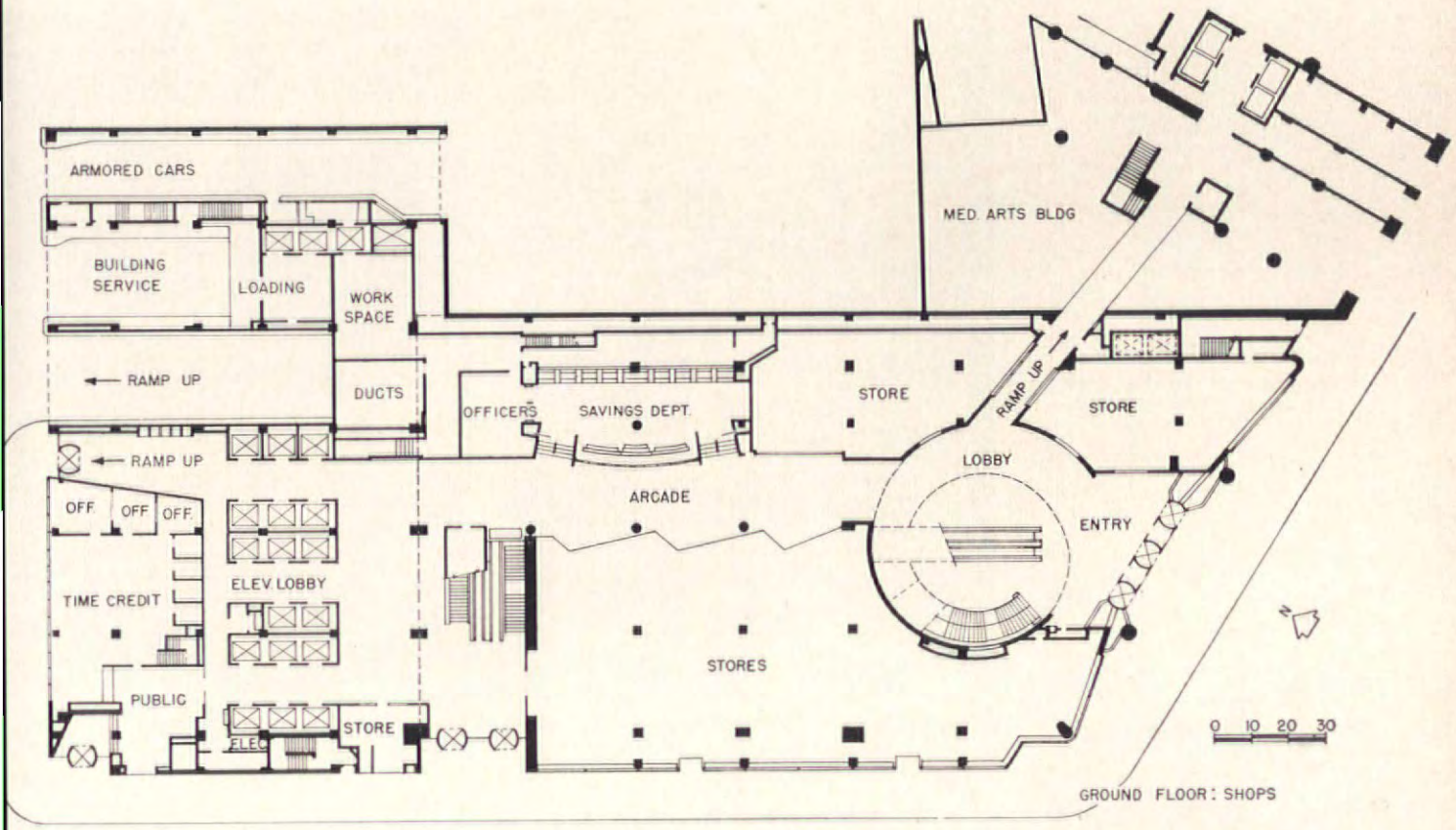


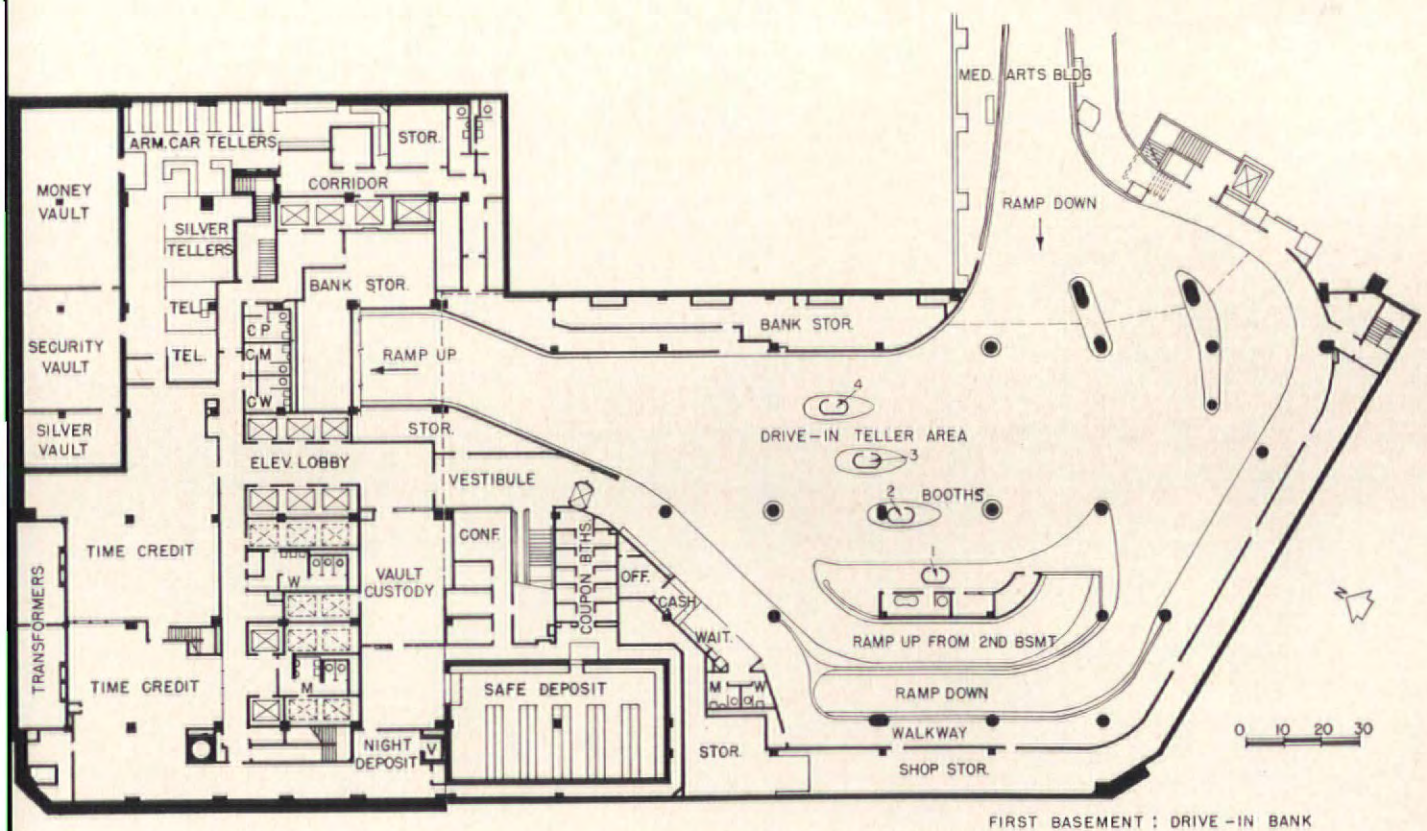
Ulrich Meisel

The relatively narrow office tower floors have the advantag natural light and easy access to the elevator banks characte of this type of plan; the structural bays are of course of a size w permits the most efficient office layout for normal purposes. low banking wing is wider; and as it will have to be artifi lighted anyway, two of its sides will be windowless. The thir posed façade is to be in effect one huge window, marble mulli which will flood with daylight the great main banking room contemporary expression of the traditional American conce the banking hall as a motif to be architecturally recognize the exterior as well as within the building.

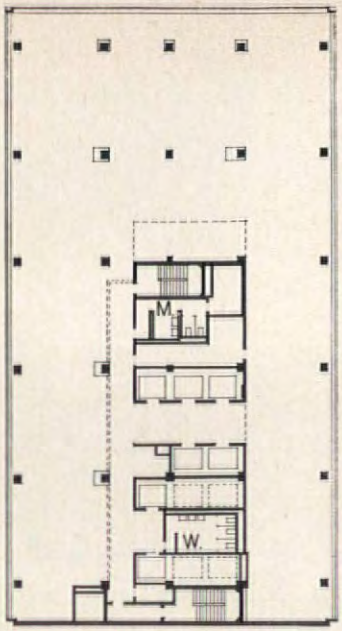
There are also breaks with tradition: ground floor space in location is commercially valuable, so the ground floor is t mostly shops, many of them fronting on an interior arcade, an two-story banking room will be at second-floor level (though H & Lescaze's Philadelphia Savings Fund building followed scheme, it has not been widely used). Again, the first baseme to be mostly drive-in banking facilities — nearly unheard-of downtown bank — with entrance through the adjacent Me Arts Building and an exit ramp adjoining one of the Rep Building entrances. The customer parking area will accommo a turnover of 1250 automobiles daily. Vaults and mecha equipment occupy the rest of the basement space. All the ban areas, above and below the first floor, as well as the office to will be connected by several escalators and elevators.

The main banking room is to be free of interior columns accomplish this, the floors above the main room are suspended huge trusses in the bank wing's top story. In the Philadelphia ings Fund building this same end was differently achieved; bu the Republic Building as in the earlier structure, the trusses re most of the story they occupy useless for offices. However, this contains mechanical equipment — the fans, etc., necessary fo building's air conditioning system.

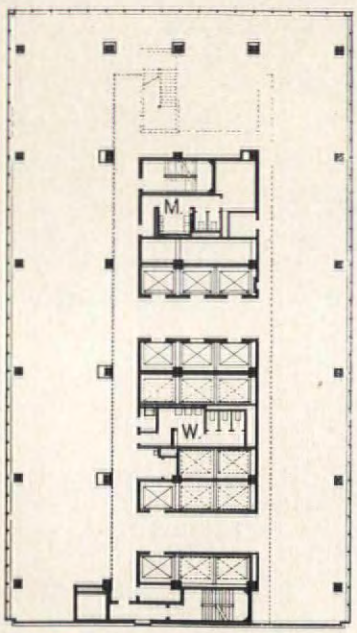

ARMORED CARS
BUILDING SERVICE
LOADING
WORK SPACE
RAMP UP
DUCTS
RAMP UP
OFF.
OFF.
OFF.
TIME CREDIT
ELEV. LOBBY
PUBLIC
ELEC.
STORE
OFFICERS
SAVINGS DEPT.
ARCADE
STORES
MED. ARTS BLDG
STORE
RAMP UP
STORE
LOBBY
ENTRY
0 10 20 30
GROUND FLOOR: SHOPS


ARM. CAR TELLERS
STOR.
CORRIDOR
MONEY VAULT
SILVER TELLERS
BANK STOR.
TEL.
TEL.
C P
C M
C W
SECURITY VAULT
SILVER VAULT
RAMP UP
STOR.
ELEV. LOBBY
VESTIBULE
TIME CREDIT
TRANSFORMERS
TIME CREDIT
VAULT CUSTODY
CONF.
COUPON BTHS.
OFF.
CASH
WAIT.
SAFE DEPOSIT
NIGHT DEPOSIT
STOR.
MED. ARTS BLDG
RAMP DOWN
BANK STOR.
DRIVE-IN TELLER AREA
BOOTHS
RAMP UP FROM 2ND BSMT.
RAMP DOWN
WALKWAY
SHOP STOR.
0 10 20 30
FIRST BASEMENT: DRIVE-IN BANK

REPUBLIC NATIONAL BANK



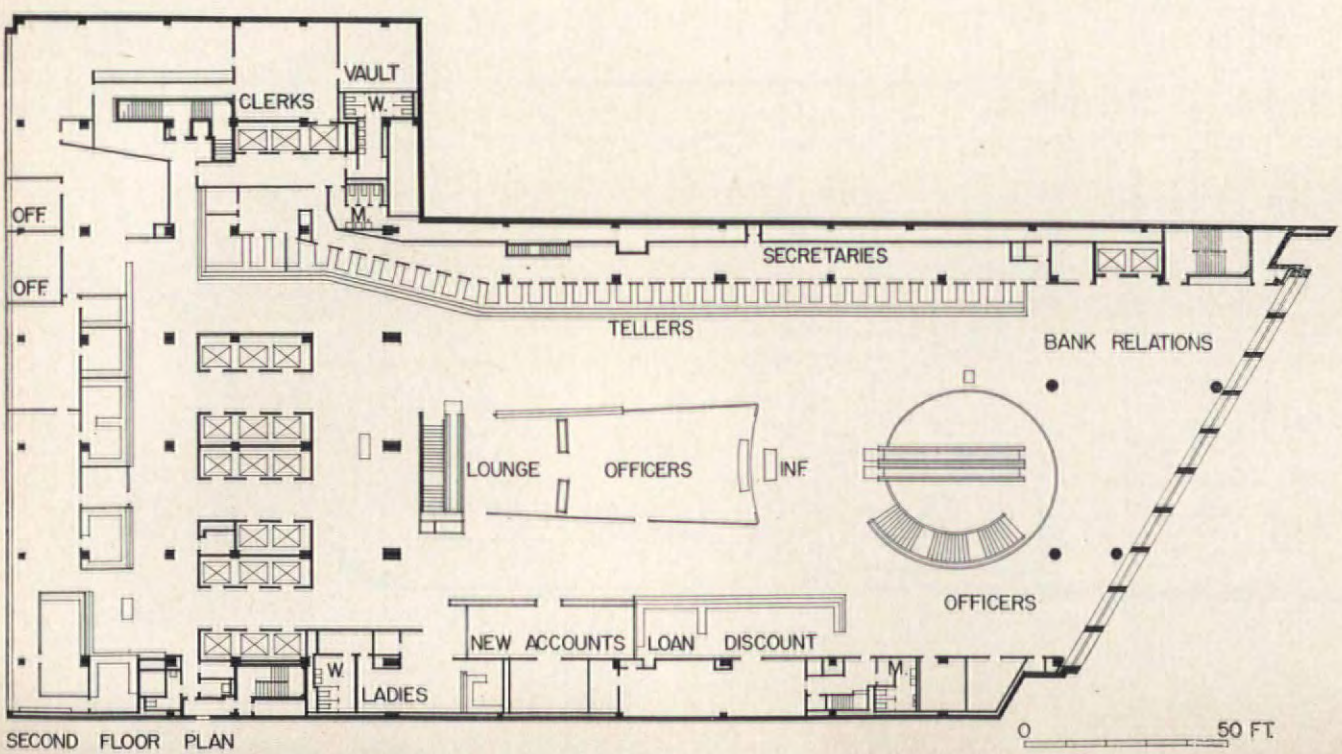
FLOOR PLAN (18 TO 24)



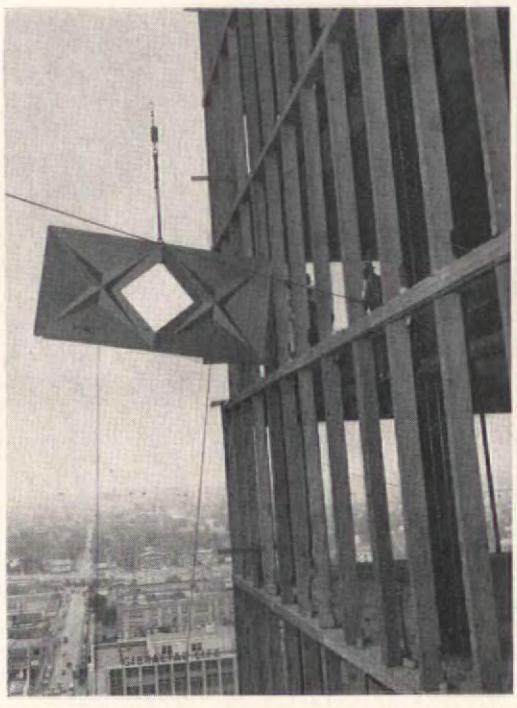
FLOOR PLAN (9 TO 12)

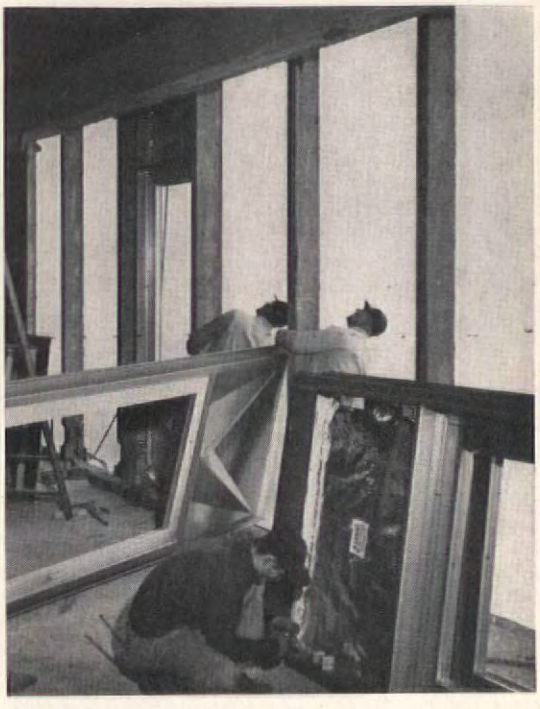
Three photos at left: Kirby Studio

Above, left to right, steps in erecting the aluminum curtain wall: 1, pouring lightweight reinforced concrete mullion; 2, erecting mullion with fork-lift truck; 3, row of mullions which supports only the curtain; 4, hoisting a wall section (fire tower wall unit shown); 5, window units on floor ready to be swung out and attached. Below, second floor plan shows main banking room, well and escalators to ground-floor arcade. Left, tower floors



SECOND FLOOR PLAN





Two photos at right: Ulric Meisel

At this point the interdependence of the several engineering and architectural concepts embodied in the Republic Bank building begins to become apparent. Air conditioning was required. Windows were desired for light and viewing, though they might not, with air conditioning, be needed for ventilation. Construction economy dictated the very light enclosing skin. Operating economy demanded an enclosure which would have high thermal insulating value and virtually eliminate air infiltration; air conditioning, without these, can be prohibitively expensive. Glare from sky and sun was to be combatted. No space could be wasted to accommodate large air ducts. That bugaboo, water, must be kept out. Window cleaning must be simplified, acoustical correction had to be installed, and lighting which would not place too heavy a heat load on the air conditioning system was necessary.

These were the design postulates with which the architects and engineers worked. The steel frame is relatively simple; the decision to use lightweight, expanded shale aggregate for the concrete floors was fairly easy to make. When a high-velocity, small duct, peripheral air conditioning system and a curtain wall were selected, it was decided to cantilever the floors on all sides so the ducts could run economically between the perimeter beams and the façade, in order to obtain maximum rentable area per floor. Details of this construction appear on the next page.

Kirby Studio

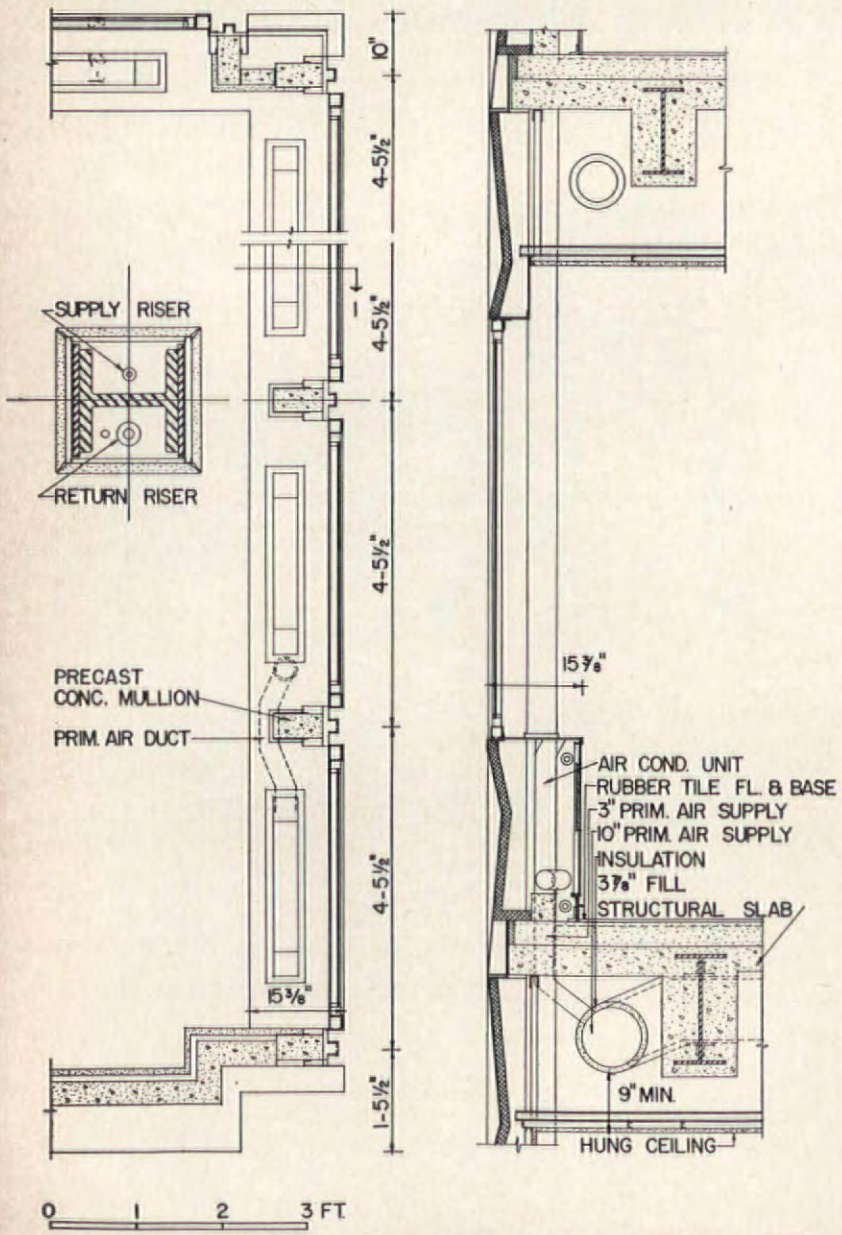
Progress shot, November 1, 1953

REPUBLIC NATIONAL BANK

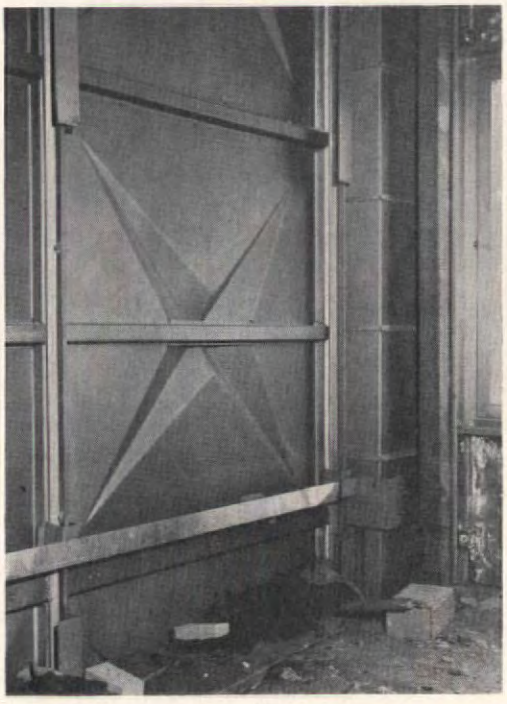
The insulated wall panels, of ⅛-in. aluminum, were formed on power brakes in a prismatic design which stiffens the sheets and forms a diaper pattern on the finished wall. As the details below show, edges of the panels overlap and interlock in such a fashion as to eliminate flashing except at the points where four panels meet; here small areas of aluminum flashing are used. It is expected that this panel design will obviate leakage, which is known to have caused trouble in some earlier attempts at curtain-wall construction. As in other instances of its use, the curtain wall noticeably reduces the total tonnage of structural steel required and makes available more rentable floor space than masonry spandrels.

Windows are aluminum, pivoted at top and bottom and double-weatherstripped with plastic strips. The assembly has successfully passed a test equivalent to a hundred-mile wind combined with heavy rain. For washing, the windows are pivoted inside-out, locked, washed, pivoted and locked again, and the inside washed.

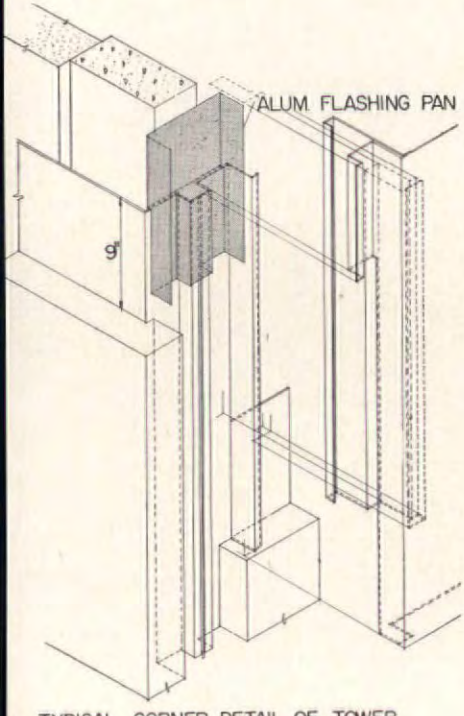
Ulric Meisel Photos



Left, details of wall construction. Panels are ⅛-in. aluminum backed with 1½-in. of glass fiber and aluminum foil (see also photo above). Note space for high-velocity air ducts between conditioner units; also that overlapping wall panels are virtually self-flashing



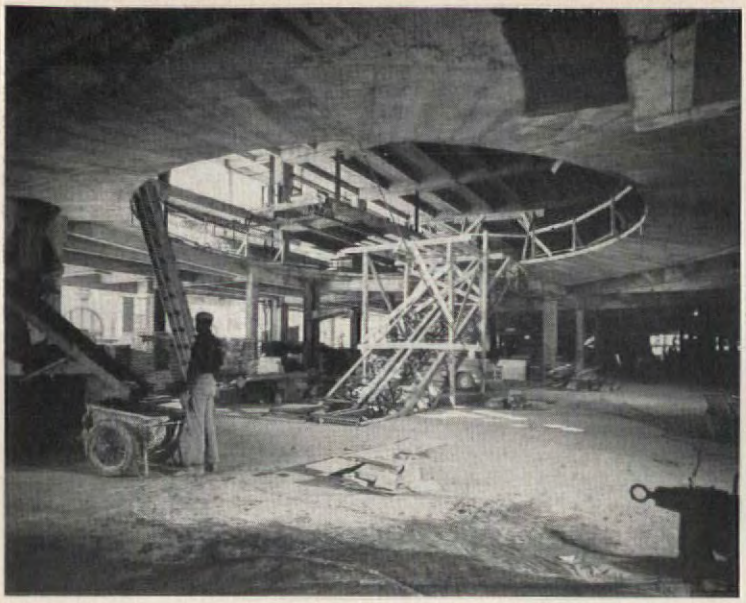
Above, further steps in erecting curtain walls: 1, positioning and bolting panel through holes cast in mullions; 2, vertical joints; 3, windowless portions ready for insulating, lightweight concrete backing; 4, wall panels up, conditioners in, acoustic ceiling and recessed fluorescent fixtures installed. Below: only at four corners of panels was flashing needed



TYPICAL CORNER DETAIL OF TOWER

Kirby Studio

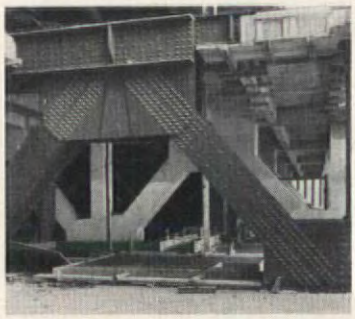
Progress shot, January 5, 1954



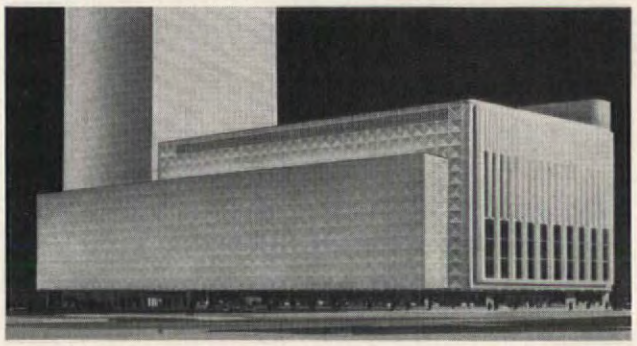
Ulric Meisel Photos

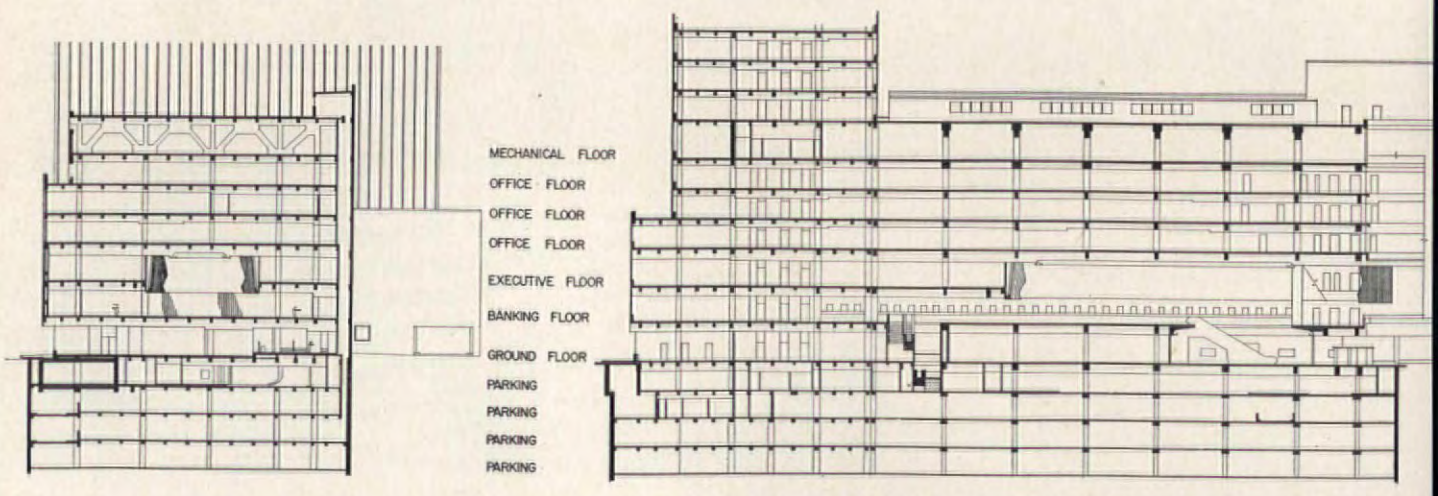
REPUBLIC NATIONAL BANK

Banking wing, status Feb. 10. Above, left, arcade with well and escalator framing leading to main banking room (right) where interior will eventually be finished in warm woods. Photos at right, model and construction view showing entire window wall with marble mullions. Below, trusses span the banking wing; from these the upper banking floors are hung, freeing the main room of columns. Bottom of page, sections through banking wing



Kirby Studios





THE IMPACT OF MECHANICAL EQUIPMENT ON DESIGN

WHEN WE DISCUSS THE DESIGN of office buildings, particularly multi-story structures, we are all too prone to consider them mainly as *structures* — that is, as usable areas supported and enclosed in an economical manner. These are of course essential considerations, all of them familiar parts of the architectural problem. Nothing in the succeeding discussion is intended to lessen their importance, if indeed it could. However, since these aspects of the architectural whole are in so many ways familiar, attention is directed here to the increasing importance of mechanical equipment and its effects on architectural design.

Much of what follows has been developed from addresses made by Alfred L. Jaros, Jr., of Jaros, Baum and Bolles, Consulting Engineers, of New York City. Mr. Jaros, whose firm has consulted in the design of numerous office buildings, spoke on the newer types of heating, ventilating and air conditioning before the Pennsylvania Society of Architects in 1950, on "The Impact of Mechanical Equipment on Modern Architectural Design" before the Texas Society of Architects in 1951, and in 1953 lectured before the Real Estate Board of New York on "Heating, Ventilating and Air Conditioning."

Mechanical equipment may be classified under the following headings:

a — Heating
b — Ventilation and air conditioning
c — Plumbing and drainage
d — Fire protection
e — Lighting
f — Electric power and low-voltage wiring, etc.
g — Elevators, escalators, etc.
h — Cold-storage and other refrigeration
i — In some buildings, high-pressure steam service, electric substations, pumping plants
j — And in unusual cases, electric generating plants, external water supply or sewage disposal plants, and the like.

Not all of these apply to office buildings, nor will the problems be alike in all office buildings. Yet, depending on the type of building, in 1951 it was estimated that all mechanical service equipment accounted for from 20 to 40 per cent of typical construction cost; in 1953, air conditioning, heating and ventilation alone were estimated to account for 20 per cent of the construction cost of an average New York office building.

This is neither an easy assumption nor a promotion of a theory, but rather a statement of the actual situation based on day-to-day engineering experience. Why is it so? Probably, in the case of buildings designed for rental, because competition demands the greater amenity provided; and in owner-occupied buildings, because employee relations likewise demand it. While such statements are an over-simplification, it is true that mechanical equipment goes far toward making the modern office building livable, comfortable, rentable — and thus profitably useful.

Space Requirements. Certain generalizations can be made: Any building with much of a mechanical plant needs a cellar or basement space. Boiler or steam-meter rooms, pump rooms, refrigerating ma-

chine and fan rooms, switchboards, house sewers, water supply and heating mains, ducts and many other items need to be so located and arranged as to connect properly with what is outside the building, with each other, and with the interior spaces served. Such equipment needs considerable space, too; if most of an actual basement must be devoted to public or rentable uses, it must be deep enough to allow ample space (overhead) for pipes and ducts; if necessary, sub-basement space must be excavated for machine rooms.

Under some conditions a large part of this "basement" may be at other levels. This is no new idea; long before the U. N. Secretariat or the Alcoa or Lever buildings, the New York City Municipal Building — planned in 1910 — had its principal "pipe cellar" several stories above the street. A number of tall buildings have gas-fired boiler plants on the roof; fan rooms, distributing ducts, etc., are frequently in penthouses or in top floors of increased height. In very tall buildings, intermediate mechanical floors may be needed.

All these particulars — and many of those following — vary from building to building as requirements and local conditions change. This calls for the exercise of imagination and initiative and the application of experience, and for real cooperation between the architect and engineer from the outset of the design process and continuing throughout the job.

Effect on Structure. Mechanical equipment affects the structure in many ways: Machinery imposes both weight and vibration loads on the structural frame. An intelligent resolution of such problems can effect sizable construction economies without sacrificing building arrangement or mechanical efficiency. Chimneys, vertical ducts and many pipe lines require framed shafts, anchorages and support. Structural details developed with an understanding of this kind of requirement will often provide convenient, sensible space for risers and equipment which might otherwise project unduly into usable areas.

The new building designed for No. 2 Broadway N.Y.C. by William Lescaze, Architect, replaces the old New York Produce Exchange Building in the city's financial center

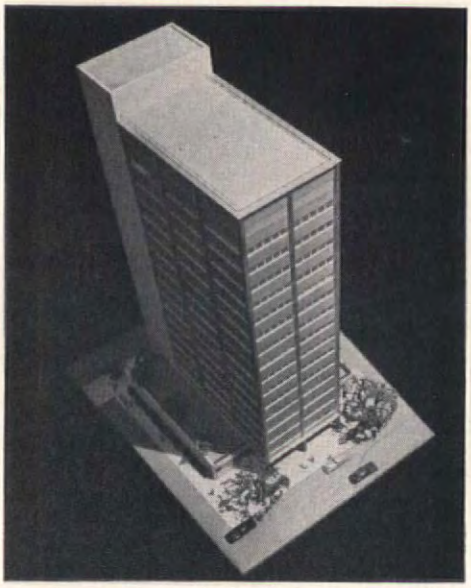
New Systems, Familiar Problems. As examples of the close interrelation between functioning, cost and appearance of mechanical equipment, particularly when new techniques bring old problems more sharply into focus, three instances out of many may be cited. The increasing use of radiant heating, and further expansion of the principle as radiant cooling is developed, require close coordination between the mechanical designer, the illumination expert, the designer of ceiling details and supports, and often of the acoustical engineer. A notable instance is the radiant heating-cooling ceiling installed in the Alcoa Building.

Air conditioning's high cost of both installation and operation has put new emphasis on the importance of reducing heat gain in summer. The offenders are sunshine, heat conduction and air infiltration; methods of controlling them are discussed later.

Visible details which are essential to the proper functioning of mechanical equipment demand special attention. The engineer must so locate grilles, radiator enclosures and the like that they will be thoroughly coordinated with the architectural design and at the same time perform efficiently.

HEATING SYSTEMS

Buildings are heated for two purposes: for human comfort and to preserve the building and its contents. There is no need to discuss in detail the architectural effects of heating methods already well known. New mechanical systems that have begun to, or may soon, exert strong influences on the architecture of office buildings are radiant heating and cooling, and the several types of air conditioning.

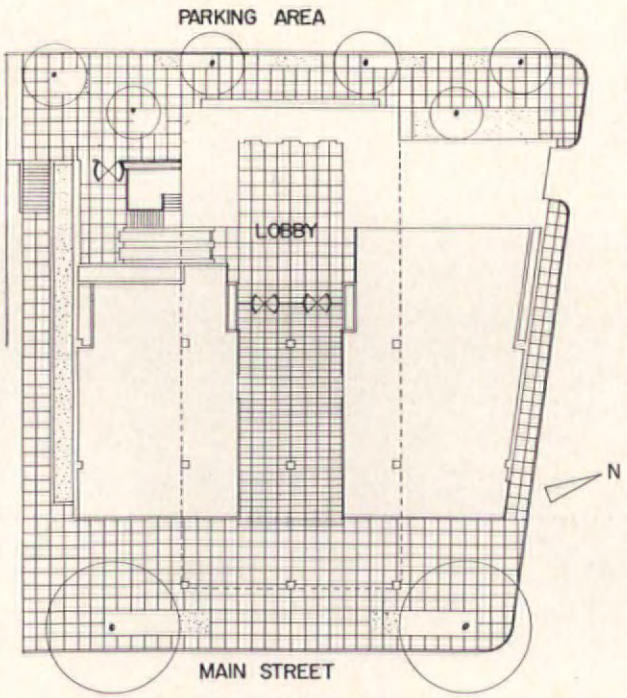


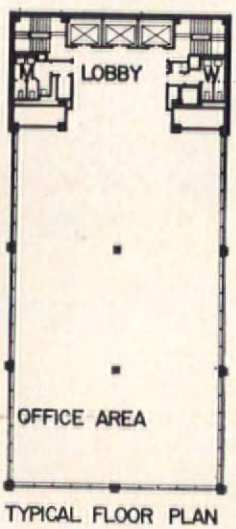
Ezra Stoller ©

OFFICE BUILDING FOR A SOUTHERN CITY

This small skyscraper was designed by Carson & Lundin, Architects, for a southern city of over 100,000 people; maximum rentable area the city could support was 75,000 sq ft. The building was to dominate its area; hence the fairly small (5000 sq ft) typical floor. Service shaft at west end blocks off undesirable exposure

Note exterior columns outside the building skin to simplify office layout, and fact that only two interior columns interrupt clear tower floor space; potential demand for small suites is satisfied by column layout. Building is air conditioned with ceiling ducts which penetrate webs of large girders



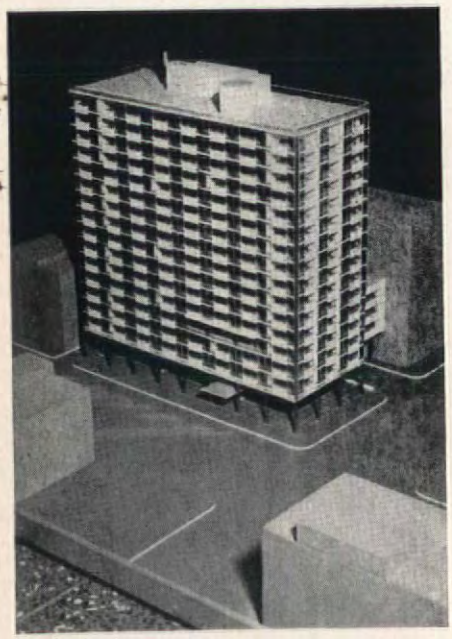


TYPICAL FLOOR PLAN

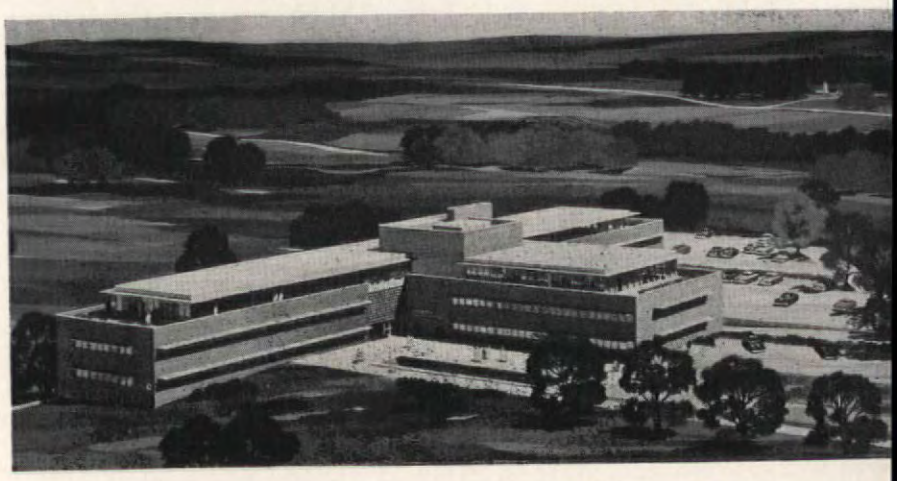
Some aspects of radiant heating need re-examination. When ceiling heating panels are used, for instance, true radiation (rather than convection) heating predominates, and comfort can be secured at air temperatures relatively low compared to those needed with other types of heating. Heat distribution is also good, and such a system has been found to produce a higher relative humidity in winter (apart from artificial humidification), which promotes health and helps to preserve a room's normal contents. The lower air temperature can also mean substantial fuel savings. Wall panels produce more convection and less radiation; this is accentuated in the case of floor panels. Comfortable air temperatures are somewhat higher when wall panels are used, still higher with floor panels.

Nevertheless, floor panels may be the proper type, as for instance in one-story buildings without basements. Since floor temperature must be kept lower than ceiling panel temperature, a floor panel emits less heat per square foot; for economical use, floor installations work best when the required ratio of heat output to room area is low. Mild climates, small windows, well insulated construction and double glazing are indicated if a floor system is to do its job with full economy. While this economy may be a minor consideration in residential design, in office buildings it becomes important. Obvious exceptions are entrance vestibules or other areas where a heat source underneath an entering cold draft is desirable, and where other means of heating a limited area must be supplemented. Such floor coils have been advantageously continued into a main lobby. They are also occasionally used outside the entrance to melt snow and dry pavement; this prevents tracking mud and wet into the building and so helps reduce maintenance cost; it also requires use of an antifreeze circulating medium in the outdoor piping.

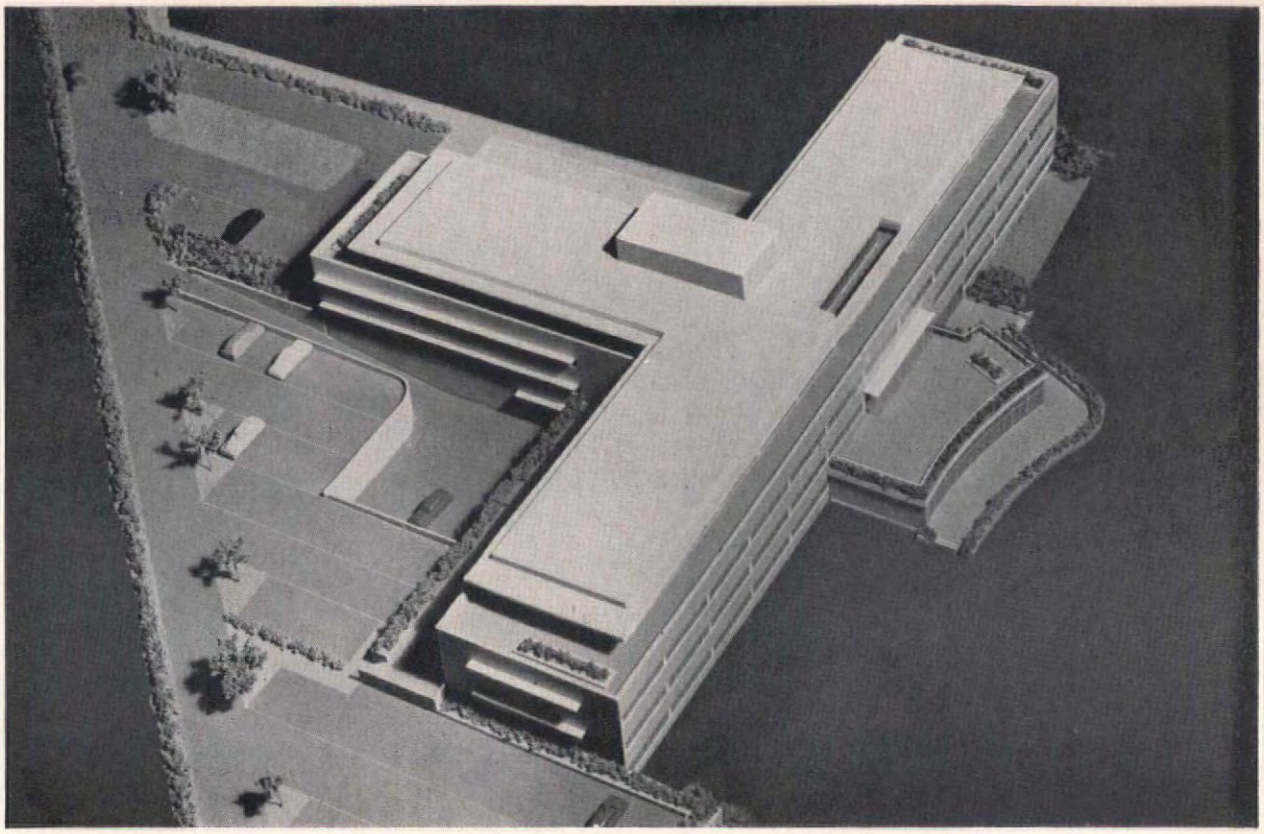
Ceiling panels would seem to be indicated where even heat distribution and efficient operation are paramount considerations, and whenever climate and building design demand a relatively high heat output per square foot of area. They have other advantages: heat output is not affected by floor coverings or furniture; air temperatures are unusually uniform; the floor reflects heat and so becomes warmer than the adjacent air. In designing a ceiling installation, the panels must be laid out to clear recessed lighting fixtures, etc. Also, acoustic plaster and tiles are poor heat conductors, or good insulators, so they must be kept clear of heating panels. Use of metal radiant ceilings materially modifies many of these problems.



Proposed 18-story glass skyscraper for Chicago designed by The Architects' Collaborative and Arthur Myhrum, Associated

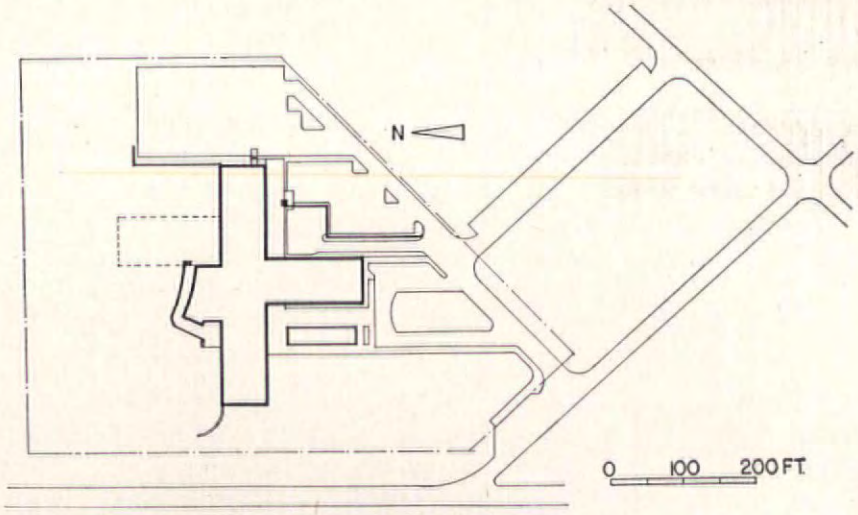


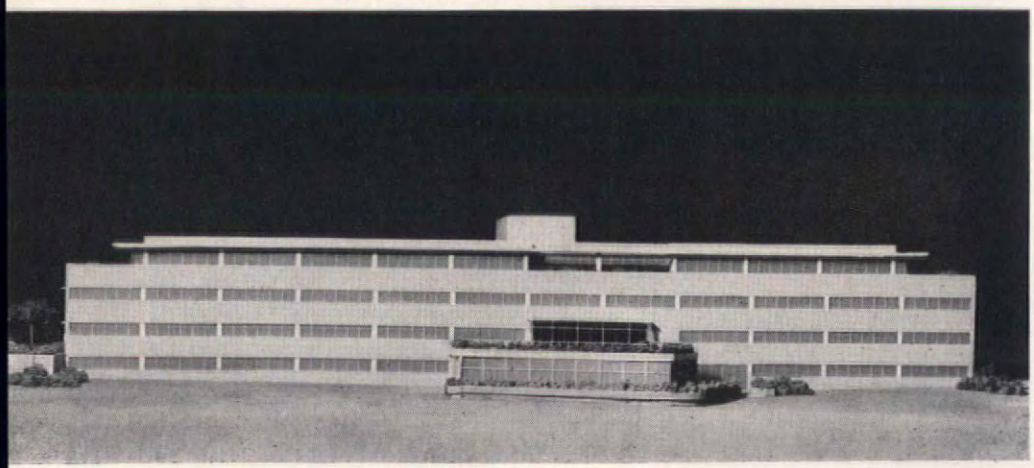
Coxe Studio

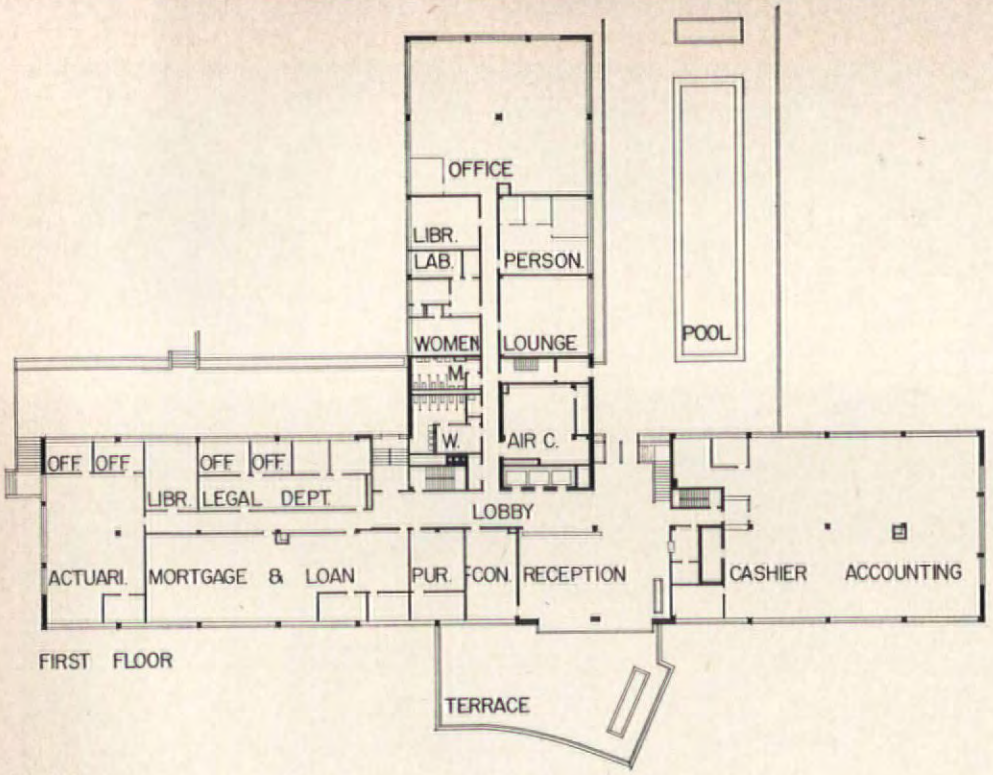


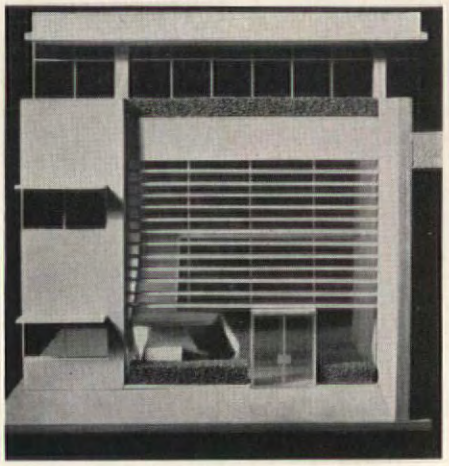
LIBERTY LIFE INSURANCE BUILDING, GREENVILLE, S. C.

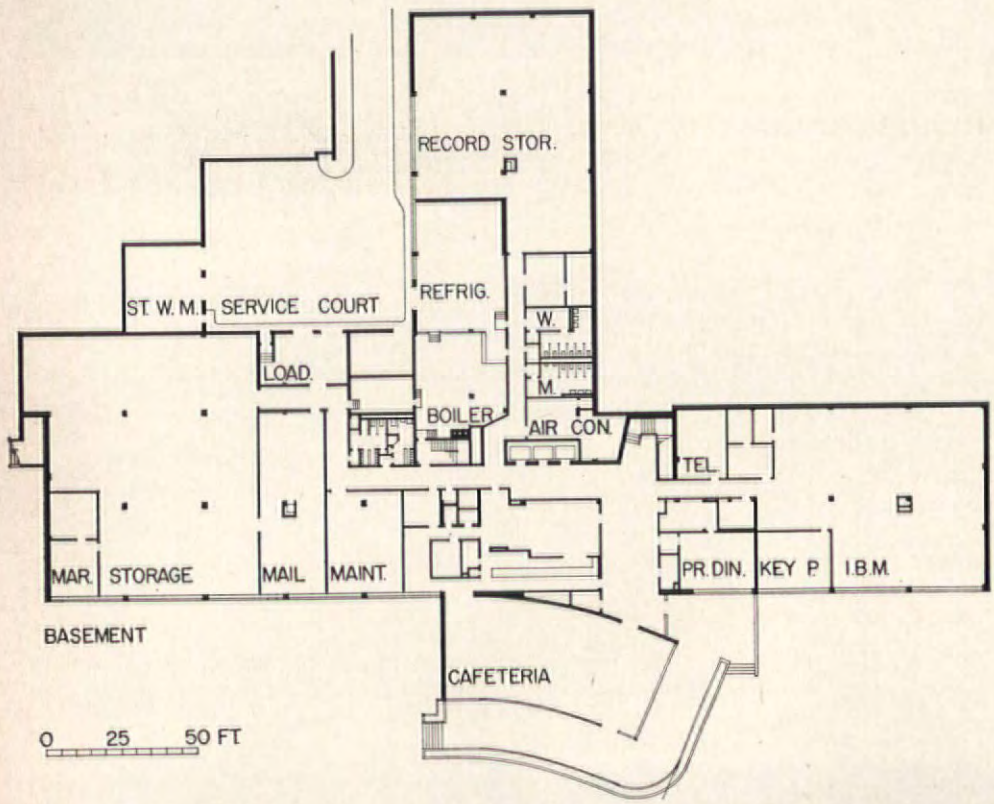
Lockwood Greene Engineers, Inc. and Carson & Lundin, Architects, designed this southern office building now under construction. An example of the horizontal development which can prove economical when sufficient land is available, this building has a suburban, almost rural setting. It contains space for expansion; *see next page*





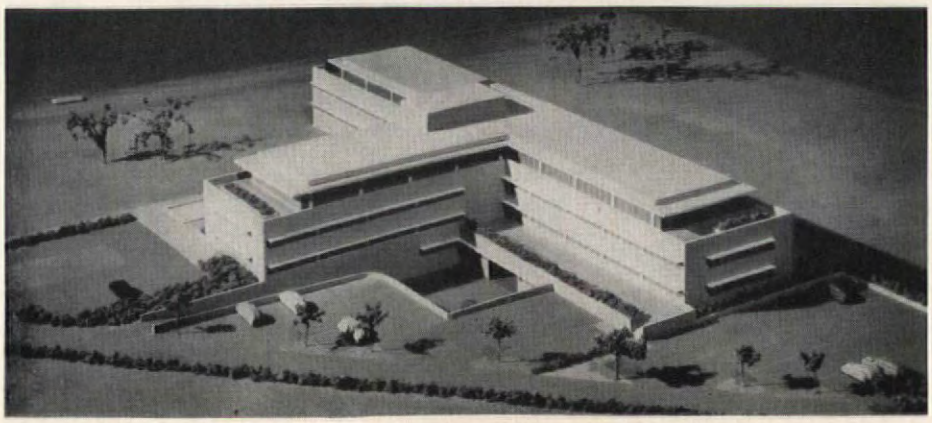






LIBERTY LIFE INSURANCE BUILDING

Building is reached by automobile; parking area and easy access to it, and motor entrance, are important. In plans note bay layout with single line of columns down center of each wing; this simplifies office subdivision. Second floor, not shown, has open office space; third floor, executives' offices and expansion office space opening on roof terraces. Climate demanded air conditioning; equipment room on each floor is at point where wings join; sunshades are integral part of design. Above, model of entrance from parking area



Radiant cooling has been considered and tried in limited ways for a quarter of a century. Recently it has become a workable reality. Three different types of metal ceilings are actually in operation as radiant cooling installations: one originated by Charles Leopold, the well known Philadelphia consulting engineer, an earlier one developed by Gustave Frenger, a Swedish engineer (also available in this country) and one designed by Jaros, Baum and Bolles in conjunction with the owners and architects of the Alcoa Building. Though these differ in many details, all are alike in circulating mechanically cooled water through tubing to extract heat from rooms through exposed metal ceilings. Certain technical fundamentals must be comprehended:

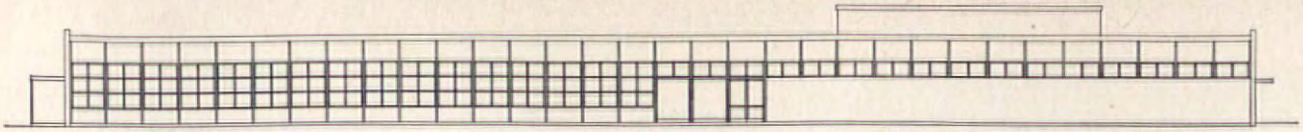
1 — To absorb a worthwhile amount of heat the ceiling surface must be appreciably cooler than either the room air or the other surfaces in the room. For example, a continuous ceiling about 15 degrees F cooler than room air will absorb about half the sensible cooling load in a typical room with average windows and occupancy.
2 — The water in the tubing must be cooler than the exposed ceiling surface so the extracted heat will be rapidly conducted to the water. With a well designed aluminum ceiling the coldest water might be 3 to 4 degrees colder than average ceiling temperature; with plaster or concrete ceilings this differential must be several times as great since the ceiling material is a better insulator than conductor.
3 — Remember that moisture condenses on surfaces at or below dew-point temperature; and that it is neither desirable nor economical to maintain interior dew points much lower than 58 to 60 degrees F in midsummer.
4 — This is tantamount to saying that the coldest water in any part of the radiant cooling system should not be lower than 60 degrees, if condensation troubles are to be avoided.
5 — Recessed lighting fixtures may be integrated into a metal ceiling design so that they are cooled to the point where much heat emitted by lights is carried off before it enters the conditioned room.

The foregoing explains why all three radiant cooling systems referred to use metal ceilings. Of the metals commercially available, aluminum seems to have the most advantages. It is the best heat conductor except silver; it is easily formed and worked; it is not subject to rusting, which would interfere with heat conduction at points of contact, or with light reflection; it will accept a variety of finishes. Sectional aluminum panels used for this purpose also are suitable for modular layouts consistent with window, lighting fixture and partition spacings, and when perforated — which can be done with only a negligible loss of heat absorbing surface — can serve well as acoustic ceilings. In this case, the acoustical blanket which is desirable above the metal ceiling is also an efficient thermal insulator against heat transfer from above, which increases both the Btu per sq ft performance of the cooling panels and the effectiveness of zoning controls. Such perforated ceilings may also, with appropriate duct layouts, serve as inlet or outlet grilles for ventilating air when this suits the design requirements.

To summarize, such a unit ceiling provides, in the one construction: a complete, adequate, easily zoned heating system; a summer cooling system capable of removing at least 50 per cent of the sensible load; an effective acoustic ceiling; integral grilles for air supply or exhaust; a surface adaptable to many types of lighting and decoration and to the tenant changes characteristic of office building operation.

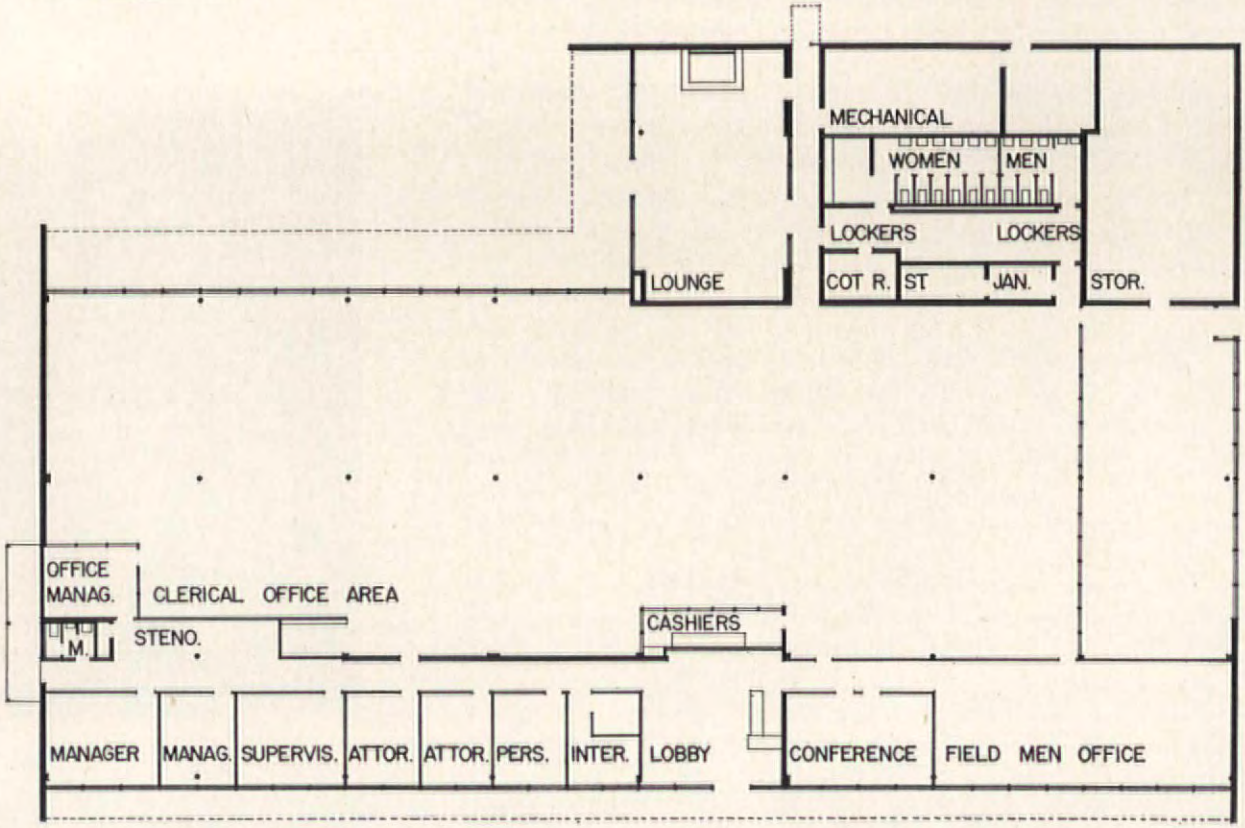
Probably the most important effect of radiant cooling on architectural design lies in its capacity to cut the summer cooling load about

Twenty-two story air conditioned office building being erected at Park Avenue and 57th Street, N.Y.C. will have an aluminum skin. Architects: Emery Roth and Sons



NORTH ELEVATION

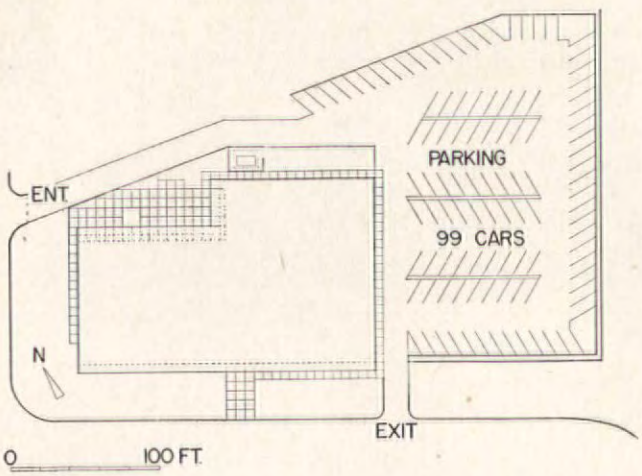
0 10 20 30 FT.



PRUDENTIAL MORTGAGE & LOAN BUILDING, MENLO PARK, CALIF.:

Welton Becket and Associates,

Architects and Engineers



This small office building is designed as an economical structure for approximately 125 employees. The main clerical area has approximately 12,000 sq ft and is surrounded by executive offices on one side and employee facilities on two others. The lounge is provided for lunch periods; employees bring their own lunches or buy them at a small snack bar. Adjacent to the lounge is a patio lightly screened from the clerical area. Building has no basement or mezzanine and contains a total of 21,300 sq ft. Movable metal partitions separate executive offices; and on the interior, brick walls are exposed and painted. Acoustic tile ceilings are used in offices and lounge. Lighting is fluorescent throughout; there is an under floor duct system for telephone and electric outlets. The building is completely air conditioned with a central plant and double-duct distribution, with individual room thermostat controls

in half. This reduces the quantity of cooled air to be circulated for summer air conditioning, also by about half; in turn, the sizes of ducts and complexity of zoned layouts can be reduced; and thus much of the extra floor-to-floor height which air conditioning alone might require, and much of the valuable floor area otherwise required for fan rooms, window units, etc., can be eliminated or converted to paying square footage or cubage.

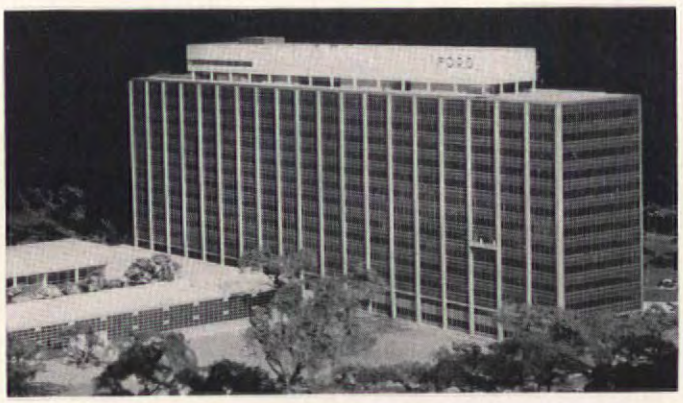
It should be understood, however, that radiant cooling cannot completely eliminate fans and ducts; it can only reduce their size, number and complexity. However efficient the cooling system, it is still necessary to introduce enough outside air for essential ventilation, to circulate enough total (outside plus recirculated) air for comfortable air motion and freshness, to utilize this air circulation to take care of about half the cooling load and all the moisture liberated in occupied spaces; and, quite important, to dehumidify the circulated air so the dew point will be low enough to avoid any risk of condensation, surface or concealed.

For special situations some interesting variations can be developed. For instance, for a building of moderate size, located where an ample natural supply of water — from a well, mountain stream or the like — at 60 degrees F or lower is available all summer, a chemical adsorption dehumidifier might be used in the air system; the natural water might be used for precooling and after-cooling the dehumidified air as well as for the radiant panels — and no refrigeration plant would be needed.

Proposed Socony-Vacuum Building at Lexington and 42nd Street, N.Y.C. Harrison & Abramovitz, Architects

AIR CONDITIONING

The impact of air conditioning on building design has already been profound. What more it may do in the foreseeable future depends on which of the many types of systems are employed as well as on the attitudes of owners, architects and occupants as to the relative importance of esthetic, utilitarian and economic considerations.



Photographs below, left: Sinclair Oil Building, Chicago, Illinois; Holabird & Root & Burgee, Architects. Center: Ford Motor Co., new administration building on 120-acre site in Dearborn, Michigan scheduled for completion late in 1955; architects: Skidmore, Owings & Merrill. Right: New office building for National Education Association of U.S. to be erected on the site of the organization's present headquarters in Washington, D.C. Though it is not apparent from the rendering, the building is designed in a series of wings which can be erected in successive stages. Architects: Jos. H. Saunders; Reisner & Urbahn

Some generalizations can be made. Compared to other, earlier kinds of mechanical services, comfort air conditioning is very costly to install and to operate, and demands a relatively great amount of valuable building space for apparatus, ducts and pipes. If it is to be used, then, it is wise to design buildings so as to secure satisfactory results from the minimum quantity of air conditioning and refrigeration. From this point of view the major design factors are:

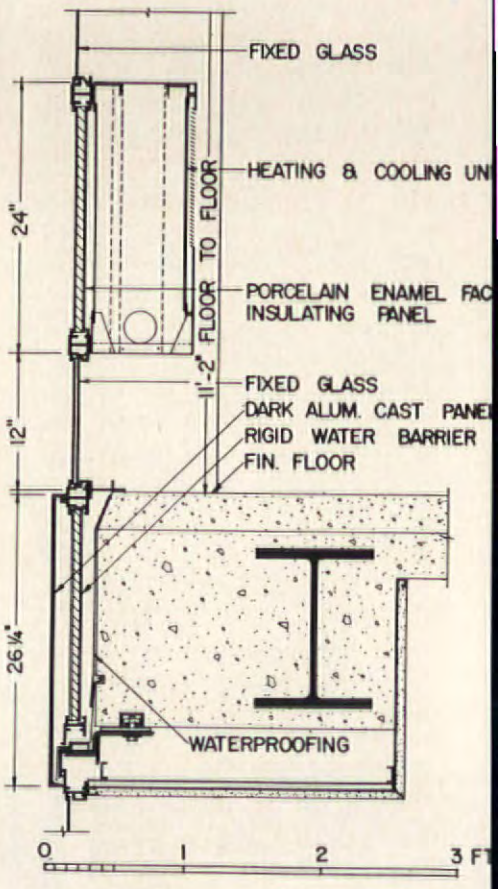
1 — Number of persons in the conditioned space, and their state of bodily activity;

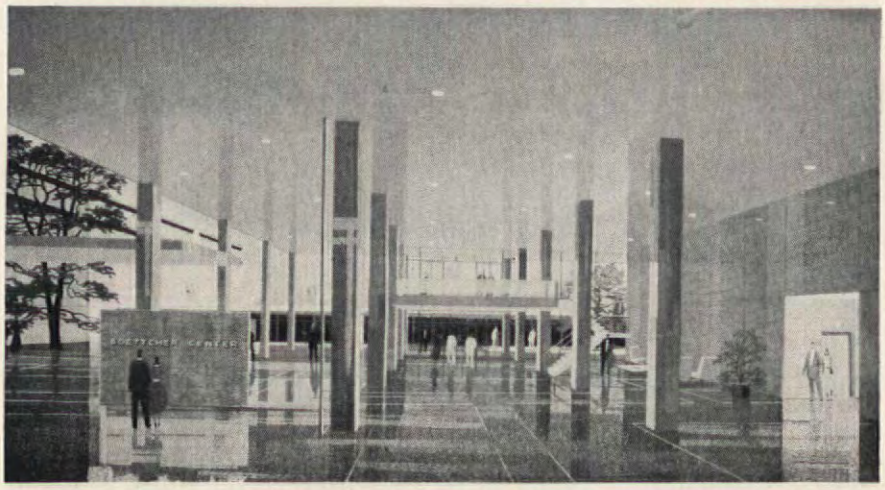
2 — amount of electricity, gas, steam, etc., consumed for lighting,

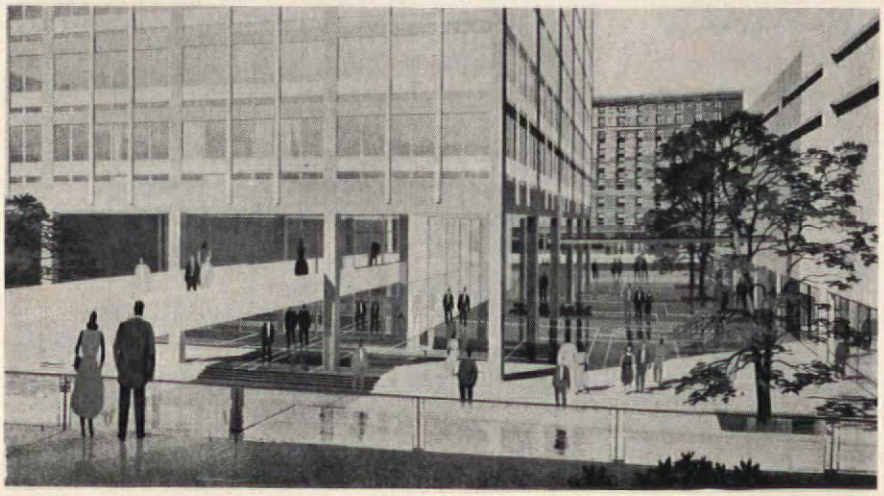
Text continued on page 206

MILE HIGH CENTER,

Lionel Freedman







Architects:
Webb & Knapp, Inc.,
Architectural Division,
I. M. Pei, Director;

Kahn & Jacobs,
G. Meredith Musick,
Associated Architects

Structural Engineers:
Severud-Elstad-Krueger

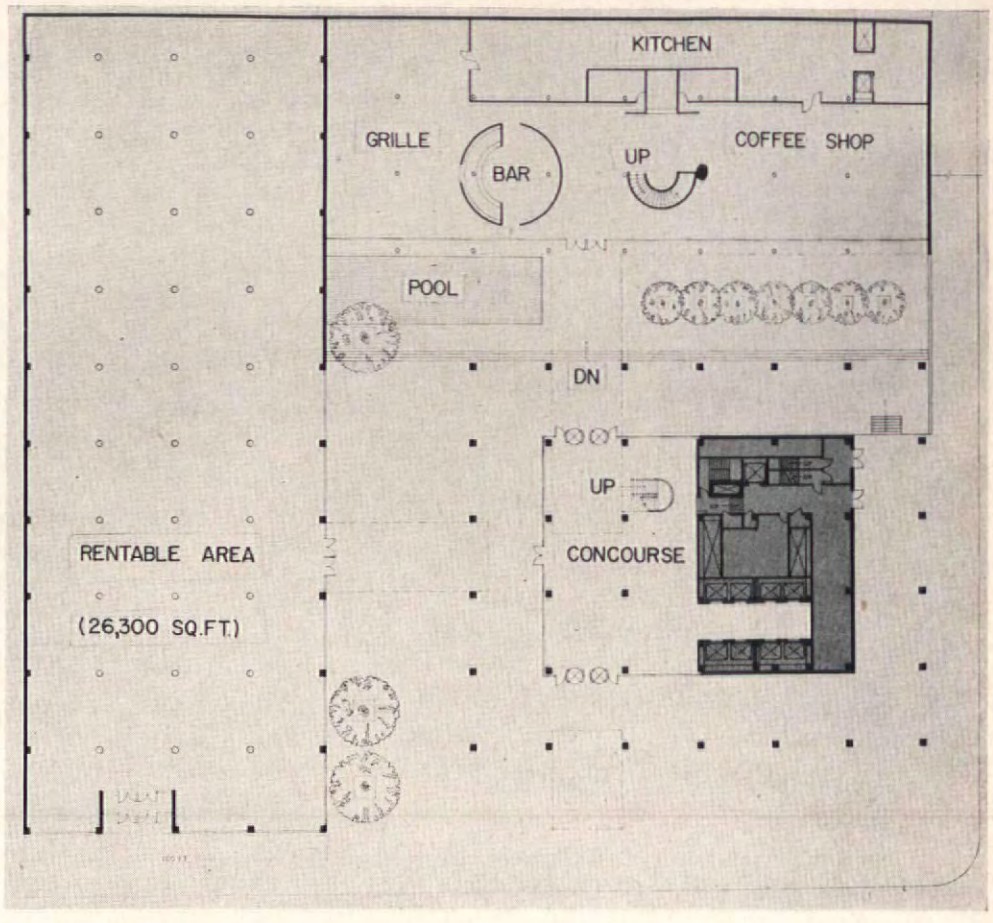
Mechanical Engineers:
Jaros, Baum & Bolles

DENVER, COLORADO

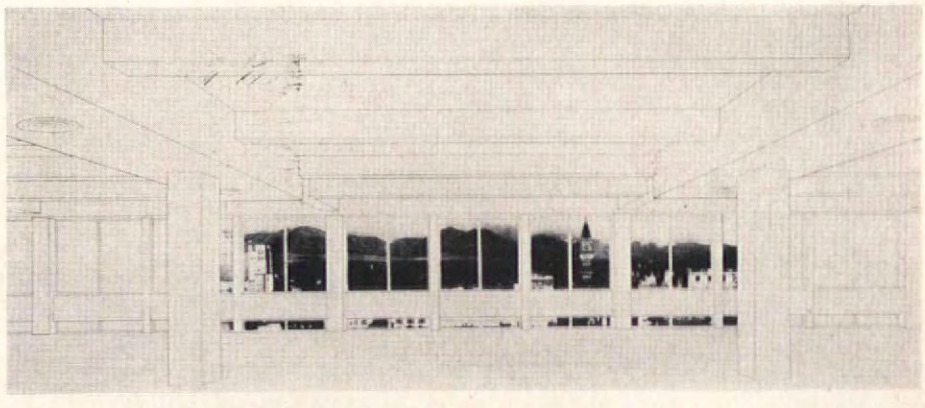
The 23-story, steel-framed office building, with porcelain enamel, aluminum and glass façades on all sides, is 127 by 152 ft in plan. It is completely air conditioned with a combination of a peripheral system and central unit, necessary to take care of the unusually deep space. The entire development includes a downtown airline terminal (over the coffee shop in plan, right) and a remodeled bank whose rentable ground floor is enhanced in value by the open plaza and concourse under the office tower.

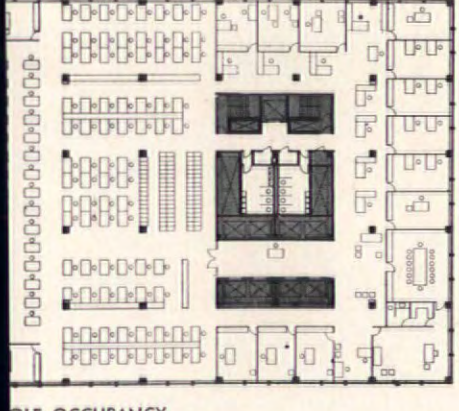
The interesting wall has off-white porcelain bands emphasizing the peripheral air conditioning units, glass above and below the porcelain enamel, and dark aluminum sheathing the floor slabs. Water risers and high-velocity air supplies are carried in the exterior columns and projecting vertical mullions, which are also covered with off-white porcelain enamel. The fixed glass is to be washed from platforms suspended from the roof.

Considering Webb & Knapp's experience at evaluating real estate, it is probable that there is sufficient demand in Denver for large office suites to justify the deep office floors. Plans below show suggestions for various types of occupancies of typical floors; note that it would be difficult to subdivide the space for small offices without unduly long corridors

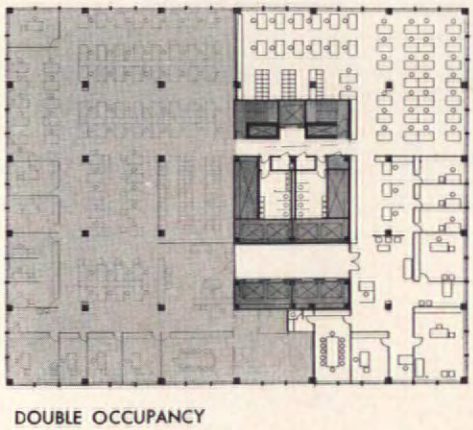


GROUND FLOOR

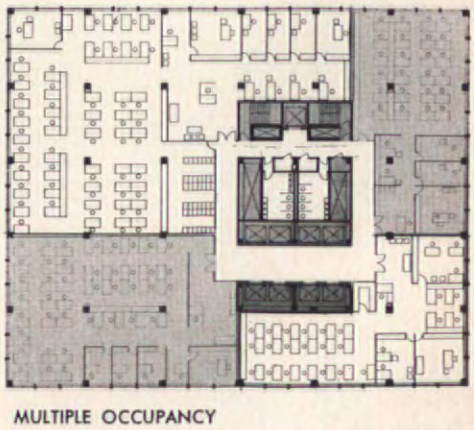




GLE OCCUPANCY



DOUBLE OCCUPANCY



MULTIPLE OCCUPANCY

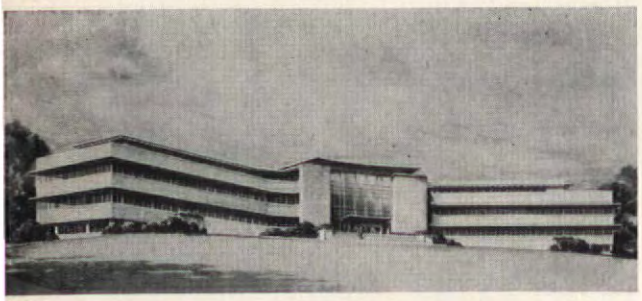
power, industrial heat, etc., within the conditioned space, since these are all potential sources of heat to be removed;
3 — rate of air change, or amount of outdoor air which must be cooled and dehumidified, brought in and either exhausted or permitted to escape in order to maintain comfortable freshness, sustain breathing, dilute and remove bodily and other odors, remove humidity and fumes due to the activities housed, etc.;
4 — quantity of heat conducted through building walls, roofs, floors from outdoors or uncooled areas (boiler rooms, kitchens, etc.);
5 — amount of solar radiation entering through windows, skylights, walls, roofs.

When considering these five factors, whose relative importance may vary according to other architectural and engineering design decisions as well as local conditions, the following generally apply:

1 — Population is usually fixed for any given instance.
2 — Heat introduced by other mechanical services can be reduced by such means as using efficient lights and fixtures, using radiant-cooling ceilings and cooled fixtures, and excluding from the conditioned area such power and industrial heat sources as can be located elsewhere.
3 — A minimum rate of outdoor air change can be accepted; beyond this, use of recirculated return air and removal from conditioned spaces of heavy exhaust requirements (kitchen or chemical hoods, for example) will reduce the refrigeration load.
4 — Adequate thermal insulation is needed in roofs, in otherwise high-conductance walls, and in floors or partitions next to hot spaces.
5 — Obviously, small windows reduce solar heat gain. At the other extreme, the "all-window" building requires some special kind of protection if it is not to be extravagant in terms of comfort air conditioning.

Solar heat reduction has been recognized for centuries as an architectural problem. The balconies, lattices, louvers, shutters, awnings, overhangs and small windows characteristic of the traditional architectures of hot countries are testimony to this fact. After some years of disregarding this problem, sheer economics is forcing us again to consider it, and to invent modern counterparts of the devices the ancients used so well. In addition, modern technology has given us a few devices which the ancients did not possess.

Besides the obvious use of the smallest acceptable windows on southeast, south, southwest and west façades of buildings, additional solar heat reduction can be gained by using heat-retarding glass and we can, as well, reduce infiltration of moist air by thoroughly weather-sealing all windows. Fixed glass, permanently sealed, also can eliminate most infiltration; it also introduces new window cleaning problems which have been solved by motorized scaffolds suspended from the roof. Balconies, louvers horizontal, vertical or "eggcrate," and integral sunshades of all descriptions and materials are once more common; these have a great — if only a rediscovered — virtue in that they prevent solar heat from reaching the building proper, and so are more effective than interior devices.

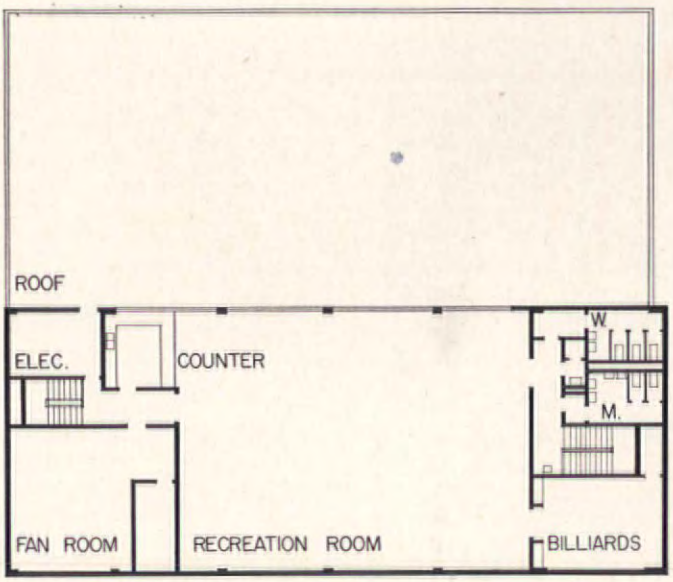


Suburban office building in Westchester County, N. Y. for the Standard-Vacuum Oil Company. Eggers and Higgins, Architects

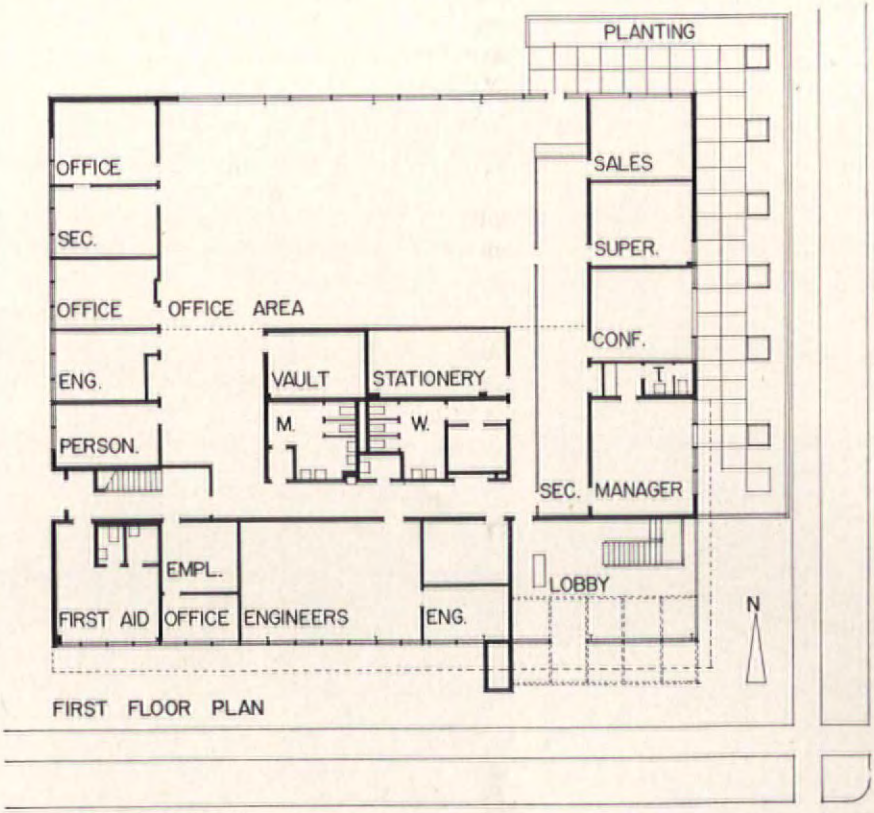
Interior spaces and exterior shape of buildings have been affected as to both appearance and use by the demands of air conditioning equipment. Cooling towers, required to reduce waste and cost of fresh water, were once roof-top eyesores; today the tower is usually hidden in an additional floor or a more pleasing superstructure.

Installation economy, the requirements of zoning and other tech-

OFFICE AND RECREATION BUILDING, ANACONDA WIRE AND CABLE CO., ORANGE, CALIF.



SECOND FLOOR PLAN



FIRST FLOOR PLAN

0 10 20 30 FT.

Welton Becket & Associates, Architects and Engineers

Another of the small suburban office buildings, this example is adjacent to the company's existing plant and provides a number of amenities for its employees. The lobby has glass walls facing a sizable

entrance plaza and there is a garden court surrounded by a wall, built of pierced vertical concrete blocks, which helps to separate the offices from the surrounding residential area. The offices themselves will open to the planted area through large sliding glass doors. The entire building, which will be air conditioned, will have acoustical ceilings, fluorescent lighting and intercommunicating telephones. The second floor recreation room with its coffee bar and billiard room will accommodate 400 people

nical considerations are leading to increasing use of primary air systems which feed about 20 per cent of the total air into subdivided secondary systems or local units. For these, the roof is an ideal location for primary fans, filters, coils, etc. serving the upper portion of a tall building. The roof is also a logical location for exhaust fans, ventilating toilets, elevator machine rooms, etc. While the roof may not be a desirable place for massive and moving machinery such as a large refrigeration plant, it is an ideal location for the small ones, especially in lower buildings. Putting the refrigerating machine close to the cooling tower and primary fan room saves much of the cost of water piping and operating power. All these factors make it common to find two or three entire floors at the top of the building devoted entirely to machine rooms (and to elevator machinery and even gas-fired boiler plants). The structural and architectural problems involved are unusual.

Many air conditioning systems require secondary fan rooms on each floor, and large vertical shafts for ducts and piping. These must run from top to bottom of the building; if they change location, space must be allowed for transferring ducts and pipes horizontally. This substantially affects the design of the building core, which also contains toilets, stairs, elevator shafts, etc.

High velocity systems offer some relief for this kind of problem. High velocity, again, introduces noise problems, which necessitates careful attention to outlet design, acoustical treatment, baffles, etc. The numerous peripheral systems have proved efficient for long, narrow buildings or wings; in multi-story office buildings space requirements and cost practically prohibit the single central-fan-room system. Which type of system best fits the job to be done, and is more economical, is a matter for individual decision on each job. Large interior spaces almost demand horizontal duct systems.

In general, the choice of air conditioning system lies between the conventional, central-fan-room system, now seldom economical; subdivided conventional systems; peripheral systems which employ local units to condition peripheral areas on each floor; high pressure systems using small-diameter round pipes; and double-duct high pressure systems supplying air at two different temperatures to deliver the correct, automatically controlled mixture to each individual space. Each has its special set of demands to make regarding structure, layout, etc., if it is to perform well and economically.

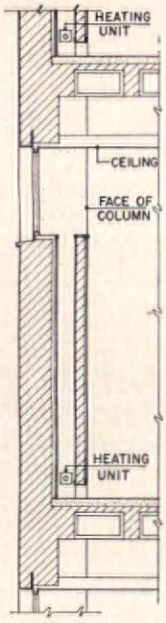
Lathrop Douglass,
Architect

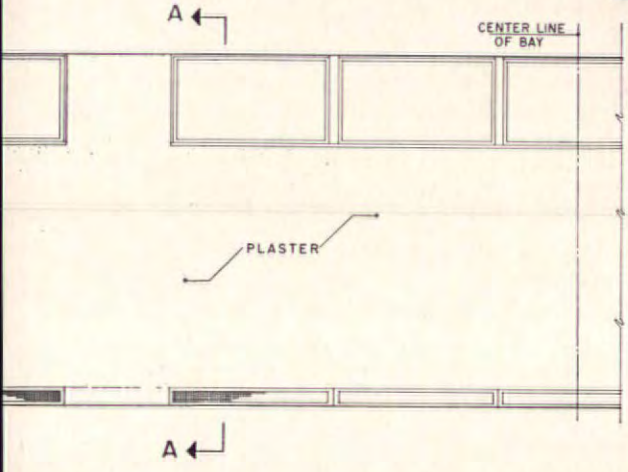
Severud-Elstad-Krueger,
Structural Engineers

Guy P. Panero,
Mechanical Engineer

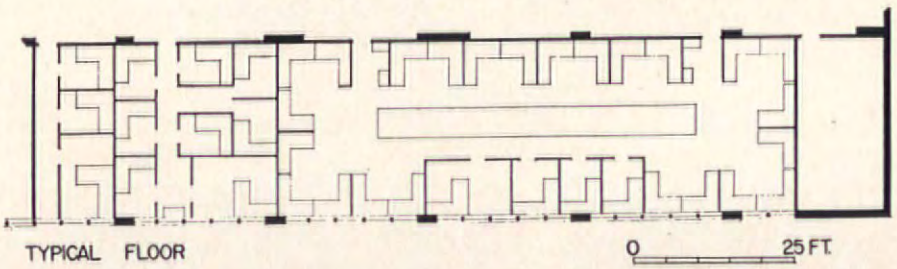
ESSO STANDARD OIL COMPANY, BAYWA

J. Alex Langley





The Bayway Office Building, part of a huge refinery, is designed completely around the modular furniture shown in the photograph above. Furniture in this instance includes partitions between private or semiprivate offices and between departments; in fact, the entire office layout can be revamped without changing the actual structure or building finish. This type of office equipment saved several thousand square feet of office space per floor. Only a portion of the plan is shown below. It is a long thin rectangle with a row of columns down the center and equal spans on either side. The structure is reinforced concrete. Windows on the side devoted to modular offices have sills 7 ft above floor level. The building is completely air conditioned and has fluorescent lighting. Section above left shows the unusual heating fixtures necessary to accommodate the modular offices



REFINERY OFFICE

Entrance lobby

Penthouse lounge

Executive office

By G. B. Gusrae
Engineering Consultant,
Vertical Transportation

ELEVATORS ARE GETTING SMARTER

Their electronic brains have developed to the point where elevators are now fully automatic

The first type of automatic elevator was introduced over 60 years ago. So the idea of "operatorless elevators," or Servolifts, as the author prefers to call them, is not new. The degree of automatic control, however, has increased greatly. In fact, the computer brain of the most highly developed system has almost human aspects. Mr. Gusrae has "humanized" elevators in his article to make understandable what could have been a very complicated discussion.

Drawings by Sol Ehrlich

THERE ARE THOSE who relish new names. Others prefer new ideas. The name, "operatorless elevators," is new. The same cannot be said of the idea. The automatic elevator actually was developed quite some time ago, and is not only "nothing new under the sun," but somewhat aged.

On the other hand, the control principles of the original simple idea have been exploited through the years and the newly developed improvements have now found practical application.

In this sense, the application of *full automatic control* to elevators is a recent achievement and may be considered new. At the very least, it did acquire a glitter of newness as it emerged from the maze of many trials and errors and failures and successes. In its recent state, it earned its new name — the operatorless elevator. This it did at the ripe age of 62 years.

And yet, there are a number of other forms of automatic elevators still in use of older and simpler design. What should be done with them? These older types led to the development of the new form. They have not been discarded as is often the case in many growth processes. Quite the contrary. The older designs are still being used today in the same state of functional freshness as originally developed. What is more, they will, most likely, continue to be used for many years to come.

It appears there is little choice but to include in the new family of operatorless elevators all available forms of automatic elevator control, beginning with the earliest type, the single automatic push button design, developed as early as 1892.

From then on, through the years, the humble operatorless, single automatic push button prototype multiplied, branched out and grew into the single button collective, double button collective, duplex collective, automatic supervisory control and finally into the new form of operatorless control.

For the sake of record, to complete the automatic vertical transportation family, one of its often forgotten branches should be included. This branch, constantly growing in importance from year to year, is the moving stairway. It does not, of course, belong to the family of operatorless elevators. It does

belong to the group of operatorless vertical transportation.

This discussion will be limited to the operatorless elevators and will include its entire family, and the application of its family members for the best results.

What's in a Name?

As we said, the name "operatorless elevators" is a new name for a somewhat aged, basic idea. As this idea was developed, and improvement crowded improvement, various names have been devised to describe the successive results.

Thus such names as "elevator without attendant," "automatic elevator," "self-service elevator," and more recently, "operatorless elevator" succeeded each other and found fleeting favor.

Apparently none of these have been sufficiently powerful as attention holders. Perhaps because they were not sufficiently economical in expression or maybe due to a vaguely felt degree of clumsiness.

Whatever the fault may be, the most recent appellation, "operatorless elevator" is not the happiest one. To some it is a tongue twister. In any event it is negative in concept.

It appears a new name is needed. A name carrying a positive connotation, a single descriptive word of special mintage where a new twist is given to old words. I believe I have found such a word.

I propose that the new name for an automatically operated elevator be "*Servolift.*"

The prefix "servo" has been applied in recent years to many automatically controlled devices. Servo art has produced the servo-mechanism, sometimes called simply the servo. It is defined best as a feedback, power amplifying, control system.

An automatic elevator control system is just that. It is a closed loop, feedback control system where the signals originating throughout the building are fed back as information data to the control room resulting in a corrective response of the elevator system. As such, the entire system is a servo and I believe the appropriate name for such an elevator, in the modern language of automatic control, is Servolift.

In addition, the word Servolift is economical in expression. It is descriptive and is positive. The term will be used throughout this article.

Original Servolift: Single Automatic Push Button

The story of Servolifts began some 62 years ago with the design of the first automatic elevator, the single automatic push button type. This Servolift is still used today, and will continue to be used. Its continuance is assured because it is particularly adaptable to many freight elevator installations and is more economical for satisfactory use on two-stop installations. (The elevator stops for the passenger and takes him without any intermediate stops directly to his destination.)

The design of this particular Servolift is based on the concept of a brute, but obedient, slave. It has neither memory, nor conscience, nor discrimination. It responds slavishly to the commands of its transitory master and continues to do so, blind and deaf to any other instructions, until abandoned and momentarily freed to acquire a new master.

Slavish as this Servolift is, it does have its moments when the prospective masters compete with each other for its acquisition. There is a single button at each landing. The person who presses his hall button an instant ahead of the others acquires the car. The others are doomed to temporary frustration unless they have learned the wisdom of resigned patience.

Application: It is this feature, undesirable otherwise, which makes the single automatic push button Servolift suitable for freight service. It permits the completion of the usual loading, transporting and unloading task without interruption and without annoying interference.

Servolift with Memory: Single Button Collective

The addition of a memory and a conscience changes the single automatic push button Servolift into a single button collective also known under another name, the "non-selective collective." This Servolift is no longer a one-master slave. It responds to many and serves all.

It retains in its memory all calls as they are made. Its acquired conscience drives it to respond to each call successively and to carry out all commands. As it travels up and down the hoistway it remembers all and serves everybody.

It does lack the sense of direction discrimination between up and down calls. At times this causes no end of bewildered resentment among its riders. When they are carried in the wrong direction, only the unswerving faith in the principle that all phenomena have an end, gives them the strength to await the eventual arrival to their destination.

Application: This Servolift is currently used in some small office buildings where the vertical transportation service is limited to the up direction only. The tenants walk downwards.

Servolift with Discrimination: Double Button Collective

The double button collective Servo-

ORIGINAL SYSTEM

". . . it does have its moments when the prospective masters compete with each other for its acquisition."

lift also known as the "selective collective" is a very useful servant indeed. In addition to the admirable attributes of memory and conscience, it has a *sense-of-direction* discrimination between the up and down calls.

It stores all calls in its memory. It conscientiously carries out all of the commands. It does this in the proper direction.

The double button collective Servolift first responds to all the up calls. It completes all up-direction work. It reverses at the highest call point. It then responds to and completes all the down calls. It rests a bit at the homing floor and then cheerfully proceeds with its up-down work cycle all over again.

Application: This, most popular, Servolift is an all purpose type, widely used in a great variety of buildings. It is capable of providing excellent service to population groups of 200 to 250 persons.

Duplex Servolift System: Duplex Double Button Collective

The duplex Servolift is the simplest Servolift system endowed with a glimmer of intelligence.

The system is represented by two collective Servolifts brought up to be capable of cooperative response to commands from single, double-button, fixtures at each landing.

Each car carries out its work in a double button collective Servolift manner as already described. The glimmer of intelligence comes in when both Servolifts stand idle at a floor and a landing button is pressed; only one of the two cars will respond. The other will ignore the call. This is the important feature of a Duplex Servolift system. When only one car is needed for service, one and only one of the two will respond; it will perform the work and will return to the homing floor letting the other car rest.

Both Servolifts proceed about their business in an intelligent and cooperative manner. As they wander up and down the hoistway responding to calls and carrying out their work, one will not interfere with the other, nor will it crowd the other. When one car responds to a call the other ignores it.

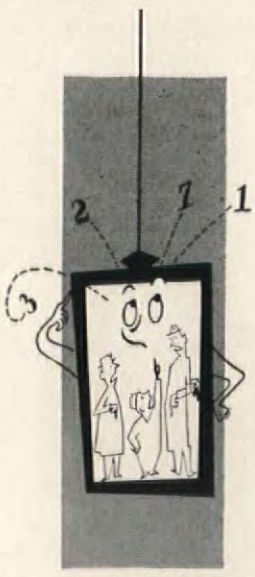
Thus the two Servolifts form a harmonious team of one mind in their electro-mechanical brains, with an understanding and respect for each other in their electronic hearts.

Application: As a team, the duplex Servolift system is one of the most useful vertical transportation components well suited to a great variety of applications where the population exceeds 200 to 250 persons. It is capable of serving groups up to 450 persons.

Servolift System With More Than Two Cars

The first Servolift system employing more than two cars was conceived by the writer for the East 56th Street Telephone Building in New York City in January of 1947. It was designed by the manufacturer in January, 1948 and was completed in July 1949.

Since then, Servolift systems consisting of four, five, six and more cars have been designed and installed by increasing the intelligence quotient of the system controls. The electronic brain of the current Servolift systems has been developed to the point where its components are capable of responding automatically in humanlike fashion to varying conditions of traffic demands as these occur.



SYSTEM WITH MEMORY

"Its acquired conscience drives it to respond to each call successively and to carry out all commands. As it travels up and down the hoistway it remembers all and serves everybody."

At first, the cars comprising the system acquire a rank and a subsequent order of succession. They respond to the calls for work in an orderly and noncompetitive manner. None of the cars crowd or interfere with each other. When some cars begin to come down, others begin to go up, and still others are midway doing work. The cars, using their electro-mechanical intelligence, do their best to cover uniformly the entire height of the hoistway for greatest efficiency in providing ready and willing service.

When the cars stand idle, absorbed in their fleshless electronic dreams, and a call comes in, there is no argument. One, and only one of the cars will respond. The volunteer will perform the work and having discharged its duty will return.

When the traffic demand becomes brisk in any one direction, the rank and order of succession is thrown to the winds in favor of a planned and directed disorder. The cars are still cooperative: they will not interfere with each other and will make every effort to avoid crowding. On the other hand, they work like veritable Trojans, darting here and there, rushing up as far as the service demands, and immediately returning for more and more load. They leave the crowded floors as rapidly as they are loaded and complete their work quietly, competently, patiently, without complaint and with great courtesy.

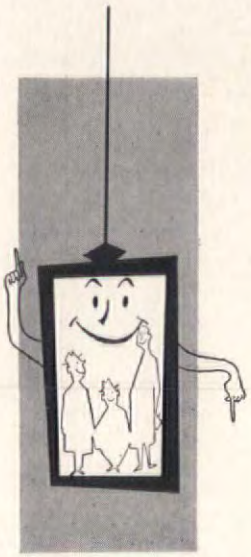
With great courtesy, indeed, because rushed as they may be, no call will go unheeded. Any call unanswered for too long a period will cause a painful twinge in the conscience of the entire system. One of the Servolifts will detach itself from the mad rush and will, houndlike, seek out the call and rescue the forgotten man.

Their intelligence does not end here. When the traffic demand becomes so heavy that the cars cannot cover the entire hoistway, they divide themselves, by common consent, into two groups; one to serve the lower half and the other the upper half of the hoistway.

The division point of the two zones is ingeniously conceived. Its location is such that the number of calls in each half is approximately equal. To keep the calls balanced, the Servolifts keep on shifting the point, now upwards,

now downwards. This superhuman capacity for instantaneous appraisal of the varying conditions and immediate response in changing the flexible division point of the two zones, is a significant achievement in synthetic intelligence.

When the traffic in one of the groups



SYSTEM WITH DISCRIMINATION

"In addition to the admirable attributes of memory and conscience, it has a sense-of-direction discrimination between the up and down calls."

diminishes, the idle cars of that group do not rest on their laurels. They immediately join the more heavily worked group and chip in with zest and enthusiasm until the work is completed.

Finally the rush is over. More and more cars return to home until all come to rest. Quiet settles over the building. The lights are dimmed and the idle cars, their day's work well done, their conscience at peace, fall into a watchful slumber dreaming mechanical dreams intelligible only to their robot brain.

Thus it is with the Servolift systems.

To obtain the brain control of such pseudo-intelligent systems, two methods are currently employed. One may be termed the *anticipating* method and the other the *computer* method.

The Anticipating Method

The anticipating method makes use of what is generally called the "peak period control." In an existing building the vertical traffic demand is carefully studied. For a new building certain assumptions are made. In both cases the traffic demand is classified and grouped into recurring surges or peaks.

Obviously such peaks, being the resultant of various observations or assumed traffic conditions, at best represent simple averages. There is no assurance that the surges will continuously recur in exactly the same degree or at exactly the same periods of the day. In other words, the traffic peaks are anticipated, and the entire method is based on the use of these anticipated data.

The peaks are classified as follows:

Up-peak — all upward traffic

Predominantly up — mostly upward traffic

Balanced — equal upward and downward traffic

Predominantly down — mostly downward traffic

Down-peak — all downward traffic

Limited — restricted, holiday or night traffic

Definite working patterns have been developed for the cars comprising the system to fit the classified peaks. Each pattern was carefully designed to satisfy the traffic demand of the respective peak.

To make the Servolift system work, it is necessary to set the proper working pattern for the particular type of anticipated peak. The setting is accomplished either manually, by the starter on the instrument board located in the lobby, or by means of a clock which automatically sets up the proper pattern at certain periods when the peaks are expected to occur.

The clock system is an automatic averaged anticipating method of Servolift control.

The Computer Method

This method, known as the automatic pattern or automatic program control, employs a computing device as the heart of the Servolift system.

Generally, instantaneous operating data of the system are fed into the special computer mechanism. These data represent the number of car calls, the number of landing calls, the number of stops in each direction, the call positions, the number of by-passes of fully loaded cars, the duration of car intervals, the weight of each car load and similar information.

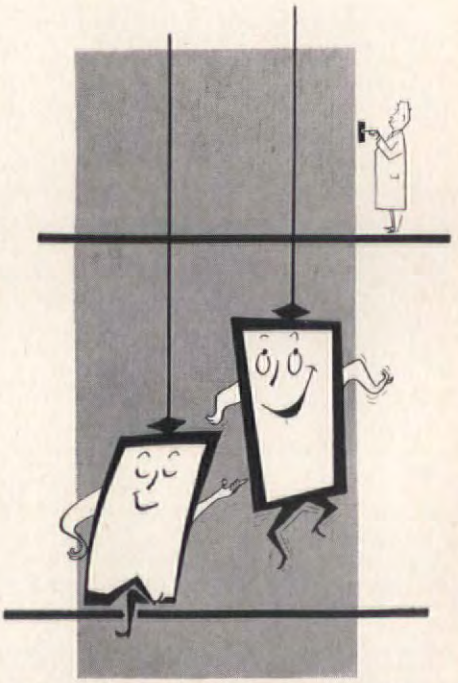
The data are combined, totaled and analyzed by the computing mechanism from instant to instant. At each instant the computer comes up with a result which governs the flexible behavior of the cars comprising the system.

A Servolift system using the computer method need not worry about, or anticipate, either the size or the duration of traffic surges or peaks. It responds automatically and instantaneously to the traffic demands as they occur and adjusts its working pattern automatically to variations of demand.

The computer method provides a more realistic means of Servolift system control. It represents another step forward towards an ideal design in automation of Servolift systems.

Selecting the Type of Servolift: Some Rules of Thumb

The current design of Servolift systems has reached the point where they



DUPLEX SYSTEM

"The glimmer of intelligence comes in when both stand idle at a floor and a landing button is pressed; only one of the two cars will respond."

can be applied successfully to provide excellent vertical transportation in practically all types of buildings. They can be used in apartment houses, hospitals, libraries, lofts, factories, warehouses, hotels, and all types of office buildings.

Where only one Servolift is required it is either of the single automatic push button or of the collective type.

Where two cars are required, the duplex Servolift system is applied.

Where more than two cars are required the quantity corresponds to the traffic demand.

Certain rough rules of thumb are useful with the understanding that they represent only a very general guide. They should be used with caution. Actual data should be obtained from qualified sources. Mistakes in vertical transportation are costly. They usually result in unnecessary limitations and inconveniences and contribute towards a premature obsolescence of the building.

One useful rule of thumb is that *one Servolift should be provided for every 200 persons of the building population served.*

Another useful rule of thumb is that *the number of Servolifts constituting a bank should not exceed six.*

A third useful rule is that a *six car Servolift bank should serve a population group not exceeding 1200.*

The reasoning behind the third rule is interesting. Assuming that each car of the six car bank is capable of completing two round trips in five minutes, it can be shown that theoretically one car will be available for service every 25 seconds.

Experience indicates that the largest arrival group in any 5 minute period generally does not exceed 20 per cent of the total population which is assumed to be 1200. Based on this it can be shown theoretically that the largest arrival group in a period of 25 seconds will be 20 persons.

In other words, we have one free Servolift available every 25 seconds for a maximum anticipated group of 20 persons. Properly sized, office building type cars can take care of this traffic without difficulty.

Attempting to serve larger groups than those just considered will, theoretically, adversely affect design economy. Either the number of cars would have to be increased beyond the six in a bank, or specially large cars would be required, or perhaps the speed would have to be increased. Either solution would cost more in money and in valuable space, and would result in a less efficient service.

Generally speaking, adherence to the three rules of thumb is suggested for preliminary considerations in sound design. The results are, of course, subject to proper adjustment in relation to actual requirements.

Why are Servolifts Desirable Today?

The most important factor influencing the ever increasing demand for Servolifts is the anticipated saving due to the elimination of elevator attendants.

It is well known that the cost per elevator attendant varies from $5500 to $12,000 per year depending upon the type of building, the extent of service and the location of the building. Theoretically, the use of Servolifts as contrasted with attendant operated elevators, should result in a saving of an average of $7000, per Servolift, per year.

The second factor in importance is the anticipation of either improved transportation service or the possibility of using fewer Servolifts than attendant operated elevators to obtain the same quality of service.

The third factor is the desire to obtain or to maintain an "up-to-date" class rental position, Servolifts being considered the very latest development in the field of vertical transportation.

The final factor is the desire for assurance of vertical transportation availability in the event of labor difficulties or labor unreliability.

Obviously, the consideration of these factors individually or together influences the decision whether to "go Servolift."

New Buildings

The application of Servolifts in new buildings undoubtedly has great merit on all counts and should have first consideration in their design. A properly designed installation will result in same and often superior service than that obtained from attendant operated elevators, and this at a considerable saving in yearly operation.

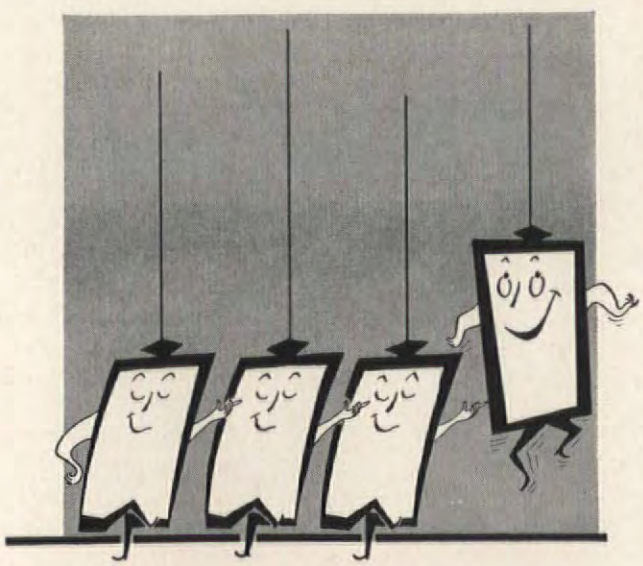
However, the anticipated theoretical saving due to automation will not be fully realized for several reasons. The initial cost of Servolift systems is somewhat higher with the consequent higher amortization cost; the maintenance cost is usually higher and the insurance rates may be somewhat increased, since there are no attendants.

Nevertheless, the use of Servolifts will result in a substantial saving in yearly operating costs and will satisfy all of the motivating factors influencing the choice of type of installation.

Consideration should of course be

SYSTEM WITH MORE THAN TWO CARS

"At first, the cars comprising the system acquire a rank and a subsequent order of succession."



given to the feasibility of using moving stairways in preference to elevators. The factors influencing the choice of vertical transportation components were discussed in an article by the writer in ARCHITECTURAL RECORD, December, 1950.

Modernization of Existing Buildings

Where all of the various motivating factors influencing the choice of equipment are equally valid, the choice of Servolifts is naturally indicated.

Where the predominant or sole factor is the desire to obtain the monetary saving due to automation, considerable care should be exercised in making the decision. The saving may be a good deal smaller than anticipated or may not be realized at all. The following items should be taken into account:

(1) The cost of an installation over 20 years old (assuming it operates satisfactorily) has already been amortized. Consequently, the yearly amortization that is no longer required cannot be counted in the anticipated theoretical saving. Savings should be calculated for a number of years equal to the period of assumed remaining useful life of existing equipment.

(2) The initial cost of the new installation will be higher than the original cost of the existing one. The amortization value of the differential should also be subtracted from the anticipated saving.

(3) The maintenance cost will be higher. The increase in the maintenance cost is another item to be subtracted.

(4) Certain alterations to the building structure may be required in order to comply with current local code requirements. The cost of such alterations will further affect the anticipated saving.

Occasionally, other factors of lesser importance have a bearing in the determination of the actual value of the saving.

All of this, when properly considered, will present a realistic status of the monetary saving and will determine the desirability of the changeover.

Future of Servolifts

Nine years ago, in the basement of the Moore School of Engineering at the University of Pennsylvania, thousands of eerie vacuum tubes winked into life.

". . . the idle cars, their day's work well done, their conscience at peace, fall into a watchful slumber, dreaming mechanical dreams intelligible only to their robot brains."

There was something frightening about their robot-like efficiency.

This was the *ENIAC*, the first of the giant computers, the first electronic brain of incredible calculating speed.

An *ENIAC* or an *UNIVAC* can solve, calculate, total and type out the answer to a problem requiring some 800 arithmetical steps in an instant. It can translate foreign language documents at the rate of 100 words a minute. It can store up in its memory up to 20,000 digits and up to 2000 separate operating instructions. It is capable of holding entire rate tables for calculating insurance policies. It provides answers in tasks involving engineering, abstract science or masses of any kind of data. It is capable of forecasting events. It is even planned that a computer in United States play a computer in England at chess.

It has moved into the field of completely automatic refineries. It continuously operates machine tools without the guidance of human hand. It is rapidly moving toward the creation of the automatic factory, guided only by instructions on an impersonal tape punched out by a special typewriter keyboard.

This is the stage which the technology of automatic control is now entering. The prospect may be depressing to some and satisfying to others. From the realistic point of view, man must face the fact that automatic control is here to stay. The problem is not whether it is harmful or beneficial but how can man best use it to his advantage and still retain the human values so dear to him.

The elevator field is no exception in the coming world of automation. Before long, an attendant operated elevator will become a luxurious anachronism. The electronic brain will take over control as it did and is doing in other fields.

The application of computers in the elevator field is not new. For years elevators used governors for actuating the mechanical safeties in event of overspeed. A governor is a form of an analog computer. The elevator electromechanical controller, wherein a moving part simulates the travel of the elevator car, is an analog computer. The relay board registering the car and landing calls is a form of digital computer. The control equipment of the very first automatic elevator was a combination of digital and analog computers.

Through the intervening years the relatively simple early design of elevator computer mechanism was gradually changed into a much more complicated form to provide a more satisfactory automatic service. The final link was completed recently when the integrator, the aforementioned computer method of Servolift control, was added. The automation is now practically complete.

The next step will, most likely, be a complete redesign of the entire Servolift control equipment. The redesign will probably be completed by the newly born kind of engineers, the system engineers, fully versed in the arts of electronics and cybernetics. Such redesign will probably follow the lines of modern computer construction. The relay boards may disappear to be replaced by memory tapes or drums. The vacuum tubes will probably be replaced by transistors. The entire assembly will become more compact and more foolproof with sealed, prefabricated, plug-in type components.

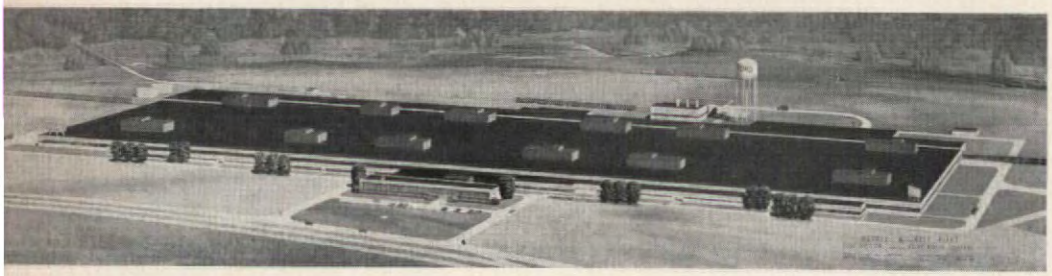
The control assembly will become an integrated computer unit capable of exercising full control competently, unerringly and virtuously. Virtuously, because its electronic conscience is not tainted by the fear of punishment.

The automatic factory may be some distance away. The fully automatic Servolift is here. The new computer language with its switching, flip-flop and peaking circuits, with its bit, feedback, noise, and hunt is ringing in a new era. The shadow of automation looms high over the horizon. It remains to be seen whether man has advanced sufficiently socially, culturally and politically to cope with the approaching new economic emancipation.

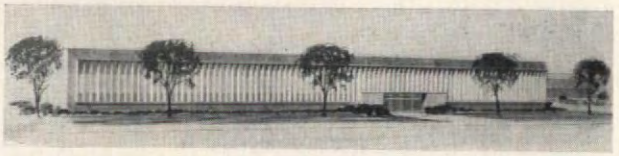
HUGE ASSEMBLY PLANT ENGINEERED FOR EFFICIENT, SAFE PRODUCTION

New Ford Assembly Plant
Mahwah, New Jersey

L. Rossetti
Architect
R. F. Giffels & V. E. Vallet
Engineers



This aerial view, showing houses for transformers and fans on roof, relates size of plant to that of administration building . . . which features a sunshaded façade. Design criteria and supervision of design was furnished by Plant Engineering Office of the Ford Motor Company.



Special points the designers considered:

Traffic
Expansion Joints
Drainage
Fire Protection
Piping
Electrical Distribution

THE new Ford Assembly plant being built at Mahwah, N. J. will be a huge one — it has to be in order to turn out some 1000 units every day, and hugeness itself was responsible for some of the engineering problems which were neatly solved.

There were problems in traffic and materials handling, to get the workers to and from their jobs with minimum effort, and to provide smooth flow of parts from incoming delivery to the outgoing final product.

Fire protection, receiving more than ordinary attention these days, with emphasis on design, materials and protective systems (See Record Reports, page 12), was carefully handled in several ways: (1) automatic sprinklers cover 100 per cent of the plant; (2) complete systems of automatic and manual alarms and independent emergency lighting are installed; (3) smoke baffles and roof vents are provided; (4) special wide fire aisles through the plant are always kept clear for fire trucks; (5) there is a complete system for hydrants, standpipes, hose reels, fire trucks and portable extinguishers (hose stations located to provide two streams at any location); (6) extra-hazard operations are physically shielded and equipped with special fire controls and alarms.

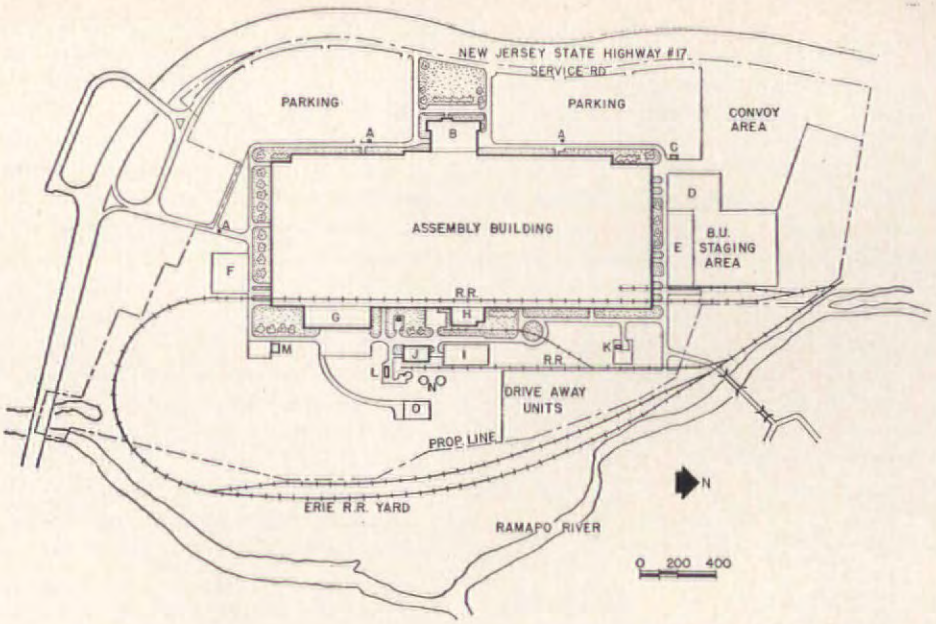
Not all of the engineering problems were confined to the assembly plant, though. The office building faces west, so it was necessary to provide some sort of protection against the sun. Trim, vertical sunshades were designed to cut out the sun and glare, while preserving the view, and also to serve as a strong element in the character of the façade.

ASSEMBLY BUILDING

Flow of Traffic, Materials

Just getting workers to and from the plant was a sizable problem in traffic and parking. The accompanying site plan shows how traffic to the big parking areas will be expedited by the projected additional lanes for New Jersey Highway 17 and the overpass to the service roads now being built on the 173±-acre site itself.

But this is only one detail. For one to understand thoroughly all the details of planning and designing a tremendous project such as this, it would be necessary to follow the entire assembly process from the unloading and checking of thousands of parts through testing, storage, distribution, and their progress along the sub-assembly lines to the new cars rolling off the last long line.



KEY

A. Gatehouse
B. Administration Building
C. New Car Checkout
D. New Car Storage
E. Crate Storage
F. Passenger Frame Storage
G. Truck Well
H. Oil House
I. Barrel Storage
J. Boiler House
K. Propane Storage
L. Caustic Treatment
M. Ground Maintenance Building
N. Oil Tanks
O. Industrial Waste Treatment

TRAFFIC HAD TO BE CAREFULLY ROUTED

Entrance to the plant by car and rail is coordinated with related activity locations within the plant. Shipping areas for new cars, both for domestic consumption and for export, are removed from other traffic

In general, parts come in by rail and truck at the east and southeast side of the plant and proceed westward to the final assembly lines at the west side of the building. The employes approach from the west side, and from either of the huge parking areas proceed to their locker rooms and then to their stations in the main assembly building.

Without attempting to go into details of the production process, it is sufficient to point out that it was the flow of parts, the lengths and speeds of the assembly lines, conveyors, and drag lines, together with their storage, handling, and testing facilities, that determined the size and shape of the plant. It was this that demanded a main building 2115 ft long and 790 ft wide.

Sectional Divisions

Because the assembly plant covers such a huge area, there are expansion joints every eight bays in both directions, one running the entire length of the building at the mid-point, and five running across the building parallel to the ends. As each bay is 45 by 50 ft, the area is divided into 12 "sections," each 360 by 400 ft, or a total of 144,000 sq ft.

Some section areas are slightly smaller, as can be seen on the roof plan, on the south and east sides of the building. In the sections facing on the south side of the plant a width of only seven bays is necessary to fulfill production requirements. On the east side of the plant, there are six 50-ft bays and one large 90-ft bay extending the length of the building over the railroad docks.

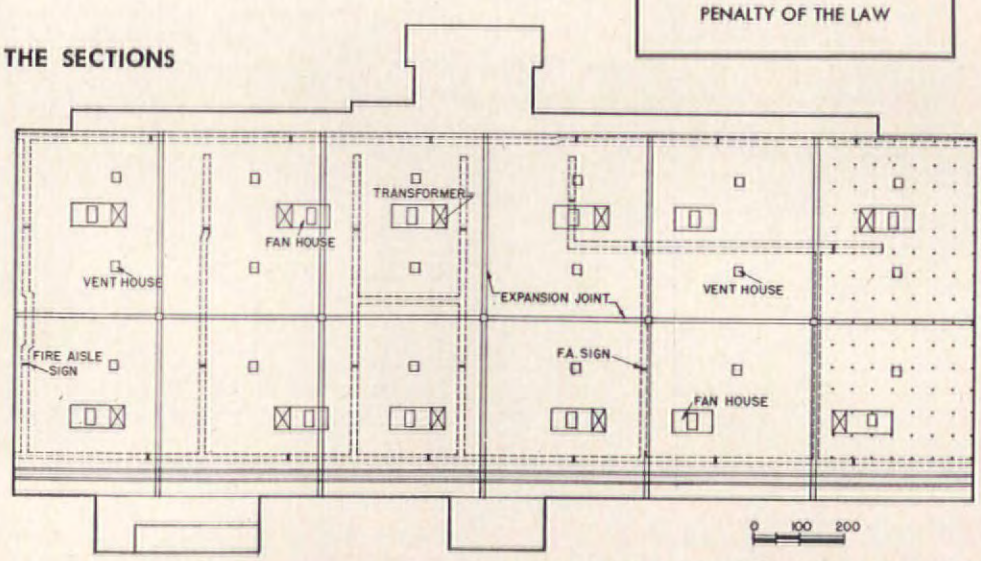
This "sectional" division has been adopted not only from a structural expansion consideration, but also because it provides a convenient economical and efficient division for the mechanical and electrical distribution systems as well, providing light, heat, ventilation, and fire protection.

Each of the twelve sections, therefore, has its own combined fan-house and transformer substation on the roof, each some 50 by 120 ft in plan. Every sectional division also has one or two

FIRE AISLE
DO NOT BLOCK OR OBSTRUCT
UNDER
PENALTY OF THE LAW

EXPANSION JOINTS MARK THE SECTIONS

Expansion joints provided for the huge plant, as shown on this roof plan, indicate the twelve section divisions, each supplied from its own transformer substation and fan-house. The dashed lines are zoned fire aisles at floor level, which are marked at frequent intervals by signs (shown at right). Column locations are dotted in for two sections



large automatic vent-houses which, combined with strategically placed steel draft curtains, will provide smoke control and elimination in case of fire.

Structure

One of the most unusual features of the building is its imperceptible downslope from north to south. Advantage was taken of the topography of the site, and earth-moving cost was minimized by sloping the whole building ½ in. in 45 ft, or a total of 2 ft.

Structurally, the assembly building is of the usual steel columns and trusses with insulated steel deck roof. The sway frames line up with the panel points, and the web members line up to permit easy runs of pipe and duct work. The 18-ft clear height from floor to lower chord of trusses is ample, as lighting fixtures line up at the same level. The lighting and power distribution, the ventilating ducts, and the sprinklers are designed as parts of an integrated and mutually non-interfering system, all run above the bottom chords of the trusses.

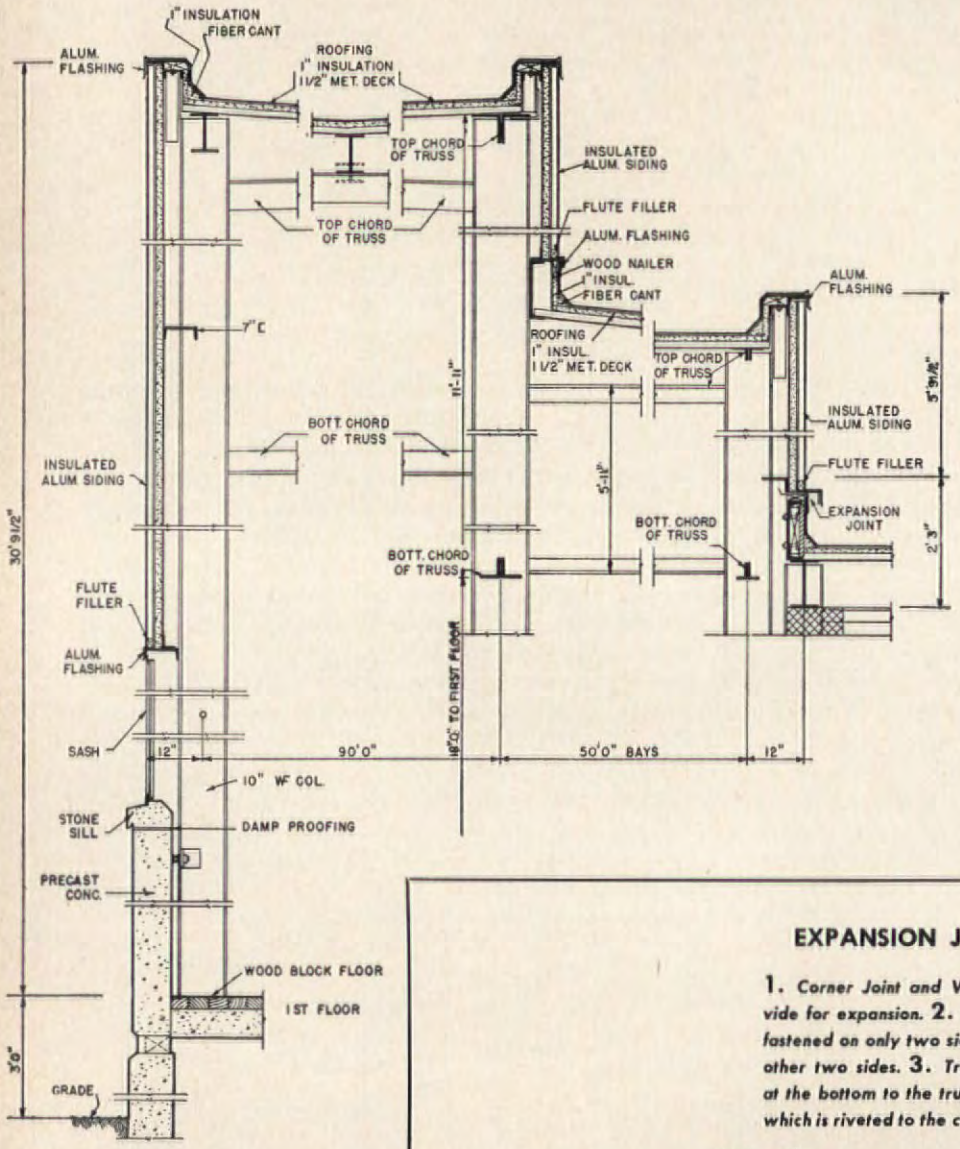
The heating and ventilating system is zoned, each penthouse supplying four zones in its "section" of the plant with filtered, blended fresh and return air. Steam coils are used for tempering. The duct system provides 10 changes of air per hour for the lower 12 ft of the building. Temperature controls are of the pneumatic type with independent compressed air sources.

General lighting of approximately 30-ft-candle intensity at 30 in. above the floor is provided by two-tube, 8-ft slim-line fixtures equally spaced 16 to each bay on messenger cables. But more of the electrical system later.

The walls, as shown in the sectional drawing, are somewhat unusual in that the masonry from floor to sill, instead of being brick or block, is a precast reinforced concrete slab some 8 ft high by 15 or 20 ft long and 8 in. thick, topped by a stone sill supporting steel sash. The wall above the sash is of insulated aluminum siding.

The 90-ft railroad shipping and receiving bay along the east side of the plant has a clear height of 21 ft 3 in. to the bottom of the trusses.

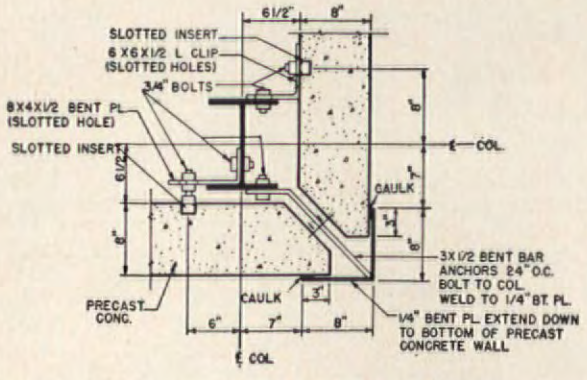
These trusses carry two 90-ft, underslung, 5-ton cranes. At the north end of the plant, a 5-ton crane of 100 ft span,



NORTH-SOUTH WALL SECTION *showing supporting precast reinforced concrete panel, indicates relative roof heights for 90-ft railroad bay, general assembly area, administration building*

EXPANSION JOINTS

1. Corner Joint and Wall Joint. Slotted bolt holes provide for expansion. 2. Roof Expansion joint. Plate hood, fastened on only two sides, allows 3 in. expansion on the other two sides. 3. Truss Connection. Steel bar pinned at the bottom to the truss and at the top to a steel plate, which is riveted to the column, allows the truss free swing



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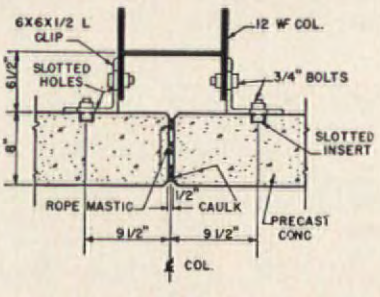

21 ft 3 in. clear height, is used to handle export shipping.

The high railroad bays run the entire length of the east side of the building. Since they are higher than the adjacent roof, smoke-venting is permitted through six hinged doors each 90 ft long, one for each 360-ft section. The double track is the standard 3 ft 6 in. below the wood-block floor of the dock.

Incidentally, five cross-over bridges of the hydraulic lift type, each 15 ft wide, can be raised from the double-track level at convenient intervals permitting access to both sides of the dock. Positive safety controls are installed for the use of these bridges and for the vertical folding doors which are operated for entering or leaving freight cars. The system provides both individual and master controls with warning bells and warning lights at each bridge as well as derail interlocks designed to guard against possible accidents.

Adjacent to the railroad dock, near the southeast corner, is the truck-well and quality-control wing extending some 120 by 360 ft. The truck-well is 270 ft long, equipped with 10-ton-capacity hydraulic leveling lifts to expedite deliveries.

Floor slabs on the ground are, in general, of 3000-psi concrete, 6 in. thick, reinforced with ⅜-in. round bars, 12 in. on center both ways in the top. Storage-area slabs are 8 in. thick reinforced with ½-in. bars, 12 in. on centers both ways in the bottom and 24 in. in the top. Assembly-area floors are monolithic concrete with wear-resistant hardener, except the rail and truck docks, which are of 2½-in. wood blocks. There are other exceptions, such as acid-resisting vinyl plastic tile in the chemical laboratory, asphalt tile in offices, etc.

Fire Protection

Many devices and methods of preventing, detecting and fighting fires are being incorporated in the plant. In addition to the draft-curtain and vent provisions, the entire plant is thoroughly provided with the newest type wide-coverage automatic sprinklers.

There are sprinkler alarms for each sprinkler riser or group of risers and fire horns throughout the assembly areas. Manual fire alarms are located at strategic points, and there are two-way hydrants every 300 ft and an underground fire loop 12 in. in diameter. One-hundred-foot, 1½-in. hose reels in cabinets in the office section provide protection there.

The oil house and paint-mix room have extra-hazardous-occupancy sprinklers, and the paint-mix room is provided, in addition, with a two-shot carbon dioxide system, the first automatic, the second manual. There is the added protection of a Class A wall between the oil house and the main building, extending 20 ft on either side. There are remote-control emergency stop-buttons for the gasoline distributing system. Spark-proof floors are used where there might be any danger from scuff-sparks.

The 10-day propane standby system is protected by sufficient hydrants for four 2½-in. hose streams. The fire alarm system is of the electric, manual, coded, positive, non-interfering and successive type, with the main unit in the plant protection office, and there are fire gongs and lights as well as horns.

A practical system of wide fire aisles, well marked and always kept clear, makes possible the immediate accessibility of major mobile fire-fighting equipment and personnel (both professional and trained volunteer) throughout the plant.

Then, too, the emergency lighting system is of the automatic charging and operating storage battery type, each unit self-contained and independent, insuring adequate lighting at all times for egress.

Electrical Distribution and Communications

A few notes indicating size and function of the electrical systems may be in order. Electric current is supplied by the public utility, and the plant transformer capacity is 24,000 kva. Primary power of 13.2 kv is distributed through underground cable ducts in concrete to the transformer stations on the roof via rigid conduit encased in concrete adjacent to the columns.

Three-phase, 60-cycle secondary power is supplied from the transformers at 480 volts. The assembly plant is served from 400-amp plug-in bus ducts on 100-ft centers above the lower chords of the trusses. Plug receptacles, 440-volt, 60-amp, are installed in the webs of columns.

The underfloor duct system in office areas consists of three separate steel ducts, one for 120/208-volt service, one for telephone and one for intercommunications. Equipment for 400 telephones will be provided at first, with space allowed for 600 eventually. In addition to the lighting and fire alarm systems, mentioned elsewhere, there are a Telautograph system, an electric time-clock system, a watchman's report system, and a dismissal signal system.

Process Piping, Sanitation, Drainage

Because Bonderizing and body painting are major operations, an elaborate system of chemical and water supply and subsequent industrial and paint waste disposal had to be worked out. This involved, among many things, a 30,000-gal treatment tank, a 12,000-gal ferric chloride tank (rubber-lined), a 12,000-gal calcium chloride tank, and one for 1000 gal of sulfuric acid. A

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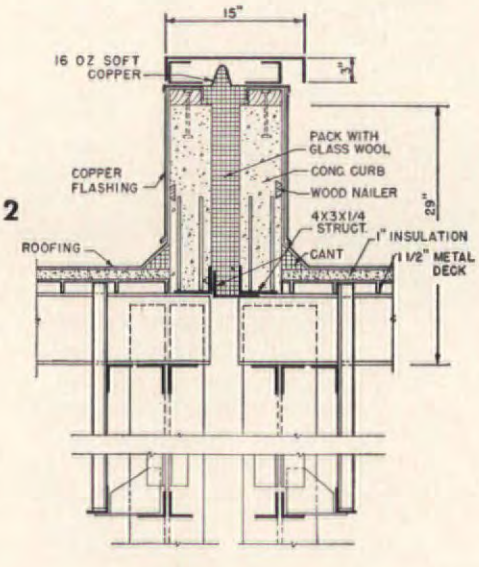

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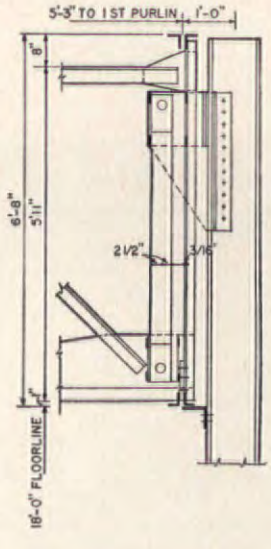
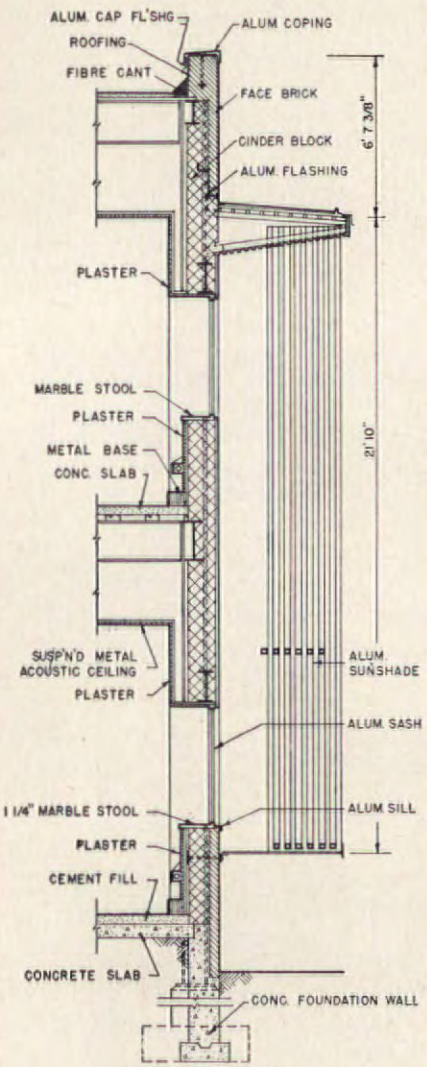


sludge lagoon of 300,000 gal capacity is required for settling.

Some of the mechanical engineers' problems are indicated by the fact that natural gas at 100,000 cu ft per hr is consumed, and both oxygen and acetylene are to be supplied for welding operations. There are 12 underground tanks, each of 20,000 gal capacity, in the oil tank farm

The sanitary system serves the locker rooms and toilets, kitchens, etc. In the assembly plant proper the toilet rooms are in mezzanines that leave a clear height of 12 ft above the main floor.

The storm sewer system takes care of the roof drainage and the run-off from the parking areas.



VERTICAL SUNSHADE

Filters out heat and glare of sun and yet, through use of tubular aluminum baffles, permits free flow of air

The slight roof slope, together with specially designed, restricted orifice roof sumps, decreases the rate of run-off from the roof and thus controls the flow and reduces the size of the storm sewer lines. The consequent slowing of the run-off (which is taken care of in the 40-lb live load of the roof) makes it possible to limit the number of roof sumps and down-spouts to an average two per roof section of 144,000 sq ft. The down-spouts are brought down at unobstructing points to storm sewers emptying into the Ramapo River. Incidentally, however, the parking lot run-off will be rapid, as the lots will have a 2 per cent slope.

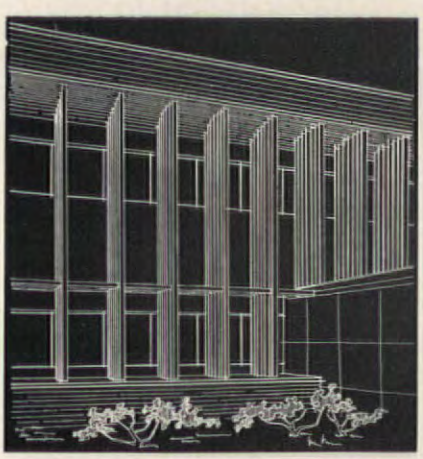
Additions to Assembly Plant

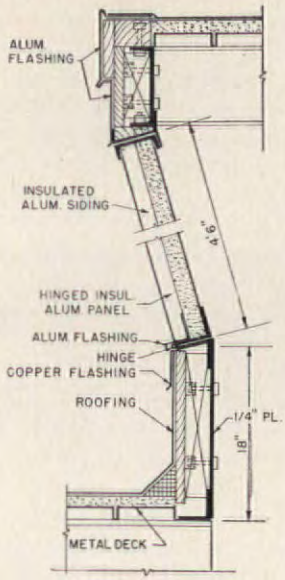
While this plant may seem to be large enough for both the present and some years to come, the possibility of future additions has been taken into account in the planning, and bays can be added at both north and south ends of the building. Flexibility of area use and of services is provided to take care of changes in assembly processes and techniques.

OFFICE BUILDING

The most striking feature to be seen from Highway 17 is the facade of the two-story office building. Because this building faces west, the sunshade has been designed to eliminate the glare and heat of the sun from the windows of the western facade. The detail drawing shows the construction of the aluminum sun baffles.

The office building (300 by 55 ft) has non-combustible acoustical ceilings, movable metal partitions, asphalt tile floors, and louvred lighting fixtures. Perimeter heating is provided by forced-hot-water guarded finned tubes, the temperature of the water being controlled by the temperature of the interior surface of exposed glass.





VENT-HOUSES LET OUT SMOKE IN CASE OF FIRE

Vents swing down from top when fusible link melts at a temperature slightly lower than the critical temperature (165 F) of the sprinkler heads. Vents can also be operated manually from the floor

Fire Protection Devices in Assembly Plant

	Total No.	Distance on Centers
Sprinkler Heads	18,114	*
2-Way Hydrants	26	300 ft
Manual Fire Alarms	50	200 ft
Roof Vent-Houses	18	200 ft†
High RR Bay Vents	6	360 ft

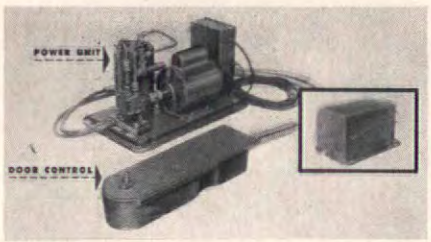
** Each sprinkler head covers an area of 120 sq. ft.*
† In the north-south direction vent-houses and draft curtains are alternately spaced every 180 ft.

This office, or administration, building is connected to the main plant by the wing in which are the private dining rooms, the large main kitchen, and the garage. The main kitchen serves the three cafeterias in the employes facilities building, one centrally located adjacent to the kitchen and the others north and south to serve those areas. Each of the latter has its own serving kitchen to assure hot food and beverages.

The employes facilities building, through which employes pass, runs 1780 ft along the west side of the plant. In addition to the cafeterias, it provides locker-rooms, toilets, hospital, employment and personnel departments, etc.

AUTOMATIC DOOR CONTROL

The automatic *Invisible Dor-Man* opens any type of door the instant a person steps on the carpet leading through the doorway. The door remains open until the person has walked through, and then closes with a two-speed action, which is adjustable at the time of installation. A door control mechanism is



Control installed under carpet automatically opens door when stepped on

concealed in the floor and a hydraulic power unit is equipped with the latest model G. E. Form G ½-hp motor. The electric cord is plugged into any standard 110-volt, A.C. circuit. No alterations are required in applying this door control. No special devices are placed in the head jamb. The operating units are completely concealed. In case of power failure, the door will operate manually, without locking or jamming. A counting device, which is optional equipment, keeps an accurate tabulation, not the number of times the door is opened, but of the actual number of individuals who enter. The manufacturer claims a reasonable price, very nominal cost of installation and maintenance, and many new features, including safety devices. *Dor-O-Matic Division of Republic Industries, Inc., 4440 No. Knox Ave., Chicago 30, Ill.*

AUTOMATIC HOLD-OPEN FOR DOOR CLOSERS

Floor type, heavy duty door closers can now be furnished with a "built-in" selective hold-open. The degree of hold-open is set at the factory to function at any degree specified when ordering. By setting a "selector lever" easily accessible on the floor plate or threshold, the automatic hold-open will function. Thus,

Device installed at door threshold holds door open at any degree desired

"selective" means that you have a hold-open only when you need it. The selector merely places the automatic hold-open mechanism in contact position so that it engages and holds the door whenever it is opened to the degree to which the hold-open is set. A firm pull will release the door. When the selector lever is set at non-contact position, the automatic hold-open does not function. The door closer then functions normally, automatically bringing the door to a quiet, gentle close after each opening. This product is well suited for entrance and vestibule doors that have large crowds passing through them. *The Oscar C. Rixson Co., 4444 W. Carroll Ave., Chicago 22, Ill.*

NEW COUNTER TOPS

These post-formed counter tops fit snugly around both roll rim and flat rim sinks. They are available in five colors and constructed of Micarta, a high quality plastic laminate. One piece construction offers many advantages. The surface flows unbroken from a 3-in. back splash to new no-dip front. This counter top is easier to keep always clean and spotless, because all metal bindings and dirt-catching crevices have been eliminated. Satin-finish aluminum union strips provide a water-tight seal so water and food particles cannot collect around the sink. These strips, available for cast iron and steel sink models, also form a more positive seal for joining the counter top to a roll rim sink. End caps of this same aluminum are the finishing accessories. They are easily removed for scribing the counter top to an irregular wall area or adding more counter top units at a later date. A raised water bead edge runs the entire length of the counter top to protect the floor and cabinet fronts from spilled liquids. The plastic pattern of the counter is non-directional. *American Radiator & Standard Sanitary Corp., Pittsburgh 30, Pa.*

Two new products for finishes include counter top (below), wall paper (right)

WALL PAPER WITH TEXTURED FINISH

Timbertone Decorative Co. has put a series of wall papers with textured finishes of bark, sand, metallic flicks and wood planking on the market. These papers, designed by Alexander Aizer, are made and stained by hand and the finishes are reportedly permanent, washable and fadeproof. They are made of a patent mastick composition of cement oil and color pigments, applied to heavy kraft paper. The wall coverings are hung by the usual paper-hanging methods, and come 36 in. wide by 12 ft long in double roll units of 24-ft length.

Drift wood (SA2401) simulating weathered wood comes in gray with gold, lime or coral and retails at $9.25 per roll.

California Redwood (SA2453) is reproduced in an all stained and prewaxed wallpaper that retails at $9.00 per roll.

Walnut (SA2450) retailing at $9.00 per roll is oil stained and prewaxed.

Stripped bark (SA4601) is available in offwhite, beige gray, chocolate brown, and earth. It retails at $11.00 per roll.

Metal Craft (SA3016) — duplicates the color and character of hammered metal and tortoise shell. It comes in gold and white with red, green or black and silver, gold, yellow and pink.

(Continued on page 232)

OFFICE LITERATURE

WATER SYSTEMS AND PUMPS

Commercial Catalog C-54 gives comprehensive data, construction details, and selection tables on 12 types of Deming water systems. Included are the latest dual-purpose jet pumps (convertible for shallow or deep well service) and the submersible type of deep well pump. Miscellaneous units featured in the new catalog include the new "Motor-Mount" centrifugal pump designed primarily for air conditioning service but applicable for booster service, general circulating service, swimming pools, lawn sprinkling and industrial plant service. Other units featured include Deming side suction centrifugal pumps in both vertical and horizontal types, condensation return units, cellar drainers, portable self-priming centrifugal pumps for drainage or water handling jobs, and other types of pumps and accessories. 96 pp, illus. *The Deming Co., Salem, Ohio.*

COMPARING SUN SHADE EFFICIENCY

Comparison of Flexalum Aluminum Venetian Blind Slats, Steel Slats and Conventional Shade Cloth in Controlling Solar Radiation and Room Temperature is a paper on such a study made by Faber Birren and Company for the Hunter Douglas Corporation. The paper gives a few basic facts necessary to understand the nature, condition, methods followed and details of three experiments and, of course, the conclusion. 4 pp. *Faber Birren & Co., 500 5th Ave., New York 36, N. Y.*

WOOD PANEL MATERIAL

Masonite Presdwood is a guide for the selection, application and finishing of Masonite Presdwood Products as they are used in building construction and remodeling. All of the more general applications have been covered. Architectural specifications for interior finish, underlayment, masonite siding, panel siding, protected exterior application and concrete forms are included. 32 pp, illus. *Masonite Corp., 111 W. Washington St., Chicago, Ill.**

WINDOW LAYOUT TABLES

Fenestra Mulliple Window Layout Tables is a pamphlet containing complete tables for computing overall window dimensions in multiple openings. Tables I and II show suggested combinations of standard *Fenestra* Intermediate and Industrial windows and mullions which may be arranged symmetrically to fill an opening of the width given. Tables III and IV give total dimensions of multiples of standard *Fenestra* Intermediate Projected and Industrial Pivoted and Projected window widths to which mullion dimensions must be added. Tables V and VI give total dimensions of multiples of mullion widths from 1⅜-in. wide to 4-in. wide in increments of ⅛ in. 5 pp. *Detroit Steel Products Co., 3113 Griffin St., Detroit 11, Mich.**

ELECTRICAL CONTROL SYSTEMS

Control Centers by Clark describes the many advantages of centralized electrical control systems through use of their A.C. Motor Control Centers. Typical installations, specifications, construction details and planning tips are also featured. 24 pp, illus. *The Clark Controller Co., 1146 E. 152 St., Cleveland, Ohio.*

LOCKSETS

Two pamphlets, *Kwikset "600" Locksets, A.I.A. File No. 27-B* and *The Kwikset "400" Line*, list the specifications and features as well as illustrate 14 Kwikset Locksets for offices, commercial buildings, schools and residences. Installation aids and accessories are also described and illustrated. Each booklet 4 pp, illus. *Kwikset Locksets, Anaheim, Calif.**

DOOR AND WINDOW CASINGS

Bostwick Door and Window Casings, AIA-20 pamphlet describes the expanded flange and the short flange in diagram form. Illustrations are given of four different sized casings. Dry-wall corner guards and dry-wall casings are also described. *Bostwick Steel Lath Co., Niles, Ohio.**

LIGHTING MANUAL

The Cutler Mirac-o-lite brochure (AIA file no. 31-F-21) is divided into four sections: the first section discusses the application of Mirac-o-lite; another section describes the Bent Lamp Group of fixtures giving complete dimensions, light output, mechanical specifications and installation photographs; an easy-to-follow method for light circulation is provided in the third section in addition to general specifications and illustrations of fixture assembly; the last section pictures and explains in detail the Straight Lamp Fixture Group. It further includes photographs and specifications on Custom Lighting. 16 pp, illus. *Cutler Light Manufacturing Co., 2024–28 No. 22nd St., Philadelphia, Pa.*

HIGH TEMPERATURE WATER SYSTEMS

"*Hydrotherm Bulletin No. 100*" discusses and illustrates the applications of high temperature high pressure water in distributing heat to large area installations such as district heating, airports, hospitals, schools, shopping centers, housing projects and industrial building groups. A comparison of the two-pipe high pressure Steam System with the High Temperature Water System is also presented in this 16-pp, illus. booklet. *American Hydrotherm Corp., 33–70 12th St., L.I. City 6, N. Y.*

SCHOOL LIGHTING

Better Daylighting For Schools. Booklet containing photographs of installations of translucent, light diffusing glass in modern school buildings, gives details of the characteristics of various glass patterns particularly suited for installation in vertical sidewall sash in south, east and west exposures and in skylights and clerestories. Light transmission tables are included. *Mississippi Glass Co., 88 Angelica St., St. Louis 7, Mo.*

(*Continued on page 280*)

***Other product information in Sweet's Architectural file, 1953*

Hotel Saves 17% with Anemostat High Velocity Air Conditioning System

The Kentucky Hotel, Louisville, Ky., lost no room rentals during installation of its High Velocity air conditioning system.

There were three bids for the High Velocity air conditioning system for the Kentucky Hotel in Louisville. The Anemostat High Velocity System was selected at an overall saving of 17% over bidder number two, and 20% over bidder number three.

Anemostat's High Velocity System has the widest range of application for both alteration jobs and new construction. Write for HV Manual 48.

ANEMOSTAT®

DRAFTLESS *Aspirating* AIR DIFFUSERS

ANEMOSTAT CORPORATION OF AMERICA

10 EAST 39th STREET, NEW YORK 16, N. Y.

REPRESENTATIVES IN PRINCIPAL CITIES

"No Air Conditioning System Is Better Than Its Air Distribution"


Skidmore, Owings & Merrill, *Architects and Engineers*
MODERN DOOR CONTROL BY *LCN* · CLOSERS CONCEALED IN FLOOR
NEW CHICAGO TERMINAL, GREYHOUND BUS LINES
LCN CATALOG 12-A ON REQUEST OR SEE SWEET'S • LCN CLOSERS, INC., PRINCETON, ILLINOIS
28
ARRIVALS
27
26
25

NORTH AMERICAN BUILDING STONES — 4

Presented through the cooperation of the International Cut Stone Contractors' and Quarrymen's Association

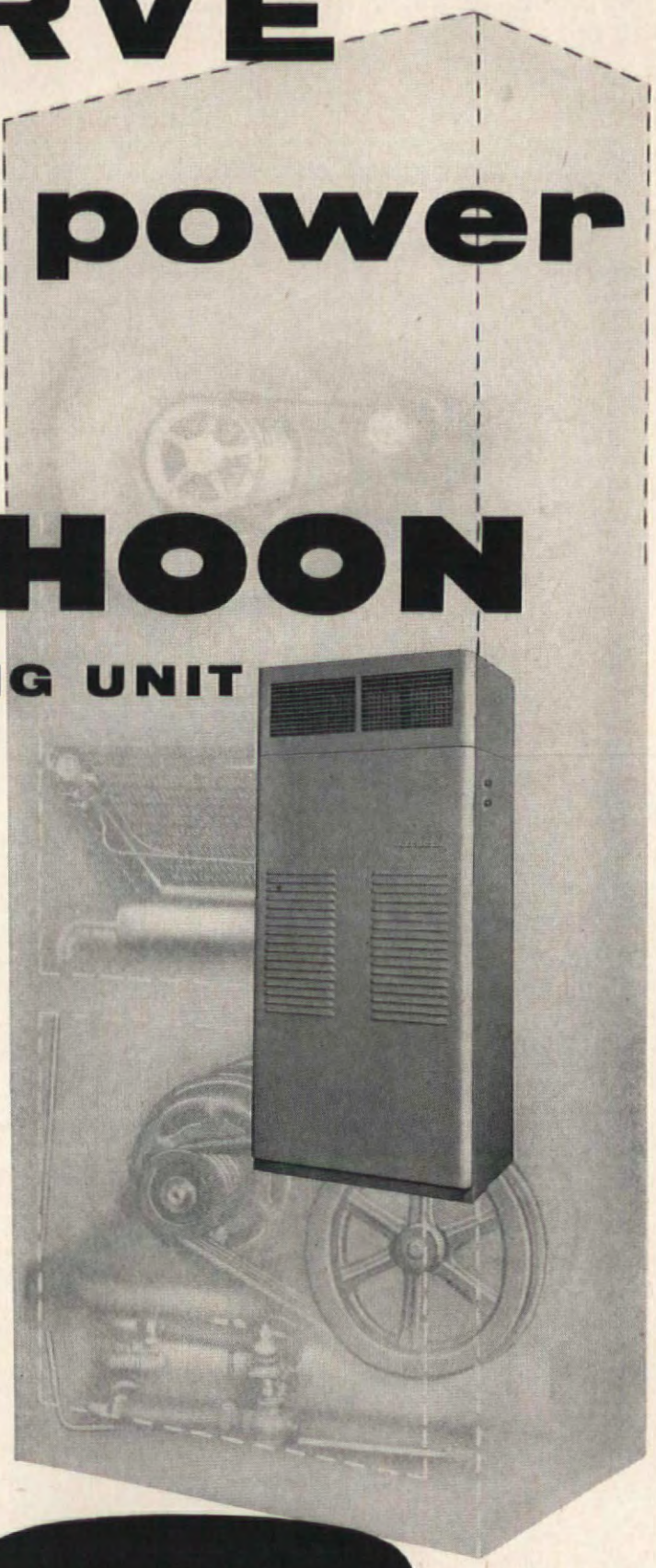
INDEX OF BUILDING STONES—Sheet 1-A (Horizontal columns continued on sheet 1-B, page 227)

	NAME OF STONE	COMPANY NAME	QUARRY LOCATION	GEOLOGICAL DESIGNATION	TEXTURE	COLOR	CHEMICAL COMPOSITION
1	Arkansas Multi Ledge	Jacobson-Evans Stone Co., Inc.	Paris, Ark.	Sandstone		Brown to Pink, Gray, Variegated With Swirls	Tests Not Completed
2	Bandera	Bandera Stone Quarry	Redfield, Kan.	Sandstone		Gray, Buff	Silica..... 77.32% Iron Oxide..... 3.42% Alumina..... 9.45% Lime..... 2.00% Magnesia..... Trace Oxide of Sodium 2.72% Oxide of Potassium 0.60% Manganous Oxide 0.16% Carbon Dioxide 4.39%
3	Bear Valley Green	Western States Stone Co.	Panguitch, Utah	Sandstone	Medium Coarse	Green	Tests Not Completed
4	Berea Sandstone (Amherst Sandstone) (Cleveland Sandstone)	The Cleveland Quarries Co.	Amherst, Ohio	Sandstone		Gray, Buff, Variegated	Silica..... 93.00% Alumina..... 4.00% Iron Oxide..... 1.25% Lime..... 0.75% Titania..... 0.50% Magnesia..... 0.50%
5	Bluestone	Willis Hankins Bluestone Quarries	Callicoon, N. Y.	Sandstone		Blue, Gray-Buff, Lilac	Tests Not Completed
6	Briar Hill Golden Tone Sandstone	The Briar Hill Stone Co.	Holmes County, Ohio	Sandstone	Medium	Buff, Gray, Tan, Brown, Pink	Silicon Dioxide... 95.00% Aluminum Oxide.. 2.75% Iron Oxide..... .60% Calcium Oxide... .30% Magnesium Oxide .25% Loss on Ignition... 1.10%
7	Canyon Stone	Grand Canyon Quarries, Inc.	Drake, Ariz.	Sandstone	Coarse	Pink, Buff, Tan	
8	Carthage	Carthage Marble Corp.	Carthage, Mo.	Crystalline Limestone		Light Gray	Carbonate of Lime 98.57% Carbonate of Magnesia..... .65% Oxides of Iron and Alumina..... .21% Insoluble..... .69%

RESERVE power

the vital **plus**
built into
every **TYPHOON**

AIR CONDITIONING UNIT



The test of any air conditioning unit is its performance under tough conditions . . . when heat and humidity are at their worst. To meet peak demands day after day, week after week, Typhoon units are engineered with extra reserve capacity, with rugged power plus. They deliver full-rated workload in every weather, in every climate the world over. Engineering like this took 45 years of experience to perfect. For every job from a small home to a large institution, specify Typhoon with confidence.

Get the facts about the complete Typhoon line — residential heating-cooling units, self-contained air conditioners, window units, heat pumps — in a wide range of sizes for every installation. Call your Typhoon dealer. You'll find him listed in your classified directory—or write to us for his name.

TYPHOON AIR CONDITIONING CO., INC.
794 Union Street, Brooklyn 15, N. Y.

TYPHOON
AIR CONDITIONING

The Industry's Only Specialist in Self-Contained Units

NORTH AMERICAN BUILDING STONES—5

Presented through the cooperation of the International Cut Stone Contractors' and Quarrymen's Association

INDEX OF BUILDING STONES—Sheet 1-B (Horizontal columns continued from sheet 1-A, page 225)

	PHYSICAL TESTS	STRENGTH	WEIGHT	FURNISHED AS	SURFACE COVERAGE	OTHER FACTS
1	Tests Not Completed	Tests Not Completed	Tests Not Completed	Ledgestone; Flagging. Heights: 1″–5″ Lengths: 12″–48″	45 sq ft per ton	
2	Expansion in water, per degree, Fah. — .00000516 per sq in.	Crushing Strength — 8,446 lbs per sq in. Shearing Strength — 1,940 lbs per sq in. Traverse Strength, Modulus of Rupture — 2,088 lbs per sq in.		Dimensional; Splitface; Ledgestone. Heights: 1″–6½″ Lengths: any length on sawed stone; up to 56″ for split stone	50 sq ft per ton	
3	Tests Not Completed	Tests Not Completed	Tests Not Completed	Dimensional; Splitface; Ledgestone. Heights: 1″–12″ Lengths: 12″–48″	Ashlar: 50 sq ft per ton Strata face (Sheets). 160 sq ft per ton	
4	Specific Gravity — 2.142% Absorption of Moisture — 6.00%	Crushing Strength — 7,000–10,000 lbs per sq in.	140 lbs per cu ft	Dimensional; Splitface. Splitface Heights: 2¼″, 5″, 7¾″, 10½″ Lengths: 30″–42″	40 sq ft per ton	Six Quarries
5	Tests Not Completed	Tests Not Completed	Tests Not Completed	Splitface; Ledgestone. Heights: 1″–4″ Lengths: 12″–48″	40–45 sq ft per ton	
6	Absorption of Moisture — 6.00% by volume	Crushing Strength — 288–432 tons per sq ft	150 lbs per cu ft	Splitface. Heights: 2¼″, 5″, 7¾″, 10½″ Lengths: Random	45–55 sq ft per ton	Eleven Quarries
7	Absorption of Moisture — 3.7%	Crushing Strength — 13,610 lbs per sq in.		Dimensional; Splitface; Ledgestone. Heights: 1″–6″ Lengths: 12″–48″	Ashlar: 50 sq ft per ton Strata face (Sheets): 135–150 sq ft per ton	
8	Specific Gravity — 2.7% Absorption of Moisture — 0.26% Abrasive Hardness —14–19% After 1,735 freezings, there was no effect of frost action	Crushing Strength — 20,000 lbs per sq in.	167 lbs per cu ft	Dimensional; Splitface. Dimensional Heights: 5′ Dimensional Lengths: 7′ Splitface Heights: 2¼″, 5″, 7¾″ Splitface Lengths: up to 3′6″	35 sq ft per ton	

At Springfield's New
ST. JOHN'S HOSPITAL

SPRINGFIELD, MISSOURI

THE ANSWER IS BRYANT WIRING DEVICES

ARCHITECTS—Maguolo & Quick, St. Louis, Mo.
GENERAL CONTRACTORS—McGough Brothers, St. Paul, Minn.
ELECTRICAL CONTRACTORS—Gustav Hirsch Organization, Columbus, Ohio

WHERE DEPENDABILITY IS PARAMOUNT — Quiet efficiency and modern functionalism mark the design of the new 300-bed St. John's Hospital in Springfield, Missouri. And throughout the 8-story structure, specifications called for Bryant quality wiring devices to meet the rigid requirements of hospital use.

THE ANSWER IS BRYANT — Every Bryant device is carefully engineered and manufactured to give years of dependable, trouble-free service. Such devices as the rugged 20 Ampere switch, No. 5861, and the sturdy No. 4701 10 Ampere Silent Mercury switch provide the ultimate in dependable electrical performance.

FOR HOME, OFFICE, OR INDUSTRY — There's a full line of quality Bryant once-installed, stay-installed wiring devices to meet any specification for residential, commercial or industrial applications.

No. 5861
20 Ampere Switch

No. 4701
10 Ampere Silent Mercury Switch

THE BRYANT ELECTRIC COMPANY

Bridgeport 2, Connecticut

Chicago • Los Angeles

BRYANT
SUPERIOR WIRING DEVICES

Listed by Underwriters' Laboratories, Inc.

J-99903

NORTH AMERICAN BUILDING STONES—6

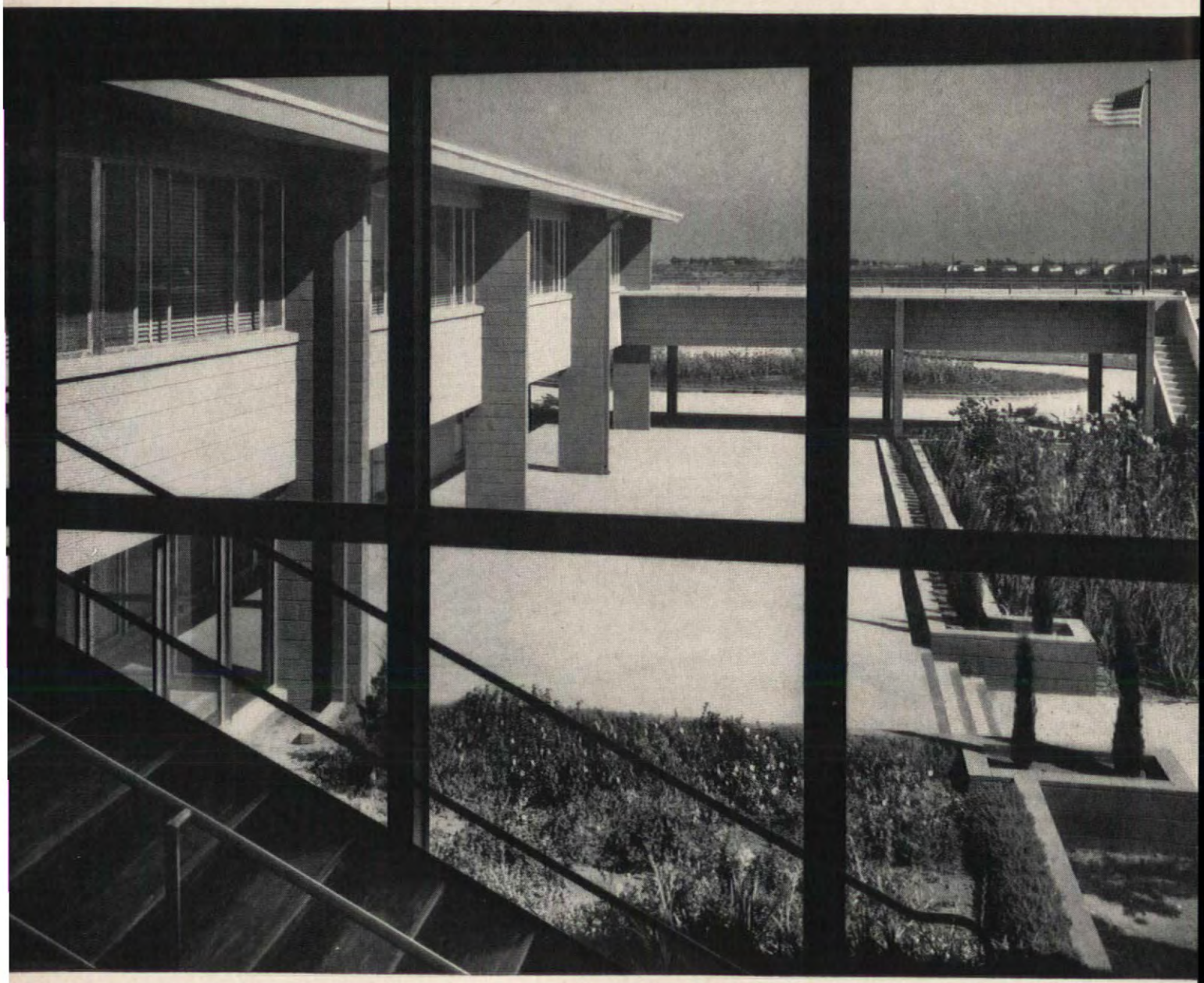
Presented through the cooperation of the International Cut Stone Contractors' and Quarrymen's Association

INDEX OF BUILDING STONES—SHEET 2-A (Horizontal columns continued on sheet 2-B, May TSS)

	NAME OF STONE	COMPANY NAME	QUARRY LOCATION	GEOLOGICAL DESIGNATION	TEXTURE	COLOR	CHEMICAL COMPOSITION
9	Chesapeake-hue	Butler, Md.	C. E. Weaver Stone Company	Quartzite	Hard dense	Gray, Blue-Gray, Soft Brown, Beige Cream, Olive Green, Rust and Variegated	Silica..... 91.17% Alumina..... 3.51% Iron..... 1.24% Calcium..... Trace Magnesium..... Trace Loss of Ignition... 0.57%
10	Clouded Buff (White Rockwood)	Alabama Limestone Company	Aday, Russellville, Ala.	Oolitic Limestone	Extremely fine-grained	Delicate shadings of Gray and Buff, curing out to an almost white stone	98% Calcium Carbonate
11	Colorado Pink	Jacobson-Evans Stone Co., Inc.	Lyons, Colo.	Quartzitic Sandstone		Pink to Red, Buff	Tests Not Completed
12	Colorado Red	Summers Rock Quarry	Lyons, Colo.	Quartzitic Sandstone	Even grain	Creamy, Pink to Red	Tests Not Completed
13	Colorado Rose	Robert G. Stewart Stone Co.	Beech Hill, Lyons, Colorado	Quartzite Sandstone	Tests Not Completed	Plain Pink, Pink with a white stripe, Red, Stratified Red, Buff, Gray, White, Picture Rock	Tests Not Completed

(Table to be continued)

Beauty isn't *distorted* when you

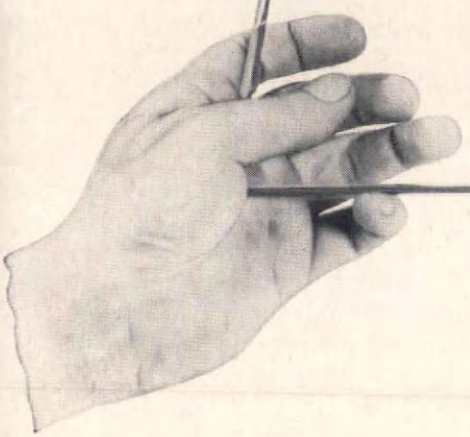


From inside or outside, the windows are beautiful in the Lea County Community Hospital, Hobbs, N. M. Ventilating windows are of ⅛" L·O·F Polished Plate Glass Fixed windows are of ¼". Nursery partitions are L·O·F Safety Plate Glass. Architect: W. L. Pereire, Los Angeles.

NO FINER GLASS THAN

LIBBEY · OWENS · FORD

pecify L·O·F POLISHED PLATE GLASS

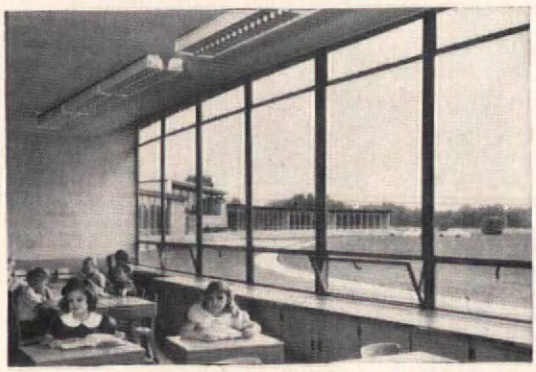


Penny-pinching on glass can result in a sorry-looking building. Its trim exterior lines and interesting texture can be ruined by misshapen reflections in the windows. Don't forget, every window is a mirror from outdoors, and mirrors should be plate glass to assure beautiful, undistorted reflections.

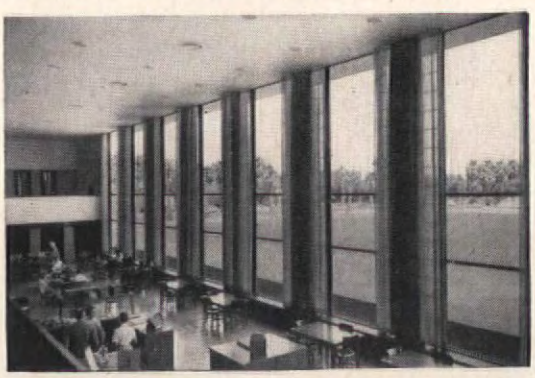
Similarly, from inside looking out through plate glass, there's no imperfection in the view. Things you see don't wave or warp. For owner and architect, there's lasting satisfaction—lasting as long as the building stands—in windows of plate glass. And the premium paid for it is really not great.

When you specify L·O·F Polished Plate Glass, you and the owner are assured of quality as fine as can be had. You can get this fine glass in all the standard specifications; also, in the form of mirrors, *Thermopane** insulating glass, blue-green Heat Absorbing Glass, Safety Glass and *Tuf-flex**, tempered for extra strength.

For details on any of the standard or special types of plate glass or for counsel on any glazing problem, call your nearest L·O·F Glass Distributor or Dealer. Or write Libbey·Owens·Ford Glass Company, 7544 Nicholas Building, Toledo 3, Ohio. ®



Note the unwavering straightness of the building lines even when viewed at an angle through L·O·F Polished Plate Glass, used throughout Edgebrook School, McHenry, Ill. Architect: Raymond Orput & Associates, Rockford, Ill.



This daylight wall in the main reading room of the Phoenix (Ariz.) Public Library is glazed with L·O·F Polished Plate Glass. Doors of the building are L·O·F *Tuf-flex* tempered plate. Architects: Albin Dow, Midland, Mich., and Lescher and Mahoney, Phoenix.

POLISHED PLATE GLASS

L·O·F GLASS · L·O·F Corrulux FIBER-GLASS

AH PRODUCTS

(*Continued from page 221*)

Brick (SA630) is a rough textured paper with actual sand mortar joints. Available in all white; white and gray, blue, yellow, or lime; and offwhite with gold, terra cotta or salmon, this paper is applied to the wall horizontally to eliminate seam joints. The whitewash paper sells for $8.00 per roll and other colors up to $10.50 a roll.

Plank Oaks (SA2455) — Planked Walnut (SA2454) oak planks and walnut planks that are oil stained and prewaxed sell for $9.00 per roll. *Timber Tone Decorative Co., Inc., 114 E. 32nd St., N.Y.C.*

TELEPHONE CONVENIENCE

Now you can talk on the phone without holding the receiver. *Fonadek*, a compact device that occupies only a few square inches of desk space, even lets you leave your desk and converse at the same time. To achieve this dial your call, place the telephone receiver on Fonadek and talk.

New phone device works on batteries. Needs no plugging-in

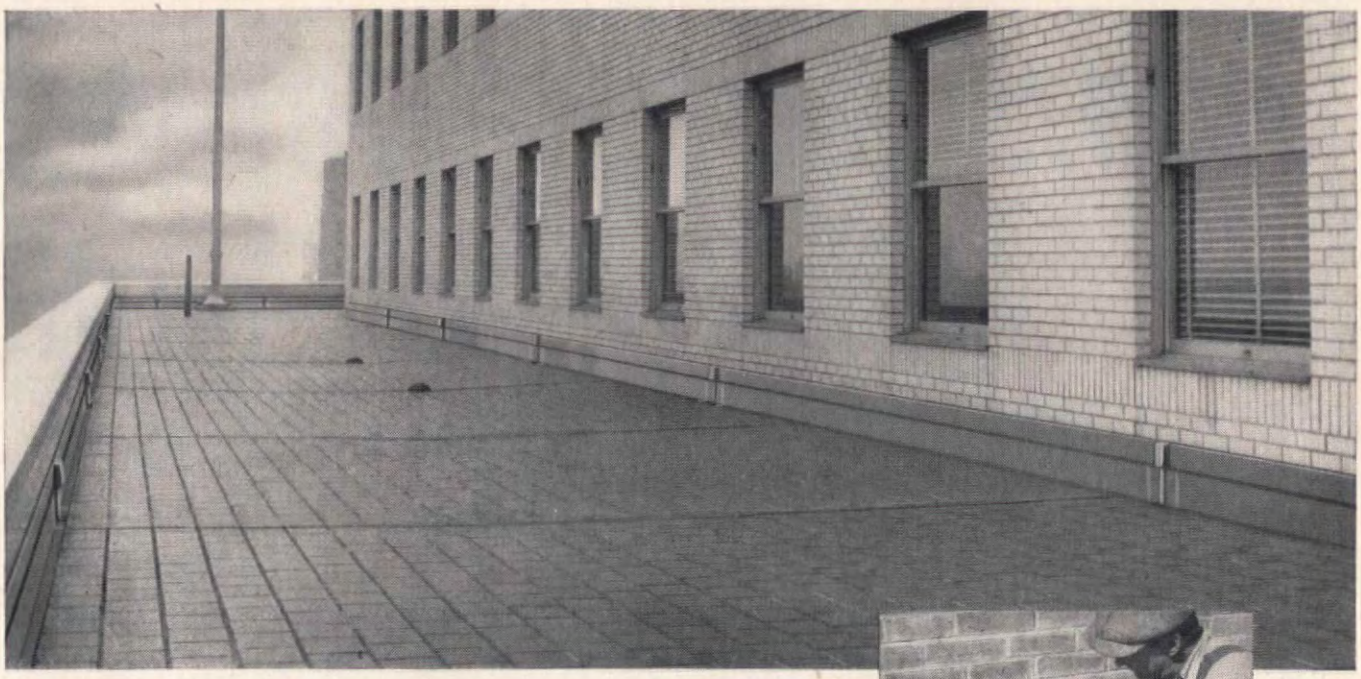
Fonadek needs no plugging in, no installation — it runs on ordinary batteries. In use, Fonadek's electronic heart picks up and amplifies voices on both ends of the phone. Conversations are carried on in normal tones, as the volume can be regulated by a control button. *Fonadek, Special Devices, Inc., Boston, Mass.*

BATHROOM CABINETS

The new *Duette* twin-compartment sliding-door bathroom cabinet, is made in both Custom and Deluxe models.

The twin storage compartments are accessible through two mirror-faced

(*Continued on page 236*)



"CHRYSLER BUILDING EAST"
Architect:
Reinhard, Hofmeister & Walquist.
General Contractor:
Turner Construction Co.
Sheet Metal Contractor:
Benjamin Riesner, Inc.

FOR MAXIMUM PROTECTION

at the Chrysler Building East

COPPER BASE FLASHING *is installed with the new Chase Copper Base Flashing Expansion Joint*

Notice this long run of copper base flashing at the 11th floor step-back of Chrysler Building East. Whether the New York mercury dips or soars, expansion and contraction of the metal are safely and efficiently allowed by the proper spacing of the Chase Expansion Joints.

The efficiency and economy of copper for base flashing is assured with this new Expansion Joint. Architects as well as Sheet Metal Contractors are aware of the solid lasting protection, which this development now makes possible.

The new Chase Copper Base Flashing Expansion Joint, made of 18-ounce copper has open seams on the edges of the joint for fast, easy interlocking and soldering to the adjoining lengths of base flashing. A "cap box" is supplied with each Expansion Joint for attachment to the cap flashing and a completely watertight job.

FREE FOLDERS: *You will also want to know about the new Chase One-piece Thru-Wall Copper Flashing and Cap Flashing Receiver. Write for folders on both these new developments in copper flashing.*

Chase®
BRASS & COPPER

WATERBURY 20, CONNECTICUT · SUBSIDIARY OF KENNECOTT COPPER CORPORATION

• *The Nation's Headquarters for Brass & Copper*

Albany†	Chicago	Denver†	Kansas City, Mo.	Newark	Pittsburgh	San Francisco
Atlanta	Cincinnati	Detroit	Los Angeles	New Orleans	Providence	Seattle
Baltimore	Cleveland	Houston	Milwaukee	New York	Rochester†	Waterbury
Boston	Dallas	Indianapolis	Minneapolis	Philadelphia	St. Louis	(†sales office only)

Chase Brass & Copper Co., Waterbury 20, Conn. AR-454

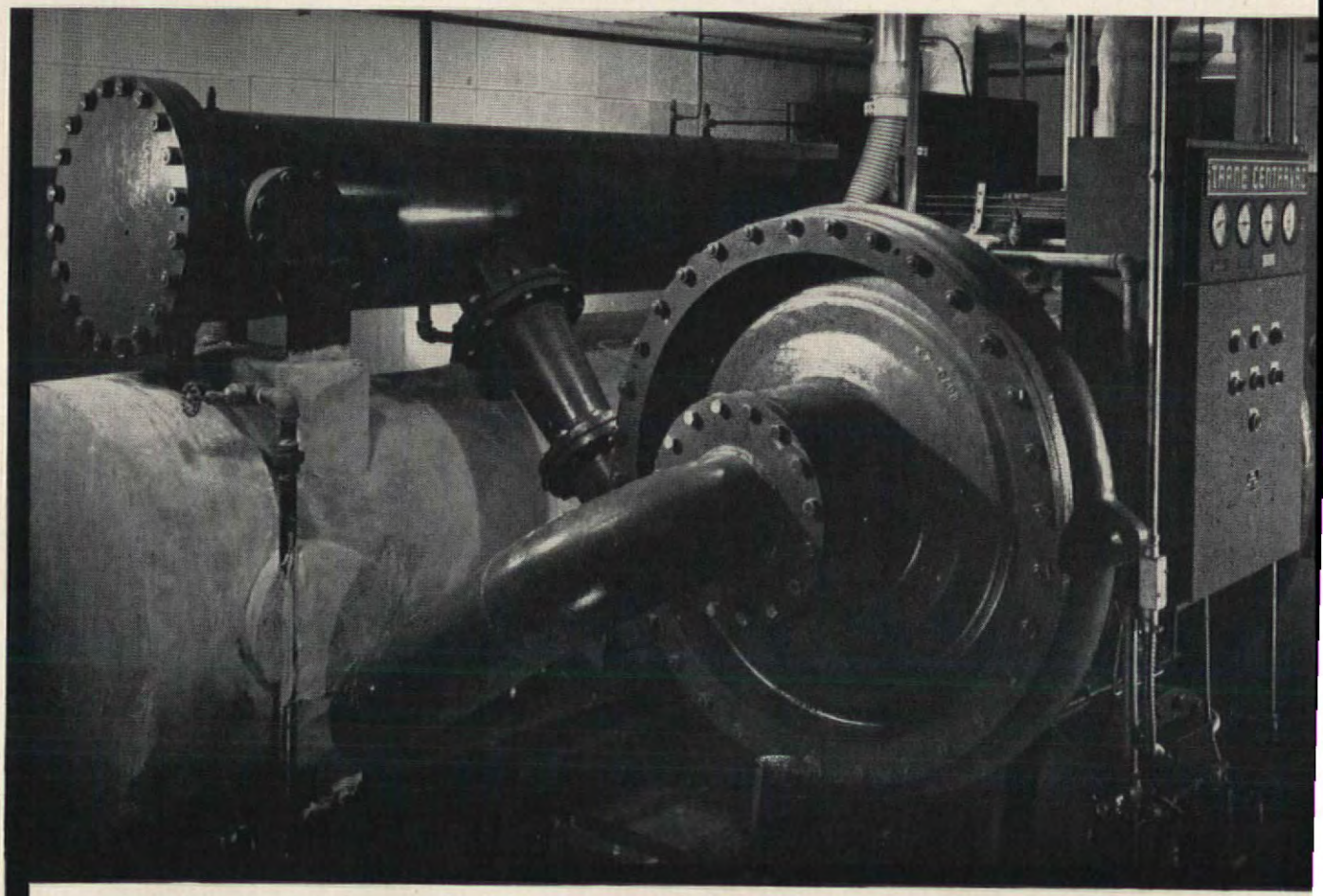
Please send me your free folders

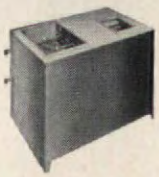
☐ *Chase Copper Base Flashing Expansion Joint.*
☐ *The New Chase One-Piece Thru-Wall Copper Flashing.*

NAME_____
POSITION_____
FIRM_____
STREET_____
CITY_____ STATE_____

Now...Trane CenTraVac in for your larger

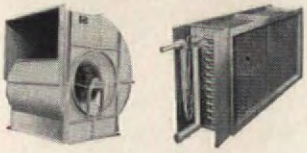
New hermetic centrifugal compressors boost water chilling equipment in new sizes and types provides



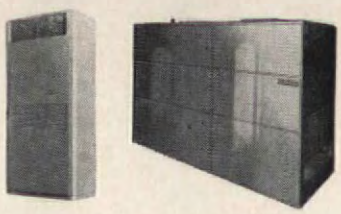


Trane Evaporative Condenser. Use where water is scarce or expensive. Cuts water consumption as much as 90%.

Trane Multi-Zone Climate Changer. Air conditions up to 6 zones at once — each zone can have different conditions. 450 to 23,400 cfm.



Trane Fans and Coils. Fans, Class I and II, backwardly inclined or forward curved. Coils for steam, hot water, cold water or direct expansion refrigerants.

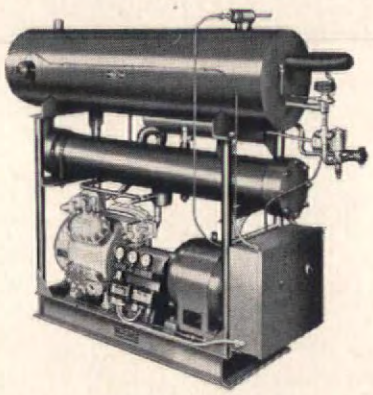


Trane Self-Contained Units. 3 to 20 tons. Heating coil optional. Built-in evaporative condenser optional with 10, 15, 20-ton units.

3 new sizes air conditioning jobs!

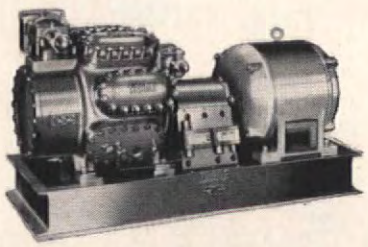
capacity up to 400 tons . . . Other Trane air conditioning increased design flexibility

CenTraVac Water Chiller in 3 new sizes tops the list of TRANE air conditioning equipment that has been widened again to enable you to design more efficiently, more economically than ever! CenTraVac single-unit capacities now range from 45 to a maximum of 400 tons. Hermetic centrifugal refrigeration unit completely self-contained. Starts, stops, modulates automatically. Lets you design systems that adjust automatically to varying cooling needs with power savings almost directly proportional to load variations. Requires no special bases.



4 New Cold Generator sizes—30, 60, 75 and 100 tons—expanded line now provides water chilling capacities from 10 to 100 tons. Complete refrigeration cycle . . . factory engineered, assembled, tested, guaranteed. A single unit, wired, piped and refrigerant-charged. Includes condenser, refrigerant piping, liquid cooler, control valves, motor and accessories. Only simple plumbing and electrical hook-up required.

3 New Reciprocating Compressor units—60, 75 and 100 tons—extend the line from 10 to 100 tons. TRANE compressors are smoother, quieter, longer-lasting. Maximum performance in minimum space. Direct drive. Factory-assembled. Easy to install. Automatically modulate capacity to match variations in cooling demand, slash power consumption. Available with shell-and-tube condenser.



Trane UniTrane room units use chilled or hot water. Individual control. Free-standing, recessed or ceiling models.

What kind of system are you planning? Large . . . small? Simple, complex? Cooling only or a complete air conditioning installation? Enjoy advantages of undivided responsibility and a single source of supply by specifying TRANE equipment. Before you plan your next job, get all the facts on complete TRANE line. Contact your TRANE Sales Engineer or write TRANE, La Crosse, Wis.

one source one responsibility...

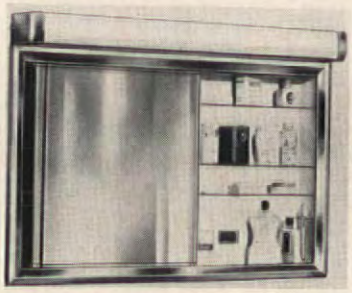
TRANE

The Trane Company, La Crosse, Wis. • East. Mfg. Div., Scranton, Penn. • Trane Co. of Canada, Ltd., Toronto
87 U.S. and 14 Canadian Offices.

MANUFACTURING ENGINEERS OF AIR CONDITIONING, HEATING, VENTILATING AND HEAT TRANSFER EQUIPMENT

A-H PRODUCTS

(*Continued from page 232*)



Sliding cabinet door for bathroom

sliding doors, that move in a specially designed metal channel for ease of operation. Interior of the Duette Custom model is fitted with twin stainless steel toothbrush racks and twin razor blade chutes. Its interior is finished with white enamel and equipped with eight crystal glass shelves, four on each side. On the exterior, the Custom features full mirror doors, frame top.

The Duette Deluxe model is finished inside and out with baked-on white enamel. The mirror doors are unframed with recessed finger grips for sliding the mirrors open or closed. This model is available with or without fitted fluorescent tubular lights with shade, electrical outlet, and switch. Overall size of SD Duette Custom is 38 9/16 in. by 23 5/16 in. by 5 3/16 in. The overall size of the SD Duette Deluxe is 36 1/8 in. by 25 1/2 in. by 6 1/4 in. The Custom is furnished for recessed installation only; the Deluxe for wall-hung or recessed installation. *The Philip Carey Manufacturing Co., Lockland, Cincinnati 15, Ohio.*

TWO OVENS IN ONE RANGE

Two ovens have long been a luxury in larger ranges for large kitchens. Now the *Universal Model 8300* offers them in the medium-size range at a price comparable to single-oven ranges of similar quality construction.

Besides the overall space saving advantage of the range, its two ovens provide economy and flexibility. They differ in size — there is a large 17-in. oven and a smaller 13-in. oven, each waist high and with separate, automatic heat control, seamless porcelain lining and removable oven bottom.

An in-a-drawer broiler, with patented,

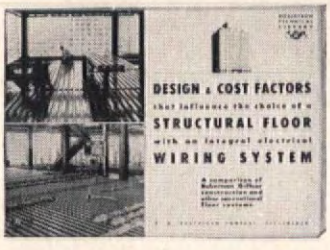
(*Continued on page 240*)

Write for these technical data books from H. H. Robertson's Q-Floor library

How to fireproof Robertson Q-Floor and Structural Steel

This booklet is an exposition of fireproofing methods employed when Q-Floor is used in conjunction with structural steel framing in a multi-story building and must meet local building code requirements. It covers most problems likely to be encountered by the designer and contains charts of typical code requirements, fire resistance ratings, and framing and ceiling details, both basic and with all combinations of extras.

Design and cost factors



With the use of this book you will find you can readily compute the cost of all types of structural floors with integral electrical wiring systems and compare them with Q-Floor. The study is based upon a typical multi-story building and is replete with charts and cost studies of all components to enable you to accurately estimate for your own vicinity. A critical analysis of this nature should be included in every architectural and engineering library.

Concrete fill on Robertson Q-Floor

This is the first of a series of booklets giving recommended practices for sub-contractors working on Robertson Q-Floor jobs. It contains detailed specifications for formulation, placement and curing of the fill, together with well-documented treatises on the nature and reactions of concrete. You will find a section on shrinkage cracking and how to control it, well illustrated with authoritative graphs and charts.

Today's finest buildings are built with

Robertson

Q-FLOOR

a product of **H. H. Robertson Company**

2404 Farmers Bank Building • Pittsburgh 22, Pennsylvania

In England—Robertson Thain Limited, Ellesmere Port, Cheshire
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Please send me the following free booklets:

Name _____

Address _____

Firm _____

☐ Fireproofing ☐ Cost Factors ☐ Concrete Fill

AR

LOCATED IN A RURAL SECTION near the town of Flemington, New Jersey, the new Hunterdon County Medical Center is an outstanding accomplishment in community endeavor. Built in the form of a large "T," this hospital uses Pittsburgh Glass as a basic element of its design. The five-story nursing wing and all patients' rooms are glazed with large panes of Pittsburgh Polished Plate Glass which extend from 18" sills to the ceilings. Other Pittsburgh products include Herculite Doors, Twindow insulating units, copper backed mirrors and Pittco Metal.

Architect: Vincent G. Kling, Philadelphia, Pa.

A-E-H PRODUCTS

(*Continued from page 236*)

enameled steel "Whirlpool" pan guaranteeing fire-proof as well as smoke-proof broiling, is located under the large oven, and a roomy service drawer is beneath the smaller oven.

Two ovens and broiler combined in compact new range

The range top, which has two standard and two large simmer-save burners flanking a spacious work surface, is completely seamless from top of backguard down to oven doors. Individual porcelain burner bowls are another feature of Universal gas range. Other equipment includes combination clock and timer, electric outlet, incandescent lamps and deluxe knobs and hardware. *Cribben and Sexton Co., 700 N. Sacramento Blvd., Chicago 12, Ill.*

RUBBER FLOORING

A new development in rubber mixtures incorporating plastic materials is now being marketed under the trade name *Vitaflex*. This new flooring is available in eleven bright colors and retains the smooth surface, high density and homogenous qualities of rubber. *R. C. A. Rubber Co., Akron 5, Ohio.*

STEAM REGULATOR

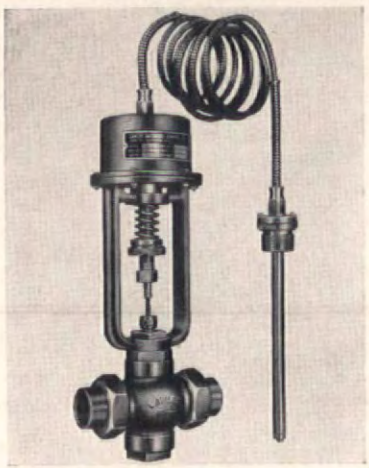
The *SFS Lawler Steam Regulator* "Fails Safe" by automatically closing a direct acting valve when the element accidentally fails. A reverse acting model "Fails Safe" by automatically opening the valve to prevent an override of the temperature being controlled.

(*Continued on page 241*)

A-E PRODUCTS

(*Continued from page 240*)

The manufacturer claims that the functioning of the "Fails Safe" feature in the "SFS" model steam regulator is made possible by the installation of a special thermostatic element and temperature adjustment, designed and constructed to close fully a direct valve or open a reverse acting valve when the thermostatic element is accidentally damaged and loses its charge.



Steam regulator automatically closes and opens valves

The Lawler type "SFS" Regulator is constructed of bronze body union ends and bellows bracket — the thermostatic element is of the vapor tension type and comes with 6 in. of armored capillary tubing, copper thermo bulb and tank flushing. Valve sizes range from ½ in. to 2 in. I.P.S. *Lawler Automatic Controls, Inc., 453 N. Macquesten Pkwy., Mt. Vernon, N. Y.*

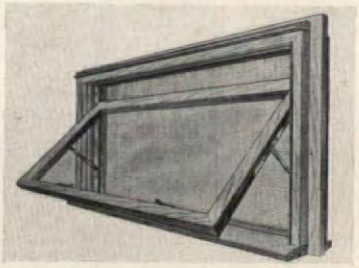
NEW WINDOWS

Modernaire windows effectively check air infiltration by means of its "deep freeze squeeze" weatherstripping. The entire frame of the window is sealed with neoprene-coated natural-sponge-rubber flanged bead. Its composition is such as to make it impervious to water, oil and sunlight. Its resiliency is satisfactorily maintained at temperatures as low as 30 to 40 degrees below zero. The window's *Hydaway* screen is permanently attached to the inside of the window and is rolled up and down just like a window

(*Continued on page 242*)

AEH PRODUCTS

(*Continued from page 241*)



Sealed frame for new window

blind. When not in use, it can be rolled completely out of sight.

As the ventilating sash are closed they compress against the weatherstripping which seals the entire perimeter of the frame. Therefore, any dimensional variations in the wood due to atmospheric changes will not cause the window to stick or become loose and rattle. The window is furnished with the conventional blind stop and brick mold frame. It will fit both standard 4-in. module brick and the new 6-in. module SCR brick. Builders who mass-produce on modular layout can install the windows into standard 4-in. module plans. A possible 130-degree opening of window and fresh air ventilation when raining are two outstanding features of the product. The window is available in both fixed and ventilating units. *Builders Products, Inc., Box 374, Station D, Cleveland 27, Ohio.*

MASTIC FOR ACOUSTICAL TILE

Six outstanding features, according to the manufacturer, make *Accu-mastic* the ideal product for acoustical tile installation. They are as follows: its consistency is good for quick, easy application; it has a smooth texture and does not string and get on tile facing; it is non-slumping; the mastic forms a strong permanent bond in a few days, but remains soft and pliable enough so stresses can move the tile a fraction of an inch without rupturing the bond. This flexibility is retained even near heating ducts and pipes; it may be used on any dry surface free from flaking paint, dust or oil and grease; it may be stored indefinitely in unopened containers without settling or stringing. This new mastic is offered in 5-gallon kits and 1-gallon cans. *Dicks-Pontius, Dayton, Ohio.*

(*Continued on page 246*)

Simpson®

melts rocks for quiet beauty

Simpson Fissured Mineral Tile is made from stone . . . melted, spun into fibers, and naturally fissured through a process perfected by Simpson's research engineers.

Because it is basically stone, this acoustical tile is incombustible . . . and, because the fissuring is natural, no two tiles are alike in surface texture. This creates a travertine-like pattern which adds beauty to any ceiling acoustically treated with this material. Simpson Fissured Mineral Tile is available beveled or square-edged in two thicknesses.

Rely on Simpson and these Simpson Acoustical Contractors

An efficient and architecturally-compatible acoustical treatment depends upon two factors . . . good materials, which Simpson produces, and scientific installation. Simpson assures the proper handling of its materials by careful selection of its contractors. These leading acoustical engineering firms, listed at the left, are *certified* by Simpson . . . your guarantee of superior craftsmanship with superior materials.

SALES DIVISION

SIMPSON LOGGING COMPANY

at SHELTON, WASHINGTON

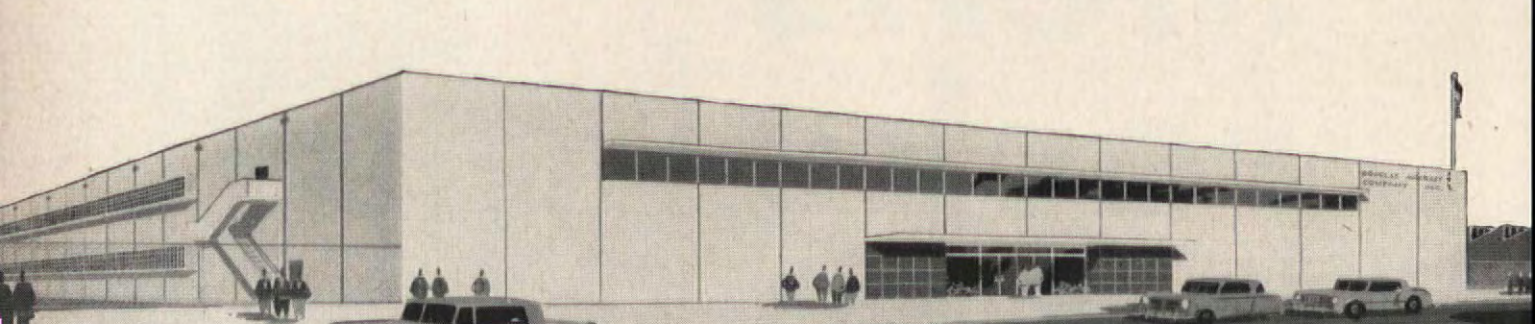
ACOUSTICAL MATERIALS . . . INSULATING BOARD PRODUCTS . . . ALLWOOD HARDBOARD . . . PLYWOOD . . . DOORS . . . CALIFORNIA REDWOOD . . . DOUGLAS FIR AND WEST COAST HEMLOCK LUMBER.

OTHER ACOUSTICAL MATERIALS

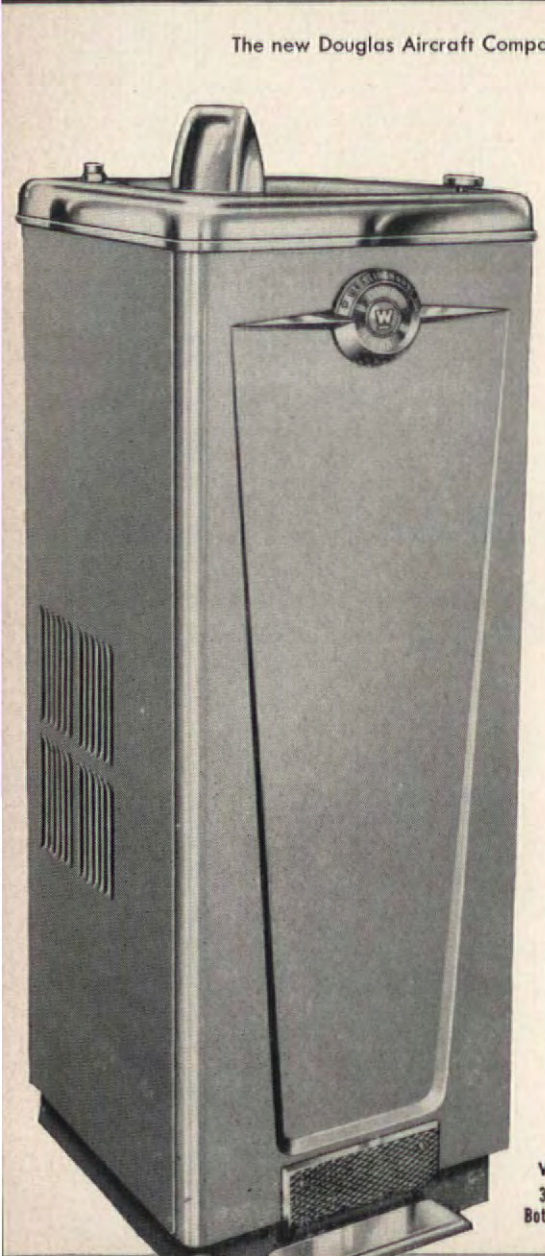
HOLLOKORE-DRILLED FIBER ACOUSTICAL TILE, REGULAR AND SCATTER-PATTERN . . . METAL ACOUSTICAL UNITS . . . PERFORATED HARDBOARD . . . PERFORATED CEMENT ASBESTOS BOARD.

Congratulations

TO ARCHITECTS AND ENGINEERS:
Kistner, Wright & Wright
of Los Angeles, California



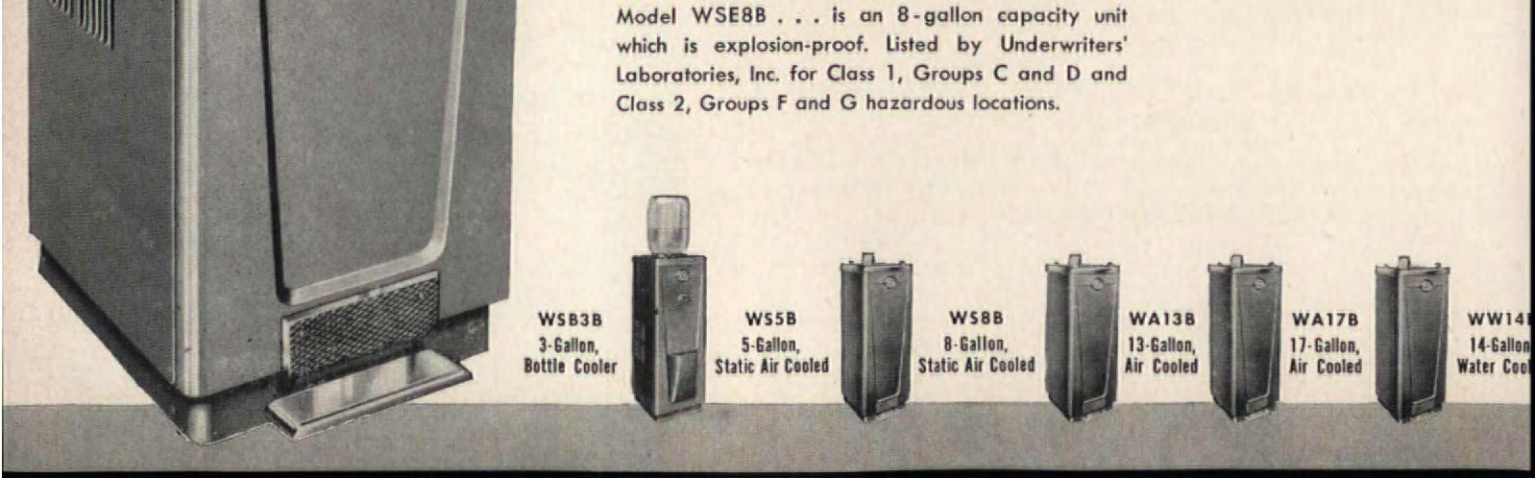
The new Douglas Aircraft Company's El Segundo, California Division Engineering Department Building.



The architects were asked to plan two mammoth drafting rooms, each of about one acre in area, while eliminating the necessity of superstructure on the roof. Air conditioning equipment is enclosed at one end of the building so that all supply and return ducts are carried the full length of the structure above the corrugated, luminous plastic ceiling. This ceiling, which is ten feet high, is supported by columns spaced 30 feet in all directions. Acoustic baffles are attached to the ceiling every three feet. The architects have provided for complete flexibility of telephone service on each baffle and electric service to any location by utilization of a continuous electric plug mould at 9-foot intervals along the ceiling baffles.

Westinghouse is proud to have its Water Coolers installed for the convenience of the many engineers at Douglas Aircraft. The attractive silver-grey hammered finish with stainless steel trim complements any and all architectural motifs.

Model WSE8B . . . is an 8-gallon capacity unit which is explosion-proof. Listed by Underwriters' Laboratories, Inc. for Class 1, Groups C and D and Class 2, Groups F and G hazardous locations.



more features for less money with Westinghouse Water Coolers . . . features that are practical and useful rather than just mere trimming. Foremost is *dual electric control* . . . both finger-tip and toe-tip operation on the same cooler at no extra cost.

for every installation need, Westinghouse provides 3 types of condensers: Static Air-Cooled (eliminates fan), Fan-Cooled (for heavy-duty, air-cooled applications), Water-Cooled (for use in extra-high temperatures or lint and dust-laden locations).

less money is spent for more cold water with the patented *Pre-Cooler*, which uses cold waste water to pre-cool incoming drinking water, and the exclusive *Super Sub-Cooler*, which uses cold waste water to sub-cool the hot liquid refrigerant.

with automatic stream-height control you end splash and dribble, regardless of variations in the water pressure. All these features in a unit that occupies only 14″ x 14″ of floor space. There are 13 models available to fit your specifications . . . a type and size for every need.

Westinghouse Water Coolers

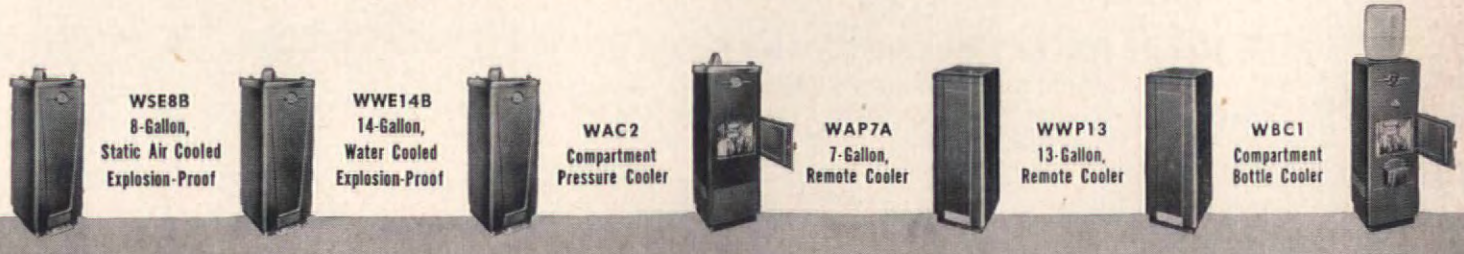
will save your client money when located properly with the Pay-Way Plan. This Plan proves how he can end the high cost of wasted employe steps caused by insufficient or improperly placed water coolers.

FREE PAY-WAY COMPUTER

To save you time in making calculations and to aid you in specifying the number, type and location of water coolers for your clients, be sure to send today for our handy Computer-Selector and more data on the Pay-Way Plan.

YOU CAN BE SURE...IF IT'S Westinghouse

WESTINGHOUSE ELECTRIC CORPORATION
Electric Appliance Division • Springfield 2, Mass.

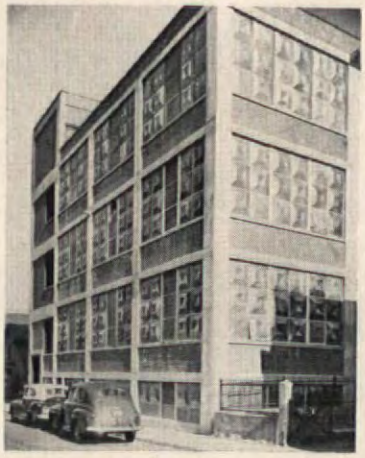


(*Continued from page 242*)

SHATTERPROOF PLASTIC WINDOWS

Shatterproof translucent plastic windows, developed by Molded Insulation Co., are said to provide for industrial and public buildings factors of strength, insulation, and ease of installation and upkeep.

Strong enough to support the weight of a man, the windows are molded from fibrous glass and Vibrin, a polyester resin produced by the Naugatuck Chemical Division, U. S. Rubber Co. Designed with several planes projecting outward at different angles, the plastic is under constant pressure from the elements, thus ensuring its rigidity.



Lightweight unbreakable skylights and windows of fibrous glass and plastic

Two styles of window are being made: up to 3 ft sq and standard casement types. The projecting planes, produced in a variety of cool colors, trap more sunlight than a flat pane and transmit diffused, glare-free light.

The light weight of the plastic, only 7½ oz per sq ft, and its 1/16-in. thickness permit maximum ease of handling and cut costs of installation. Glazed on the outside only, the "self-cleaning" units are snapped into their frames from inside the building, thus eliminating the need for scaffolding. *Molded Insulation Co., 335 E. Price St., Philadelphia 44, Pa.*

TWEED-LIKE PLASTIC FABRIC

Scotia, a plastic coated fabric with the appearance of tweed, was designed for use as upholstery material. Scotia is made in *Textileather's* new all synthetic supported *Tolex* material and is easy to maintain. It is resistant to grease, oil, water, perspiration and stains and comes in persimmon, antique, white, brown, charcoal, red, gold, sage, turquoise, hunter green and toast. *Textileather Corp., Toledo 3, Ohio.*

Plastic upholstery material has tweed-like embossed surface

(*Continued on page 250*)

Noted for their EFFICIENCY SAFETY DEPENDABILITY

STANDARDIZED SWITCHBOARDS

Built of standardized pre-assembled units, incorporated in standardized enclosures, **Standardized Ⓕ Switchboards** embody the latest features in design and operation to assure maximum safety, efficiency and dependability.

Standardized Ⓕ Switchboards are of three main types — the **Shutlbrak,** a safety type switchboard designed for frequent operating use, the **Klampswitchfuz and Snufarc,** which feature a dependable hinged-type, pull-out switch unit for disconnect service on lighting and power circuits, and the **Circuit Breaker**, another safety type, featuring the latest developments in automatic circuit protection.

For use where space is limited, front connected switchboards are also available.

All **Standardized Ⓕ Switchboards** are factory-assembled including bus bars, and are shipped ready for connection of main and branch circuit cables. Units can be arranged singly or grouped, because all sections fit together readily. Removable end walls permit the addition of sections on either side.

Want to know more about these sturdy, long lasting and trouble-free switchboards? Your nearest Ⓕ representative, listed in Sweet's, will be glad to give you complete information.

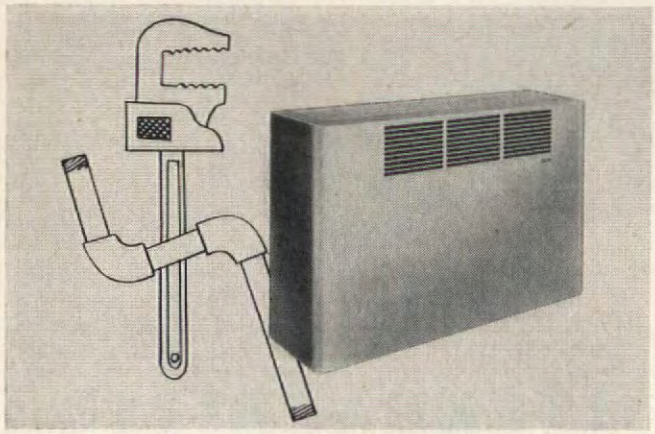
Frank Adam Electric Co.

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

Makers of: BUSDUCT • PANELBOARDS • SWITCHBOARDS • SERVICE EQUIPMENT • SAFETY SWITCHES • LOAD CENTERS • QUIKHETER

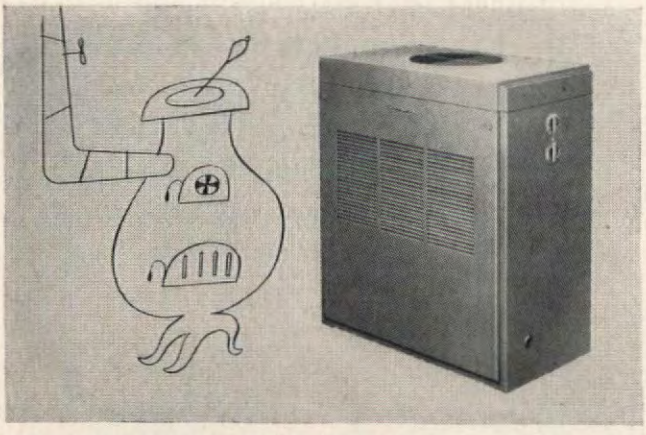
CARRIER WEATHERMAKERS

they fit right in with your current plans

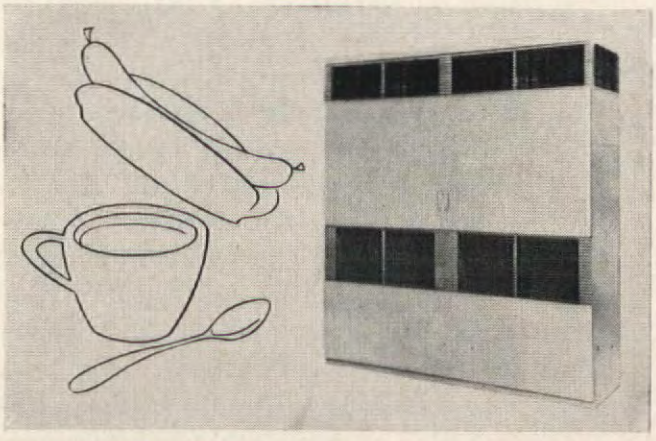


LOOK! NO DUCTS! Air conditioning eight newly decorated suites in the Berkeley-Carteret Hotel in Asbury Park was done quickly with minimum expense and fuss. Units used: Carrier fan-coil Weathermakers. Easily installed, they use no ducts.

SUPER COMFORT FOR SUPERMARKETS. Typical installation: a fan-coil System Weathermaker connected to a Compressor and Evaporative Condenser or Cooling Tower for water savings. Carrier keeps costs down by making full engineering surveys.

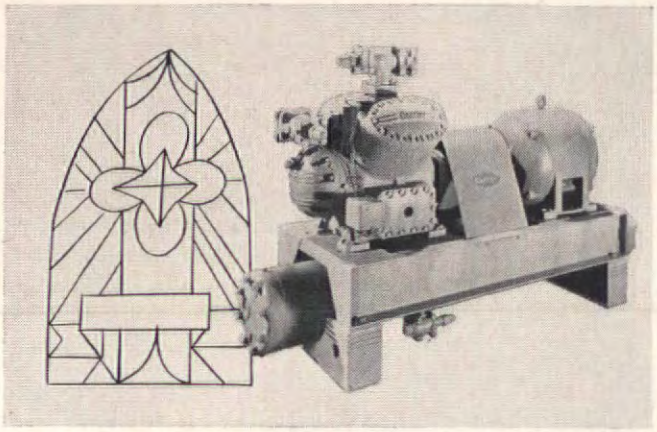


NEW COMFORT FROM OLD HEATING SYSTEMS. A new 2-ton Weathermaker teams up with existing warm-air heating systems—or operates on its own — to provide low-cost cooling for homes and stores. Can be used in scores of ways.

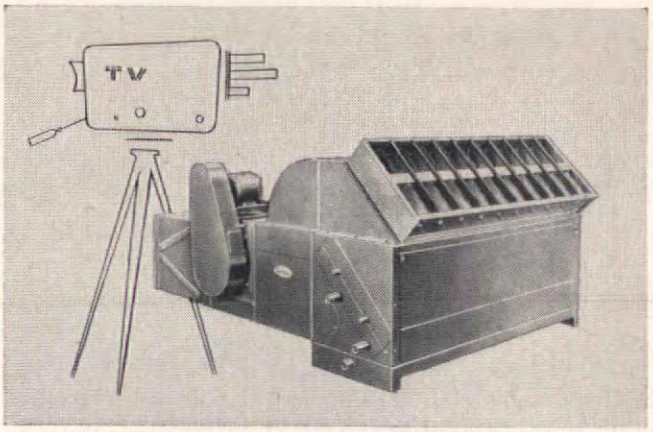


OPEN-AIR COOLING. The Dewey Shops in Philadelphia attract customers with hot dogs and cool comfort. Though wide open to the street even on the hottest days, a pleasant 80-degree temperature is maintained by efficient, 15-ton Weathermakers.

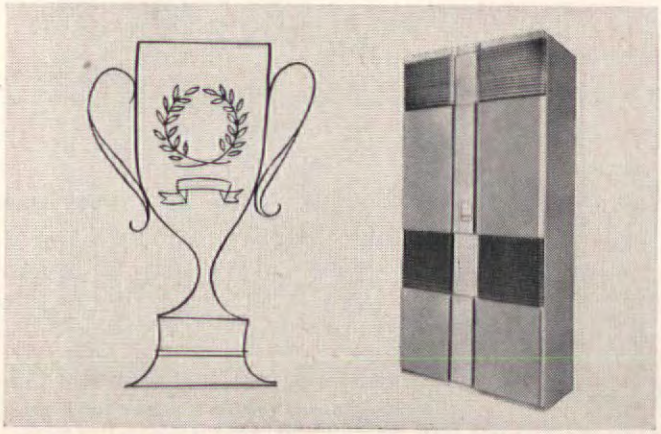
Ever have to change a plan to fit in air conditioning?
Not with Carrier Weathermakers*! You can develop the *best* plan with full assurance that there's a Carrier Weathermaker to fit it—one that meets *all* the requirements of space, performance, installation and operating costs. Here are eight examples. They're taken from the full line of Carrier Weathermakers and supplementary equipment—designed, manufactured and serviced by the people who know air conditioning best.



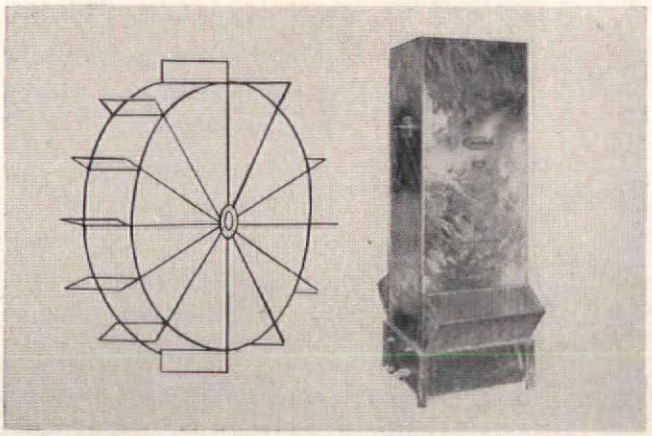
FUNCTIONAL PILASTERS. Air conditioning blends with the architecture of the new St. Luke's church in Lakewood, Ohio. Ducts form pilasters between the windows. The system features a 40-ton Carrier Condensing Unit and System Weathermaker.



ZONES FOR TV. WFBM, Indianapolis, stars a Carrier Zoning Weathermaker. Show after show, comfort keeps pace with the programming through eleven individually controlled zones. Works equally well in office suites, department stores, motels.



MOST POPULAR in the packaged Weathermaker line is the 5-ton unit. Ideally suited for offices and stores. It's a favorite, too, in apparel shops, factories, banks—even in funeral homes. Can be used with or without ductwork.



WATER-OPERATED COOLING TOWER has no fan motor and no electrical connections. A unique water turbine runs the fan. Requires no lubrication. Entire casing is hot dip galvanized *after* fabrication for long life. Capacities from 5 to 15 tons.

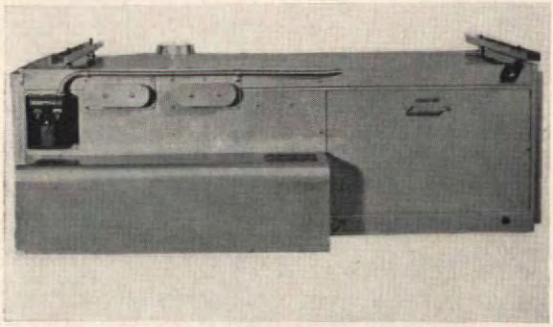
*Reg. U. S. Pat. Off.

AIR CONDITIONING • REFRIGERATION • INDUSTRIAL HEATING

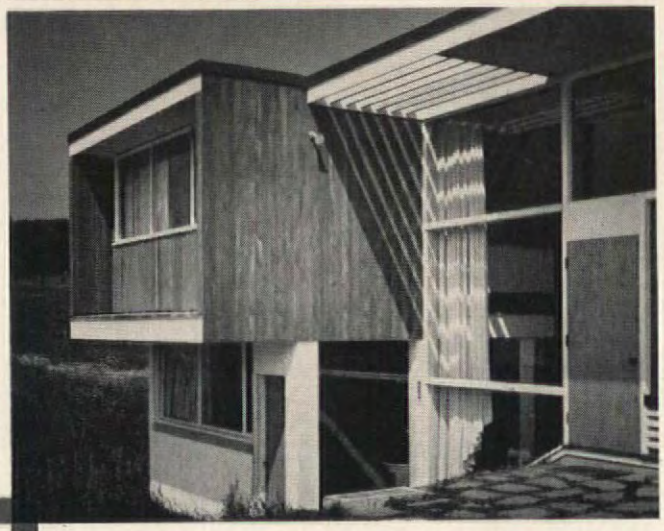
Carrier

Carrier Corporation, its distributors and dealers, stand ready and willing to work with you in any phase of air conditioning. Call your local Carrier distributor or dealer. Or write to Carrier Corporation, Syracuse, New York.

(*Continued from page 246*)



Flexible space-saver furnace has adjustable speed



Architects: E. H. and M. K. Hunter, Hanover, N. H.

HORIZONTAL FURNACE

This new gas-fired, forced-air furnace is compact in design. It utilizes space such as in attics, under floors, in regulation basements or in utility rooms. The unit is shipped completely assembled with controls to eliminate on-the-job assembly time. It controls assembly, and flue outlets can easily be reversed in the field. The Horizontal is highly flexible due to its compact design, low vertical dimensions, and reversible controls and flue outlets. This flexibility is important where design is for a 3 in. in 12 in. pitch room and underfloor installations where digging a pit adds considerably to construction costs. In addition, the unit incorporates an adjustable speed, belt-driven blower with overload protection as well as a quiet operating diaphragm gas valve. *Royal Jet, Inc., 1024 Westminster Ave., Alhambra, Calif.*

SOUND ABSORBING UNITS

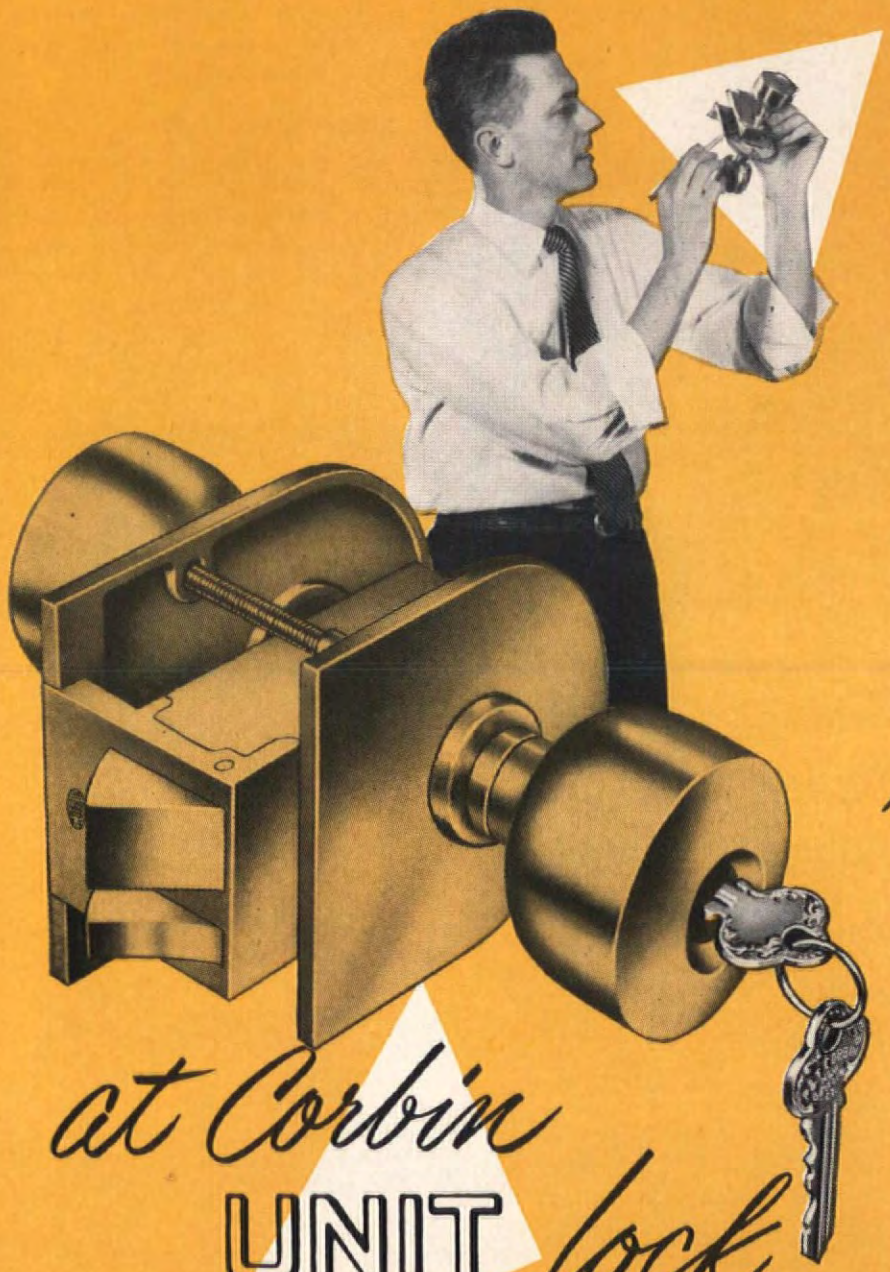
These units, known as *Sonosorbers*, have inner cores encased in perforated stucco embossed aluminum and are, according to the manufacturers, light weight and are easy to clean. They are especially suited for noisy industrial and commercial locations where ordinary acoustical treatment is not applicable or adequate,

Units hanging from ceiling absorb noise for industrial and commercial areas

and have many other uses in the reduction of noise, such as perimeter treatment. The units have high value of noise absorption in both high and low frequencies. Sonosorbers may be used in clusters or honeycomb patterns, or even in layers of groups over and near the source of sound. A sound shield or screen of units may be hung in one or more layers to isolate noisy locations.

(*Continued on page 252*)

take a close look



at Corbin UNIT lock

Here is "The Tiffany of Locks" . . . proven superior in hundreds of thousands of severe-use installations.

Compact, distinctive, it has no equal for strength, functional smoothness and trouble-free operation.

It can be installed faster and at less labor cost, contractors tell us, than any other type of lock.

P. & F. Corbin Division, The American Hardware Corporation, New Britain, Connecticut.

CORBIN
The World's most widely used BUILDERS' HARDWARE

AIA PRODUCTS

(*Continued from page 250*)

Their location can be changed to fit conditions. They can also be hung horizontally. *Sonosorber Corp., 21 So. 16th St., East Orange, N. J.*

METAL LATH PACKAGE

Diamond mesh lath is now available in 50 bundle (500 sheets), compact units, securely packed and banded at the factory; designed for swift handling with fork truck or crane. In the warehouse, the dealer can stack packages as high as ceilings permit without fear of instability or warping. It is usually stacked four high, increasing storage space by 50 to

New packaging of metal lath is designed to ease shipping and handling

100 per cent. Another important development in this lath package is the method of identification. Each package is stenciled on the side to show how many pounds per square yard are in each. Different colors determine proper weight.

The metal lath is perfectly flat, free of camber and has uniformly parallel sides and ends free of "fish tail." The selvage edge has been eliminated to minimize build-up where sheets of lath must overlap. It is therefore easy to erect and offers a firm, even surface for plastering. *Wheeling Corrugating Co., Wheeling, W. Va.*

NEW INK GOES ON SMOOTH PLASTIC FILM

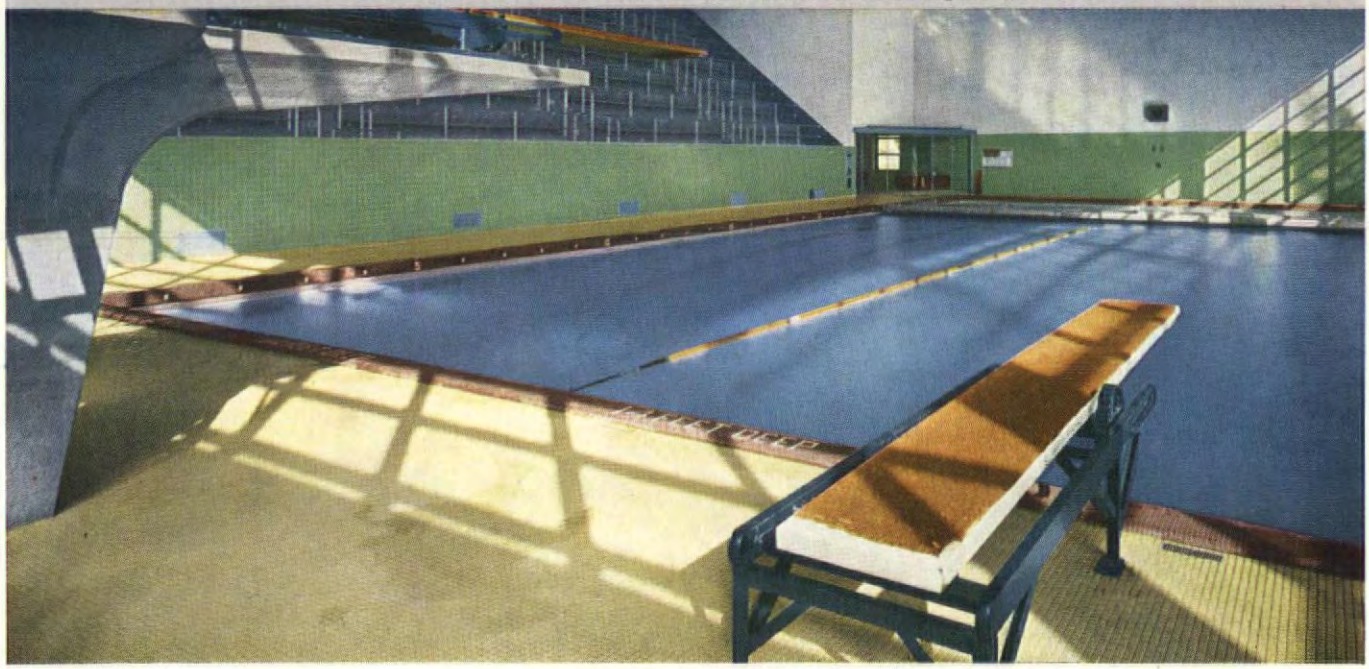
A new carbon ink has been put on the market. The carbon suspension has the covering power of india drawing ink, but is stable enough to be used in some fountain pens and withstands freezing and thawing without harm. Good adhesion on glass, smooth cellulose acetate, cellulose nitrate, methacrylate and numerous water repellant smooth plastic surfaces is claimed. Work done with this two-minute drying ink can be rendered water resistant by a brief heat cure at 180 degrees F. *Electrochemical Laboratories, 1430 Terrace Dr., Tulsa, Okla.*

(*Continued on page 256*)

Mosaic's new 9" x 6" x ½" Glazed Wall Tile on corridor wainscot, Foothills School, Boulder, Colo. Robert Ditzen, Architect. Reeves-Ryan Tile Co., Tile Contractor.

This home-like floor in Mace's Lane High School, Cambridge, Md., is a Mosaic Formfree* Pattern in Granitex Mosaics—youthful looking, long lasting, easy to clean. Johannes & Murray, Architects. George E. Adshead & Son, Tile Contractor.

Men's Pool, Syracuse University, Syracuse, N. Y. Ceramic Mosaic Tile gives a lasting, sanitary finish to pool lining and deck. Surrounding walls of Mosaic Glazed Wall Tile. Lorimer Rich & Assoc., Architect. Harry A. & F. Curtis King, Associate Architects. Stearns & Bergstrom, Inc., Tile Contractor.



MOSAIC CLAY TILE...

unharmed by
a thousand busy feet,
a thousand smudgy hands

Fifty years from today, a look inside these schools would tell you more eloquently than any words . . . there is nothing in the world to equal Mosaic Clay Tile for permanent beauty and satisfaction.

For helpful literature on the many types of Mosaic Clay Tile, write Dept. 30-21, The Mosaic Tile Company, Zanesville, Ohio. "The Tile Handbook," published by the Tile Council of America, will help you specify. And remember—you are always welcome at our showrooms and at those of your Tile Contractors.

MOSAIC®
1954 Our Sixtieth Year

THE MOSAIC TILE COMPANY

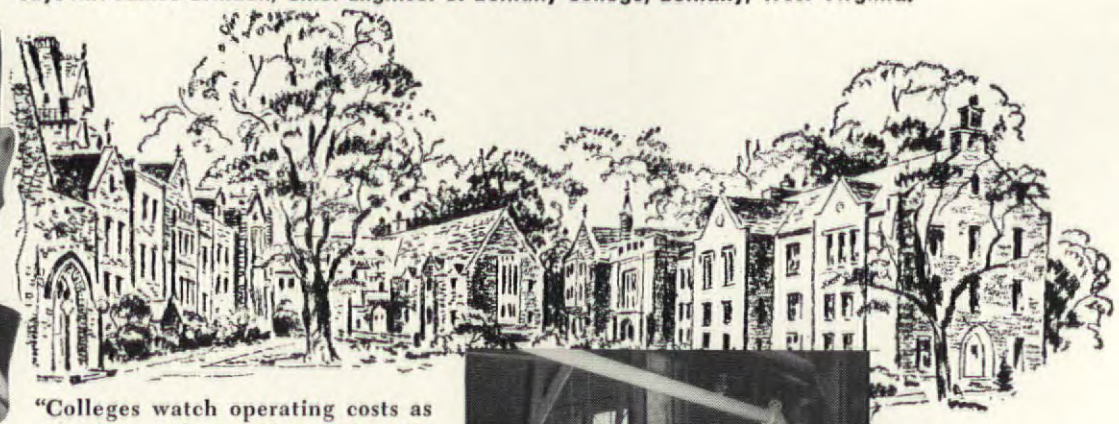
Member—Tile Council of America and The Producers' Council, Inc.
Offices, Showrooms and Warehouses across the Nation
Over 4000 Tile Contractors to serve you

OFFICES: Atlanta - Baltimore - Boston - Buffalo - Chicago - Dallas - Denver - Detroit - Fresno - Greensboro - Hartford - Hempstead, L. I., N. Y. - Hollywood - Little Rock - Miami - Milwaukee Minneapolis - New Orleans - New York - Philadelphia - Pittsburgh - Portland - Rosemead, Cal. - Salt Lake City - San Antonio - San Francisco - Seattle - St. Louis - Tampa - Washington, D. C. - Zanesville

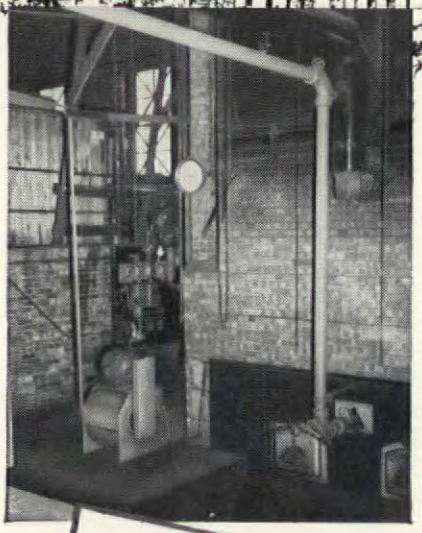
"We 'educated' our College Heating Plant...

with a modern coal installation we saved more than a third of our fuel bill,"

says Mr. James Gribben, Chief Engineer of Bethany College, Bethany, West Virginia.



"Colleges watch operating costs as closely as any business firm—and one big item for our college is the heating bill. That's exactly why Bethany went to the expense of putting in new coal heating equipment! Our old system supplied heat for sixteen buildings—to the tune of 2,600 tons of coal a year. Our new installation, with its automatic stoker, does the same job using only 1,650 tons. That's a fuel saving of 38.9%! Our eyes certainly have been opened to the efficiency and economy of *bituminous* coal—especially when it's burned with modern equipment."



Here's Bethany's new boiler room, showing the pipe of the automatic stoker. **THIS MODERN EQUIPMENT WILL PAY FOR ITSELF, THROUGH FUEL SAVINGS ALONE, IN LESS THAN TWO YEARS!**

Modern combustion installations can add anywhere from 10% to 40% to the energy obtained from the same amount of coal in years gone by. Great advances have been made in coal- and ash-handling equipment, too—cutting labor costs—making coal as clean and convenient to use as any fuel.

If you're planning to modernize your present installation—or thinking of building a new plant, call in a competent consulting engineer. He'll show you how a modern coal system designed to meet your specific needs can save you money and serve you better!

And don't forget—you'll always be able to get the coal you need. America's coal industry is the most efficient in the world. America's coal reserves are ample for centuries to come. Right now and for the future, too, coal users can be assured of a dependable fuel supply at reasonable prices.

BITUMINOUS COAL INSTITUTE
A Department of National Coal Association
Washington, D. C.

If you're running your own steam plant—for heat or for power—you just can't afford to ignore these facts!

COAL in most places is today's most economical fuel.

COAL resources in America are adequate for all needs—for hundreds of years to come.

COAL production in the U.S.A. is highly mechanized and by far the most efficient in the world.

COAL prices will therefore remain the most stable of all fuels.

COAL is the safest fuel to store and use.

COAL is the fuel that industry counts on more and more—for with modern combustion and handling equipment, the inherent advantages of well-prepared coal net even bigger savings.

FOR HIGH EFFICIENCY 🔥 *FOR LOW COST*

YOU CAN COUNT ON COAL!

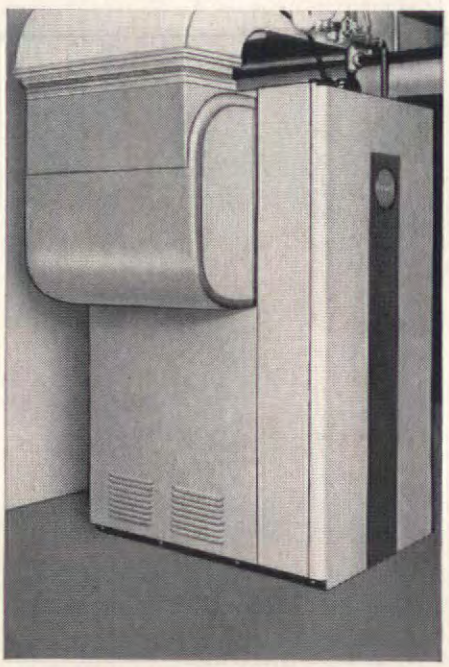
Servel air-conditions MPAA's *Little Theater for Big Names!*

Interior of the Servel air-conditioned screening room of MPAA's unique Academia Theater in Washington.

It was built by the Motion Picture Association of America especially for entertaining VIPs.

Called "the nation's most unusual theater," MPAA's *Academia*, in Washington, D. C., has only 71 seats . . . but the very finest in furnishings and equipment. Diplomats, congressmen, cabinet officers, movie moguls—even a president of the U.S. and a V.P.—have enjoyed its reclining foam rubber seats with built-in ash trays; deep plush carpeting and drapery; neo-classic decor; murals by a famous artist and the unbeatable comfort of **Wonderair**-conditioning by Servel!

The silent, vibration-free efficiency of Servel **Wonderair** *All-Year*® air conditioning makes it the wise choice for the most exacting situations. Servel's exclusive *absorption* principle of refrigeration gives year-round temperature control. There are no moving parts in heating or cooling systems. This results in less wear and more dependable and economical operation! Yet **Wonderair**-conditioning—heating, cooling, humidity control, air cleaning, ventilation and circulation—costs little more than heating *alone!*



Servel **Wonderair** *All-Year air conditioners in Academia Theater. Ideal for commercial and residential installations. Five-year warranty.*

Send the coupon to learn why Servel is selected for installation where silent, reliable efficiency is of first importance.

Servel

the name to watch for great advances in

AIR CONDITIONING ✓ REFRIGERATION

SERVEL, INC., Dept. AR-44, Evansville 20, Indiana

Please send me complete information about *All-Year* air conditioning for residential ☐, commercial ☐, industrial ☐ buildings.

Name_____

Firm_____

Address_____ County_____

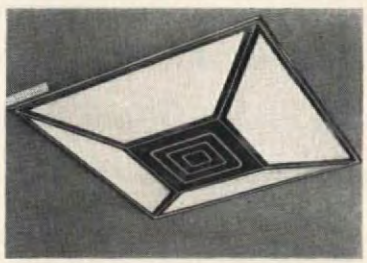
City_____ Zone____ State_____

AIA PRODUCTS

(*Continued from page 252*)

FLUORESCENT UNIT WITH AIR DIFFUSER

A new fluorescent lighting fixture for large-area lighting applications has been designed to accommodate an air conditioning diffuser in its center. This unit, measuring 61 in. sq, utilizes 24 fluorescent lamps in its inverted pyramid, Alba glass shielded body. Designed for surface mounting, the unit has a 24-in. by 24-in. opening through its depth, with the lamps arranged in tiers on the four sides of this opening. This opening provides insertion of standard dimension diffusers used with air conditioning ducts. The large unit, with its heavy concentration of light output, affords high illumination intensity even when mounted on wide spacings. The sloping sides of the unit effect a diffused, wide-spread light distribution, with a maximum of visual comfort and freedom from direct glare as a result of the shielding medium. Although this versatile fixture is well suited to many applications, either singly or in groups depending upon the area to be lighted, it is particularly pointed to uses in commercial and institutional interiors of very large area. *Gruber Lighting, 125 So. First St., Brooklyn 11, N. Y.*



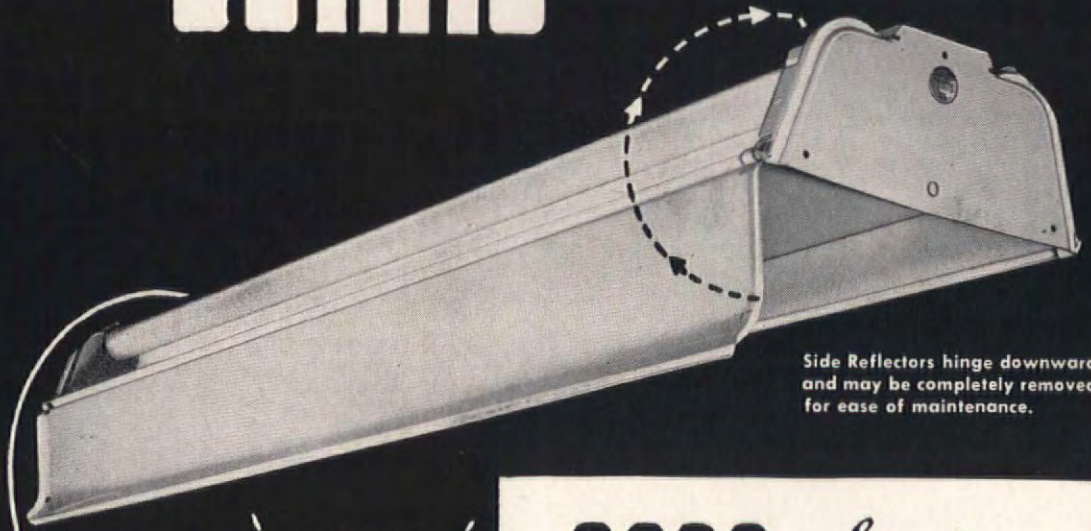
New fixture combines wide-spread light distribution with air conditioning

MOTEL LOCK

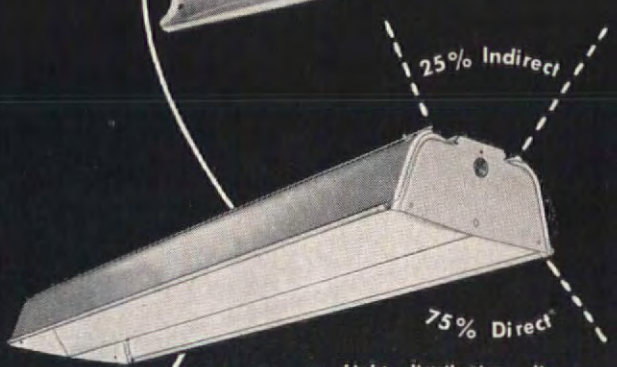
A *Motel Lock*, especially manufactured for motels, hotels and apartment house entrance doors, is reportedly equipped with a positive shut-out feature. The manufacturer states that when the rooms of such establishments are locked from the inside with this device, they may be opened from the outside only by the use of an "emergency" key — thus assuring the tenants of complete privacy.

(*Continued on page 260*)

the new CURTIS industrial



Side Reflectors hinge downward and may be completely removed for ease of maintenance.

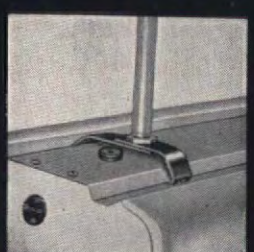


Light distribution eliminates severe brightness contrast and tunnel lighting conditions.

Louvers available where greater lengthwise shielding is desired.

6000 Series

The New Curtis "Six Thousand" series is designed for Eye-Comfort® in industrial locations. The Luminaires illuminate the ceiling with an indirect component of 25% of the light output. Crosswise shielding of 35° is provided for the 75% direct component. The lighting units in this versatile line are available with Alzak Aluminum, Porcelain Enamel, or baked white "Fluracite" enameled steel removable side reflectors. Low cost efficient maintenance is provided by having side panels readily removable for cleaning. In addition there are no horizontal diffusing or reflecting surfaces to collect dust. There is a unit in this versatile line to accommodate all 4', 5' and 8' fluorescent lamps. The Curtis "Six-Thousand" series brings Appropriate Brightness Control Lighting to industrial areas. Mail coupon for FREE descriptive literature.



Curtis "Tong Hangers*" facilitate and cut installation cost as they allow flexibility in placement of hangers and permit bypassing of building construction obstacles such as beams, sprinkler heads, etc.

*Pat. applied for.

CURTIS LIGHTING, INC.
Dept. D3-20, 6135 West 65th Street
Chicago 38, Illinois

Name_____

Company_____

Address_____

City_____ State_____

The story of a building with . . .

"FIRM FEET" IN CLAY

Case history of CECO on-the-job performance

HOW CECO JOIST CONSTRUCTION HELPED SAVE $4.00 PER SQUARE FOOT

Erecting a building with firm footings in downtown Chicago clay is no simple task. Accomplishing that, plus cutting costs, is truly a stand-out feat.

Such is the story of the Remington Rand Chicago Office Building and the problem solved by Architects Bartlett, Watts and Rosene.

Analysis indicated that usual column spacings would impose excessive pressures on the subsoil, causing piles to drift. The solution: increase the distance between pile groups and spud every third pile.

But that created a problem . . . how to span the wider bays economically and keep the dead load on each pile group to a minimum. The architects knew Open-Web Steel Joists offered the lightest floor system, so called for their use.

Conduit and air-conditioning ducts were run through the open webs, resulting in further economies.

"Being self-centering and requiring no shores, Steel Joists were fast to erect," said Architect Harry Owen Bartlett. "Thus the contractor, J. L. Simmons Co., Inc., was able to pour slabs early, allowing masonry units to be stored on the floors and then laid up from inside, saving scaffolding."

Total cost of the building was $13.75 a square foot, compared to some comparable buildings costing $17.75—a saving of $4.00. Here is another example of Ceco performing on the architect-owner-contractor-supplier team.

Ceco Product Specialists will help you save through product engineering. So before you plan your next project, call your nearest Ceco office. Consult Sweet's file for address. CECO

In construction products
CECO ENGINEERING
makes the big difference

CECO STEEL PRODUCTS CORPORATION
Offices, warehouses and fabricating plants in principal cities
General Offices: 5601 W. 26th St., Chicago 50, Illinois

A-H PRODUCTS

(Continued from page 256)

Doorknob lock for motels, features assured locking from inside

The Motel Lock may be had in the manufacturer's standard Venus style or in their new Concave design. The Concave knob features a full 2-in. diameter of seamless wrought brass, bronze, or aluminum and is available in all U. S. finishes. These finishes are protected by a clear baked enamel. It reportedly will not amber even if exposed continually to strong sunlight.

The Challenger series of semi-heavy-duty latchsets and locksets include 25 functional locks designed to meet practically every building requirement where the construction budget does not warrant the use of more expensive heavy duty units. *Hollymade Manufacturing Co., Los Angeles, Calif.*

COLOR FOR BATHROOM FIXTURES

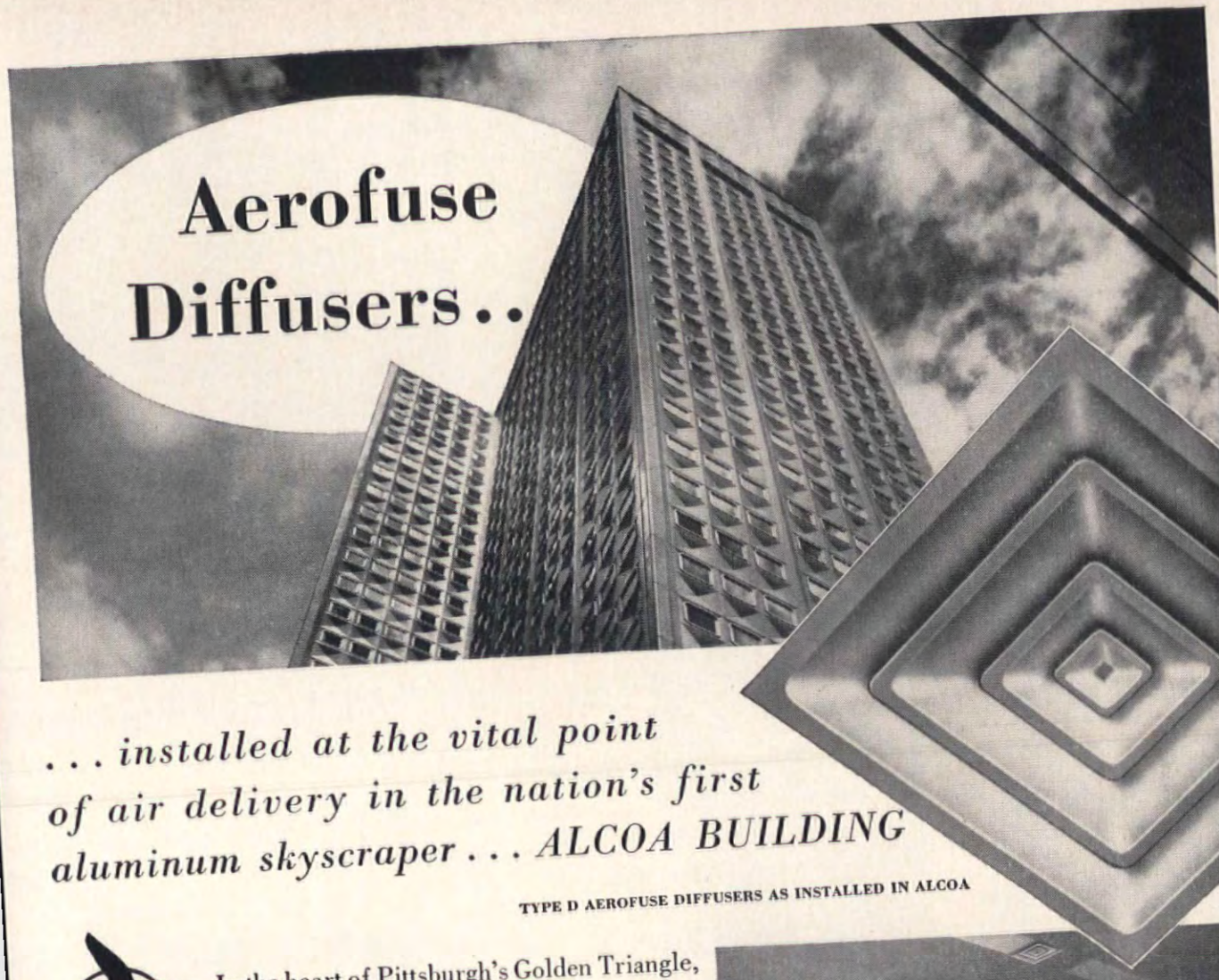
American Standard now offers seven colors for their bathroom fixtures. The newest is *Platinum Gray*, a color that will harmonize with many room colors.

American Standard's newest bathroom fixtures come in various colors

Platinum Gray is available in fixtures of vitreous china and enameled cast iron. *American Radiator and Standard Sanitary Corp., Pittsburgh 30, Pa.*

(Continued on page 264)

Aerofuse Diffusers..

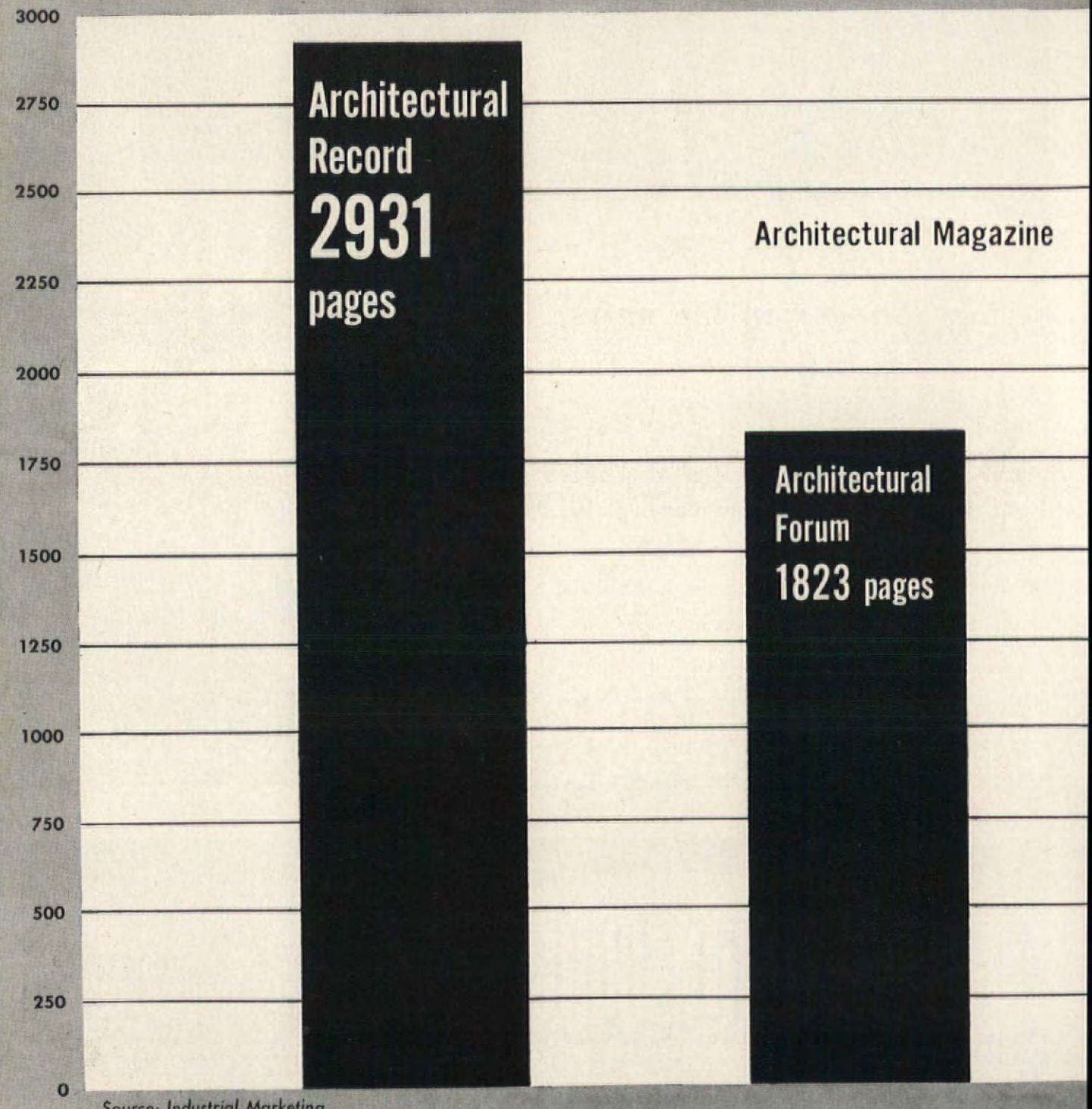


... installed at the vital point of air delivery in the nation's first aluminum skyscraper ... ALCOA BUILDING

TYPE D AEROFUSE DIFFUSERS AS INSTALLED IN ALCOA

In the heart of Pittsburgh's Golden Triangle, the gleaming Alcoa Building rises thirty floors, a dramatic new concept in multi-story building design and construction. In Alcoa, as in other outstanding buildings from coast to coast — where the efficient performance and attractive appearance of air distribution equipment must meet rigid engineering and architectural specifications — Aerofuse Diffusers were selected for installation at the *vital point of air delivery.*

THE STRONGEST ENDORSEMENT ADVERTISERS EVER GAVE AN ARCHITECTURAL MAGAZINE



Source: Industrial Marketing.

Advertising Page Volume—1953

Progressive Architecture
1757 pages

in 1953 building product manufacturers and their advertising agencies

. . . placed 2,931 advertising pages in Architectural Record—the largest advertising volume ever published by an architectural magazine.

. . . put Architectural Record ahead of the field by over 1,100 pages of advertising—the widest margin in history.

again in 1954—to reach active architects and engineers—building product advertisers are placing primary reliance on Architectural Record, the one magazine

. . . edited 100% for architects and engineers who control the spending of four out of five of the nation's building dollars.

. . . geared editorially to the changing professional needs of architects and engineers as revealed by Dodge Reports of building planning activity.

. . . steadily preferred by architects and engineers in 51 out of 58 readership studies sponsored by building product manufacturers and advertising agencies.

. . . providing verifiable coverage (documented by Dodge Reports) of over 85% of all architect-designed building—nonresidential and residential, small and large.

. . . serving the largest audience of architects and engineers ever assembled by an architectural magazine.

F.W. DODGE CORPORATION

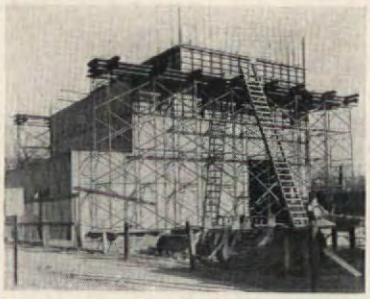
Architectural Record

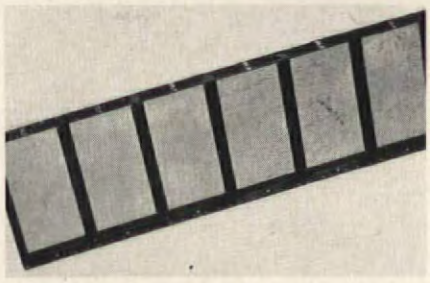
"workbook of the active architect and engineer"

119 West 40th Street
New York 18, N. Y.

A-E-H PRODUCTS

(*Continued from page 260*)





Reusable form simplified construction of Northwestern University building

PREFABRICATED CONCRETE FORMING PANELS

The new Van de Graff Equipment Building at Northwestern University has been constructed using *UNI-FORM Panels*, prefabricated, ready-to-use concrete-forming units manufactured by Universal Form Clamp Co.

The basic panel, faced with plywood held by a rigid steel frame, is 2 ft wide and comes in varying heights. The completely assembled units can be connected on the job site to form the framework for straight, irregular, curved and battered concrete walls as well as slabs, beams, columns and piers.

Standard steel tie rods are double-looped at the ends to fit into the tie holes of adjacent panels. The panels are locked together by inserting wedge-shaped steel tie keys into the loops.

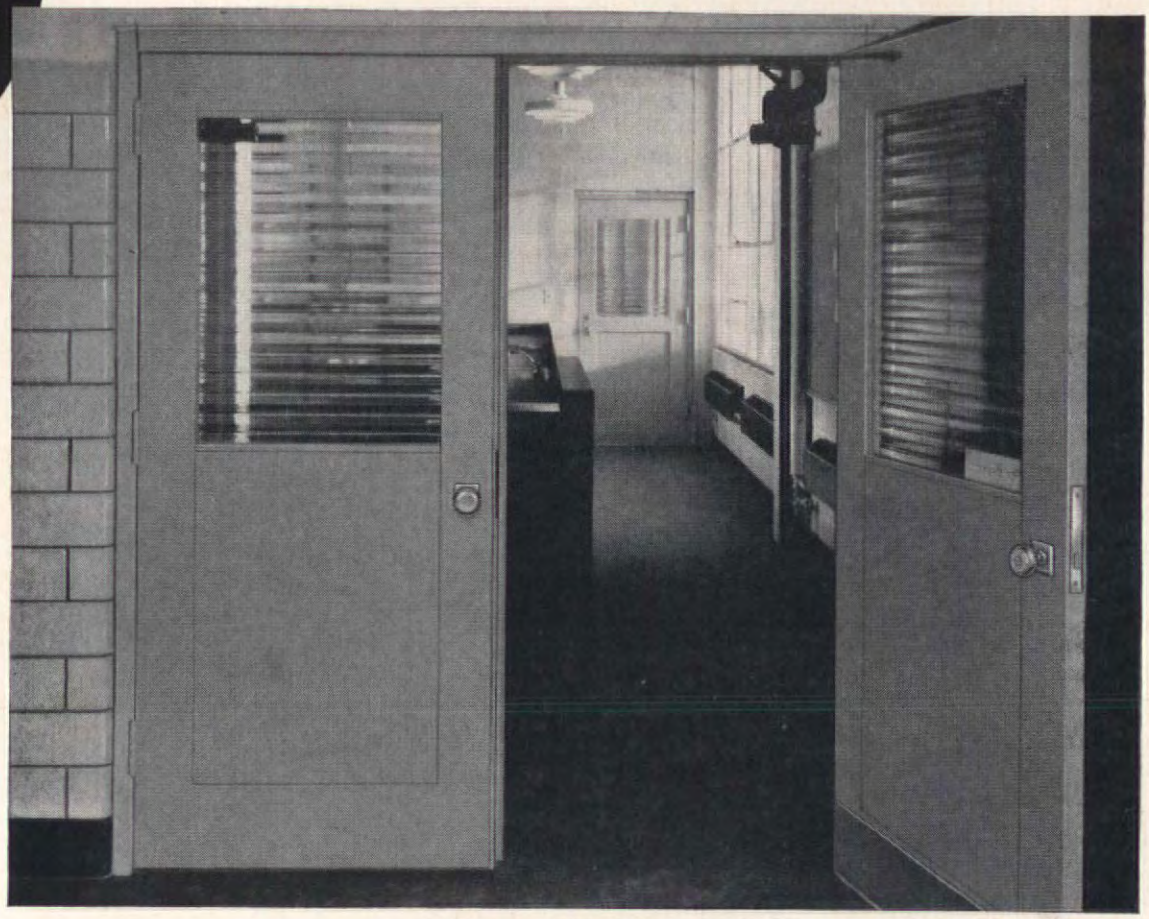
Walls of any height can be constructed with the re-usable panels. Alignment and bracing are necessary on only one side so that placement of box-outs, inserts, reinforcing steel, etc., will not be hampered. Standard lengths of lumber are used for alignment and are secured by spring steel liner clamps hooked into the holes in the steel panel frames.

Rigid steel inside and outside corner forms and prefabricated fractional forms in two widths and fillers are also manufactured by Universal for use with the panel. *Universal Form Clamp Co., 1238 W. Kostner Ave., Chicago, Ill.*

(*Continued on page 268*)

Fenestra 50 YEARS OF BUILDING PRODUCT LEADERSHIP

"A salute to those who made it possible" *



Fenestra Door-Frame-Hardware Units in the Robert N. Mandeville High School, Flint, Mich. Architect: Bennett & Straight, Dearborn. Contractor: Karl B. Foster, Flint.

HOW TO SAVE $100 PER DOOR

in your new building or remodeling

Here are four good reasons why building owners are saving this kind of money with Fenestra* Hollow Metal Door-Frame-Hardware Units:

1. *They cost less to buy* because they are mass produced on special jigs that eliminate a lot of expensive time and labor. You get production-line economy—*not* custom job costs.

2. *They come to the job complete*—pre-fitted frame, door and hardware are specifically made for each other. No time lost in planning or ordering separate elements that fit each other.

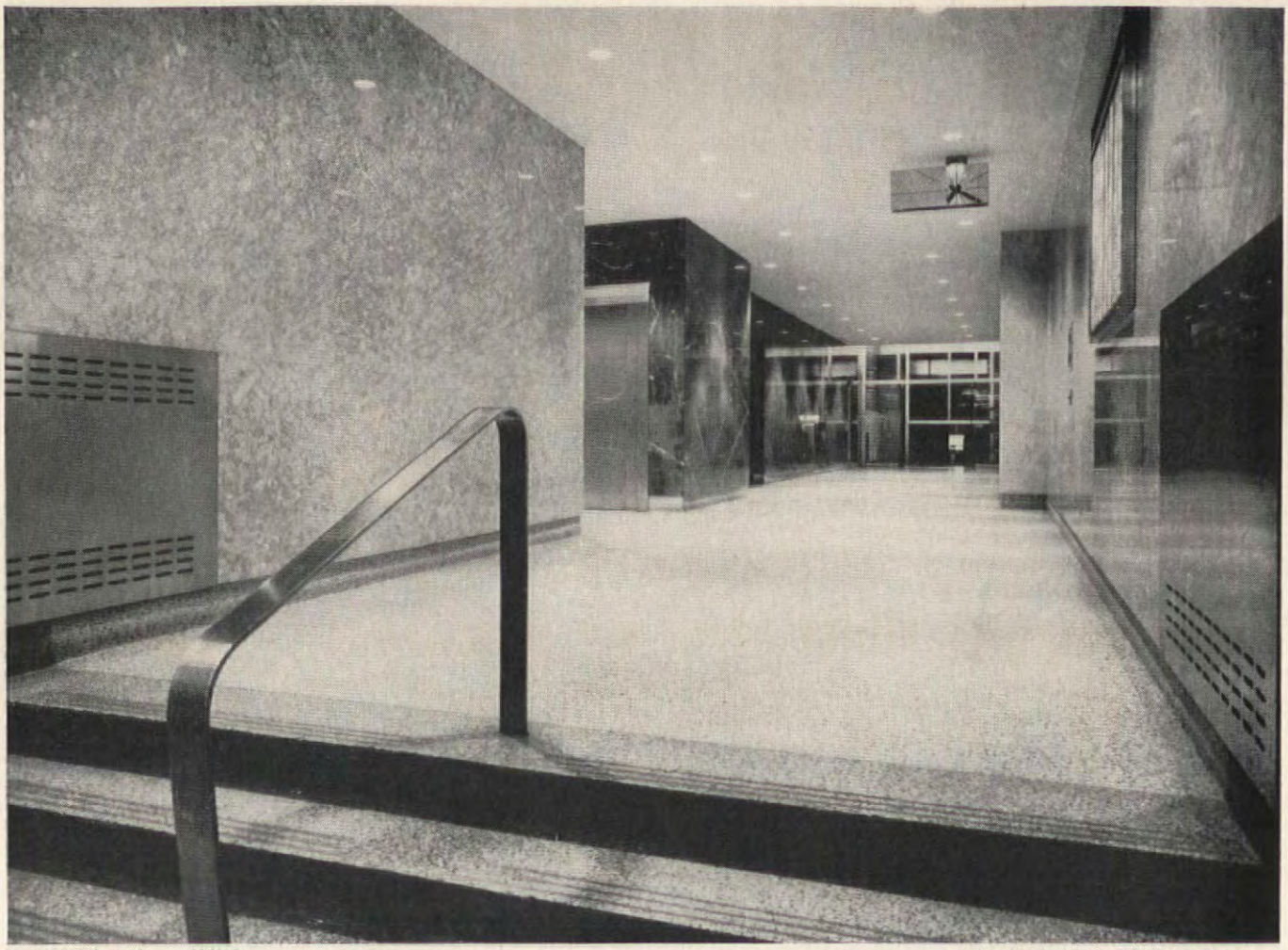
3. *You save on installation cost* with these complete units. Again time and labor are saved. There's no cutting or fitting or mortising or tapping—the door is *in* and *in use* in minutes.

4. *And you continue to save on maintenance* because Fenestra Hollow Metal Doors can't warp, swell, stick or splinter. They always open easily . . . smoothly. And they close quietly, because inside surfaces are covered with sound-deadening material.

For strong, solid quality at unusually low cost, check on Fenestra Doors—there's a door for every purpose in the Fenestra line: Entrance Doors, Flush or Regular Interior Doors with glass or metal panels, Doors with the Underwriters' B Label. For pictures and details, write to Detroit Steel Products Company, Dept. AR-4, 2252 E. Grand Blvd., Detroit 11, Michigan. *®

* Your need for lower building costs encouraged us to develop a quality door unit that would save initial cost and installation cost—Fenestra Hollow Metal Door-Frame-Hardware Units . . . a great advancement in building products.

Fenestra | DOOR • FRAME HARDWARE UNITS



92 Liberty Street, N.Y.C. *Arnold A. Arbeit, A.I.A., Architect*

marble gave this owner a $60,000 bonus!

Have you ever heard of getting $100,000 worth of remodeling for $40,000? Owner Aaron Levin says this was accomplished in his 21 story, 92 Liberty Street, New York, office building — *and he did it through the use of Marble**.

Here's what he says: "The competition of new construction was getting tough for our 50 year old building, so I decided to meet the competition on its own level. Our architect, Arnold A. Arbeit, A.I.A. used the most beautiful materials he could find, yet gave us one of the soundest investments we've ever made. Marble made the difference — and a whopping big difference it was." Here is the cost breakdown:

Demolition	$ 700	Doors	$ 1,200
Misc. metal	1,000	MARBLE	17,500
Terrazzo	1,750	Clock	500
Electric	2,100	Mailbox	750
Radiators	100	Stainless steel	4,000
Directory & misc.	4,000	Architect's fee	3,600
Lath & plaster	3,000	**Total**	**$40,200**

***Literature available* FREE**

"Proof that marble costs less"
"Marble Forecast 1953-54"
"Marble in the Bank"

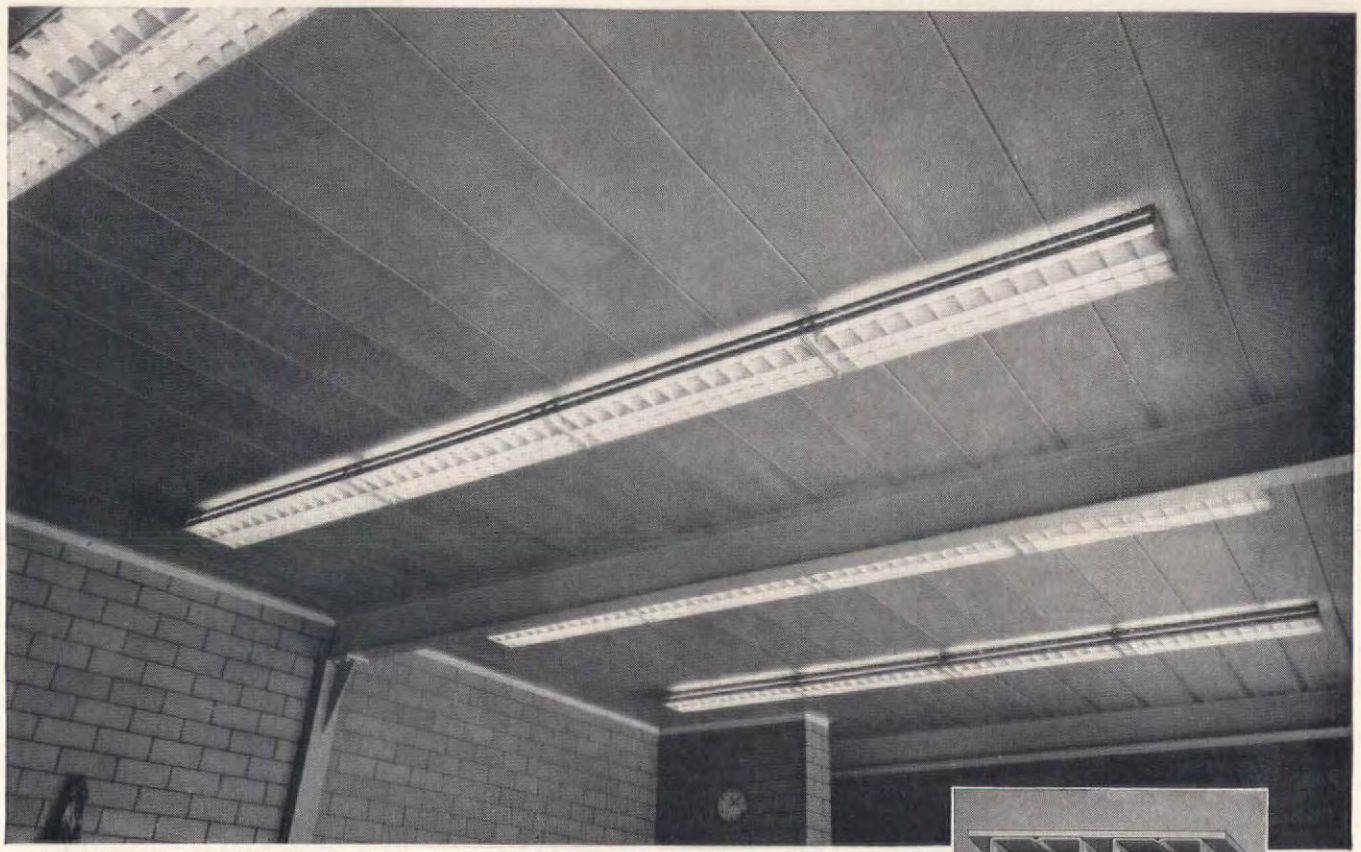
* *As told in the Magazine of Building, Nov., 1953, Page 118*

MARBLE INSTITUTE OF AMERICA, INC.

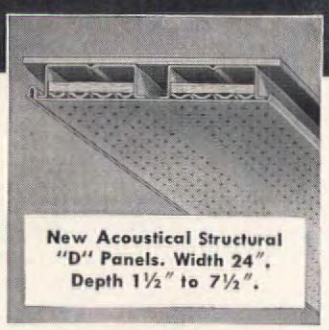
108 FORSTER AVENUE. MOUNT VERNON. NEW YORK

Fenestra 50 YEARS OF BUILDING PRODUCT LEADERSHIP

"A salute to those who made it possible" *



St. Mary's Parish School, Hammond, Ind. *Architect:* Bachman & Bertram, Hammond. *Contractor:* Swenson-Carlson Bldrs., Inc., East Chicago, Ind.



New Acoustical Structural "D" Panels. Width 24", Depth 1½" to 7½".

Noise disappears inside this ceiling!

There are no acoustical gimmicks stuck on this ceiling. Nothing that has to be applied to its surface by expensive tradesmen. Nothing that can come loose and fall down. Here the ceiling *itself* is the silencer. It is formed of remarkable *acoustical-structural,* long-span Fenestra* Building Panels.

This single compact package is beautifully finished structural ceiling, non-combustible acoustical treatment and acts as a joist system support for finished roofing. And, if your building has a second story, your Fenestra ceiling forms a strong, solid subfloor for rooms above. You can see the economy of using versatile Fenestra Building Panels.

Fenestra Acoustical Panel is a strong metal box beam (or beams) with a strong, structural top surface, a flat, perforated bottom surface and glass fiber insulation in the space between. These panels are made exclusively by Fenestra (Detroit Steel Products Company)—one of America's largest and best-known producers of metal building products.

For full details call your Fenestra Representative listed in the phone book yellow pages, or write, Detroit Steel Products Company, Dept. AR-4, 2252 E. Grand Blvd., Detroit 11, Michigan.

*Trademark

* Your need for a maintenance-free, non-combustible, built-in acoustical treatment encouraged us to develop Fenestra Structural-Acoustical Building Panels—a great advancement in building products.

Fenestra | METAL BUILDING PANELS

AIA PRODUCTS

(*Continued from page 264*)

METAL SAFETY TREADS

Stairmaster provides an easy, economical method of repairing worn stairway treads as well as preserving new treads. The tread, made with a permanent extruded lightweight aluminum alloy base, is a standard 9-in. depth, suitable for all stairways. The *Stairmaster* is furnished in length as required so that no cutting is necessary, and the tread can be installed over worn stair treads after the existing tread has been leveled with mastic. The tread consists of 11 rows of firmly imbedded safety ribs containing diamond hard abrasive grains to protect against slipping. It has a 1⅜-in. lip which covers and protects the face of the stair tread.

Aluminum treads save stairways

The manufacturer claims that this tread is easily applied on all types of stairs, such as wood, concrete, slate and marble. Screws or combination screw and lead shield are used to fasten securely the tread to the stairs. *Stairmaster, Dept. S, Wooster Product Inc., Wooster, Ohio.*

SEALED HOSPITAL SWITCH

A new "EHS" series of explosion proof sealed hospital switches for hospital operating rooms can be quickly and easily installed in walls of different plaster or tile thickness from 9/16 in. to 1 3/16 in. A self-leveling adjustment also compensates for the variations up to 5 degrees of wall level, assuring a neat and completely flush mounting.

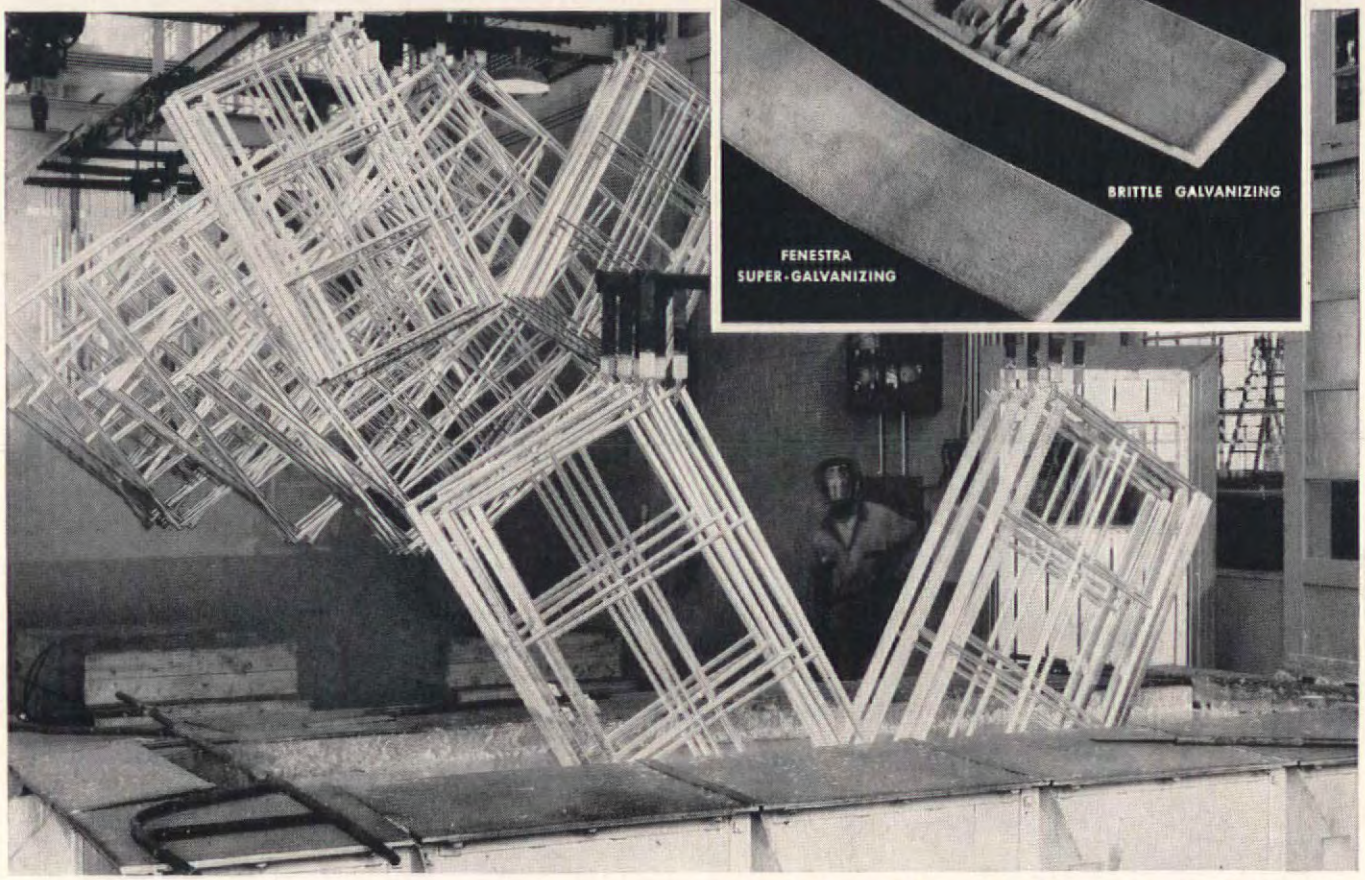
Specified for Class I, Groups C and D hazardous locations, the Appleton "EHS" series switches comprise a switching device which is factory sealed within the explosion-proof switching enclosure or *Unilet*. Wire leads are furnished for

(*Continued on page 272*)

Fenestra 50 YEARS OF BUILDING PRODUCT LEADERSHIP

"A salute to those who made it possible" *

BEND TEST shows why Fenestra Steel Windows are called Super Hot-Dip Galvanized. When two pieces of galvanized steel are bent, then straightened, some types of galvanizing crack open, leaving the steel vulnerable. The Fenestra piece *stays* protected.



Fenestra Steel Windows at one stage of Fenestra Super Hot-Dip Galvanizing.

"Bewaren is Besparen"...especially today!

That's the way the Dutch galvanizers say it. And "Keeping is Saving" *could* be the slogan for Fenestra* Super Hot-Dip Galvanized Windows.

These strong steel windows will not only "keep" —they will save you thousands of dollars.

They cost no more than ordinary steel windows with two field coats of paint inside and out, and these windows *never need painting.* That's a saving of over $3,600 in paint and painters every few years, if yours is an average-sized plant.

Fenestra has the only plant and equipment in America especially designed for the tricky job of window galvanizing. Check on Fenestra Super Hot-Dip Galvanized Steel Windows for that new building you're planning. Call your Fenestra representative—he's listed in the yellow pages—or write Detroit Steel Products Co., Dept. AR-4, 2252 East Grand Blvd., Detroit 11, Michigan. *®

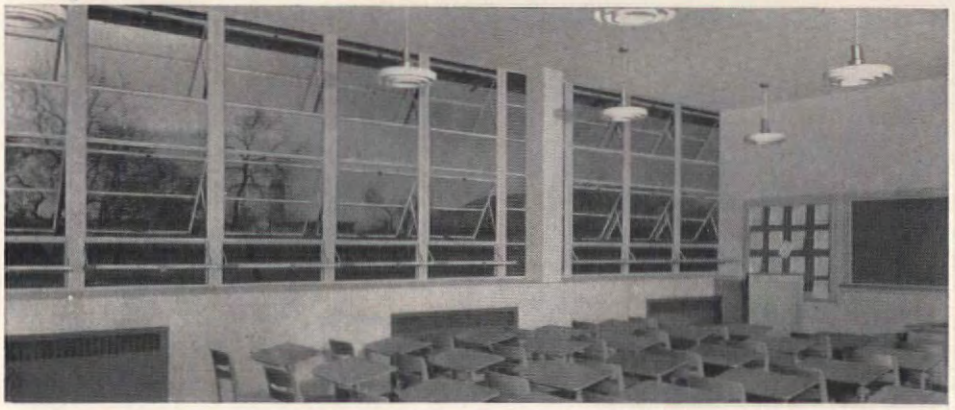
* Your need for windows of strong material that would resist rust encouraged us to develop Fenestra Super Hot-Dip Galvanized Steel Windows—a great advancement in building products.

Fenestra | SUPER HOT-DIP GALVANIZED STEEL WINDOWS

Fenestra 50 YEARS OF BUILDING PRODUCT LEADERSHIP

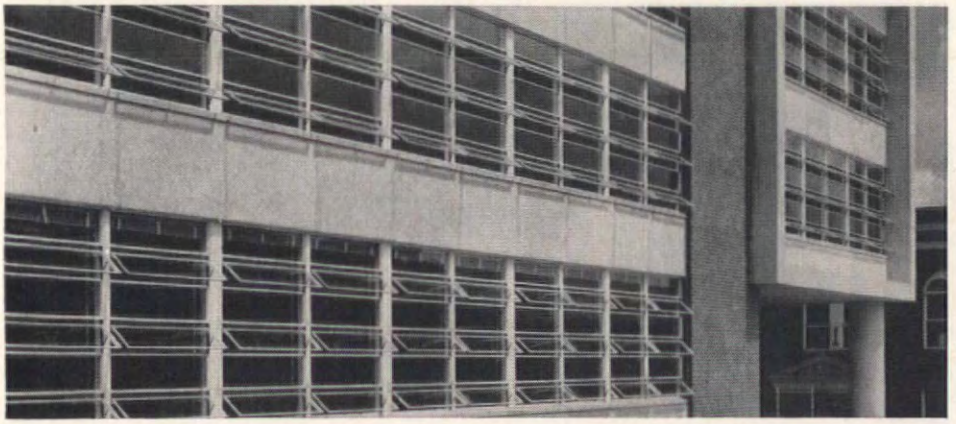
"A salute to those who made it possible" *

■ Speaking of School Daylighting...



This Alamo Heights schoolroom, designed by Architect Bartlett Cocke of San Antonio, and built by G. W. Mitchell of San Antonio, is filled with free eye-easy daylight by this wall of Fenestra* Intermediate Steel Windows. They give you extra view and light because the frames are designed to be strong and rigid without being bulky.

■ Fresh Air Ventilation...



Notice how the vents of these Fenestra Intermediate Steel Windows protect the interior of the Clemson College chemistry building in Clemson, S. C. Here is fresh air ventilation even when it's raining outside. And these vents operate so that you can wash them from *inside.* Screens also go on from inside. Architects Hopkins, Baker & Gill designed the building and Industrial Builders Inc. built it. Both are in South Carolina.

■ And Architectural Beauty...

Architects Karcher & Smith and Contractor Charles F. Rohleder of Philadelphia have used graceful Fenestra Windows to add to the warm, friendly, charming beauty of the Penn Valley Elementary School in Lower Merion Township, Pa.

Special note: All Fenestra Windows are available Super Hot-Dip Galvanized. For further information, call your Fenestra Representative, listed in the yellow pages. And write for *Better Classroom Daylighting.* Detroit Steel Products Company, Dept. AR-4, 2252 East Grand Blvd., Detroit 11, Mich. *®

* Your need for windows that would give better school daylighting, protected ventilation and lower maintenance costs encouraged us to develop today's Fenestra Intermediate Steel Windows . . . a great advancement.

Fenestra | INTERMEDIATE STEEL WINDOWS

A-E PRODUCTS

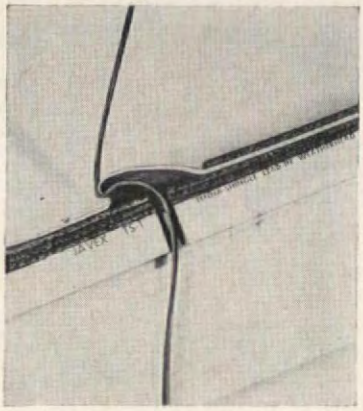
(*Continued from page 268*)

line connection purposes, and line wires are spliced in the *Unilet* body. This factory seal eliminates the need for sealing fittings normally required within 18 in. of arcing devices as specified in Article 500 of the National Electrical Code.

Both single-gang and two-gang "EHS" switches are available for single-pole and double-pole installations across 15-ampere, 125-volt and 10-ampere, 250-volt AC circuits. Covers are chrome plated, and the body of the enclosures are cadmium finish. Four conduit hubs are provided. *The Appleton Electric Co., 1701–59 Wellington Ave., Chicago 13, Ill.*

LEAD-IN WEATHERHEAD

Called a *Tenna-Shingle*, this new product is molded of acrylic resin and fits under shingles on a roof or under siding. As a shingle it adequately covers the small hole required for the lead-in. It is transparent and consequently takes on the



Roofing unit is designed to cover and waterproof wired lead-ins

color of the surface to which it is attached. While it is not indestructible, it will last indefinitely. The Tenna-Shingle accommodates standard 300 ohm line, is easy to install and as well as being electronically correct, it also eliminates unsightly outside lead-ins. *Javex, P. O. Box 646, Redlands, Calif.*

PREFABRICATED DOOR UNIT

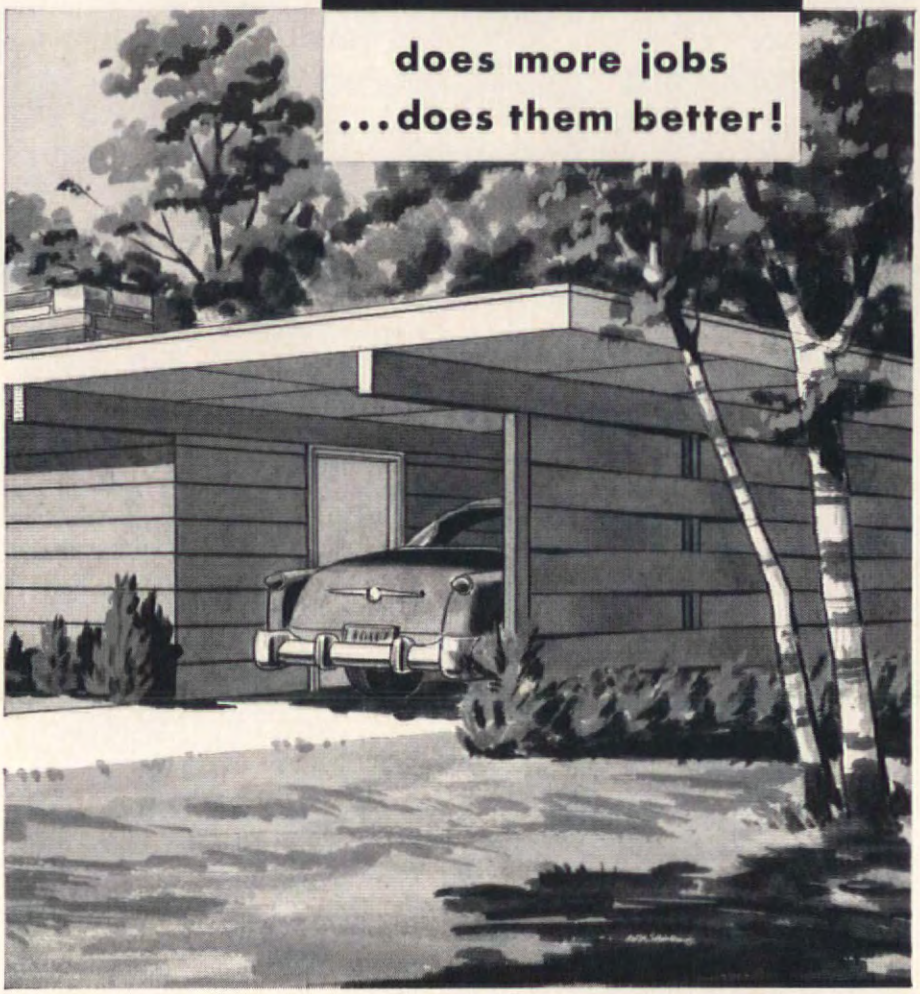
The Lott Manufacturing Company reports that an unskilled man using only a screwdriver can install DOR-PAK. This individually packaged unit consists of a cold rolled steel, strongly welded two-piece frame and a birch or *Masonite* flush panel hollow door. The door, complete with all hardware, is pre-hung at the factory to one half of the door frame. The

Packaged door needs only screwdriver for installation

(*Continued on page 276*)

MASONITE PRESDWOOD

does more jobs ...does them better!



SELLING FEATURE!

Woven Wall gives "finished" look to carport

Intriguing, isn't it? A carport with a woven wall of sturdy Tempered Presdwood makes a distinctive, praise-winning feature.

It's simple to build: strips of Masonite ¼" Tempered Presdwood (or Masonite Siding) in widths of one foot or more are woven around a series of posts and fastened to the corner posts. Paint it, stain it, or otherwise seal it, and you have an unusually attractive windbreak.

MORE HOUSE FOR LESS MONEY...

Here are some other ways these grainless Masonite Presdwood® panels are improving the *exteriors* of modern homes:

SIDING. Faster application, easier and less frequent painting, better resistance to the elements—these are some of the advantages of low-cost Masonite Siding.

SOFFITS AND CEILINGS. Masonite Standard Presdwood and Panelwood are ideal, economical materials for sheltered areas of carports, breezeways and porches.

You'll find complete data about these dense, all-wood hardboard panels, along with suggestions for application, in Sweet's Architectural File #23L. Or write for our new Architectural Specification Book.

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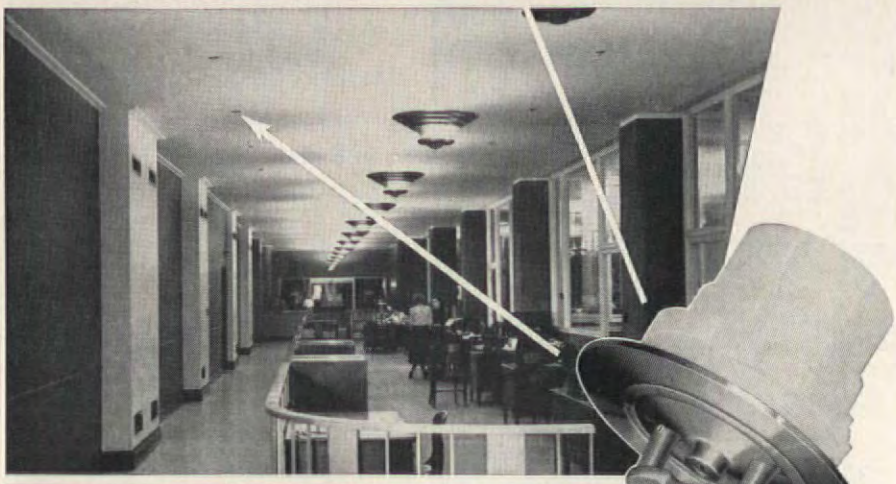
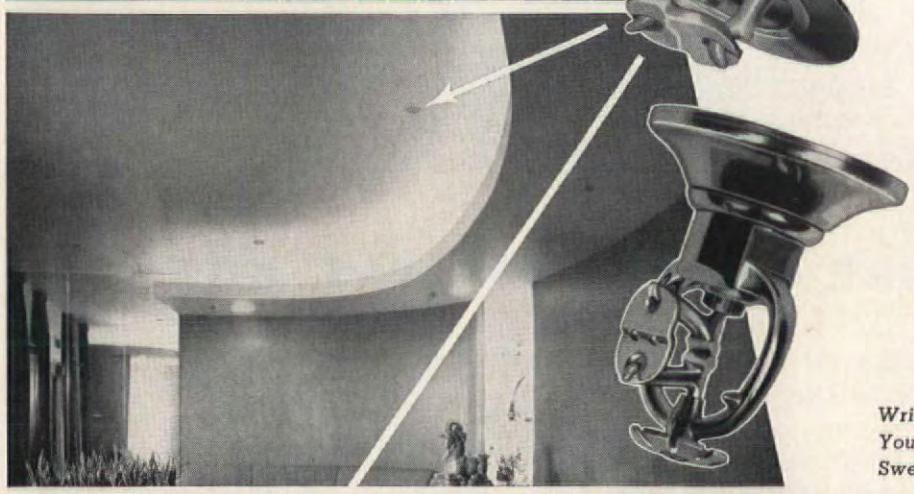
"Masonite" signifies that Masonite Corporation is the source of the product





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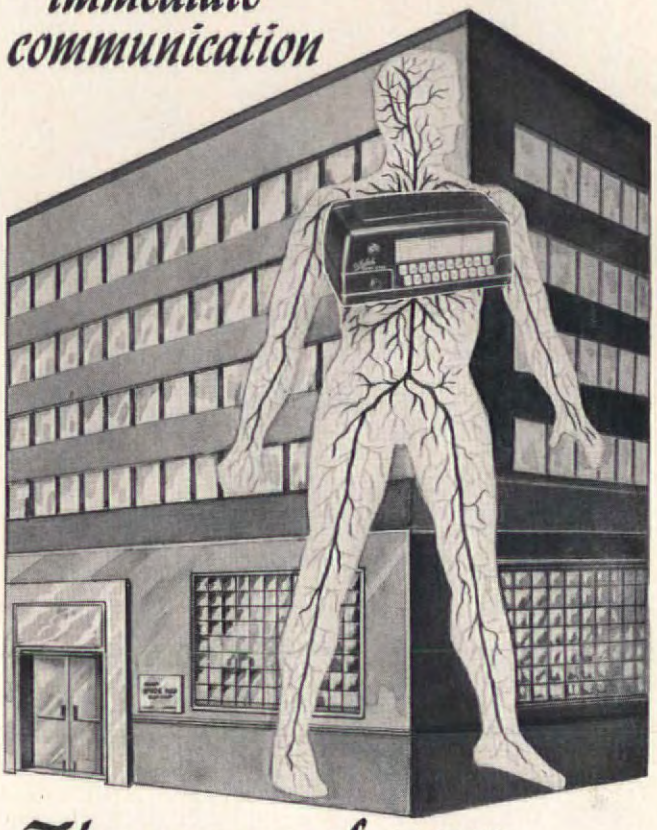
The WHEELOCK CODE CALL *for immediate communication*



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No matter how well-planned a building, plant or establishment may be, it is not completely functional unless equipped with a **WHEELOCK CODE CALL.** The operator just presses the button and a signal rings , chimes or blows in all departments until the person being paged responds via the nearest telephone.

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(*Continued from page 272*)

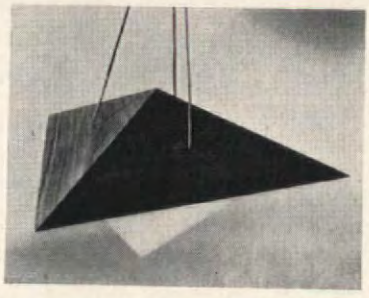
Masonite door and the frame are painted in a warm-tone, satin-finish off-white enamel. Birch doors are available in natural wood lacquer finish.

All hardware including hinges, push-button lock and door knobs are installed at the factory and checked for smooth operation. The DOR-PAK comes in five widths and is adjustable for any wall thickness. *Lott Manufacturing Co., Jamestown, N. Y.*

CUSTOM-MADE LAMPS

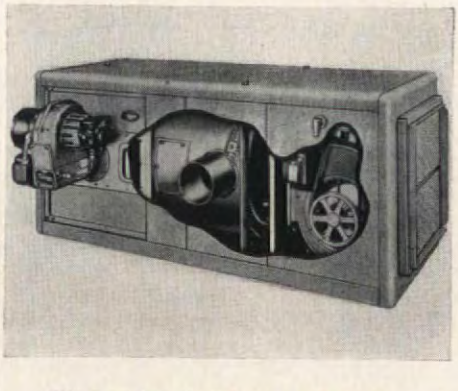
Lamps, in variations on the tetrahedron, of oiled wood with parchment shades attached to the wood by magnets are custom made by *Leslie Larson*. The wooden bases are lined with aluminum foil for reflection and insulation. The lamps are available in hanging, wall, and table models. *Leslie Larson, 56 E. 66 St., New York 21, N. Y.*

Tetrahedron lamps in oiled wood and parchment; table model (left) and hanging model (below)



SMALL FURNACE

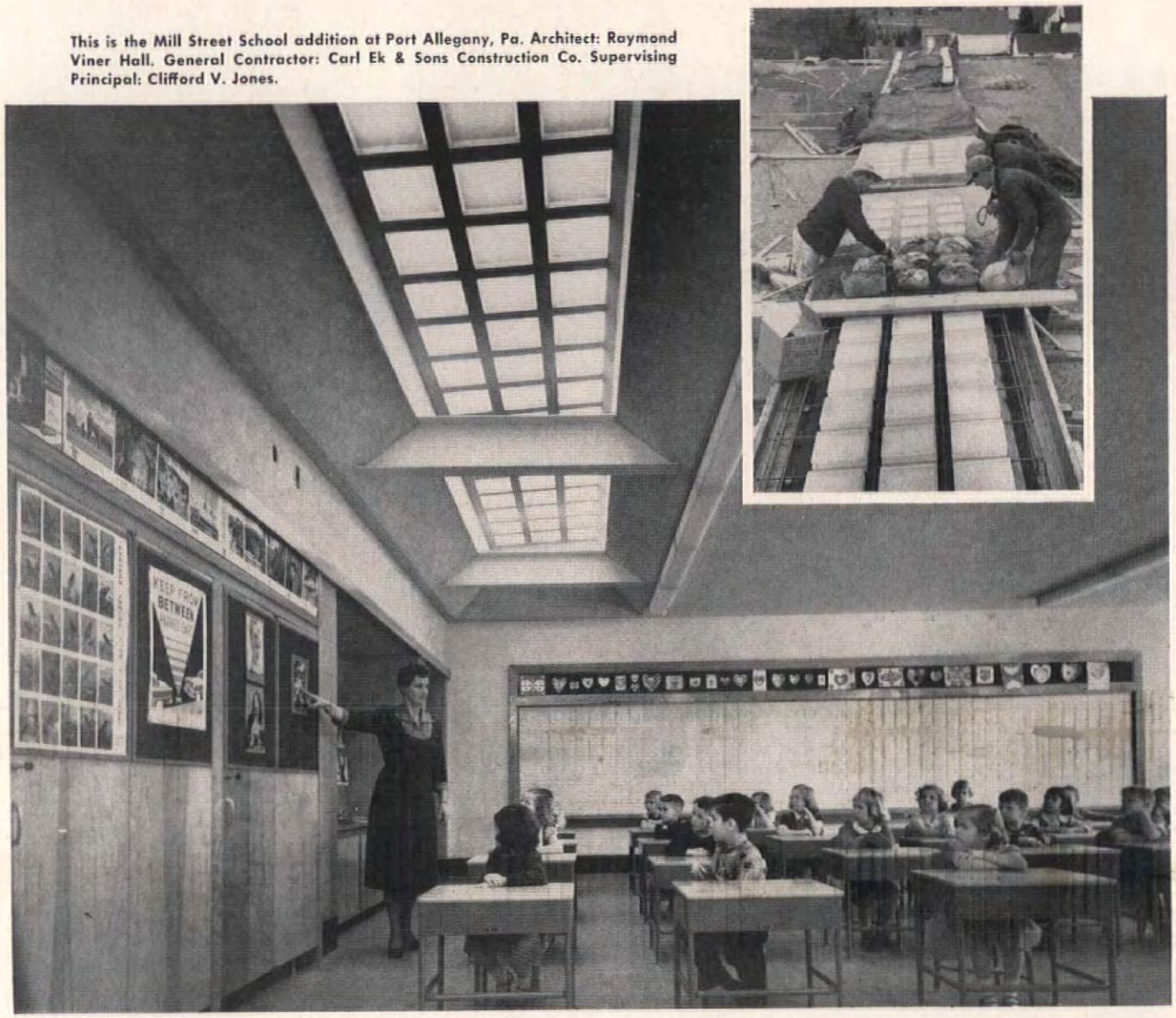
The new *532 Oil Fired Horizontal Winter Air Conditioner* can be installed in any convenient spot, or suspended from ceiling joist to save floor space. In addition to being an ideal unit for small homes, the manufacturers recommend its use in such commercial buildings as garages, small shops, stores, service stations and restaurants, since it easily connects to most types of warm air heating installations and leaves floor area entirely free for productive use.



Winter air conditioner can save space by suspension from ceiling

The factory-assembled 532 comes in three sizes — 82,500, 115,000 and 165,000 at the bonnet. *Thatcher Furnace Co., Garwood, N. J.*

This is the Mill Street School addition at Port Allegany, Pa. Architect: Raymond Viner Hall. General Contractor: Carl Ek & Sons Construction Co. Supervising Principal: Clifford V. Jones.



Reliable toplighting for deep, low ceiling classrooms

Pictured above is a panel of PC SKYTROL Glass Blocks; it illuminates this deep, low ceiling room with soft filtered daylight, allowing the economy of low ceiling construction, yet providing the best in daylight illumination.

SKYTROL blocks are flexible. They require no special orientation, and can be used in flat or curved panels of virtually any size. They are ideal for any type of school construction—in classrooms, corridors, gymnasiums and other large areas—and are equally effective in commercial and industrial buildings.

SKYTROL'S high insulation factor means low heat transfer, minimizing condensation. Yet, SKYTROL actually costs less installed and less in maintenance than comparable toplighting media. SKYTROL offers all this: excellent daylighting, high insulation value, design flexibility and maintenance-free service. Yes, SKYTROL is a practical and reliable answer to toplighting.

For more information on SKYTROL, consult our section under "Skylights" in Sweet's, or write Dept. C-44,

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GLASS BLOCKS

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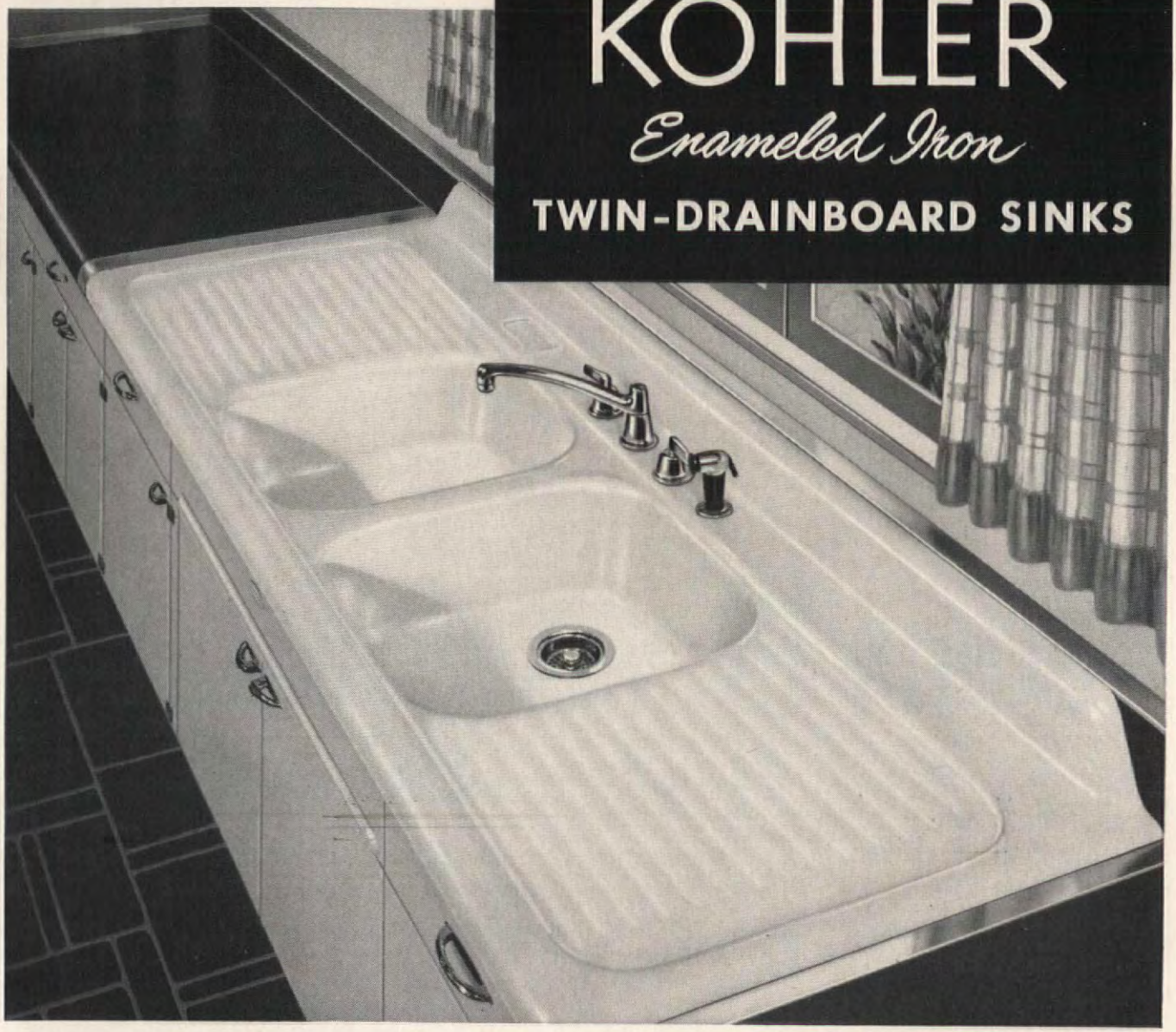
Enameled Iron

TWIN-DRAINBOARD SINKS



Wilshire. *Sizes 60 x 25", 72 x 25".*

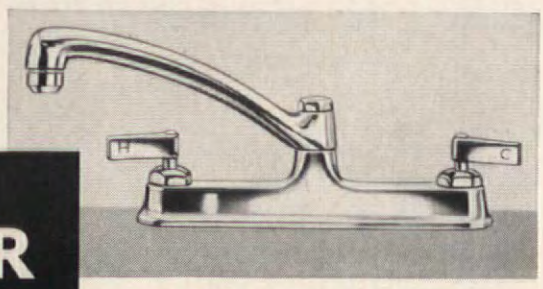
Utmost utility and convenience are provided by the continuous self-draining work surfaces of Kohler twin-drainboard sinks. Fixtures are one-piece, without joints.

The deep, roomy basins have Kohler Duostrainers that make them water-retaining, collect solid waste, and drain freely. Other sink features are a full-length ledge with built-in soap dish; a high-arched spout that simplifies filling bottles and vases; and a lever-controlled sprayer for rinsing.

The Kohler enamel is acid-resisting clear through and is protected from strain by a strong base of non-flexing cast iron. This superior enamel has a sparkling finish, easy to clean and clean-looking.

The Kohler line includes a variety of models to meet every need or special installation problem. A full line of undersink cabinets is available.

Kohler chromium-plated brass fittings match the sinks in style and quality.



Rockford *sink fitting. Simplifies installation; available with or without hose sprayer.*

Kohler Co., Kohler, Wisconsin. Established 1873

KOHLER OF KOHLER

PLUMBING FIXTURES • HEATING EQUIPMENT • ELECTRIC PLANTS
AIR-COOLED ENGINES • PRECISION CONTROLS

Engineers choose "fast, economical Cofar" for new 23-story Denver Club Building

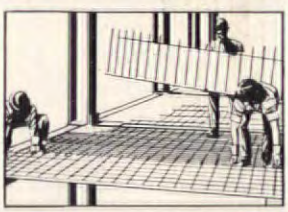
Denver Club Building
Architect: *Raymond Harry Ervin and Robert Berne*
Engineers: *Technic Engineering Company, Dallas, Texas*

HERE'S WHY

. . . says J. A. Crowley of Technic Engineering Co., Dallas, Texas, (structural engineers for the Denver Club Building)

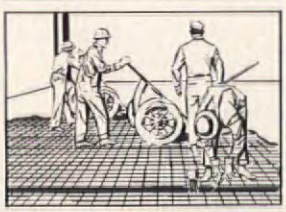
"From marble lobby to glass tower, the Denver Club Building will feature the newest and finest in office building construction . . . but that's not the only reason we chose Cofar! Cofar steel units serve as *both* permanent form and reinforcement. They eliminate costly wood forms in concrete construction . . . provide all the positive steel needed in the structural concrete slab and are extremely economical and easy to install. Cofar fills our bill perfectly!"

Today, throughout the country, firms like Technic Engineering Company are discovering the fast, economical Cofar way to modern concrete floor and roof construction. Cofar design requires no special procedure, has already been used in over 3,000,000 square feet of floors and roofs. For more information, write home or district office, Department AR-C.



Placing steel and form in one operation

Cofar steel units (with transverse temperature wires welded across corrugations) arrive at the job site cut to length to fit the building frame. Welded in place, they give frame added lateral strength.



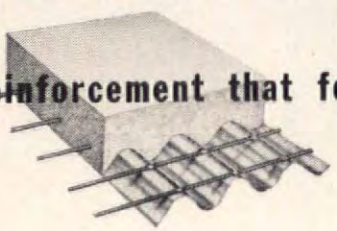
An immediate working platform

High-strength Cofar steel absorbs construction abuse. Cofar sheets serve as tight form for wet concrete. After concrete sets, Cofar provides complete positive reinforcement at bottom of slab.

Safe, strong concrete floors

Fast Cofar construction speeds occupancy, is suited to steel or concrete frame construction. Cofar monolithic floors provide complete plate action for concentrated loads, horizontal forces.

the reinforcement that forms



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A|E LITERATURE

(*Continued from page 222*)

SCHOOL EQUIPMENT BROCHURES

• Clear explanations of how Horn *folding wardrobes* and their component parts operate as well as complete specifications and design details, drawn to scale, are given in the *Horn Folding Type Classroom Wardrobes* booklet. All three types of Horn classroom wardrobes — the receding type, pivot type and folding type partitions, are included. In addition, special sections on complete accessory items are included. 24 pp, illus.

• The twelve basic units in the Brunswick line are shown in color, complete with all their possible variations and additional styles in the *Brunswick School Furniture* brochure. Folding gym seats, folding partitions, folding stages and folding wardrobes are also presented in the brochure. A pocket on the inside back cover contains 20 pages of complete and detailed specifications of every item in the line as well as a complete price list. 45 pp, illus. *The Brunswick-Balke-Collender Co., 623 S. Wabash, Chicago 5, Ill.*

LAB EQUIPMENT

The revised edition of *Better Laboratory Planning* carries a comprehensive approach to the better planning of laboratories. It includes many new and attractive pictures of laboratories ranging from industrial, college and hospital lab layouts to secondary school and research and development labs.

A helpful section of the new edition is devoted to "Recommended Bidding Practices," of service to industrial, community, educational and hospital building planners — answering the many questions on the subject of bidding. 28 pp, illus. *Scientific Apparatus Makers Assoc., 20 No. Wacker Dr., Chicago 6, Ill.*

(*Continued on page 284*)

20TH OIL HEAT SHOW

NATIONAL Indoor Comfort EXPOSITION

HEATING—COOLING

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AN INVITATION TO
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Engineers
primarily interested in
COMMERCIAL-INDUSTRIAL JOBS

A special program has been arranged for you by the Institute's Commercial-Industrial members. You are invited to hear a short talk on heavy fuel oil handling and its combustion by a well-known authority. Following this talk, refreshments will be served.

Time: 5 until 7 P.M., Wednesday, May 19, 1954
Place: Room A, Commercial Museum, Philadelphia

Yes, everybody interested in Automatic Oil Heating...

Architects, engineers, builders, contractors, dealers, distributors, wholesalers and jobbers—will fill all traffic lanes getting to *their* National Show to see what's new in heating and year 'round air conditioning.

No registration fee

There's no registration fee for anyone to see the exposition—it's free! And there's no fee for anyone to attend the general sessions at the 32nd Annual OHI Convention. Both affairs are under one roof—the Commercial Museum, Philadelphia, on May 16 thru 20. *So come!* See and learn what's new.

Service, Sales and Installation

Ideas a-plenty for you on new methods, new systems, new practices which you can take home and use—profitably. Questions will be asked and answered on *heating and cooling* at the convention's general sessions. They run from 9:30 A.M. 'til noon, Monday thru Thursday. The exposition is open at 1 P.M. Sunday, May 16, thru Thursday, May 20.

Better make hotel reservations now!

Advance hotel reservations are extremely heavy. Just drop a note to the Sales Department, Benjamin Franklin Hotel, Philadelphia. Tell them you're coming to the OHI Convention-Exposition; advise when you'll arrive and depart and the accommodations you want there or at the hotel of your choice. They'll do their best for you.

Come and see what's NEW
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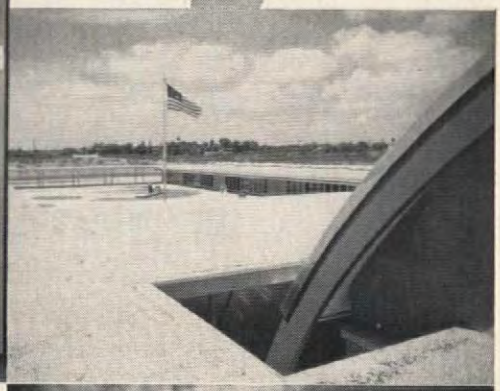

The Mirabeau B. Lamar Junior High School in Laredo, Texas, is unusual in several respects. It was built at the amazing low cost of only $10 per square foot. It incorporated several new design features which have attracted national attention. Using one of the most economical forms of Rilco Laminated Wood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

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

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

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

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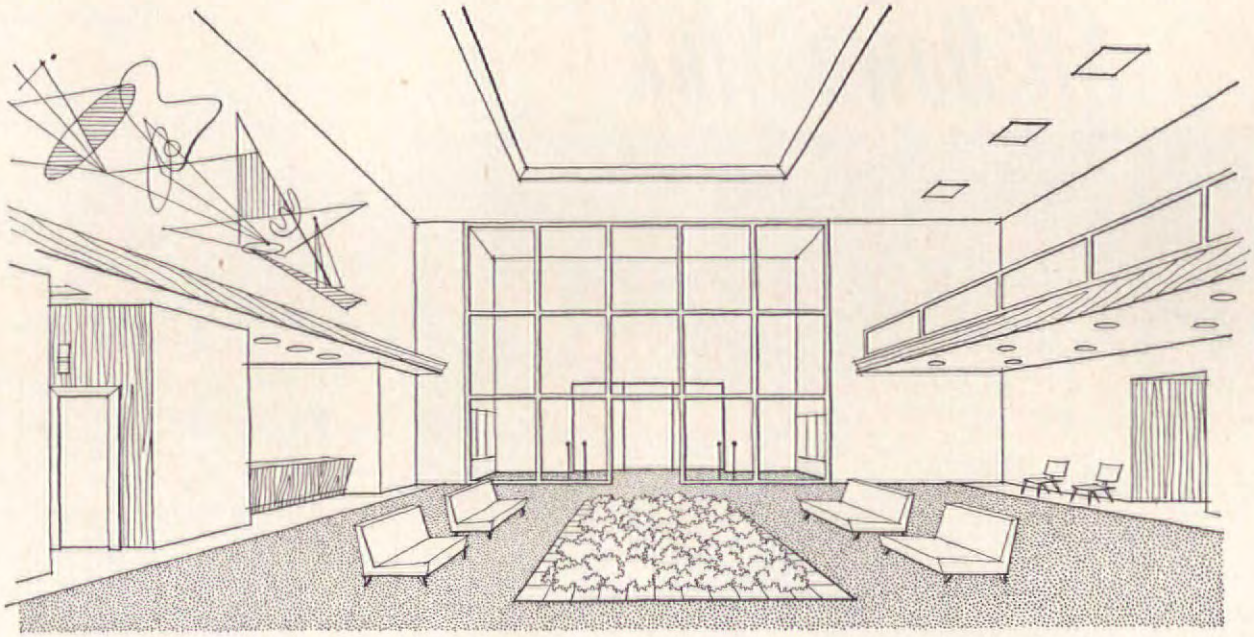

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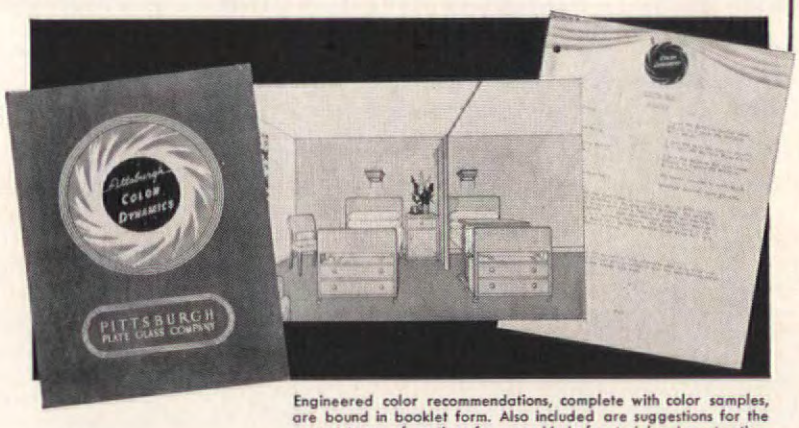
Engineered Color Study to your plans?



Engineered color recommendations, complete with color samples, are bound in booklet form. Also included are suggestions for the correct types of coatings for every kind of material and construction.

TODAY, nearly everyone who owns or operates an industrial, commercial or service enterprise recognizes the importance of the effect of color environment on people.

● **You can often make** your plans more acceptable to clients by including a detailed color program. Why not let us submit *engineered* color recommendations to go with your plans? These recommendations are based upon the principles of COLOR DYNAMICS, Pittsburgh's modern painting system which has demonstrated its ability to improve productive efficiency, morale and well-being in many fields.

● **We'll be glad** to make such a detailed study without cost or obligation to you. Simply call your nearest Pittsburgh Plate Glass Company branch and arrange to have one of our color experts see you at your convenience. Or mail this coupon.

Additional information on COLOR DYNAMICS in Sweet's Architectural File, Section 14/Pi.

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Paint Division, Dept. AR-44
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Gentlemen:

☐ Please have your representative provide us with further information about Pittsburgh's Free COLOR DYNAMICS engineering service for architects.

☐ Please send free copy of your booklet on COLOR DYNAMICS for ____industry; ____hospitals; ____schools; ____commercial buildings.

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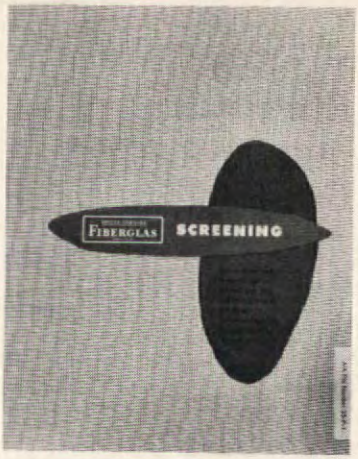
AIA LITERATURE

(*Continued from page 280*)

FIBERGLAS SCREENING

Fiberglas Screening, AIA File Number 35-P-1 lists the advantages of this screening of woven glass as well as the results of laboratory and field tests made on the product. The physical properties of the gray and green colored

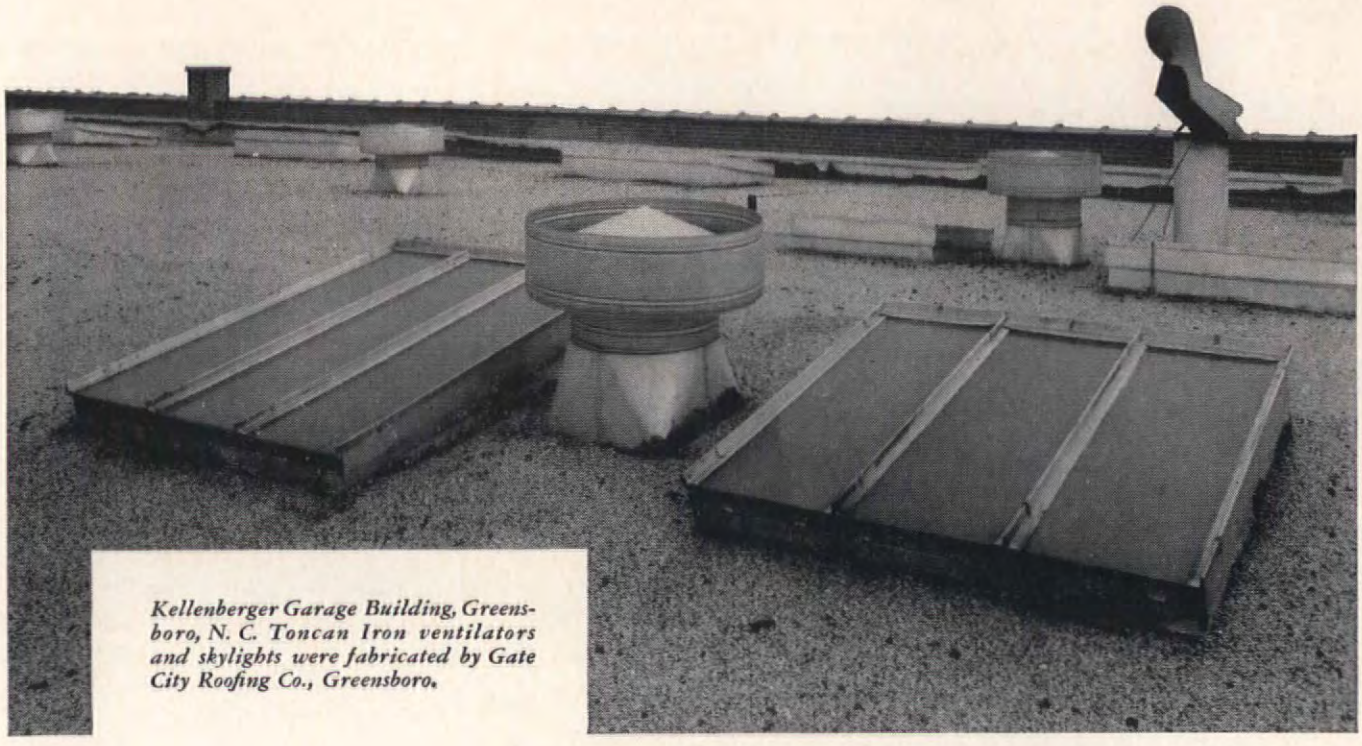


screen plus architect's specifications and installation instructions are included in this four page, illustrated booklet. *Owens-Corning Fiberglas Corp., 16 E. 56 St., New York 22, N. Y.*

LITERATURE REQUESTED

The following individuals and firms request manufacturers' literature:

- J. Robert Bence, Architect, 1733 Westridge Circle, Casper, Wyo.
- Grieco and Walsh, Architects, 8339 Stony Island Ave., Chicago, Ill.
- Melvin R. List, Structural Engineer, 1120 N St., Sacramento, Calif.
- Earl H. Norder, Student, 306 S. Pommel Ct., Ames, Iowa.
- Owens and Strain, Architects, Engineers, 202 Stone City Bank Bldg., Bedford, Ind.
- Paul J. Saunders, Architect, 3232 State St., E. St. Louis, Ill.
- Henry Tang, Real Estate Investor, 2690 W. Van Buren St., Phoenix, Ariz.
- George Weiss, Consulting Engineer, P.O.B. 1500, Haifa, Israel.



Kellenberger Garage Building, Greensboro, N. C. Toncan Iron ventilators and skylights were fabricated by Gate City Roofing Co., Greensboro.

Toncan Iron Ventilators and Skylights

going strong after 26 years

When this commercial garage building was erected in 1928, rust-resisting Toncan Iron was used for ventilators, skylights and other sheet metal work. The building owner reports that today, 26 years later, the Toncan Iron sheet metal work is seemingly "as good as new." No repairs or replacements have been necessary during this period.

Decades of service in resisting rust and corrosion are not unusual for Toncan Iron. It is an ALLOYED IRON, containing twice the amount of copper ordinarily used in copper-bearing steels and irons—plus just the right amount of molybdenum to make the copper most effective all the way through. That's why Toncan Iron resists rust better and outlasts all other ferrous materials in its price class.

Toncan Iron is easy to work, too. Punching, cutting, forming, welding or other fabrication have no effect upon its rust-resistance.

You'll find more about Toncan Iron in Sweet's 1954 File $\frac{5c}{Re}$—or write us for literature.

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GENERAL OFFICES • CLEVELAND 1, OHIO
Export Department: Chrysler Building, New York 17, N. Y.

TONCAN COPPER MO-LYB-DEN-UM IRON

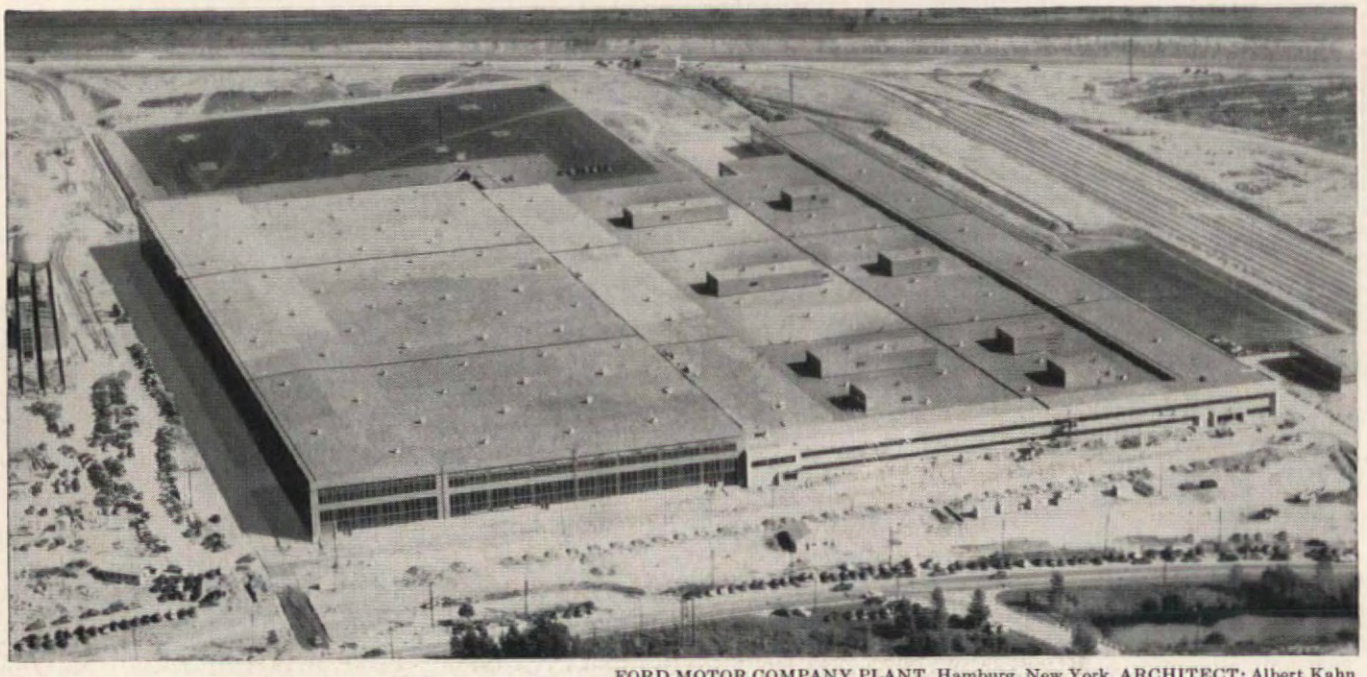
FOR MORE THAN 40 YEARS...
HIGHEST RUST-RESISTANCE OF ALL
FERROUS MATERIALS IN ITS PRICE CLASS

REPUBLIC STEEL

REPUBLIC TONCAN IRON

For lasting value in roof insulation, specify

FIBERGLAS



FORD MOTOR COMPANY PLANT, Hamburg, New York. ARCHITECT: Albert Kahn & Assoc., Detroit. GENERAL CONTRACTOR: Bryant & Detwiler, Inc., Detroit

1. More thermally efficient, *thickness for thickness*

2. Longer lasting *because it will not rot*

★ Its low "k" value provides more insulation in relation to thickness.

★ Resists fire and moisture, will not decay, swell, shrink or buckle.

★ Light weight and easy to apply, can be cut on job.

★ Resilient and non-brittle, absorbs shock and pressures on felts without rupturing.

★ Approved for bonded roofs.

PRODUCT DATA—
FIBERGLAS* ROOF INSULATION

Standard Size—24″ x 48″
Packaged in
Paper-wrapped Bundles

AVAILABLE THICKNESS (Inches)	HEAT CONDUCTANCE at 75°F Mean Temp. (Btu/hr./ Sq. Ft./°F.)*
1/2	.50
3/4	.33
7/8	.30
1	.25
1 1/4	.20
1 1/2	.17
1 3/4	.15
2	.13

*Subject to manufacturing and testing tolerances.

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FIBERGLAS

When you specify roof insulation, remember . . .
It's **thermal efficiency** *that counts . . . not* **thickness!**

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FLINTKOTE BUILDING MATERIALS

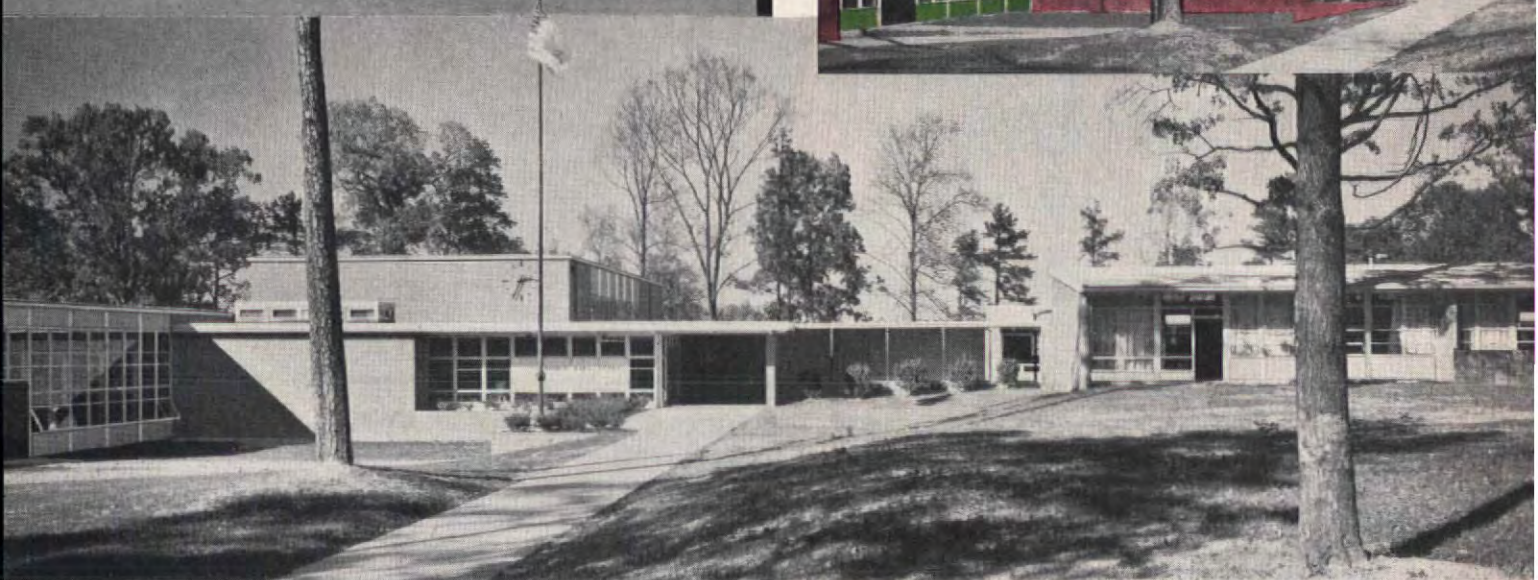
**Fiberglas is the trade-mark (Reg. U.S. Pat. Off.) of Owens-Corning Fiberglas Corporation.*

Distinctive treatment of school exterior obtained with colorful

Architectural Porcelain

by DAVIDSON

Davidson Architectural Porcelain panels in blue and green identify specific functional areas. This illustrates how Architectural Porcelain may be appropriately used with other exterior materials.

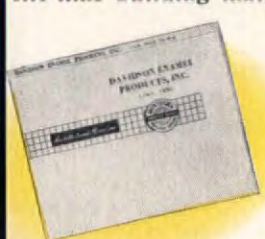


Double Oaks Elementary School, Charlotte, North Carolina. A winner in THE SCHOOL EXECUTIVE *1953 competition for better school design. Architect: A. G. Odell, Jr., & Assoc*

Double Oaks Elementary School, a winner in THE SCHOOL EXECUTIVE third annual competition for better school design, presents applications of Davidson colorful Architectural Porcelain for exterior spandrels and for exterior classroom wainscots. The structural characteristics of Architectural Porcelain combining the natural beauty of glass with the strength of steel are ageless and assure easy, low-cost maintenance. The brilliant colors are fadeless and harmonize perfectly with other structural materials.

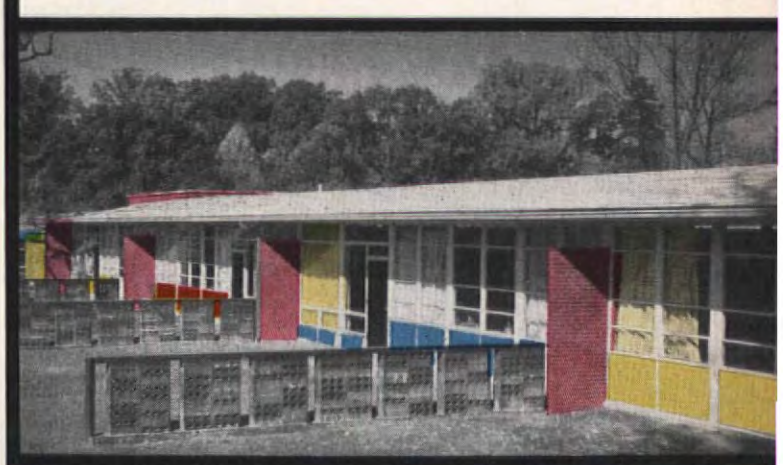
Davidson Architectural Porcelain is available in two types of panels, one of which is a filled panel, which has no equal where insulating and sound-deadening qualities are required. The Davidson Koroseal* joint provides a water-tight seal in applying panels—a seal that will not deteriorate or lose its resilience due to weathering.

Davidson Architectural Porcelain is custom-designed, processed and enameled at the same time to insure trouble-free application and color uniformity. There are no standard prefabricated or stock panels. Davidson Architectural Porcelain comes in whatever shapes are needed for each exterior or interior application. It is being used on schools, hospitals, theatres, stores and various types of public buildings. A complete file on Davidson Architectural Porcelain for architects contains details for all types of panels and illustrations of basic and special shapes, also details showing application of each type of panel. This complete file is available on request. Davidson Architectural Porcelain is a life-time building material—not just a finish!



The Davidson Organization includes Franchised Distributors at strategic locations, Engineers, Technicians, Fabricators and Erectors. A specification for Davidson Architectural Porcelain insures a complete job with *Undivided Responsibility.*

* Reg. T. M. The B. F. Goodrich Co.



Application of Davidson Architectural Porcelain panels in blue, maroon, and yellow enable children to visually identify classrooms.

Davidson

ENAMEL PRODUCTS, INC.

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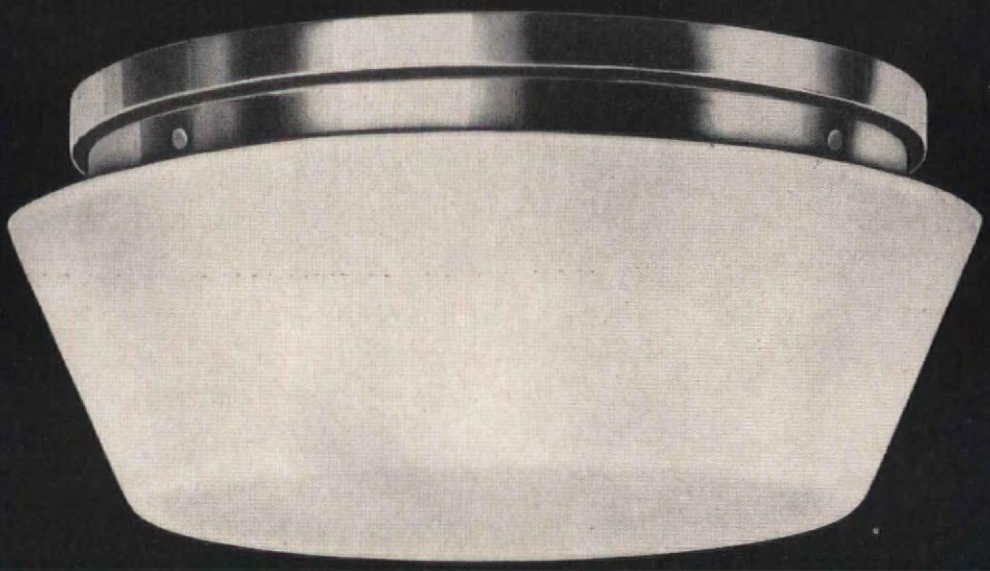
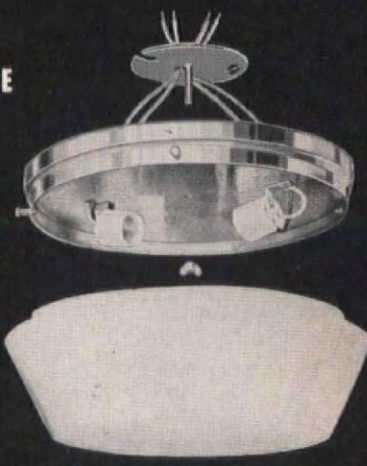
There is a Davidson Franchised Distributor ready to help you design for the application of Architectural Porcelain to new and existing buildings.



INTEGRATED DESIGN, CONSTRUCTION and PERFORMANCE

ART METAL has achieved, in this unit, a rare and original combination of incandescent lighting properties. It was designed for wide application, constructed for ease of installation, and provides exceptional efficiency coupled with visual comfort. Complete data on four sizes, 120, 150, 200 and 300 watts, is on page 47 of ART METAL catalog. We suggest you write for a copy.



THE **ART METAL** COMPANY
CLEVELAND 3, OHIO

anufacturers of Engineered Incandescent Lighting

THE RECORD REPORTS

WASHINGTON

(*Continued from page 38*)

Democrats Demur

Three Democratic Senators were joined by two Democratic House members in filing a minority report which termed the President's "so-called housing program" deficient in several respects.

Their report said:

1. It is entirely unrealistic in its hope that low-cost housing can be built at such a low cost, and its assumption that persons who might live in such homes can afford the high monthly payments required. Because of these defects the program will prove most inadequate in the metropolitan areas which are precisely the areas where the program is most needed.

2. While some flexibility does exist in the public housing authorizations heretofore passed by the Congress, the President's program fails to provide the necessary leadership in setting levels currently appropriate, not only to the welfare of our people, but desirable and necessary in the face of the recent economic declines.

3. The President's program is also deficient in the substantial neglect of the whole problem of rural housing.

4. Provisions for direct loans to veterans have been of great benefit in the past and should be continued. They supplement the guaranty features in suburban, rural, and other parts of the country where financial institutions are not handy and available.

Joining in this opposition view were Senators Sparkman (Ala.), Douglas (Ill.), Fulbright (Ark.), and Representatives Patman (Tex.), and Bolling (Mo.).

$25 MILLION NEEDED FOR ADVANCE PLANNING: MOSES

Advance planning of public works for periods of recession should be recognized as a continuing responsibility of the national government, working with states and municipalities, according to Robert Moses, New York City construction coordinator, testifying before the Joint Committee on the Economic Report.

"It is senseless," said Mr. Moses, "to proceed on the theory that cyclical major slumps in business and employment are an unexpected, unmerited and tragic

(*Continued on page 294*)

Here's why more and more of America's famed buildings are installing the Yorkaire system of air conditioning

The YORKAIRE SYSTEM brings new standards of comfort to the modern miracle of air conditioning, yet see how simple it is, how easy to understand! . . .

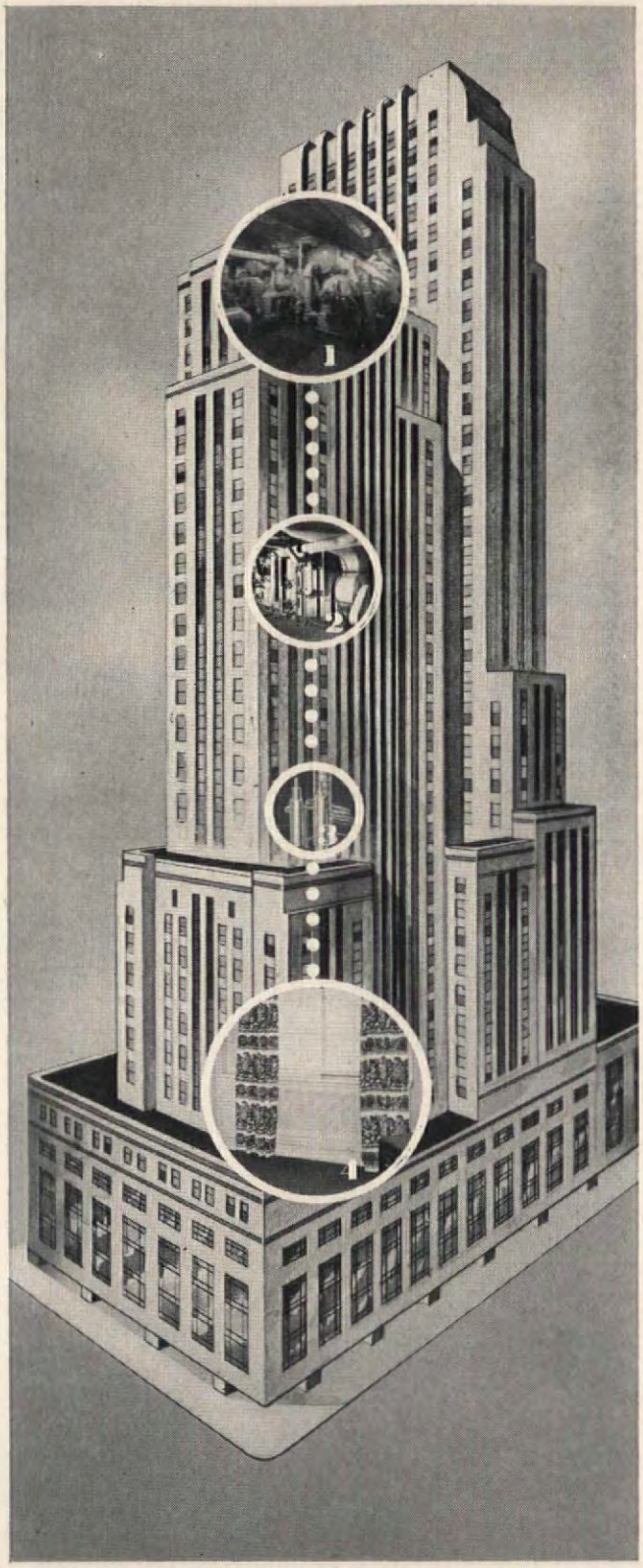
1. Source of comfort cooling is the famous and rugged York Turbo Water Cooling System which may be located on the roof of the building or in the basement.

2. Great volumes of air are brought into the building from outdoors at convenient points. This "raw" air is filtered, washed, cooled or heated, and conditioned for the right amount of moisture. When it's "just right for comfort," it begins its swift, silent journey to you.

3. Through small, space-saving, tightly sealed tubes the conditioned air is sent under mild pressure, branching out at each floor to the individual rooms. At the same time, small pipes carry hot water in winter and cold in summer to help you obtain the temperature you want.

4. In room units under the windows the air tube and water pipes converge. These units distribute the conditioned air in a gentle, quiet stream. A simple control allows you to refine the temperature to the conditions you desire, with no mixture of air from other rooms.

YORKAIRE SYSTEMS of Air Conditioning are being installed in building after building, old and new, across the country.



air conditioning by york

. . . Recent contracts include these famous buildings—Mile High Center, Denver; Netherland-Plaza Hotel, Cincinnati; Fulton National Bank, Atlanta; Equitable Life Assurance Society, San Francisco; Esso Standard Oil Company, Philadelphia. If you are not now enjoying this healthful comfort, perhaps you will, sooner than you think.

YORK CORPORATION York YORK, PA.

HEADQUARTERS FOR MECHANICAL COOLING SINCE 1885

Western Hills Grade School, Omaha, Nebraska
Noel S. Wallace, *Architect*. Shelton and Sons, *Contractor*.

Truscon Intermediate Classroom Windows—

Light, Bright, Weathertight in New Omaha School

Many generations of students at Western Hills Grade School in Omaha are going to enjoy superior light and ventilation. Architect Noel S. Wallace specified Truscon Intermediate Classroom Windows throughout the well-daylighted building.

All types of Truscon Intermediate Steel Windows are products of the highest quality materials and workmanship. Specially rolled solid steel sections, substantial in weight and original in design, provide advantageous weathering and attractive appearance. Truscon Classroom Windows are fabricated to these same exacting specifications, Bonderized and painted. You can use them with complete confidence in your choice.

Upper lights may be glazed with one of several types of light-diffusing, glare-reducing, or heat-absorbing glass. Provision may be made for double-insulating glass up to 1" thick.

Classroom Windows are but one of the many types of Truscon Steel Windows currently being specified for school construction. Others are: Double-Hung Steel Windows with or without sill vents; Intermediate Projected Windows; Intermediate Combination Windows; Maxim-Air® Steel Windows; Donovan Awning and Truaire® Windows; Architectural Projected Windows. Ask your Truscon representative or see Sweet's File for more information or ideas.

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a name you can **build** on

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Export Department: Chrysler Building, New York 17, N.Y.

THE RECORD REPORTS

WASHINGTON

(*Continued from page 290*)

visitation not to be anticipated and to be dealt with only on the basis of hastily improvised, ineffective and wasteful emergency measures."

Recalling New York's experience in the big depression, Mr. Moses said that, because of the lack of advance plans, worthwhile projects were delayed or abandoned. The money was there, the men were ready to go to work, but the blueprints were not available.

Mr. Moses urged a Federal outlay of $25 million, to be apportioned to local agencies without repayment restrictions, for them to use in screening existing plans and bringing them up to date.

Loans, even if interest-free, would not accomplish the desired result, he contended. It must be assumed, he added, that backlog plans for local public works projects all over the country have become obsolete and require at least partial revision. He estimated at least six months would be required to update these plans, and preparation of new project plans would add another six to 12 months.

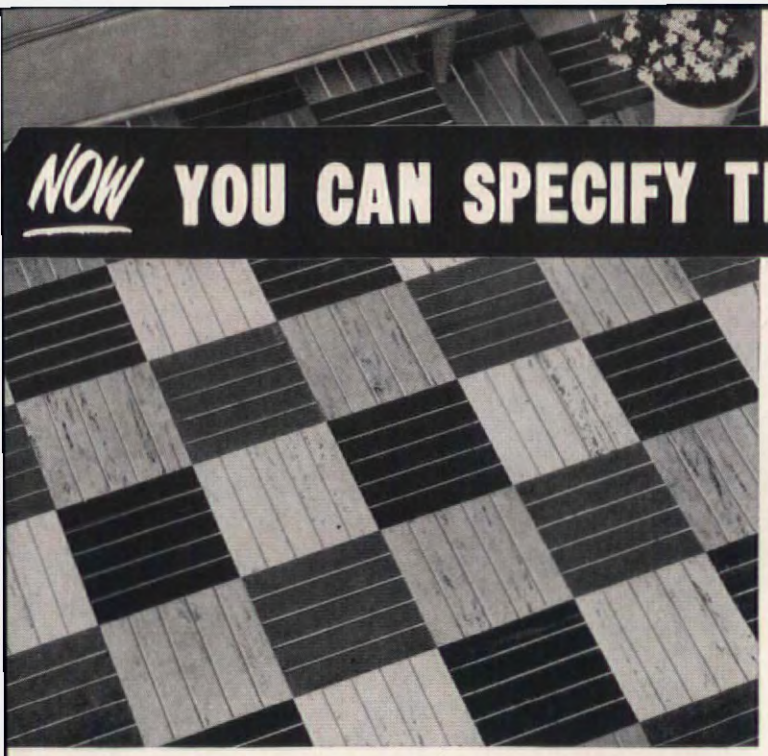
PBS FISCAL 1953 REPORT: 32 MAJOR JOBS COVERED

The Public Buildings Service of General Services Administration revised cost estimates on 1600 Federal building projects in fiscal 1953, projects that were reported to Congress as eligible for construction, according to the GSA annual report issued last month.

Major design and construction projects — 32 of them — with total cost of $214.2 million, reached various stages during the year from design to completion. One of the important projects in this list was the $21.7 million District of Columbia Hospital Center, to be placed under construction contract later this year.

Also during fiscal 1953 diagrammatic sketches were made to develop a cost estimate of the proposed Bureau of Old Age and Survivors Insurance building for the Department of Health, Education and Welfare, to be located in or near Baltimore. The project was to be assigned to a private architect for de-

(*Continued on page 298*)



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ON AN ASPHALT TILE BUDGET

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Parquetry

All are now in "C" color group

Parquetry, simulating hardwood parquet flooring in light oak, maple, walnut and natural gives hardwood floor beauty at asphalt tile economy.

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RESILIENT TERRAZZO TYPE TILE

Three popular colors reclassified down to "C" Group

Seven colors reclassified down to "D" group

Multi-colored chips on contrasting fields of color make a gay cheerful floor. A resilient terrazzo type floor at the cost of asphalt tile.

HAKO

FOUR *New Pastel* TILES

("E" Group)

Now in "D" Color Group

Specify HAKO Asphalt Pastels in french green, tea rose, sea crest and canary when you want delicate light color decorative effects for a floor.

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More Space and Comfort

—today's favorite "customer appeal"

INVISIBLE Panel Heating makes every inch of space usable . . . with comfort too!

It was a woman who first called it *"invisible"* heating . . . for *flexible* living.

With a woman's intuition she saw right to the heart of the matter. Here was the comfort of pleasant, natural, healthful heat *plus* absolutely no *visible* source of heat supply in the living area. No more spending a lifetime with the furniture always in one place! For radiant panel heating imparts that *flexibility* needed for modern living, the assurance of a fresh, redecorated look whenever desired. Simply by shifting the furnishings to new positions . . . because every inch of floor and wall space is unobstructed and *usable.*

No wonder radiant panel heat is increasingly popular. It satisfies a man's mechanical and technical requirements; it delights the homemaker's need for comfort with decorative flexibility.

But though modes and methods of heating may change, the best medium of transmission for wet heat goes on forever . . . time tested *steel pipe.* For steel pipe has been *proved* in more than 60 years of conventional hot water and steam heating applications. It also has the qualities of economy, durability, weldability and formability required for a successful *invisible* heating system. In fact it is the most widely used pipe in the world for plumbing, heating, fire sprinkler systems, air, gas and water lines!

Write for the free 48 page color booklet, "Radiant Panel Heating with Steel Pipe."

Steel Pipe is First Choice

COMMITTEE ON STEEL PIPE RESEARCH

AMERICAN IRON AND STEEL INSTITUTE

350 Fifth Avenue, New York 1, N.Y.

G-E Packaged Units Give Low-cost Air Conditioning in AAA Building

What's the best way to air condition the large building that was never designed for it?

Flexible new General Electric Packaged Air Conditioners provide the answer for A.A.A.'s newly remodeled building in Washington, D.C. Just three G-E units on each floor cool this 30-year-old building. 5, 7½ and 10 horsepower models are used—depending on the space each handles—representing 180 tons in all.

Here's why G-E Packaged Units were selected and why more and more buildings of all kinds are being cooled in this way.

LOW FIRST COST. Equipment is priced surprisingly low. Installation costs are low, too, for remodeling can be held to a minimum. Duct runs are shorter than would be required for a central system. In many applications they are not required at all. No machinery rooms, either.

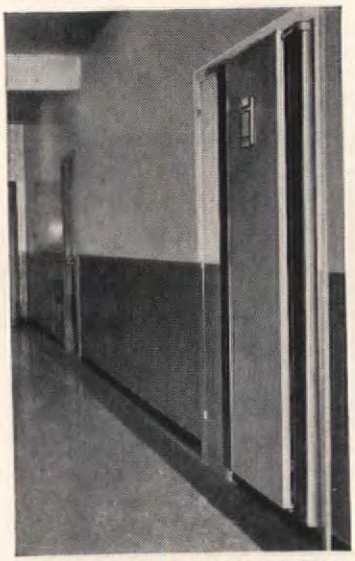
FIT EVERY APPLICATION. The adaptability of G-E units is unmatched. 3 different sizes were used in the AAA Building, and G.E. makes even more—enough to fit any situation, in-space or out-of-space. They take little floor-space, can be squeezed into corridors and little-used areas.

PARTIAL OPERATION. Zoning is simplified. When only part of a building is in use, units in other areas can be shut off, saving money.

G-E 5-YEAR WARRANTY is another advantage over central systems. G.E.'s sealed-in-steel cooling unit is so trouble-free that G.E. provides 5 years' protection (including labor) on the entire refrigeration cycle. Don't forget, with G-E no expensive maintenance crews are needed.

To find out how you can use G-E Packaged Air Conditioners profitably, write General Electric Company, Sec. AR-1, Air Conditioning Division, Bloomfield, N. J.

NEWLY REMODELED American Automobile Association Building in Washington, D. C., is air conditioned by 3 G-E Packaged units on each floor. Architect for remodeling was A. R. Clas; George H. Riggs, Jr., associate. Consulting engineers: Lanier & Levy. General contractor: Wm. P. Lipscomb Co. Mechanical contractor: Morris and Eagan Co.



RECESSED IN CORRIDOR WALL, this 7½-ton G-E unit sends conditioned air to surrounding offices. Air returns through louvers in doors to unit.

IN-SPACE APPLICATION of 5-ton G-E unit. It air conditions large membership room in which it is located plus other offices. Note streamlined vertical air inlets.

FOR BIG DRAFTING ROOM and other areas, G-E 10-ton unit provides quiet, steady cooling. Individual units like this can be turned off when not needed—others can be left on.

Packaged

AIR CONDITIONERS

GENERAL ELECTRIC

WASHINGTON

(*Continued from page 294*)

velopment of design, working drawings and specifications. The structure will be fireproof and completely air conditioned. It will have modern lighting, cafeteria, health unit and auditorium, and will house 10 major divisions of the Bureau which now operate in eight separate buildings.

Fiscal 1953 saw PBS handle 296 major renovation projects, and 2350 contracts for repairs.

HOPE FOR MORE CUTS IN DEFENSE FUNDS: TABOR

Congress last month prepared to chop away at the already-reduced Defense Department budget. Rep. John Tabor (R-N.Y.), House Appropriations Committee chairman, cited huge carry-overs of unspent and unobligated balances and said he hoped Congress would find "places where things can be reduced."

Unexpended funds as of June 30 would amount to $51.6 billion in total for the armed services, Mr. Tabor said. Of this, $14.2 billion would be for Army, $13.5 billion for Navy, and $23.6 billion for Air Force with $300 million for inter-service activity. Some $8.5 billion of continuing type money will not have been obligated at all on June 30, according to the Budget Bureau.

With the $30 billion requested in new appropriations added to this, there would be about $38.4 billion available for new obligations; of this $13 billion would be for Army, $10.5 billion for Navy, and $14 billion for Air Force, plus over $800 million for inter-service.

Mr. Tabor's view: "This represents, in my opinion, ample funds for the various activities of the Defense Department, and after the Congress has been over the situation carefully we will hope that we will be able to find places where things can be reduced."

52 CLEARANCE PROJECTS HAVE HHFA'S GO-AHEAD

Reviewing the 1953 program of the slum clearance and urban redevelopment programs of the Housing and Home Finance Agency, Director James W. Follin said Federal loans and grants had been approved for 52 slum areas in

(*Continued on page 300*)

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ALUMINUM WINDOWS

CLEAN, SIMPLE STYLING—NO FRILLS—NO PROJECTING PARTS

FINGERTIP "ROLL-OPEN" OPERATION ON STAINLESS STEEL ROLLERS

EASY TO CLEAN—sliding sash removes into room for convenient indoor washing.

WEATHERTIGHT—high pile mohair provides insulated, draft-free comfort . . . cuts heating and air-conditioning costs.

STURDY—hollow-type aluminum extrusions provide maximum strength for the life of the structure.

FURNISHED COMPLETE—built-in storms and screens with balanced vertical and horizontal sight lines.

WORK SAVING—requires no paint or putty . . . won't rust, rot, warp, stick or swell.

SAFE—positive, tamper-proof locking in closed position and in three ventilating positions.

50 STANDARD SIZES: All designs and sizes popularly specified for residential, commercial and monumental buildings supplied promptly. Standard windows up to six-foot height are available. Write for information on special sizes.

CONSTRUCTED OF sturdy, hollow-type aluminum extrusions —63-S-T5 alloy, minimum thickness .062"—engineered for maximum strength.

● **PETERSON SETS THE PACE in the trend to aluminum windows. Peterson styling, advanced engineering and horizontal-slide operation are without equal. Thousands of installations coast to coast.**

Write for Literature and Name of Nearest Dealer

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Inquiries From Interested Dealers Are Invited

PETERSON WINDOW CORPORATION

1383 E. Eight Mile Road • Ferndale 20, Michigan

THE RECORD REPORTS

WASHINGTON

(*Continued from page 298*)

32 cities, for a potential construction outlay of nearly $500 million.

The 52 areas constitute approximately one-third of the 154 slum areas in or near actual development stages.

A breakdown of the estimated $497 million by type of construction showed $271.3 million is planned for housing ($257.7 million for private and $13.6 million for public); $53.5 million for commercial construction; $48 million for industrial; and $107.7 million for public and semi-public construction, plus $16.7 million for site improvements.

While four types of slum or blighted areas can qualify for assistance under Title I, local public agencies are directing almost all of their efforts toward eliminated slums in or near central areas of their cities. Ninety per cent of the 154 well-advanced projects are residential slums and blighted areas. The balance consists of seven other blighted areas and nine predominantly open land areas — for the most part undeveloped subdivisions that have become blighted.

Other statistics: the 154 project areas embrace a total of some 5700 acres. Individual project areas range in size from two to 325 acres, most containing less than 25 acres each. More than 71,000 families and 77,000 dwelling units are involved. Housing will be the principal re-use in 84 projects or more than half the total. Data from local public agencies covering 85 of the 95 projects in which housing will be at least a part, if not all, of the re-use indicate that 51,000 new dwellings could be built on the land designated for residential re-use under proposed density standards. It is expected that at least 93 per cent of the new housing units will be built by private developers, with about five rental units for every two sales units. Public housing will be the predominant use in only two projects but some public housing is planned in a subordinate role in eight others.

ADDENDA

• Concerned with new problems created by the spillage of jet fuel on air strips, the resulting fire hazard and damage to

(*Continued on page 302*)

THE RECORD REPORTS

WASHINGTON

(*Continued from page 300*)

pavements, the Defense Activities Subcommittee of the House Armed Services Committee held hearings to which armed services and industry experts were invited. Chairman William E. Hess (R-Ohio), said the chief concern was with proposed extension of runways and improvement of others. The emphasis was on cost. Tense arguments developed between representatives of asphalt makers and the Air Corps and Bureau of Yards and Docks spokesmen. Air Force directives called for Portland concrete cement only on so-called critical areas — runway ends (1000 ft), warm-up pads, all apron areas including access ramps to hangers or docks, and other areas subject to jet fuel and exhaust. Asphalt people said this was unfair, that their product was cheaper to install and maintain. Committee members were shown a new product — tar-rubber — which the asphalt representatives claimed would solve most of the problems. It results from seven years of experimentation. In one test conducted at the hearing, sample was immersed in jet fuel and showed no signs of disintegration whereas a core of asphalt pavement began to dissolve in the solution.

• Worthwhile construction projects are being prejudiced by use of the term "pork barrel" to describe the nationwide program of Federal projects protecting natural resources. This is the view of Senator Smathers (D-Fla.), who recently contended that the phrase is used to "stampede" many otherwise sound-thinking citizens and legislators into opposing public works planning and construction. It's time for the re-writing of political lexicons and the elimination of this misleading phrase, he told a House Public Works subcommittee.

• The Federal Housing Administration had completed repayment of all money advanced to it by the Federal government when Commissioner Guy T. O. Hollyday, early in March, turned over $16,450,000 to the U. S. Treasury. The final payment brought to $85,850,000 the amount FHA had repaid to the Treasury since July 1, 1953. Of this total, $65.5 million was principal and $20,350,000 was payment of interest on the money borrowed.

(*More news on page 318*)

What every Architect and Builder should know..

about Vinyl floor coverings

To help you select and specify the *right* floor for the *right* job, this chart gives you the *facts* on Flor-Ever Vinyls — *the only complete line in the vinyl field.*

	COMPOSITION	TYPE OF UNDERFLOOR	WEARING QUALITIES	COLOR SELECTION	SIZES	ADDITIONAL INFORMATION
FLOR-EVER® STANDARD	.025" vinyl; wears longer; with colors going clear thru to asphalt saturated backing — .065" gauge	Above grade on wood or concrete. On grade concrete slab (with or without radiant heat) tile only — requires special adhesive. Below grade — do not use	Shown by identical tests to have up to twice the abrasion resistance of non-vinyl resilient flooring for home installation	Marbleized effect in choice of 17 colors	By Tile — 9" x 9" By Yard — 72" wide	Available for counter top in 24", 30", 36", 40" widths. Also 1" feature strip
FLOR-EVER CORDOROY	(Same as above)	(Same as above)	(Same as above)	Rope-Twist textured effect in choice of 8 colors	9" x 9" Tile	Use Flor-Ever Standard Feature Strip
FLOR-EVER VINYL-ASBESTOS	1/16" vinyl and asbestos semi-flexible tile; colors go clear thru	On grade, above-grade and below grade. Specifically recommended for installation on concrete in direct contact with earth	Wearing surface goes *all the way* through. Cannot be harmed by moisture or alkali	Choice of 12 vinyl-toned colors	9" x 9" Tile	Fills need for moderate priced flooring for concrete slab floor in contact with earth
FLOR-EVER SUPREME	⅛" flexible tile made from virgin vinyl, colors go clear thru	Above grade. For on grade refer to S-D specifications	Shows highest factor of abrasion resistance	Choice of 15 Marbleized and Crystal-tone colors	9" x 9" Tile	Recommended for heaviest traffic areas in offices, institutions, etc.
FLOR-EVER UNIVERSAL	.125" and .080" flexible tile of homogeneous vinyl; colors go clear thru	(Same as above)	Abrasion tests have shown Universal to be surpassed only by Flor-Ever Supreme	Choice of 12 Crystal-tone colors	9" x 9" Tile	A medium priced tile for heavy traffic areas everywhere. Also in feature strip ½" to 4" wide up to 36" long

For complete, impartial factual information — a ready reference on ALL types of vinyl floors... write Special Services Division, Sloane-Delaware Superior Floor Products, Trenton, N. J.

Sloane-Delaware
SUPERIOR FLOOR PRODUCTS

tear out on this line

(*Continued from page 12*)

2. Provide sprinkler protection throughout the premises.
3. Build non-combustible structural-type buildings.
4. Take adequate precautions for the particular conditions under which any cutting and welding operations will be performed. (Four of every eight large-loss industrial fires in 1952 resulted from cutting and welding operations.)
5. Protect dip tanks by foam, CO_2 or water spray systems.
6. Provide sufficient ventilation if conditions warrant it.
7. Organize private fire brigades.
8. Make suitable arrangements for immediate fire department notification.

The *Factory Insurance Association*, one of the two major industrial fire insurance groups, is urging these features on prospective factory builders:

1. Roof construction of non-combustible materials or sufficiently protected by sprinkler systems to prevent roof collapse in case of fire.
2. Fire walls to break up excessively large areas.
3. Within areas separated by fire walls, curtain boards, or suspended ceiling partitions, to split up ceiling areas.
4. Complete sprinkler protection.
5. Insurance of adequate water supply.
6. Organization of private fire fighting brigades.

F.I.A. has been distributing a booklet describing the Livonia fire and the lessons learned therefrom.

The other major industrial fire insurance group, *Associated Factory Mutual Insurance Companies*, reports fire tests are being conducted by the insurance companies in conjunction with steel roof deck manufacturers. Rates will not be affected by the Livonia fire, they say — but there will be increased emphasis on more fire protection.

National Board of Fire Underwriters Director of Research Matthew Braidech had this to say in a speech before the 41st National Safety Congress and Exposition:

"There is a need for more long-range planning to meet the trend toward structural 'bigness' and increased concentration of values to be safeguarded in such occupancies; and, second, some advance thought must also be given to the problem of maintenance of industrial production under conditions of direct military action. Both of these considerations seriously increase the dimensions of the industrial fire and explosion safety problems. In this connection it should be realized that the trend toward decentralization or dispersion of our industry and demands for expansion acreage for future developments is gradually shifting some of the industries to rural areas lacking the required fire fighting equipment and having inadequate water supplies. On the other hand, flow modernization and flexibility of layout and machine arrangement demanded by mass production operations is calling for expansibility in terms of large undivided areas and economic engineering design and light construction.

(*Continued on page 306*)

Sherwin-Williams Paints selected for new

EDGEWATER TOWERS!

In the new 2½-million-dollar Edgewater Towers Apartments overlooking Lake Erie on Cleveland's West Side, Sherwin-Williams Paints were selected for all interior and exterior painting. Over 400 tenants in 205 suites are enjoying the pleasing harmonies of Sherwin-Williams color.

There is a Sherwin-Williams product for every interior and exterior painting need . . . a paint product designed especially for the job specified. Ask your Sherwin-Williams Representative for your copy of *Painting Specifications and Buyer's Guide*. This handy book will relieve you of many of the details of specification writing and will assure you the finest finish available for the job.

Fridy, Gauker, Truscott and Fridy, Philadelphia, Pa.
—Associate Architects
Byrne Organization, Inc., Washington, D. C.
—Builders
The Wm. Downie Co.
—Painting Contractor

SHW
COVER THE EARTH

SHERWIN-WILLIAMS
ARCHITECTURAL SERVICE DIVISION
CLEVELAND 1, OHIO

(Continued from page 304)

"With all of the above trends, it must be recognized that the possibility of fires and explosions is never remote, and their element of suddenness makes it imperative that a constant development in our safety technology and a continuously sustained prevention and protection program provide the answer to this challenge."

The *Ford Motor Company tests* were conducted on two units, each 800 sq ft in area, with typical beam construction, standard purlin spacing and concrete footings. Built-up roofing on metal decks was used in both cases; one with vapor seal, the other without.

The following conclusions were drawn:

1. Vapor seal drips through the roof at 360 F and burns under the roof at 425 F.
2. Deck temperatures in excess of ambient temperatures can be reached due to the combustion of components of the vapor seal asphalt.
3. Rapid heating of the standard roof generates pressure between insulation and the deck, which leads to high velocity release of combustible vapors and molten asphalt.
4. Asphalt pitch will not sustain combustion without applied heat.
5. There is no evidence that asphalt pitch vapor seals spread fires in advance of applied fires.
6. Elimination of vapor seal reduces the intensity of the roof fire produced and increases the time required for such action.
7. Rigid fiber board insulation will not sustain combustion for a significant period.

Conclusions drawn with respect to the efficiency of protective measures indicated that spray head sprinklers can effectively control "cold oil" fires of a substantial size and can control roof fires as long as adequate water pressure is maintained.

Miscellaneous Deductions

Fire underwriters have concluded from the GM fire that an asphalt pitch roof on steel deck in the absence of automatic sprinkler protection will not withstand heat to any high degree or for any length of time without buckling and permitting tar, asphalt and pitch to melt and contribute to the fire by dropping into the area below.

The use of concrete roof decks has been suggested as an alternative. There are some who question whether this would result in any greater protection, since, they say, asphalt pitch would drip through concrete decks as readily as it would through steel decks. Concrete decks would, in addition, result in higher structural costs. Dry roof construction is being considered as an additional possibility.

On the other hand, one fire prevention authority feels that the roof has been unfairly blamed as a cause of the spread of the GM fire. In his opinion, the open area plant design, lack of roof vents, and inadequate sprinkler protection were the factors responsible. This attitude is

(Continued on page 308)

JOHNSON'S WAX

adds new evidence to the efficiency record of Jenkins Valves

JOHNSON WAX TOWER

Architect: FRANK LLOYD WRIGHT

General Contractors: WILTSCHECK AND NELSON, INC.

Consulting Mechanical Engineers: SAMUEL R. LEWIS & ASSOCIATES

Piping Contractor: JOHN FEINER PLUMBING COMPANY

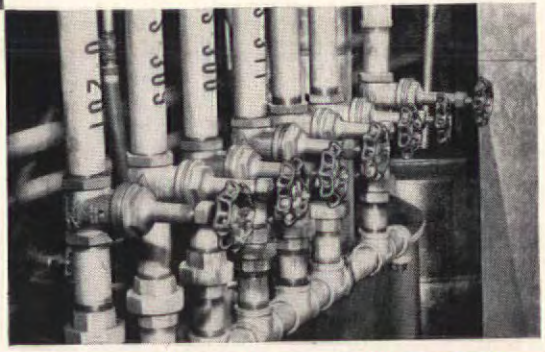
Symbolic of the advanced design principles that guided the building of the Johnson's Wax Administration and Research Center at Racine, Wisconsin, is the world-famed core-supported Research and Development Tower. Designed by Frank Lloyd Wright, this modern, 14-story laboratory provides every facility known to science for the continuous development and improvement of Johnson's Wax products.

The efficient use of space to provide open, well-lighted working areas in modern industrial structures necessitates careful planning of various plant service lines. In the world-famed Johnson's "Heliolab", for example, all piping and duct systems are standardized vertically in a single central shaft measuring 13 feet in diameter. Thus, pipelines serving plumbing and heating, air-conditioning, and all apparatus supply needs are confined to a minimum of space. Direct takeoffs at each of the 14 operating floors eliminate the complex hookups usually found in laboratory buildings. More than 1700 valves are used in tower service lines.

To assure trouble-free operation of such unique and closely coordinated facilities, all components were selected on the basis of proved dependability, safety, and long-range maintenance economy. Johnson's Wax engineers had first hand evidence of the high rating of Jenkins Valves from previous installations in plant and office buildings.

This confidence in the demonstrated *extra measure* of efficiency and economy provided by Jenkins Valves is shared by plant operating managements in every type of industry.

Despite this extra value, *you pay no more* for Jenkins Valves. For new installations, for all replacements, let the Jenkins Diamond be your guide to lasting valve economy. Jenkins Bros., 100 Park Ave., New York 17.



For a new addition to the wax manufacturing building, most recent enlargement of the Johnson's Wax plant, Jenkins Valves were again chosen. Above they are shown in a process piping hookup which supplies raw materials to a series of mixing kettles. Piping contractor for the new addition was Advance Heating Company, Racine, Wis.

JENKINS
LOOK FOR THE DIAMOND MARK
VALVES
SINCE 1864 TRADE JENKINS MARK
Jenkins Bros.

Sold through Leading Industrial Distributors Everywhere

(Continued from page 306)

shared by several architects who express themselves as unwilling to discard long years of favorable experience with this type of roof.

It has been pointed out by insurance officials and a number of architects and engineers that the presence of roof vents would have prevented the Livonia fire from spreading in the mushroom fashion that it did. In the opinion of one architect of large experience in industrial building design, the lesson learned at Livonia may well result in a new conception regarding the use of skylights and other forms of roof openings as fire protection devices. At Livonia, he notes, oily condensates which were byproducts of heat-treating processes had accumulated on underside of the roof and when subjected to high temperatures vaporized and added considerable fuel to the fire. The presence of roof vents, it is contended, would have permitted the intense heat being generated to escape and thus cause no further trouble. In considering this development at Livonia, N.F.P.A. now recommends that buildings or rooms where flammable liquids are used or stored should be provided with ventilation sufficient at all times to prevent accumulation of flammable vapors.

One N.F.P.A. official is particularly strong in his recommendation that the large open areas characteristic of so many of today's industrial plants be reduced. He calls it a grave mistake for management to concentrate any essential production process in one large segmented area. If loss of production of any one component being manufactured means a loss of total production, he says, fire risk can be minimized only by housing this process in two or more buildings or in one building in which large areas have been segmented.

Fire prevention and protection engineers are in agreement that the design of industrial buildings must include a careful study of the manufacturing processes to be housed and that fire prevention measures must be incorporated into building design whenever these processes involve combustible materials.

BUILDING OUTLOOK "FIRMED"

An official of the Federal Reserve System reported to Congress that the outlook for the crucial construction industry has firmed since the start of the year. Winfield W. Riefler, assistant to the chairman of the board of governors of the Federal Reserve System, told the Joint Committee on the Economic Report that since the President's economic report was prepared, there had been "further confirmation of the view there expressed that increased outlays by state and municipal authorities would help bulwark the economy this year." Also, "The fact that state and municipal expenditures and also construction expenditures now projected for 1954 are currently firm . . . is in part a direct response to the readier availability of *capital* funds."

This proved daylighting method opens new horizons for educators, architects and builders seeking to create the ideal environment for learning.

America's most advanced schoolroom

Twelve years of research at the Daylighting Laboratory, University of Michigan, made this "classroom of tomorrow" possible, today.

THE COMBINATION of Toplite Panels and Light-Directing Glass Block makes every previous concept of schoolroom planning, decoration and arrangement outdated. No longer is it necessary to confine close detail work to the area nearest the windows.

For example, in this experimental classroom the combination of Toplite Panels in the roof and Light-Directing Glass Block in side walls provides adequate natural illumination even on an overcast day.

The ideas perfected in this "classroom of tomorrow" are available to you, *today*. Write for the details. Address: Classroom Research, Owens-Illinois, Dept. AR-4, Box 1035, Toledo 1, Ohio.

GLASS BLOCK AND TOPLITE PANELS
TWO (O) PRODUCTS

OWENS-ILLINOIS
GENERAL OFFICES • TOLEDO 1, OHIO

(*Continued from page 20*)

architectural session. In this one, the subject was presented by Architect Alonzo Harriman, Auburn, Maine, and Educational Consultant N. L. Engelhardt Jr. of New York, who were then "interrogated" by a panel of school superintendents and members of the audience in a very lively discussion. Both the speakers emphasized the importance of recognizing and avoiding *unwise* economies if the school building dollar is to be really well spent. They stressed as a fundamental premise of any school building program the need for designing on a broad scale in preparation for changes to come, for expansion or contraction as indicated by future enrollment shifts. Mr. Harriman warned against reliance on architectural "tricks" of shape or grouping which even though workable under present conditions might contribute to earlier obsolescence.

Other sessions on school facilities at the convention: "Designing the School Building to Serve Non-School Community Needs" (a joint meeting with the Division of Country and Rural Area Superintendents of the N.E.A. Department of Rural Education); "Financing Construction and Operation of Schools in Federally Impacted Areas" (a joint meeting with the National Council of Chief State School Officers); and "School Building Planning as a Cooperative Project" (a joint meeting with the N.E.A. Department of Classroom Teachers). There were no architects among the speakers at these sessions.

The architectural exhibits were thronged with visitors throughout the convention. A.A.S.A. attitude toward them as revealed in a note on the inside cover of the convention's official program: "What's new in schoolhouse construction? See the school building architectural exhibit . . . [which shows] forward-looking developments in structural design and classroom arrangement; use of new materials and equipment; possibilities of getting more for the school building dollar."

Two of the four schools which received Honorable Mentions in A.A.S.A.-A.I.A. exhibit. Above: Bryn Athyn, Pa., Elementary School; Vincent G. Kling, Architect. Below: Beverly Elementary School, Birmingham, Mich.; Eberle M. Smith Associates Inc., Architects. Other Honorable Mentions went to Laredo, Tex., Junior High School, Caudill, Rowlett, Scott & Associates, Architects; and Cumberland Valley, Pa., High School, E. G. Good Jr., Architect

Note to ARCHITECTS who are stressing QUALITY MATERIALS

Reproduced at the right is one of the Institute advertisements appearing in consumer magazines during March and April. Architects in every city in the United States are telling hundreds of their clients the story of quality materials in plumbing drainage systems. These advertisements are backing up the fine personal work of these architects who are seeking constantly to raise the standards of home sanitation. Institute advertising will reach more than 12 million readers during March and April.

If you bury a mistake you'll dig it up later

When a plumbing system is installed it usually must be approved by a plumbing inspector. In a recent survey hundreds of plumbing inspectors were asked what material is their choice for house sewers. *98% of those replying named cast iron.* There is sound reason for this choice. The pipe itself resists settling, distortion, root penetration. And every joint of cast iron soil pipe is packed with oakum and caulked with molten lead. Note the illustration. Today with plenty of cast iron there is no need for using non-metallic substitutes. Send for the free booklet on plumbing drainage and learn why it always pays to

USE CAST IRON SOIL PIPE AND FITTINGS

The Mark of Quality and Permanence

CAST IRON SOIL PIPE INSTITUTE

1627 K Street, N.W., Washington 6, D. C. Dept. BHG-3

☐ To help us avoid ever having to dig up our house sewer, send us your 16-page booklet on Plumbing Drainage.

☐ Our _____ Club is interested in seeing your sound movie "Permanent Investment".

Name _____

No. & Street _____

City _____ Zone _____ State _____

USE PERMANENT CAST IRON SOIL PIPE AND FITTINGS

Take Advantage of These Added Helps for **ARCHITECTS**

You will want to arrange for the use of the Institute's sound movie "Permanent Investment." This 20-minute picture, dramatizing the story of cast iron, is an excellent presentation for both consumer and business groups. To get full information on the film, and a copy of the consumer folder, "What You Should Know about Plumbing Drainage," use the handy coupon.

CAST IRON SOIL PIPE INSTITUTE

Dept. AR-4, 1627 K Street, N. W. Washington 6, D. C.

☐ Send educational folder, "Plumbing Drainage."

☐ Our local _____ Club wants to see your movie, "Permanent Investment." Tell us how to arrange for use of film, free.

Name _____

Address _____

City _____ **Zone** _____

State _____

Housing Research (*Cont. from p. 24*)

this situation appears when consideration is given to the part increased efficiency in builders' operations and improved quality of their product developed through research plays in lowering the risks involved in lending operations of the financial industry which annually invests in the neighborhood of $16 to $18 billion in nonfarm residential mortgages under $20,000, not including the additional amounts involved in commercial short-term construction loans on new construction and rehabilitation of existing dwellings. Alternately, should the government's research activities in the housing field be measured in terms of its cost per dwelling constructed, the realization of savings to the industry of only $1.25 per unit on the approximately 3.6 million units started during the period would more than pay for the tax dollars of investment represented by the $4.3 million expended from January 1950 to date."

HHFA Research: A Summary

Key to symbols: P—published; TBP—to be published; X—not to be published

URBAN STUDIES

Study of Residential Mobility (O-U-65)—Columbia University. TBP.

Growth Patterns of Metropolitan Areas (O-U-66)—Miami University. P.

Cost of Municipal Services for Residential Areas (O-U-68)—Harvard University. TBP.

Survey of a Potential Redevelopment Area (O-U-81)—American University. X.

Administering Municipal Building Codes (1-R-96)—Syracuse University. P.

Training Program for Building Officials (1-R-97)—Syracuse University. P.

Journey to Work (1-E-116)—Cornell University. X.

Savannah River—Impact of Atomic Installation on the Community (1-E-117)—University of North Carolina. P.

Morrisville, Pa.—Impact of Atomic Installation on the Community (1-E-121)—University of Pennsylvania. TBP.

HOUSING ECONOMICS

Housing Market Analysis

A Study of Housing Market Analysis (O-E-48)—Columbia University. P.

Comparison of Housing Market in Different Parts of a Locality (O-E-69)—Georgia Institute of Technology. TBP.

Techniques for Measuring Vacancy Rates in a Community (O-E-70)—University of Denver. TBP.

Techniques for Forecasting the Residential Housing Market (O-E-71)—University of Miami. P.

Housing Supply Analysis

Techniques for Making Intercensal Housing Surveys (O-E-46)—U. S. Bureau of Census. X.

Measuring the Volume of Residential Conversions and Demolitions (O-E-47)—U. S. Bureau of Labor Statistics. P.

Use of Sampling Technique (1-E-91)—University of Denver. TBP.

Housing Production and Cost Analysis

Study of Marketing Functions in Building Products Distribution (O-E-49)—University of Pennsylvania. TBP.

Structure and Problems of the Home Building Industry (O-E-50)—University of California. P.

Cost Accounting Systems for Home Builders (O-E-52)—University of Michigan. P.

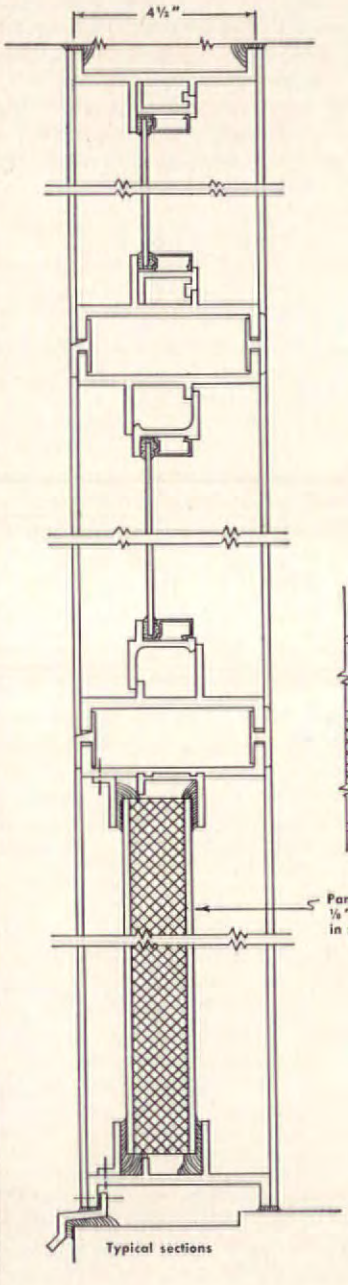
Labor Relations in the Building Industry (O-E-57)—University of Michigan. X.

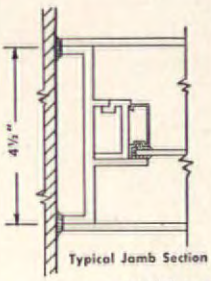
Size of Operations of Residential Builders (O-E-74)—Bureau of Labor Statistics. P.

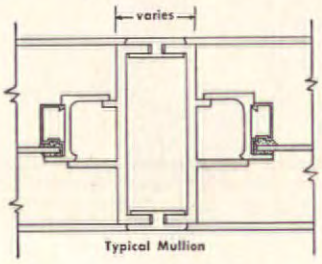
Materials and Labor Savings (1-T-118)—University of Illinois. TBP.

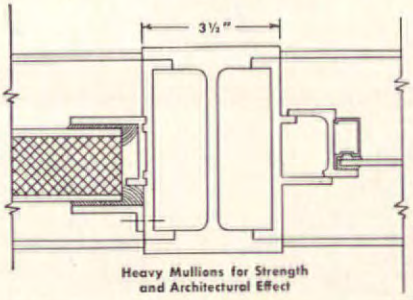
(*Continued on page 314*)

VAMPCO Announces the new WINDOW WALL

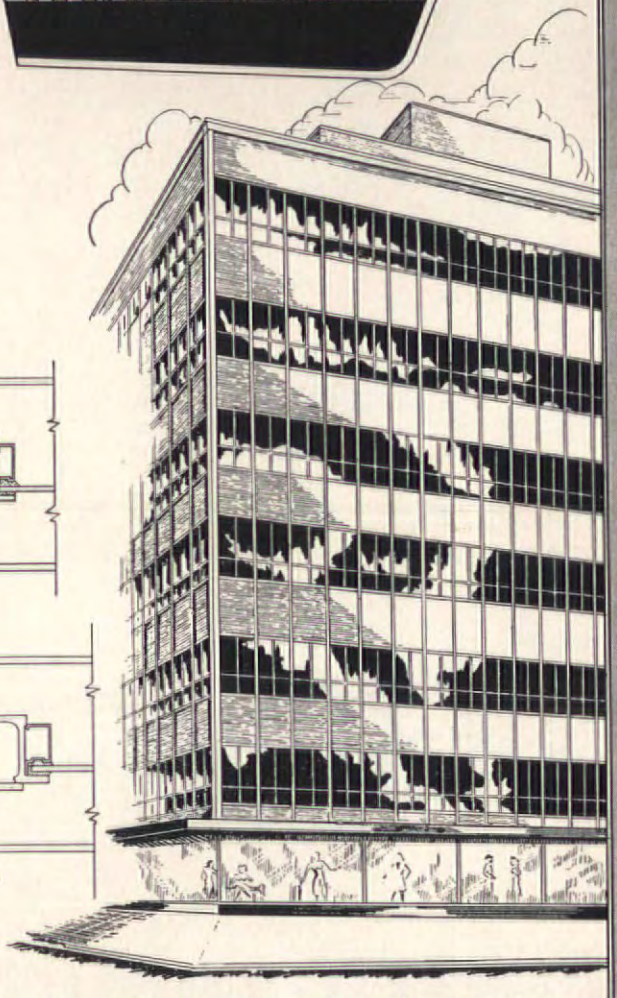








Panel varies ⅛" to 2½" in thickness



VAMPCO'S Window Wall adds beauty and strength to modern architecture. The construction members are Heavy Ribbon extruded aluminum of high tensile strength. Ventilating sections may be had with either Project-in, Project-out or Casement type units. Paneling, which usually occurs at floor intersections can be of almost any material. Our Engineering Department will adapt our window sections to suit the paneling of your choice. Windows may be Inside or Outside Putty Glazed. No Screws are visible and windows are assembled and shipped in large sections for economy.

VAMPCO

A NAME THAT MEANS THE VERY FINEST IN LIFELONG ALUMINUM WINDOWS

VAMPCO WINDOWS ARE IN SWEETS FILE OR YOU MAY WRITE DEPT. AR-44 FOR PARTICULARS.

VALLEY METAL PRODUCTS COMPANY

PLAINWELL, MICHIGAN

A SUBSIDIARY OF MUELLER BRASS CO. • PORT HURON, MICHIGAN

THE RECORD REPORTS

Miscellaneous

Survey of Cooperative Housing Associations (O-E-76)—Bureau of Labor Statistics. P.

Planning Survey of Interracial Housing (O-E-77)—New York University. X.

HOUSING FINANCE

Financing Housing Construction in Selected Northwestern Cities (O-F-79)—University of Washington. P.

Housing Research (*Cont. from p. 312*)

Financing Housing Construction in Selected Midwestern Cities (O-F-61)—Indiana University. P.

The Mortgage Market of Jacksonville, Florida (O-F-63)—University of Florida. P.

The Mortgage Market of Hagerstown, Maryland (O-F-73)—University of Maryland. P.

The Mortgage Market of the San Francisco Bay Area (O-F-80)—University of California. P.

Financing of Conversions (1-F-126)—University of Pittsburgh. TBP.

HOUSING TECHNOLOGY

Dwelling Space and Room Arrangement

Residential Space Utilization (OT-37)—University of Illinois. TBP.

Factors Influencing Recent Home Purchases (OT-84)—University of Michigan. TBP.

Structural Components of Houses

Long-Range Effect of Weather on Weed-Frame Construction (1950–1)—Pennsylvania State College. P.

Temperature and Humidity in Selected Pennsylvania Houses (1950–2)—Pennsylvania State College. P.

Temperature and Humidity in Selected Minnesota Houses (STR-3)—University of Minnesota. P.

Studies of Light-Gage Tubular Steel Columns (STR-7)—National Bureau of Standards. P.

Measurement of Snow Loads for Use in Roof Design (STR-8)—U. S. Weather Bureau. P.

Methods of Termite Control in Gulf State Dwellings (STR-18)—U. S. Bureau of Entomology and Plant Quarantine. P.

Rain Penetration of Wood Siding (STR-20)—U. S. Bureau of Plant Industry, Soils, and Agricultural Engineering. P.

Design of Concrete Floor Slabs to Withstand Soil Movement (OT-22)—Southwest Research Institute. X.

Recommended Practices for Wood-Frame Dwelling Construction (OT-23)—U. S. Forest Products Laboratory. TBP.

Performance of Wood Homes Built Using Current Construction Practices (OT-24)—U. S. Forest Products Laboratory. TBP.

Stiffness Requirements for Wood Floor Systems (OT-25)—U. S. Forest Products Laboratory. TBP.

Tests on Performance Standards for New Wall and Floor Construction (OT-26)—U. S. Forest Products Laboratory. X.

Effect of Large Window and Door Openings on Strength of Walls (OT-27)—U. S. Forest Products Laboratory. X.

Weather Effects on Frame Construction (1-T-88)—Pennsylvania State College. P.

Condensation in Frame Walls (1-T-89)—Pennsylvania State College. X.

Modular Coordination (1-T-108)—Illinois Institute of Technology. X.

Modular Coordination for the Builder (1-T-128)—American Architectural Foundation. TBP.

Climatology (1-T-130)—Massachusetts Institute of Technology. P.

Materials of House Structure

Investigation of Properties of Flashing Materials (STR-10A)—National Bureau of Standards. X.

Design Standards for Lightweight Aggregate Concrete (STR-11)—National Bureau of Standards. P.

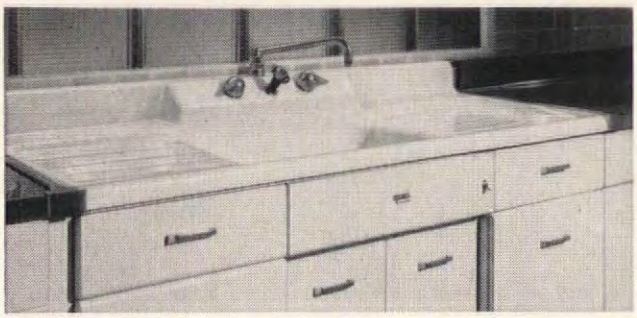
Effect of Cleaning Detergents on Paint Vapor Barriers (STR-14)—National Bureau of Standards. TBP.

Durability of Soil Covers Used in Crawl Spaces (STR-19)—U. S. Bureau of Plant Industry. P.

(*Continued on page 316*)

Key to symbols: P—published; TBP—to be published; X—not to be published

How CRANE helps you plan kitchens



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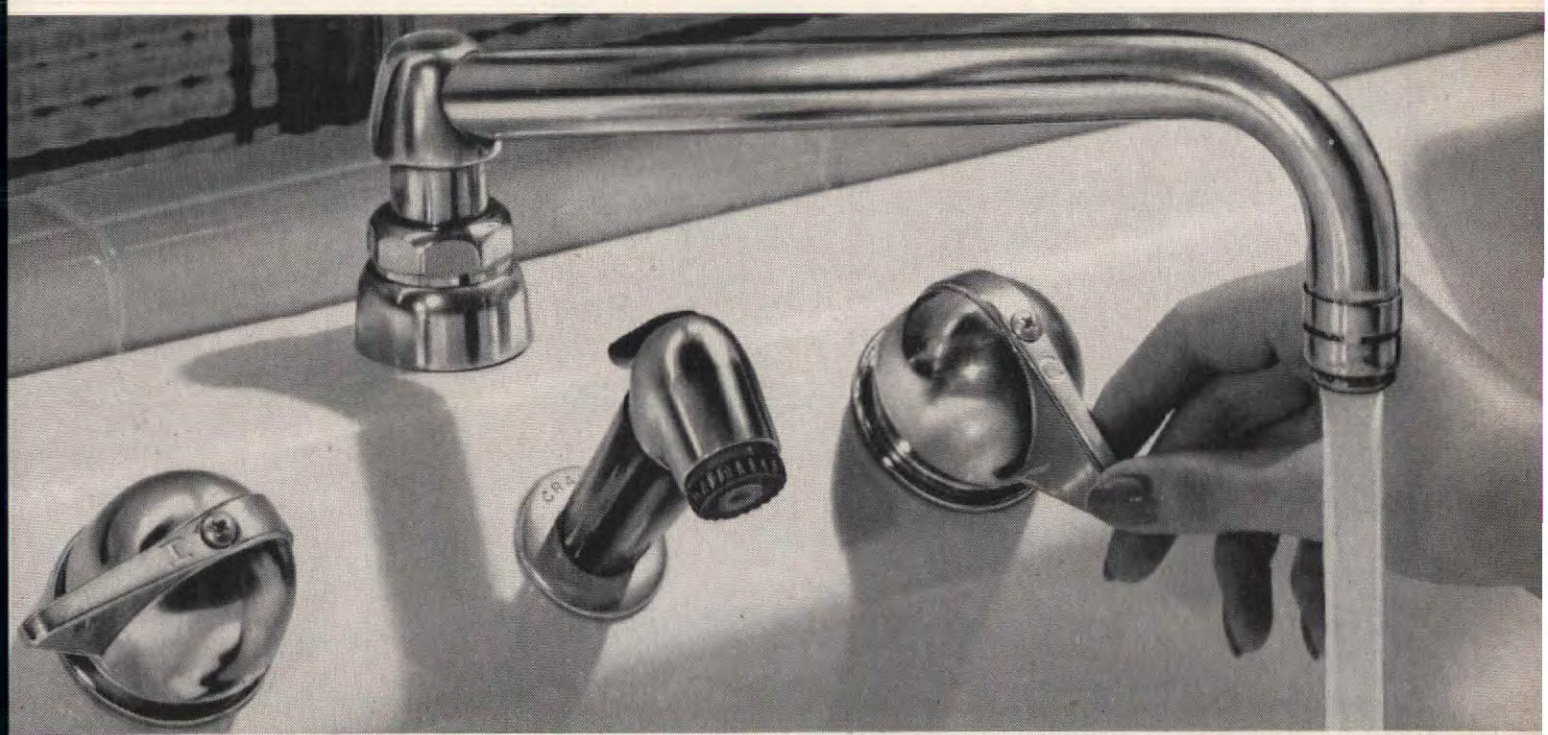
Crane offers you the most modern fixtures for both kitchens and bathrooms. In fact, the wide choice of Crane styles, sizes, colors, and prices gives you equipment to match the needs of any plan . . . any budget. And, of course, the fact that most people prefer Crane means that, whenever you specify it, your clients will appreciate your giving them the best!



Here you see the beveled "control panel" of a Crane Sunnyday sink. It reflects the built-in quality and distinctive styling of all Crane kitchen equipment. And, as you know, Crane offers one of the most complete selections of kitchen equipment in the business.

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VALVES . . . FITTINGS . . . PIPE . . . PLUMBING AND HEATING

Housing Research (*Cont. from p. 314*)

Moisture and Decay in Crawl Spaces Beneath Houses (STR-21)—Bureau of Plant Industry Soils, and Agricultural Engineering. P.

Relation of Moisture Content to Change in Volume of Concrete Building Blocks (STR-22)—University of Toledo. P.

Measurement of Burning Characteristics of Building Materials (OT-28)—U. S. Forest Products Laboratory. X.

Improvement of Mastic Cements for Floor, Wall and Ceiling Surface Materials (OT-29)—U. S. Forest Products Laboratory. TBP.

Performance Standards for Improvement of Low-Cost Flooring (OT-30)—U. S. Forest Products Laboratory. X.

Miscellaneous Research on Doors, Lumber, and Insulation Board (OT-31)—U. S. Forest Products Laboratory. X.

Duct Materials (1-T-102)—National Bureau of Standards. X.

Concrete Masonry Units (1-T-110)—University of Toledo. TBP.

Shrinkage Test for Concrete Units (1-T-122)—University of Toledo. X.

Materials Use Survey (1-E-104)—Federal Housing Administration. P.

Home Fire Hazards (1-T-131)—Southwest Research Institute. X.

Housing Sanitation

Sewage Disposal Systems for Homes Isolated From Trunk Sewers (ME-1)—U. S. Public Health Service. P. and TBP.

Improvement of Conventional Household Plumbing Systems (ME-2)—National Bureau of Standards. P.

Performance Requirements for Household Sewer Materials (ME-4)—National Bureau of Standards. X.

Development of Simplified Plumbing Systems (1950–51)—University of Illinois. X.

Sewage Disposal Systems (1-T-90)—U. S. Public Health Service. TBP.

Materials Conservation in Plumbing (1-T-109)—University of Maryland. X.

Residential Water Devices (1-T-114)—Pierce Foundation. X.

Heating and Air Conditioning

Development of Improved Heating Systems for Small Homes (ME-7)—National Bureau of Standards. X.

Thermal Conductance Factors of Insulating Materials (ME-12)—National Bureau of Standards. TBP.

Design Data for House Chimneys (ME-13)—U. S. National Bureau of Standards. X.

Measurement of Heat Losses Through Ventilation (ME-14)—National Bureau of Standards. X.

Forced Air Systems (1-T-95)—Denver University. X.

Panel Heating Systems (1-T-124)—National Bureau of Standards. TBP.

Baseboard Radiators (1-T-125)—National Bureau of Standards. X.

Miscellaneous

Guides for Cooperative Self-Help Dwelling Construction (OT-42)—Tuskegee Institute. P.

Cost Comparisons Among Industrialized House Builders (OT-85)—Massachusetts Institute of Technology. X.

Multi-Story Family Housing (1-T-99)—Illinois Institute of Technology. X.

Self-Help Housing in Alaska (1-T-100)—University of Minnesota. X.

Demonstration House (1-T-119)—University of Illinois. TBP.

Demonstration House (1-T-123)—Southwest Research Institute. P.

Demonstration House (1-T-132)—New York University. P.

Technique: Potential and Need (1-E-92)—University of Miami. X.

Prefab Organizations (1-E-101)—Cornell University. P.

GENERAL

A Survey of Housing Research in the United States (OT-59)—National Academy of Sciences. P.

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this letter was written 24 years ago

Its message to architects is just as valuable today. . .

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Construction News Service

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F.W. DODGE CORPORATION

 (*Continued from page 316*)

ON THE CALENDAR

April

1-6 Sixth Annual National Brickmason Apprentice Competition, sponsored by the Bricklayers, Masons and Plasterers International Union — Los Angeles

8 Future Directions and Changes: What Is the Expression of Our Times? — last in a series of forums on "The Impact of Science and Materialism on the Arts Today" — Architectural League of New York, 115 E. 40th St., New York City

12-14 "Cities Organized Reconstruction" school for officials and civic leaders of 30 Eastern cities, sponsored by the National Association of Home Builders as the first of a series — Hildebrecht Hotel, Trenton, N. J.

13-14 Sixth Annual National Engineering Conference, American Institute of Steel Construction — Hotel Schroeder, Milwaukee, Wis.

19ff New Work in Stained Glass; American Federation of Arts traveling exhibition; until May 1 — Rochester Art Gallery, Rochester, N. Y.

20ff Design in Scandinavia, an exhibition of 700 objects produced for everyday use; until May 15 — Brooklyn Museum, Eastern Parkway, Brooklyn 38, N. Y.

21-23 Second Annual Conference on Feedback Control Systems, sponsored by the American Institute of Electrical Engineers — Hotel Claridge, Atlantic City, N. J.

22-24 Third Annual Conference, Western Mountain District, American Institute of Architects; theme, "The Architect and the Potentialities of his Environment" — Santa Fe, N. Mex.

22-30 Hugh Stubbins and Carl Koch: Architecture and Design; third annual Boston Architectural Center Exhibition — Boston Architectural Center

26-28 Annual meeting, United States Chamber of Commerce — Washington, D. C.

May

2-7 36th Annual Meeting, Scientific Apparatus Makers Association — Broadmoor, Colorado Springs, Colo.

3-4 Spring meeting, National Building Material Distributors Association — Hotel Statler, Washington, D. C.

3-5 Annual Meeting, Air Pollution Control Association — Patten Hotel, Chattanooga, Tenn.

3-7 Semi-Annual Convention, Society of Motion Picture and Television Engineers — Washington, D. C.

3-14 British Industries Fair — Olympia and Earls Court, London, and Castle Bromwich, Birmingham, England

5-7 Eighth National Meeting, Forest Products Research Society, and 1954 Woodworkers' Industry Show — Grand Rapids, Mich.

(*Continued on page 320*)

THE RECORD REPORTS

(*Continued from page 318*)

5-7 Second Welding and Allied Industry Exposition — Memorial Auditorium, Buffalo

5-16 1954 Annual Exhibition, Philadelphia Chapter, American Institute of Architects — Philadelphia Art Alliance, 251 S. 18th St., Philadelphia

7-8 Annual convention, Pennsylvania Society of Professional Engineers — Bedford Springs Hotel, Bedford, Pa. Information: L. F. Tierney, 301 Pine St., Hollidaysburg, Pa.

7-8 1954 Convention, Michigan Engineering Society — Jackson, Mich.

10-13 39th Annual Conference, Building Officials Conference of America — Bellevue Stratford Hotel, Philadelphia

24ff New Work in Stained Glass; American Federation of Arts traveling exhibition; until June 14 — Chattanooga Art Association, Chattanooga, Tenn.

10-14 Annual Assembly, Royal Architectural Institute of Canada — Montreal

17-20 Second Basic Materials Exposition — International Amphitheatre, Chicago

18-21 American Planning and Civic Association Conference — Columbus, Ohio

26-29 1954 British Architects Conference — Torquay, England. Information: C. D. Spragg, Secretary, Royal Institute of British Architects, 66 Portland Place, London W. 1, England

27ff Building Your Home, 1954: exhibition of building design, materials and products; sponsored by the Architectural League of New York — 71st Reg. Armory, 34th St. and Park Ave., New York City

31ff Canadian International Trade Fair; until June 11 — Exhibition Park, Toronto, Canada

June

Japanese House: an exhibition in the Museum garden of a house designed and built in Japan by Junzo Yoshimura — Museum of Modern Art, 11 W. 53rd St., New York

7-8 23rd Annual Meeting, National Housing Conference — Hotel Statler, Washington, D. C.

7-10 Sixth National Plastics Exposition, sponsored by the Society of the Plastics Industry, Inc. — Cleveland Auditorium, Cleveland

10-12 Joint Annual Convention, New Jersey Chapter, American Institute of Architects, and New Jersey Society of Architects — Berkeley-Carteret Hotel, Asbury Park, N. J.

14-18 62nd Annual Meeting, American Society for Engineering Education — University of Illinois, Champaign-Urbana, Ill.

14-18 Annual Meeting, American Society for Testing Materials — Hotels Sherman and Morrison, Chicago

15-19 86th Annual Convention, The American Institute of Architects — Hotel Statler, Boston

19-20 Pre-Conference Library Buildings Institute, sponsored by American Library Association — St. Paul

(*Continued on page 324*)

THE RECORD REPORTS

(*Continued from page 320*)

20ff Good Design Anniversary Exhibition, sponsored by the Museum of Modern Art and the Merchandise Mart, opens in Chicago; to be on view throughout the year — The Merchandise Mart, Chicago

21-25 Summer and Pacific General Meeting, American Institute of Electrical Engineers — Hotel Biltmore, Los Angeles

24-30 23rd Annual Conference, American Institute of Decorators, and exhibition "Decoration 1954" — Palmer House, Chicago

27ff 92nd Annual Meeting, National Education Association; until July 2 — New York City

30ff Playground sculpture competition: exhibition of prizewinning designs in a competition sponsored by Parents Magazine, the Museum of Modern Art and Creative Playthings Inc. — Museum of Modern Art, 11 W. 53rd St., New York

OFFICE NOTES

Offices Opened

• Hugh E. Gragg, A.I.A., has announced the opening of his office at 707 Hawthorne, Houston 6, Tex.

• Ralph H. Syverson, Architect and Engineer, has opened his own office for the practice of architecture. His address is 1718 Sherman ave., Evanston, Ill.

New Firms, Firm Changes

• Dr. Willard W. Beatty has joined the firm of Perkins & Will, Architects, of White Plains, N. Y. Dr. Beatty was formerly Superintendent of Schools in Bronxville, N. Y., and for the last two years has worked with UNESCO.

• The firm of Church, Newberry & Roehr, Architects, have announced that Kurt P. Schuette, A.I.A., has become an associate of the firm. Their offices are at 619 Builders Exchange Bldg., Portland 4, Ore.

• Robert L. Durham, Architect, has announced the promotion to partnership of David R. Anderson and Aaron Freed. The firm will be known as Durham, Anderson and Freed, located at 1100 Denny Way, Seattle, Wash.

• Robert Y. Fleming, Frank C. Repult Jr., and Gerald B. Stratton have become associates in the firm of Thomas F. Faires & Associates, Architects. The firm's offices are at 1027 Falls Building, Memphis, Tenn.

• Stanley James Goldstein, A.I.A., has announced his registration as professional engineer. His firm will now be known as Stanley James Goldstein, A.I.A., Architect and Engineer. The address is 65 S. Orange Ave., South Orange, N. J.

• The firm formerly known as Charles Harris & Associates, Architects and Engineers, has announced that it will

(*Continued on page 326*)

 (*Continued from page 324*)

be known henceforth as Harris, Spangler, Beall and Salogga, Architects and Engineers. The firm is located at Suite 420, Standard Office Building, Decatur, Ill.

• Jyring and Jurenes, Architects and Engineers, of 1932 Fifth Ave. E., Hibbing, Minn., have announced that Richard Whiteman, A.I.A., has become an associate member of the firm.

Mr. S. P. Jurenes, who was a partner in the firm, died last August.

• Arthur C. Holden and Associates have announced the admission to partnership of John Taylor Egan, former Commissioner of the Public Housing Administration. The firm will be known hereafter as Holden, Egan & Associates.

Also admitted to partnership were William D. Wilson and John B. Corser Jr. The firm's new offices are at 215 E. 37th St., New York 16, N. Y.

• Eliot Noyes, A.I.A., has announced the organization of the firm Eliot Noyes and Associates, 85 Main St., New Canaan, Conn., for the practice of architecture and industrial design.

• Owens & Strain, Architects & Engineers, is a new architectural firm practicing at 202 Stone City Bank Building, Bedford, Ind.

• Pereira & Luckman, Architects-Engineers of Los Angeles, have announced the appointment of Nicholas Boratynski as Director of the Industrial Engineering Department. Mr. Boratynski comes to the firm from United Air Lines, where he held a similar position.

• Paul J. Saunders, Architect, announced that he has succeeded to the practice of Paul J. Saunders & Eugene S. Johnson, Architects. He has opened new offices at 3232 State Street, East St. Louis, Ill.

• Henry Steinhardt, Architect, has announced that he has gone into partnership with Rolland D. Thompson. The address is Steinhardt & Thompson, Architects, 127 E. 94th St., New York 28, N. Y.

New Addresses

Bruce Barnes & Associates, Architects & Engineers, Cresthaven, Patterson, Mo.

Daniels Associates, Architects, 2311 Shelby St., Ann Arbor, Mich.

Hollis Whipple Kincaid, Architect, Mountain View Dr., Kensington, Conn.

W. D. Peugh, Architect, 2537½ Benvenue Ave., Berkeley 4, Calif.

Carl Schmuelling, A.I.A., 7755 Rockhill Lane, Cincinnati 27, Ohio.

Vedder and Curtin, A.I.A., The Weiler Building, 407 S. Warren St., Syracuse 2, N. Y.

Marcel Villanueva, Architect, 159 Halsted St., East Orange, N. J.

Ward Beaumont Whitwam, A.I.A., 220–21 Kresge Building, Sioux Falls, S. Dak.

Gene Zema, Architect, 200 E. Boston at Eastlake, Seattle 2, Wash.

(*More news on page 328*)

THE RECORD REPORTS

(*Continued from page 326*)

MUSEUM EXHIBITS ANDEAN ART AND ARCHITECTURE

"Ancient Arts of the Andes," a recent exhibition prepared by New York's Museum of Modern Art, is giving North Americans an opportunity to see a collection of pre-Spanish art objects produced by South American Indians. The exhibit is scheduled to be seen at the Minneapolis Institute of Art from April 13 to June 6, and at the San Francisco Palace of the Legion of Honor from July 15 to September 15.

One section of the exhibit is devoted to photographs of Incan architecture, which was typically of massive blocks of stone laid with painstaking craftsmanship. Also characteristic was the lack of exterior ornamentation.

In connection with the exhibit, the Museum published in February a book by the late Wendell Bennett on *Ancient Arts of the Andes*.

Above: temple in Machu Picchu, a city situated high in the Andes. Below: Great Wall at Ollantaytambo, of pink granite blocks 10 ft high, brought at fabulous labor across a mountain and a river

Above: at Machu Picchu, three windows of typical trapezoidal shape. Below: detail of stonework at Ollantaytambo: so closely fitted that it is impossible to insert a knife between the blocks

REQUIRED READING

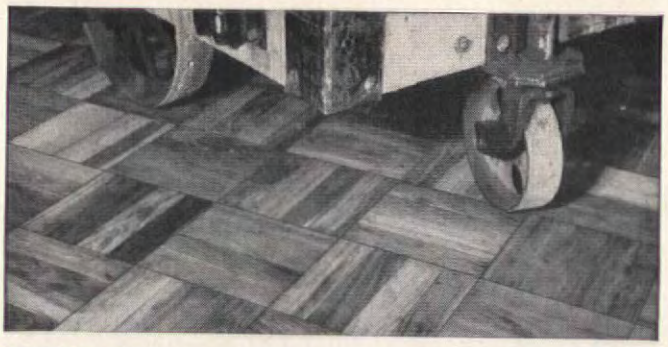
(*Continued from page 46*)

These are very considerable virtues. It is especially worth while that this comprehensive view is presented to a wide audience, for in the long run our limits of progress in design are set by the level of information attained by our clients, who are more than ever becoming the public at large. The book does address itself to real problems. And yet one does not really deal with problems just by listing them nor can the methods of biological science solve architectural problems just by analogy. The book's main deficiency (in this reviewer's opinion) is that the author has not made clear just what is the province of architecture; just what questions the various branches of design are competent to answer. It is unfair, perhaps, to expect this sort of definition and consistency from the miscellany of sketches which the book admittedly is and yet, so many statements are made with such assurance that the general reader may get the impression that all problems of design can be answered by a bit of scientific analysis — that a few bright new formulas will do the trick — that THIS is the brand new approach.

Others who have toiled long in this vineyard tending their few vines, will welcome the public attention which Neutra's book will bring to the field of their endeavors, although they might begrudge him the lion's share of credit which he seems to claim. That he (and the publisher) did not produce a much shorter, stronger book which would have gone further in the actual analysis of some few problems which design knows how to solve appears to me regrettable. But this would have taken a great deal more work, of course, and it is unfair to ask it. The book they gave us has virtues enough.

Neutra's message is a vital one, fitting into the general context of Horatio Greenough's essays of a century ago (*Form and Function. Remarks on Art*, U. of Calif. Press) and Louis Sullivan's series at the turn of the century (*Kindergarten Chats and Other Writings*. Wittenborn, Schultz Inc.), both of which are so admired by Neutra and by all who have struggled with the formulation of basic design principles. Much of the material in Neutra's book brings the examples used by the others down to date but for clear formulation of the basic design problems it is necessary to go back to the prototypes. Sullivan and Greenough were also conversant with science; there is nothing more nourishing to the studious designer's understanding than their clearly analytical references to nature and its operations and its materials. They were entirely clear as to what is nature's; what the designer's. Neutra, on the other hand, seems overly enamored of biological science, especially physiology, to the point, almost, of abdicating the design function in the biologist's favor. Thus this book, which contains so much that is stimulating and constructive stops short of coming to grips with its own main problem. That it does approach a multitude of important problems may be demonstrated by a few selections, in sequence, from the 47 section headings, which are themselves a running commentary, a separate essay scattered among several clusters of essays. These captions are as interesting, almost, as the sketches which they introduce and they display to advantage the author's many-facetted approach.

(*Continued on page 334*)



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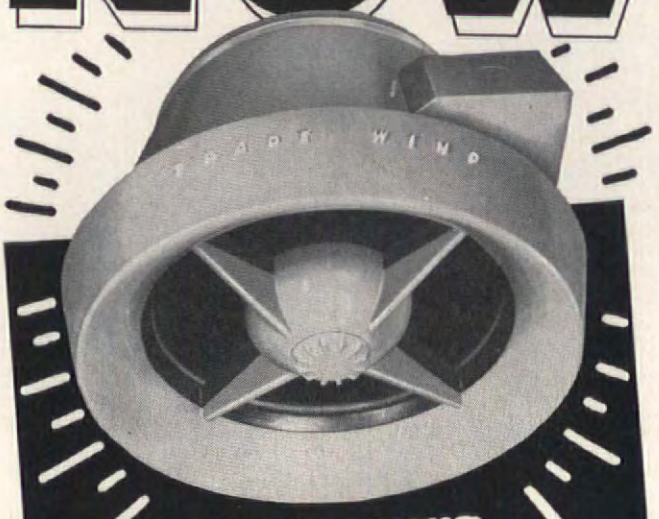

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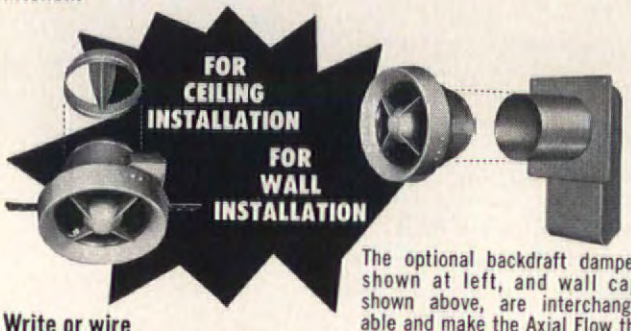

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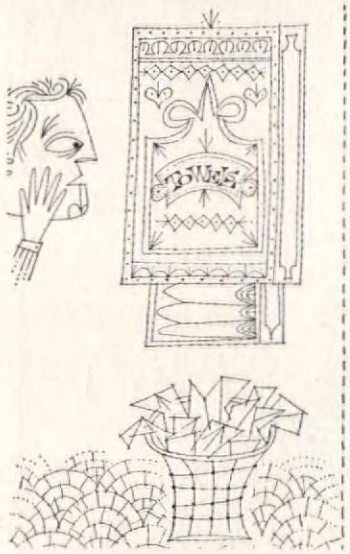

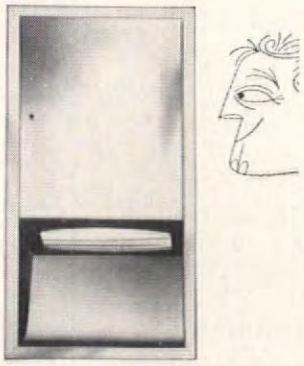

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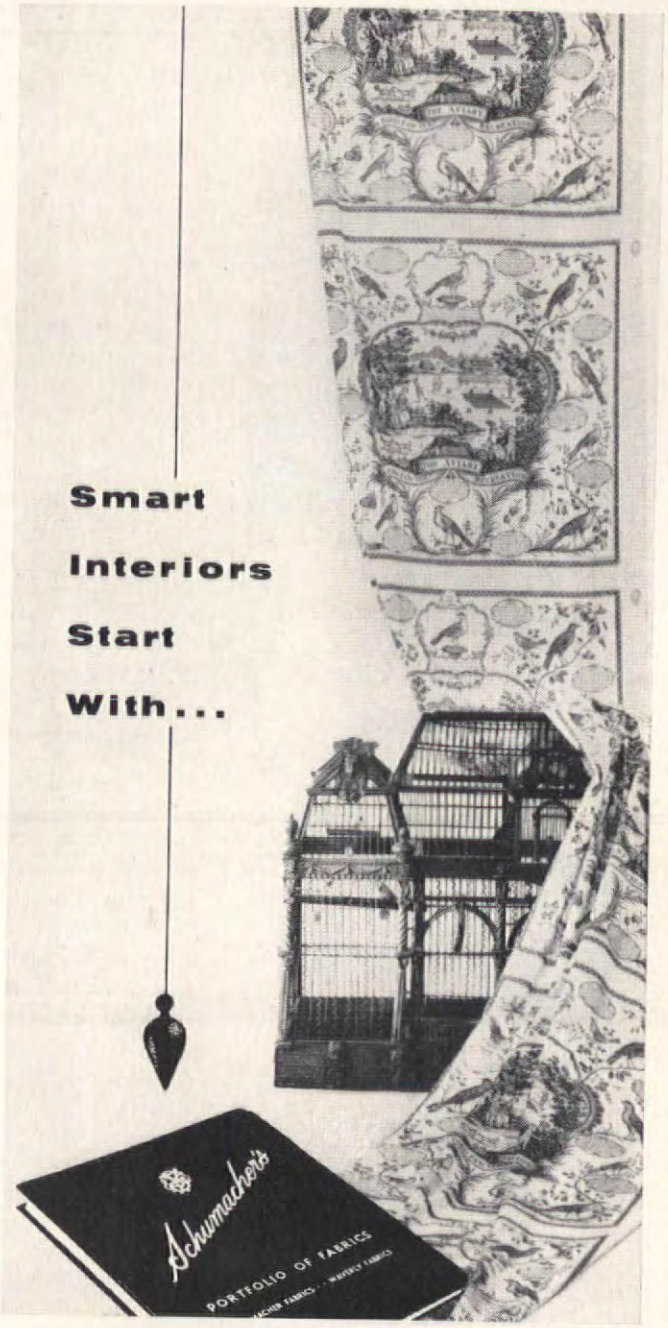

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FABRICS · CARPETS · WALLPAPERS

REQUIRED READING

(*Continued from page 330*)

1. THE NATURAL ENVIRONMENT IS DOCTORED UP CONTINUOUSLY and warped by the acts of the human brain.
3. MANKIND PRECARIOUSLY FLOATS TO ITS POSSIBLE SURVIVAL on a raft, rather makeshift as yet and often leaky: Planning and Design.
4. FROM A BABY CARRIAGE TO A METROPOLIS, our man-made surroundings, top-heavy with technological trickery, have become our mold of destiny — and a source of never-ending strain.
12. NATURE'S WORKINGS, SO INSPIRING TO MAN, were imitated by him and then PRODDED WITH A LITTLE MAGIC.
27. MILLIONS OF MANIFOLD SENSE RECEPTORS determine what design can actually do for us.

Here, forsooth, is a range of subjects worth getting our teeth into! Jove himself, with the full consistory of the gods to help, had trouble enough, and continuously, "to set to rights the world of damned troubling businesses of consequence." Thus, Francois Rabelais, physician, himself no mean analyser of environment, in his Prologue to Book IV *Treating the Heroic Deeds and Sayings of the Good Pantegruel.* The roster of "puzzling business" in *Survival Through Design* is truly Olympian in scope. To put them to rights, even to define them in workable terms, will require much serious work. All thanks, then, to Richard Neutra and to Oxford Press for giving us a good push in the right direction.

MALRAUX

(*Continued from page 48*)

out of the visit, too.

The acid test of Malraux's theory is of course whether his own Museum Without Walls, that is this book, provides rooms which engage us. It does.

In the first place the organization is terrific. The pictures are chosen with enormous skill and they are dramatically juxtaposed to bring out comparisons. They are always on top of the text, so to speak, so that when one reads he sees what he is supposed to see at the precise moment instead of seeing something different or having desperately to turn pages. For other purposes an in-

(*Continued on page 338*)

REQUIRED READING

(*Continued from page 334*)

dexed list of illustrations would have been helpful but perhaps for Malraux's total purpose this would have been destructive. As one sees and reads, what does he find?

Naturally he will find much more than I may summarize here and he will find emphases which I do not make. But here, anyway, are some questions, large and small, which arise from a single reading. One can hardly say that they are settled for most of them are far too incendiary for that.

What does it say of American art production or of Malraux that the only example from America is at the hands of a Hopi Indian? What does it say for architecture or of Malraux that art in this book is sculpture and painting, and architecture is something else altogether? Can we ever come to grips with a work of art of the past? Is there any sense in trying to? The Munich reconstructors might get the color back on the Athenian sculptures but would that tell us anything? Can we ever watch the progress of an Aeschylean tragedy with the sense that the Persian fleet lies ominously across the bay?

Yet is it not equal nonsense to try to float the work of art in a vacuum of time? Can art really be independent of its history, quite aside from whether or not one is willing to forego its exploitation as a social document? For example does it not matter how one looks at the Gothic statues? We look on them as art. A man of the Middle Ages might have found this hard to do. For "the notion of art as such must come into being, if the past is to acquire an artistic value; thus for a Christian to see a classical statue as a statue and not as a heathen idol or a mere puppet, he would have had to begin by seeing a 'Virgin' as a statue before seeing it as *the* Virgin."

Separation of art from function, promotion of the work of art as an end in itself, is very recent. "When art became an end in itself, our whole aesthetic outlook underwent a transformation." Has this been a good thing?

As we walk down history with Malraux we are called upon to notice the profound differences for example between the tearful personal smile of the Western thirteenth century and the ritual smile of the East; to see the Western smile disappear as Western art becomes more intellectual, more talked

(*Continued on page 342*)

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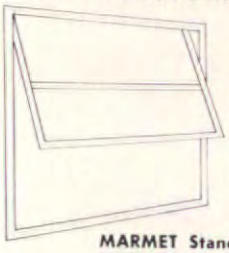

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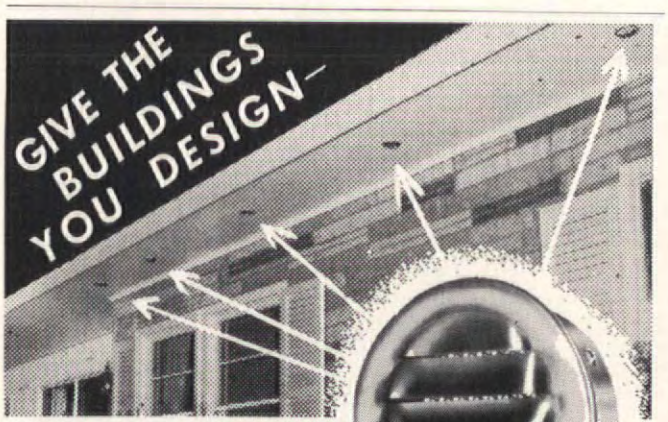

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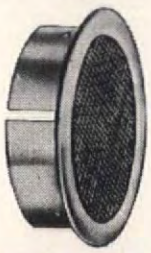

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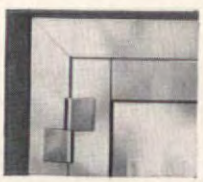

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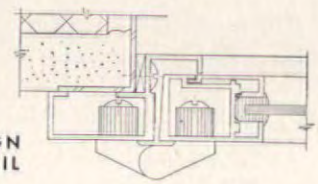

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REQUIRED READING

(Continued from page 338)

about, as the critic emerges. We see how Manet must eliminate Clemenceau to make a portrait of Clemenceau, how finally "the distinguishing feature of modern art is that it never tells a story."

We see how dangerous it is to label a sculpture or a period as retrograde. We wonder why Western art could never attain or even seek the transcendence of Byzantine mosaics or the unity of Buddhist sculpture. We ponder Malraux's answer to the question, "What is style?" "Style, which like architecture is a language, is not necessarily the most effective means of expressing what it represents; thus Sung wash-drawings are not the most effective means of rendering landscape nor has Cubism any special aptitude for depicting guitars and harlequins. Painting centers much less on seeing the 'real world,' than on making of it another world; all things visible serve style; and style serves man and his gods."

"Thus, for us, a style no longer means a set of characteristics common to the work of a given school or period, an outcome or adornment of the artist's vision of the world; rather, we see it as the supreme object of the artist's activity, of which living forms are but the raw material. And so, to the question, 'What is art?' we answer: 'That whereby forms are transmuted into style.'"

We will be provoked to consider Malraux's assertions about the artist, who, he says, is not necessarily sensitive, a sensitive man not necessarily an artist. But an artist *is* personal and lives at least partly in a private world. So does a child. But a child is not an artist "for his gift controls him; not he his gift." The douanier Henri Rousseau is an artist but Grandma Moses is probably not. Primitive art which may tell us a great deal about advanced art is not the expression of instinct alone. Behind it there is always tradition. So it is with the Western artist. The great artist has almost invariably begun by copying. But he has not become an artist until he has stopped copying.

"I name that man an artist who *creates* forms, be he an ambassador like Rubens, an image-maker like Gislebert of Autun, an *ignotus* like the Master of Chartres, an illuminator like Limbourg, a king's friend and court official like Velasquez, a *rentier* like Cezanne, a man possessed like Van Gogh or a vagabond like Gauguin; and I call that man an

(Continued on page 346)

REQUIRED READING

(*Continued from page 342*)

artisan who *reproduces* forms, however great may be the charm or sophistication of his craftsmanship. . . .

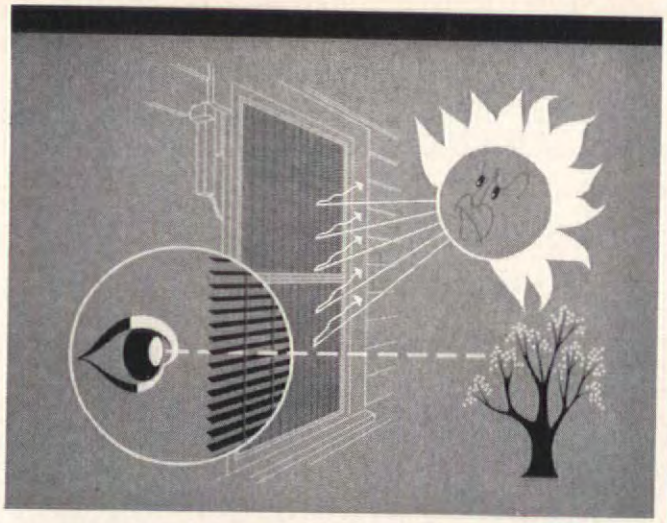
Thus the artist must break away from his master's style. "For every great artist's achievement of a style synchronizes with the achievement of his freedom, of which that style is at once the sole proof and the sole instrument. What differentiates the man of genius from the man of talent, the craftsman and the dilettante is not the intensity of his response to what he sees, nor only that of his responses to others' works of art; it is the fact that he alone, amongst all those whom these works of art delight, must seek, by the same token, to destroy them."

Such considerations naturally lead the book to the predicament of the modern artist which is that he lives in a world whence absolutes have gone. Some had hoped to find a new absolute, a new religion, in science, but this hope has not been realized. Such a day does not look altogether happy to Malraux. "That fine exhilaration is waning, the hoard near exhaustion, and our hope of a beneficient conquest of the world by science has proved an idle dream."

But this grim note will not last Malraux to the end for he finally asserts the power and glory of being a man and proclaims that "The most glorious bodies are not those lying in the tombs."

All these last ideas of Malraux are perhaps the ones a contemporary architect might best ponder. The suspicion will not down that Malraux would have been happier in a more ordered state, indeed a totalitarian state but one of a higher degree of responsibility to society than is now the fashion, for example the society of Cluny. It is doubtful that he is pleased by modern painting. But he is a scholar, a man of taste and a man with a sense of history. It is inevitable then that the way he treats these matters will be important whereas the sly vaporings of a Robsjohn-Gibbings are not. I wish I thought that the Malraux book would have the greater sale among architects.

Indeed, it is a derogation to make the comparison. For by any standard this work by Malraux is likely to prove one of the important ones of our times. In his own words, used in a different context, "it is vibrant with one of the loftiest of the secret yet compelling testimonies to the power and the glory of being man."



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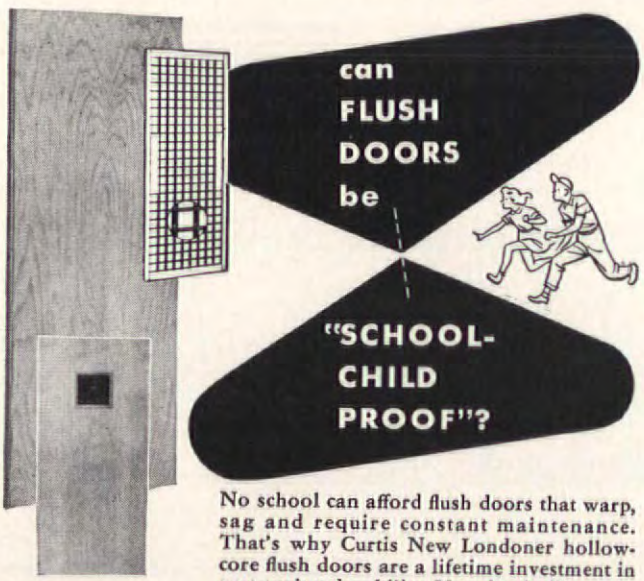

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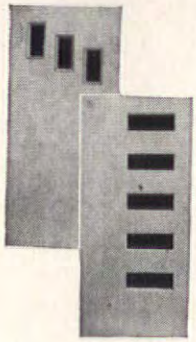

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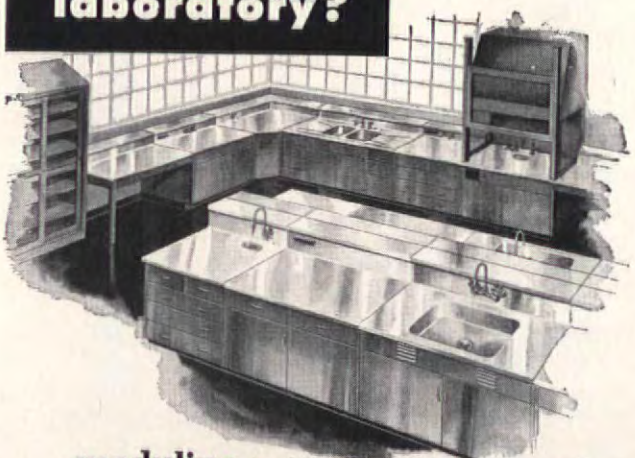

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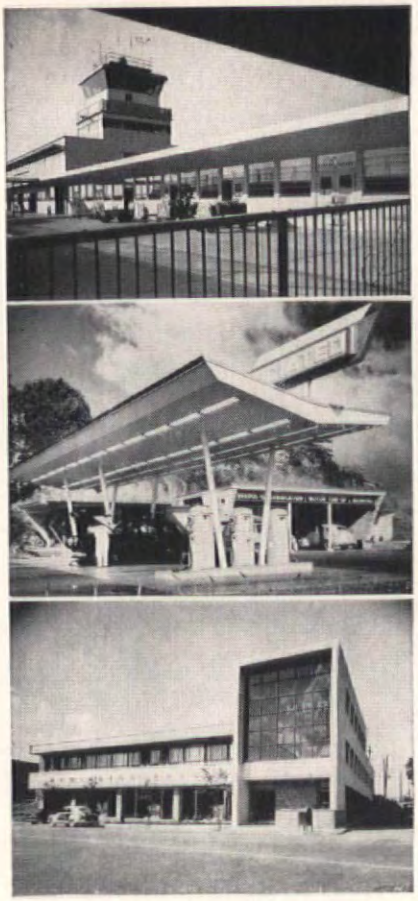

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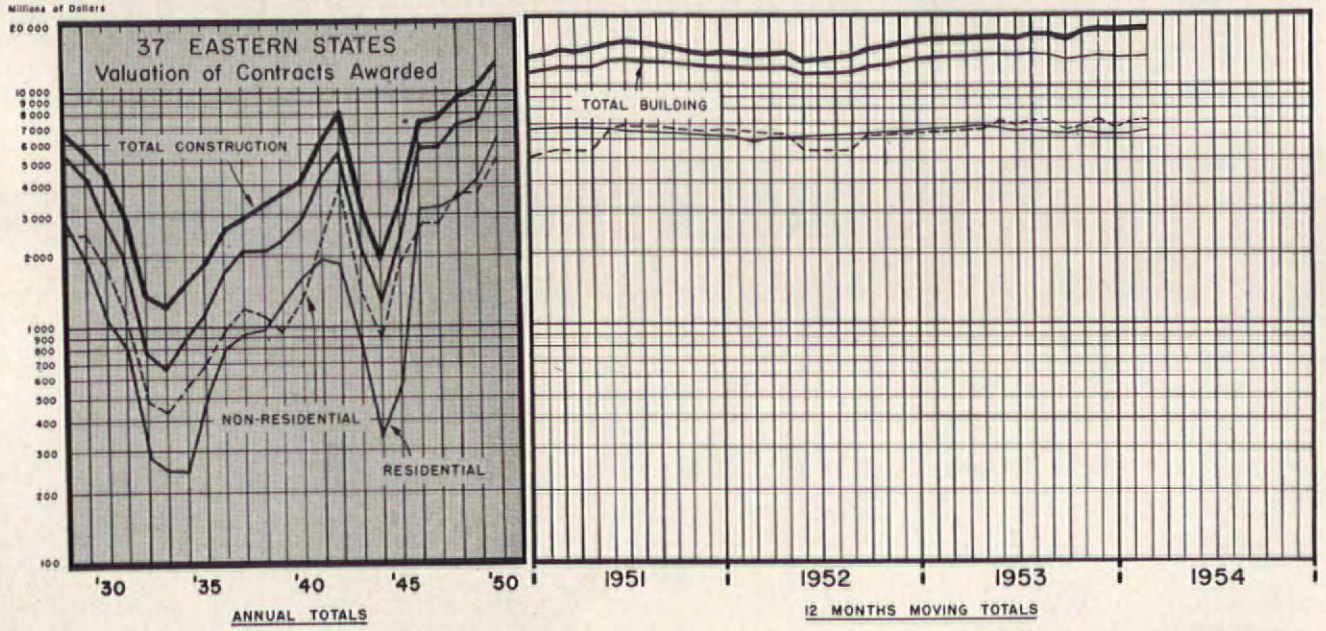

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Charts by Dodge Statistical Research Service

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Year	Annual Total	Monthly Average	Year	Annual Total	Monthly Average
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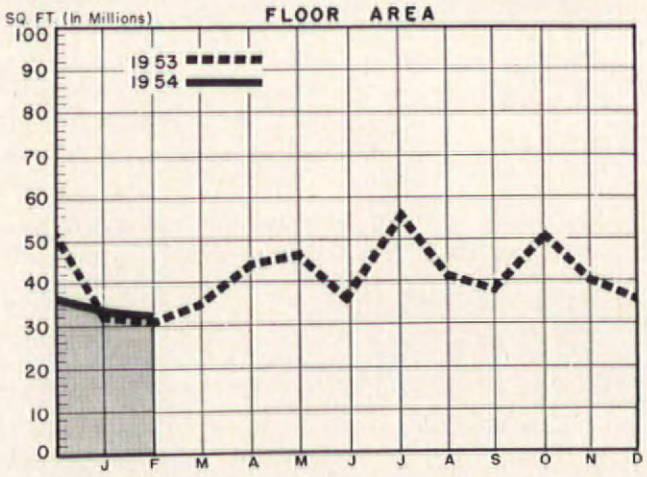
1945	84.6	7.0	1951	332.8	27.7
1949	286.4	23.9	1952	359.7	30.0

Monthly Totals

1953		1954
Jan. 26.8	July 56.6	Jan. 36.9
Feb. 42.5	Aug. 65.4	Feb. 24.7
Mar. 31.8	Sept. 58.6	2-months total—61.6
April 38.5	Oct. 59.0	
May 62.8	Nov. 33.6	
June 32.2	Dec. 39.6	
12-months total—547.6		

*The subject of RECORD Building Types Study No. 209, pp. 186–209

NONRESIDENTIAL BUILDING (37 EASTERN STATES)



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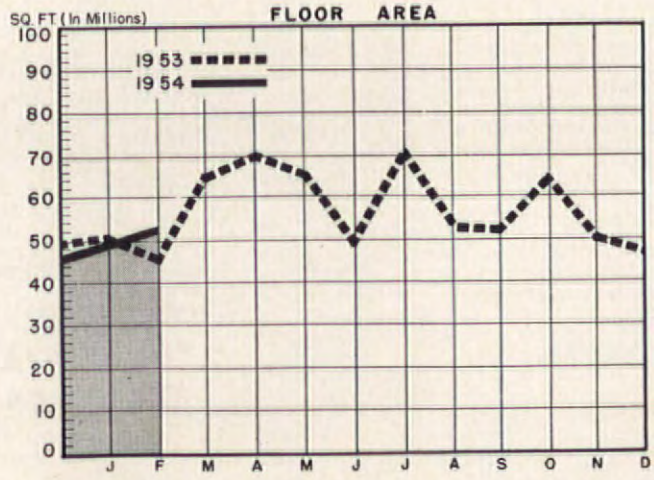

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2000	.85	.88
4000	.78	.88
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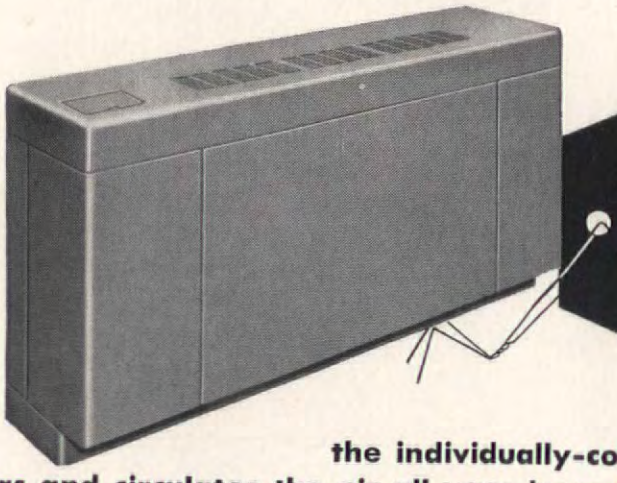

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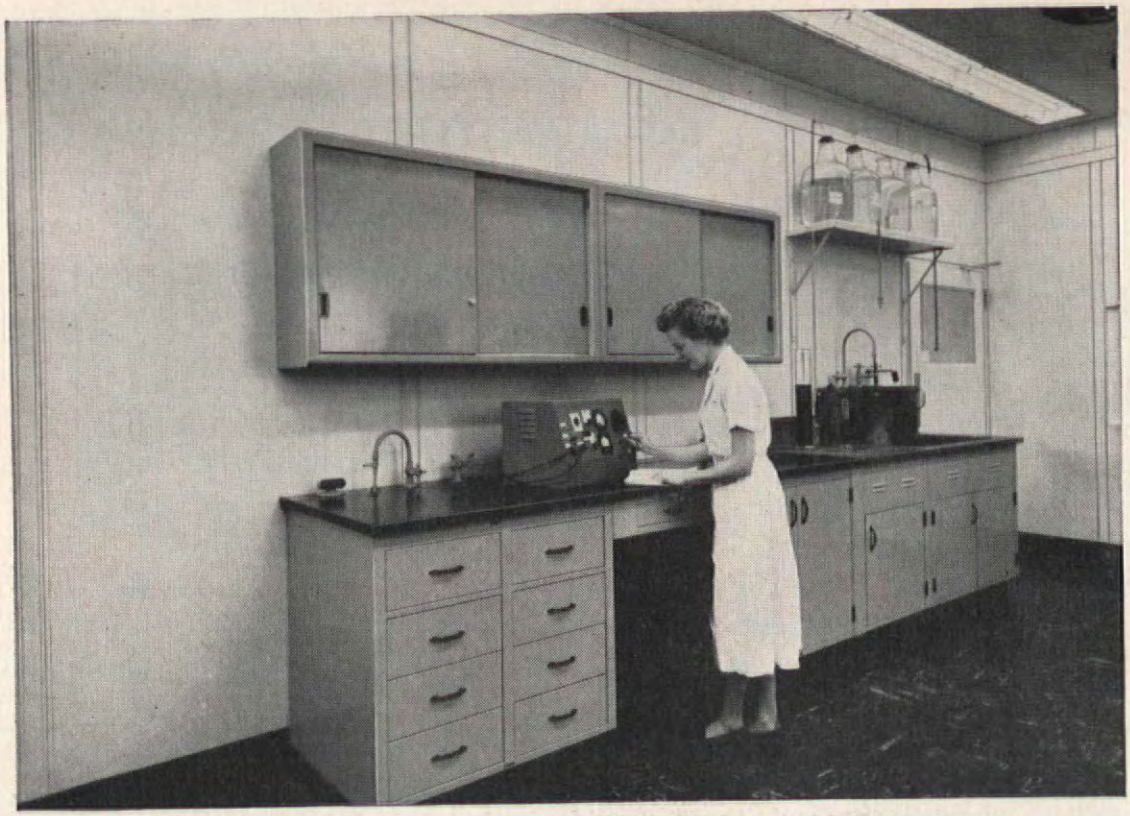

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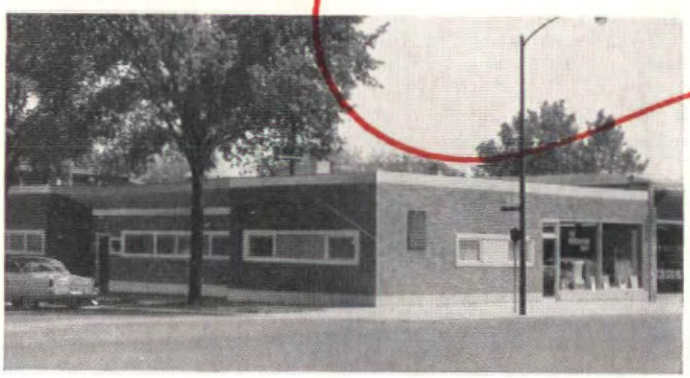

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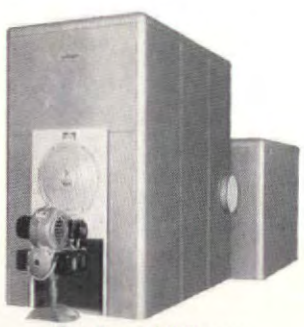

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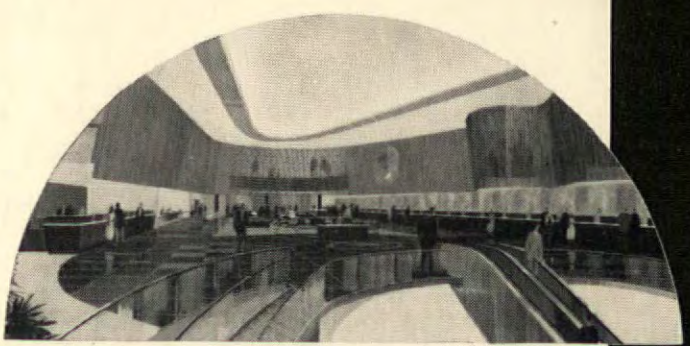
GILL & HARRELL
architects

JAROS, BAUM & BOLLES
mechanical engineers

J. W. BATESON
general contractor

FARWELL CO., INC.
plumbing contractor

CRANE CO.
plumbing wholesaler



The 2-story-deep main banking floor of Republic National Bank, with wood-screened mezzanine overlooking it, is reached from the street level by escalators or circular stairs

THINNEST CURTAIN WALL YET BUILT

In the new **REPUBLIC NATIONAL BANK, DALLAS, TEXAS,** architectural designing has taken notable forward steps. The curtain walls, of fabricated aluminum panels 1½″ thick, are the thinnest yet built. Bolted in place over the spandrels, the wall is given rigidity by 4″ x 10″ reinforced concrete stiffeners. The entire west side of the building is sheathed with these panels; the other sides with bands of continuous windows which pivot top and bottom for cleaning. The 36-story tower has rentable space surrounding a central utility core. Banking facilities occupy nearly all of the lower seven floors plus the first of three underground levels, which is for drive-in banking. The other two levels provide parking space for 330 cars. In keeping with highest standards, SLOAN *Flush* VALVES, famous for efficiency, durability and economy, were selected for installation throughout this praiseworthy skyscraper—more evidence of preference that explains why . . .

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

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