ARCHITECTURAL RECORD

October 1958 **10**

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8 A.M. SATURDAY

8 A.M. MONDAY

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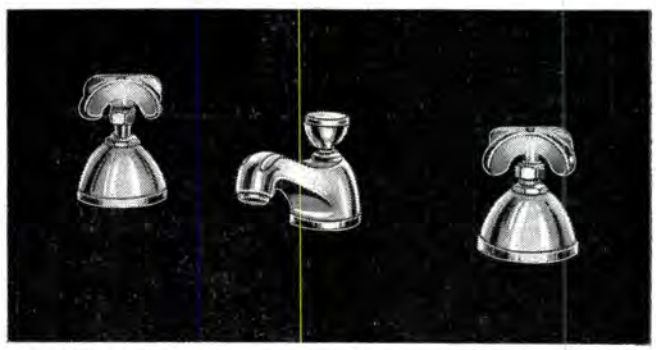

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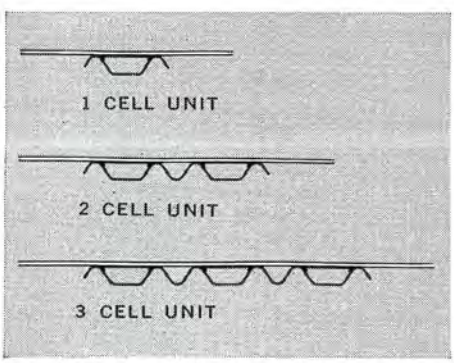
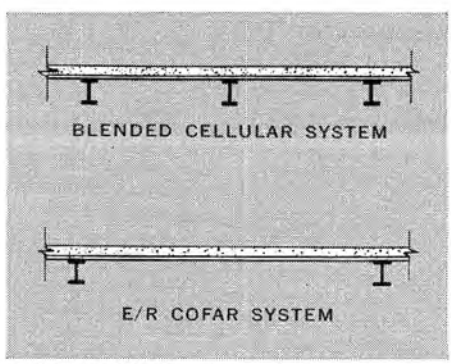


ELECTRICAL FLEXIBILITY. Electrical needs of today and tomorrow are easily satisfied by blending in *one, two, or three cell* E/R Cofar units with sections of standard Cofar.



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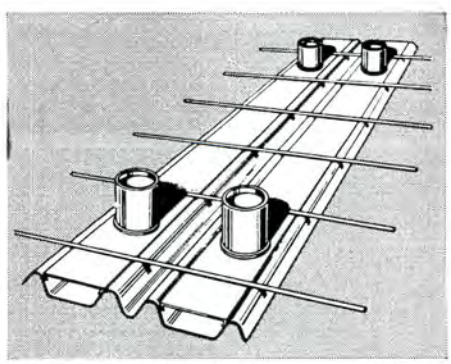

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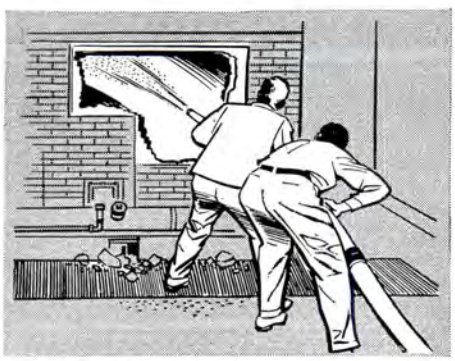

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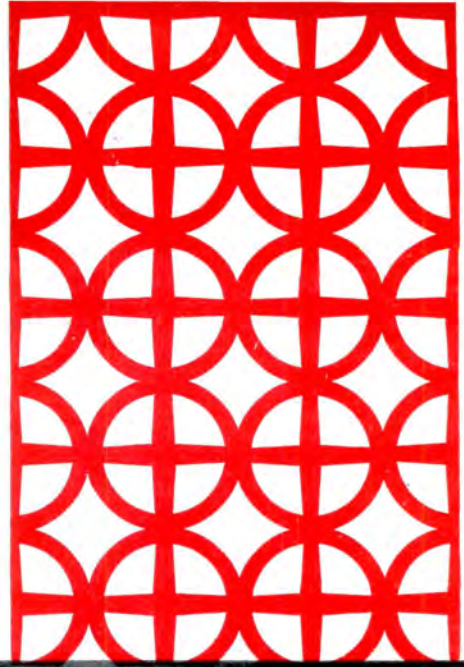

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Behind the lacy pattern of this veiled exterior wall, man's oldest ferrous metal promises piping permanence. Peter W. Bruder Associates, New York, N.Y., specified Wrought Iron Pipe here for soil, waste vents, and downspouts.

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ARCHITECTURAL RECORD

October 1958

Cover:

Yale Hockey Rink, New Haven, Conn. Eero Saarinen and Associates, Architects; Douglas Orr, Associate Architect. Joseph W. Molitor photo.

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2877 Shasta Road,
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Coming in the Record

BUILDING TYPES STUDY: SCHOOLS

The growing tide of children that swamps our school facilities is especially pressing in the neighborhood of the cafeteria. A well known firm of school architects, Perkins & Will, has studied the problem intensively, has worked out a series of recommendations for architects which will lead off our November study. A portfolio of schools with interesting feeding arrangements is included.

HOUSES—HOUSES

In their own circles all architects are automatically experts in house design, provided that they keep up with the pace setters. A mid-term house feature—midway between one Mid-May extra edition on houses and the next one—will constitute the middle portion of the November number.

HOW IS BUSINESS GOING TO BE?

With the ripples of recession just about played out, at least on a national basis, architects are more than usually sensitive to business trends. As usual in November, F. W. Dodge economists will present their preview of future construction potentials for the coming year.

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

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Gateway TO THE STARS

Dramatic Concrete Ramp at New York International Airport Provides Graceful Access to Arrival Building

• "Gateway to the Stars"—at Idlewild Airport—is a curving reinforced concrete promenade which connects with a prestressed concrete bridge leading to the Arrival Building.

Imaginative and daring in design, this strikingly modern ramp, set on widely spaced concrete columns, skirts the edge of the broad circular reflection pool in a graceful sweep.

The bridge which leads through the 11-story control tower, is fabricated of prestressed concrete channel beams made with 'Incor'*, America's FIRST high early strength portland cement, and also utilizes widely spaced columns.

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Associate: **WALLACE K. HARRISON**
HERBERT FLEISCHER (Pool and Ramp)
All of New York City, N. Y.

Contractor: **TULLY & DI NAPOLI, INC.** (Bridge, Ramp, Pool)
Flushing, New York

Prestressed Bridge Beams
PRECRETE, INC. Flushing, New York
Soil Cement: **FRANK MAMORALE, INC.**
Glen Cove, New York

Masonry:
TEACO CONSTRUCTION CORPORATION (Pool, Ramp)
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Tests Reveal That

MINERAL WOOL GIVES ITS BEST PERFORMANCE

when covered top and bottom with Aluminum Foil and installed MID-SPACE

Its thermal values, in the horizontal position for **up-heat**-flow were found to have the following order of decreasing effectiveness:

1. Mineral wool enclosed with foil top and bottom, and installed mid-space. (Best.)

2. Foil top and bottom; bowed into the space from the warm side.

3. Foil top and bottom; laid in so the only reflective space is on top.

4. Aluminum-coated paper on top instead of foil.

5. With foil only on bottom and laid in, or no aluminum.

The tests are reported in a booklet entitled, "Thermal Resistance of Airspaces and Fibrous Insulations Bounded by Reflective Surfaces." (BMS 151.) They were conducted by a team of scientists headed by H. E. Robinson of the National Bureau of Standards. They supplement and summarize previous tests made by Mr. Robinson reported in Housing Research Paper 32, "The Thermal Insulating Value of Airspaces."

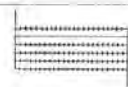
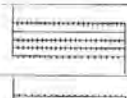
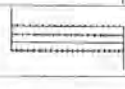
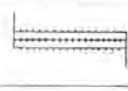
PERFORATED FOIL

They found many other important things; for instance, that for **up-heat**-flow a single foil membrane, pierced all over with minute perforations, resists heat flow substantially as well as unperforated foil. But for **down-heat**-flow, resistance was 20% less with perforated compared with unperforated foil, because of the radiation through the perforations.

THERMAL FACTORS OF MULTIPLE ALUMINUM PARALLEL AIRSPACES

The Bureau of Standards also found, and offers in this booklet, a method for determining Resistance factors of airspaces, which anyone can use; by means of which Infra Insulation engineers compiled the following chart.

CHART—MULTIPLE ALUMINUM and PARALLEL AIR SPACES

Number of Reflective *Spaces	Sketch	Depth of Inner Spaces	Direction of Heat Flow	THERMAL VALUES U	C	R
9		3/4"	UP	.04	.043	23.52
			DOWN	.03	.029	34.16
8		3/4"	UP	.04	.049	20.47
			DOWN	.03	.030	32.99
7		3/4"	UP	.05	.057	17.58
			DOWN	.03	.032	31.28
6		3/4"	UP	.06	.068	14.80
			DOWN	.03	.033	29.93
5		1"	UP	.07	.082	12.13
			DOWN	.03	.034	29.00
4		7/8" & 1"	UP	.08	.105	9.52
			Horizontal	.06	.068	14.65
			DOWN	.03	.038	26.18
3		1"	UP	.10	.143	7.00
			Horizontal	.08	.101	9.92
			DOWN	.04	.046	21.79

*Each space is reflective, and parallel, with at least 1 surface of aluminum foil of 3% emittance.

A **free** copy of this most significant Government bulletin, which has many more findings, may be had by mailing the coupon to Infra Insulation, Inc.

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Who's Who in Architecture

The new edition of *Who's Who in America* lists 495 architects—sixty more than the 1950-51 edition, the last previous one to include a vocational index—and puts architects twenty-ninth in frequency among vocational groups listed. Among the 97 vocational classifications (including a miscellaneous "Other"), lawyers are the most numerous group (3519); clergymen (1485) are eighth in frequency; and physicians (1354) are ninth. But businessmen—whose listings are assigned to several separate classifications according to their various fields of operation—are actually the largest vocational group, totaling 26.7 per cent of the current listings (compared with seven per cent for lawyers, 2.9 per cent for clergymen, 2.7 per cent for physicians and .1 per cent for architects); and educators, also spread among several classifications, constitute 12.9 per cent of the listees.

Creativity and Architects

What are creative architects like? In what ways do they resemble, and in what ways differ from, highly creative and original workers in other fields: writers, painters, composers, engineers, research scientists, theoretical physicists and mathematicians? Answers to such questions as these are being sought by the Institute of Personality Assessment and Research at the University of California in Berkeley. The Institute, established in 1949 through a grant from the Rockefeller Foundation, has as its research objective the study of individuals who function with high effectiveness. Currently, aided by a five-and-a-half-year grant from the Carnegie Corporation of New York, the Institute is engaged in a study of creativity, seeking to discover those characteristics which differentiate highly creative individuals from less original and creative persons; investigating the processes whereby fresh insights arise, inventive solutions are achieved, and new media for artistic expression are discovered; and searching those aspects of the life situation or social or cultural milieu of individuals which facilitate or inhibit the appearance of creative thought and action. The Institute asks experts in the various fields to nominate colleagues whose work is distinguished by a high level of creativity; the nominations for the architectural study were made by a panel of five faculty members of the College of Architecture of the University of California. Participants go to Berkeley as guests of the Institute for several days of meetings with staff psychologists and each other. "Architects appear to constitute an especially significant group in any study of creative persons and the creative process," says Dr. Donald W. MacKinnon, director of the Institute. "The truly creative architect must reconcile in his work opposites of temperament and skill, just as in his contribution to social planning he must face the opposing demands for conformity and creativity. There is probably no professional group from which we can hope to learn more about the prerequisites for creativity than architects."

Another Revolution for Stores?

As the Building Types Study in this issue indicates, today's shopping environment is affected by innumerable factors the old Main Street emporium never dreamed on. Now comes a New York advertising agency to suggest tomorrow's Main Street is the "thin ribbon of concrete" to be laid out over the next 12 years in the nation's $100 billion highway program; and that the "highway store"—by which is *not* meant the shopping center—will be the focus of "The Next Great Retail Revolution." A new merchandising study by E. B. Weiss, director of merchandising for Doyle Dane Bernbach Inc., analyzes the effects on retailing of such recent projects as the New York State Thruway and Boston's Route 128 to support its thesis that "shopulation mobility" resulting from the rapid, drastic transformation of the U.S. highway system may support a $20 billion increase in retail volume for stores in highway locations other than shopping centers over the next ten years. The study notes that the "total freedom" enjoyed by store architecture on the highway—a solo operation, compared with the communal affiliations of a shopping center tenant—is developing "new physical concepts" to meet the unique requirements of the highway shopper. For one thing, the store as a giant show window to attract passing *motorists*, not foot traffic—and by night (nocturnal shopping is very important in highway retailing) as well as by day. For another, store units of enormous size: the "super" (food, drug, furniture—what-have-you) store with a wide variety of unrelated merchandise is a natural for the highway location. For still another, drive-in stores—and even a few experimental drive-*through* stores. "From the highway hamburg stand to the highway million-sq-ft retail emporium," says Mr. Weiss, "is the next destination of mass retailing."

Strangers and Friends

At the beginning of a year in which the 78-year-old Architectural League of New York is undertaking a serious and provocative series of programs to examine the state of "collaboration of the building arts" (its own special and perpetual purpose), guest speaker Victor Gruen—an architect who is no stranger to any art—had some practical observations to offer. "The whole field of integration of arts with architecture has a striking similarity to the problem of the weather—everybody talks, but nobody does anything about it. . . . Art and architecture are like two people who haven't seen each other since early childhood and suddenly meet again, acting clumsy and awkward. Their communications are slow and troublesome. They have grown apart over the years. They can't remember each other's faces and characteristics, and both feel upset about the peculiarities which each of them has acquired in the long years of separation." As for the client: "We have to convince him that an inspiring environment, that, indeed, expressions of art, are good for business. He wants it to be proven to him that the capital investment in art can be amortized quickly and profitably. Inasmuch as these are facts which can be proven to be true, we are not engaging in any devious activity if we proceed along these lines." And finally: "The public, which for a century and a half has seen art only in the zoos of museums and art galleries, is bewildered and scared if it meets up with the beasts outside their cages. Maybe art, when let out of the cages, should, at least for a time, not roar too loudly, in order not to create the panicky screaming 'The lions are loose!' "

FOUNDATIONS AND ARCHITECTURE: A LOOK AT SOME PROMISING CURRENT EFFORTS

The activities this year of at least a dozen of the larger philanthropic foundations will have a direct and significant effect upon the field of architecture, and the influence of many other similar institutions will make itself felt indirectly.

A recent RECORD survey suggested four major areas of foundation activity bearing directly upon the interests of architects. These can be categorized as Urban and Regional Planning, Hospitals and Educational Facilities, Housing and Housing for the Aged, and Basic Research by institutions or individuals.

Urban Planning

Two of the largest foundations are sponsoring contrasting methods of research into problems of urban planning. The Ford Foundation's approach is primarily through the medium of the understanding and control of economic conditions, while the Rockefeller Foundation has been financing a series of studies of the esthetic aspects of urban design.

The Urban Program of the Ford Foundation has made a series of grants during the last three years to support such varied projects as a citizen's seminar at Boston College to pool information on metropolitan conditions, an ACTION research project on impediments to better housing and a 25-year projection of the economy of the New York metropolitan area made by the Regional Plan Association of New York. The latest grant in this program will finance a study of the Detroit metropolitan area which will draw on many sources of information, political scientists and civic officials, economists, planners and architects.

The Rockefeller Foundation has made grants to the Graduate Program in City Planning at Yale, to M.I.T., and to the Institute for Urban Studies at the University of Pennsylvania. The grant to Yale is being used to study esthetic problems in the urban fringe, while two grants to the University of Pennsylvania will be used to finance a series of monographs on the design of open spaces and a four- or five-volume history of cities in Europe, Asia and Africa. The Institute for Urban Studies will also conduct a survey of publications on urban design under another grant from the Rockefeller Foundation.

The Twentieth Century Fund, which differs from many other foundations by selecting its own director and staff for the research projects it undertakes, is conducting a population study of the Northeastern seaboard under the direction of Jean Gottmann. This study is investigating the consolidation of population patterns into what the interim report terms "Megalopolis."

Many foundations have aided urban redevelopment and planning at the local and regional level. The Kellogg Foundation gave three quarters of a million dollars to establish an Institute of Community Development at Michigan State University, and recently announced a grant of almost a million dollars to aid redevelopment in Battle Creek. In Pittsburgh the various Mellon Foundations have recently completed assembling the land for a regional park system, and the Mellon Educational and Charitable Trust has financed other civic improvements in the past, notably Mellon Park.

Hospitals and Education

Many foundations help to finance the construction of hospitals and educational facilities. For example, the Duke Endowment has devoted a large part of its program to financing hospitals and orphanages in North and South Carolina, and the Kellogg Foundation has assisted in the construction or modernization of a number of Michigan schools, and has also contributed funds towards the building of hospitals and health centers. One foundation, the Olin Foundation, has chosen to devote itself solely to providing buildings for educational institutions.

In the field of research, the Kellogg Foundation has helped finance a study by the American Hospital Association of future needs for hospital facilities, and the newly-created Educational Facilities Laboratories of the Ford Foundation will finance studies of the innovations in school facilities required by changing curriculum requirements and will coordinate and publish the information gained.

Housing and Housing for the Aged

A number of foundations such as the Lavanberg Foundation and the United Housing Foundation specialize in the field of housing. The former is sponsoring several investigations into the problem of integrating public housing projects with the community life of New York City and the United Foundation conducts research and gives advice and aid to groups seeking to set up middle income housing cooperatives.

The problem of housing the aged is one of the topics covered in the Ford Foundation's program concerned with problems of the aging. This program is financing a five-year research project on housing arrangements for older persons which has been undertaken by Western Reserve University and the Welfare Foundation of Cleveland. The Ford Foundation recently announced a grant to the Housing Research Bureau at Cornell University for a similar study.

Basic Research

The foundations also finance many of the researches of a theoretical and scholarly nature that are carried on each year by various individuals and institutions; and many of these studies have a bearing on architecture.

The list of this year's Guggenheim Fellows includes two architectural historians, Mrs. Ada Louise Huxtable and Dr. William Bell Dinsmoor, and a ceramist, Frans Wildenheim, who will carry out studies of ceramic sculpture as it relates to architecture.

The latest list of grants of the National Science Foundation includes several of interest to architects, among them a grant of $36,000 for a three-year study of the dynamic response of reinforced concrete slabs to be directed by J. L. Waling of the department of Civil Engineering at Purdue University and a grant to the University of Illinois to finance a five-day conference on Plain Concrete.

"Creativity" itself is being studied at the Institute of Personality Assessment and Research of the University of California and at the University of Chicago under grants from the Carnegie Corporation. At California this fall the Institute, which was established in 1949 through a grant from the Rockefeller Foundation, will begin a study of creativity in architecture to be directed by Donald W. Mackinnon.

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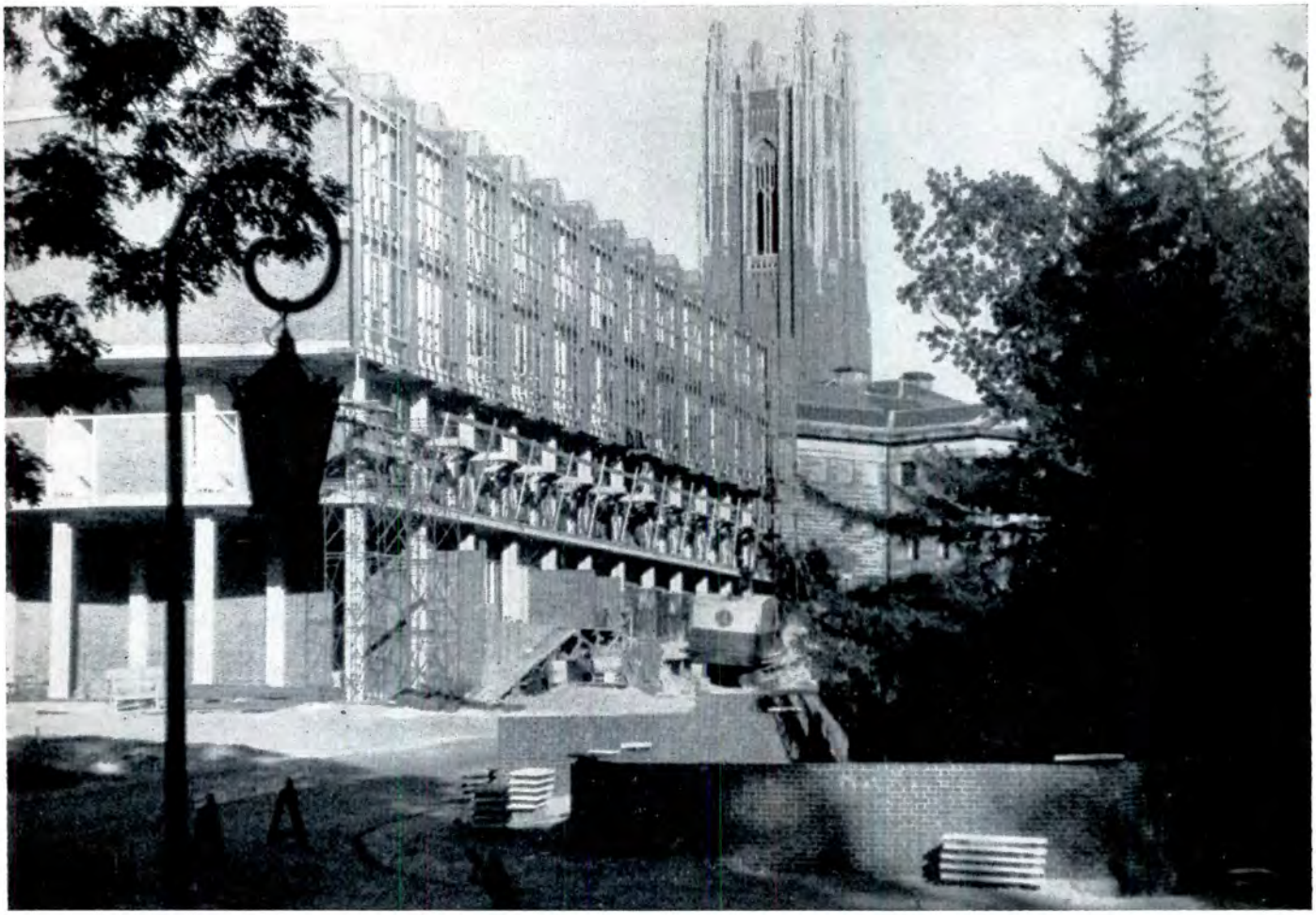
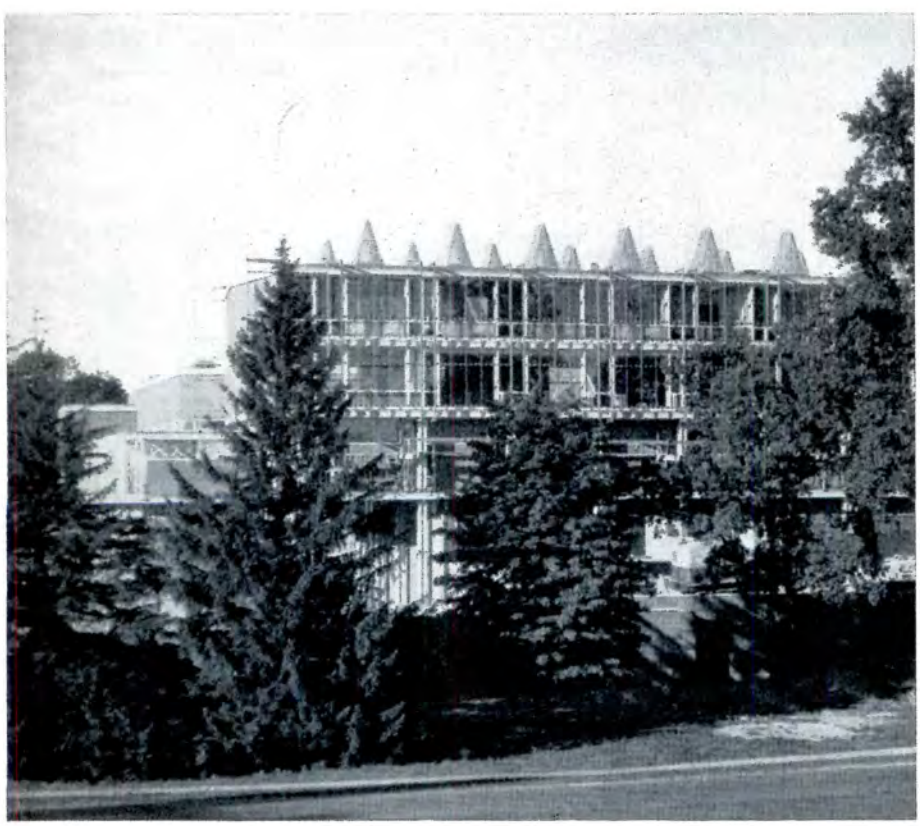
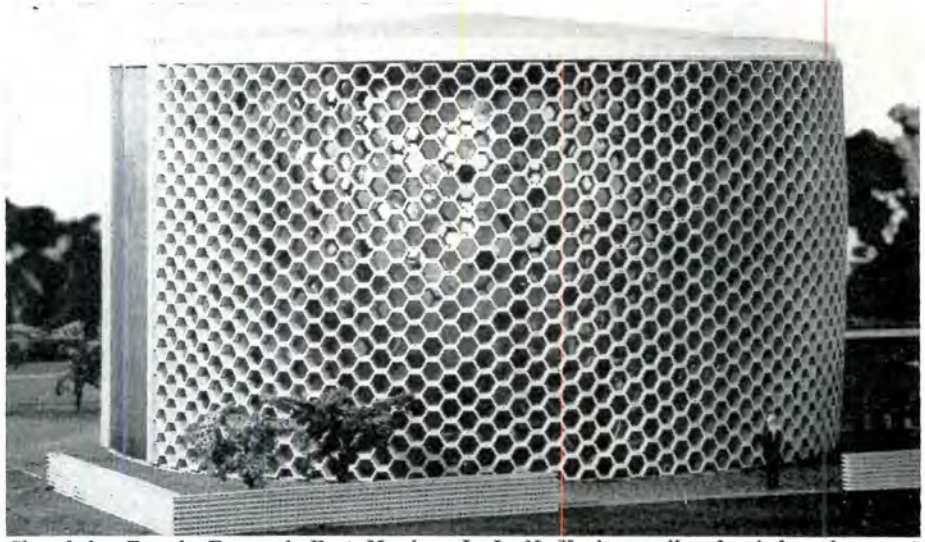


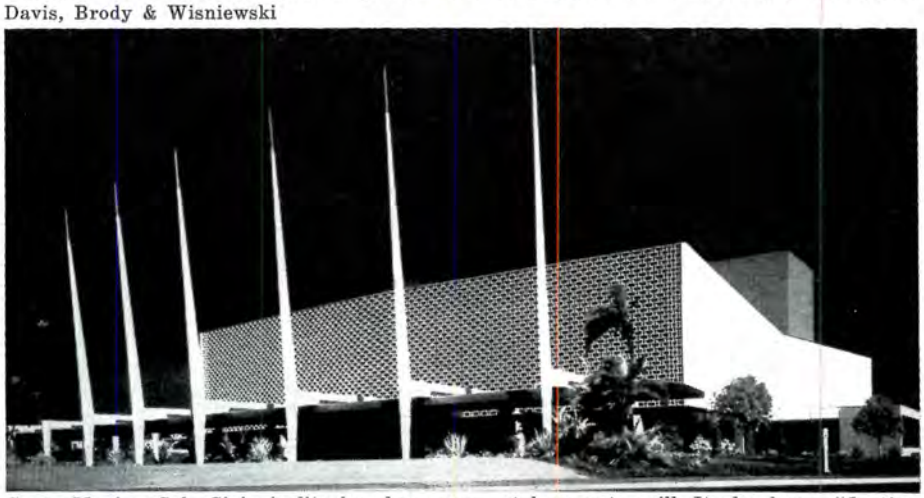


The Mary Cooper Jewett Arts Center, now nearing completion at Wellesley College, Mass., with the Galen L. Stone Tower, the campus landmark, in the background. For its sensitive response in scale and mood to the sensitive problem of a new building in the Collegiate Gothic setting of a lovely old campus, this building seems certain to become a new landmark in campus architecture. Paul Rudolph, Architect; Anderson, Beckwith & Haible, Associated Architects; Sasaki & Novak, Landscape Architects; Goldberg, Le Messurier Associates, Structural Engineers; Stressigner, Adams, Maguire & Reidy, Mechanical and Electrical Engineers; Bolt, Beranek & Newman, Acoustical Consultants; George A. Fuller Co., General Contractor

New building for United States Mission to the United Nations, to cost $3.7 million, will get under way next month at 45th Street and U.N. Plaza, directly across the street from the U.N. General Assembly. The building will comprise a 12-story-and-basement office wing, an adjoining service core and a two-story-and-basement auditorium. A screen of cream-white cast stone on the office wing will form a series of hexagonal frames for a floor-to-ceiling glass curtain wall and, with a 14-in. overhang, provide natural light and sun control for an all-air conditioned glass building. Architects: Kelly & Gruzen. Structural Engineers: Harwood & Gould. Mechanical Engineers: Slocum & Fuller



Chapel for Temple Emanuel, East Meadow, L. I., N. Y., has walls of reinforced precast concrete half-hexagonal units, to be laid up in a running bond. This continuous structural skeleton will be filled with colored glasses. Roof structure is still under study. Architects: Davis, Brody & Wisniewski



Santa Monica, Cal., Civic Auditorium has ornamental concrete grill. It also has a "floating floor": hydraulically operated tilting platform makes two thirds of the auditorium floor, helps equip building for everything from basketball and trade shows to symphony and opera. Architects: Welton Becket and Associates. General contractors: C. L. Peck; Millie & Severson

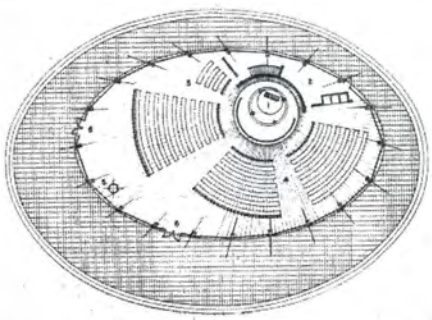
Scaffolding on the East Front of the U. S. Capitol, in preparation for the work of measuring and making casts for reproduction in marble after extension

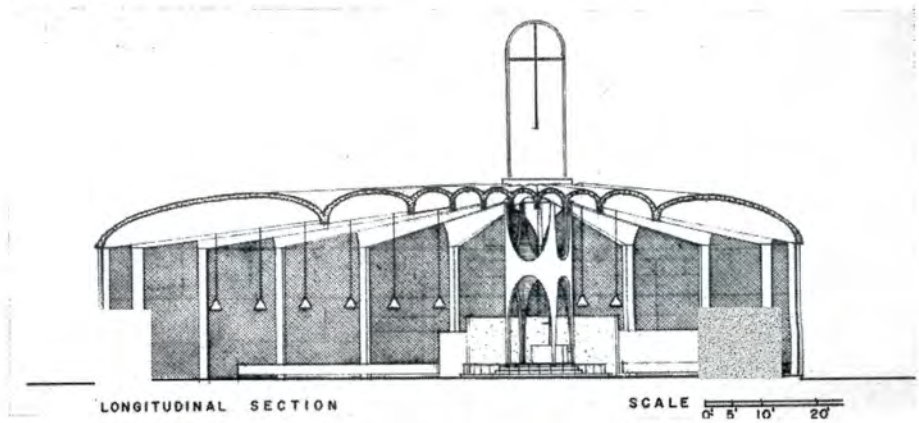
IBM Research Center to be built on 224-acre site in Yorktown Heights, N. Y., will follow the general east-west contour of the site. With 450,000 sq ft of floor area, it will be the largest single IBM research laboratory; it will also be administrative headquarters for all IBM laboratories. Architect: Eero Saarinen

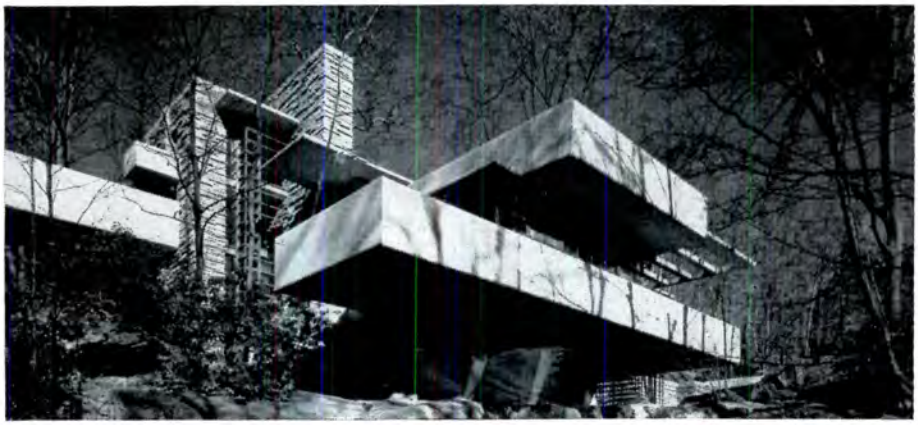
A CHAPEL THE ARCHBISHOP OF BOSTON WOULD LIKE TO BUILD

Designed by Thomas F. McNulty and Mary S. Fawcett for a Boston exhibit of religious art and architecture, this chapel of concrete and stained glass (9000 sq ft of it) found a would-be client when the Most Rev. Richard J. Cushing, Archbishop of Boston, was brought to see it. Still to be located are a site and half the $400,000 estimated cost—the Archbishop, who has offered to provide the other half, observes that "there are many devotees of art but there are few who are willing to contribute." The chapel would have an asymmetrical roof of conical shells, walls of stained glass (for which Gabriel Loire of Chartres has done the sketches) and elliptical plan with the altar off axis but made dominant by the seating arrangement and its relationship to the roof.

Structure is concrete, formed in place. Exterior columns support beams framing into a central cylinder which shelters the altar and admits light from its ceiling intersection while acting as a column. Shells would be formed on the ground, lifted into place and grouted to each other and the intersection beam







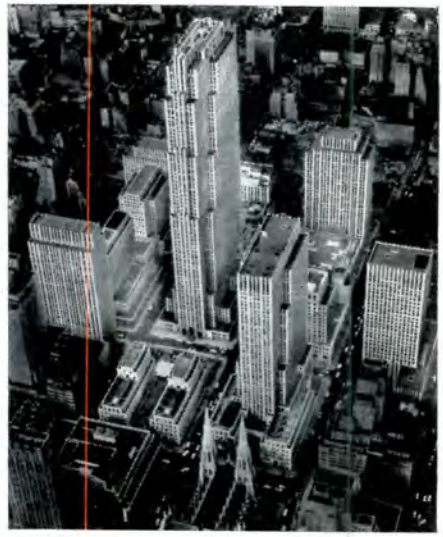
Top: General Motors Technical Center, Warren, Mich.; Eero Saarinen and Associates, Architects—Smith, Hinchman and Grylls, Associates. Center: "Falling Water," the E. J. Kaufman house, Bear Run, Pa.; Frank Lloyd Wright, Architect. Above: the Robie house, Chicago; Frank Lloyd Wright, Architect

Carson Pirie Scott Store, Chicago; Louis Sullivan, Architect. It was begur in 1899, the only 19th century "wonder"

S. C. Johnson and Son Research and Development Center tower, Racine, Wis.; Frank Lloyd Wright, Architect

Seven "Wonders of Architecture" Named in Special Survey

The buildings shown on this page were chosen as the "Seven Wonders of American Architecture" in a survey of 500 American architects recently conducted by Asher B. Etkes Associates Inc., a New York public relations firm. Three of the seven "wonders" were designed by Frank Lloyd Wright; all but one are twentieth century buildings. Runners-up in the survey included: Louis Sullivan's Wainwright Building, St. Louis, and Auditorium, Chicago; the Lincoln Memorial, Washington, D. C. by Henry Bacon; Mies van der Rohe's Seagram Building, New York; the old Campus of the University of Virginia and Monticello, both by Thomas Jefferson; and H. H. Richardson's Trinity Church in Boston.



Above: Rockefeller Center, New York City; Reinhard & Hofmeister, Corbett, Harrison & MacMurray, Hood & Fouilhoux, Architects. Below: Lever House, New York City; Skidmore, Owings & Merrill, architects

A Report On

COPPER BRASS BRONZE

In Architecture:

Six Advantages for Function

and Appearance

The recurrence of copper and copper alloys in the architectural news of recent months has been evidence of widely varying applications and purposes: prefabricated copper and brass plumbing in a hotel to reduce installation costs; a sheet copper field house roof for minimum maintenance; and architectural bronze curtain walls for dramatic, yet warm, appearance. Yet all of these are perfectly practical applications of copper and its alloys.

The copper metals include over forty standard alloys at the present time — each with different properties for different applications. Although the coppers have been used architecturally since at least 2500 B.C., new uses are constantly being developed. The reason is that these metals have a range of properties that stimulate the imagination—and challenge it at the same time. There will always be new architectural uses for copper and its alloys.

Here is a brief review of six of their most outstanding architectural advantages and current examples of their applications:

1 Durability. Copper, used functionally, reduces building maintenance, primarily because of its resistance to corrosion and the reliability of joints made with it. Copper plumbing and waste lines resist clogging by corrosion products. Copper's own natural patina protects it against corrosion from atmospheres.

Architects for a new athletic field house in a tidal region specified 136,000 pounds of sheet copper to roof the 74,000 sq. ft. area – for reasons of long run economy.

2 Installation Cost. Because bronze extrudes readily it is often economical to custom design shapes and panels for architectural use – and to include flanges and ferrules in these shapes for easy joining and installation. Frequently it is practical to prefabricate subassemblies with bolts, clamps or by soldering before they even reach the site. Minimizing site work naturally cuts installation cost.

Because it can be easily and safely joined by soldering and easily assembled in limited spaces, and because its corrosion resistance permits use of light-weight tubing, copper plumbing is now *lower in installed cost* than other systems – in addition to minimizing space requirements and heat losses. And now experiments with prefabricated plumbing systems in both single and multi-unit dwellings have developed further savings. In a recent hotel installation, only three sub-assemblies were needed for the complete roughing-in of each bathroom. The repetitive layout made it practical to construct these subassemblies on custom jigs before delivery to the site – with resultant savings.

3 Heat Conductance. Copper conducts heat more efficiently than any other commercial metal. Most finned baseboard radiators, as well as ceiling, floor and many sidewalk radiant systems, solar heating and heat pumps, depend on copper for efficient transfer of the heating medium and efficient collection and dispersal of the heat itself.

4 Form. Flat spandrels for a clean facade, arrised mullions for sharp shadows, deep-relief panels for wall sculpturing, intricate castings for trim interest – all are possible with copper alloys. Sharp-edged extruded shapes as large as 6" by 4½" by 26 feet in architectural bronze were thought impossible – but they are now dramatically evident on Park Avenue.

5 Finish. It is not news that copper, bronze and brass can be highly polished, or can be allowed to develop a natural patina, or can be durably plated with chrome or other metals. The news is in the new applications taking advantage of these facts. For example, a new church will have a steeple of copper curtain-wall panels. These panels will be glazed with transparent color. Through the cool blues and greens will glow the warm red of the copper.

6 Color. There are very few colors in nature which cannot also be found in copper and its alloys: the red and gold of autumn, the greens of summer and the browns of the earth. Wherever decorative or structural metal must be used in harmony with brick, with wood or other natural materials, or with nature itself, the answer is therefore the coppers. The architect for a new research tower contrasts the blue-green patina of copper louvres against a southwestern landscape. The patina was developed by a Copper & Brass Research Association spray process much faster than would otherwise have been possible.

Architectural and building news is being made today by copper and its alloys. The Copper & Brass Research Association will be happy to supply you with information in any area of your interest. Write CABRA, 420 Lexington Avenue, New York 17, N. Y.

There's a new frontier in...

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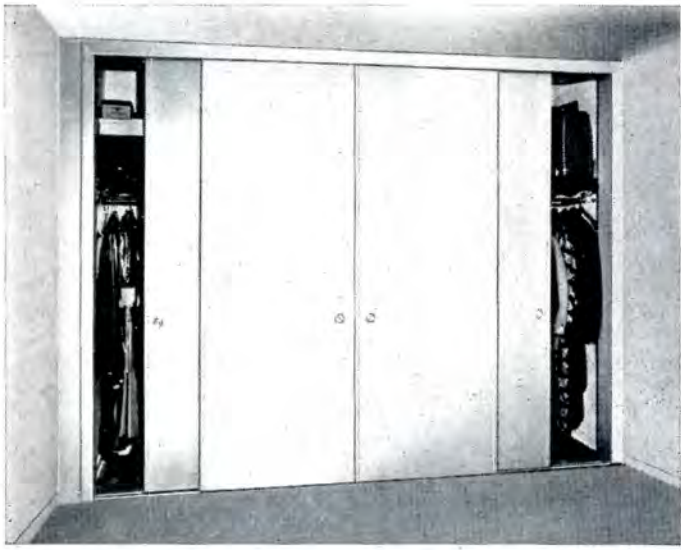

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Room in 50-year-old single home modernized into two apartments by Mr. Arthur Stockdale, Cleveland, Ohio, shows contrast between old and new in steam heating. Trim, compact SelecTemp unit at left (only 18″ high) has maximum heat output of 12,000 Btu per hour. Built-in modulating non-electric thermostat controls forced circulation of filtered warm air.

Individual room-by-room temperature control now economical and practical

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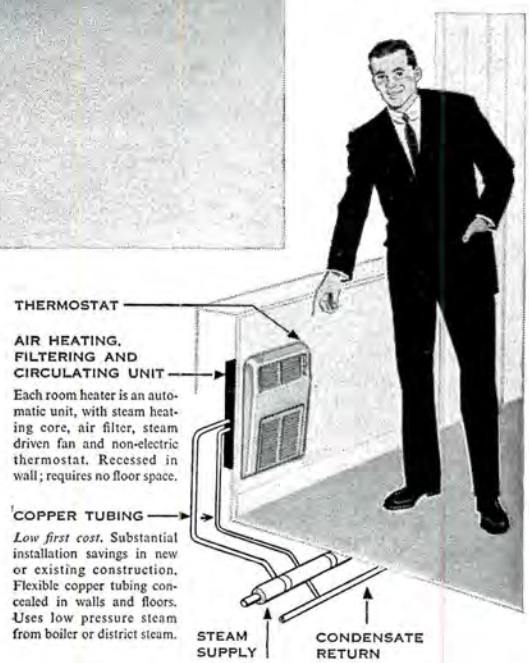
For more information see catalog in Sweet's Architectural and Light Construction files, or mail coupon.



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A Washington Report by Ernest Mickel

MORE MONEY FOR BUILDING PROGRAMS: AN ELECTION-YEAR CONGRESS IS GENEROUS

In retrospect it can be said that the second session of the 85th Congress was generous beyond most expectations when it came to voting new funds for building and construction programs and for the various assistance efforts so important in maintaining a high level of activity in this field.

Item after item in the general tabulation on appropriations showed an increase over the comparative figure for fiscal 1958. Only in a few instances did Congress cut back on a program, and these reductions often reflected factors other than straight program cutbacks; carryover funds, lack of adequate advance planning, and other influences prompted some of the decisions for less construction money.

One of the more significant actions of the 85th second session was that returning the big Federal building program to direct appropriations. It became evident in committee consideration of money for carrying out the lease-purchase method of providing these structures that pressure was building up against the plan. Objectors could cite slow progress in getting projects to the construction phase, and capped with General Accounting Office findings their argument that construction with appropriated funds would cost the taxpayers much less than the amounts called for over the long term with lease-purchase handling.

As a result, final determination took the program out of lease-purchase. A new fund of $152.8 million was voted and is now available for the construction of 47 new structures in 20 states and Hawaii. Thus ended a long and troubled experiment with long-term financing of U. S. buildings wherein the government arranged for private enterprise to supply funds as well as do the actual construction work.

There was an additional appropriation of nearly $40 million for acquisition of sites and planning, also to be used by the General Services Administration, and $75 million for repair and improvement of existing Federal buildings.

Money was provided in equal or better amounts than last year for the Department of Health, Education and Welfare (largely for Public Health Service programs), to carry on its aid efforts. The Hill-Burton hospital construction program fared well with $186.2 million made available for the state assistance, compared with $121.2 million in the previous fiscal period. Most of the new money was for the regular portion of the hospital construction act with the balance earmarked for rehabilitation facilities. There was a small increase for aiding Federally-impacted areas with their school building problems; waste treatment and health research facility grants-in-aid remained at their fiscal 1958 levels, $45 million and $30 million respectively.

Again, there was no general aid voted for the construction of classrooms. The Administration did not advocate this, as it had in 1958, and virtually all the efforts of Congress were concentrated on an aid-to-education measure which cleared Capitol Hill providing large sums for scholarships and other academic considerations—but no construction money.

Architects and engineers interesting themselves in airport development in connection with advent of the jet age were encouraged to see the authorization for Federal aid to airport building continued and to see an appropriation of $30 million as against $25 million last year, although this was later vetoed by the President (see page 370).

In the area of military construction the changeover to emphasis on rockets and missiles and their required permanent facilities was becoming more and more noticeable. A heavy share of the $1.3 billion provided in armed services construction money would eventually be spent on installations of this type.

Work will go forward around the world with funds contained in the military construction bill. This legislation came from Congress watered down by 22 per cent. President Eisenhower had asked for around $1.7 billion for carrying on this defense construction work in fiscal 1959. As he finally signed the bill into law, it provided $758 million for Air Force construction, $295 million for Navy work, and $230 million for the Army.

The Air Force portion included $252.5 million for ballistic, strategic missile, and other defensive work. Under terms of the new law, Defense Secretary McElroy has authority to transfer $50 million from other funds to the Advanced Research Projects Agency for building purposes.

Also a part of the military construction appropriation is $24.3 million for Army Reserve buildings, $8 million for Naval Reserve, and $9.6 million for the Air National Guard.

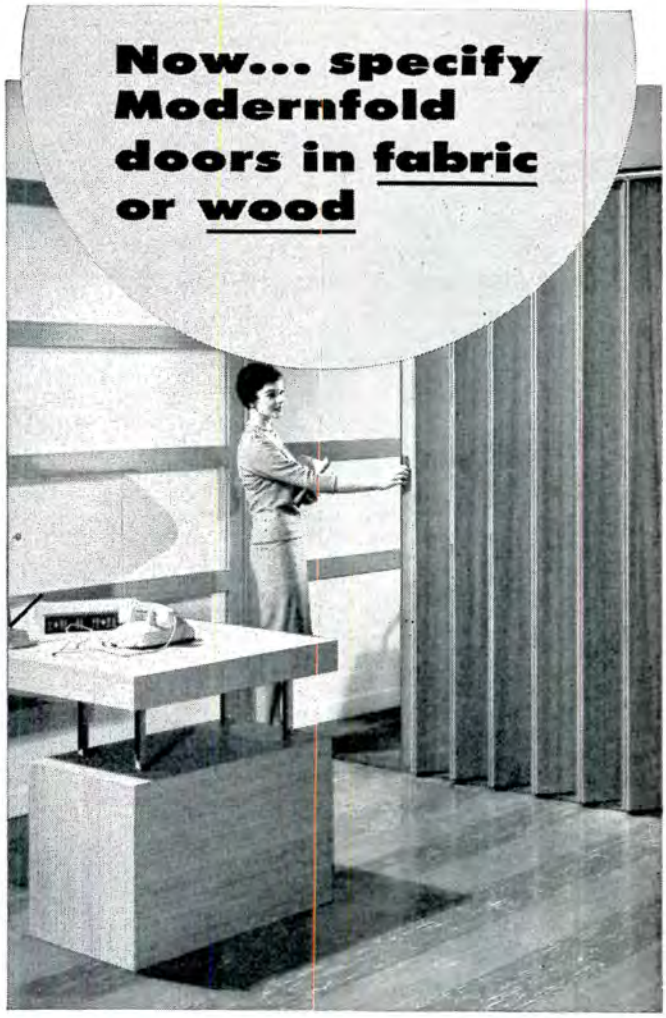
The Army Corps of Engineers is carrying forward its tremendous civil works construction with a fiscal 1959 appropriation of more than $600 million, though it was cut back on general investigation funds. Interior Department was boosted to $146

continued on page 364

SCOREBOARD ON CONSTRUCTION FUNDS
(Appropriations in millions)

	Fiscal 1959	Fiscal 1958
Civil Aeronautics Administration		
Federal aid to airports	$30.0	$25.0
Housing and Home Finance Agency		
Urban planning grants	3.2	1.2
Reserve of planned public works	7.0	5.0
Farm housing research	0	75(th)
Capital grants for slum clearance	50.0	0
Veterans Administration		
Improve and modernize hospitals (total)	19.2	44.5
General Services Administration		
Federal public buildings construction	152.8	0
Acquisition of sites and planning	39.9	20.0
Repair & improvement, Federally-owned buildings	75.0	65.0
Dept. of Health, Education and Welfare (1)		
Hill-Burton hospital construction	186.2	121.2
School construction, Federally impacted areas	50.0	41.7
Waste treatment construction	45.0	45.0
Health research facilities construction	30.0	30.0
Army Corps of Engineers		
Civil works construction	603.2	449.3
General investigations	1.5	10.7
Dept. of Interior		
Reclamation construction	146.0	116.7
General investigations	4.5	5.9
"Mission 66" (park improvements)	20.0	17.4
Dept. of Defense		
Army public works	230.0	310.0
Navy public works	295.0	265.0
Air Force public works	785.0	900.0
Air Force Academy	3.3	17.2
Atomic Energy Commission		
Plant and equipment	249.9	108.1
Dept. of State		
Office of Foreign Buildings (construction and acquisition)	18.5	18.5

(1) Of this total, $150 million is for regular H-B construction, and $35 million for rehabilitation facilities (Part G of act) as follows: $7.5 million for diagnostic or treatment centers, $7.5 million for hospitals for the chronically ill and impaired, $10 million for rehabilitation facilities and $10 million for nursing homes.



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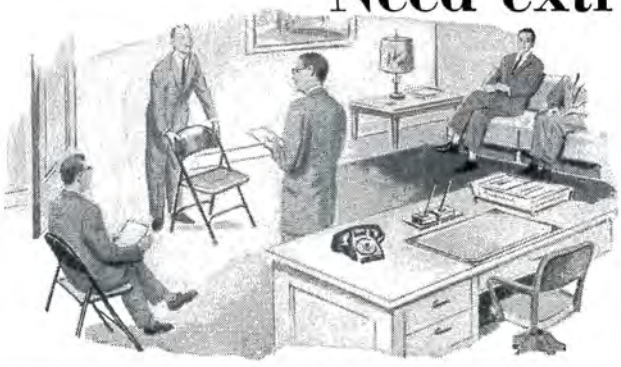

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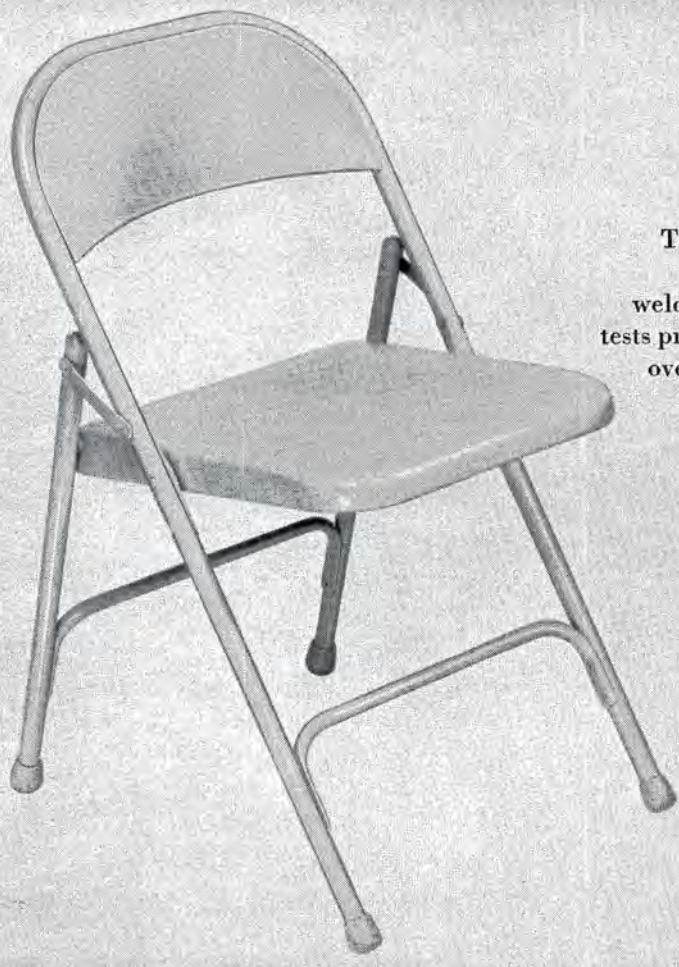

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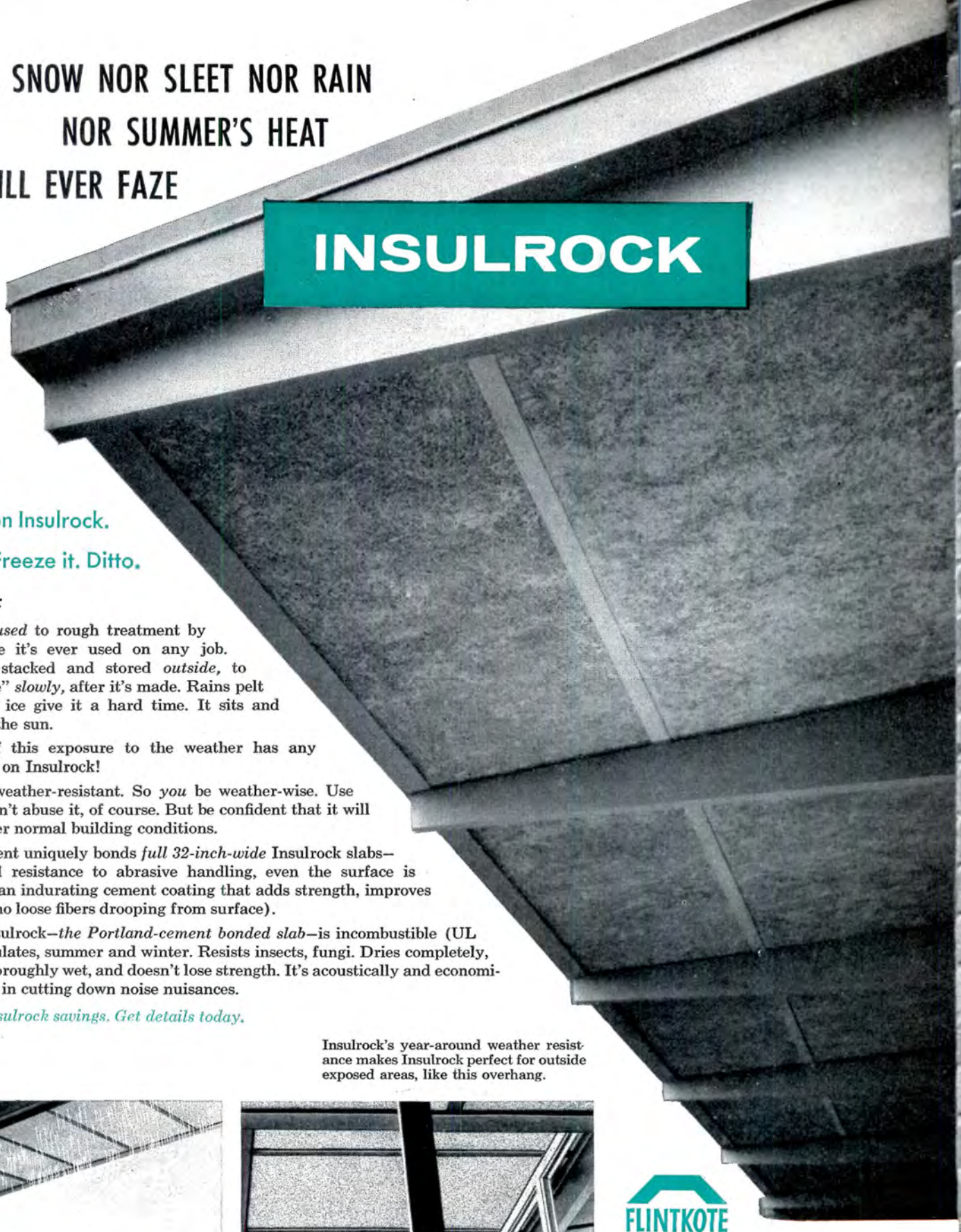

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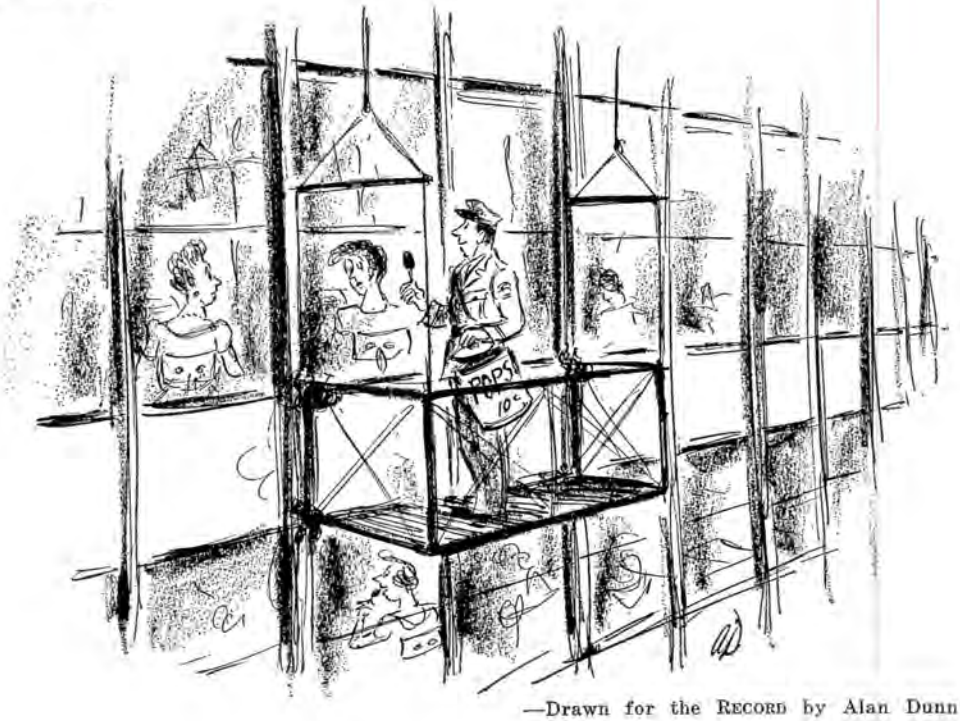
Meetings and Miscellany



—Drawn for the RECORD by Alan Dunn

New Dean at Oregon

Walter L. Gordon, Portland architect, was recently named dean of the School of Architecture and Allied Arts at the University of Oregon.

Dean Gordon received both bachelor's and master of fine arts degrees from Princeton University. He also studied at the University of Paris and at Yale. He was curator of the San Francisco Museum of Art, then went to Portland in 1939 as assistant director of the Portland Art Museum. From 1940 until 1946 he worked with Pietro Belluschi as a designer. Since 1947 he has had his own architectural practice in Portland.

The new dean, a member of the American Institute of Architects, has lectured in architecture at the University of Oregon for the last two years.

A.I.A. in San Francisco in '60

The American Institute of Architects' board of directors has approved San Francisco as the site of the 1960 annual convention. Denver had been scheduled as the location, but it was decided to wait until the new Hilton Hotel had been finished there and placed in operation. The Denver hotel is scheduled for completion on June 1, 1960. The San Francisco hotel where the convention will be held in 1960 had not been chosen at press time.

The 1959 convention will be in New Orleans, June 22-26. Philadelphia is set for 1961, Dallas for the 1962 meeting. Denver may get its chance to entertain the architects in 1963, but this has not yet been decided.

Now 50 Accredited Schools

The 1958-1959 list of accredited schools of architecture, issued by the National Architectural Accrediting Board, shows 50 schools, three more than in 1957-58. All are accredited for five years (subject to approval of an annual report) except the six schools given provisional status. Of these, three are the additions this year: University of Arkansas (B. Arch.), Montana State College (B. Arch.), and Western Reserve University (B. Arch.). The provisional status of Texas Technological College has been continued, and the University of Kansas and Virginia Polytechnic Institute are newly in that category.

All but five schools award the B. Arch. degree on completion of the professional architectural curriculum. Four give a B.S. in Arch. degree and one (Princeton) an M.F.A. in Arch.

Bloomfield With Modular Group

Byron C. Bloomfield has moved from the position of secretary for professional development with the American Institute of Architects to that of executive director of the Modular Building Standards Association. He took over the new duties on September 2, moving into the building at 2029 K Street, N.W., Washington 6, occupied by the Producers' Council, Inc. Mr. Bloomfield was with the A.I.A. from his affiliation in 1955.

The M.B.S.A. had its beginning about a year ago when a small group of industry leaders met to incorporate the Association and broadly outline its objectives. There are five sponsoring groups: the A.I.A., Associated General Contractors of America, Inc., American Standards Association, National Association of Home Builders, and P.C. The Council has been donating office space for the limited operations of M.B.S.A. during the past year.

New Interior Design Center

A permanent exhibition of the latest interior design products has been opened in New York. The Design Center for Interiors, First Avenue and 53rd Street, covers 35,000 sq ft and contains exhibits of all kinds, model rooms, and an information bureau. The center is intended to serve four publics: small-scale consumer; large-scale consumer; designer, decorator, architect, and home builder; and manufacturer of interior design products.

Architects who visit the center can use a separate area for the trade, containing desk space, telephones, conference rooms, and a press lounge. The trade reference library is devoted to source material for residential, commercial, and industrial interior design.

The center, largely founded by Norman Ginsberg (founder earlier of the adjoining Decorators' Mart), was planned and executed by Tom Lee, who is design consultant in charge of all exhibits. Standards for exhibits are upheld by an advisory

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Interesting contemporary bedroom designed by Leo Fischer, Princeton, N. J., architect. Andersen Casement Windows above fixed glass help create individuality, beauty and flexibility.

Extra warmth is added to this Pennsylvania school, too, by Andersen WINDOWALLS. Their enduring wood complements the over-all design. John Booden, Williamsport, Penna. architect.

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council headed by Mr. Lee and including also Pierre Bedard, president, Parsons School of Design; Robert Carson, architect; John D. Gerald, president, New York chapter, American Institute of Decorators; Dorothy Liebes, textile designer; George Nelson, architect and designer; and Meyric Rogers, Art Institute of Chicago.

Dudley Hunt Joins Record Staff

W. Dudley Hunt, A.I.A., has joined ARCHITECTURAL RECORD as a senior editor.

Before joining the Record, Mr. Hunt practiced architecture in New Orleans and Pensacola, Fla., where he has his own firm. During the years 1951 to 1954 Mr. Hunt was a partner in the architectural firm of Bennett & Hunt, Anniston, Ala.

Mr. Hunt has served on the faculty of Tulane University, New Orleans, and Jacksonville State College, Jacksonville, Ala.; he is also an alumnus of both schools.

A native of New Orleans, Mr. Hunt has contributed articles to trade magazines on various design topics and is author of books in the same field. One of his books, *The Contemporary Curtain Wall: Its Design, Fabrication and Erection,* is scheduled for early publication by F. W. Dodge Corp.

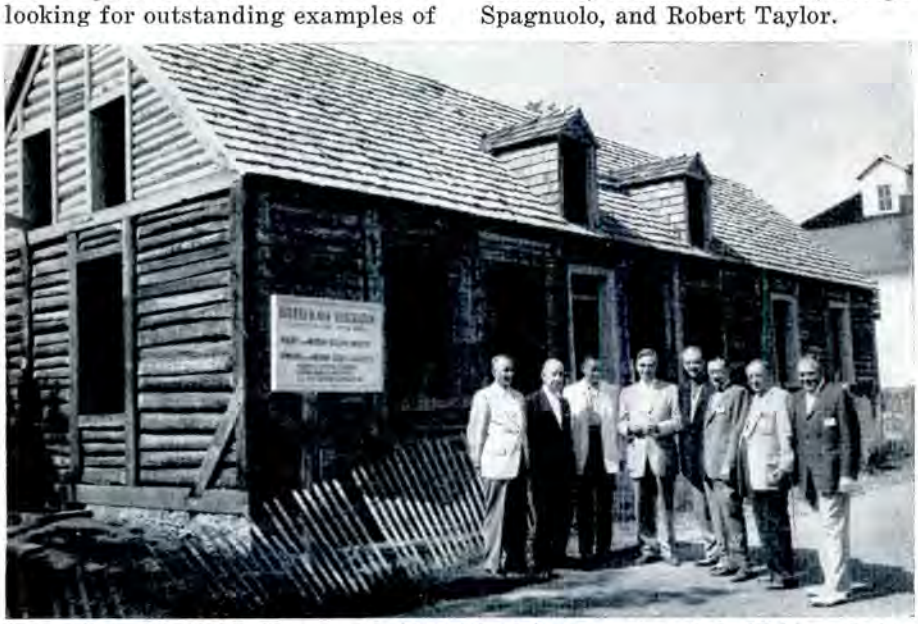
For "Synthesis of the Arts"

Mural painter Helen Treadwell is looking for outstanding examples of art in architecture for use in a proposed series of slide-illustrated lectures on "The Synthesis of the Arts." Miss Treadwell, long active in the Architectural League of New York and a past vice president of the mural painters' division, hopes through these lectures to promote "a closer relationship between artists and architects . . . to the end that there may be a greater use of the decorative arts in the contemporary building program." Suggestions and/or photographs should be sent to Miss Treadwell at 33 W. 67th Street, New York 23, N. Y.

John Knox Shear Memorial Fund

A group of friends of the late John Knox Shear, primarily at Carnegie Institute of Technology, where he headed the department of architecture from 1949 to 1954, have started a memorial fund to establish a traveling fellowship in architecture. Mr. Shear, who died last January, was editor of this magazine from November, 1954, until his death.

Contributions may be sent to the John Knox Shear Memorial Fund, Carnegie Institute of Technology, Pittsburgh 13, Pa. Gifts are tax-deductible (and, for Carnegie alumni, are credited as contributions to the alumni fund). The goal is $30,000. Members of the committee are: John Hackler, John Pekruhn, Joseph Thomas, Paul Schweikher, Robert Schmertz, Mildred Schmertz, Joseph Spagnuolo, and Robert Taylor.



Restoration of the Biddle House on Mackinac Island, long a project of the Michigan Society of Architects for the Michigan building industry, is now underway. The house, the oldest on the island and the oldest known in the Northwest Territory, was built in 1780; when it is turned over to the state next June, it will be authentically refurnished and will include a museum of early construction and architectural tools. Shown are (left to right) Fred Muller, president, Producers Council of Michigan; Roger Allen, F.A.I.A.; M. J. Brokaw, Detroit district manager, F. W. Dodge Corporation, and executive director, restoration committee; John Richards, national president, A.I.A.; A. N. Langius, F.A.I.A., chairman, restoration committee; Talmage C. Hughes, F.A.I.A., secretary, M.S.A.; Gustave Muth, officer, M.S.A.; Fred J. Wigen, F.A.I.A., president, M.S.A.

The Guggenheim without scaffolding: Since the scaffolding was removed in late August, Frank Lloyd Wright's Guggenheim Museum in New York (AR, May '58) has begun to take on its final appearance

Recently named consulting architects on Grand Central City, Pietro Belluschi and Walter Gropius are shown (seated second and third from left) conferring with Edwin S. Wolfson, chairman of the board, Diesel Construction Company (left) and Richard Roth, partner in the New York firm, Emery Roth & Sons, architects of the building (AR, July '58, p. 13). Standing (from left) are Stuart Scheftel and Herbert Scheftel, who in association with Mr. Wolfson and Alfred G. Burger will erect the office tower, to be built next to Grand Central Terminal in New York, on the site where the Grand Central Terminal Office Building now stands. The 3,000,000-sq ft structure, world's largest commercial office building, will rise 50 stories and is expected to cost $100 million

New president of the New York chapter, A.I.A., is L. Bancel LaFarge (left), partner in LaFarge, Knox & Murphy. Mr. LaFarge, who was elected in June, previously served as secretary of the chapter. First executive director of the recently formed Modular Building Standards Association is Byron C. Bloomfield (right), formerly secretary for professional development with the A.I.A. Mr. Bloomfield is a civil and architectural engineer who also has taught architecture. Cyrus E. Silling, architect, is M.B.S.A. president

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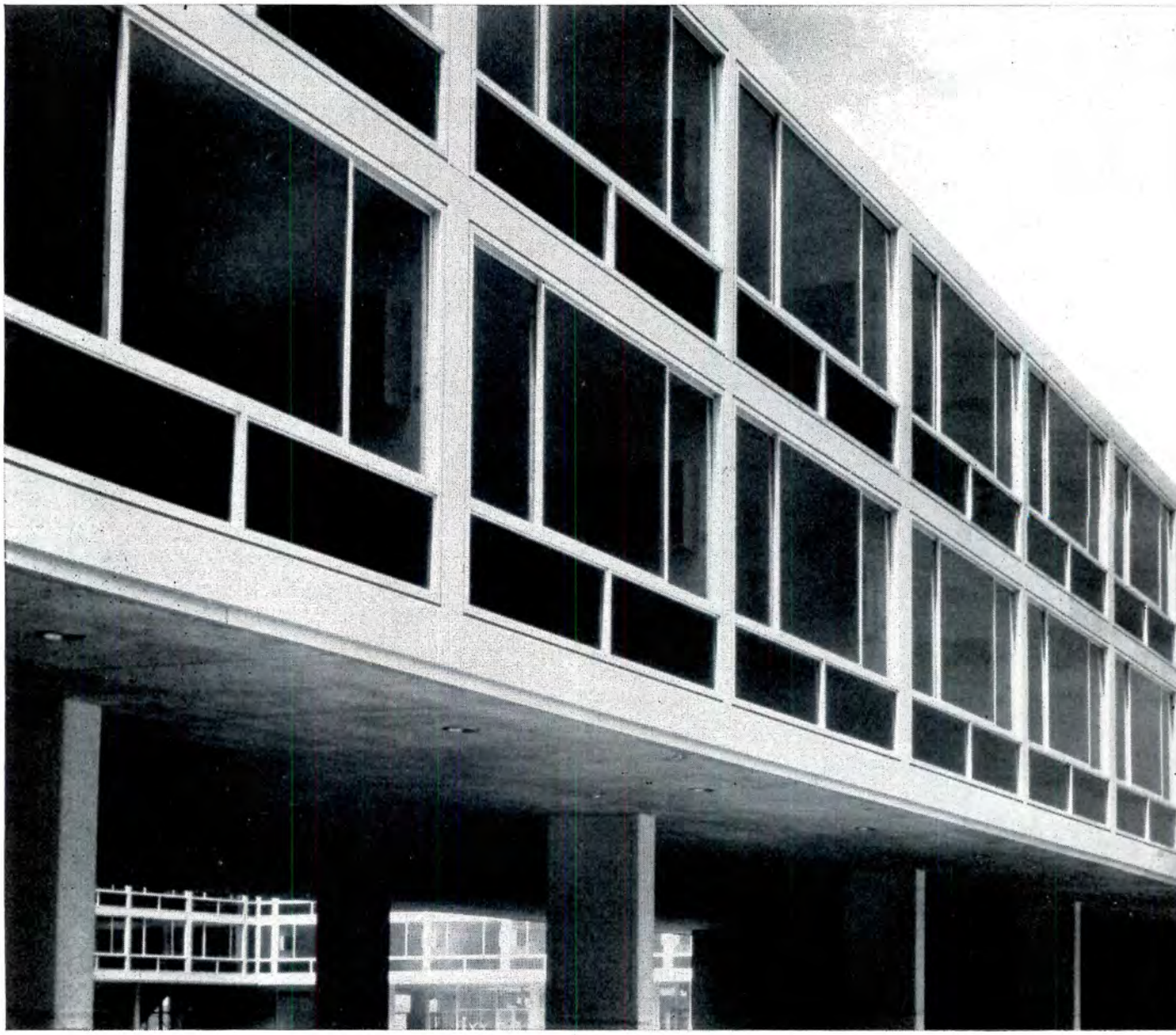

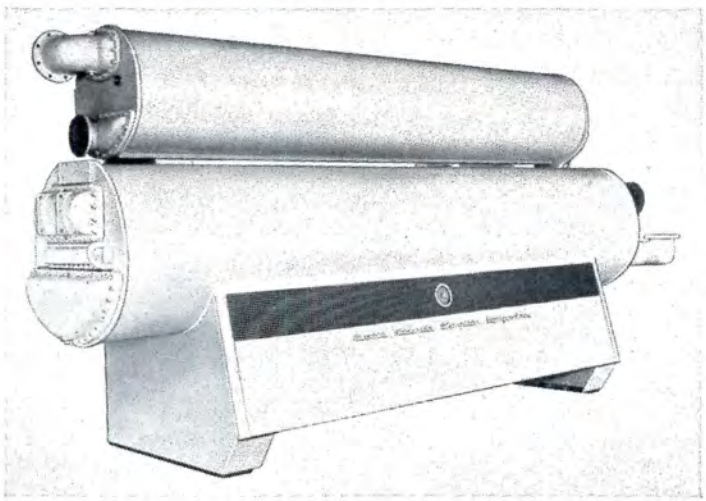

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With gas as the boiler fuel, operating costs are cut to a minimum. This gas-fired Carrier machine operates without noise and vibration . . . and because it is so compact and lightweight, it can be put almost anywhere – from basement to roof.

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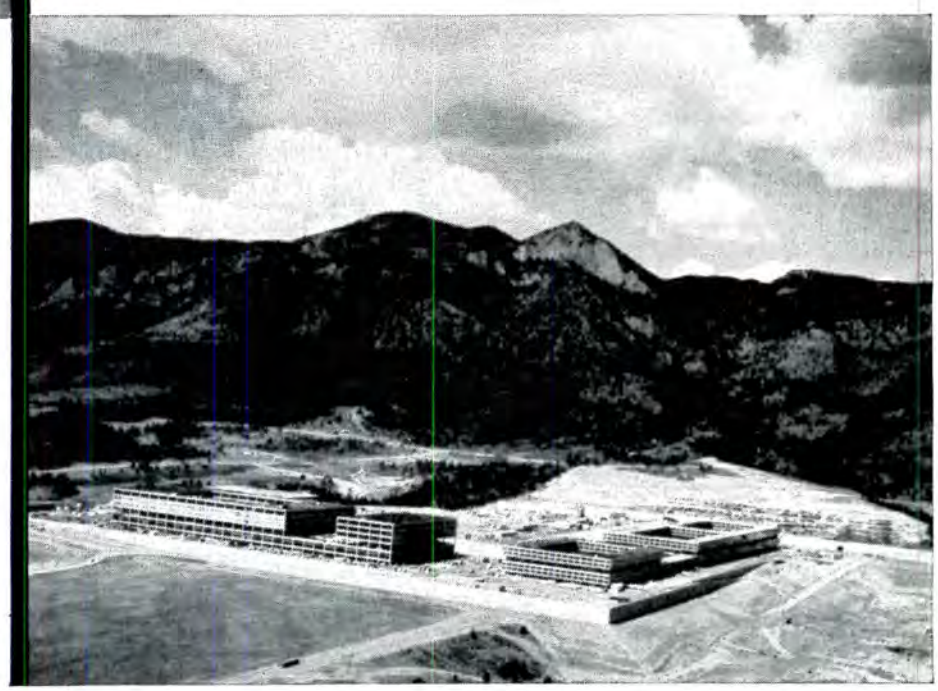

The new United States Air Force Academy perched at 7,200 feet above sea level near Colorado Springs and Pikes Peak, soon to house 1,145 Cadets.

Meetings and Miscellany

A BENEFICENT REVOLUTION REVITALIZES THE STATELY N.C.A.R.B.

Joe E. Smay Named Council's First Executive Director in Major Reorganization: A Report by N.C.A.R.B. Past President Fred L. Markham

The newly elected Board of Directors of the National Council of Architectural Registration Boards at its August meeting voted to locate its office in Oklahoma City. Simultaneously, Joe E. Smay resigned as president, an office to which he had been elected at the Council's annual convention at Cleveland in July, and was appointed as the Council's first executive director.

Walter E. Martens was advanced from first vice president to fill the office of president; and the slate of officers and directors filled out as follows: first vice president—A. Reinhold Melander; second vice president—Chandler Cohagen (appointed from treasurer); secretary—Ralph O. Mott; treasurer—A. John Brenner (appointed from director); directors—C. J. Paderewski, Paul W. Drake and Morton T. Ironmonger (an addition).

First Step: New Constitution

The roster of officers, in which a third vice president is omitted, the functions of secretary and treasurer separated, and three directors added, points to one of the principal accomplishments of the Cleveland convention, where the Constitution and bylaws of the organization, for the first time in approximately 20 years, received a major overhaul. In addition to the change in the officers of the group and the constitution of a Board of Directors, provision was made for the appointment of an executive director and for formalizing the standing committees, both as to membership and responsibilities.

With the passing of William L. Perkins last year the Council was left without its best informed officer and member. Since the earliest days of this organization Mr. Perkins had been familiar with its background and history. In fact, he was so conversant with it that few of the other officers took the time or effort to acquaint themselves thoroughly with its operation.

Two years ago at the Los Angeles convention, an amendment to the bylaws was passed granting to the Executive Committee the power to appoint an executive director who could relieve Mr. Perkins of part of the responsibility he had carried over the years. Recognizing the desirability of such an appointment, the Executive Committee requested Joe E. Smay of Oklahoma to familiarize himself with the operations of the office. Mr. Smay made a number of trips to Chariton for this purpose. This arrangement proved very fortunate, for in the sudden and unexpected loss of Mr. Perkins, the Council had a capable man available to assume responsibility for the Council's work, until the officers could adjust to the changed situation.

At the meeting in August 1957, when Mr. Smay was asked to so direct the work of the Council, it was found that the bylaws of the organization were not clear on the method of procedure, and it appeared an appropriate time for a careful review of the basic organizational documents. A committee was named to study the situation and report their recommendations to the Cleveland convention. The committee consisted of Roger Kirkoff, Charles E. Firestone and Fred L. Markham, the three immediate past presidents of the Council.

A rewriting of the constitution and bylaws proved advisable in order to incorporate the changed situations which the Council faced. At the time the original constitution and bylaws were written a little more than half of the states of the union were members of the organization. Now the organization includes all the states and territories within the nation.

Organization for Flexibility

The following major changes have been incorporated into the documents:

First, there has been a change in the organizational form. This includes (a) the omission of the office of third vice president; (b) the separation of the old office of secretary-treasurer into the two offices of secretary and treasurer; and (c) the addition of three directors. These officers together with the immediate past president form a board of directors constituted of nine individuals to replace the old Executive Committee which had five members. A new Executive Committee is provided, consisting of the president, the treasurer, and the secretary, with the first vice president acting as alternate. Elections are provided for annually; a two-year term limit is placed upon the office of president, and a three-year limit upon the term of the directors. It is hoped that these changes will have a tendency to spread the responsibility of the work over a greater number of individuals, giving more men an opportunity to participate in the Council functioning and to lend their experience and background to help it achieve its objectives.

The second change is the employment of a full-time executive director. The executive director is named by the Board of Directors. As such he is an employe of the Council and able to continue in office subject to satisfactory performance. This should give continuity to the direction of the central office. The executive director stands in a position similar to that which the executive director of the American Institute of Architects holds, having responsibility for its operation, for the operating of funds of the Council and for managerial detail which attaches itself to the home office of a busy national organization. It is expected that such an officer will assume the responsibility Mr. Perkins formerly carried, but will not be required to stand for annual election.

Committee Setup Formalized

The third change is the formalizing of the standing committees. These are now provided as follows:

Committee on Documents. A committee of three members to receive and collect recommendations for changes and adjustments to Documents of the Council. Periodically, as directed by the Council, the committee shall incorporate the collected changes into revised Documents for action by the Council.

Committee on Finance. A committee of three to review the investments and financial procedures of the Council and make recommendations concerning the same to the Council Board and the Council for appropriate action.

Committee on Endowment Fund. A committee of three to seek sources of revenue for this Fund and to recommend its expenditures.

Committee on Examinations. A committee of seven members to (1) supervise the collection of examinations from the various states and also periodically, as directed by the Council, review these examinations and develop therefrom a published set of typical examination questions for circulation among the membership of the Council and elsewhere as directed by the Council Board; (2)

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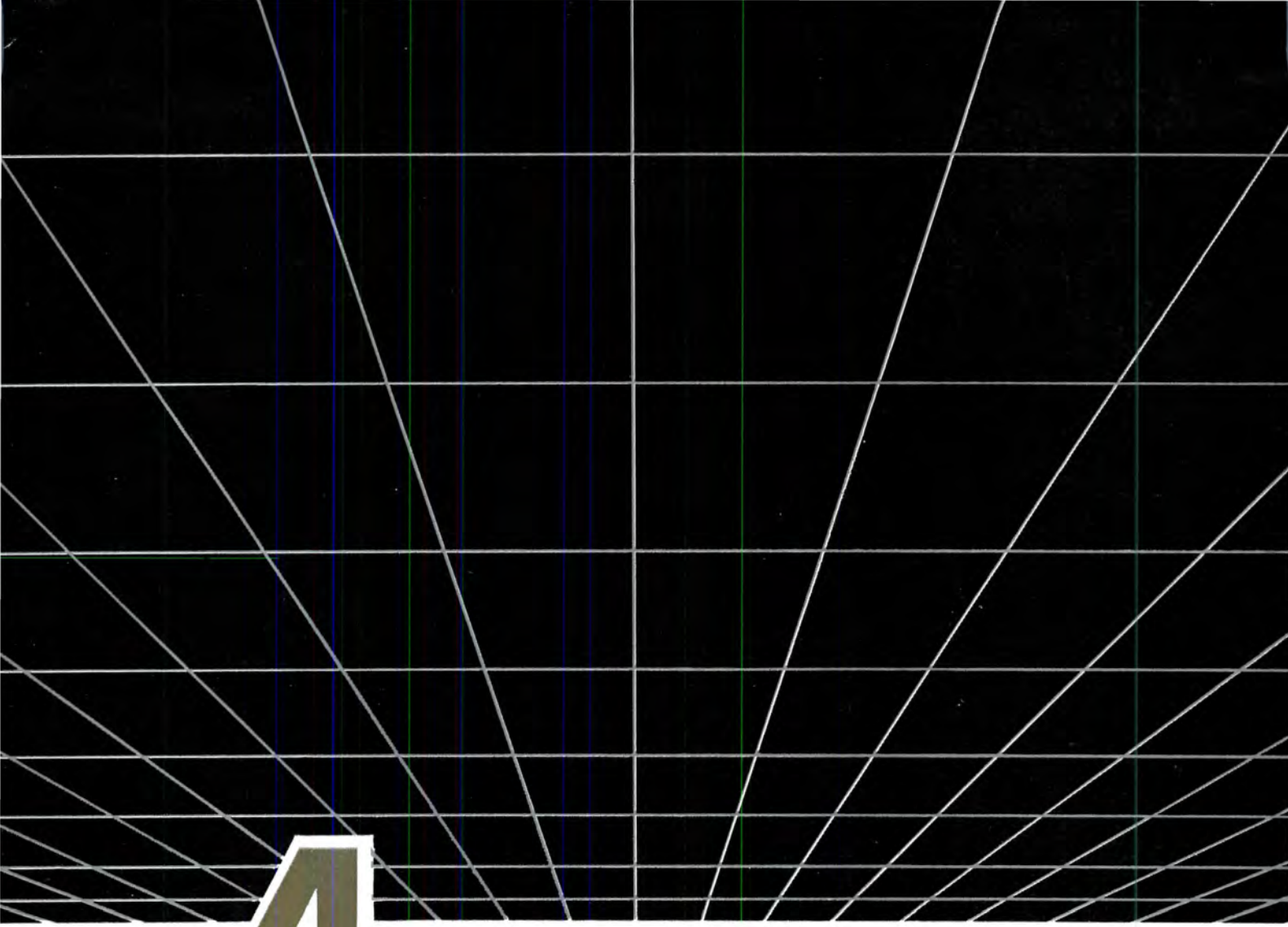
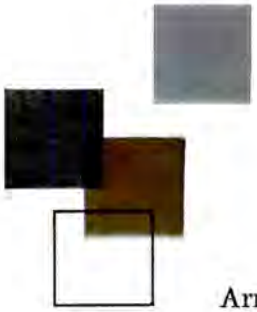


4 NEW IDEAS

in acoustical ceilings

NEW IDEA NO. 1

DELUXE MINATONE



Armstrong Deluxe Minatone is an incombustible acoustical ceiling that offers high acoustical efficiency and subtle overhead beauty. Its design of small perforations extends onto the bevels, minimizing tile joints and offering a nearly monolithic ceiling.

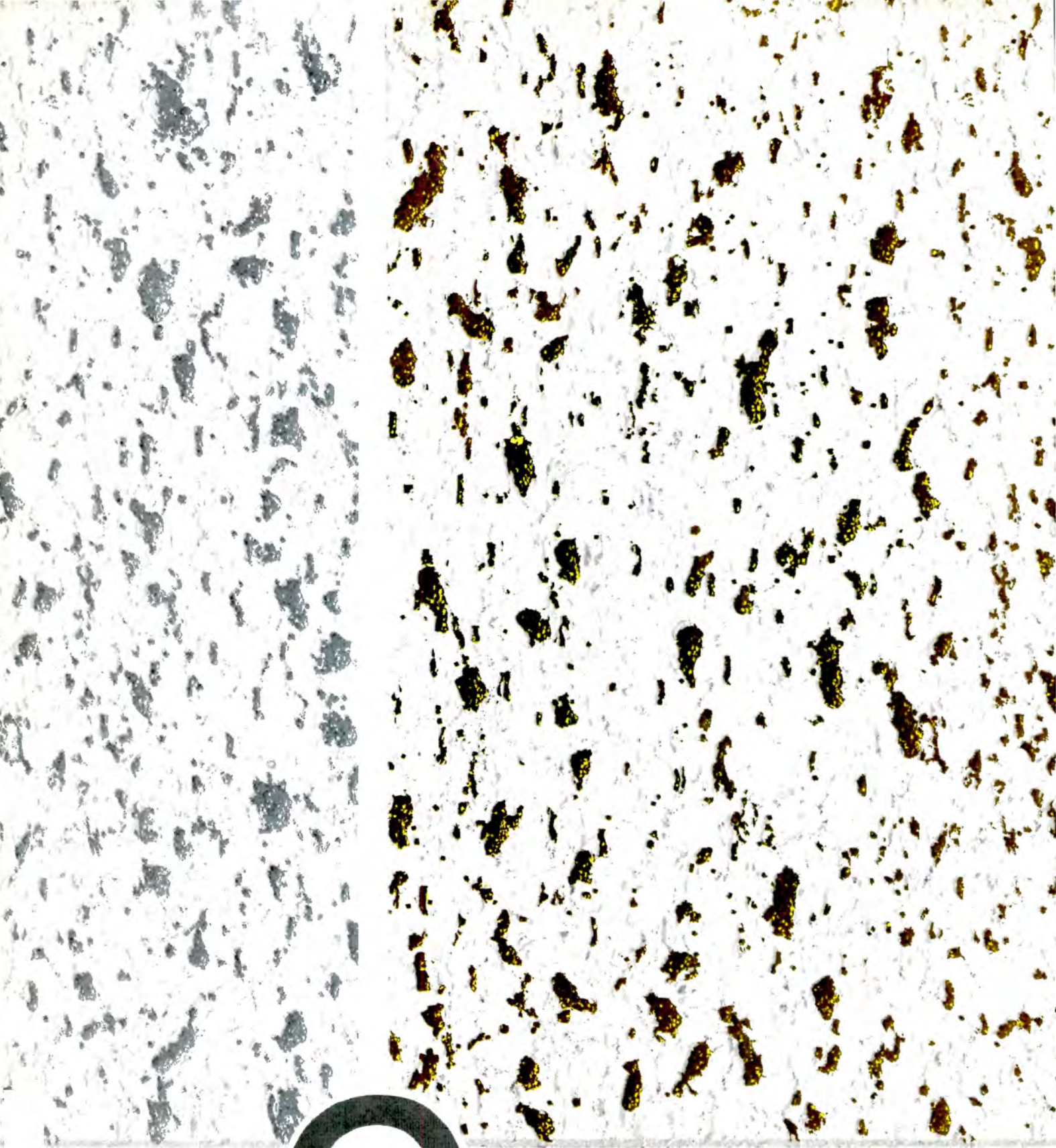
Deluxe Minatone has a washable white surface that can be easily cleaned by conventional methods. It can be repainted without loss of acoustical efficiency.

Deluxe Minatone is identical in appearance to the larger Armstrong Custom Minaboard lay-in units for exposed grid systems. Specify Deluxe Minatone for conventional cement application or concealed mechanical suspension in one area of a building, and specify Custom Minaboard for a low-cost exposed grid system in another area of the same building. You can lower costs—and preserve the same ceiling design throughout.

Shown at left are four 12″ × 12″ tiles.

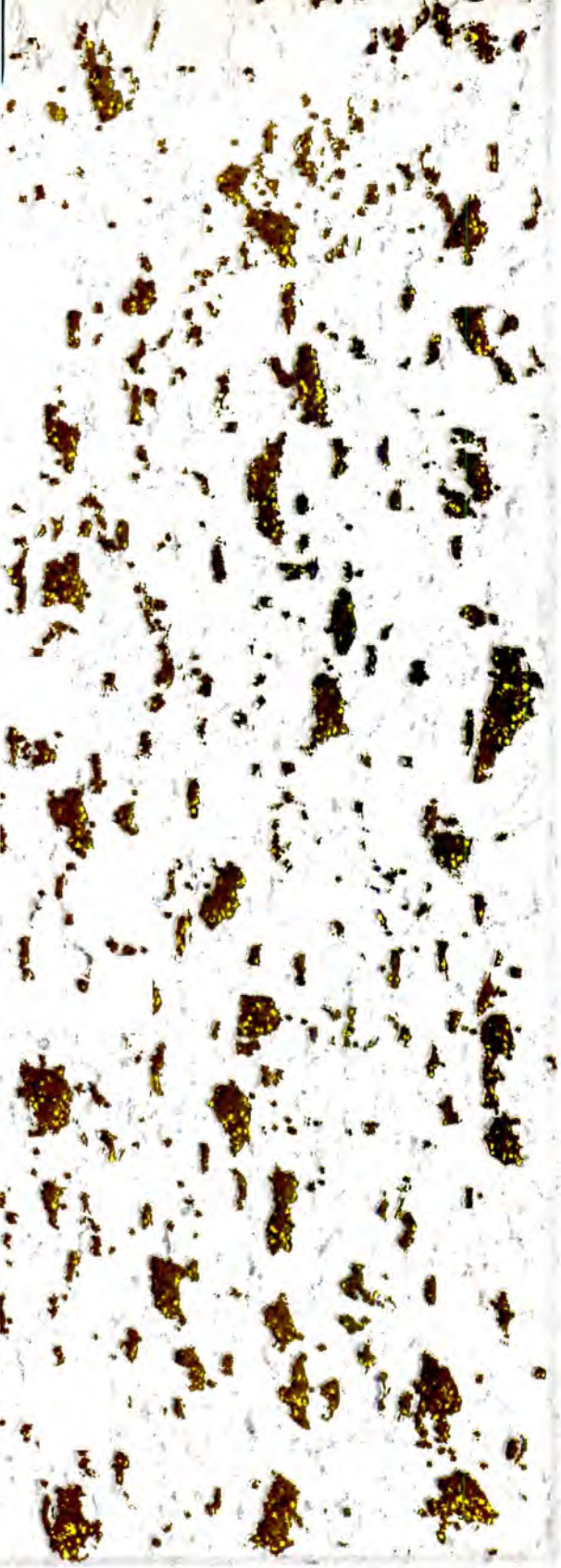
A new Armstrong mineral-fiber tile with an attractive non-directional pattern of small perforations

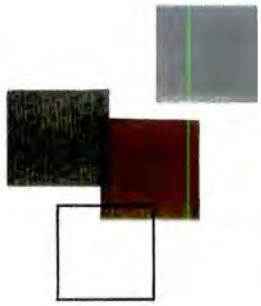
esign A



NEW IDEA NO. 2

GOLDEN TRAVERTONE





Golden or silver metal flecks inlaid in the fissures reflect light, create a dramatic ceiling effect

For the first time, architects can specify striking acoustical ceilings with sparkling metallic accents. Armstrong Golden Travertone and Silver Travertone are incombustible mineral-wool acoustical ceilings—with actual golden* and silver* flecks inlaid in the fissures. They set a new standard for beauty in acoustical ceilings.

Exhaustive tests have proved that the golden and silver flecks will not tarnish or lose their luster with age. The acoustical efficiency of both Golden Travertone and Silver Travertone is approximately the same as that of regular Travertone (N.R.C. specification range = .65 — .85).

(The finest printing processes cannot capture all the sparkle of the gold and silver inlays. Ask your Armstrong acoustical contractor for actual samples.)

* COLOR

and SILVER TRAVERTONE

NEW IDEA NO. 3

CLASSIC CUSHIONTONE

Notice the lace-like effect created by the tiny perforations casually scattered over the tile's surface? Classic Cushiontone has a rich appearance that makes it look like a more expensive ceiling. Where building codes permit, you can take advantage of this added beauty without the added cost of an incombustible material.

Preliminary tests indicate that Classic Cushiontone has about the same N.R.C. specification range as Armstrong Textured Cushiontone (.55 — .75, depending upon installation method).

Classic Cushiontone is available in 16″ × 16″ as well as 12″ × 12″ sizes with butt-edge or T & G joint detail. The larger size may make it possible to cut installation costs.

Classic Cushiontone is finished with two coats of washable flat white paint. It is available with a special finish that allows it to meet the Class C (Slow-Burning) requirements of Federal Specifications SS-A-118b.

Shown here are four 12″ × 12″ tiles.

An exclusive new Armstrong design in a low-cost wood-fiber acoustical ceiling

NEW IDEA NO. 4

The surface of Armstrong Gridtone features an attractive pattern of random perforations in two sizes. The perforations are combined with a field of directional bars set in relief.

Gridtone is available in either steel or aluminum with a sound-absorbing pad that is bonded to the back of the facing. The 23⅝″ × 23⅝″ die-formed panels are designed for use in 2′ × 2′ grid systems only.

Shown here is a 20″ × 13″ section of a 2′ × 2′ unit.

GRIDTONE

Metal lay-in unit with perforated and embossed three-dimensional surface

Armstrong ACOUSTICAL CEILINGS

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If you would like further information on any of Armstrong's *four* new ideas in acoustical ceilings — or free samples — contact your nearest Armstrong Acoustical Contractor (he's listed in the Yellow Pages of your directory), your Armstrong district office or write to the Armstrong Cork Company, 4210 Rock Street, Lancaster, Pennsylvania.

PROGRESS ON NATIONAL BUILDING CODE REPORTED AT BUILDING OFFICIALS CONFERENCE

A new edition of the National Building Code will be published in 1960, delegates to this year's Building Officials Conference in Ottawa were told by R. S. Ferguson, secretary to the associate committee on the code.

Besides numerous changes in regulations, Mr. Ferguson explained, there will be one major revision in format. All material pertaining to housing will be removed, correlated with the building standards of Central Mortgage and Housing Corporation and the resultant document incorporated as a special housing section of the code.

Thus, Mr. Ferguson said, by 1960 the National Building Code will deal with all types of structures. The housing section, in addition to being published as part of the code, will also be issued separately.

"To have a single standard for dwellings," Mr. Ferguson pointed out, "and to have a clear division between the more technical parts of the code and the simpler requirements for housing will be two major achievements in the further development of improved regulations in Canada.

"With a separate housing section, it will be easier to prepare a consistent and logical technical section for other buildings, thus paving the way for further improvements in the code in the years ahead."

Survey Shows Wide Use

During 1957, a survey of the use to which the National Building Code is put was made. Of a total of more than 950 municipalities which have copies of the code for reference and other purposes, 364 have employed it extensively in connection with their own local bylaws. This figure includes municipalities which have either adopted the code in whole or in part, have referred to it in their bylaws or have based their requirements on it.

The figure also includes municipalities that have used the 1941 as well as the 1953 edition, and municipalities that have used abridged versions of either or both editions.

Mr. Ferguson estimates that residents of municipalities employing the National Building Code number more than one third of the total population of Canada, and more than one half of the country's total urban population.

The code is administered by the Division of Building Research, National Research Council, through an advisory committee of eight staff members. The committee works through three advisory groups, dealing with structure, fire and health, respectively, with government and industry representatives.

Competition for New City Hall Attracts 252 Entries

Two hundred fifty-two Canadian architects have signified their intention of participating in the design competition for Winnipeg's $6 million city hall. Of the total, 23 are from Manitoba, 96 from Ontario, 61 from Quebec, 37 from British Columbia, 25 from Alberta, seven from

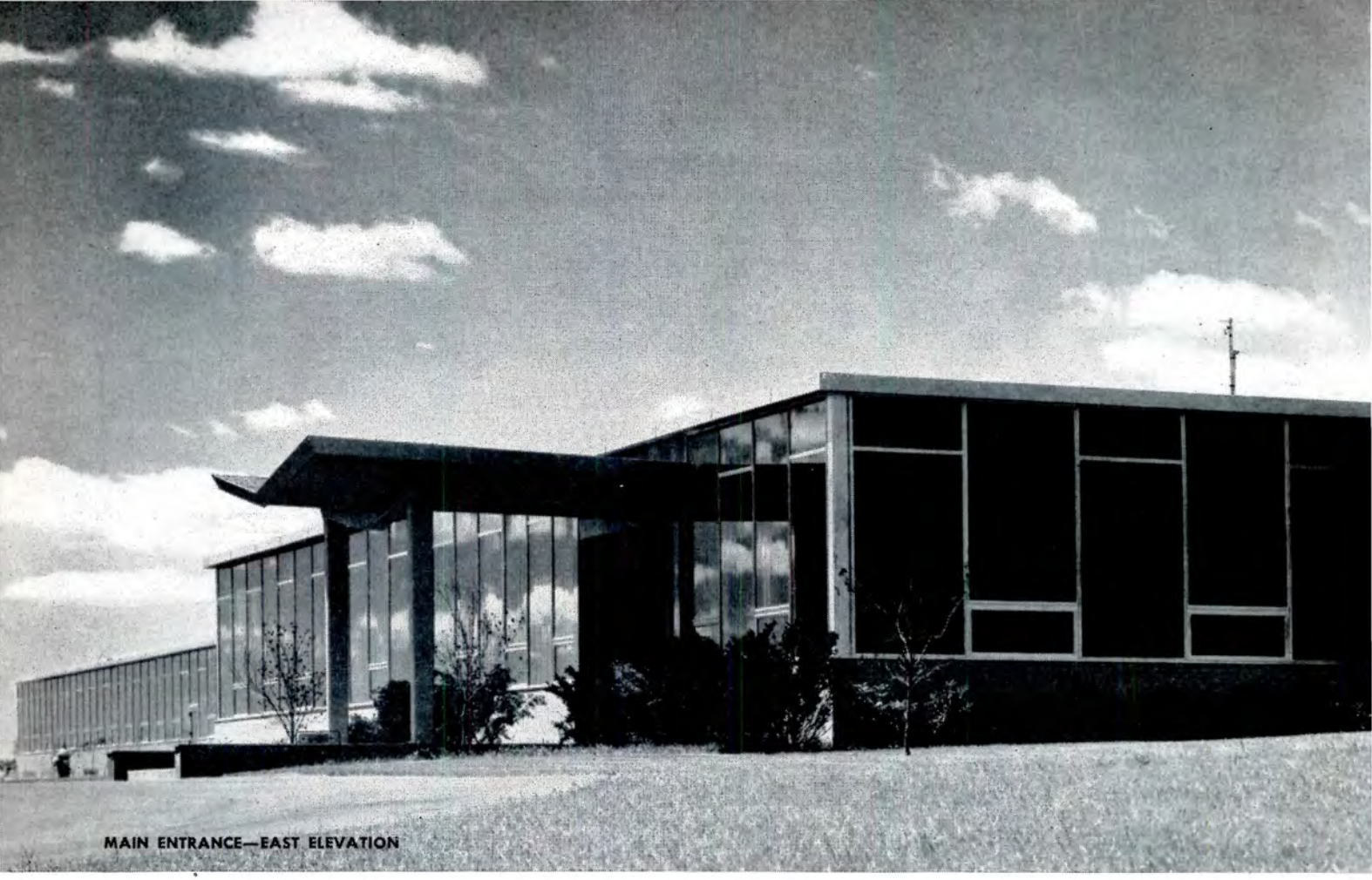
Chilco Towers Apartment Building, Vancouver, B. C.; Kenneth Gardner, architect; Read, Jones, Christeffersen, consulting engineers; F. O. White Contracting Co., general contractor; Self-Owned Apartments Ltd., E. D. Cope, president, owner. This 10-story block overlooks Vancouver's Lost Lagoon. Floor plan is arranged to give all four suites on each floor the benefit of the view, with bedrooms located at the rear. One-, two- and three-bedroom suites are offered. Drive-through from front gives access to basement parking and additional facilities on a first-floor open deck. The building is of steel pan and ribbed slab construction with concrete crosswalls. Front spandrels will be finished in glass mosaic while end walls will be painted. All utilities and service facilities are concentrated on first floor

Women's Athletic Building, University of Toronto; Fleury, Arthur and Barclay, architects; Anglin-Norcross Ontario Ltd., general contractor. The new building, to cost an estimated $1.8 million, will provide a 42- by 72-ft swimming pool, three gymnasiums, library, offices and seminar and lecture rooms. Exteriors will be buff brick

Boiler House addition, Provincial Hospital, Essondale, B. C.; Toby and Russell, consulting architects; Swanson Wright and Co. Engineers Ltd., engineers; Beaver Construction Ltd., Vancouver, general contractor. Addition is reinforced concrete to main floor level; above, steel structure with aluminum and glass curtain wall

Belwatt, courtesy Clerk Windows Ltd.

Mercantile Assurance Building, Ste. Hyacynthe, Que.; David and David, Montreal, Architects; *Max Neithard*, structural engineer; J.-P. Huza and Associates, mechanical engineers; Charles Gilbert Ltée, general contractor. New head office of La Cie d'Assurance Generale de Commerce provides some 64,000 sq ft of total floor area



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Another **AMERICAN Lustragray** Installation...

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

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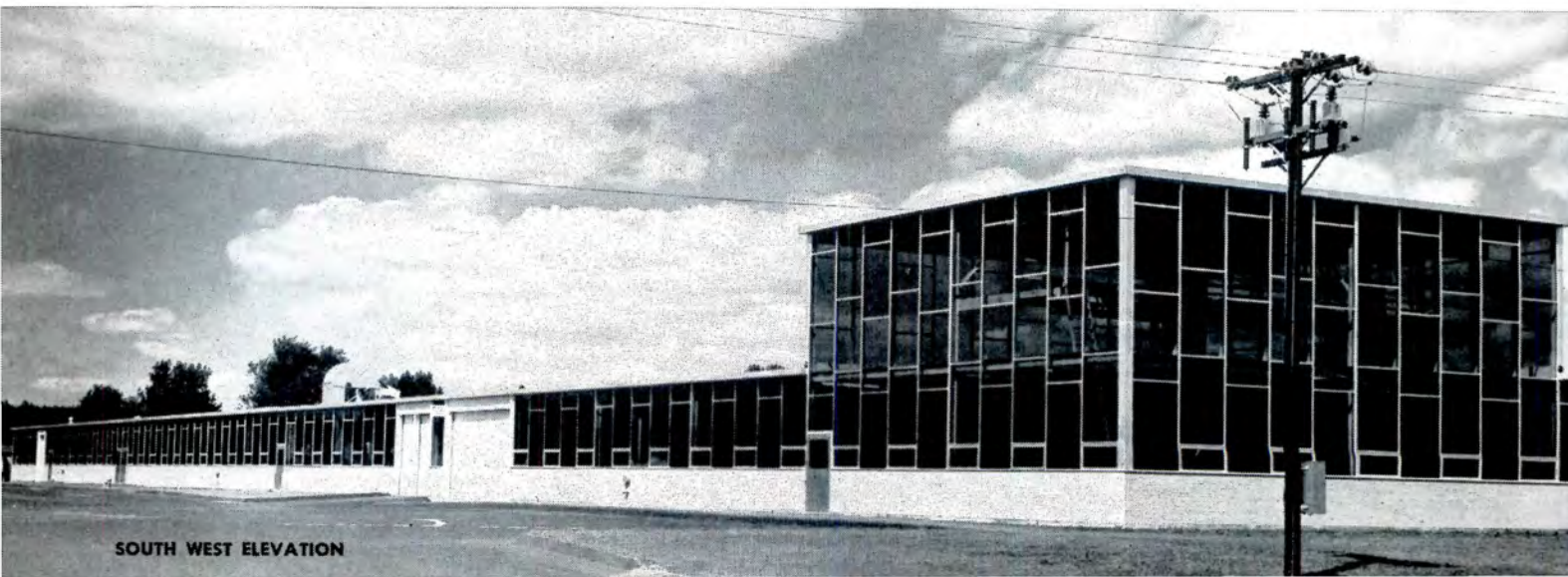
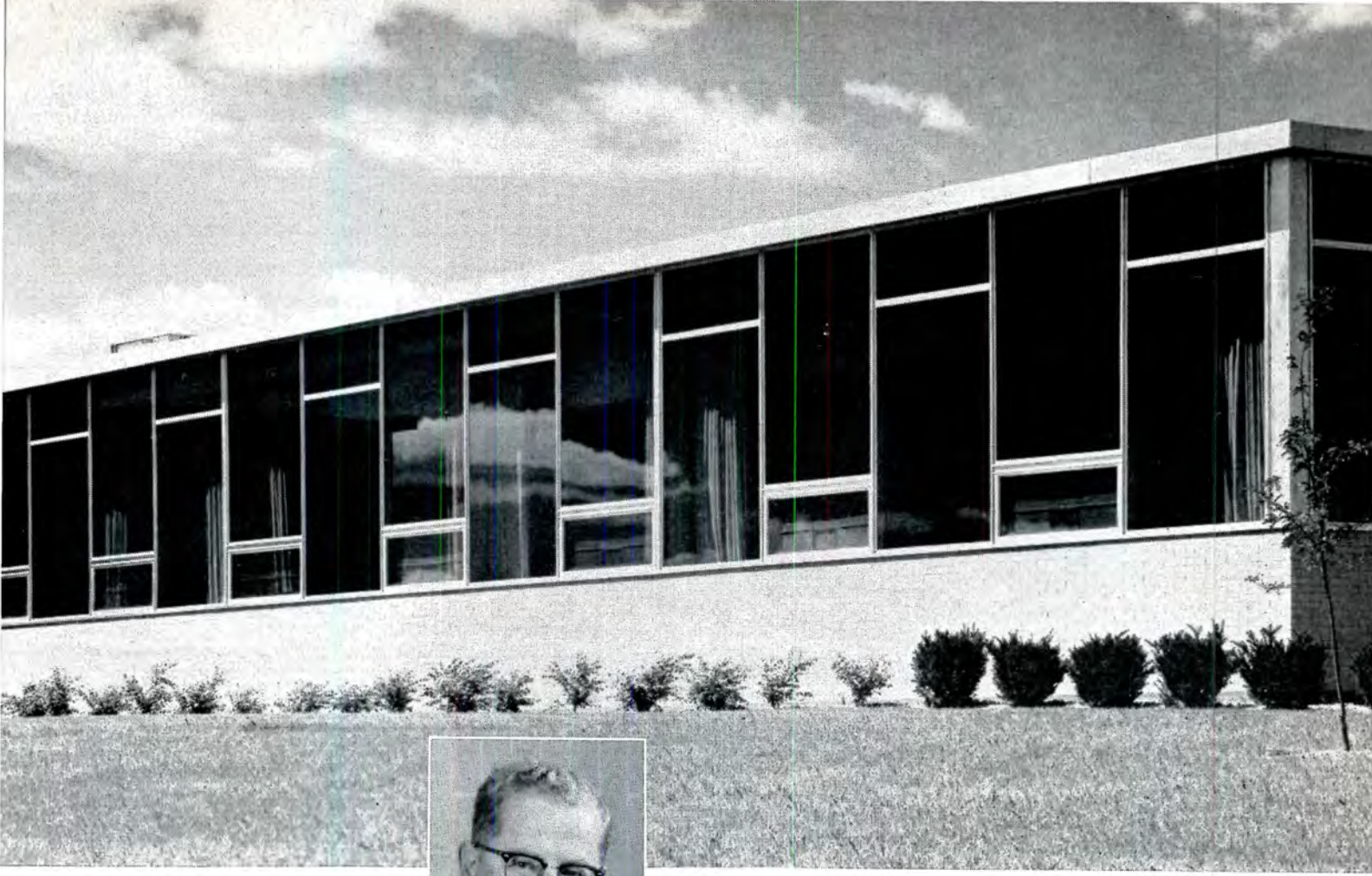
Glazier: *Waltham Door & Window Company, Waltham, Mass.*



SOUTH WEST ELEVATION



Michael Lilly, Partner,
Lilly Construction Co.

the builder has his say about

Lustragray's

client appeal:

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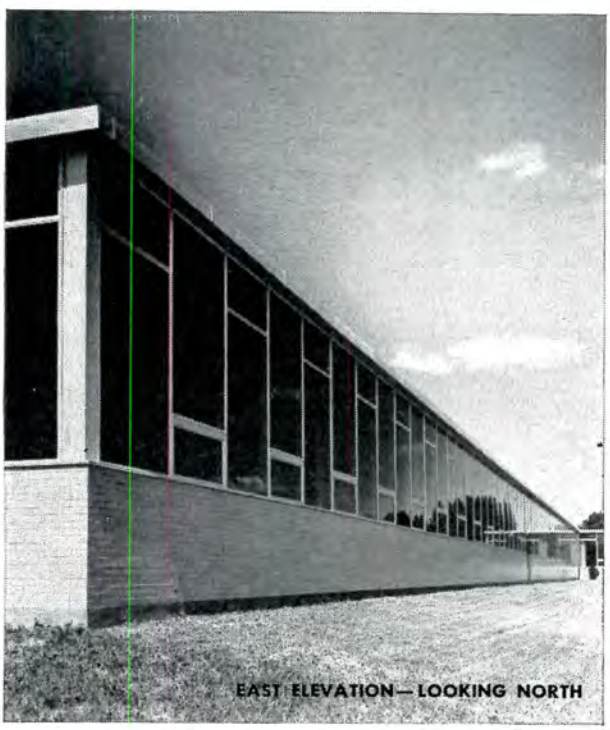

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AMERICAN WINDOW GLASS DIVISION

AMERICAN-SAINT GOBAIN
CORPORATION

BLUE RIDGE GLASS

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

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

WSW 7297

Saskatchewan, two from Nova Scotia and one from New Brunswick.

Six finalists will be selected in the two-stage competition. The preliminary stage closes December 8 and the final stage closes May 11, 1959.

Judges are Pietro Belluschi, dean of the School of Architecture and Planning, Massachusetts Institute of Technology; Ralph Rapson, head of the Department of Architecture of the University of Minnesota; Eric W. Thrift, director of the metropolitan planning commission of Greater Winnipeg; Architect Alfred Roth of Zurich; and Architect Peter M. Thornton of Vancouver, winner of a 1955 Massey Medal.

Art Gallery Competition Winners Announced

Entries in the recent nationwide competition for the design of a Canadian community art gallery were recently displayed at the Vancouver Art Gallery.

Open to members of the R.A.I.C., R.I.B.A. and A.I.A. domiciled in Canada, as well as to graduates and final year students of Canadian architectural schools domiciled in Canada, the competition was sponsored by Graham Bell Ltd., Streetsville, Ont. Two awards were offered: a first prize of $1000 and a second prize of $250.

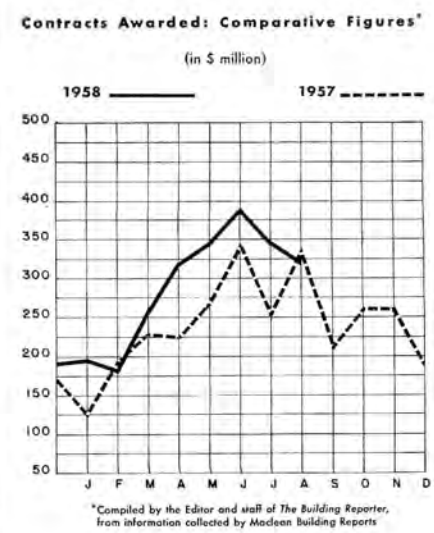
Professional adviser was Prof. James A. Murray of Toronto. Panel of assessors was composed of Peter Dickinson and R. C. Fairfield, Toronto architects, and Alan H. Jarvis, director of the National Gallery, Ottawa.

Object of the competition was to make a "practical contribution to the proper housing of works of art in a Canadian community" and to encourage "imaginative thinking about ways in which porcelain enamel may be used in building."

Presentation of awards to the prizewinners was made in Vancouver by the celebrated artist, Laren Harris.

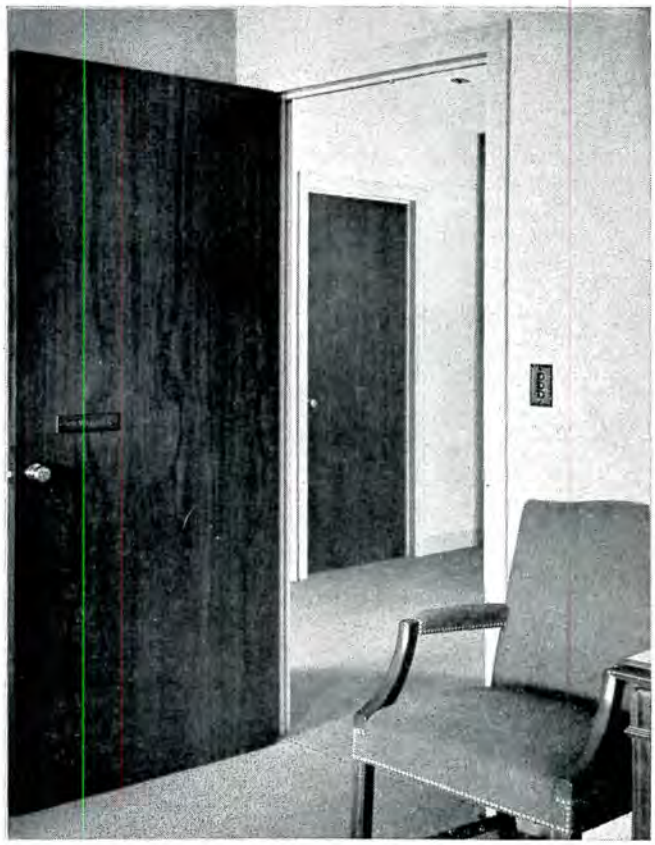
News Notes

Record attendance is expected at SESSION '58, to be held at Banff October 6-11 under the sponsorship of the Alberta Association of Architects. Special guest this year is Paul Rudolph, noted U. S. architect and chairman of the Department of Architecture at Yale University. . . . The PROVINCE OF QUEBEC ASSOCIATION OF ARCHITECTS expects to occupy its new premises in Montreal next January or February. Legal difficulties in obtaining a clear title to the property are responsible for the delay. . . . The new FIRE RESEARCH BUILDING of the National Research Council, Ottawa, which now forms part of the Building Research Center, was opened on October 3. A two-day conference on fire prevention and fire re-



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

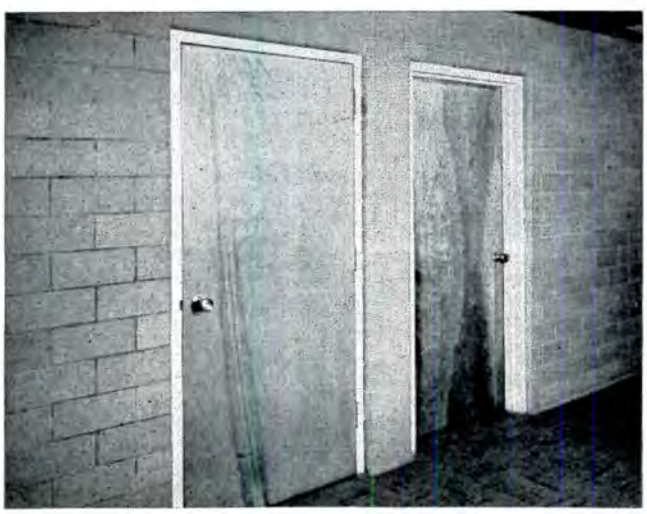
GOOD PUBLIC RELATIONS begin at the door. Here the traditional dignity of this walnut-faced Weldwood "Stay-Strate®" Door provides contrasting balance for the airy mood created by pastel colors and glass. "Stay-Strate" Doors—in a wide range of beautiful hardwood veneer faces—have inert, incombustible mineral cores of Weldrok®, and are unconditionally guaranteed to give completely satisfactory service. Guarantee includes replacement and all labor costs involved.



AS HANDSOME as they are effective, Weldwood Fire Doors are an effective fire barrier which protects against transmission of destructive heat. Doors come in many hardwood face veneers—such as birch, oak, walnut—over a solid mineral core of fireproof, heat-retarding Weldrok. Tested, approved, and labeled for all Class "B" and Class "C" openings by Underwriters' Laboratories, Inc., Weldwood Fire Doors carry the same guarantee as "Stay-Strate" Doors.

Architectural Doors by Weldwood . . .

beautiful complements to well-designed interiors



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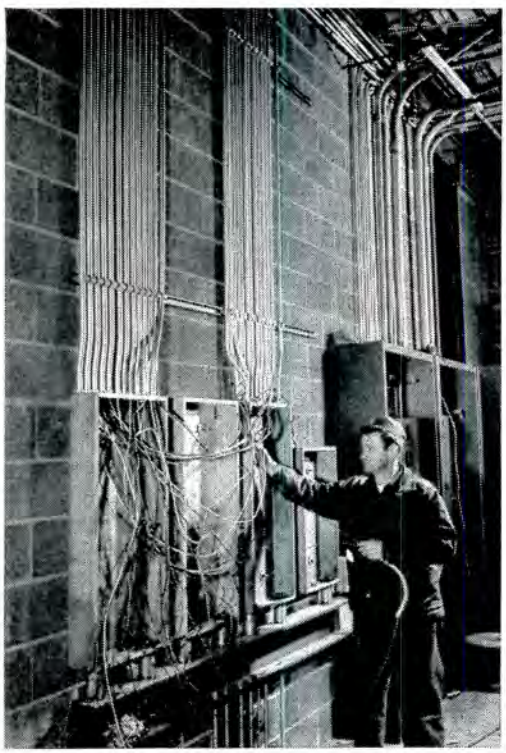

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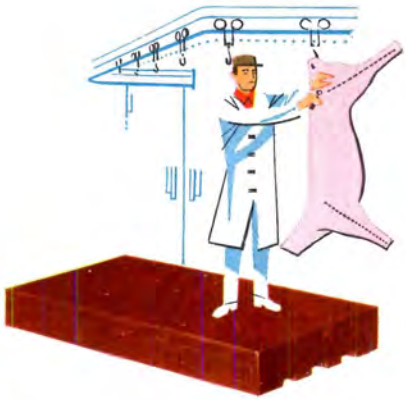
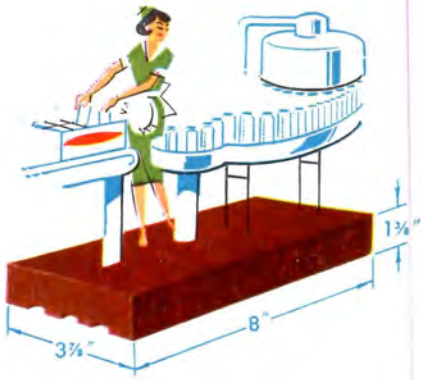
search followed the ceremony. . . . RICHARD MANN, a 1957 graduate of the University of British Columbia School of Architecture, has received a short-term grant of $650 from the Canada Council for a study trip to Europe. . . . An EXHIBITION of the work of Quebec architects will be held October 17-28 at the Montreal Fine Arts Museum. Paul O. Trepanier of Granby, a member of the Council of the P.Q.A.A., heads the committee in charge. . . . A new ARCHITECTS' MATERIALS CENTER is being planned for Vancouver. Leading members of the Architectural Institute of B.C. have formed a nonprofit association to operate it. It will comprise 3500 sq ft of display space adjoining the new headquarters of the Institute at 1425 West Pender Street. . . . John Martland, a member of the ALBERTA ASSOCIATION OF ARCHITECTS, returned from a trip abroad with a piece of one of the timbers removed from the 600-year-old tower of St. Botolph's Church in Boston, England. He has carved it into a gavel and presented it to the Edmonton city council.





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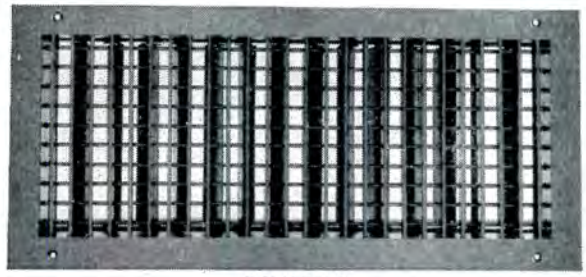

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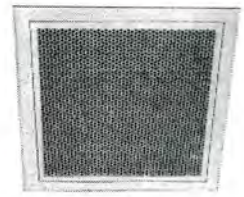

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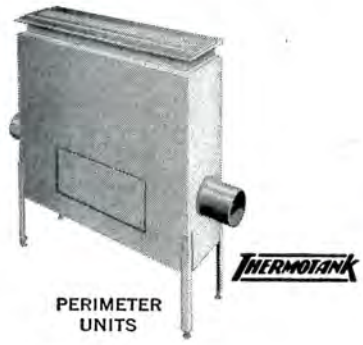

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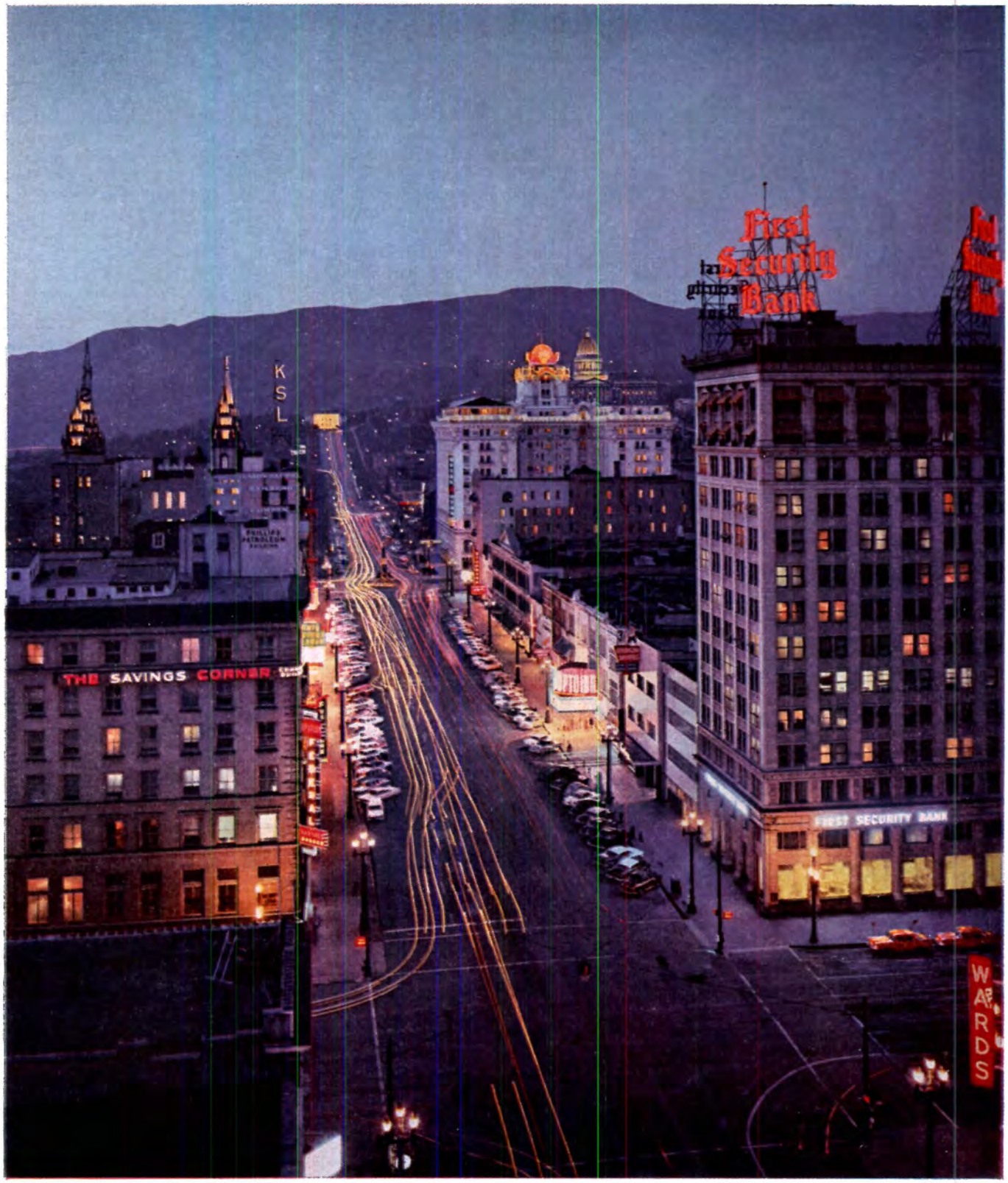

SALT LAKE CITY, *capital of Utah, began its unique history in 1847 when Brigham Young halted his determined group of 148 Mormon pioneers at Emigration Canyon and declared, "This is the place!" Today, Salt Lake City, in a beautiful setting at the foot of the Wasatch Mountains, is the largest city between Denver and the Pacific coast and a rapidly expanding industrial center in a region of rich natural resources. OTIS, the pioneer in providing and maintaining safe vertical transportation for passengers and materials, has fulfilled 76% of Salt Lake City's diverse requirements. This is to be expected of the leader. Outstanding value has made OTIS the accepted word for elevator quality in the cities of the world.*

Washington Topics *by Ernest Mickel*

Work Begins on Extension of U.S. Capitol East Front

Scaffolding appeared along the central portion of the east front of the U.S. Capitol building during the last days of August, confirming the fears of many architects opposed to the remodeling that the $10.1 million project would be undertaken despite the storm of protest. Only a few days passed after the second session of the 85th Congress closed before the scaffolding was put in place.

This marked the start of one of the most controversial building projects of all time, one in which organized architects of the nation took a major role. The American Institute of Architects protested extension of the east front central section on grounds it will destroy a historic monument and that the space gained will be costly beyond comparative work of any sort. This view was reiterated when the A.I.A. at its annual convention in Cleveland in July voted overwhelmingly to continue its opposition.

The first work on the east façade entails the making of measurements and molds to record precise dimensions of trim to be replaced in marble when the section face is moved to the new line. The Aquia sandstone of the original walls is badly weathered and large chunks have dropped from the cornices from time to time.

The office of the Architect of the Capitol was expected to let contracts for the stone work at an early date. Thus moved forward a project that had been argued heatedly for decades and which had drawn the critical attention of many architects and engineers as no similar work had.

A last-minute effort to "rescue" the Capitol failed in the Senate when the Smith bill was called up on August 14 and voted down after lengthy debate. This legislation, introduced by Representative Smith (R-N. J.), would have changed the language of the legislative appropriations act of 1956 to eliminate its requirement that remodeling of the Capitol proceed in conformance with the famous "Scheme B" of 1905 which stipulated moving the central portion forward 32.5 ft. The final vote on this bill was 32 for rejecting the language, 47 against. Seventeen senators did not vote.

Prior to the roll call, Minority Leader Senator William Knowland (R-Calif.) recited a methodical review of the issues, touching on space needs, the so-called architectural defect of the dome overhang, deterioration of the old stone, the character of the east front, the court, the cost and the charges of secrecy leveled at the Architect of the Capitol and the Commission charged with responsibility for the work.

A final amendment by Senator Joseph Clark (D-Pa.) was readily accepted by the bill's author, and would have specified that the east façade be repaired in place as an alternative to eastward movement.

Highway Advertising Standards Are Issued for Comment

Regulations for control of outdoor advertising along the country's new Interstate Highway System were promulgated by the Department of Commerce. This spelled a certain triumph for the American Institute of Architects, which had taken an active role in persuading Congress to enact a law including provision for control.

The new standards, as advertised for comment by the Commerce Department late in August, made effective the law's mandate that signs should be controlled as a matter of public interest. The law reads that

continued on page 55

Foyer of the Hallmark Building, Kansas City, Missouri. Welton Becket and Associates, Architects and Engineers. Long Construction Co., General Contractor. Slater Tile and Mantel Co., Tile Contractors.

Walls: Pan-O-ramic Blend 3003-26. 1⅛" squares. Gray Granite, Light Gray, White; Sand Buff and Sand Brown Textone. Floor: Gray Granite Pavers. Color Plate 376.

Fresh Today...Tomorrow...and in 2008!

Tile is impressive—not only in the foyer, but also on exterior walls, facade, planting boxes, columns, and elsewhere on the beautiful new Hallmark Building.

The tile areas will look as fresh and lovely in 2008 as they do today—a pleasant thought for those who designed the building, a lifetime of satisfaction for those who occupy it.

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AIR FILTRATION NEWS

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ARCHITECTS AND ENGINEERS APPLAUD NEW DESIGN CONCEPT

Industry acceptance of the concept on which their business has been built is called "gratifying" by officials of Continental Air Filters, Inc.

Twelve years ago a small group of men became dissatisfied with prevailing thinking in the air-filtration industry, decided that progress lay in more aggressive, creative thinking and imaginative, forward-looking engineering. They determined to put their theories to the test, pooled their modest capital, and on April 25, 1946, started their own business as Continental Air Filters, Incorporated. While admitting that the going was rough in the beginning, officials say that their progressive approach to design and engineering has helped build the company beyond the million-dollar annual sales level in relatively short time.

LV SCREEN WIRE FILTER GOOD ALL PURPOSE BUY

For operations requiring an all-purpose, low-cost filter, Continental's LV Screen-Wire Type is still a general favorite. Made of crimped, galvanized hardware cloth and screen wire in a highly rust-resistant, hot-dipped galvanized steel-channel frame, this viscous impingement filter gives a long service life for its price. Available in both 2" and 4" thicknesses. Full details by writing for Catalog No. 600 . . . coupon below.

DYCON DRY-TYPE FILTERS EFFECT MAJOR ECONOMIES, SUPPLY HOSPITAL-CLEAN AIR

By eliminating replacement material costs and a major portion of maintenance labor required with other applicable filters, Continental Dycon air

filters effect spectacular, long-term economies. Graded synthetic fibers bonded into a wool-like Dycon blanket, supported in a sturdy aluminum frame, remove and retain even very fine dust particles from the air stream—are widely used in hospitals, other institutional buildings and industrial plants. This deep-bed-type permanent filter has 3 to 4 times the dust-holding capacity of conventional dry-type filters before resistance reaches .50" W.G.—thus greatly extending service period. Flushing with cold water repeatedly restores loaded filter to original resistance and dust-holding capacity.

DYCON air filters are available in extended-surface Type CA-24 (8" deep), Type CA-20 (4" deep), and flat Type DY (1" thick). For more detailed information, write for Bulletins 450 and 570 . . . coupon below.

NEW CONOMANUAL ROLL-AWAY FILTER NEEDS LESS ATTENTION AND LABOR

Successful development of a hand-operated, roll-away *type, viscous im*pingement filter has been announced by CAF, Inc. Designed especially for installations where cost limitations preclude automatic equipment; but where the convenience, economy, and cleanliness of a roll-away, disposable-media filter are desired, the CONOMANUAL is already on the market and rapidly gaining nation-wide recognition.

William K. Gregory, President of Continental, states that the CONOMANUAL is proving particularly advantageous for schools, churches, and other installations where use is intermittent and budgets are low. "In addition to its initial economy," says Gregory, "the Conomanual requires little maintenance time or cost, and is available for any capacity."

Conomanual's new synthetic fiber media is a ½-inch blanket reinforced with sturdy cotton mesh to provide great tensile strength. It is moisture-, fungus-, and fire-resistant. Low resistance and unusually high dust-holding capacity extend filter life and add to the amazing economy of this filter. Complete details available in Continental's Bulletin No. 850 . . . coupon below.

CONOMATIC SALES STILL RISING

Engineered to filter automatically and with maximum economy, Continental's Conomatic is showing a steadily rising sales figure. Customers seem to agree that this roll-away type, disposable-media filter clears the air at the lowest cost-per-cubic-foot of any filter in its classification, and delivers dependable automatic performance with a minimum of maintenance attention.

Economy features are minimized maintenance requirements; the media saver switch, which extends media life; and new improved media. In this filter Continental's engineers have achieved a simplicity of design that reduces moving parts to a minimum; provided positive controls which are practically fool-proof; developed a direct drive for media advance mechanism which eliminates the usual problems of variable speed drives and slip clutches, and provided for easy reloading of media. For more detailed information, write for Bulletin No. 802 . . . coupon below.

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Continental's widely-known E-Z-Wash Air Filters offer exceptionally high efficiency with initial resistance as low as any filter in their field. Their all-metal patented honeycomb media assures long service periods with very slow build-up of resistance, is easy to wash, functions with complete satisfaction at face velocities ranging between 350 and 600 FPM. Readily flushed clean with a cold-water hose, they are easily re-oiled in a dip-tank or with convenient aerosol spray can. Complete information available in Continental's Bulletin No. 423 . . . coupon below.

60,000,000 CFM of Air Cleared by Continental Self-Cleaning Automatics

The fact that Continental's automatic, self-cleaning air-filters are currently clearing more than 60,000,000 CFM of air has been revealed by recent tabulations. Installations varying in capacities from 5000 CFM to 233,760 CFM are operating in all quarters of the globe.

Popularity of this filter is attributed to 3 major advantages: (1) Superior Media Design, which is relatively clog-proof, has large, dust-holding capacity, and is readily cleanable. (2) Ferris Wheel Action which transfers filter sections from front to rear curtain without reversing them to direction of air flow, thus preventing dirt from blowing back into clean air stream from rear curtain. (3) Vigorous flushing action which assures positive cleaning of media after each cycle. Complete information is available by writing for Catalog 210 . . . coupon at right.

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☐ No. 423 ☐ No. 450 ☐ No. 850 ☐ No. 570

NAME _____

ADDRESS _____

Washington Topics

continued from page 52

it is in the public interest to encourage and assist the states to control outdoor advertising signs, displays and devices in areas adjacent to the Interstate System where completely new right-of-way has been acquired after July 1, 1956.

Here are the proposed standards as explained by the National Highway Users Conference after their publication in the Federal Register:

Only signs permitted within "protected areas" (defined as all areas adjacent to and within 660 ft of the edge of the right-of-way of all controlled portions of the Interstate System) are as follows—

Class 1. Official signs. Directional or other official signs erected in accordance with state law.

Class 2. On-premises signs. Signs advertising the sale or lease of, or activities conducted on, real property where the signs are located.

Class 3. Signs within 12 air mi of advertised activities. Signs referring to a trade or brand name of any service or product sold more than 12 mi from sign may not be permitted unless the name and location of the activity within 12 mi handling such product are displayed on the sign more conspicuously than the trade or brand name.

Class 4. Signs in the specific interest of the traveling public. This includes information about public places, natural phenomena, historic sites, areas of natural scenic beauty, camping, lodging, eating and vehicle service deemed in the specific interest of the traveling public.

The standards permit, without restriction, Class 3 and 4 signs in protected areas giving information about historic sites operated by a governmental unit or nonprofit organization.

Other Class 3 and 4 signs may be permitted under certain circumstances:

1. No signs visible to traffic proceeding toward an interchange are permitted within two mi of such interchange.

2. In the area two to five mi before an interchange is reached, six signs are permitted.

3. In the remaining area between interchanges an average of one sign per mi is permitted.

4. No more than two signs are permitted within any mi and no signs shall be less than 1000 ft apart.

5. No signs are permitted in scenic areas.

6. Only one sign advertising a

continued on page 370

Construction Cost Indexes

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

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

NEW YORK

PERIOD	RESIDENTIAL Brick	RESIDENTIAL Frame	APTS., HOTELS, OFFICE BLDGS. Brick and Concrete	COMMERCIAL AND FACTORY BLDGS. Brick and Concrete	COMMERCIAL AND FACTORY BLDGS. Brick and Steel
1930	127.0	126.7	124.1	128.0	123.6
1935	93.8	91.3	104.7	108.5	105.5
1939	123.5	122.4	130.7	133.4	130.1
1946	181.8	182.4	177.2	179.0	174.8
1947	219.3	222.0	207.6	207.5	203.8
1948	250.1	251.6	239.4	242.2	235.6
1949	243.7	240.8	242.8	246.6	240.0
1950	256.2	254.5	249.5	251.5	248.0
1951	273.2	271.3	263.7	274.9	271.8
1952	278.2	274.8	271.9	265.2	262.2
1953	281.3	277.2	281.0	286.0	282.0
1954	285.0	278.2	293.0	300.6	295.4
1955	293.1	286.0	300.0	308.3	302.4
1956	310.8	302.2	320.1	328.6	324.5
1957	318.5	308.3	333.1	345.2	339.8
May 1958	319.5	307.9	337.6	351.9	346.7
June 1958	323.7	312.3	242.9	356.9	349.8
July 1958	333.1	318.9	356.8	375.5	365.8
	% increase over 1939				
July 1958	169.7	160.5	173.0	181.5	181.2

ATLANTA

PERIOD	RESIDENTIAL Brick	RESIDENTIAL Frame	APTS., HOTELS, OFFICE BLDGS. Brick and Concrete	COMMERCIAL AND FACTORY BLDGS. Brick and Concrete	COMMERCIAL AND FACTORY BLDGS. Brick and Steel
1930	82.1	80.9	84.5	86.1	83.6
1935	72.3	67.9	84.0	87.1	85.1
1939	86.3	83.1	95.1	97.4	94.7
1946	148.1	149.2	136.8	136.4	135.1
1947	180.4	184.0	158.1	157.1	158.0
1948	199.2	202.5	178.8	178.8	178.8
1949	189.3	189.9	180.6	180.8	177.5
1950	194.3	196.2	185.4	183.7	185.0
1951	212.8	214.6	204.2	202.8	205.0
1952	218.8	221.0	212.8	210.1	214.3
1953	223.0	224.6	221.3	221.8	223.0
1954	219.6	219.1	233.5	225.2	225.4
1955	225.3	225.1	229.0	231.5	231.8
1956	237.2	235.7	241.7	244.4	246.4
1957	241.2	239.0	248.7	252.1	254.7
May 1958	241.2	237.5	252.0	257.8	258.6
June 1958	241.0	237.3	251.8	257.7	258.5
July 1958	245.1	240.6	257.5	264.5	263.7
	% increase over 1939				
July 1958	184.0	189.5	170.8	171.6	178.4

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
1946	167.1	167.4	159.1	161.1	158.1
1947	202.4	203.8	183.9	184.2	184.0
1948	227.9	231.2	207.7	210.0	208.1
1949	221.4	220.7	212.8	215.7	213.6
1950	232.8	230.7	221.9	225.3	222.8
1951	252.0	248.3	238.5	240.9	239.0
1952	259.1	253.2	249.7	255.0	249.6
1953	263.4	256.4	259.0	267.0	259.2
1954	266.6	260.2	263.7	273.3	266.2
1955	273.3	266.5	272.2	281.3	276.5
1956	288.7	280.3	287.9	299.2	293.3
1957	292.0	283.4	295.2	307.1	302.9
May 1958	296.6	287.3	304.9	319.0	314.0
June 1958	297.6	288.3	306.2	320.0	315.0
July 1958	297.6	288.3	306.2	320.0	315.0
	% increase over 1939				
July 1958	170.0	169.4	158.0	167.1	164.7

SAN FRANCISCO

1930	90.8	86.8	100.6	104.9	100.4
1935	89.5	84.5	96.4	103.7	99.7
1939	105.6	99.3	117.4	121.9	116.5
1946	159.7	157.5	157.9	159.3	160.0
1947	193.1	191.6	183.7	186.8	186.9
1948	218.9	216.6	208.3	214.7	211.1
1949	213.0	207.1	214.0	219.8	216.1
1950	227.0	223.1	222.4	224.5	222.6
1951	245.2	240.4	239.6	243.1	243.1
1952	250.2	245.0	245.6	248.7	249.6
1953	255.2	257.2	256.6	261.0	259.7
1954	257.4	249.2	264.1	272.5	267.2
1955	268.0	259.0	275.0	284.4	279.6
1956	279.0	270.0	288.9	298.6	295.8
1957	286.3	274.4	302.9	315.2	310.7
May 1958	288.9	273.0	310.9	327.7	321.0
June 1958	290.3	275.0	312.9	329.1	322.5
July 1958	290.7	275.6	313.2	329.1	322.6
	% increase over 1939				
July 1958	175.3	177.5	166.8	170.0	176.9

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

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

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

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

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

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

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

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

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

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Pattern 030, Spice Brown, made up of 1" x 1" x ¼" tile mounted on 12¼" x 24½" sheets.

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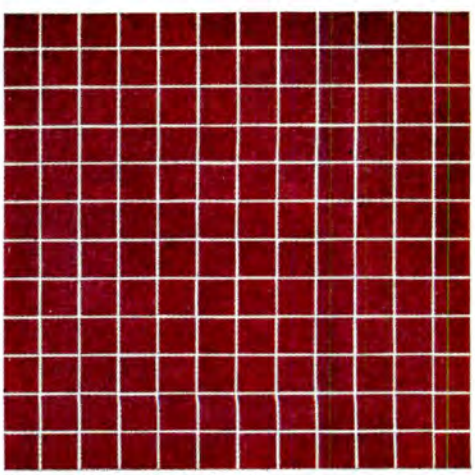

Pattern 030 — Taupe Brown

With unglazed Romany·Spartan conductive tile, explosion hazards created by static electric sparks in anesthetizing areas can be almost completely eliminated. Dust-pressed with straight edges, Romany·Spartan tile has a moisture absorption factor of less than one-half percent by weight.

Two attractive, easy-to-clean colors blend harmoniously with all wall colors and equipment.

It's economical, too. 12¼" x 24½" sheets go down with maximum speed, at minimum cost in conventional conductive mortar or new conductive adhesive setting beds.

For complete details, samples or specifications, consult your nearby Romany·Spartan sales representative. If you'd like Technical Bulletin 200, covering specifications and installation procedures, write United States Ceramic Tile Company, Dept. R-25, Canton 2, Ohio.

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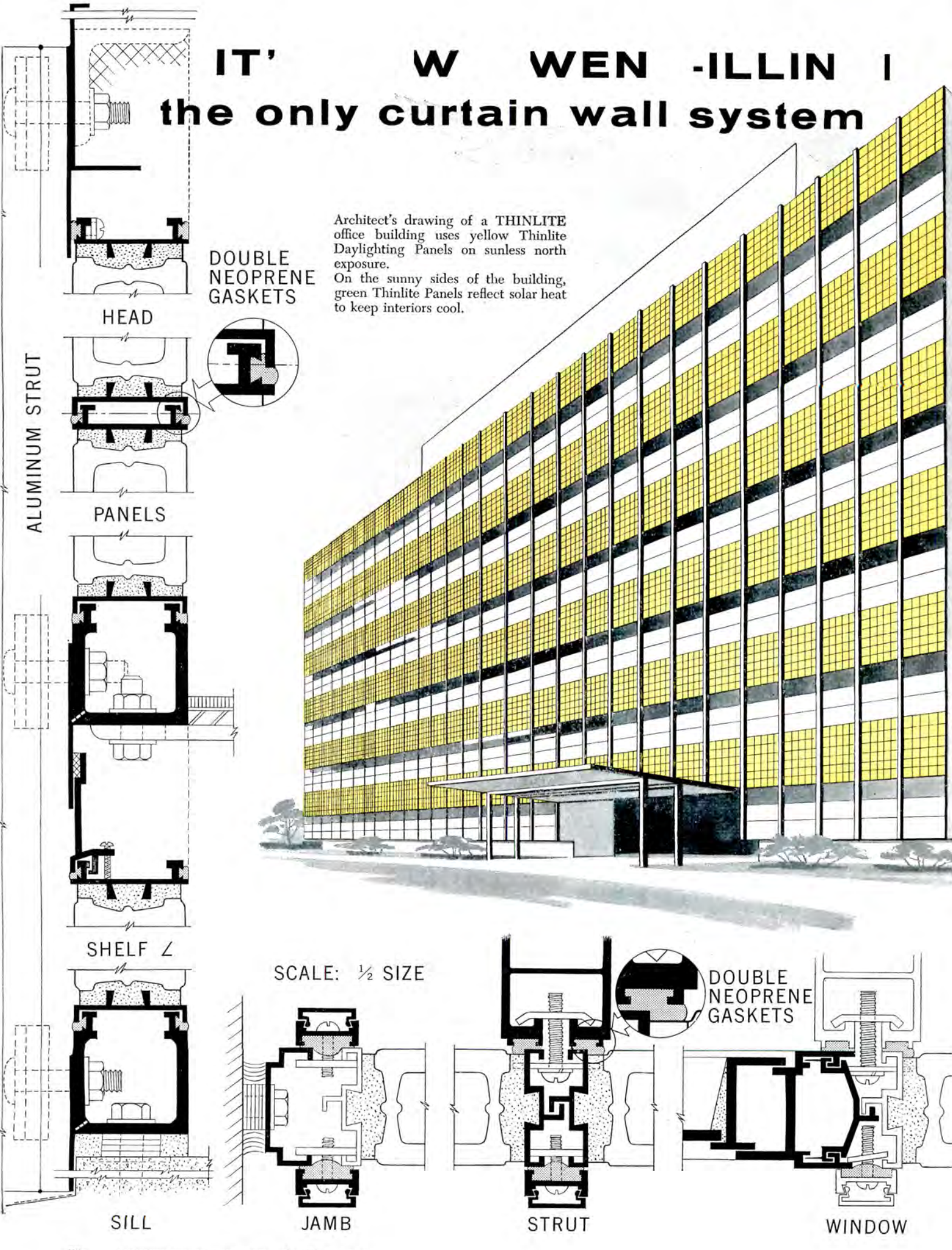

Architect's drawing of a THINLITE office building uses yellow Thinlite Daylighting Panels on sunless north exposure.
On the sunny sides of the building, green Thinlite Panels reflect solar heat to keep interiors cool.

THINLITE

with built-in daylight control

Now . . . after three years of development and on-the-job testing, comes THINLITE . . . an exciting new concept in curtain wall construction! THINLITE is the world's first and only curtain wall system with *built-in daylight control:* THINLITE'S revolutionary 2″-thin Daylighting Panels "think" before they admit the sun's rays. Optical prisms molded into its glass walls admit cool light from the ground and clear sky . . . hot, bright light from the sun is reflected. Result: THINLITE provides the *lowest* brightness and solar heat transmission of any daylighting medium!

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Easy-to-handle prefabricated THINLITE Daylighting Panels are available in 3 colors to meet all daylighting conditions: green (for sunlight exposure), soft white (for general use), and sunlight yellow (for non-sun exposures). THINLITE Accessory Panels—Ceramic Face Glass Panels in a number of striking colors, Window Panels in both fixed and projected types, and decorative glass and porcelain unit panels — provide the architect with a limitless variety of color and texture accents.

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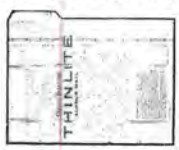

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Says Koch: A Man's Home Can Be His Castle

AT HOME WITH TOMORROW. *By Carl Koch, with Andy Lewis. Rinehart & Company, Inc. (New York). 208 pp., illus. $6.95.*

BY FLORENCE A. VAN WYCK

Anyone who knows Carl Koch and his previous writings would expect this book to be just what it is: delightfully readable and full of sound common sense. There is no formality about it. It is, in fact, as breezy and almost as informal as a good gam aboard the author's ocean-racing yacht, the *Jen* (AR, April '57, pp. 215-218). Yet it is as carefully planned and thought-out as was Skipper Koch's last race to Bermuda.

"Everyman" is the reader to whom this book is addressed, and every man or woman considering building or buying a house will find it of interest. Mr. Koch is intent upon giving the average citizen the best possible house for his money, and states quite bluntly that this calls for mass production. "There is an understandable reluctance on the part of everyman," he says in his introduction, "to build his castle of nuts, bolts and chromium. The industrial revolution will help us realize our dreams if we

Techbuilt: "attic on basement"

can handle it, but we haven't handled it too well so far. . . . This book is written with the hope that the experience recorded herein may help everyman (at least a valid sample of him) to take a little more objective and affirmative look at his living problems and opportunities. For he, the customer, must make an affirmative demand for a living environment worthy of his real aspirations. The builder only builds what he thinks his customers want to buy."

Eleven stimulating chapters, well illustrated, make up the body of the book. The first—entitled "What is a Home?"—is full of phrases this reviewer would love to quote if space permitted (most notably those under the heading of "A place to beget and raise children"). Later chapters discuss the author's own efforts in the mass production field, which have been well known and well accepted for some years now: the Acorn House, the Conantum, the House that Techbuilt. . . .

The book is attractive in format, with Lustron window details as endpapers, and a most appealing dust jacket. Any architect who has ever designed a house (and what architect has not?) should find this book enjoyable reading and one well worth recommending to future clients.

Schools: Tools for Learning

SCHOOLHOUSE. *Edited by Walter McQuade. Produced by the Joint School Research Project: Aluminum Company of America, Eggers and Higgins, architects, and Walter McQuade. Simon & Schuster (New York). 271 pp., illus. $10.00.*

BY H. H. WAECHTER

This book is addressed primarily to school board members and parents. It is also reassuring, however, to educators and architects with its reemphasis on heeding better the nature and needs of the child for whom we build. In the light of rapid changes in education, this discussion is most timely.

The authors call strongly to our attention the importance of quality of the environment, which has great influence on the child and his behavioral patterns. They call for making the school plant a successful tool for learning. How these theoretical questions occur in practical situations is described with plasticity and simplicity of language. I am glad the point was made that artistic design is of educational value to help the child develop a feeling for beauty. An institutional-type plant is not liked by children for lack of stimulating variety. Such complex questions, as they relate to space and the child's feeling of belongingness, are asked and discussed in terms of the child's answers to the survey question: "What do children like about schools?"

The discussion of our schools' future makes clear the conflict we are facing between fast-growing educational needs and slow developments in teacher production and in availability of teaching facilities. These developments, which will lead to larger classes and the use of mass communication media, will have enormous impact on school building design. The latest ideas on greater diversification of high school space—larger rooms for labs and lecture rooms, smaller ones for intimate working—as well as increased use of school facilities for adult education, are discussed in connection with the problem of flexibility in planning

"Many vivid action shots . . ."

This discussion of "the future" makes one wonder whether our present school building activities are already producing obsolete artifacts. Attention is called further to the vast influence city planning has on school planning.

Other chapters deal with specific questions concerning administrative and technical problems. The architect will appreciate the consideration given to how to choose or not to choose an architect. The detailed treatment of construction is an excellent introduction for the layman; the material is arranged in clear tables with many sketches. A chapter on design concludes this informative survey. Concentration, labor, and deep knowledge are not enough when it comes to design, say the authors; it calls for a cross between sculpture and poetry. This splendid "primer" is enlivened by entertaining and sophisticated cartoons by R. O. Blechman, and many vivid action shots

continued on page 63

Egyptian and Chinese Art

THE ART AND ARCHITECTURE OF ANCIENT EGYPT. *By W. Stevenson Smith. Penguin Books, Inc. (Baltimore). 493 pp., illus. $12.50.*

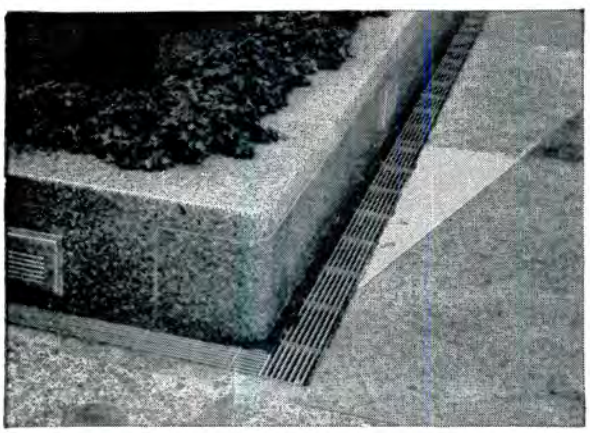
CHINESE ART. *By William Willetts. Penguin Books, Inc. (Baltimore). 802 pp., illus. (2 vols.), $1.50 per vol.*

Both of these books are valuable additions to the library: Smith for beauty of presentation and Willetts for comprehensive coverage of the selected field.

Smith's book, the 13th in the great series, the Pelican History of Art, covers ground which has been gone over before, both because Egyptology is one of the oldest of the art-history disciplines and because the function of this series is to present to the general reader what is already known to the specialist. The Egyptians were literal-minded and keenly observant, and this, combined with a long tradition of good craftsmanship, strikes a sympathetic note for Americans. But the differences between us—their applying these practical talents, what we would call "know-how," to tombs, primarily—make us even more interested in these long-dead and peculiar brothers.

continued on page 63

BORDEN ALUMINUM GRATING IN MELLON SQUARE PARK . . .



PITTSBURGH, PENNSYLVANIA

Encircled in the picture above is one of several aluminum grating air vents in use throughout the park as air exhausts for the multiple-level parking area below ground.

The arrows indicate two of the locations of a system of drain trenches in existence throughout the park.

The grating installed is Borden Pressure Locked Aluminum Grating. This was an exacting job, one where only standards of quality equal to Borden's would do. Functional beauty and low maintenance are but two of the many advantages of Borden's Pressure Locked Aluminum Grating.

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KETCHUM, GINÁ & SHARP

per J.S.L.

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

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

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

The Modern Style is

Required Reading

Schools . . .

from school life are spread throughout the text. A 68-page appendix of illustrations, some in color, provides a review of a number of our best schools. A selective bibliography directs the reader to specialized study.

Finally, no praise can be high enough for the quality of production. Although the list of advisers, contributors, and assistants is impressive, Walter McQuade has done a notable job, shaping the wealth of material into a harmonious and readable presentation. All illustrations are printed in beautiful photogravure.

That the Aluminum Company of America made possible this unusual production points to the kind of sponsorship of which there is more need in the public interest.

Egypt and China . . .

Willetts' book is a thorough survey of his field. He is especially qualified for this work by having a knowledge of the Chinese language, unlike some Orientalists. He defines the scope of his study carefully: eight art-forms, jade, bronze, lacquer, silk, sculpture, pottery, painting and calligraphy, and architecture. Of particular interest are his chapters on architecture, because in the current fad for Japanese architecture, we have tended to neglect its interesting mainland counterpart. He describes how Chinese society, reaching a balance between urban and rural components early in its history, has always—until the recent revolution—managed to exist in a state of equilibrium and how its architecture has reflected this.

Willetts goes to some lengths to show that Chinese architecture is city planning "writ small," that the house and homestead are built like little towns, because the patriarchal system of Chinese family life is a miniature counterpart of municipal and even imperial government.

—W. H.

A Garden is an Experience

CREATIVE GARDENS. *By James C. Rose. Reinhold Publishing Corp. (New York). 208 pp., illus. $10.00.*

The title of this book may, regrettably, be somewhat misleading. The commonly held (or "garden variety") notion of gardens is one in which the dominant association is with "flowers." It is this misconception that engenders regret. Mr. Rose states what "garden" *should* mean: "A garden is an experience. It is not

continued on page 382

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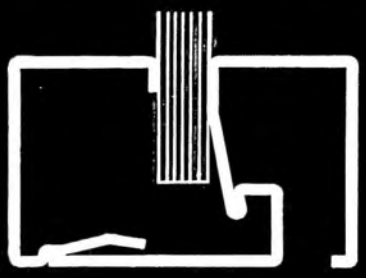
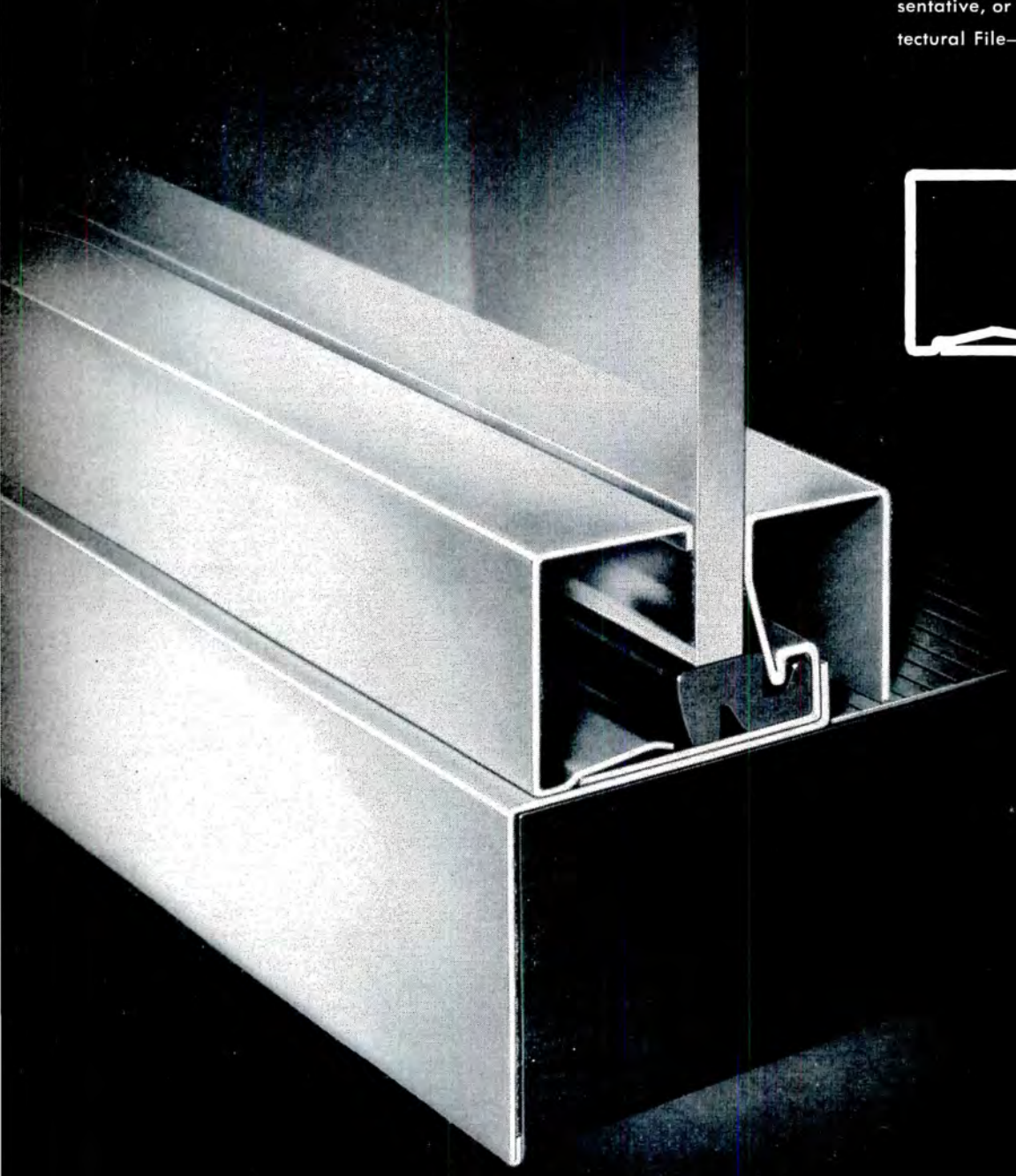
Beautiful in its simplicity, this PITTCO double-face sash is noted for its strength and sturdy construction. It is one of a wide selection of PITTCO sashes, sills, heads, jambs, bars and mouldings available for complete harmony of design in every store front. Consult your PITTCO Store Front Metal Representative,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





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WESTERN EDITOR

Elizabeth Kendall Thompson, A.I.A.

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Verdict By Default

Recently I served on a jury for a case in criminal court which involved a misdemeanor. Enough was suggested in court to indicate to the jury that the defendant was guilty of some wrongdoing, but because of the way that the case was presented by both counsel and district attorney, evidence was lacking to prove it. Under the judge's charge to the jury, only a "not guilty" verdict could be rendered. In the absence of proof, a "reasonable doubt" can mean only a "not guilty" verdict.

Shortly afterward I sat in on a meeting at which architects were deciding their profession's stand in regard to a public structure of beauty and significance in the community—whether or not it should be preserved and how and for what uses, and at what cost. Although the real heart of the matter was an esthetic dilemma, it was no more possible for this group to consider all aspects— including the esthetic one—than it had been for the jury to get the whole story in its case. The architects were limited to consideration of one point, an important and essential one but not the one on which the public had the right to look for guidance to architects and architects only.

What happens when architects shy from talking of esthetics, the only aspect of master-building which differentiates them from others in the building field? What happens when they treat esthetics as a dusty, pedantic philosophical system instead of as the vital philosophy which affects, both subtly and broadly, the life and standards of a community? What does it matter if they let a "reasonable doubt" become an overwhelming indifference to beauty?

What happens is that the great and beautiful—in ideas, in plans, in buildings, in art—are forsaken for the tawdry and mediocre. The voices that might have guided toward beauty were silent, and those that were heard shouted for expediency or special interest.

It is no more use to wring the hands at the state of architecture—especially in the public realm—than it is to bewail the loudness and prevalence of the voices of mediocrity. It will take action based on careful thinking, but not at the eleventh hour as happens all too often. The time to plan the building is before construction starts; the time to plan the answers is before the issue is on fire.

And if we do not present our evidence fully and convincingly, if we do not speak with more force and more frequence for the values of design—human, social *and* esthetic—which are the lasting gifts of the arts to humanity, we abandon our jury, the public, to a "reasonable doubt" and a verdict by default. E.K.T.

First units to be built will be low-rise buildings; multi-story units are due to go ahead next year

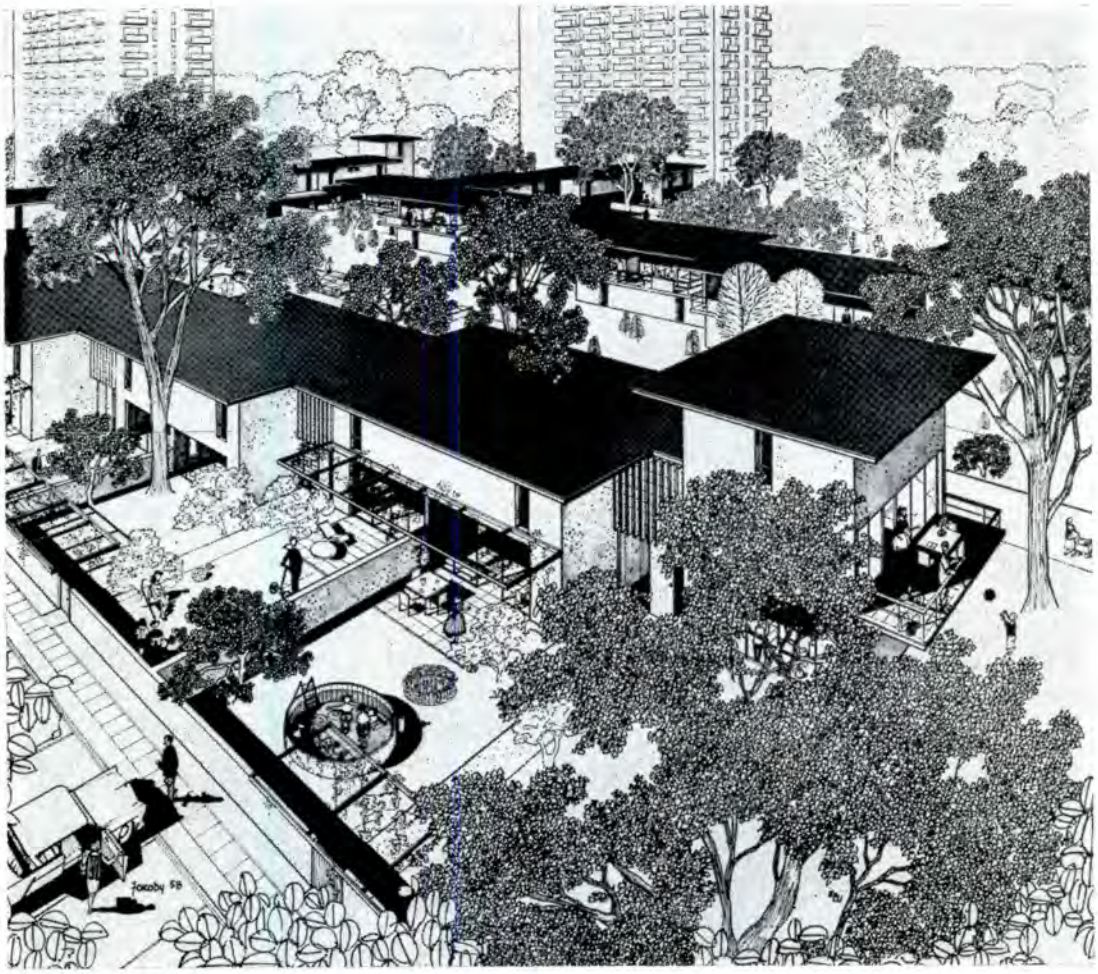
Project site is south of Capitol Mall in center of blighted area

Malls and landscaped areas will give unity to residential section

REDEVELOPMENT IN SACRAMENTO: TEN YEARS OF PLANNING PAYS OFF

Ten years ago the city of Sacramento embarked on the first steps of a plan to redevelop its West End district, choosing as its first goal a 15-block section in the heart of the Capitol Mall area. The end of this year will see the start of construction of its first project, 692 privately financed and developed residential units to be known, along with a group of multi-story apartment buildings, as Capitol Towers. The high-rise units are expected to be under construction early next year if present proposals work out satisfactorily to the city and economically feasible to the sponsors. Since commitments have already been made or negotiations are under way for projects on 14 of its 15-block section, Sacramento expects to be razing and clearing the entire section by next March.

Entrance to multi-story apartments will have character shown



Row houses and apartments, with balconies overlooking mall and playgrounds and individual yards, comprise project

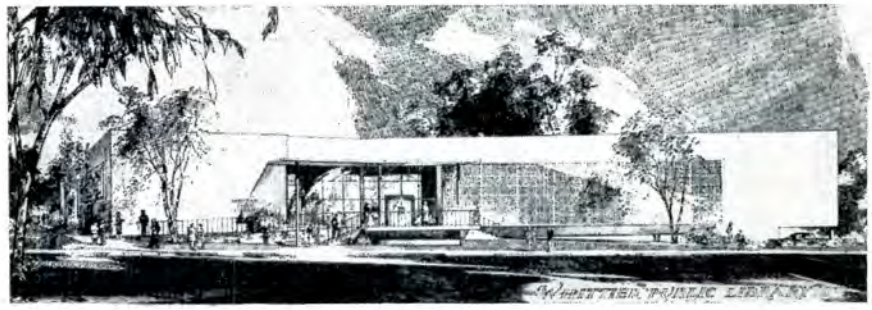
Sponsors of Capitol Towers are Capitol Mall Development Corporation, Roger L. Stevens and James H. Scheuer, James S. Lonigan, executive director. Architects are Wurster, Bernardi & Emmons, Edward Larrabee Barnes, and DeMars & Reay; Consultants include Mayer, Whittlesey & Glass, planning; Carl Feiss, planning; Dreyfuss & Blackford, architectural; Nathaniel S. Keith, housing; Lawrence Halprin, landscape architect; and William B. Gilbert, consulting engineer. Robert Bradford is head of Sacramento's Redevelopment Agency.

Western Buildings in the News

EUREKA, CALIF., COUNTY COURT HOUSE: Replacing Humboldt County's original court house, damaged severely in 1955 earthquake, this new building will not only provide for county's courts and jails but for an underground civil defense center—the state's first such facility specially designed to be radiation-proof as well as blast resistant. Building, now under construction, will cost $3,375,000. Mitchell van Bourg & Associates are architects

PUBLIC BUILDINGS IN TWO CALIFORNIA CITIES

WHITTIER, CALIF., LIBRARY: Located in Whittier's Civic Center, this library is designed to meet immediate needs but can be expanded by more than a third. Special features of the $538,350 building (which will be debt-free on completion) are multi-purpose room; local history room; special collection room (on John Greenleaf Whittier); and provisions for bookmobile loading and branch library operation. William H. Harrison, F.A.I.A., is architect



SCIENCE BUILDINGS FOR THREE WESTERN COLLEGES

UNIVERSITY OF CALIFORNIA: By fall of 1960 students on California's Berkeley campus in Geography, Geology and Paleontology will be using this six-story $3,837,000 building which will provide offices, classrooms and teaching and research laboratories designed for the special requirements of each of these departments, museum of paleontology, joint library and two small aquaria. Warnecke and Warnecke are architects; Dudley Deane and Associates, mechanical engineer; Nishkian and Nishkian, structural engineers

COLLEGE OF GREAT FALLS: Science building in this private college at Great Falls, Montana, is one unit in completely new campus on which construction will soon start. It will provide offices, laboratories, classrooms for teaching and research. Page and Werner are architects

PEPPERDINE COLLEGE, Los Angeles: Construction of this $750,000 science building is one of Pepperdine's first steps in a long-range expansion and development program. Building will contain departments of biological and physical sciences and 200-seat auditorium. Pereira & Luckman are architects and engineers for this building and college's master plan

Architect: Mies van der Rohe
Associate Architect: Friedman, Alschuler & Sincere
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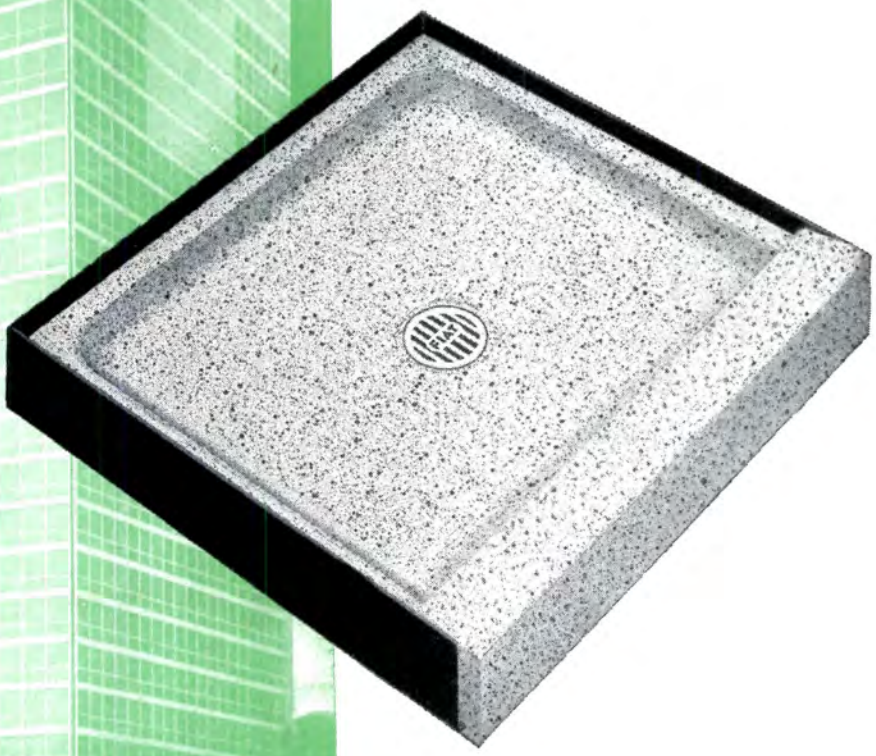
The new, six building luxury apartment project to be known as 900 Esplanade and Commonwealth Promenade will have FIAT *PreCast Shower Floors in every shower. Added proof that products by* FIAT *set the standards of shower quality.*



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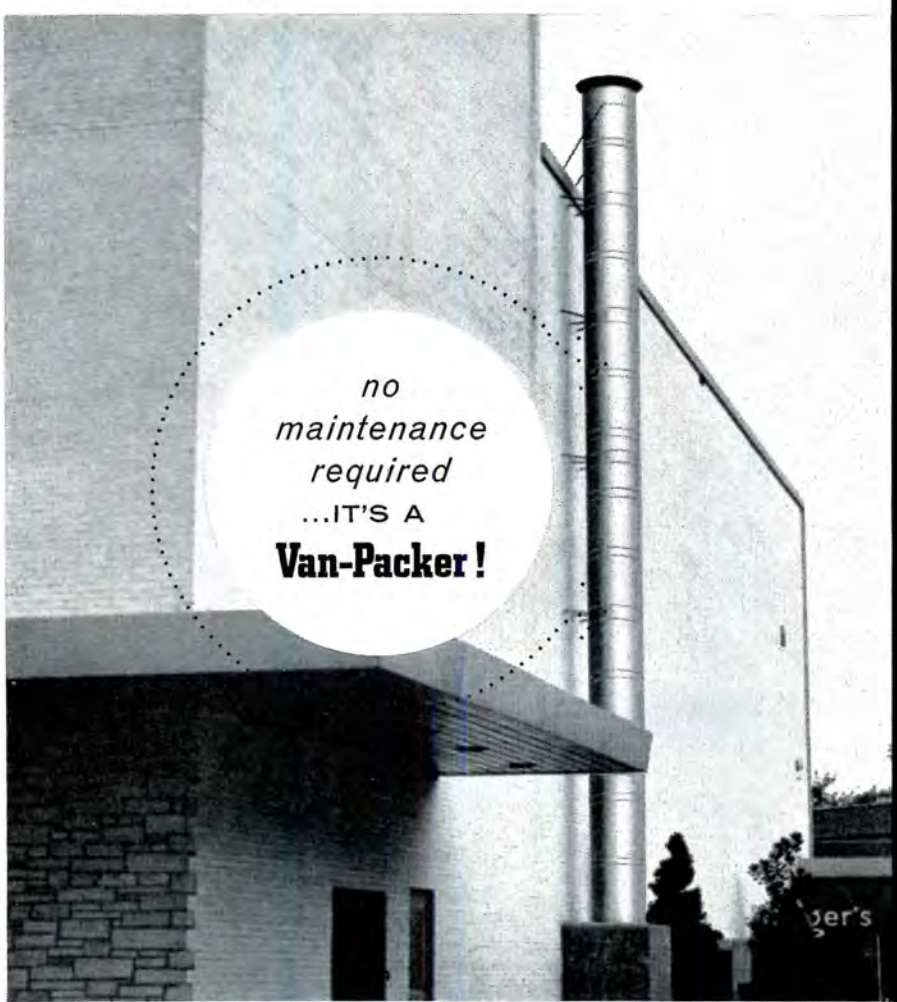

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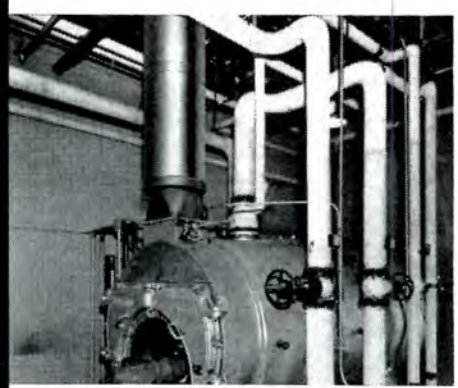

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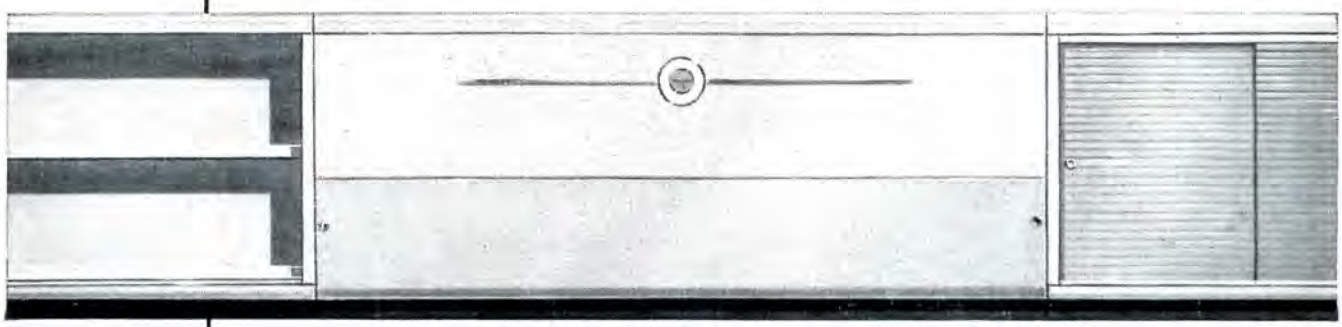

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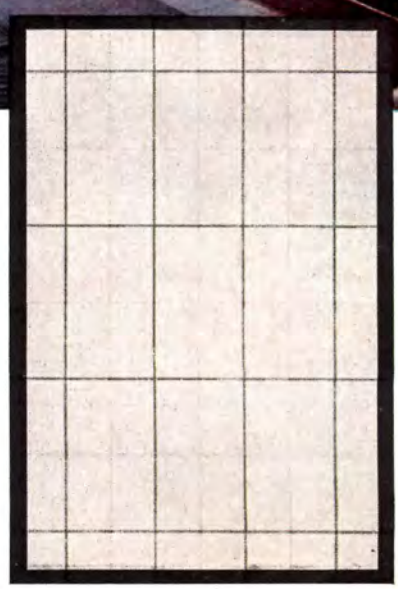

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GROUNDS MAINTENANCE HANDBOOK is written with the authority of 28 years of experience in grounds planning and supervision. Herbert S. Conover is presently Landscape Architect for the tremendous St. Lawrence Power Project, with headquarters at Massena, N. Y. Prior to this, he served with TVA, participating in the development of many recreational facilities in the Tennessee Valley, and responsible for over 25,000 acres.

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6. **Weeds and their eradication.** Classifies weeds botanically and practically. Outlines chemicals, tools, and methods for effective control of all types. Also covers brush control and stump treatment.
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The Creative Process

The September issue of *Scientific American* is devoted entirely to articles on creativity—a fascinating subject and one never enough explored. The issue includes articles by scientists of various kinds—a physicist, a biologist, a physiologist, a statistician, a psychologist, a mathematician, an applied scientist—on innovation and imagination in their fields and on some aspects of imagination and innovation. This issue is recommended reading for anyone in or about a creative field of work.

And yet there are things with which one must take issue, excellent and provocative as are the articles. For instance, in one of the most stimulating, J. Bronowski's piece on "The Creative Process," it seems to me that the arguments in which he brings into his scope the arts and, incidentally, architecture, could be clearer.

"The sciences and the arts," says Dr. Bronowski, "have flourished together. And they have been fixed together as sharply in place as in time. In some way both spring from one civilization: the civilization of the Mediterranean, which expresses itself in action. There are civilizations which have a different outlook; they express themselves in contemplation, and in them neither science nor the arts are practiced as such. For a civilization which expresses itself in contemplation values no creative activity. What it values is a mystic immersion in nature, the union with what already exists."

So far, good. But when he continues by saying that "the contemplative civilization we know best is that of the Middle Ages" and that this period has "left its own monuments, from the Bayeux Tapestry to the cathedrals . . . characteristically anonymous," this writer begins to differ with him. For the Middle Ages were no longer "contemplative" by the time the cathedrals were being built. The monasticism of the Dark Ages (sixth through ninth centuries) had given way to a tremendous flowering of intellectual concern with the world and its meaning. If the explanations and gropings were tinged with fantasy and mysticism, this was natural in the breaking away from the influence of monasticism.

But by the time that the cathedrals were being built, the Crusades were under way—and these were certainly not a contemplative venture; serfdom and its enforced inward-turning life had heard its death-knell; the beginnings of modern scientific method were at hand; and the arts as never before, and largely never since, were a lively part of a world remarkable for its activity. The time of the cathedrals was, roughly, the time between the beginning of the 11th century and the beginning of the Renaissance, with the highest expression in the 13th century, the midway point in this period of active participation in the world.

As for the anonymity which seems to concern Dr. Bronowski, this is forever with us in architecture. It is certainly not new, but whether it came from the Mediterranean civilization or from the "Middle Ages" matters little in its continued actuality. We are not sure that drawings were made for the cathedrals—at any rate, for most of them there seem not to have been any. This means that the practice of architecture was then a much more direct process than it is now; and whether the craftsman was the designer or the draftsman is, after all, a matter of social custom and economic conditions. But anonymous the designer still is, and except in a few instances this is a common practice.

This is not to say that the practice is good; it seems quite conscience-less, indeed. And while it probably springs from the basic sense of insecurity which is a common problem with the profession of architecture, it

Waste Space

seems a difficult disease to heal, for even success does not seem to do it. Perhaps time alone can do it.

Another article of very special interest to architects is "The Psychology of Imagination" by Dr. Frank Barron, of the Institute of Personality Assessment and Research at the University of California, in which Dr. Barron describes some of the tests and a few of the findings from the Institute's study of creative individuals. So far the institute has studied painters, writers, physicians, physicists, biologists, economists and anthropologists. This fall it will begin, under its director, Dr. Donald W. MacKinnon, a study of this country's most distinguished architects (or, of those among this group who are willing to take the time and to cooperate in the study). So what Dr. Barron has to say about the creative individual is pointedly interesting.

Creative people are, he found, especially observant, and if as a result of their observations, they express half-truths, the part they express is that which most other people have not noticed. In other words, they see things which are there for all to see but usually go unobserved. Creative people see things as other people do, but they also see them as non-creative people do not see them. As the psychologist expresses it, "They are thus independent in their cognition . . . they value clear cognition and are motivated to this value and the exercise of their talent for observation for reasons of self-preservation and in the interest of human culture and its future" —a statement reminiscent of the dual nature of architecture, the dual purposes of architectural practice, the dual role of the architect.

Creative people, Dr. Barron continues, "are born with greater brain capacity; they have more ability to hold many ideas at once and to compare more ideas with one another—hence to make a richer synthesis"—if there had been any doubt that architecture is a creative endeavor, that would settle it, because that's what it takes to produce architecture.

If their universe is more complex, as the findings show, creative people are at least fortunate in that they seem to have vigorous constitutions and "an exceptional fund of psychic and physical energy"; and in architecture, these attributes, too, are certainly necessary. It is not surprising that creative people "have more contact than most people with the life of the unconscious, with fantasy, reverie, the world of imagination," and perhaps it is true that the most creative of them "have exceptionally broad and flexible awareness of themselves," but this statement *could* make one wonder. For the architect is torn between the artist's often pronounced "regression" and his own need to be a "solid citizen," and he is not necessarily less creative because he gives in infrequently to the former.

But with one statement of Dr. Barron's this writer will not disagree: that "creative potential is directly a function of freedom." Freedom is indeed the most important single element in the climate and environment of the creative person, and this is, if anything, doubly true in the case of the architect. For he must subscribe to so much that limits simply in the nature of things in order to get his building built, physically, and freedom in the other aspects of his work thus may assume an even higher value for him than for the other arts.

What comes of the Institute's study of architects will be fascinating and instructive. If it gives architects a better insight into themselves and their own complex make-up and processes, and does nothing more, it will have been of great significance. E.K.T.

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Wright's Marin Center In Working Drawings

Working drawings and specifications for the first building—a fair pavilion—in the Marin County Center which Frank Lloyd Wright has designed have been authorized and construction will presumably get under way some time next year. The master plan and preliminary plans for all of the buildings in the first two stages for the entire center were approved last spring.

Divided into three phases, the center will not be completed until 1990. A county office building, included in the first stage, will be a very long, steel-framed and gunited structure whose suspended arcs cross the rolling countryside in much the same way that Roman aqueducts did —with more than a little resemblance to the aqueduct.

N.A.H.R.O. To Meet In S. F.

"A Long Look Ahead" is the theme of the 25th anniversary conference October 12-15 in San Francisco of the National Association of Housing and Redevelopment Officials. The conference will examine housing and urban renewal problems and accomplishment in terms of the general economic, political and social scene.

Expected to speak on the program are federal and civic officials, planners, housing authority members, legal staff representatives and social and political science professors, the press and one architect, John Bolles of San Francisco. Keynote speakers are S. Clark Beise, Bank of America president, Albert M. Cole, HHFA administrator and Housing Commissioner Joseph P. McMurray of New York City.

Structural Engineers To Meet

California structural engineers will hear three Californians speak when the Structural Engineers Association of California holds its annual convention in the Ahwahnee Hotel, Yosemite National Park, October 2-4.

The engineers are T. Y. Lin, professor of civil engineering at the University of California and author of a book on prestressed concrete, who will describe "Engineering and Construction in Russia Today" from his first-hand observation on a recent trip to that country; H. J. Andrews, Aluminum Company of America engineer, whose subject is "Structural Applications of Aluminum"; and William T. Wheeler, Los Angeles structural engineer and past president of the Structural Engineers Association of Southern California, who will report on the California State earthquake code.

Competition for Lobby Art for Seattle Building

A competition open to architects and artists in the 11 western states has been announced by the Antero Company of Seattle, owners of the new Logan building in which the winning design will be placed. The competition is for a design for a bas relief, mosaic or free standing sculpture for the lobby of the building, a 10-story office building of porcelainized steel and glass curtain wall construction.

First prize is $4500 plus costs of executing the work and supervising its installation; second through fifth place prizes are $250 each; sixth through tenth place prizes are $100 each. Entrants must be able to execute their design. Entry blanks, obtainable from the Antero Company, 1411 Fourth Avenue Building, Seattle, Wash., must be returned not later than November 30, 1958; designs are due before midnight January 31, 1958.

Judges are Dr. Richard E. Fuller, director, Seattle Art Museum; Gilbert H. Mandeville, Mandeville & Berge, architects for the building; Mrs. Scott Bullitt, Board of Regents, University of Washington and president, KING Broadcasting Company; a leading Western artist and an editor of a national architectural magazine.

Cooperation Does It

Four architectural firms in Boulder, Colo., are making a major contribution to the local Chamber of Commerce's enlarged and remodelled offices by joining forces to do the work. Design is being done in the office of Hobart Wagener; working drawings and specifications are being prepared by Robert K. Ditzen and Langhart & McGuire; contract letting and supervision will be done by James M. Hunter.

Calendar of Western Events

- TO OCTOBER 12: Nature in Abstraction; Ceramics by Bernard Leach, San Francisco Museum of Art, Civic Center, San Francisco
- OCTOBER 2-4: Annual convention, Structural Engineers Association of California, Ahwahnee Hotel, Yosemite National Park, Calif.
- OCTOBER 9: Departure date, Architects Tour of Japan. Information from Kenneth Nishimoto, 263 South Los Robles Avenue, Pasadena, Calif.
- OCTOBER 9-12: Sixth annual conference, Northwest regional conference, A.I.A., Harrison Hot Springs, B. C.
- OCTOBER 12-15: National Association of Housing and Redevelopment Officials, San Francisco
- OCTOBER 15-17: National Resources Council, Energy Resources Conference, "Energy and Energy Sources, Their Impact on Society," Brown Palace West, Denver
- OCTOBER 15-19: Eleventh annual convention, California Council, A.I.A., "Creativeness in Architecture," Monterey Peninsula, Calif.
- OCTOBER 16-19: Annual convention, California Council of Landscape Architects, El Mirador, Palm Springs, Calif.
- OCTOBER 23-25: Fall meeting, National Society of Professional Engineers, St. Francis Hotel, San Francisco
- NOVEMBER 7-9: Annual fall conference, Pacific Arts Association, Northern California Section, Asilomar, Calif.
- NOVEMBER 6-8: Fall meeting, National Academy of Sciences, University of California campus, Berkeley
- OCTOBER 7-NOVEMBER 30: Paintings and Drawings by Vincent van Gogh. M. H. De Young Museum Memorial, Golden Gate Park, San Francisco

WESTERN SECTION

Index To Advertising

Manufacturers' Pre-Filed Catalogs of the firms listed below are available in the 1957 Sweet's Catalog Files as follows:

a Architectural File (green)
ic Industrial Construction File (blue)
lc Light Construction File (yellow)

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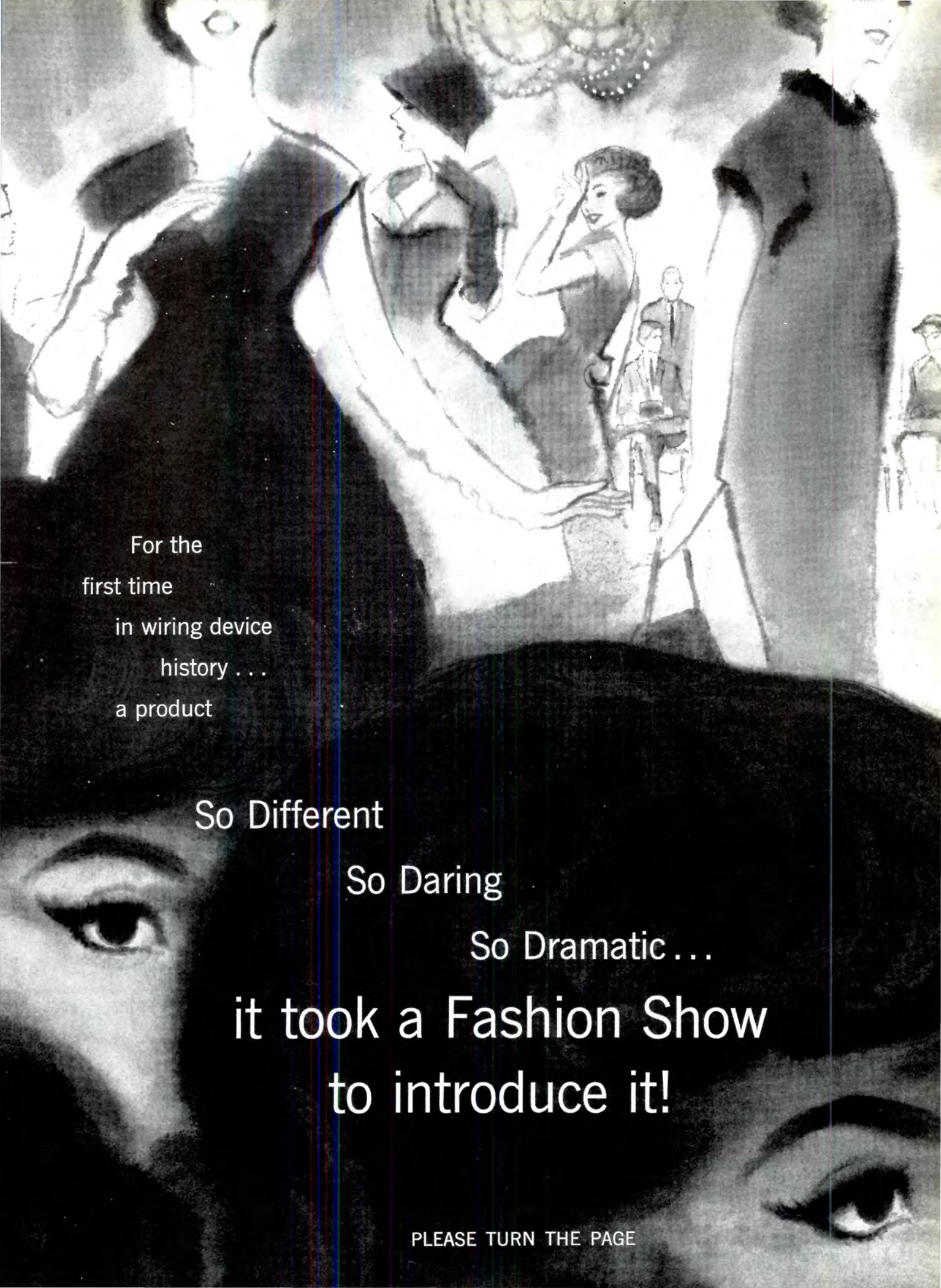
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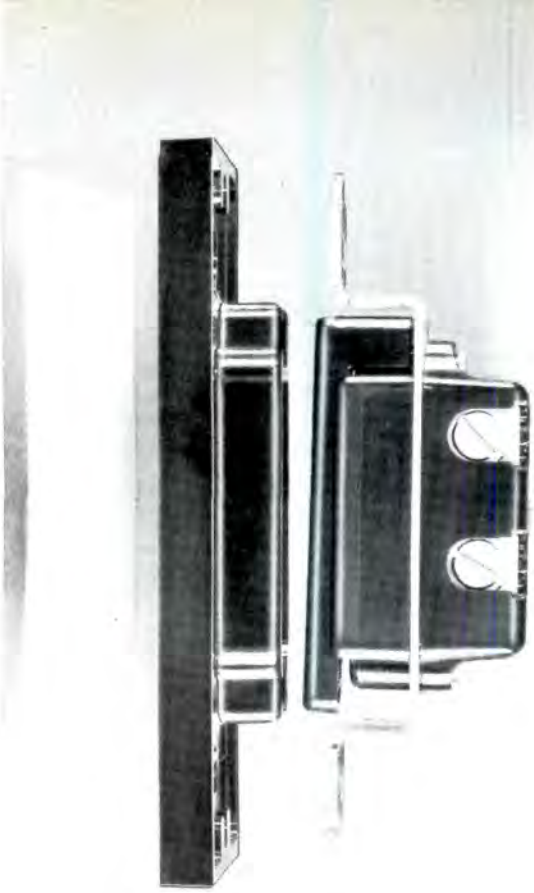

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New York City has literally thousands of Barrett Roofs, large and small. Among them are roofs on scores of important postwar buildings, some of which are listed below.

They all rely on coal-tar pitch, tarred felt and fireproof gravel or tile surfacing to protect them from wear and tear by the elements. For pitch, with its vital oils, lasts for decades . . . is actually preserved by moisture—the destructive enemy of other bitumens.

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

And the established construction standards of the Barrett SPECIFICATION® Roof have been accepted for decades as the roofing criteria of architects and builders throughout the country. BARRETT DIVISION, Allied Chemical Corporation, 40 Rector Street, New York 6, N. Y. In Canada: The Barrett Co. Ltd., 5551 St. Hubert St., Montreal, Que.

Allied Chemical

...outlive the bond

Barrett Specification Roofs®

Canada House—680 Fifth Ave. • 380 Madison Ave. • Seagram Building—375 Park Ave. • 400 Park Ave. • 261 Madison Ave. • Douras Building—545 Madison Ave. • Esso Building—15 W. 51st St. • 711 Third Ave. • 20 Broad St. • 415 Madison Ave. • Socony Mobil Building—150 E. 42nd St. • 1430 Broadway • Amoco Building—555 Fifth Ave. • 430 Park Ave. • 100 Park Ave. • 575 Lexington Ave. ("Gold" Building) • 260 Madison Ave. • 666 Fifth Ave. (Tishman Building) • 575 Madison Ave. • 405 Park Ave. • Colgate-Palmolive Building—300 Park Ave.

Caterpillar makes tracks for coal

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

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

Consult an engineering firm

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

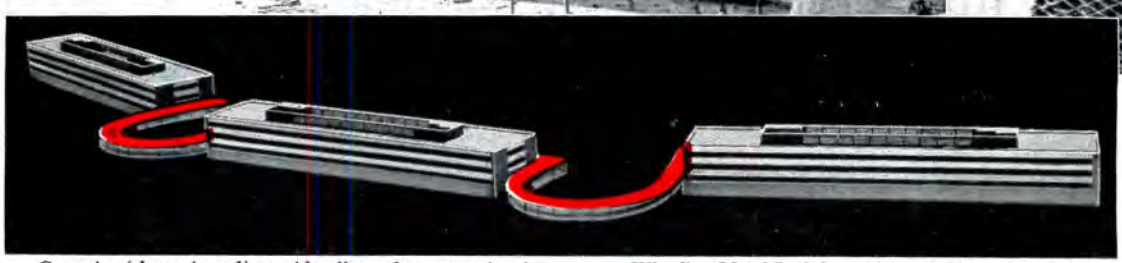
Facts you should know about coal

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

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

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

Architect: Voorhees, Walker, Smith and Smith, New York, N. Y. *General Contractor:* O. W. Burke Company, Detroit, Michigan. *Plastering Contractor:* Berti Plastering Company, Detroit, Michigan



Canopies (shown in red) provide all-weather protection for visitors to these Staff and Product Engineering Buildings.

Wheeling Metal Lath has excellent keying surface. It forms easily, making it ideal for curved applications.

Wheeling Metal Lath with cement plaster used on unique canopies at Ford Research Center

One of the many innovations at Ford Motor Company's Research and Engineering Center is a cantilevered canopy that joins each of the three new Staff and Product Engineering Buildings to provide shelter for visitors. Cove lighting assures safety at night by providing even illumination throughout area.

Wheeling Metal Lath with cement plaster was chosen for several reasons. First, the type of construction minimized the weight of the cantilevered section and allowed smooth, even curves that are so essential to proper lighting. Second, Wheeling Metal Lath is made of famous Cop-R-Loy® steel — the controlled copper-bearing steel with proven extra-long-lived qualities. And, finally, the complete line of Wheeling Lath Accessories enabled the use of products that were job-engineered for each other.

Find out for yourself how these products can help you. Ask your nearest Wheeling representative for full details on the complete Wheeling Metal Lath and Accessories, including **new** Bar-Z Snap-In Stud Systems and **new** Double-Ex Expanded Metal Corner Bead. Or write Wheeling Corrugating Company, Wheeling, West Virginia.

Wheeling

WHEELING CORRUGATING COMPANY—IT'S WHEELING STEEL

IMMEDIATE DELIVERY ON ALL STOCKED ITEMS FROM THESE WAREHOUSES: *Boston, Buffalo, Chicago, Columbus, Detroit, Kansas City, Louisville, Minneapolis, New Orleans, New York, Philadelphia, Richmond, St. Louis* **SALES OFFICES:** *Atlanta, Houston*

The **New Trend** in functional washroom design . . .

Continuous Cotton Towels

Architect, Theodore Rogvoy, A.I.A., Detroit. New Greenfield's Restaurant Headquarters in Detroit, Mich.

This facility in the new Greenfield's Restaurant demonstrates the advantages of specifying continuous towel cabinets in modern washrooms. Installed and serviced by the linen supplier, cabinets end litter . . . disposal problems . . . fire hazard.

The variety of cabinets available offer complete flexibility . . . *do not obligate* your client to any specific service even when you specify recessed cloth towel cabinets.

Of course, the big advantage is quality. There is no substitute for the luxury and quality of cotton toweling. You provide the best at low cost when you specify continuous cotton towel cabinets.

Recessed continuous towel cabinets harmonize with the clean, modern design . . . ends clutter of waste receptacles. (Recesses are designed to accept other cabinets if owner desires.) These facilities and all linens serviced by Marathon Linen Service, Inc., Detroit.

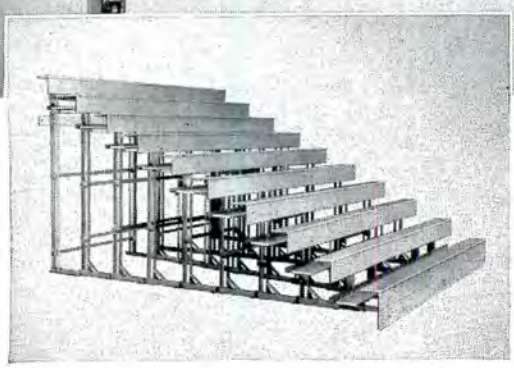
Send for this free Planning-for-Cloth kit

*Illustrated, includes specifications for recessed unit and continuous cloth towel cabinets. **Write**—to Linen Supply Association on your letterhead.*

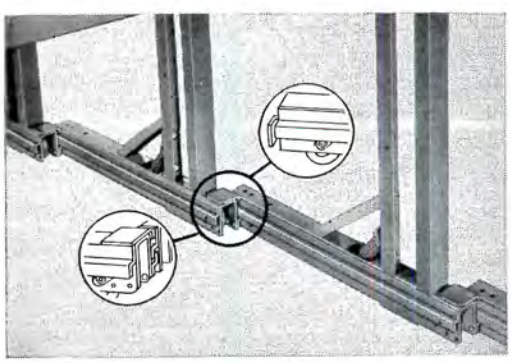
Linen [illegible] Association of America

and National Cotton Council • 22 West Monroe Street, Chicago, Ill.

BE SURE the seating in that new gymnasium is EXTRA SAFE!



Medart Telescopic Gym Seats can be furnished with 10½" or 11½" row rise and 22" or 24" row spacing. Exclusive fully-automatic power operation is available at small cost.



Interlocked telescoping supports at top, and roller housings at bottom, assure easy opening and closing, and straight-line non-binding trackage.

Medart Telescopic Gym Seats have a super-strong understructure built like the steel skeleton of a skyscraper

The steel understructure of Medart Seats is a completely free-standing, self-supporting unit, open or closed. It will support 400 pounds for each linear foot of seating space—nearly 3 times recommended standard. Wood members add extra strength and rigidity. No wall reinforcement is necessary.

Eight *vertical* steel uprights support each seatboard directly on floor, and are staggered for even weight distribution. Dual rubber rollers, in steel housings under each pair of uprights, retract under load so seat section rests immovably in position when occupied. Everybody is safe on Medart Seats!

But safety is only one of many Medart advantages. More leg and foot room; better visibility; use of only 1, 2 or as many rows as needed; vertical fronts for flush recessing, are only a few of many superior features of Medart Seats.

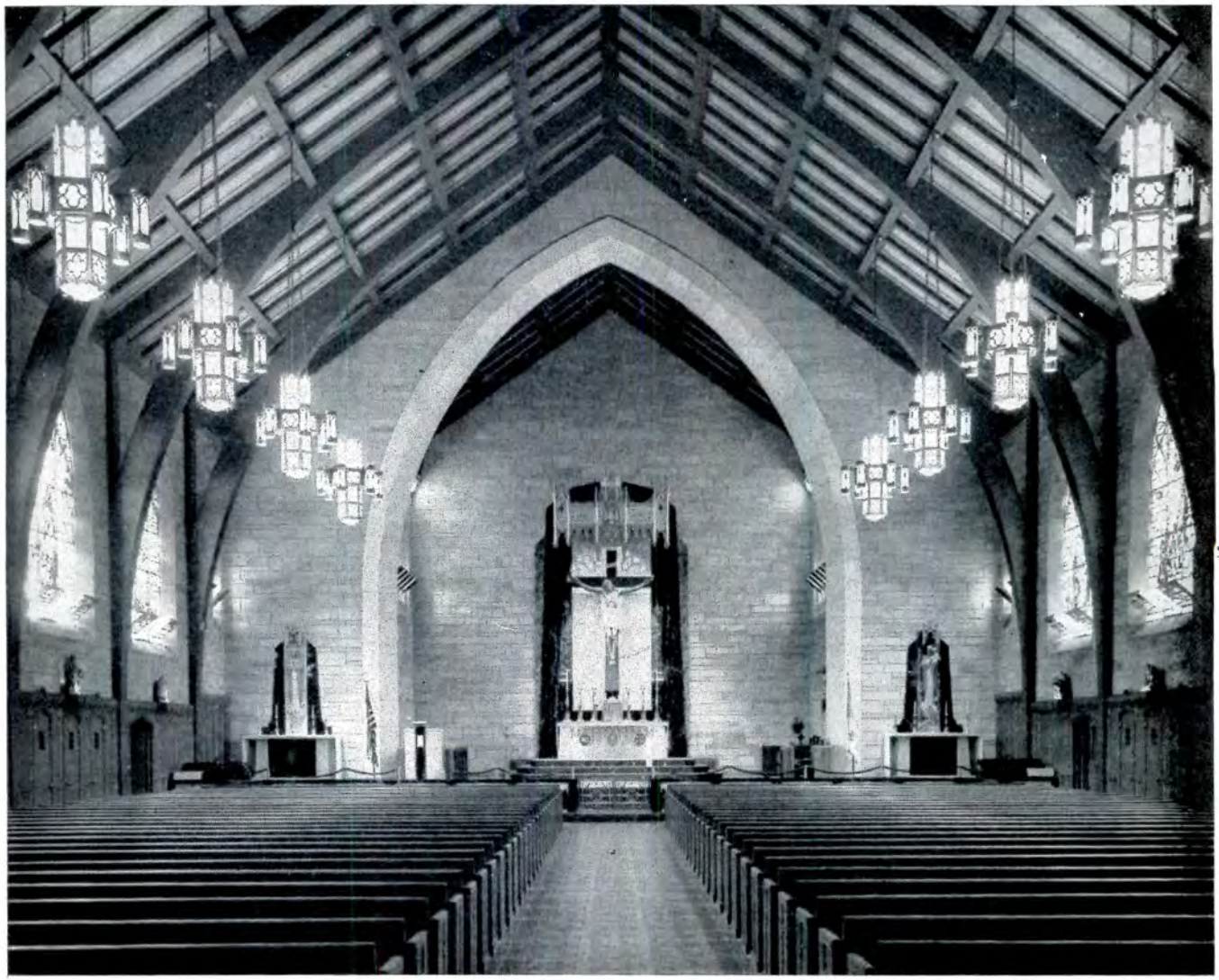
Medart's Gym Seat Catalog contains many ideas on how to get better, safer seating with minimum investment. Write for your copy.

MEDART
TELESCOPIC GYM SEATS

SPECIFY the best, then INSIST on it!

SEE OUR CATALOG IN SWEET'S

FRED MEDART PRODUCTS, INC. • 3540 DE KALB ST. • ST. LOUIS 18, MISSOURI



ARCHITECT	HEATING CONTRACTOR	HEATING EQUIPMENT BY
Thomas H. Moran	John Carr	Dunham-Bush, Inc.

Beautiful new St. Paul's Catholic Church, Princeton, N. J.

Recently completed St. Paul's Church, with a seating capacity of 650, is of modern American-Gothic architecture. Exterior is hand cut granite with limestone trim, designed to blend with general surroundings in Princeton.

All heating products were supplied by Dunham-Bush, not only for the church but also for adjacent new rectory and convent. Dunham-Bush hot water specialties, unit heaters, convectors, Fin-Vector and baseboard were used in the modern heating system. Reason for one supplier? Dependable products . . . "one source—one responsibility" supplier!

It will be advantageous for you to investigate Dunham-Bush heating and air conditioning products for your next job. May we send the nearby Dunham-Bush sales engineer your way? Write for his name.

Dunham-Bush, Inc.

WEST HARTFORD 10 • CONNECTICUT • U. S. A

DUNHAM-BUSH

AIR CONDITIONING • REFRIGERATION • HEATING • HEAT TRANSFER

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The RUSSWIN
UNILOC...UNITY DESIGN

INDESTRUCTIBLE

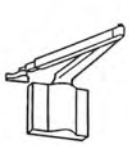
as a lock can be!

You get a lot of lock with this handsome heavyweight . . . a Masterpiece of Lock-making! Every component is of rugged section. Almost all parts are extruded brass. The entire mechanism is precision made . . . and factory assembled to be mounted as a unit.

For installation, the Uniloc requires only a simple notch in the door, plus holes for through-bolts. No mortising . . . nothing to take apart or put together . . . virtually no chance of misapplication. Parts remain in factory-perfect fit and alignment. Installation time is cut to a minimum.

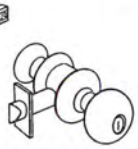
Ask your Russwin Consultant to show you the Uniloc. Examine it for yourself. You will understand why this fine lock-set is specified for so many outstanding buildings. Russell & Erwin Division, The American Hardware Corporation, New Britain, Connecticut.

the new
UNILOC STRIKE
with Nylon
Screw Adjustment



"400"
Closers

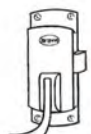
Overhead
Door Holders



Stilemaker
Locksets

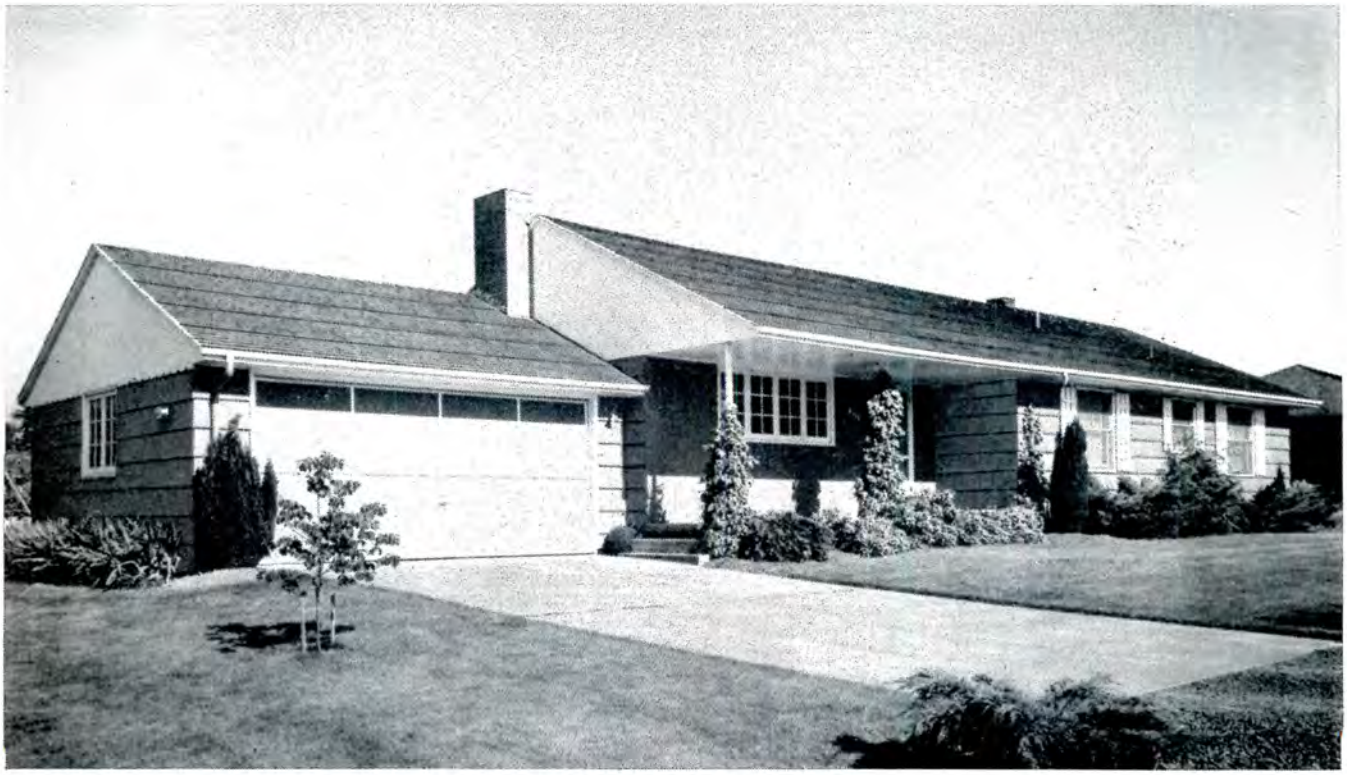
"Ten Strike"
Cylinder Locks

Surface
Door Closers



Fire
Exit Bolts

RUSSWIN
distinctive doorware



handsome is the house of CEDAR

The house that is warm and friendly... the house with the uncomplicated facade of natural beauty... is the *house of cedar*. Confronted with elements of either climate or custom, the *house of cedar* endures. That is why roofs and exterior walls of red cedar shingles are so prevalent in architecturally conceived neighborhoods.

RED CEDAR SHINGLE BUREAU

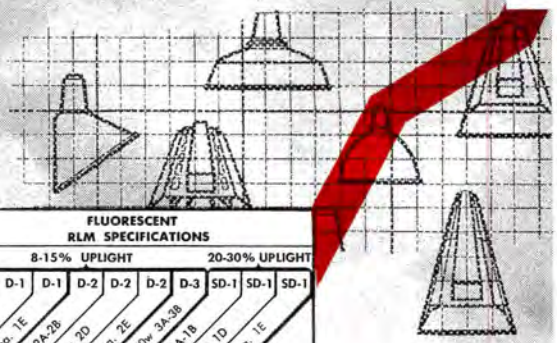
5510 White Building, Seattle 1, Washington
550 Burrard Street, Vancouver 1, B. C.

up, UP again!

goes the value of the RLM LABEL on all these lighting units made by these leading manufacturers

YOUR BASIC ASSURANCE OF HIGH QUALITY

This label identifies the RLM- certified lighting equipment of 27 leading manufacturers.



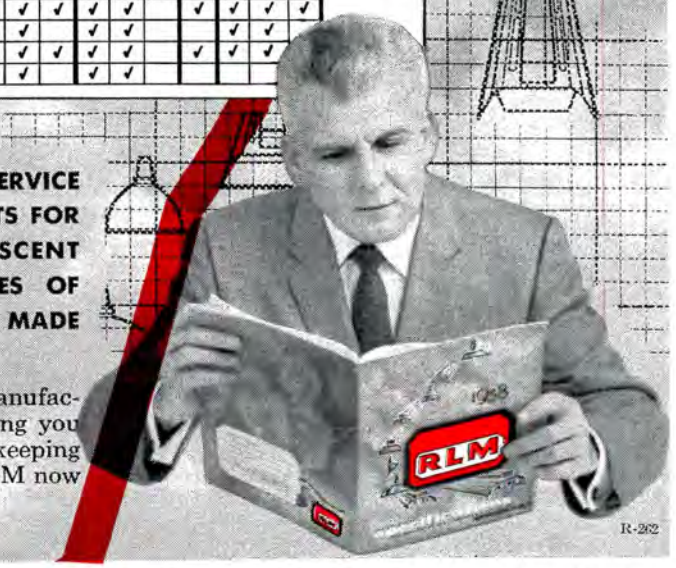
INCANDESCENT RLM SPECIFICATIONS							FLUORESCENT RLM SPECIFICATIONS										
							8-15% UPLIGHT							20-30% UPLIGHT			
#1	#2	#3	#4	#18	#40		D-1	D-1	D-1	D-2	D-2	D-2	D-3	SD-1	SD-1	SD-1	
100-1000w Dome	100-1000w Deep Bowl	100-1000w Sym. Angle	500 & 1000w High Bay	200-1000w Glasteel Diffuser	500 & 1000w High Bay *		2-40w 1A-1B	2-75w 1D	2-800 ma. 1E	3-40w 2A-2B	3-75w 2D	3-800 ma. 2E	2-90 & 40w 3A-3B	2-40w 1A-1B	2-75w 1D	2-800 ma. 1E	
			1		1	ABOLITE LIGHTING DIV.											
3	5	3		1		APPLETON ELECTRIC CO.											
5	4	4		1		BENJAMIN ELECTRIC MFG. CO.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
						DAY-BRITE LIGHTING, INC.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
						EASTERN FIXTURE CO., INC.	✓	✓		✓							
4	4					ELECTRO LIGHTING CORP.	✓	✓					✓	✓			
						ENDER-MONARCH CORP.	✓	✓		✓							
						FLUORESCENT FIXTURES OF CALIFORNIA	✓	✓	✓	✓	✓	✓		✓	✓		
						GLOBE LIGHTING PRODUCTS, INC.	✓	✓		✓	✓				✓		
						THE EDWIN F. GUTH CO.	✓										
						KEYSTONE ELECTRIC MFG. CO.	✓	✓		✓	✓						
						LIGHTING DYNAMICS, INC.	✓	✓		✓	✓			✓	✓		
4			2			THE MILLER CO.	✓	✓	✓	✓	✓		✓	✓	✓	✓	
						MITCHELL LIGHTING DIV.		✓		✓	✓						
4			2		1	MULTI ELECTRIC MFG., INC.	✓										
4	3	3				OVERBAGH & AYRES MFG. CO.											
5	3	5		2		QUADRANGLE MFG. CO.											
						RUBY-PHILITE CORP.	✓	✓	✓	✓	✓			✓	✓	✓	
						SMITHCRAFT LIGHTING DIV.	✓	✓		✓	✓						
5	3	3				SMOOT-HOLMAN CO.	✓	✓	✓	✓	✓	✓		✓	✓	✓	
4	1		1		1	THE SPERO ELECTRIC CO.											
4		2				THE STEBER MFG. CO.											
						SUNBEAM LIGHTING CO.	✓	✓	✓	✓	✓	✓		✓	✓	✓	
						SYLVANIA ELECTRIC PRODUCTS, INC.	✓	✓	✓	✓	✓		✓	✓	✓	✓	
5	4	2		2		WESTINGHOUSE ELECTRIC CORP.	✓	✓		✓	✓			✓	✓		
5	4	2				WHEELER REFLECTOR CO.	✓	✓	✓	✓	✓		✓	✓	✓		
						WORK-O-LITE CO.	✓	✓		✓	✓						

* Aluminum Reflectors all others are Porcelain Enamel

Note: Many manufacturers make incandescent RLM Units for more than one lamp size. The numerals refer to the number of different-size RLM Units which the manufacturer offers under the specification.

RLM ADDS NEW SPECIFICATIONS FOR SPECIAL SERVICE FLUORESCENTS . . . . . REVISED SPECS COVER UNITS FOR 800 ma. LAMPS . . . . . BROADENED INCANDESCENT STANDARDS FOR REFLECTOR SIZES AND TYPES OF LAMPS . . . . . EVERY RLM SPEC STRENGTHENED, MADE MORE IMPORTANT, REVISED UP!

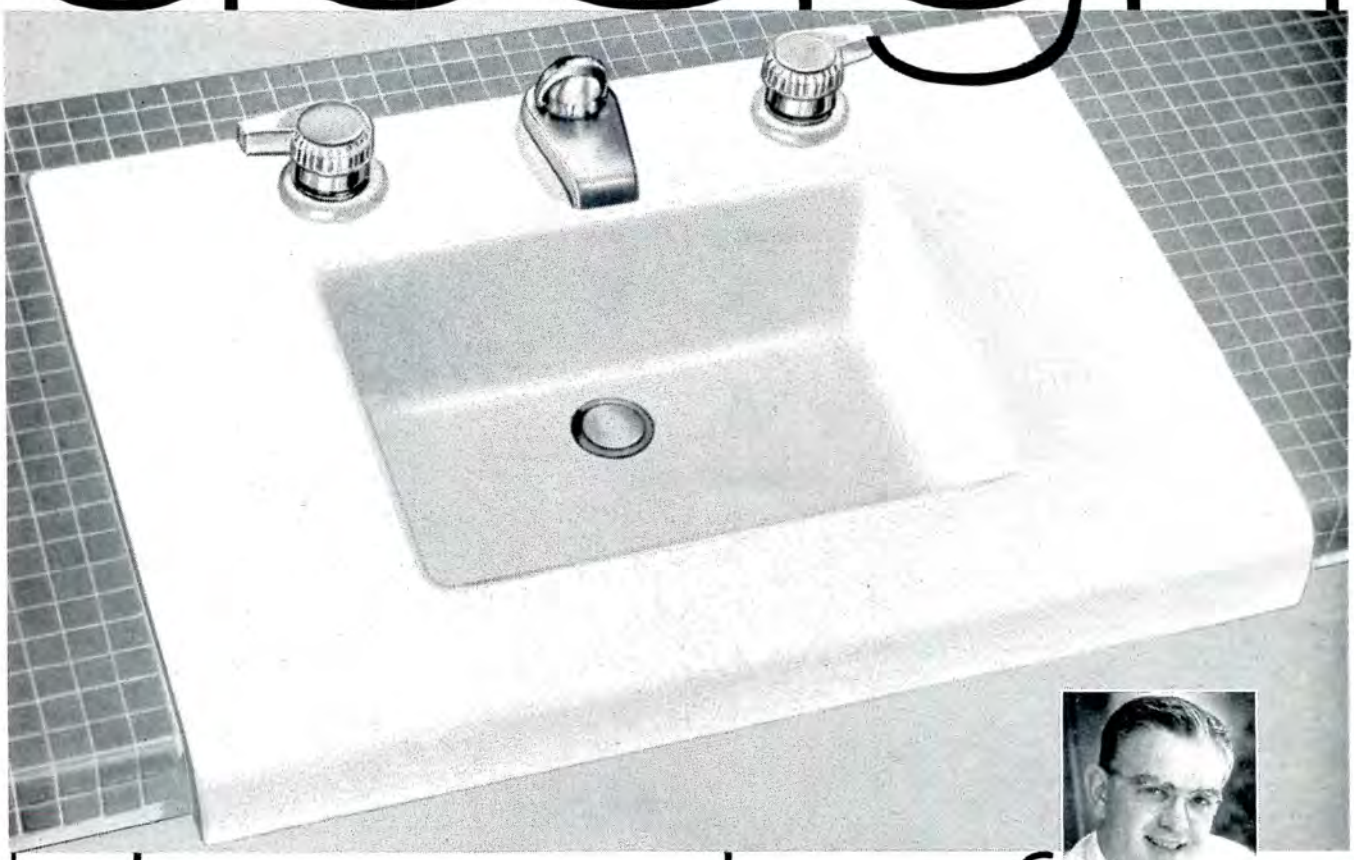
These are some of the reasons why the leading manufacturers listed above are especially proud today, to bring you units bearing the RLM Label. They know that, by keeping pace with latest industrial lighting advancements, RLM now stands for more lighting quality than ever.



R-262

Send for Free 1958 RLM Specifications Book. Write: RLM Standards Institute, Suite 8270, 326 W. Madison St., Chi. 6, Ill.

design



by henry dreyfuss

(Every Crane fixture has it—regardless of price)

The Criterion. *A Dreyfuss design awarded a gold medal by the Architectural League of New York. Note its deep basin, broad rim, fluted plastic handles mounted on ceramic pads. Finest hand-finished vitreous china. Fits any countertop—or stands alone.*

Crane fixtures give you a free hand in bathroom planning. Because the Crane line offers such unusual versatility in styles, colors, and prices.

But most important—*every* Crane fixture offers design by Henry Dreyfuss. Crisp, clean, simple design that looks new for years. Design that recognizes the practical side of a plumbing fixture. And every fixture reflects Crane master craftsmanship—whether it's vitreous china, cast iron, or sturdy steel.

The result is you can design a distinctive Crane bathroom for any home—the one in the popular price range as well as the mansion. Why not discuss this now with your Crane Representative?

CRANE CO. 836 S. Michigan Ave., Chicago 5 • VALVES • FITTINGS • PIPE • PLUMBING • KITCHENS • HEATING • AIR CONDITIONING

CRANE

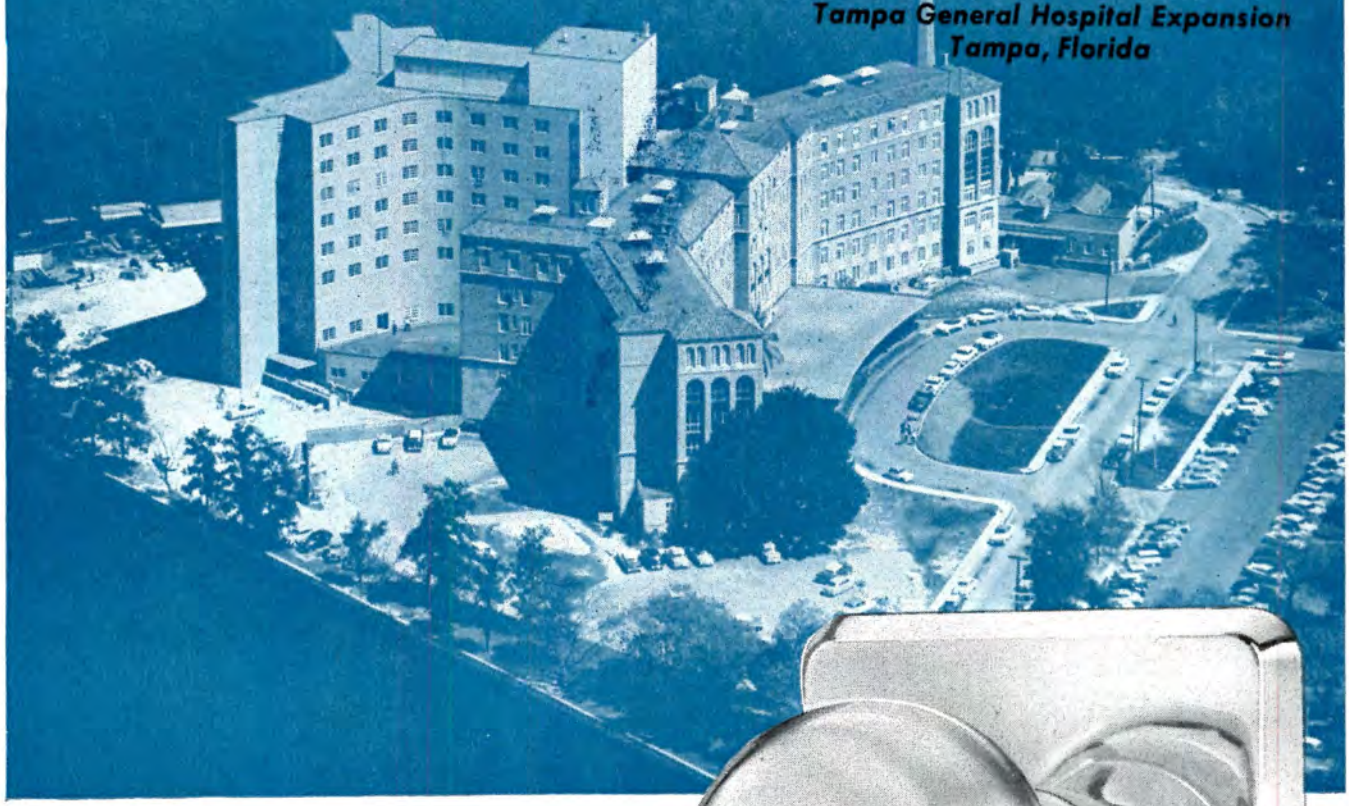
THE PREFERRED PLUMBING

"We specify ©SCHLAGE© LOCKS with assurance"

PRINCIPAL ARCHITECTS
Norman F. Six, A. I. A.
Eliot C. Fletcher, A. I. A.

HOSPITAL CONSULTANTS
Schmidt, Garden & Erikson

Tampa General Hospital Expansion
Tampa, Florida

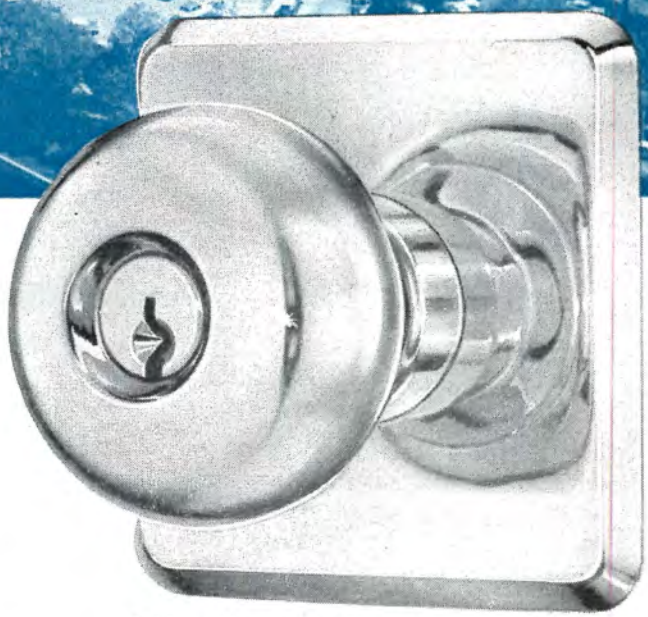


Architects find that the Schlage Lock's wide range of designs, finishes and operations make it an excellent choice in any type of building. The beauty and performance of these quality locks serve as long-lived reminders of the architect's wisdom in specifying them.

As Eliot C. Fletcher, one of the principal architects for the recent Tampa General Hospital $5 million expansion says:

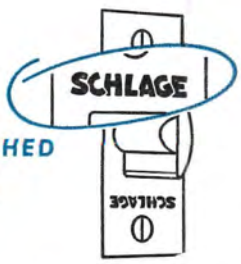
"We specify Schlage Locks with assurance because we know that their designs meet our creative standards and their engineering meets our quality standards."

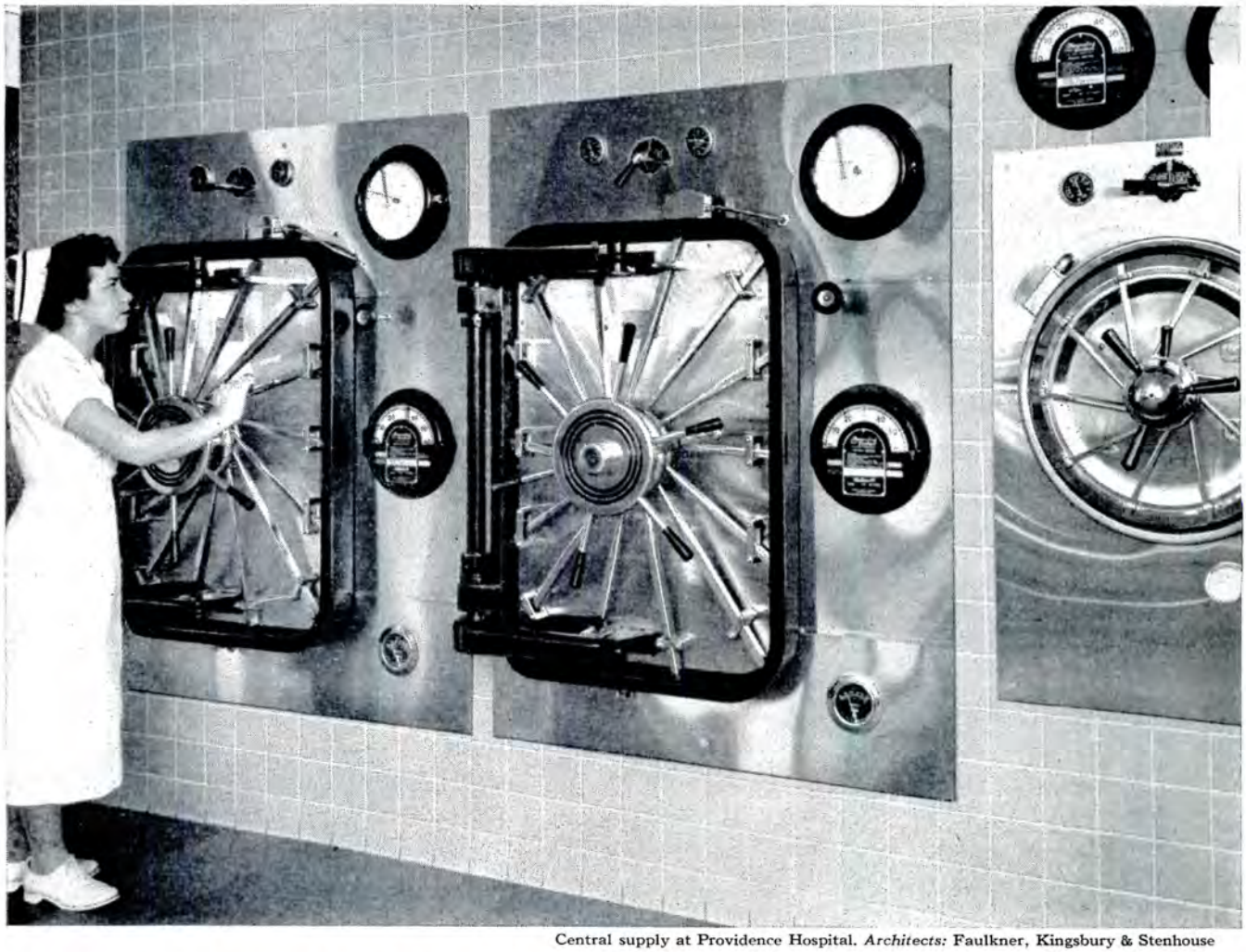
Schlage Lock Company... San Francisco... New York... Vancouver, B.C.



Schlage Hanover Design

AMERICA'S
MOST DISTINGUISHED
LOCK BRAND





Central supply at Providence Hospital. *Architects:* Faulkner, Kingsbury & Stenhouse

How your plans for a central supply can include years of trouble-free sterilizer service

Planners of new Providence Hospital did it by handling heavy central supply loads with Wilmot Castle sterilizers of Monel alloy and Nickel-clad steel

At Providence Hospital, Washington, D.C., tight inventory control eliminates loss and waste. A staff of experts maintains all materials and tools of the hospital in top condition. Sterilizing processes are carried out efficiently under one responsible head.

Automatic controls time the cycle and indicate cycle phases, actuate valving to start and end cycle phases. Human error is virtually eliminated. Labor is reduced to easy loading and unloading.

This same high degree of efficiency and economy was planned for in the sterilizers which equip this central supply station.

Planners selected Wilmot Castle sterilizers . . . *Castle Bulk Sterilizers* with inner chamber walls and doors of Nickel inseparably bonded to a steel shell . . . *Castle Cylindrical Autoclaves* with double walls of Monel* nickel-copper alloy.

These nickel-containing metals have maximum resistance to corrosive saline solutions, steam, organic debris, cleansers. Surfaces remain smooth and easy to clean. There's no peeling or warping despite repeated temperature extremes. All welded construction virtually eliminates possible leakage.

Castle's Monel and Nickel-clad sterilizers can take the around-the-clock, year - after - year - after - year hard service of a central supply station. Scores of trouble-free years prove it!

Need help in planning? Take advantage of Wilmot Castle's Hospital Planning Service. Write: Wilmot Castle, Inc., Rochester, N. Y.

*Registered trademark

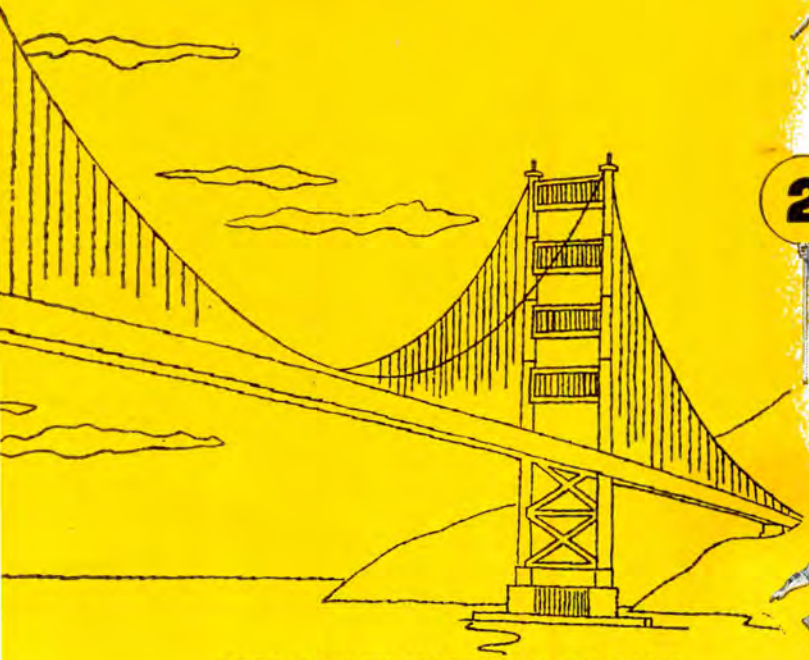
THE INTERNATIONAL NICKEL COMPANY, INC.
67 Wall Street INCO New York 5, N. Y.

INCO NICKEL ALLOYS

Golden Gate DOOR...

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

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



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

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

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

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

CLIP AND MAIL COUPON BELOW FOR NEW FIAT LITERATURE

FOUR COMPLETE PLANTS STRATEGICALLY LOCATED FOR BETTER SERVICE LOWER COST

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

Manufacturing Quality Showers and Compartments since 1922

FIAT

YEARS AHEAD FEATURES

Wide Range of Models

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

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

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

Firm_____

Address_____

City_____ Zone____ State_____

Individual_____

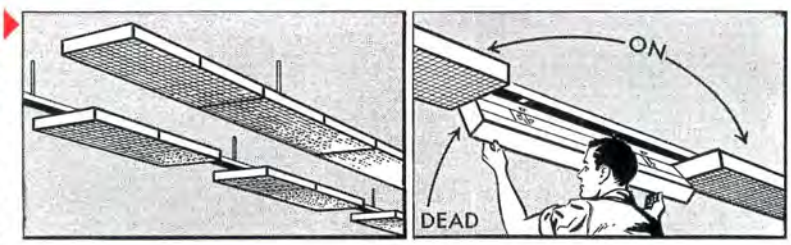
*FIAT TRADEMARK **DUPONT TRADEMARK

NEW GIBSON ORTHO-66

unequalled for flexibility and ease of maintenance

CONTINUOUS ROW OR INTERVAL MOUNTING

The Ortho may be mounted in continuous rows or at intervals of 4, 8, 12 or more feet. Fixtures can be added, removed or re-spaced at any time by one man without tools.



REMOVAL OF FIXTURE WON'T INTERRUPT OTHERS

Any fixture may be removed for cleaning or repairs at any time without interrupting the other fixture in the row. When a fixture is unlatched, it disconnects itself.

Gibson LIGHTING

GIBSON MANUFACTURING COMPANY

1919 Piedmont Circle, N. E., Atlanta 9, Georgia

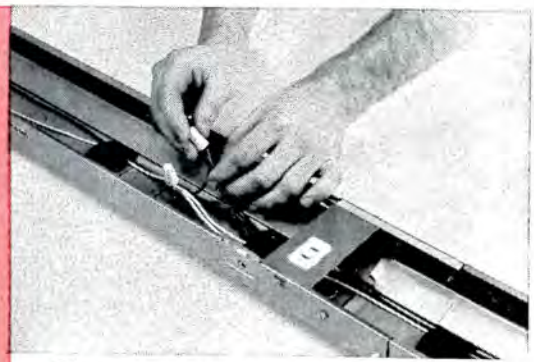
MANUFACTURED IN CANADA UNDER FRANCHISE BY ELECTROLIER MANUFACTURING CO., LTD. MONTREAL

another fine fixture that plugs in on the exclusive Gibson Uni-race*

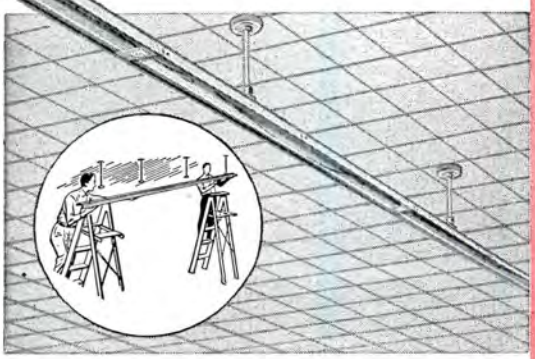
4 SIMPLE STEPS that save over 75% on installation labor costs

Because the Ortho fixture eliminates so many of the time-taking operations common to conventional installations, it easily saves more than 75% in labor. Contractors report that all labor, including stems and lamping, averages only 17 to 22 man minutes per fixture, as compared with the NECA standard of over 2 man hours *for conventional fixtures.*

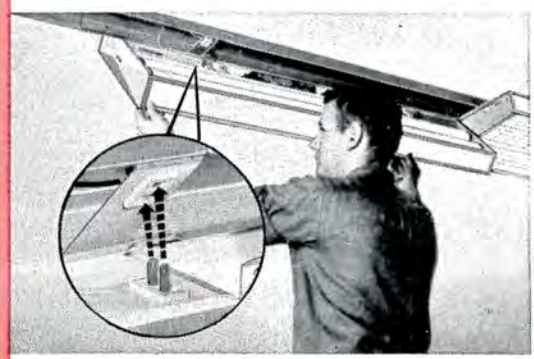
1 Assemble the Uni-Race • The exclusive Gibson Raceway, known as the Uni-Race, can be assembled on the floor in lengths up to 200 feet. The four or eight-foot sections are joined by telescoping couplers which provide a smooth, rigid union of the sections and are fastened with self-tapping screws.



2 Wire the Uni-Race • Branch-circuit wires are laid in the Uni-Race and connection is made at each built-in receptacle. The receptacles will later receive the plug that is built into each fixture. The Uni-Race, U. L. approved as a raceway, has a capacity of five No. 8 AWG wires or eleven No. 14 wires.



3 Hang the Uni-Race • The rigid Uni-Race is easily lifted and hung in any of several different ways. Lengths up to 200′ can be hung as a unit if supported every 24′ while being raised to mounting position. When the branch-circuit connection is made, the Uni-Race is ready for the fixtures.



4 "Plug In" the Fixtures • The fixtures are merely "plugged in" on the Uni-Race. Hooks on the fixture engage in slots on one side of the Uni-Race, acting as hinges. The fixture is swung closed and latched. The built-in plug on the fixture automatically connects with the receptacle in the Uni-Race.

* **UNI-RACE NOW U. L.-APPROVED AS A 225-AMP RACEWAY** • The Gibson Uni-Race is now U. L.-approved as a raceway with capacity for five No. 8 AWG wires or eleven No. 14 AWG wires. It will house the circuitry for a 200-foot continuous run of two-light fixtures (either 40 or 75 w.) or a 100-foot run of 4-light fixtures.

WRITE FOR COMPLETE INFORMATION ABOUT THE GIBSON ORTHO LINE

Architect: W. B. Tabler, New York. Mechanical Engineers: Jaros, Baum & Bolles, New York.
Plumbing and Heating Contractors: Brown & Olds, Dallas. General Contractors: R. E. McKee, Inc., Dallas.

Heating and Air Conditioning with

USS National Pipe—

Hilton Statler Hotel

The 1,001 rooms of the new $10,000,000 Hilton Statler Hotel in Dallas, Texas, are served by heating and air-conditioning systems composed of 65 tons of NATIONAL* Seamless Pipe. All of the steam piping, condenser water piping, and primary chilled water piping are NATIONAL Seamless. So, too, is all of the gas pipe.

Do you need quality pipe for air-conditioning, heating and power installations? Seamless or standard pipe that will pay you back in outstanding service a hundred times over for every dollar you spend for it? Then be sure to say "NATIONAL PIPE." If you'd like further information or immediate assistance with your pipe problems, write to National Tube Division, United States Steel Corporation, 525 William Penn Place, Pittsburgh 30, Pa.

"The world's largest and most experienced producer of tubular products—NATIONAL TUBE"

National Tube Division of USS United States Steel

*TRADEMARK

Columbia-Geneva Steel Division, San Francisco, Pacific Coast Distributors • United States Steel Export Company, New York

Mosler
invites you
to preview
a new
concept in
drive-in
banking

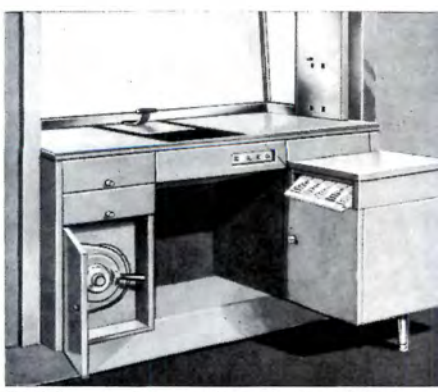
Note how the "NEW PICTURE WINDOW" accommodates vehicles of any size...from sports cars to trucks

Meet Mosler's radically

the drive-in window designed for you...with your help!

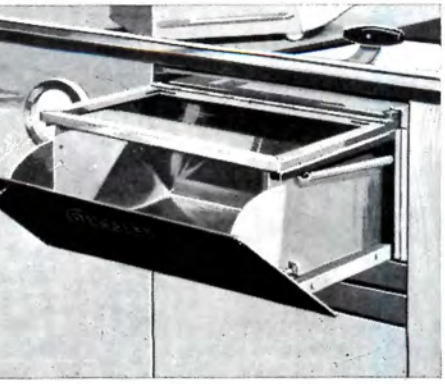
Mosler's strikingly handsome "New Picture Window" was designed for and around your customers, your tellers. To ferret out all the weak points in existing installations, hidden cameras were used to photograph drive-in windows, *in action*, in many cities. The movements of tellers, depositors and depositors' cars were charted and analyzed. Hundreds of tellers and customers were personally interviewed. Also incorporated into the final design are the findings of the recent A.B.A. Survey on drive-in banking. From these data this radically new drive-in window was *human-engineered* for efficiency, comfort, economy and beauty.

On this and the following pages we have room to show you only the highlights. Write or call Mosler for complete specifications.

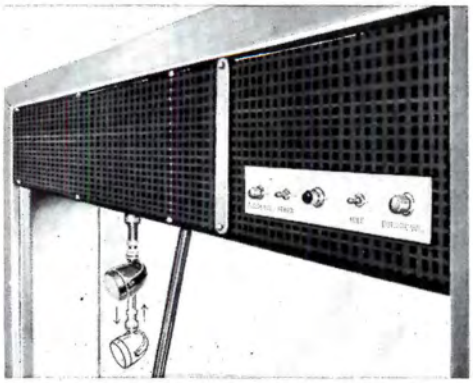


Modular, under-counter accommodations g
flexible storage below counter, ample work sp
above. Bay-type window offers unobstruct
view of approaching cars.

NEW PICTURE WINDOW"



designed, electrically operated, deposit drawer
ops anywhere up to 14 inches. Button extends
further. Drawer is draft-proof, open-end
unnel" design – customers reach straight in.



Periscope-type microphone is an integral part of all new high fidelity intercom that eliminates squeaks, echoes and squawks. The system is constant, *not* manual.

Note room for equipment. This arrangement shows four drawers (one a special coin storage) and two large cabinets can be installed in different combinations. Sill is draft, waterproof.

Everyone has his own reason for liking the "NEW PICTURE WINDOW"

"Solves car-height problem"

J. Robert Sherwood, President, Suburban Trust Company, Hyattsville, Md.

"Old windows were designed for what used to be average car height. This new window handles all vehicles...comfortably. Another improvement is the deposit drawer. It's draft-proof – the customer reaches *straight in* instead of over and down. But most important is its extendability. A flip of a switch advances it...and stops it...anywhere up to 14 inches. If this isn't far enough, a button extends it even further. Together with all its other teller and customer conveniences, we think Mosler's 'New Picture Window' is a 'must for modern drive-in banking'."

"Lets tellers...hear and see"

Theodore F. Scharf, Vice-President and Director of Operations, Marine Trust Company of Western New York, Buffalo, New York.

"Our architects tell us Mosler's 'New Picture Window' blends with any building style. And, its spaciousness lets our tellers work more efficiently. But more important is its intercom. Echoes and squawks of old systems made our tellers expert at sign language. Mosler's high fidelity amplifier and adjustable microphone balance for clear, easy communication. The new window's bay construction allows tellers to see cars approaching. Its full-length skirt makes customers approach easy."

"Easy installation"

John W. Howie, Partner, Robert A. Howie, Jr. Sons, Newark, N. J., builders and consultants to Jersey's largest financial institutions.

"For older windows we build a thick sill, about 30 inches off the ground, adding expense, and greatly reducing knee space inside. The 'New Picture Window's' heavy gauge, stainless steel 'skirt' extends to the ground, providing ample leg room, maximum security. To install, we slide in the entire window and seal. Bolts adjust the window's depth from 8 to 14 inches to match wall thickness. Remember, the builder first hears about malfunctions. Mosler windows keep complaints at a minimum."

Integrated Banking Equipment by

THE MOSLER SAFE CO.

320 Fifth Avenue, New York 1, N.Y. *World's Largest Builder of Safes and Bank Vaults*

CENTRAL BREVARD NATIONAL BANK
COCOA, FLORIDA
Stevens and Sipple—*Architects*
Ceramic Veneer units 24" x 24" x 2"
were specified for exterior facing.
Color is mottled emerald green.

FIRST FEDERAL BANK
TOLEDO, OHIO
Hahn & Hayes—*Architects*
For the facade, Ceramic Veneer was
specified in mottled sandlewood.
For the base it is mottled royal
blue. Coping color is mottled russet.

What's the right color for bank facades?

With your creative imagination restricted only by demands of function and environment, you can select any desired color or texture when you specify Ceramic Veneer for exteriors and interiors. Whether you design plain surfaces, decorative panels or sculpture, Ceramic Veneer always combines impressively with other building materials. Every unit, large or small is custom-made to your specifications by Federal Seaboard craftsmen. Besides its remarkable versatility of form, color and texture, Ceramic Veneer provides the advantages of quality, permanence, price and minimum maintenance. Without charge, we will gladly furnish construction detail, data, color samples, and advice on preliminary sketches involving use of Ceramic Veneer. Write us today.

FEDERAL SEABOARD TERRA COTTA CORPORATION

F S T C

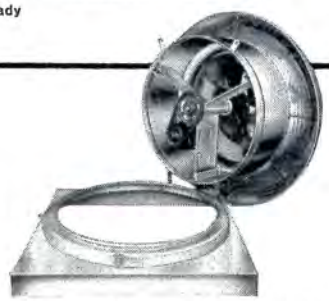
10 East 40th Street, New York. N. Y.
PLANT AT PERTH AMBOY, N. J.

JENN-AIR LAUNCHES

TWO NEW STARS INTO ORBIT

Hi-D CENTRIFUGAL AND AXIAL POWER ROOF EXHAUSTERS

HI-D CENTRIFUGAL POWER ROOF EXHAUSTER
Unit in open position showing ready access to drive assembly.



HI-D AXIAL POWER ROOF EXHAUSTER
Unit in open position showing ready access to drive assembly.

Observe These Outstanding Features Shared in Common by 2 New Jenn-Air Hi-Discharge Exhausters:

1—*Maintenance-Free all-aluminum housing* supplies strength without weight.

2—*Bird guard* of heavy gauge stainless steel construction comes as an integral part of every unit.

3—*Special vibration absorbers* reduce noise to an absolute minimum.

4—*Totally enclosed* full ball bearing, permanently lubricated, motor assures smooth, uninterrupted service. Air cooled application adds years to motor life.

5—*Tubular drive assembly* has permanently sealed, pre-lubricated ball bearings.

6—*Motor and drive* can be serviced from interior of building, if desired.

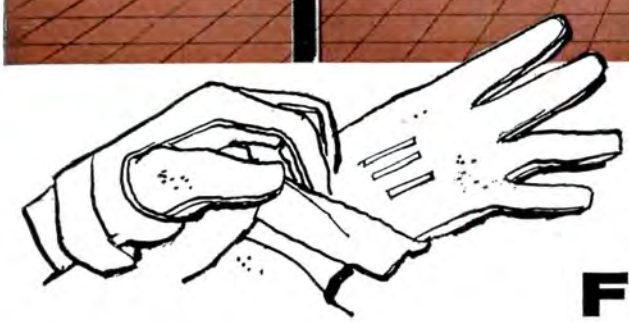
7—*Specially designed hinge* on housing permits ready access to damper and drive. Positive stopping device holds unit in open position. Simple locking mechanism keeps it tightly closed.

Now, for the first time, aluminum belt driven units combine high discharge with low-contour appearance

Since 1947 the power exhauster industry has looked to Jenn-Air for leadership. Now Jenn-Air starts its second decade by introducing two new and useful additions to its line: Hi-Discharge *Centrifugal* Power Roof Exhauster, Series HCB; and Hi-Discharge *Axial* Power Roof Exhauster, Series HAB. These exhausters fill the need for general area ventilation and have a clean engineering design that features compactness and serviceability. By locating the wheel at the top you derive the advantage of a high point of discharge which allows low curb construction. Thus, Jenn-Air units offer the lowest overall height of any exhauster on the market. Once you compare, you will decide on Jenn-Air.

JENN-AIR PRODUCTS COMPANY, INC.
1102 Stadium Drive • Indianapolis 7, Indiana

Member of Air Moving and Conditioning Association



FITS LIKE A GLOVE...

Yes the last piece of Murray Tile fits into place as easily as the first, because Murray Quarry Tile is *uniform-sized*, which eliminates costly sorting even for minimum grout lines. For economical installations *always* specify Murray Quarry Tile. Murray Tile is guaranteed for the life of the job. Write for the latest color catalog, Department A.

murray tile company **inc.**

MANUFACTURERS OF QUARRY TILE **CLOVERPORT, KENTUCKY**

LACLEDE STEEL JOISTS

...facilitate interesti roof construction of new seminary

The roof of the new Marillac Seminary, St. Louis, forms an interesting pattern of intersecting planes.

This hip-and-valley type of construction is typical of today's modern approach to architectural design.

In the case of the Marillac Seminary, progress from architect's plans to finished roof was accomplished with a minimum of time and effort, through the use of efficient lightweight Laclede Steel Joists.

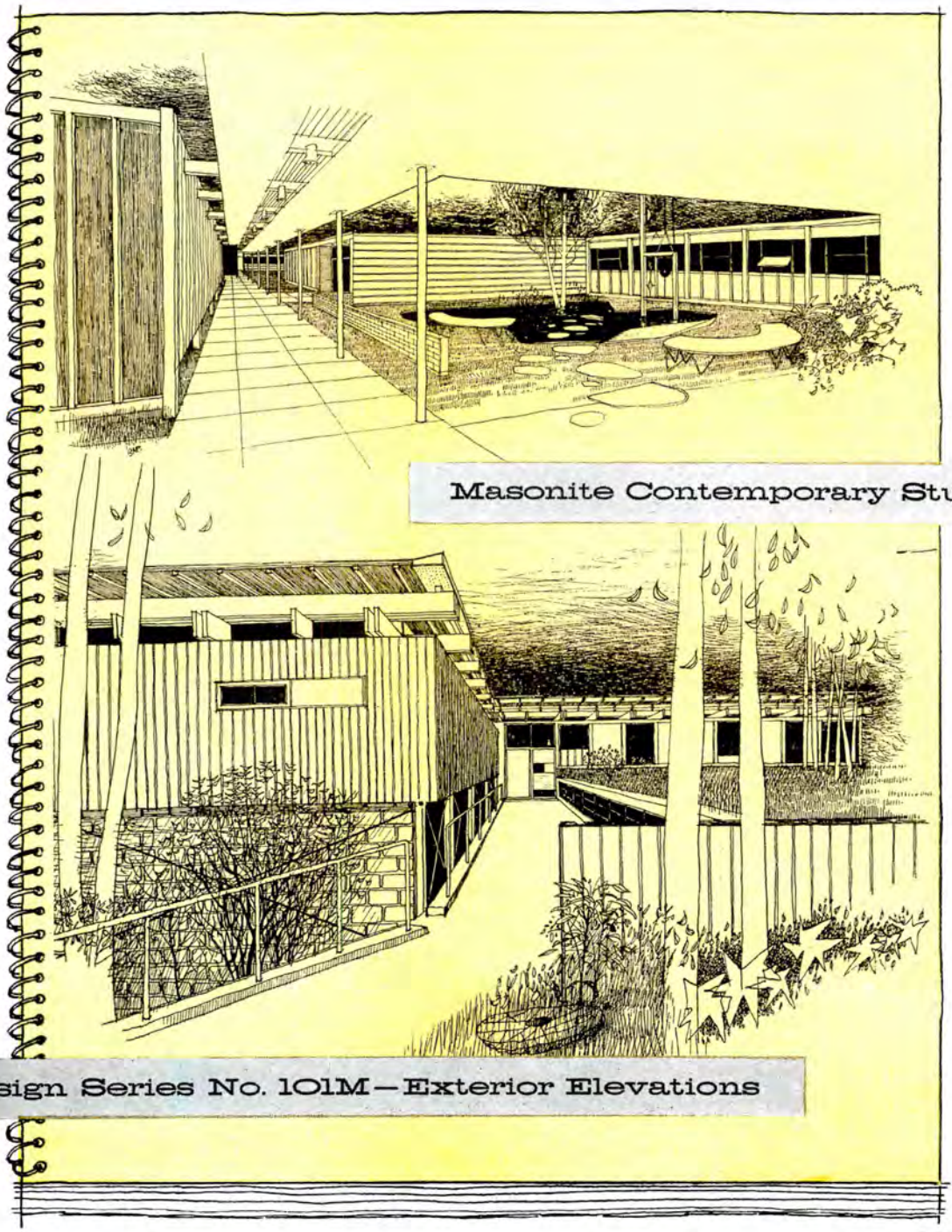
These high strength open web joists are adaptable to a wide variety of structural design. They are easy to handle and place, easy to bolt together, and are available in a choice of sizes and specifications for varying needs.

Marillac College, Normandy, Missouri
Architects: Belli & Belli of Missouri, Inc., St. Louis
General Contractor: Gamble Construction Co., St. Louis

LACLEDE ®

LACLEDE STEEL COMPANY

SAINT LOUIS, MISSOURI ◆ Producers of Steel for Industry and Construction



It is in the field of contemporary design that the architect can most fully exploit the versatility inherent in Masonite® exterior products.

Here is variety of appearance: a revolutionary lap siding with vented aluminum mounting strip, a panel with shallow striations that either paint or stain, a hidden-joint panel with vertical grooves, and other equally effective sources of design inspiration.

To learn more of these enduring panels—suitable for residential, commercial and institutional work—refer to Sweet's Architectural File, ask a Masonite representative, or send the coupon.

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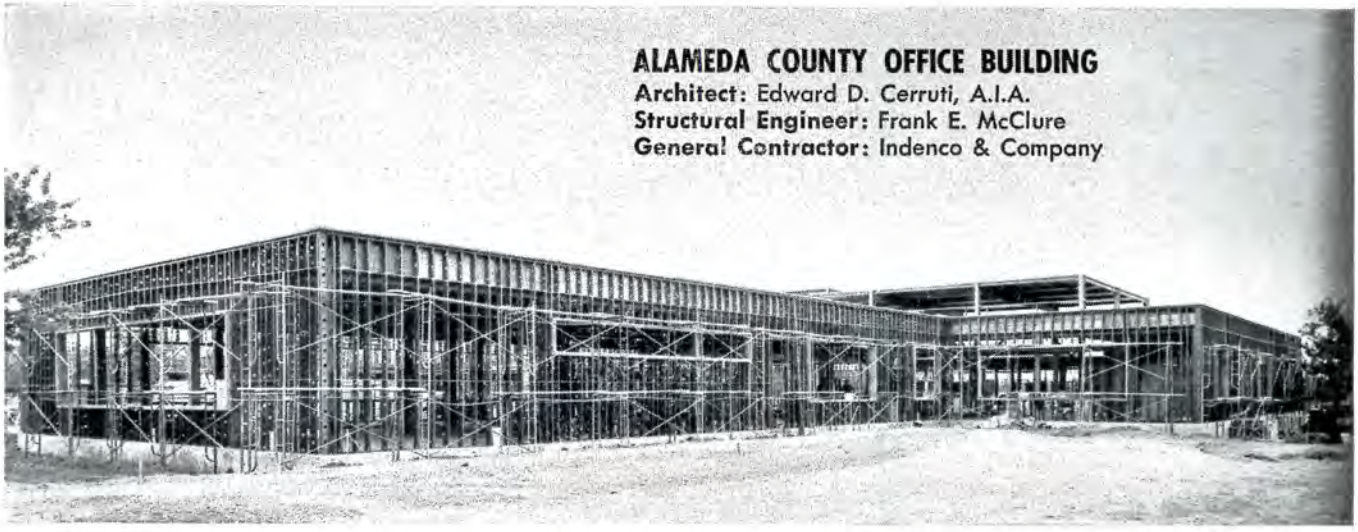


ALAMEDA COUNTY OFFICE BUILDING
Architect: Edward D. Cerruti, A.I.A.
Structural Engineer: Frank E. McClure
General Contractor: Indenco & Company

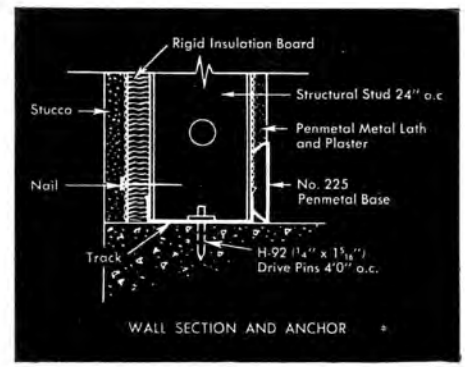
They designed for fire-safety at low cost using Penmetal nailable studs and metal lath

In designing the new office building for Alameda County, California, the architect took full advantage of economies inherent in Penmetal LIGHTSTEEL framing. These included faster erection and easier attachment of collateral materials.

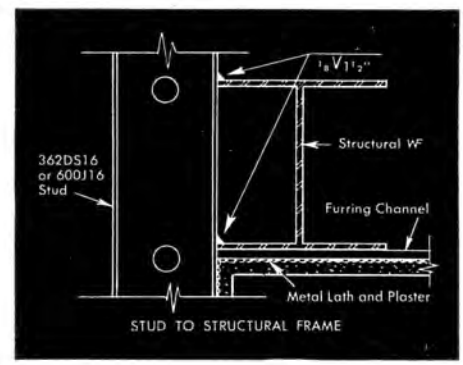
Furthermore, LIGHTSTEEL framing made fire-safe construction possible at low cost. Structural engineer, Frank E. McClure, says, "This was one of the main points in selecting this type of construction due to the large number of county records and documents to be filed in the building...We wanted to have the fire-integrity of incombustible construction at the low price of LIGHTSTEEL."

The structure has a conventional moment resistant steel frame with LIGHTSTEEL studs used for the exterior walls. The inside of these walls is Penmetal lath, plaster and flush-steel base, as shown in the accompanying detail. Permanent partitions and ceilings are also metal lath and plaster. The nailing feature of Penmetal LIGHTSTEEL studs was used for attachment of a variety of collateral materials. This resulted in important savings in time and cost.

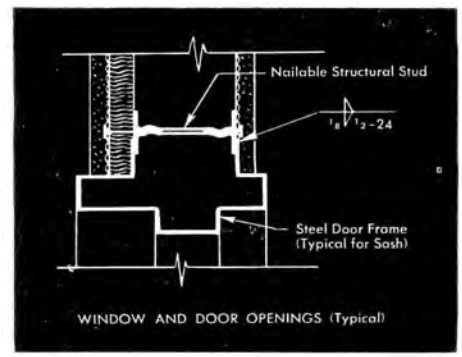
Write for further information on versatile LIGHTSTEEL. Ask for catalog SS-22.



WALL SECTION AND ANCHOR



STUD TO STRUCTURAL FRAME



WINDOW AND DOOR OPENINGS (Typical)

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General Sales Office: **40 Central Street, Boston 9, Mass.**

Plant: Parkersburg, W. Va.

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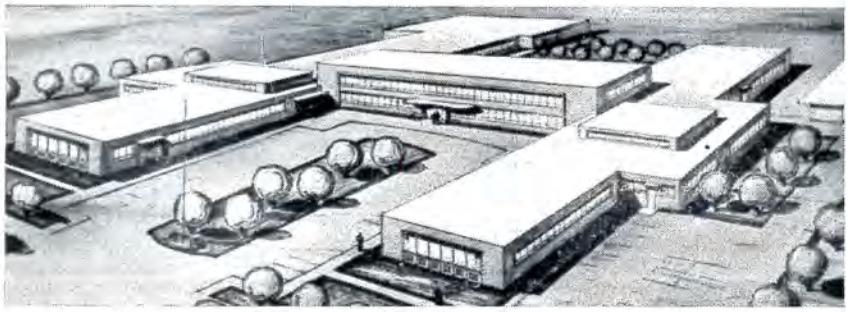
PM-175

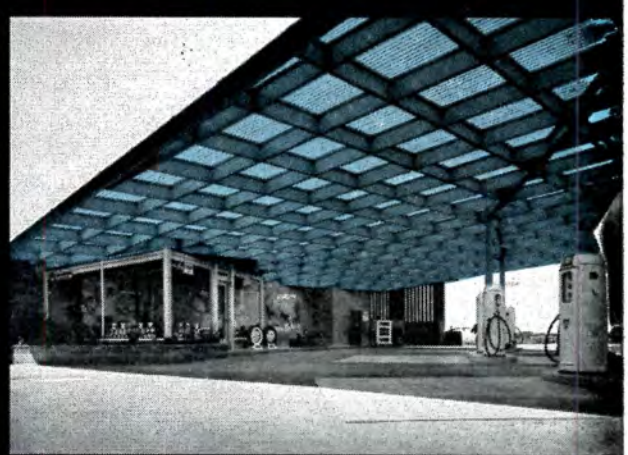
Penmetal — METAL MARK OF QUALITY — 1869

a name to remember



DESIGN WITH Corrulux®

the multi-purpose translucent panel



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

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

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

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

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

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Complete specifications and samples on request, or see Sweet's Architectural file. **Write Dept. G 65.**

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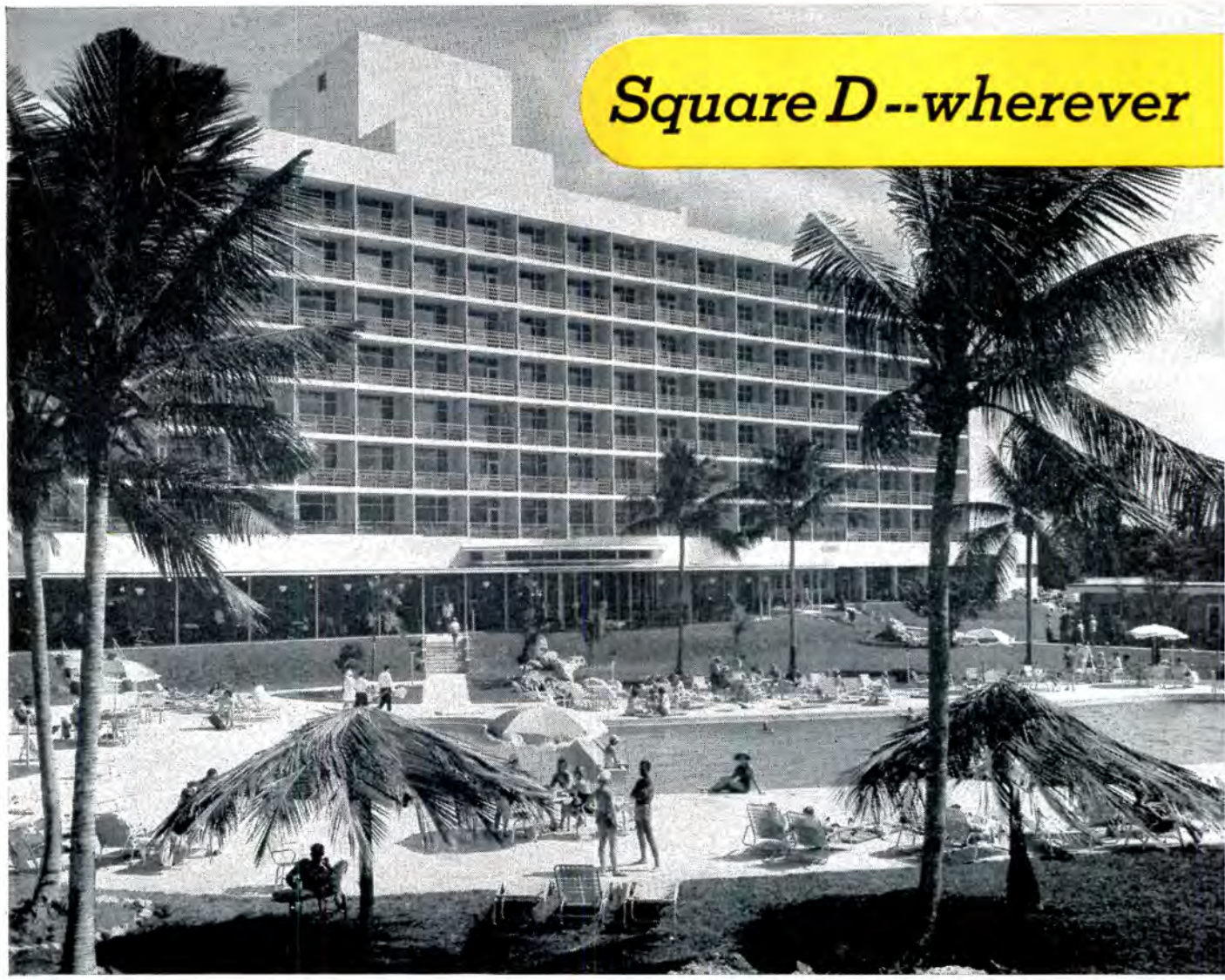
CORRUGATED SHEETS • FLAT PANES • PYROPANL • DOUBLE DOME SKYLIGHTS



EL SAN JUAN INTERCONTINENTAL*

• Here is one of the Caribbean's most beautiful tourist and resort hotels. Built at a cost of $7,500,000 and operated by Intercontinental Hotels, New York, it stands on a 16-acre ocean-front tract between the center of San Juan and the International Airport. Each of the hotel's guest rooms has an individual balcony overlooking the beach and ocean. Within the completely air-conditioned hotel are restaurants and the *Tropicoro* night club and casino, the latter created by Max Borges, Jr., designer of Havana's famed *Tropicana*. The hotel's convention hall and ballroom, with a floor area of 12,000 square feet, can accommodate 1500 people. *Square D equipment distributes and controls the electricity throughout this beautiful structure.*

FIELD ENGINEERING SERVICE is available through more than one hundred Square D offices, backed by an international network of over 1000 authorized electrical distributors and 17 plants in the United States, Canada, Mexico and Great Britain.

Executive Offices • 6060 Rivard Street, Detroit 11, Michigan

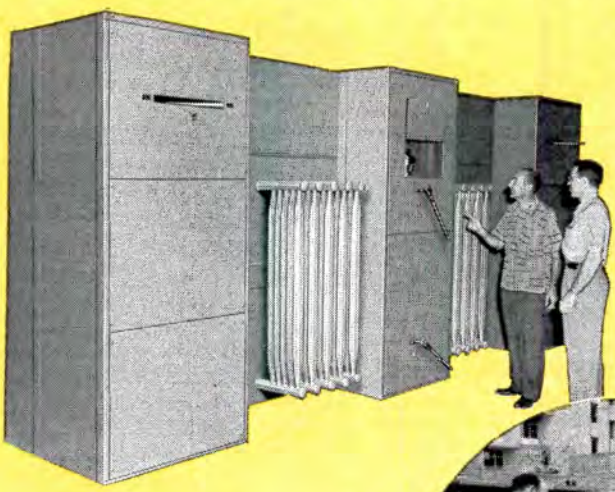
**Designed by ROY F. FRANCE & SON, Miami Beach, Florida, and G. FERNOS LOPEZ, Consulting Architect, San Juan, P. R. Electrical Contractor • COMMONWEALTH ELECTRICAL CONSTRUCTION, INC., San Juan, P. R.*

EC&M HEAVY INDUSTRY ELECTRICAL EQUIPMENT...NOW A PART OF THE SQUARE D LINE

SQUARE D COMPANY

lectricity is distributed and controlled

This **SQUARE D CONTROL CENTER** centralizes all motor control for units which air-condition the lobby, foyer entrances, offices, dining rooms, cocktail lounge, night club and casino. Pumps for chilled water system and swimming pool are also controlled from this center. **SQUARE D totally enclosed FEED-IN DUCT** brings power from substation.



Two **SQUARE D SUBSTATIONS** *(one shown at left)* separately feed power and lighting and small appliance loads for the entire hotel. **SQUARE D ALUMINUM FEED-IN DUCT** distributes the hotel's electrical power. Two vertical risers feed all eight floors.

Sager Colman, Square D Export Manager, discussing electrical equipment installations with Harley Watson, General Manager of El San Juan Intercontinental Hotel, during early construction stage.

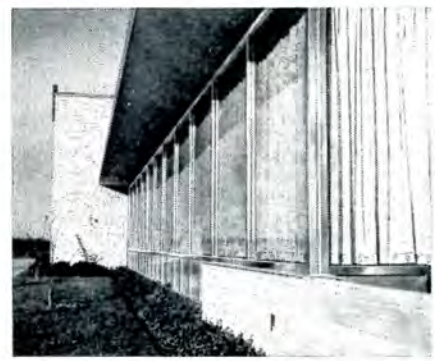
A *Complete* LINE OF ELECTRICAL DISTRIBUTION AND CONTROL EQUIPMENT

ADJUSTABLE SPEED DRIVES
BUSWAYS & WIREWAYS
CIRCUIT BREAKERS
CONTROL CENTERS
CRANE & HOIST CONTROL
DISTRIBUTION SWITCHBOARDS
ELECTRIC TRUCK CONTROL
HIGH VOLTAGE CONTROL
LAUNDRY CONTROL
LIFTING MAGNETS
LIGHTING AND POWER PANELBOARDS
LIGHTING CONTROL — LOW VOLTAGE
LIMIT AND FOOT SWITCHES
MACHINE TOOL CONTROL
MAGNETIC BRAKES
METER MOUNTINGS
MOTOR STARTERS
PRESS CONTROL
PRESSURE, FLOAT, & VACUUM SWITCHES
PUSHBUTTONS
RELAYS AND CONTACTORS
RESISTORS
SAFETY SWITCHES
SERVICE ENTRANCE EQUIPMENT
STAGE DIMMERBOARDS
STEEL MILL CONTROL
SWITCHGEAR & UNIT SUBSTATIONS
SYNCHRONOUS MOTOR CONTROL
TERMINAL BLOCKS
TEXTILE MACHINE CONTROL
TIMERS
VOLTAGE TESTERS
WELDER CONTROL

Architects Specify Stainless Steel for its w Cost...Appearance...Durability

Architects and Engineers: Lorimer & Rose, New York
Consulting Architect: Emil Schmidlin, East Orange, New Jersey

One of two identical restaurants on the New Jersey Turnpike.



This attractive structure and a twin across the road, recently constructed for the New Jersey Turnpike Authority, originally were specified in aluminum. But both were switched to stainless steel—mullions, mullion covers, doors and frames, vestibules, sills and facia—without any change in the contract price.

According to the architect, the primary reasons for selecting stainless were its proved durability, permanently attractive appearance and easy, low-cost maintenance. These advantages assure lasting, trouble-free performance and maximum economy.

Economical for Architecture

The two buildings, typical of current stainless jobs, help dispel any idea that the cost of stainless can be justified only in monumental structures or where beauty *must* be combined with durability and low maintenance. Today, architects are expanding their design freedom and giving clients more for their money by using Armco Stainless Steel for major components and building products in all types and sizes of structures.

Put the design advantages and economy of Armco Stainless Steel to work for you and your clients. Write us for more information on stainless in architecture and assistance in selecting the most economical grade, finish, size and gage for your applications. Armco Steel Corporation, 2878 Curtis Street, Middletown, Ohio.

ARMCO STEEL

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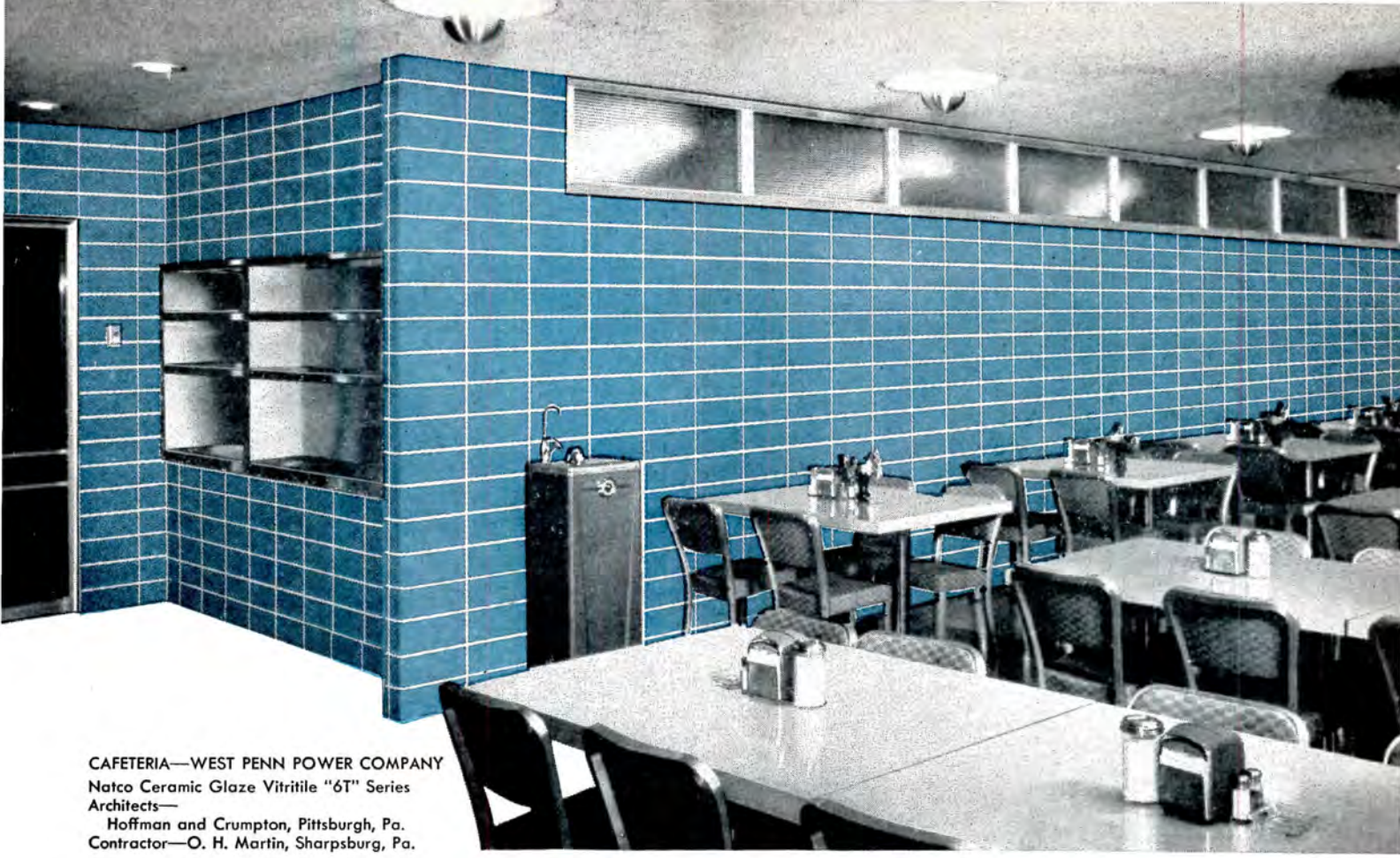

CAFETERIA—WEST PENN POWER COMPANY
Natco Ceramic Glaze Vitritile "6T" Series
Architects—
Hoffman and Crumpton, Pittsburgh, Pa.
Contractor—O. H. Martin, Sharpsburg, Pa.

Natco Ceramic Glaze Vitritile . . . Choice of the architect—and the contractor, custodian and chairman of the board

SIZES AND SHAPES

Series	Shape Catalogs	Tile Face Size	Nominal Thickness
"8W"	8W-257	7¾" x 15¾"	2", 4"
"6T"	6T-657	5⅛" x 11¾"	2", 4", 6", 8"
"4D"	4D-1255	5⅛" x 7¾"	2", 4", 6", 8"

A versatile building material must meet the needs of the entire "team." For the architect, the creative member who must weigh *all* factors, Natco Vitritile offers unlimited design possibilities *and* enthusiastic endorsement by the builder-buyer segment of the group.

For the cost-conscious executive who approves its purchase, Natco Vitritile means moderate initial investment, attractive appearance and long term economy. Costly replacement and renovation are minimized because Natco Vitritile is resistant to acids, alkalies, fire and physical abuse.

Maintenance men prefer Natco tile interiors because they are easy to clean. Occasional soap and water cleansing insures a sparkling, new appearance for the life of the building. Its impervious finish makes Natco Vitritile the ideal material where sanitation is of prime importance.

For the craftsmen who install it, Natco Vitritile provides both structural strength and a handsome, permanent interior finish *in a single unit . . . placed in just one operation.*

Available in large unit face sizes as listed below. A complete line of shapes and sizes in both structural units and in "soaps" is further assurance that Natco Vitritile will adapt to any design.

Consult your nearest Natco branch office for complete details.

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For Every Type of High-Mounting Area

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Holophane engineers are constantly developing new and better equipment for all light sources... Here are some outstanding examples of Holophane *controlled* lighting—by the acre... In every instance one can see clearly for thousands of feet—with a maximum of visual comfort... Reason: the installation of Holophane HIBAY Reflectors... Advantages: prismatic design produces greatest utilization of illumination; metal covers protect reflectors; simplified construction assures easy installation and economical maintenance... Consult Holophane engineers, through architects and professional advisors, without obligation.

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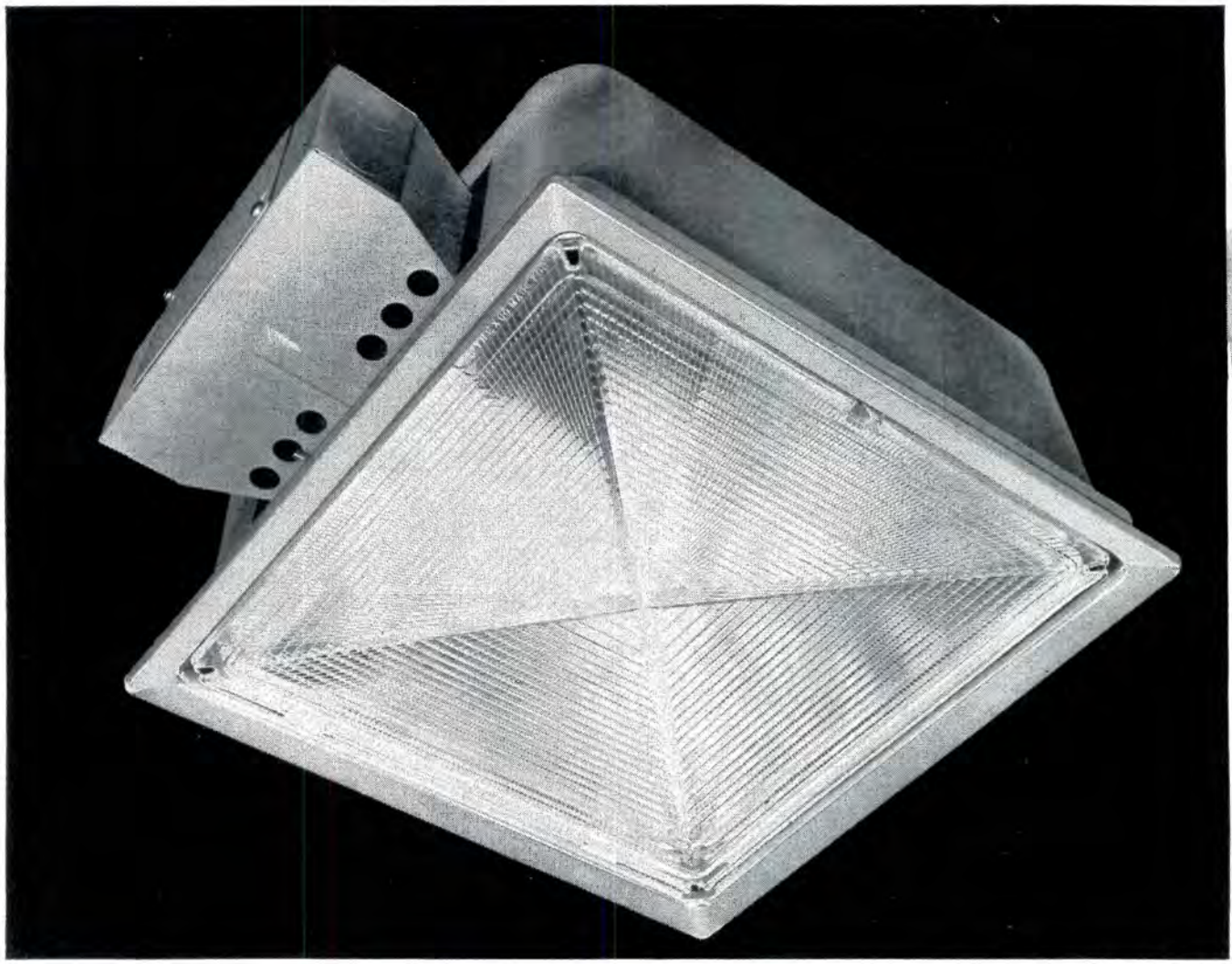

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NEW DAY-BRITE

UNI-FRAME

fits every lens box application...beautifully!

New THINcandescent design! Single, narrow, tapered frame fits flush with plaster or acoustical tile for happy blending of light and ceiling. No plaster frame needed.

New modular light pattern! Prismatically-accurate Pyrex* lens is largest available for 12″ lens box. Equalizes light distribution over square area. No light leaks.

New flexibility! One box size, in two look-alike series, accommodates any medium-base lamp (100-300 watts). Choice of three finishes: white enamel, aluminum or brass.

For additional information about UNI-FRAME, call your Day-Brite representative listed in the Yellow Pages. Or write . . .

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DECIDEDLY BETTER
DAY-BRITE
LIGHTING FIXTURES

*Registered trade name of Corning Glass Works

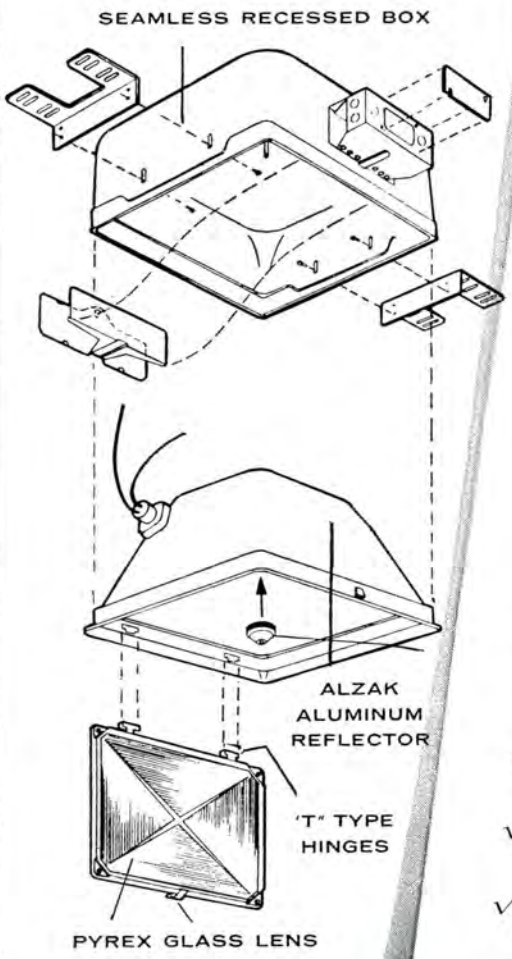
NATION'S LARGEST MANUFACTURER OF COMMERCIAL AND INDUSTRIAL LIGHTING EQUIPMENT

was never shown. Monet had to leave it with the innkeeper as guaranty against his unpaid bill. He recovered it, found it largely ruined by cellar dampness, and cut it into strips.

SPORT

ENGINEERING NEWS LETTER

DAY-BRITE LIGHTING FIXTURES



CHECK THESE UNI-FRAME FEATURES AGAINST ANY OTHER LENS BOX...

√ Sculptured one-piece frame . . . first concealed hinged lens frame!

√ A modular lens box . . . replaces 12" acoustical ceiling tile. For plaster ceilings, too.

√ No light leaks! Lens is set like a jewel in hidden inner frame, held by stainless steel clips.

√ Prismatic lens projects square (not elliptical) light pattern. No illumination drop-off in corners!

√ Pyrex lens is standard . . . no extra charge.

√ One-piece drawn aluminum Alzak reflector and angle lamp mounting for increased lighting efficiency.

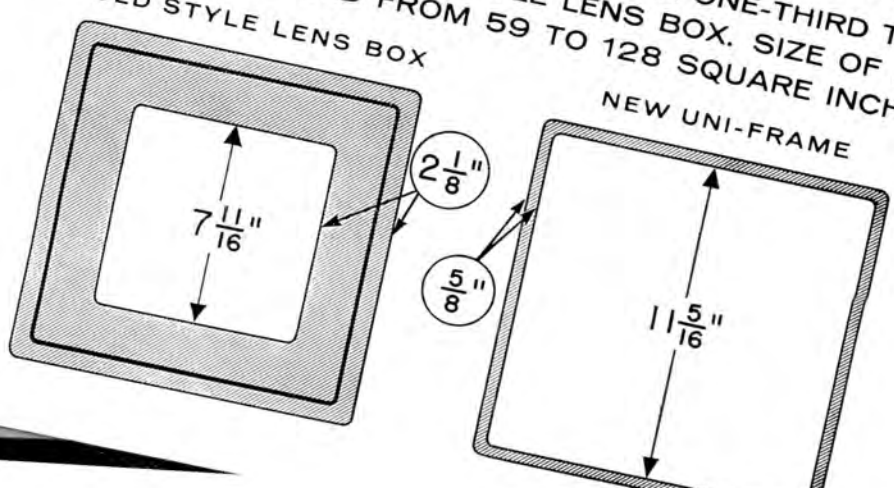
√ For commercial and residential use. Aluminum frames can be used outdoors.

√ Snap-type latch and separable hinges speed installation and maintenance.

√ Check the price advantage when you standardize on UNI-FRAME. One box size does it . . . throughout the job.

LUMINOUS AREA MORE THAN DOUBLED!

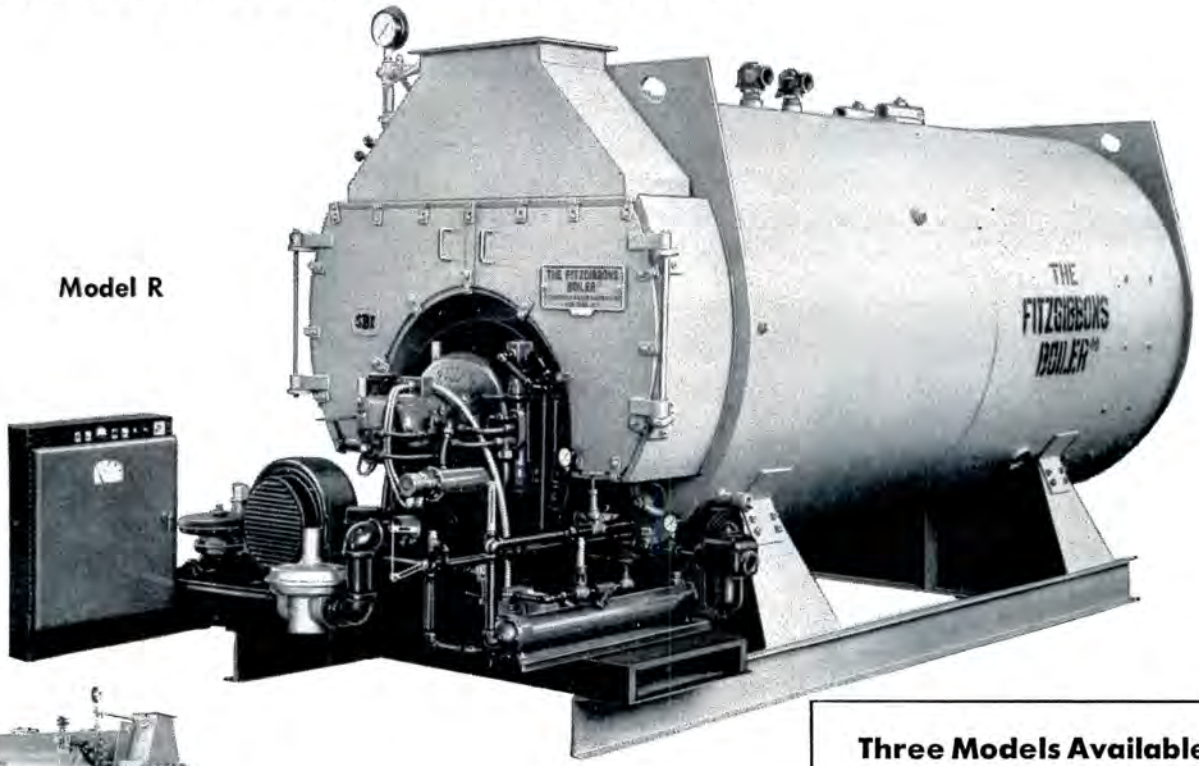
UNIQUE, NEW FRAME IS LESS THAN ONE-THIRD THE WIDTH OF FRAME ON OLD STYLE LENS BOX. SIZE OF LENS IS INCREASED FROM 59 TO 128 SQUARE INCHES!



NEW PACKAGED BOILERS

For steam and hot water heating and hot water supply for schools, institutions, apartments, hotels, factories, offices and all modern buildings.

Model R



Model P

Model PB

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These Scotch-Type Boilers feature full fillet welded butt heads for added strength; a pressurized, gasketed smokebox with side hinged, gas-tight doors for ease of access for care and maintenance; A.S.M.E. Code (or better) construction; and The Fitzgibbons-Developed "Full Wet Back and Sides" design which completely surrounds the rear combustion chambers with circulating water for higher efficiency, plus the elimination of rear refractory and its expensive maintenance.

The burners are the quality product of a nationally known company and are excellently designed, easily serviced and field supported by an extensive service organization.

The unit is fire tested at the Fitzgibbons Plant to insure optimum performance and a certificate is issued detailing the test results. Certified efficiency of the boiler is over 80%. The unit is ready for installation when shipped. **Write today for full catalog material on these most modern packaged units.**

Three Models Available

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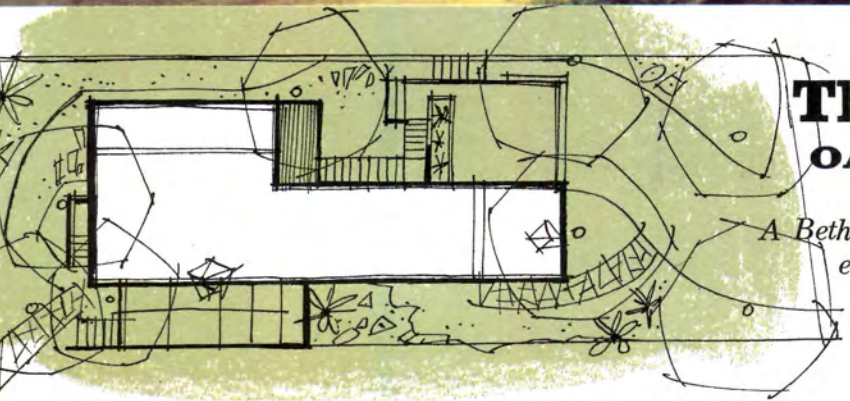


The Brubeck Home

OAKLAND, CALIFORNIA

A Bethlehem Steel report on an outstanding example of contemporary architecture

BETHLEHEM STEEL

Dave Brubeck and his "tree house"

If the highest attribute of a home is to express the personality of its owners, the home of Dave Brubeck, jazz pianist extraordinary, is an architectural triumph. Like his music, Brubeck's home is imaginative, bold in concept. Moreover, it answers the functional requirements of the owners, and the problems of a perplexing site.

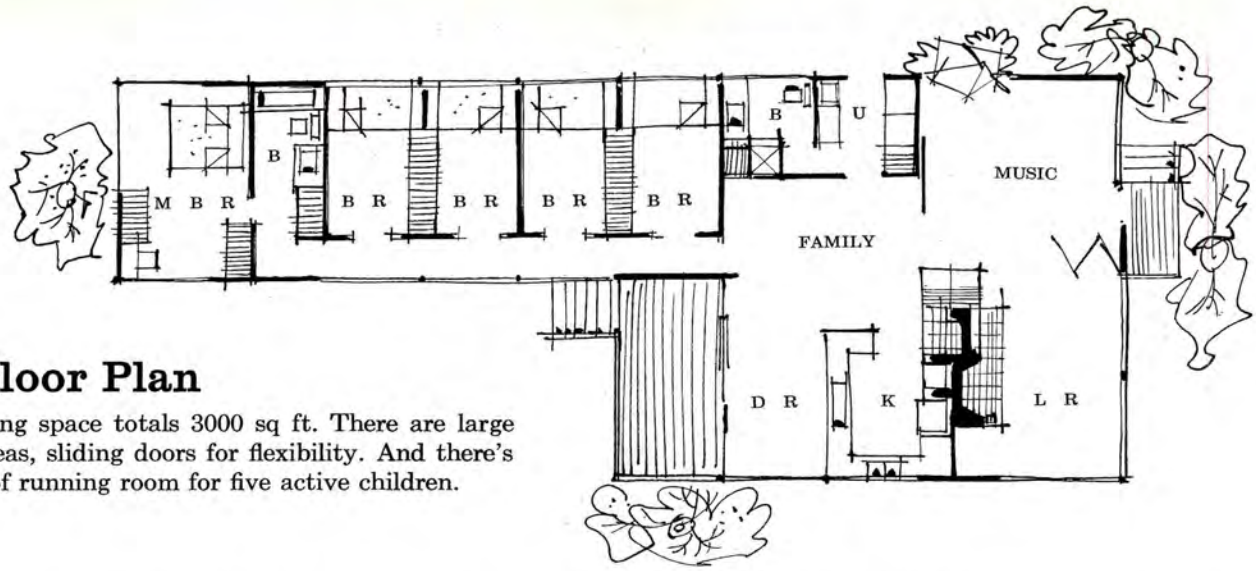
The lot itself is beautiful, with tall trees and a magnificent view of the Bay. But it's also narrow (50 x 100), steeply sloped, and virtually all rock. Here Brubeck wanted to build a home for a large family without marring the site's natural beauty.

Architect David Thorne had the answer. He formed a sort of "hand" by anchoring five steel "fingers" to a mass of rock. These beams cantilever in two directions, *creating* a 3000-sq-ft level floor for the entire living area. How this was done is explained on the next page.

Thus Thorne preserved the site, leaving trees and boulders intact. The structure appears to spring from solid rock, yet its spectacular cantilever seems to soar, giving a "tree-house" effect.

Brubeck at Home

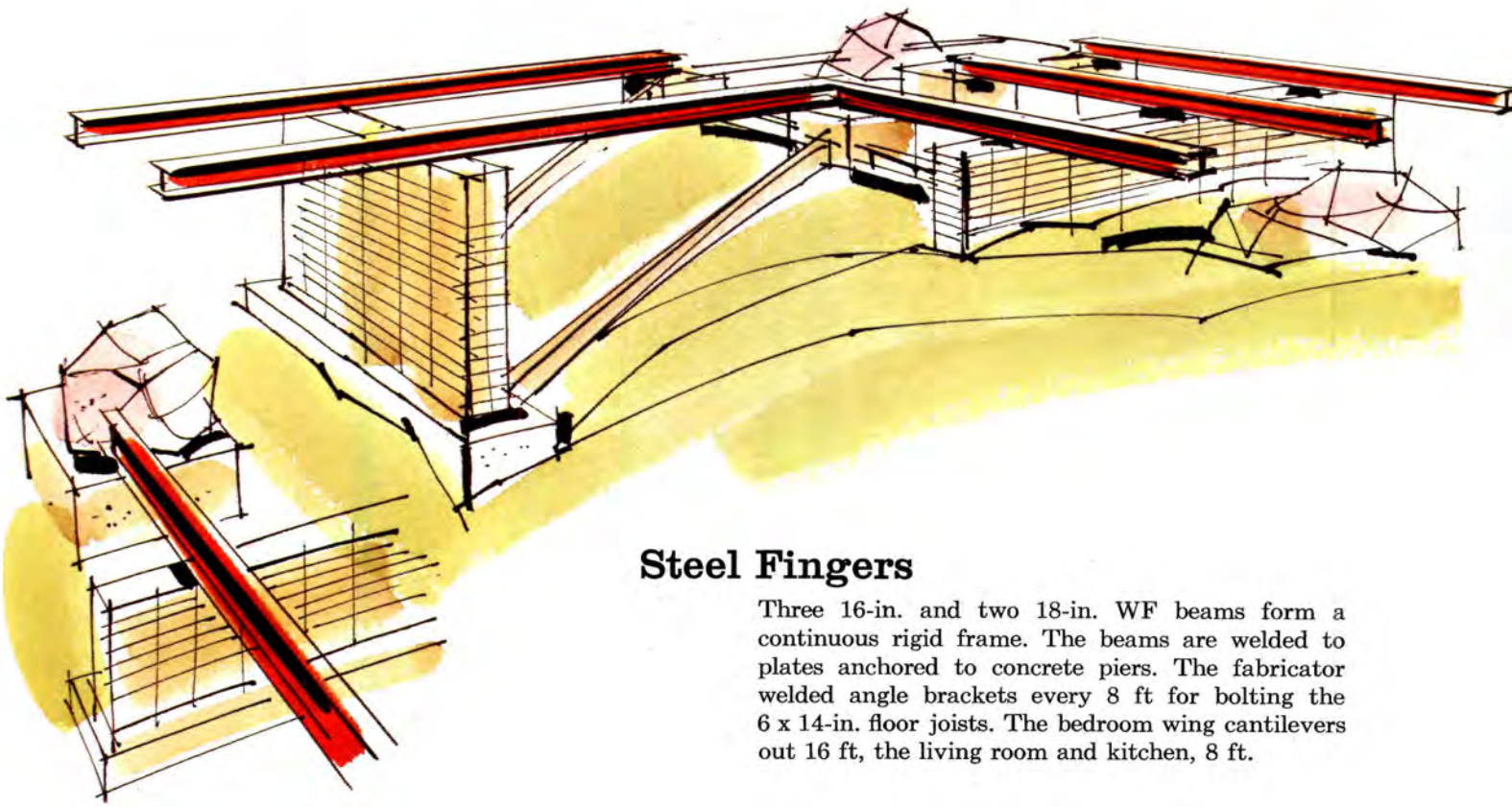
"The way I look at it, this house expresses much of my wife's personality and my own. To us it's a house that is full of common sense. It's completely open and honest. We have nature all around us. I feel that if inspiration can come from good surroundings, I'll find it here."



Floor Plan

The living space totals 3000 sq ft. There are large glass areas, sliding doors for flexibility. And there's plenty of running room for five active children.

Architect: David Thorne, Berkeley; Structural Engineer: Carl Replogle, Oakland; Steelwork: National Iron Works, Alameda

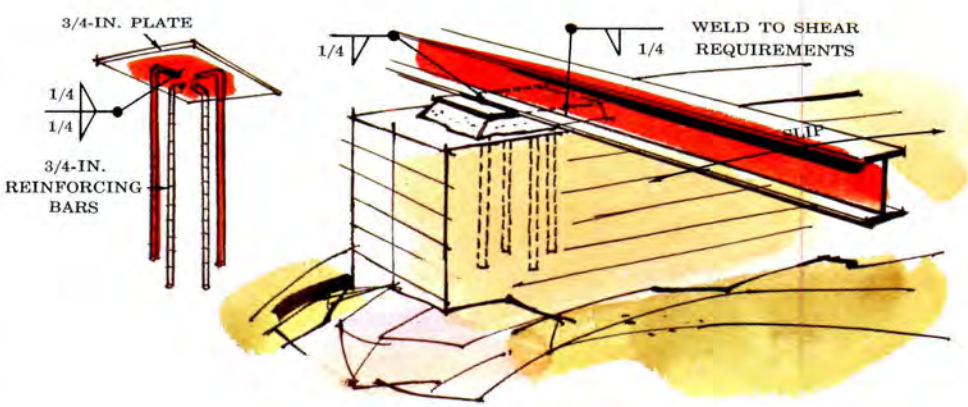


Steel Fingers

Three 16-in. and two 18-in. WF beams form a continuous rigid frame. The beams are welded to plates anchored to concrete piers. The fabricator welded angle brackets every 8 ft for bolting the 6 x 14-in. floor joists. The bedroom wing cantilevers out 16 ft, the living room and kitchen, 8 ft.

Welded Anchorages

To simplify placing beams and to allow horizontal leeway, Architect Thorne used slip plates instead of anchor bolts. He provided cells in the piers to receive reinforcing bars which had been welded to a ¾-in. plate, as shown. The plate was positioned on wood wedges, levelled, and grout was poured into the cells and under the plate. The beam was then welded to the plate in accordance with shear requirements.



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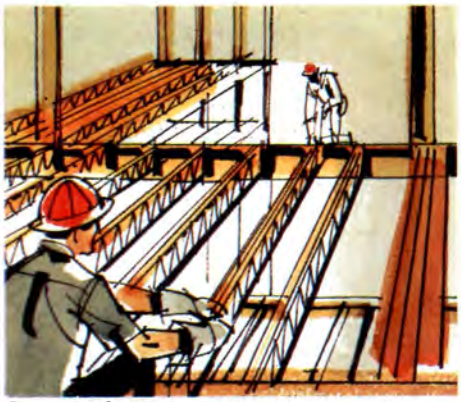

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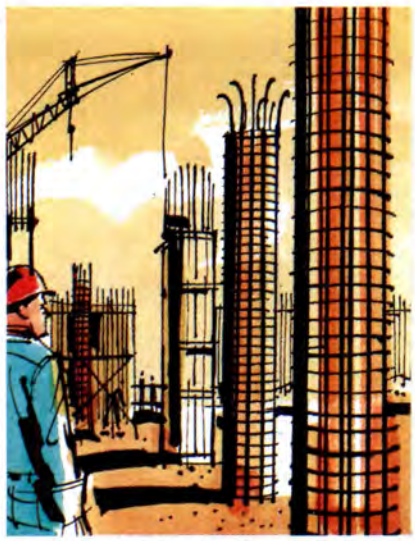

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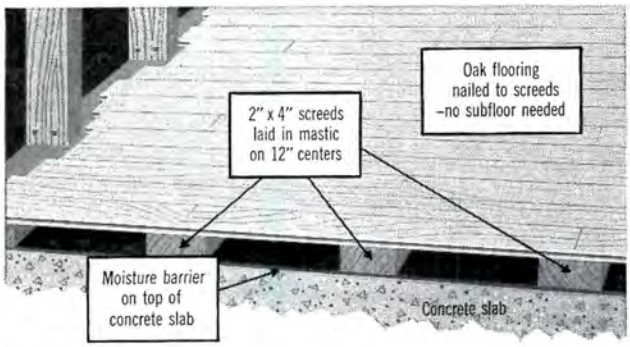
Technical news from
National Oak Flooring
Manufacturers' Association

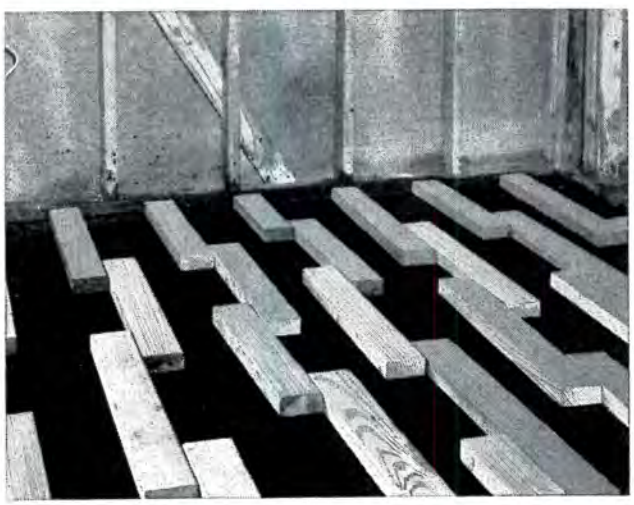
Low-cost way to install strip oak floors over concrete slabs



Screeds-in-mastic method is fast, trouble-free

If you use concrete slab foundations instead of wood joist construction, you can still lay strip oak floors. The easy-to-follow method described here requires no subfloor . . . and gives your slab homes the assured buyer acceptance of beautiful, durable oak floors.

1 Apply surface moisture barrier to slab and lay flat, dry, preservative-treated 2 x 4 wood screeds in hot mastic. Use random length screeds, 18″ to 30″.



2 Lay screeds at right angles to proposed direction of flooring, 12″ on centers with ends lapped 4″. Staggered pattern helps to provide good nailing surface.

3 Blind nail tongued-and-grooved, end-matched strip oak flooring at each screed intersection. Double-nail at lapped screeds. Finished floor is beautiful and durable.

You know you're right when you use oak floors ...in any home

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MAIL FOR FREE INSTALLATION MANUAL

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Please send free copy of your manual, "How To Install Hardwood Strip Floors Over Concrete Slabs."

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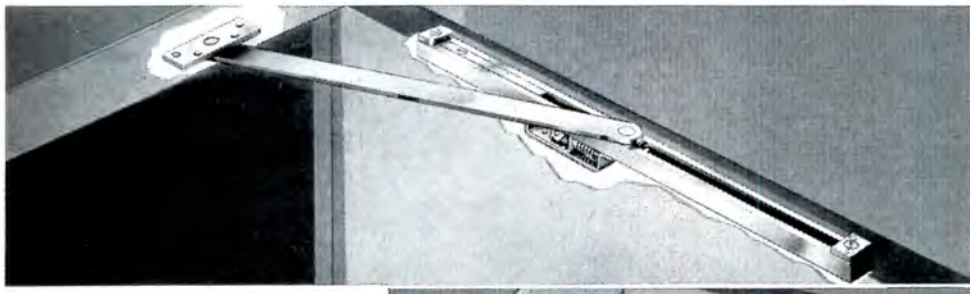
no stumbling hazards—no interference with cleaning



▲**GJ 100** **concealed (non-handed) for single and double acting doors.** The finest in appearance and long, trouble-free wear.

GJ 90▶ **surface type (handed)**

◀**GJ ARISTOCRAT (non-handed) for single acting doors.** Ruggedly built for hard, practical usage.

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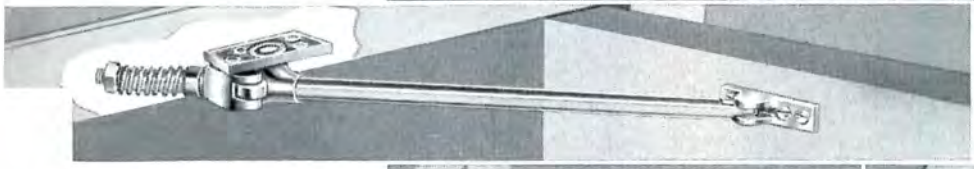

◀ **GJ 70 (non-handed) for single acting doors.** Inexpensive for low-cost installations.

GJ 300 and GJ 500 series▶ (non-handed) concealed for single and double acting interior doors. Surface type for single acting doors. Spring cushion types and friction holder type.

CUSHION THE STOP... silently absorbing the shock of violent openings.

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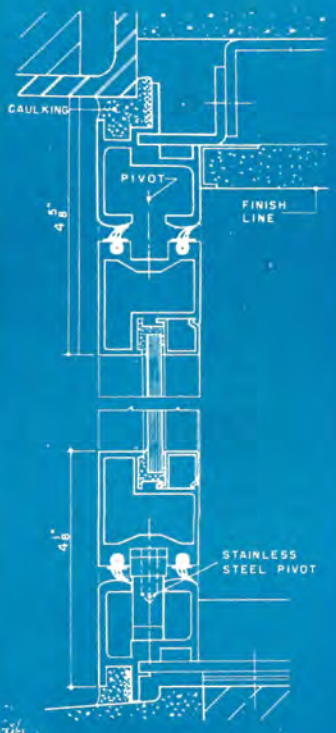

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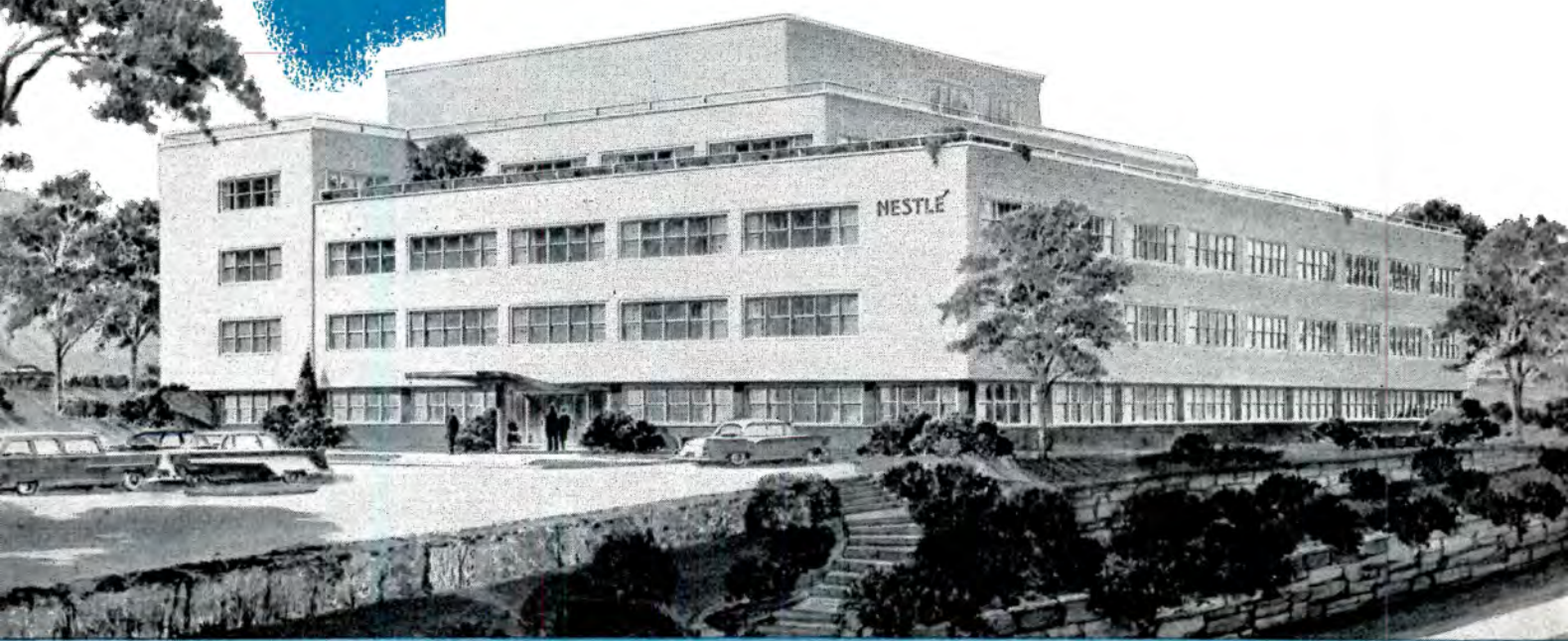

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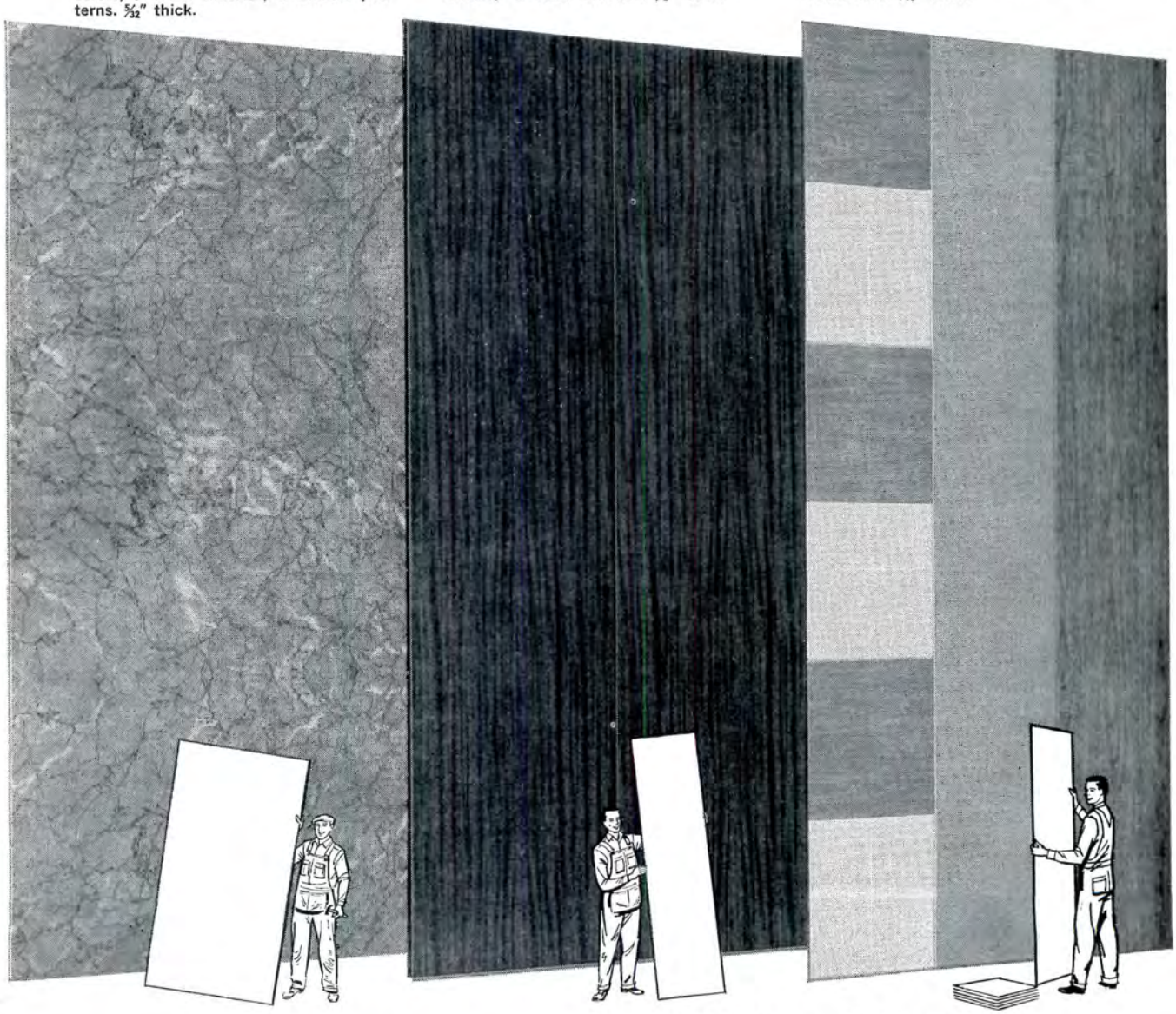

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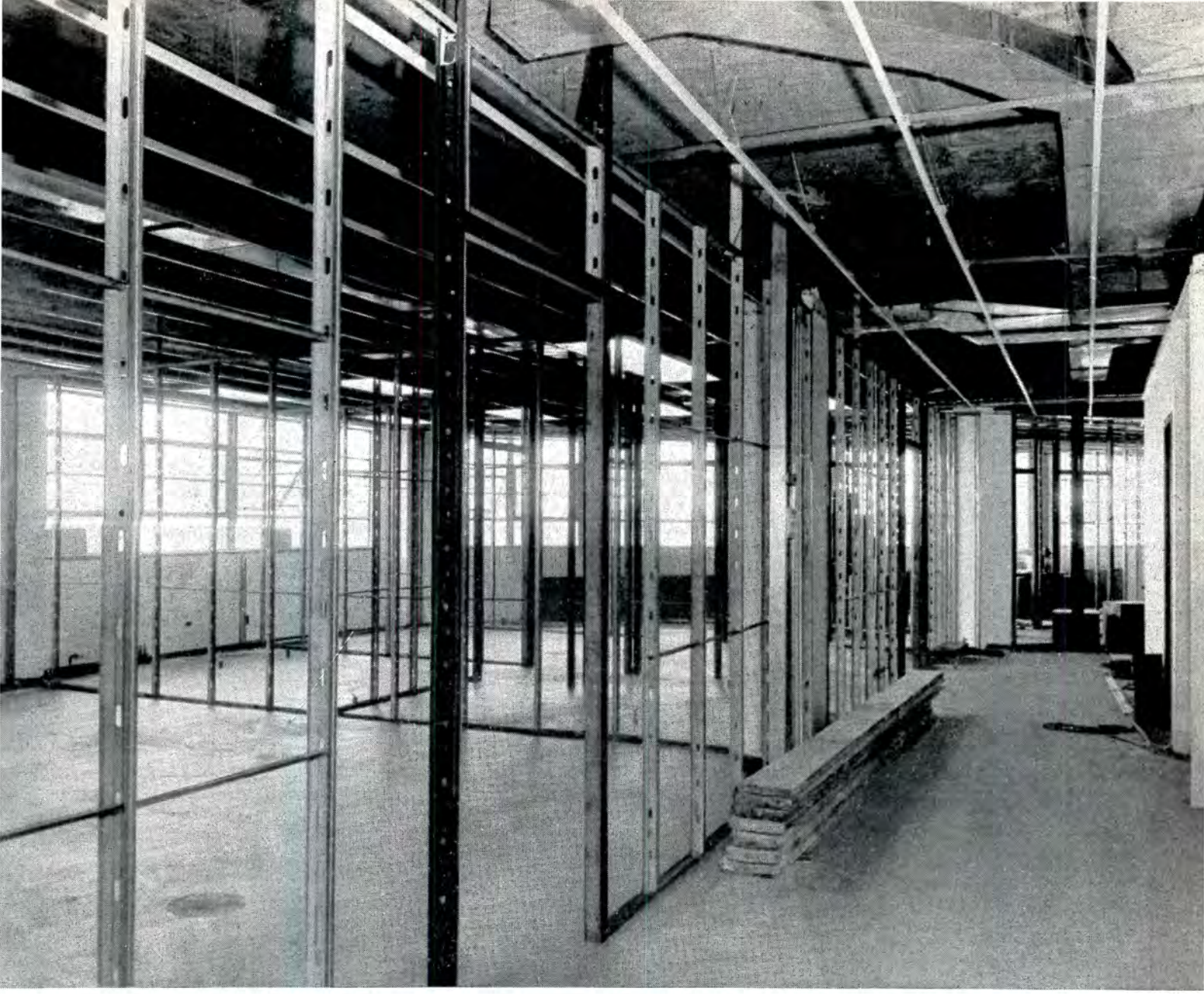

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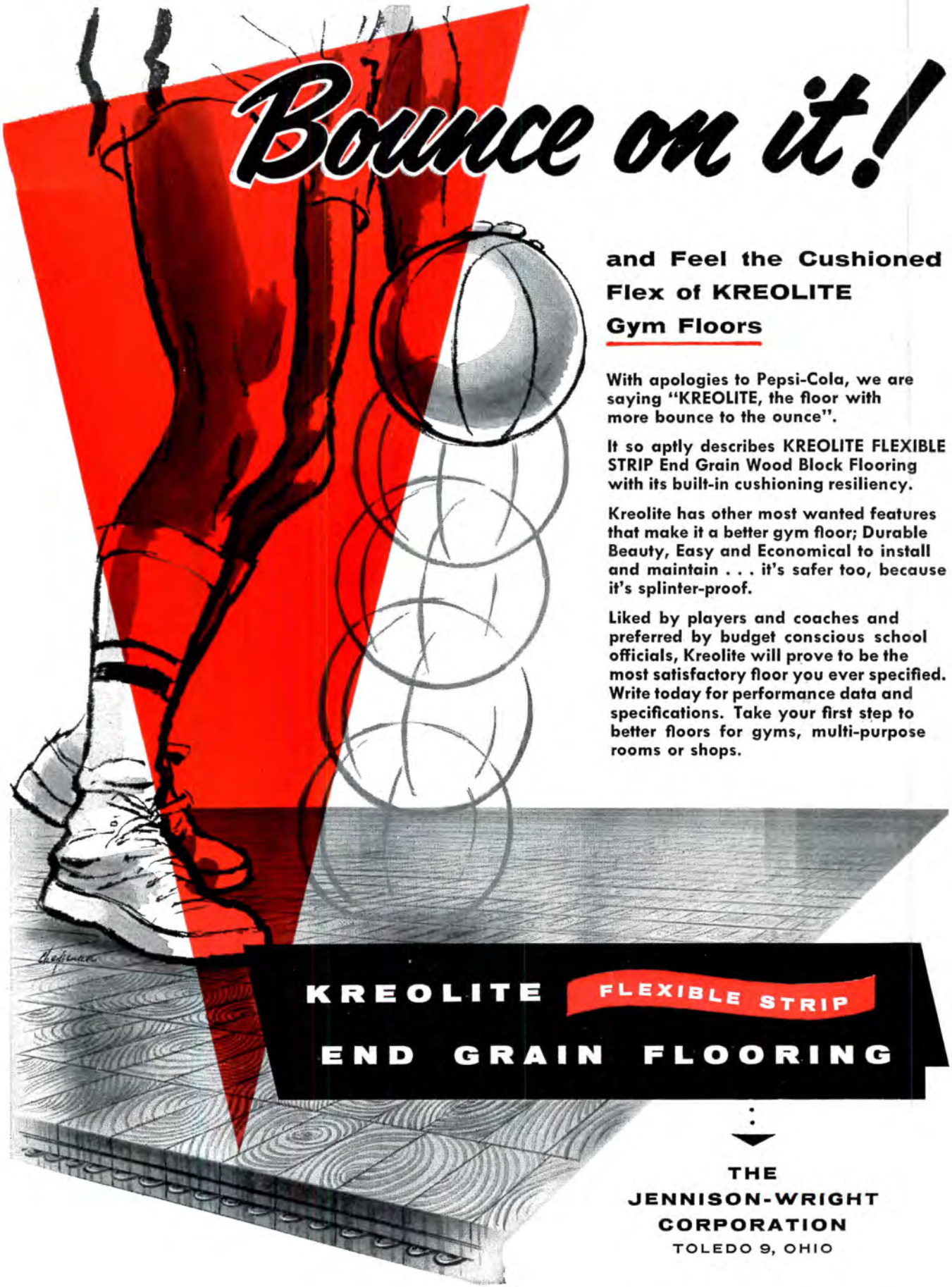

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Adaptable to any type of floor construction, Nepcoduct makes outlets available wherever they are needed for efficient office lay-out. This means electrical service changes can be made quickly and at low cost to the owner or tenant . . . without interrupting business routine.

When you build, specify NE Nepcoduct to be sure the building will never grow old electrically. Write for complete information today.

National Electric's new streamlined service fittings are specially designed for installation where modern desks and free standing equipment limit the heights of service fittings to less than 3 inches.

National Electric Products Corp.

PITTSBURGH 22, PENNSYLVANIA

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STARK IDEA FILE

New idea

...feature wall of beautiful, low-cost structural glazed facing tile in Random Ashlar pattern.

Too often, walls of uniformly sized materials are static or uninteresting.

Shown here is a beautiful, interesting, wall of Stark Structural Glazed Facing Tile. Standard tile sizes are used and less than 1/3 of the units require cutting. Adding occasional tiles of contrasting colors contributes to the overall attractiveness.

Next time a job calls for beauty . . . easy maintenance . . . economy and durability . . . specify Stark.

IF YOU WOULD LIKE A DETAILED PRINT, INCLUDING TILE COUNT AND SIZES, OF THE WALL SHOWN ABOVE, SIMPLY REQUEST ON YOUR LETTERHEAD.

STARK CERAMICS, INC.
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A new, complete and detailed catalog is now available . . . Simply request on your letterhead.

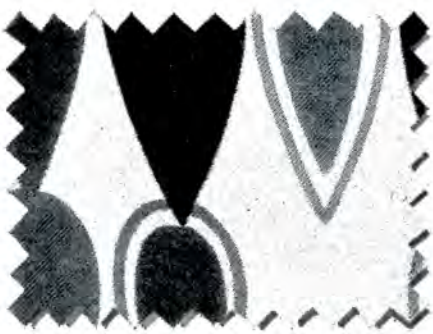
SARANSPUN *fabrics*

A DECORATOR'S DELIGHT FOR LUXURIOUS BEAUTY AND WORKABILITY, YET SO INCREDIBLY DURABLE AND RESISTANT TO HARD WEAR

When draperies and curtains are made of SARANSPUN, fire presents no hazard. SARANSPUN is inherently and permanently flame-proof . . . it's self-extinguishing and requires no flame-proofing treatment. This is only one of the unique properties of this remarkable fabric. Its flex-life is phenomenal. Scuffing, beating or harsh treatment won't faze it. SARANSPUN resists staining, cleans easily and dries rapidly.

SARANSPUN is a decorator's dream! It has a soft hand. It is easy to sew, drape, fold or pleat and shedding during fabrication is no problem. It's solution-dyed for fade resistance and color continuity in multiple-width installations. It is mothproof and resistant to mildew —even at the seashore.

Easy cleaning is another SARANSPUN virtue. Wash it or dry-clean, according to simple instructions and it will stay fresh and lovely through the years. SARANSPUN draperies and curtains reduce maintenance costs to a minimum.



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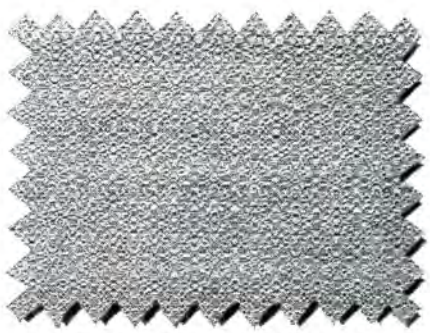

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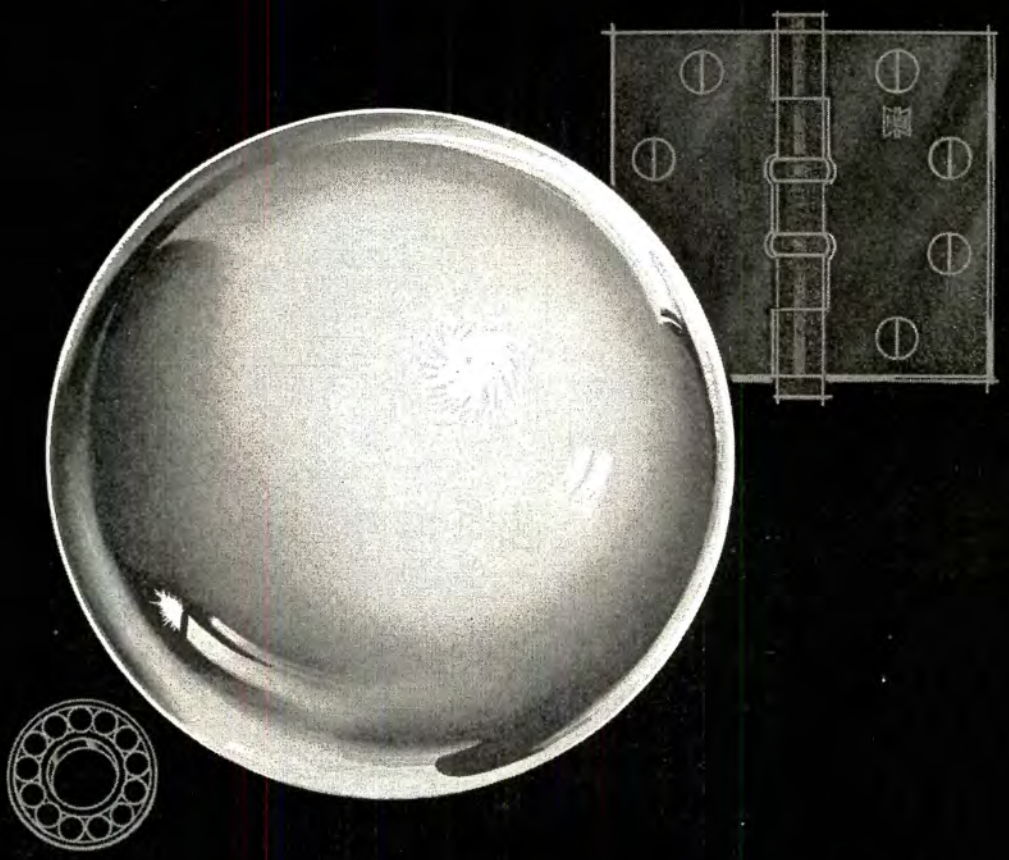


26*-Jeweled movement

All 26 *Keep Rolling Forever*—not Part of the Time—in a Hager *"Life-Time Bearing"* Butt Hinge!

The bearings *stay there* for *life!* Upper and lower raceways ride *forever*—on the *full count* of ball *bearings*—in a Hager *Life-Time Bearing* Butt Hinge!

Tough case-hardened steel ball bearing raceways are press-fitted into direct contact with knuckle on Hager ball bearing butt hinges.

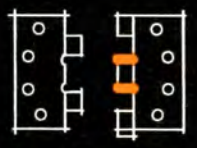
No soft brass retaining jacket (or crimped shell) lies between the knuckle and the raceway . . . nothing to eventually wear away and allow the bearings to slip out.

Both raceways and *all* 26 ball bearings are hard at work in Hager Ball Bearing Butt Hinges—in fine jeweled movement—forever providing life-time trouble-free silent door operation.

You'd expect finer performance from *Hager* Ball Bearing Butt Hinges, naturally—and naturally, you have a right to!

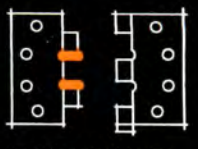
If it's expected to *stay* for *life*, then, of course

EVERYTHING HINGES ON HAGER!



NOT THIS . . .

One-knuckle-bored construction. Bearings anchored with wear-away brass bushings. (Bearings eventually fall out, when pin is removed.)



BUT THIS . . .

Hager **TWO**-knuckle-bored construction. Bearings anchored with case-hardened steel raceways.

*26 Balls in 4½" x 4½" 2-bearing Butt Hinges

Hager®

EVERYTHING HINGES ON *Hager!* • C. HAGER & SONS HINGE MFG. CO., ST. LOUIS 4, MO., U.S.A.
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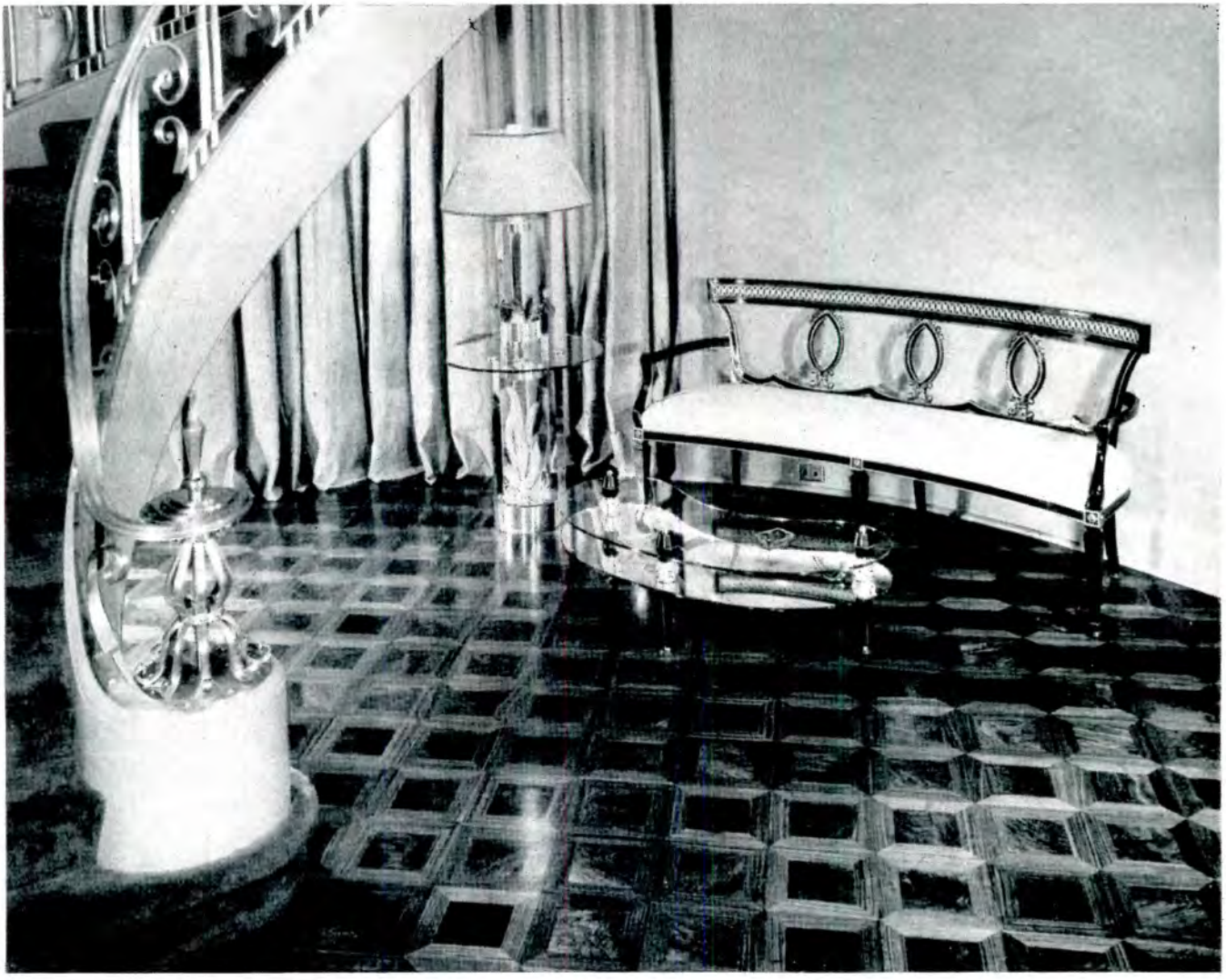

This famous Walnut MONTICELLO pattern was created for the flooring of Thomas Jefferson's beloved Monticello . . . the old Dominion Mansion which our Third President both planned and built in historic Virginia. This beautiful pattern has been for years the choice of discriminating people.

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Now Available in Prefinished Laminated Blocks at a New Low Price

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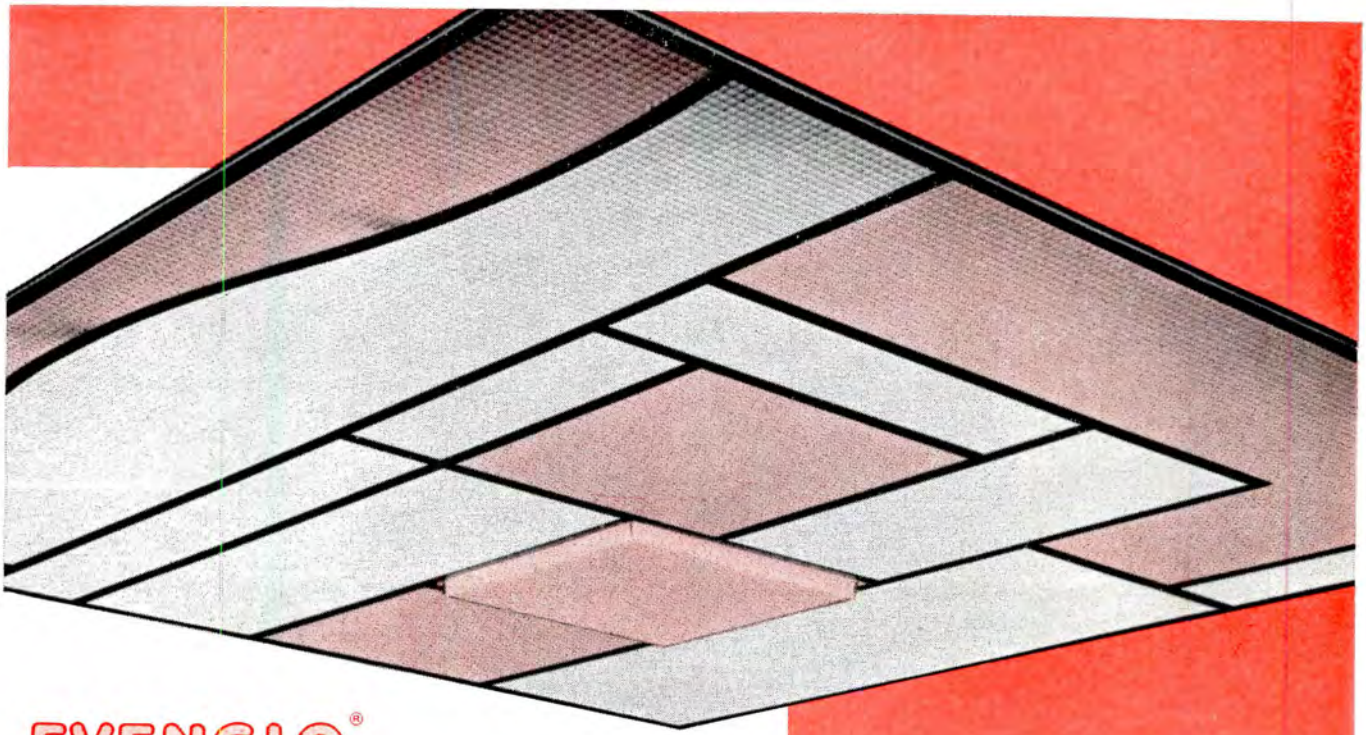

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EVENGLO has gained widespread acceptance in lighting systems for commercial buildings, schools and business establishments, because it can be molded or extruded in varying degrees of transmission and hiding power through a complete range of whites and ***pastels.***

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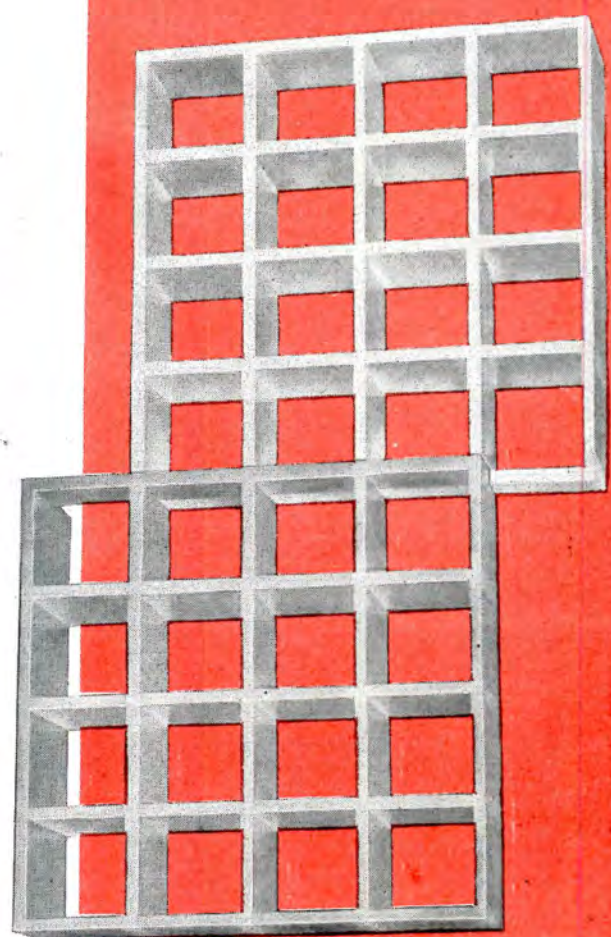

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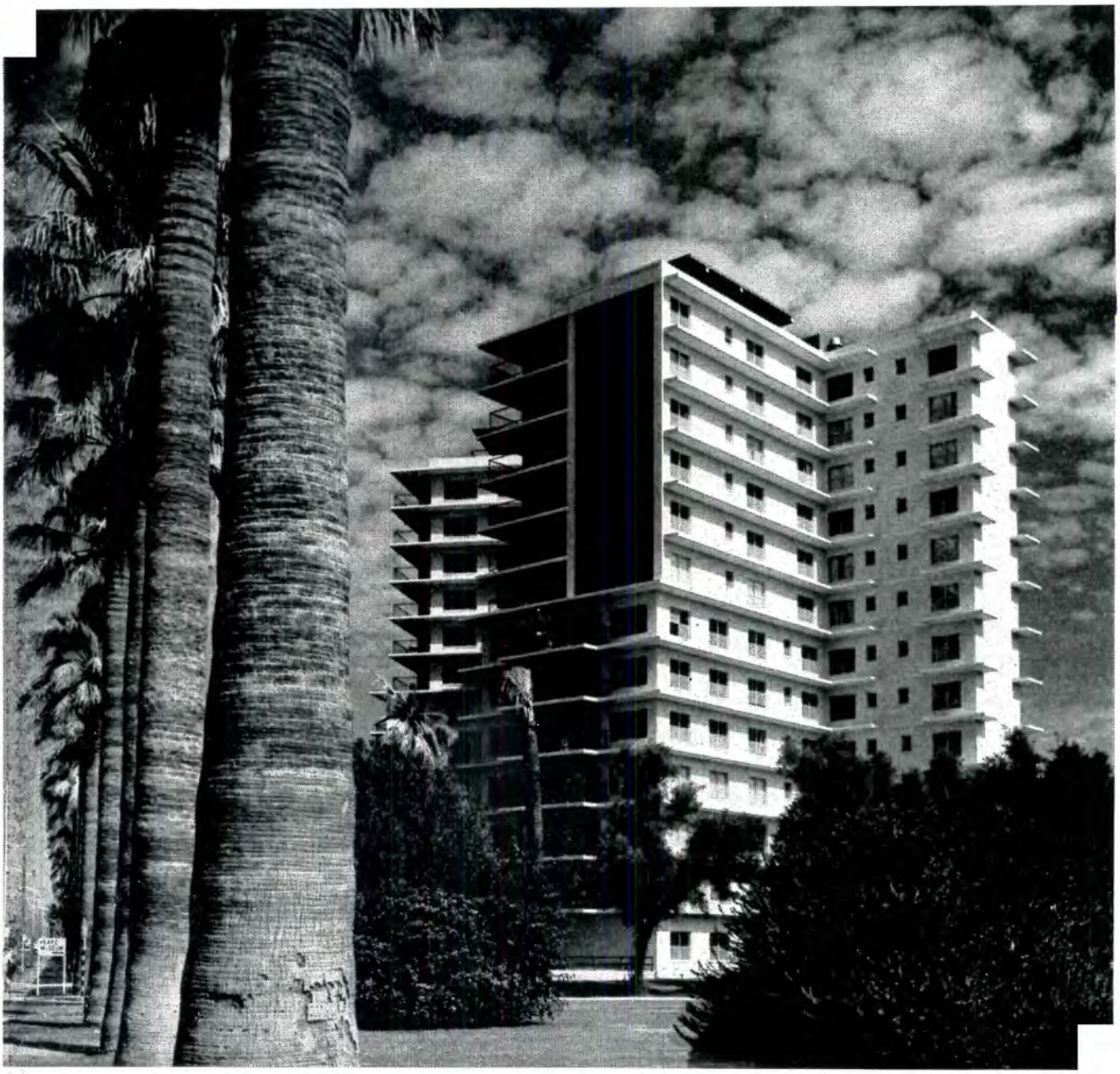
Saves 14% on cost of luxury apartment building



PHOENIX TOWERS
Architect: Ralph C. Harris, A.I.A.
Phoenix, Arizona
Structural Engineer:
Miller Engineering Co.
Chicago, Illinois
General Contractor:
Del E. Webb
Construction Company
Phoenix, Arizona

CONCRETE REINFORCING STEEL INSTITUTE
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FOUNDED 1924

Newest and largest luxury co-operative apartment building in the Southwest is the handsome $3,000,000 fourteen-story Phoenix Towers. Architect Ralph C. Harris chose flat slab reinforced concrete construction which made it possible to cantilever for balconies and sunshades very economically. The absence of projecting beams into the ceilings of rooms below in this type of construction eliminated the necessity for suspended plaster ceilings.

Architect Harris further points out that cost comparisons showed a 14% saving with reinforced concrete over other framing systems. Before you build, investigate this economical, flexible, and timesaving medium of construction. Compare—and you will design for reinforced concrete.

Concrete Reinforcing Steel Institute
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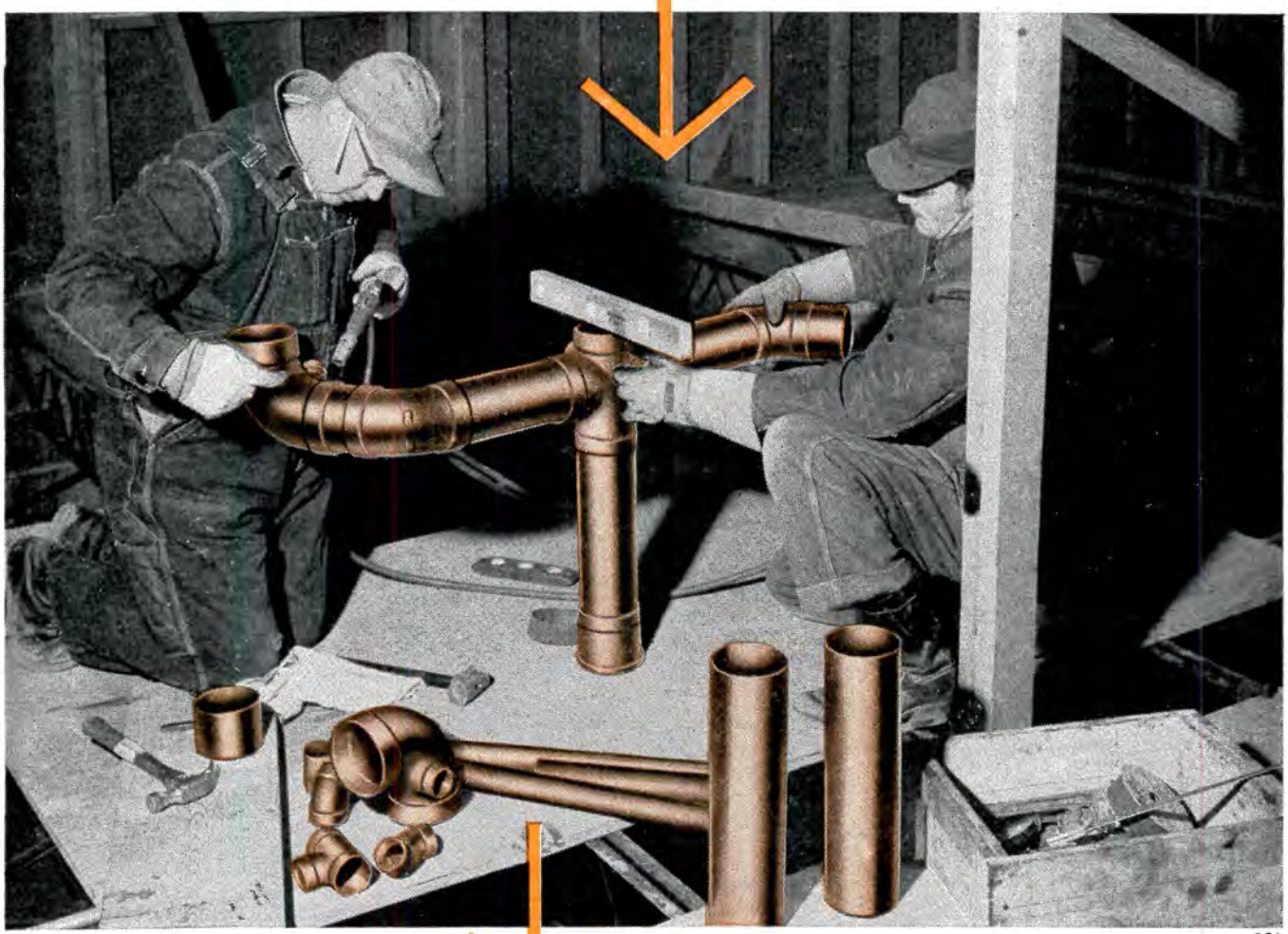
economical Streamline® DWV tube and fittings lower building costs . . . increase the saleability of any type home



256

The plumbers here are preparing a Streamline DWV prefabricated assembly for a multiple bath sanitary drainage system. The strong, rigid assembly will be placed into position and completed with a very little additional work.

Because of the ease of this prefabrication type of installation, contractors report DWV copper tube and fittings can be installed in half the time required with caulked or threaded piping materials. And because it cuts installation costs, Streamline DWV copper tube and fittings naturally lower building costs. Streamline DWV copper tube and fittings also improve the quality of any home or building by providing a lifetime of corrosion and rust resistant, leak-proof sanitary drainage that never clogs.

To lower your building costs . . . and increase the value of your home . . . *it will pay you to specify* Streamline DWV copper tube and fittings for sanitary drainage.

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IMPORTANT NE

STEEL JOIST

1 DESIGN

Architects and engineers now are offered all types of SJI Approved open web steel joists, based upon 20,000 psi working stress. Open web steel joists approved by the Institute are thus in balance with all other steel used in structures. Greater economy and a more efficient use of steel results.

2 COMBINED SPECIFICATIONS

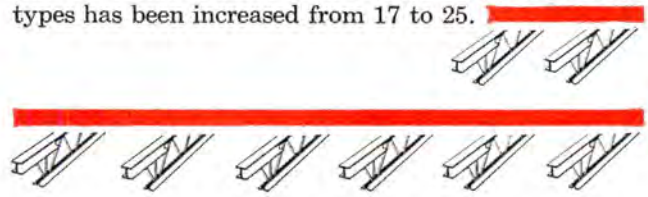
Specifications and load tables for all types of open web steel joists are combined in one handy reference for the designing architect and engineer. "S" series and "L" series joists uniformly designed are covered in this one over-all standard specification.

3 NEW SIMPLIFIED MARKING FOR OPEN WEB STEEL JOISTS

To simplify the designation and type mark of steel joists of all types and spans, a uniform system of marking has been adopted. The depth and series identification is incorporated in one type mark to give the designer a uniform system for identification. For example, an "S" series joist, formerly identified as type SJ102 will now be known as 10S2, or a 10" deep joist of the "S" series and a #2 chord section. A joist identified as 24L06 is a 24" deep, "L" series joist of a #6 chord section.

4 EIGHT ADDITIONAL TYPES

To provide greater flexibility and a more exact application of open web steel joists for given structural loads, the "S" series of Steel Joist Institute Approved joist types has been increased from 17 to 25.



STEEL JOIST INSTITUTE

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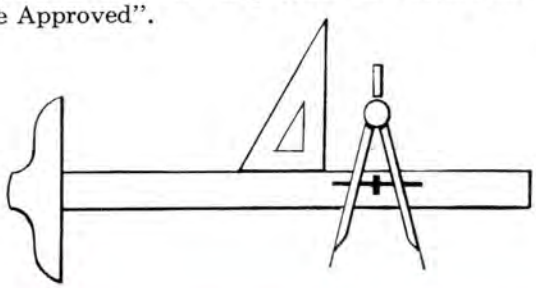
WS FROM THE INSTITUTE

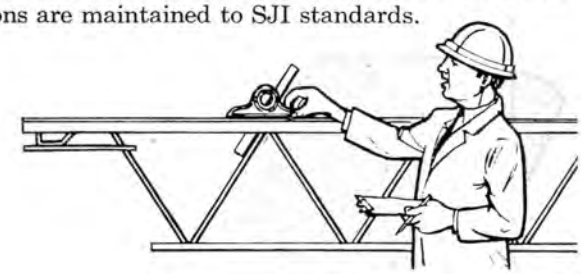
ENGINEERING DESIGN CHECK . . . "L" SERIES

To assure designers and specifiers of "L" series open web steel joists of proper uniform design properties, an engineering design check on such joists has been developed by the Steel Joist Institute and will be required before a manufacturer is permitted to indicate his product as "Steel Joist Institute Approved".



QUALITY VERIFICATION PROGRAM . . . "S" SERIES

A Quality Verification Program on all Steel Joist Institute Approved "S" series open web steel joists assures designers and code authorities that these structural members have not only been checked for design and load bearing ability but are subject to a continuing program of inspection by an independent laboratory at the Steel Joist Institute member company plants, to provide assurance that actual fabrication and production conditions are maintained to SJI standards.



7 NEW LOAD AND SPACING TABLES

Although the SJI Approved open web steel joists to be manufactured under the new SJI Standard will not be available from member companies before January 1, 1959, a new comprehensive load and spacing table is offered the architects and engineers for use as of October 1, 1958. This will permit inclusion of the construction economies of the new balanced design steel joists in many structures now in the planning stage.

STEEL JOIST INSTITUTE APPROVED SJI ©

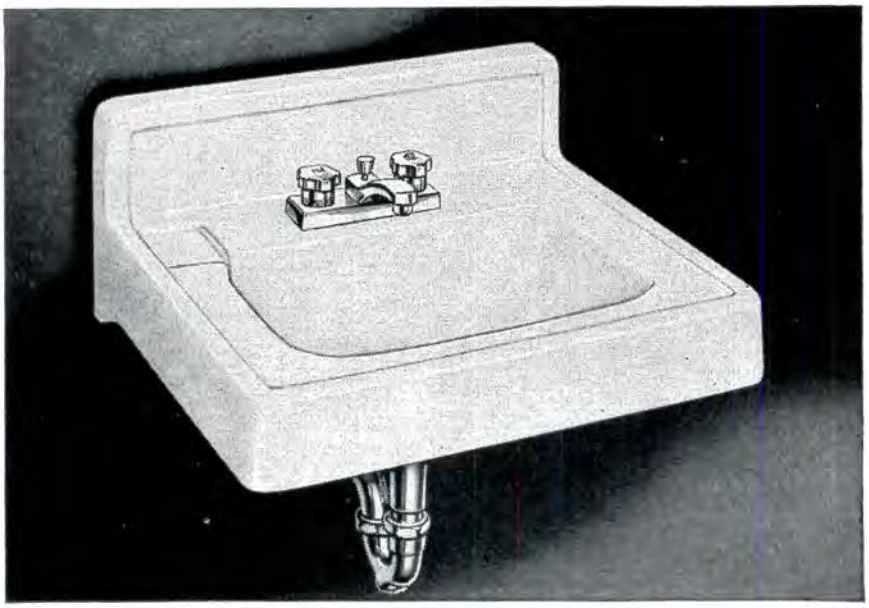
FREE! *Write for new standard specifications and load tables.*

See our insert in Sweet's Architectural File 2c/St

STEEL JOIST INSTITUTE
DuPont Circle Bldg.
Washington 6, D. C.

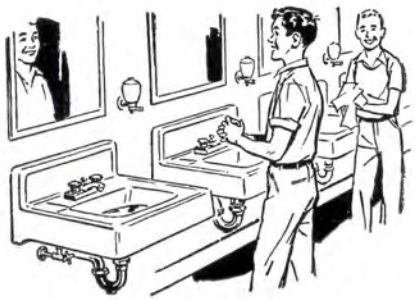
☐ Please send me a copy of your new Standard Specifications and Load Tables.

Name_____
Company_____
Address_____
City_____ Zone____ State_____



Greenwich, K-1975-C,
18 x 15", 20 x 18", 24 x 20"

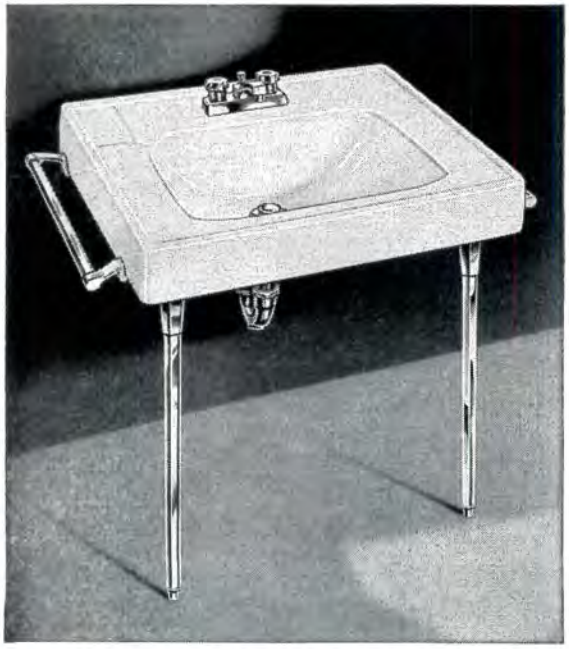
Under side of Greenwich lavatory showing screw holes provided for anchoring lavatory to wall.



New Designs in Lavatories . . .

KOHLER

Greenwich and Jamestown



Jamestown, K-1752-C, *20 x 18", 24 x 20"*

Designed with straight lines, in accord with the latest architectural trends, the Greenwich and Jamestown vitreous china lavatories combine convenience for the user with pleasing modern appearance. They look especially neat and orderly in multiple installations and, therefore, are popular fixtures for schools, hospitals, commercial and industrial buildings.

The Greenwich has integral brackets at base of the 5" back that provide extra wall-bearing surface for firm, strain-resistant installation. The Jamestown provides generous, flat, unobstructed slab space. Additional quality features include concealed front overflows, anti-splash rims.

All-brass fittings. The Centra fittings—Constellation Series—afford easy, accurate control of water flow with positive closing action. Interchangeable valve units simplify maintenance. All-brass construction has maximum resistance to corrosion and wear.

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Enameled Iron and Vitreous China Plumbing Fixtures • Brass Fittings • Electric Plants • Air-cooled Engines • Precision Controls

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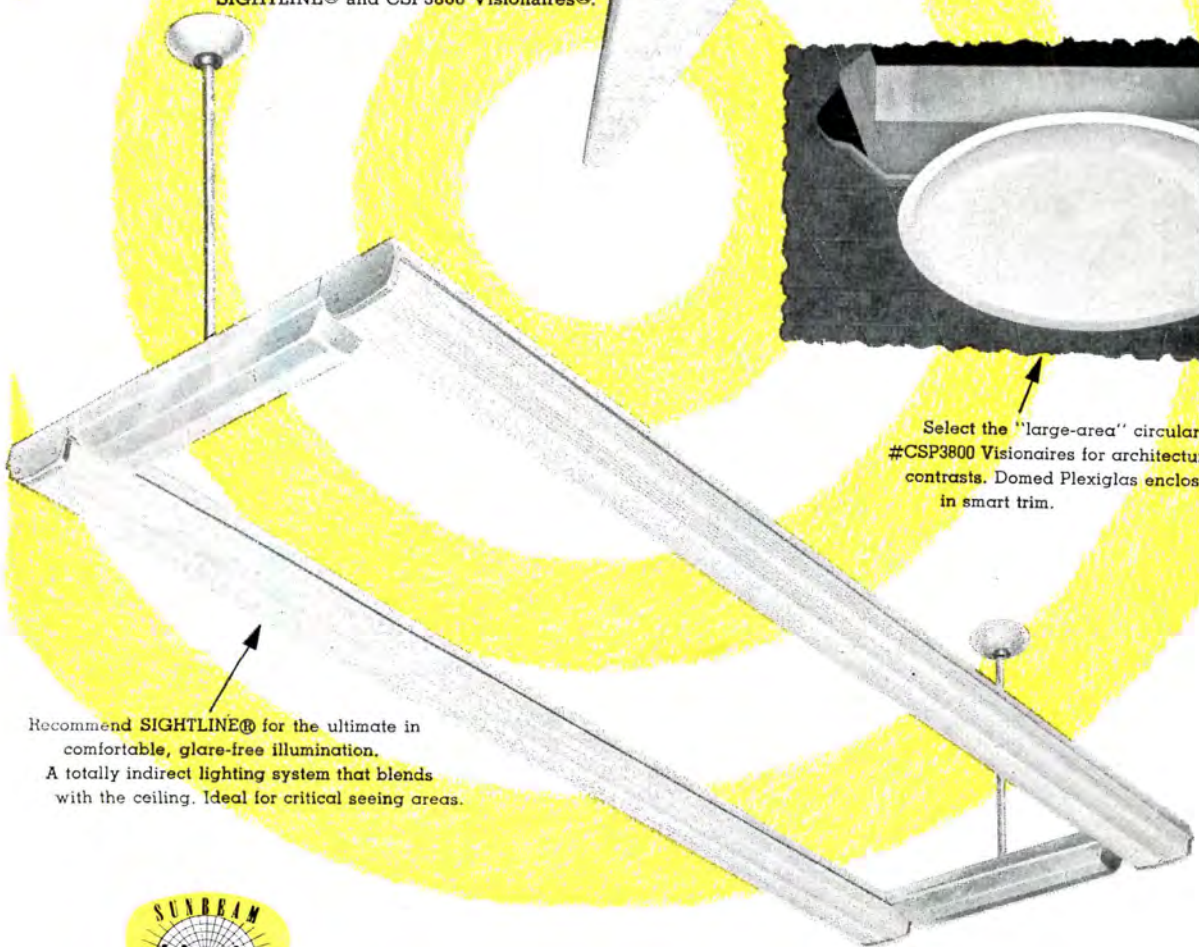
In your aim to obtain better lighting for better vision you will get a bull's-eye every time that you specify or select Sunbeam Lighting. Your chances of direct hits are greatly enhanced by the following factors: 1. All Sunbeam Visionaires® are designed, engineered and test-proven to produce specific illumination results. 2. You can choose from the largest line of quality luminaires in the country for almost every commercial, institutional and industrial application. 3. Two complete manufacturing facilities are strategically located to provide rapid, nation-wide deliveries. Typical of the many modernly styled and easy to install fixtures are the SHALLORAMA®, SIGHTLINE® and CSP3800 Visionaires®.

Specify SHALLORAMA® for new or remodeled interiors; especially in low ceiling areas. They look recessed. The Plexiglas diffuser is guaranteed for 15 years.

Select the "large-area" circular, recessed #CSP3800 Visionaires for architectural contrasts. Domed Plexiglas enclosed in smart trim.



Recommend SIGHTLINE® for the ultimate in comfortable, glare-free illumination. A totally indirect lighting system that blends with the ceiling. Ideal for critical seeing areas.

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Gary, Indiana

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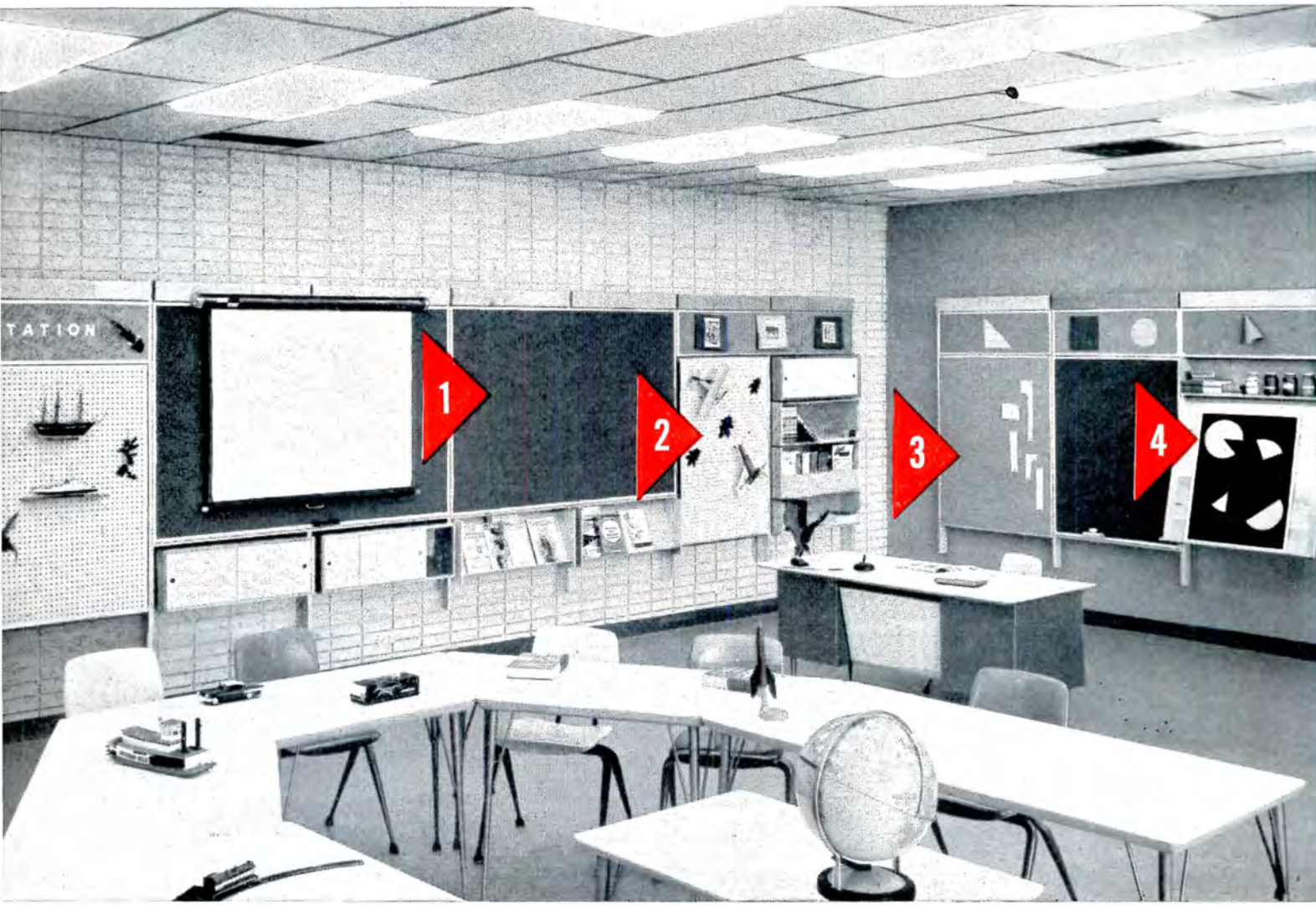
A new concept in classroom wall utilization that completely outmodes conventional fixed-to-the wall chalkboard and display equipment.

Brunswick **MODUWALL** has already been field proven in scores of installations... it is now available for your new or remodelled schoolrooms



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SCHOOL EQUIPMENT

for better learning . . . for lasting value

FLEXIBILITY INSURANCE—Brunswick Moduwall gives you complete classroom flexibility over the years . . . as school population shifts . . . as classroom purposes change. By simply changing the *kinds and heights* of panel units, you can transform a kindergarten into a fifth grade, a fifth grade into a social studies room, a math class into a kindergarten! Today's elementary schoolrooms become tomorrow's educationally perfect junior and senior high rooms—without costly reconstruction. With Moduwall your classrooms are never obsolete . . . always ready for change in grade or function!

EVERY WRITING, DISPLAY REQUIREMENT SERVED—Moduwall accessories can be mounted in minutes. 4 Chalkboard sizes, 6 Tackboards, 1 Pegboard, 3 Open and Closed Cabinets, 2 Magazine Racks, 1 Easel, 2 Flannelboard sizes and Utility Boards to choose from! All are interchangeable!

TEACHER'S DREAM—Only Moduwall gives your teacher full freedom to use the teaching aids that best suit *her* individual purposes . . . and teaching techniques. She can change panels as instruction projects and assignments change...from day to day, semester to semester, as she desires. (We'll be happy to help you plan an efficient Moduwall Panel Inventory to meet your immediate and long-term needs.)

AND MODUWALL IS ECONOMICAL, TOO!—Moduwall not only gives you scores of educational advantages . . . but actually costs less to install and use now . . . and over the years than conventional wall fixtures. It will pay you, your teachers and your community well to investigate . . . and have your architect specify . . . and use Moduwall!

1. *Only* **MODUWALL** *gives you the amount of* CHALKBOARD *you want . . . where you want it . . . when you want it.*

2. *Only* **MODUWALL** *gives you the amount of* PEGBOARD *you want . . . where you want it . . . when you want it.*

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4. *Only* **MODUWALL** *gives you the amount of* EASEL, OPEN AND CLOSED STORAGE, MAGAZINE RACK *you need...where you want it...when you want it . . .*

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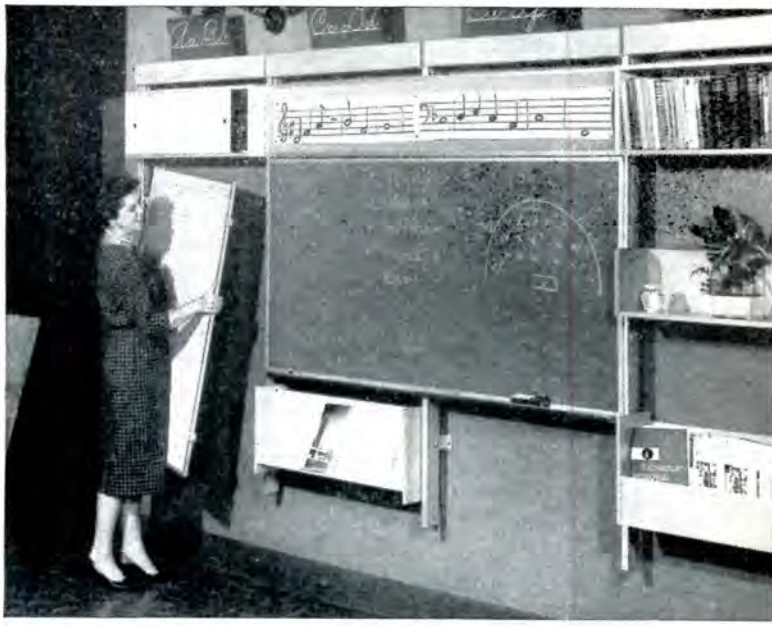

The Brunswick-Balke-Collender Company
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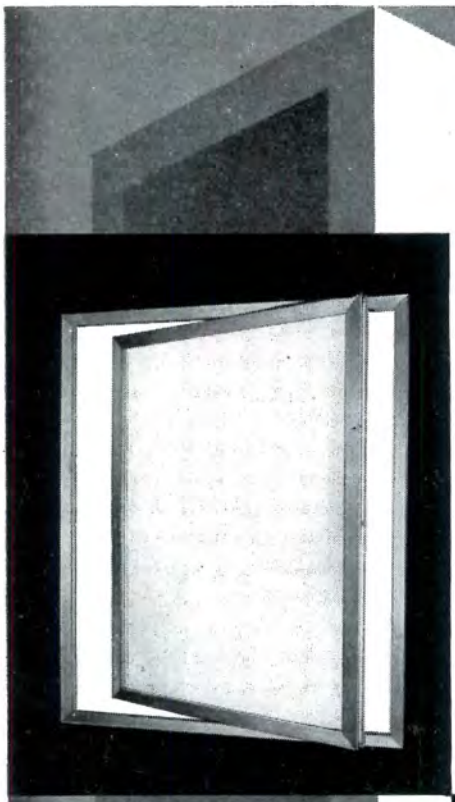

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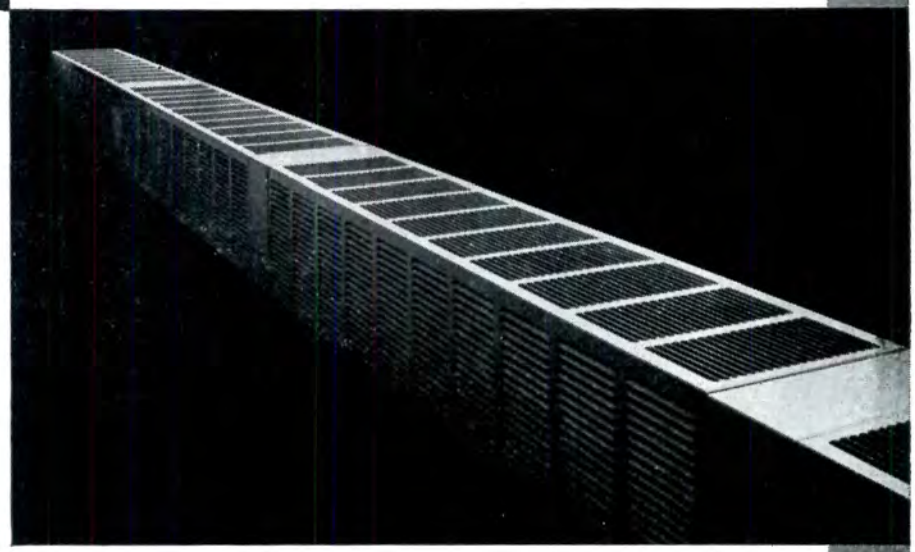

The new comprehensive line of POMEROY PRODUCTS (monumental windows, inside window treatment together with air-conditioning enclosures) now offer the architect an unusual latitude of design flexibility.

Many POMEROY window arrangements and enclosures variations are presently setting style trends in outstanding installations such as; The SEAGRAM BUILDING, CANADA HOUSE and the new unit addition to the DAILY NEWS BUILDING.

See Sweet's Architectural File

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360° REVERSIBLE WINDOWS	DOUBLE-HUNG WINDOWS	FIXED and HINGED WINDOWS	AIR CONDITIONING ENCLOSURES	CURTAIN WALLS	ACOUSTICAL CEILING SUSPENSION SYSTEMS

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Curtis Recessed Alzak Aluminum Troffers provide high level general illumination, low-brightness quality, in the American Hardware Mutual Insurance Company building, Minneapolis, Minn. Architects: Thorshov & Cerny. Engineer: Leonard Johnson.

Curtis Visioneers introduce

new horizons in illumination . . .

A touch of tomorrow today

The fast tempo of modern life is characterized by efforts to grasp the future and make it live now. The development and design of advanced lighting equipment to fulfill this goal is a prime Curtis purpose. To serve you better, with products of the future, Curtis is staffed with a group of highly trained and skilled Visioneers (Vision Engineers). These men are constantly looking beyond horizons, adapting new concepts that make for improved lighting. Curtis has over 50 important "firsts" in the science of illumination. Two very significant ones are: (a) development of the concept of lighting from concealed sources, helping end the era of the bare lamp on a drop cord; (b) the pioneering of the Alzak process for permanently finishing aluminum reflectors. If you want lighting today with a touch of tomorrow . . . look to Curtis.

On the following pages see how Curtis Visioneers have given the modern feel in lighting to industry . . .

Reynolds Metals Company, Richmond, Va. Modular design of second and third floors severely tested Curtis ingenuity. To appreciate the enormity of this Curtis Visioneered project—one thousand 10 ft. by 10 ft. grids were used. Architect: Skidmore, Owings & Merrill. Consulting Engineer: Ebasco Services.

Flexibility of the Reynolds offices is obvious. Partitions can be easily moved to expand or decrease the size of various areas, whereas the Curtis wall-to-wall ceiling of light supplies 75 foot candles of maintained illumination. Curtis grid system is mounted 10 ft. 6 in. above floor level, with lamps spaced 16 in. on center. Hexel Honeylite aluminum diffusers complement the decor.

The look of the future in lighting for Reynolds

To cope with things to come and anticipate the demands of tomorrow, those who mold our nation's products should have a talent that combines ability with versatility. Curtis Visioneers met one of the greatest challenges to their originality and inventiveness in designing a lighting system for the Reynolds Metals Company building in Richmond, Va. Objective was to provide a 100,000 sq. ft. area with illumination that would be permanent yet allow for future changes in the floor plans in keeping with modular concept. Another stipulation was that the installation must coordinate with the air conditioning and sound proofing. Curtis Visioneers solved this multiple problem by forming a completely custom-engineered special aluminum folding grid system . . . a wall-to-wall ceiling of light. No matter how floor arrangements are changed, uniform low brightness will be retained throughout. Through special folding "packages", which permitted 100 sq. ft. of lighting to be installed at one time, an estimated 8,000 man hours were saved, or approximately $50,000.00.

Vast expanse of office areas can be altered to any size or shape without destroying ceiling pattern or lowering lighting standards. In this special Curtis grid installation, aluminum materials were used throughout. Maintenance advantages are: ease of relamping, ready access to wiring, and simple replacement of the ballasts.

Hallmark Cards, Kansas City, Mo., where Curtis Visioneers "personalized" the illumination system to harmonize with company qualities. Architect & Consulting Engineer: Welton Beckett.

Illumination in the modern mood . . . for Hallmark Cards

As the present catches up with the future, buildings must be more than mere places of work for people who breathe life into industry. To capture the feeling of its product, Hallmark Cards adapted the warm spirit of greeting to its new building in Kansas City, Mo. The exterior countenance reflects a buoyant personality one would naturally associate with a greeting card company. The same sparkling atmosphere permeates the office interiors, where all the furnishings have been selected with an eye to comfort and creative inspiration. In keeping with this setting, Curtis Visioneers provided a lighting system which would complete the theme of visual charm and visual well-being. They accomplished this through the use of Curtis Alzak aluminum low-brightness troffers and Curtis Vari-Spot recessed incandescent units. The careful application of these quality products assured glare-free illumination and accentuated the esthetic characteristics of the Hallmark Cards building.

Curtis Vari-Spots produce attractive lighting patterns in various lobbies of the Hallmark Cards building. Reception room shown is approximately 45 ft. by 45 ft. Vari-Spots are used here to accent two areas. Each is effectively dramatized.

The handsome Mutual Savings & Loan Association Building, Ft. Worth, Texas. Architect: Preston M. Geren. Consulting Engineer: Yandell, Cowan & Love Engineering Co.

Visioneering with foresight in Texas

Progress and foresight are personified in one of the newest architectural adornments gracing the Fort Worth, Texas, skyline . . . the Mutual Savings and Loan Association building. Up-to-the-minute in every respect, the structure contains dramatic areas of low-ceiling design. However, they created a problem in the selection of overhead lighting. The question was: How to achieve high levels of illumination without objectionable shadows or glare? Because of the precise details involved in the banking profession, visual acuity at all times is a major consideration. Curtis Visioneers were consulted. They offered this solution: Using standard products, with only slight modifications to suit the particular situation, Curtis Visioneers produced a Strato-Lux continuous luminous ceiling system, completely integrated with the low-ceiling design. High levels of illumination were provided and even diffusion of light was assured. Personnel and patrons alike enjoy the convenience and eye-pleasing ease of low brightness quality.

Curtis Strato-Lux provides high levels of glare-free illumination to promote efficiency and serenity. Even with Strato-Lux directly overhead, there are no bright spots, no reflections, in critical viewing areas. Exceptionally low ceiling brightness is achieved through use of #6025 Holophane acrylic plastic Controlens.

Many solutions to a variety of lighting problems are offered in the AIA award winning book, "Modern Lighting by Curtis". Write for your copy today.

CURTIS

Visioneers in Planned Lighting©

Curtis Lighting, Inc., 6135 W. 65th St., Chicago 38, Ill.
In Canada: 195 Wicksteed Ave., Toronto 17, Canada.

Molitor

ARCHITECTS: *Eero Saarinen and Associates*

ASSOCIATE ARCHITECT: *Douglas Orr*

STRUCTURAL ENGINEERS: *Severud-Elstad-Krueger-Associates*

MECHANICAL ENGINEERS: *Jaros, Baum and Bolles*

LIGHTING CONSULTANT: *Stanley McCandless*

CONTRACTOR: *George B. H. Macomber Co.*

LANDSCAPE ARCHITECTS: *Sasaki, Walker Associates*

ICE RINK CONSULTANT: *Peter Carver Associates*

YALE'S HOCKEY RINK

ARCHITECTURAL RECORD OCTOBER 1958

The David S. Ingalls Rink

Saarinen and Severud each describes "the ideal envelope for an exciting game. . ."

The great central concrete arch of the David S. Ingalls Skating Rink, looking like the spine of a giant dinosaur, is now visible on the Yale campus. The cables, like those used in suspension bridges, swoop down from the spine to the arc-shaped walls on the sides to support the wood plank roof and its flexible neoprene covering. It is a graceful, dynamic building.

Many people accustomed to the run-of-the-mill barn-like or Quonset-type hockey rinks of other institutions have asked why we designed the building this way. There were several reasons.

First, the donors and the various committees involved (including the Yale Hockey Association, with whom we worked closely) wanted this to be one of the finest skating rinks in the world. We have arranged the 2900 seats, stadium-fashion, in an oval around the 200- by 85-ft skating area so that there are more "seats on the fifty-yard line." The facilities include 60 foot candle fluorescent lighting, a 100 ton rink refrigeration system and ample locker rooms, shower facilities, office space and storage areas.

Second, we have tried to design a building which would lend itself to other uses than hockey. The standard barrel-vaulted roof would have been more economical, but besides being less beautiful, it gives ugly, booming echoes. This interior is so shaped that its acoustical properties will be excellent and the building, which can take as many as 5000 seats, can be used for commencement exercises, lectures, concerts or for dances. With these other uses in mind we have provided additional exits and toilets.

Third, we wanted to design a building which could rightfully take its place in the midst of the present and future campus. Had it been simply a bulging, pregnant, barrel-vaulted structure it could not have had this privileged location and would necessarily have been located near the stadium some distance away. This, in turn, would not only have made it less accessible during the skating and hockey season but would also have been detrimental to its usefulness for other non-athletic functions.

Finally, we believe that architecture on a campus should be beautiful as well as functional and should express its time as well as its function. Working with Severud-Elstad-Krueger-Associates, we were able to achieve this structure, based on tension rather than compression, which is unique to twentieth-century technology. We hope that the architectural character, growing out of its structure, will be both expressive and appropriate to our time.

Eero Saarinen

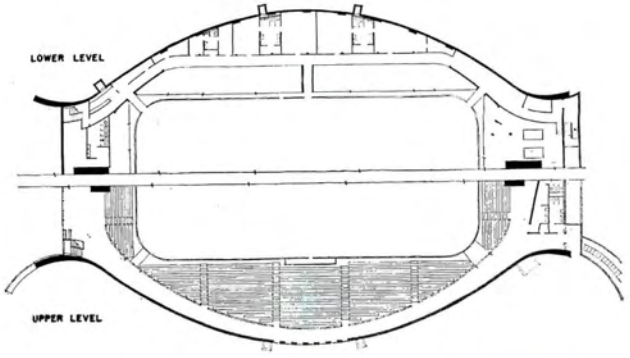
Why was a hung roof decided upon? The cable is about the most graceful and efficient self-supporting medium. Also the tension, or pull, which is required to support a particular load can be adjusted by varying the sag of the cable. However, one does not readily appreciate, visually, the magnitude of these tension forces. For the hung roof you must look for the anchorage and the abutment to which the spider-web construction can be attached.

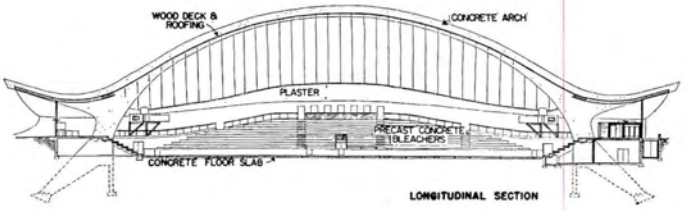
Architectural planning for the rink, based on providing optimum seating arrangement and other requirements, resulted in curved exterior walls on each side. In plan these walls are corrugated, simulating a worm humped up in the center and slightly off the ground fore and aft. Such a wall, if properly designed to act as a unit, has a wide effective base and can serve as a vertical cantilever to resist overturning under the action of large horizontal pull applied at the top. Substantial cable anchorages could, therefore, be developed from the basic requirements of the building itself. To increase the efficiency of the anchorages from a structural standpoint, the walls were also sloped, although it was recognized that under American construction conditions this slope would be expensive to build. However, the architect felt that this expression would lend greatly to a visual expression of the stress flow. The most efficient way to lift the cables in the center and still maintain the unobstructed area required for the rink, is by an arch. Steel was first explored, but concrete proved to be a better solution, particularly since cantilevered extensions beyond the arch abutments are a desirable design feature.

An important design consideration was the stability of the center arch under the action of wind loading and unequal snow loading. Studies proved that it was impractical to resist the torsion or twist created by such loading at the arch foundations or abutments. It was therefore decided to provide auxiliary stabilizing cables, also anchored to the helpful side walls, to tie the arch laterally. There are three such cables on each side and they will be seen above the roof. When the wind blows, the windward cables become heavily loaded and sag, the leeward cables become loose. The anchoring cables take over before the resulting torsion in the arch becomes excessive.

To restrain fluttering tendencies due to up-lift under wind, longitudinal cables tighten the network of primary cables. All in all, it is a structure expressing in its various forms and use of materials, the tug-of-war between pull and resistance.

Fred N. Severud





A sculptured light fixture by Oliver Andrews will be suspended from the tip of spine at entrance below

Molitor

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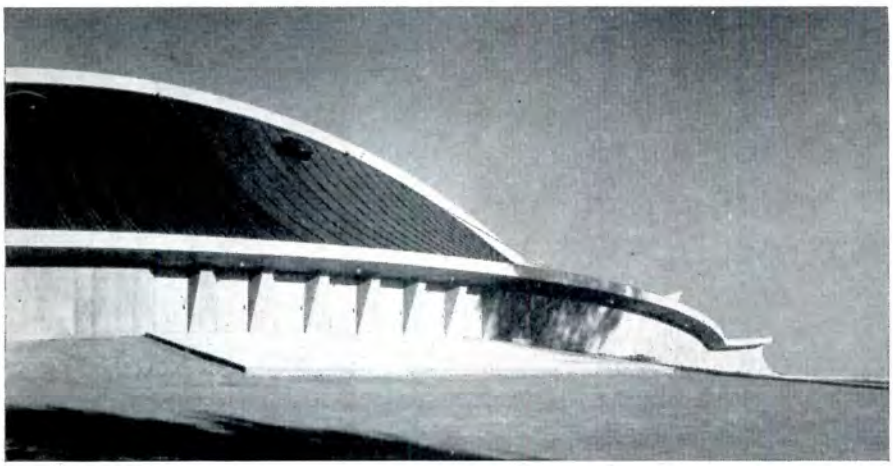
Left: the small scale of the main entrance in combination with its low deep overhang contributes to the sense of dramatic space contrast that is felt when one enters the lobby and apprehends a great unexpected interior volume bounded by the vast rink 10 ft below grade and the great parabolic spine of the roof springing to a height of 75 ft above the rink floor



Left: side doors penetrate exterior walls at opposite ends of the short axis of the rink. Here the wall at its highest point is 29 ft above the ice. It is 7 ft lower at the end enclosures. Exterior walls are 9 in. thick above grade and slope outward at a 15 degree angle

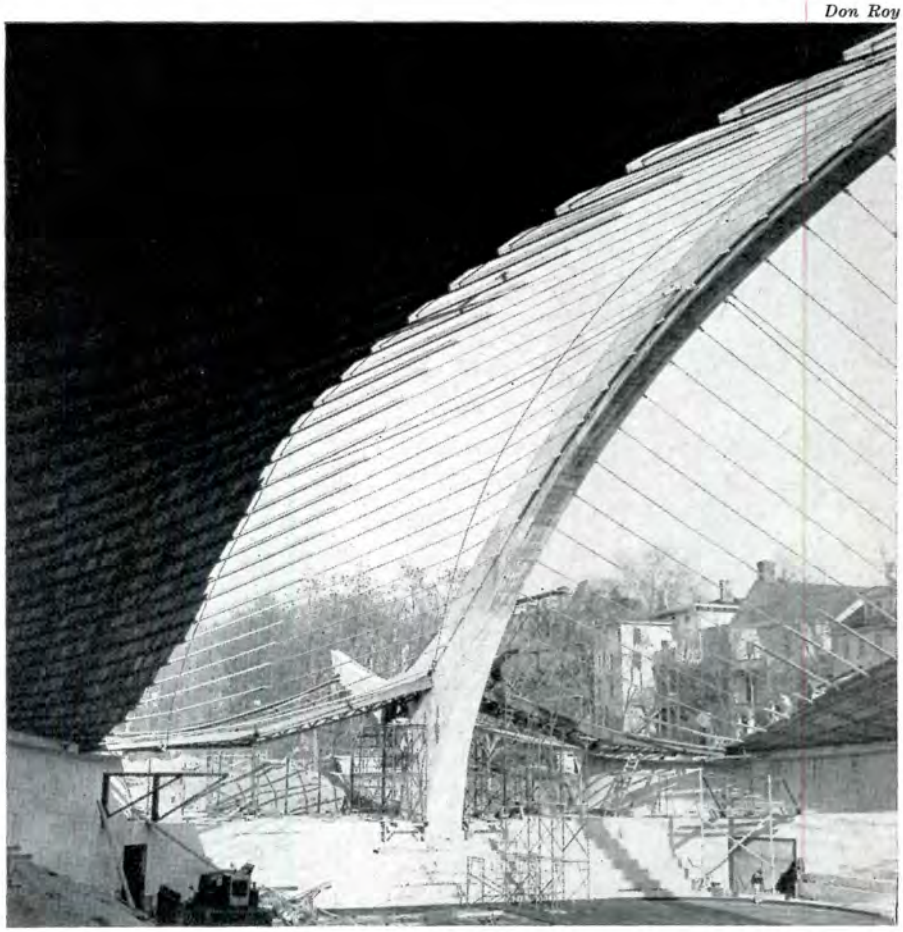
Molitor

Left: view from a nearby roof shows the three 1¾ in. diameter cables used as lateral bracing on each side of the central spine. Like the other transverse cables which support the roof, they are anchored at one end to the central spine and at the other to a flat concrete section above the sloped exterior walls. This section is actually a nearly horizontal parabolic arch

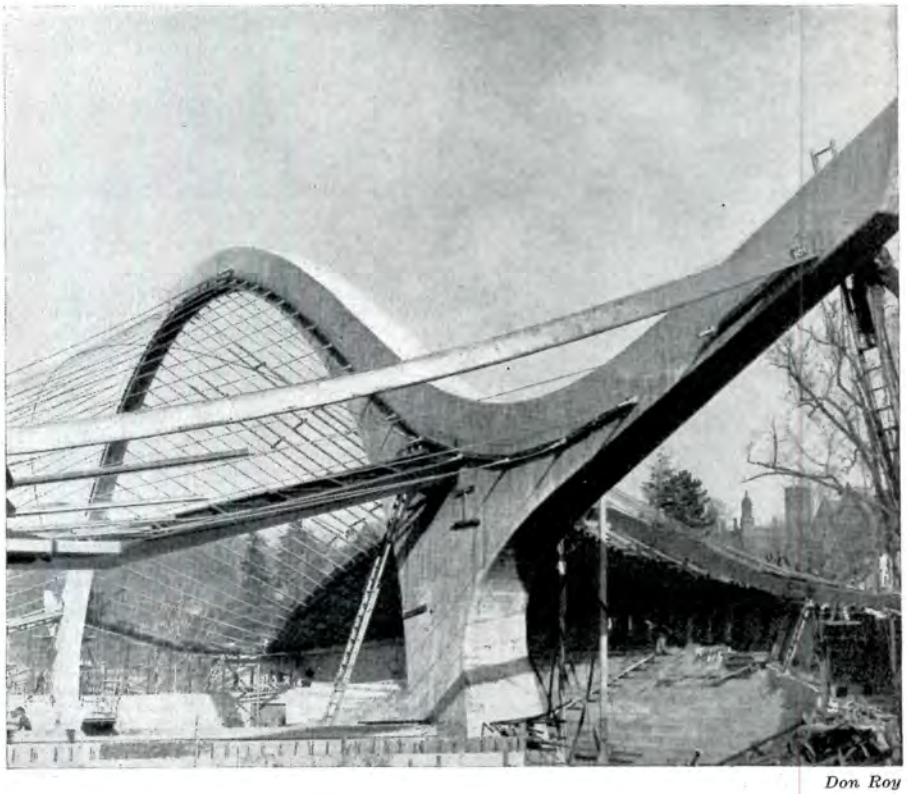
Right: view from entrance lobby reveals a column free area 228 ft long and 183 ft wide at the center

Left: one of two main buttresses of spine at opposite ends of rink's long axis. Plaster ceiling is suspended above seats. Plank roof will be left exposed over rink

Don Roy



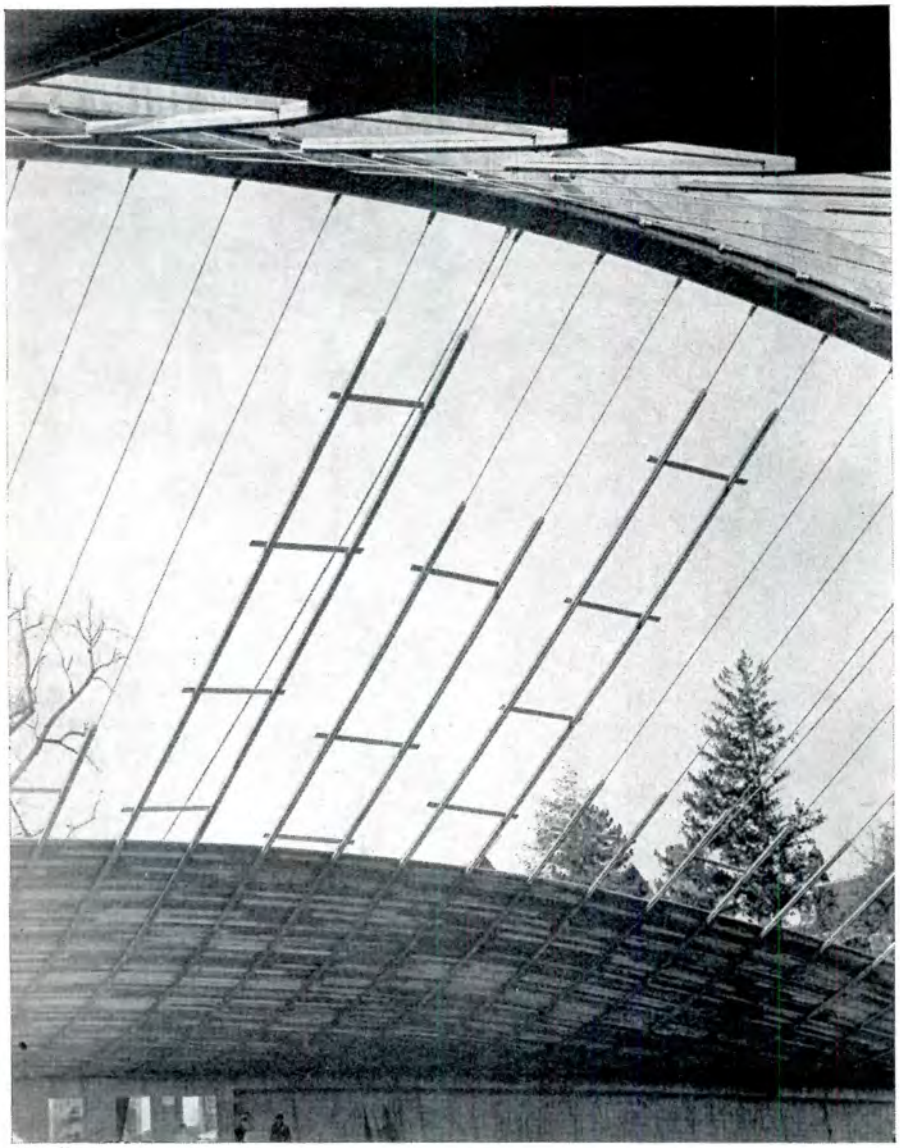
Right: transverse cables are suspended at 6-ft intervals. The sags of the cables were selected to be proportional to the squares of their spans. To prevent vibration and flutter nine longitudinal cables are suspended on each side of the central spine and act as roof tie-downs. Two of these cables span between opposite points on the spine, four between opposite points on the exterior wall and three between the two curved steel trusses at opposite ends of the spine. There are four of these trusses that rest on the walls and on the spine near its buttresses and help support the projecting canopies on either end. As photograph shows, placing of the wooden roof deck started at the walls and proceeded toward the spine simultaneously on both sides



Right: the central supporting spine spans 240 ft as a parabolic arch, then with reverse curvature it cantilevers an additional 40 ft at both ends

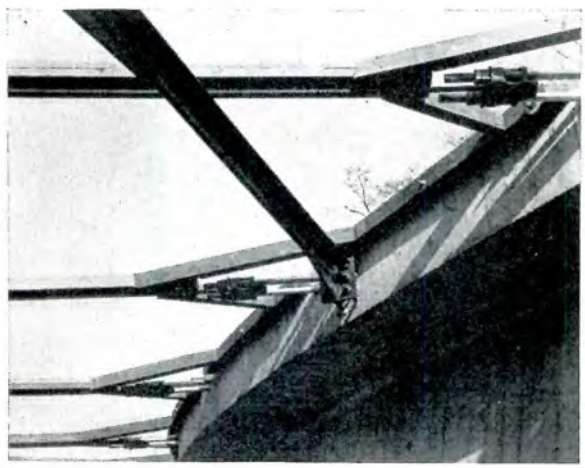
Molitor

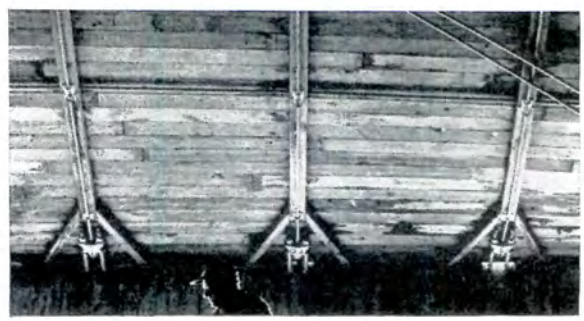
Don Roy



Don Roy

Left: cables are standard bridge strand. Roof deck is constructed of random lengths of 2- by 8-in. tongue and groove treated wood planks nailed to a pair of 2- by 6-in. nailing strips which in turn are bolted to the cables



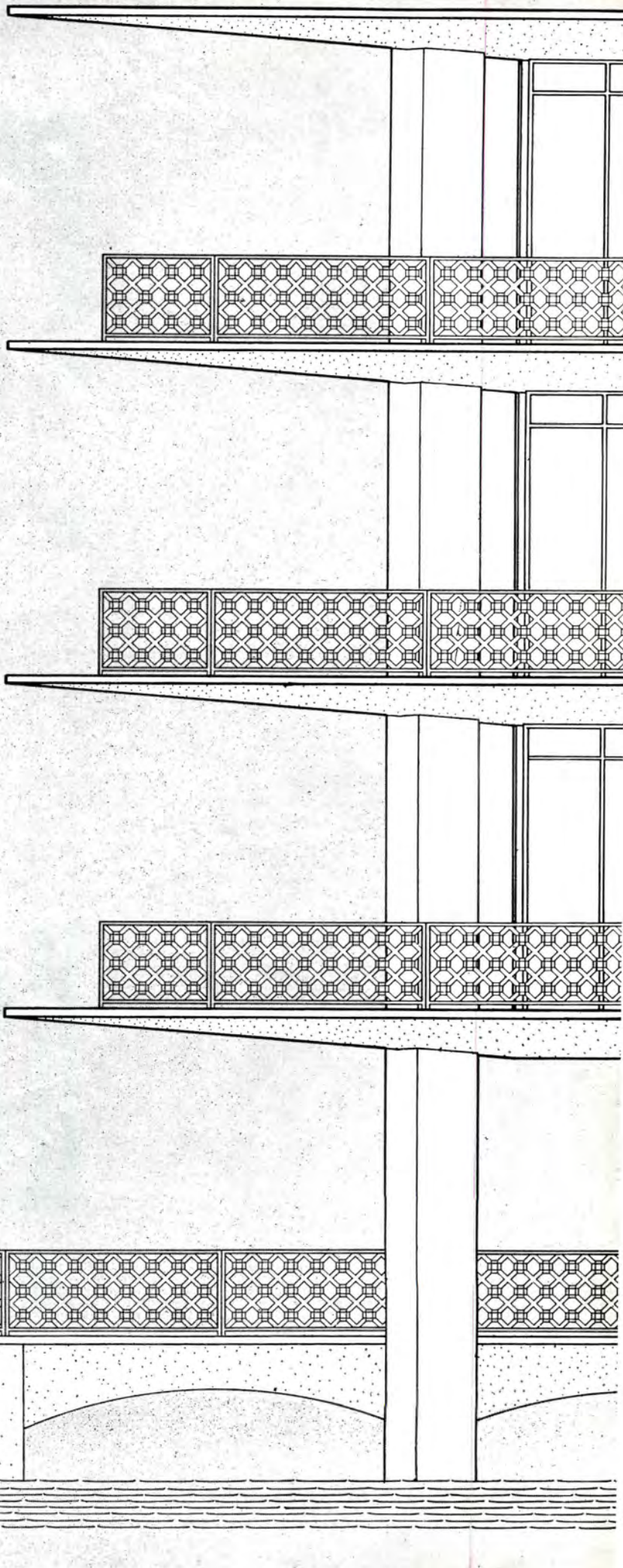


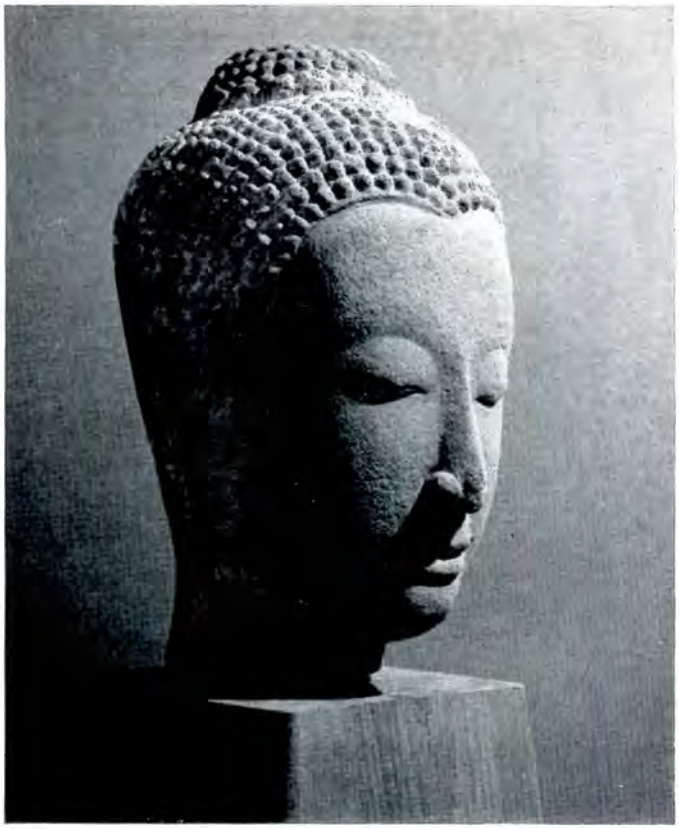
Don Roy

Right: cables are anchored in flat concrete section 1 ft 6 in. by 7 ft which rests on top of slanted exterior walls.

U. S. EMBASSY
BANGKOK, THAILAND

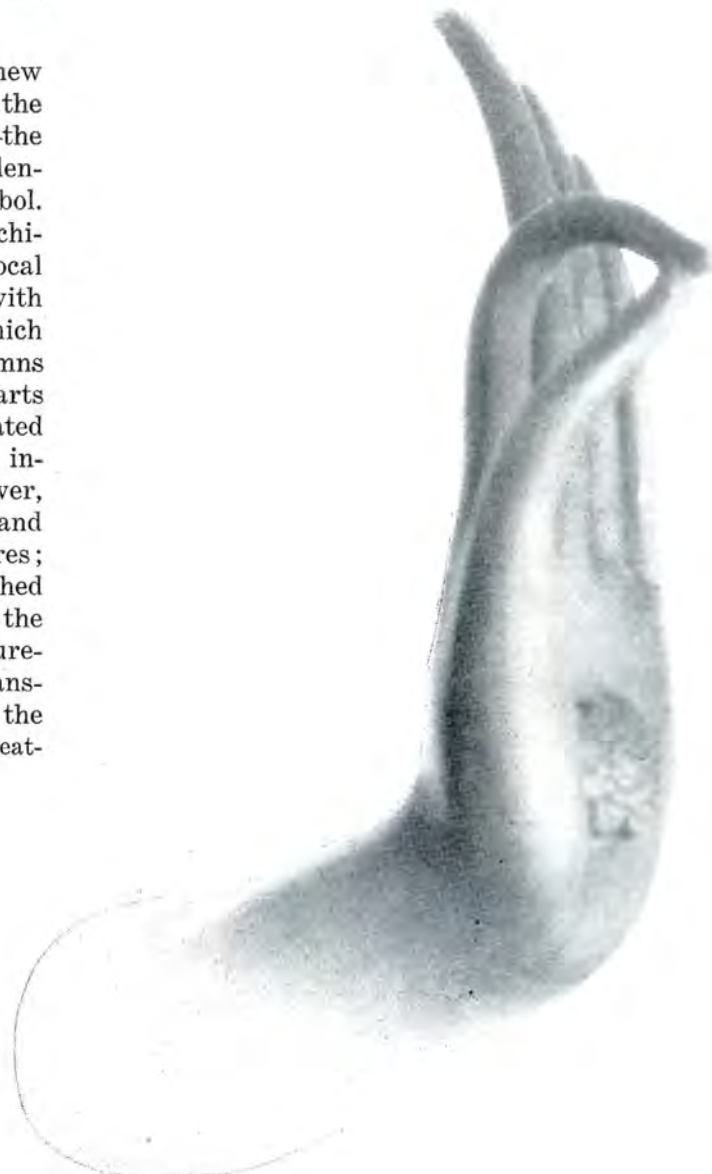
John Carl Warnecke, Architect

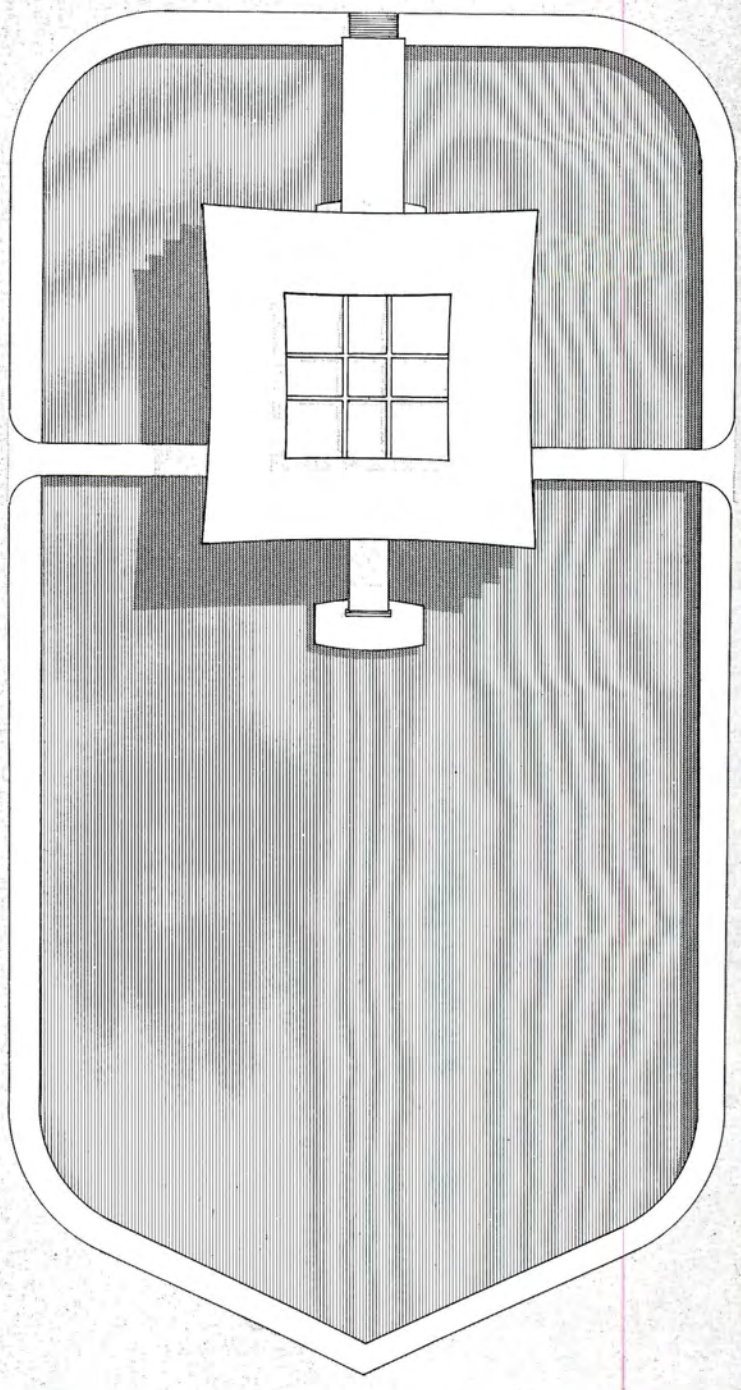


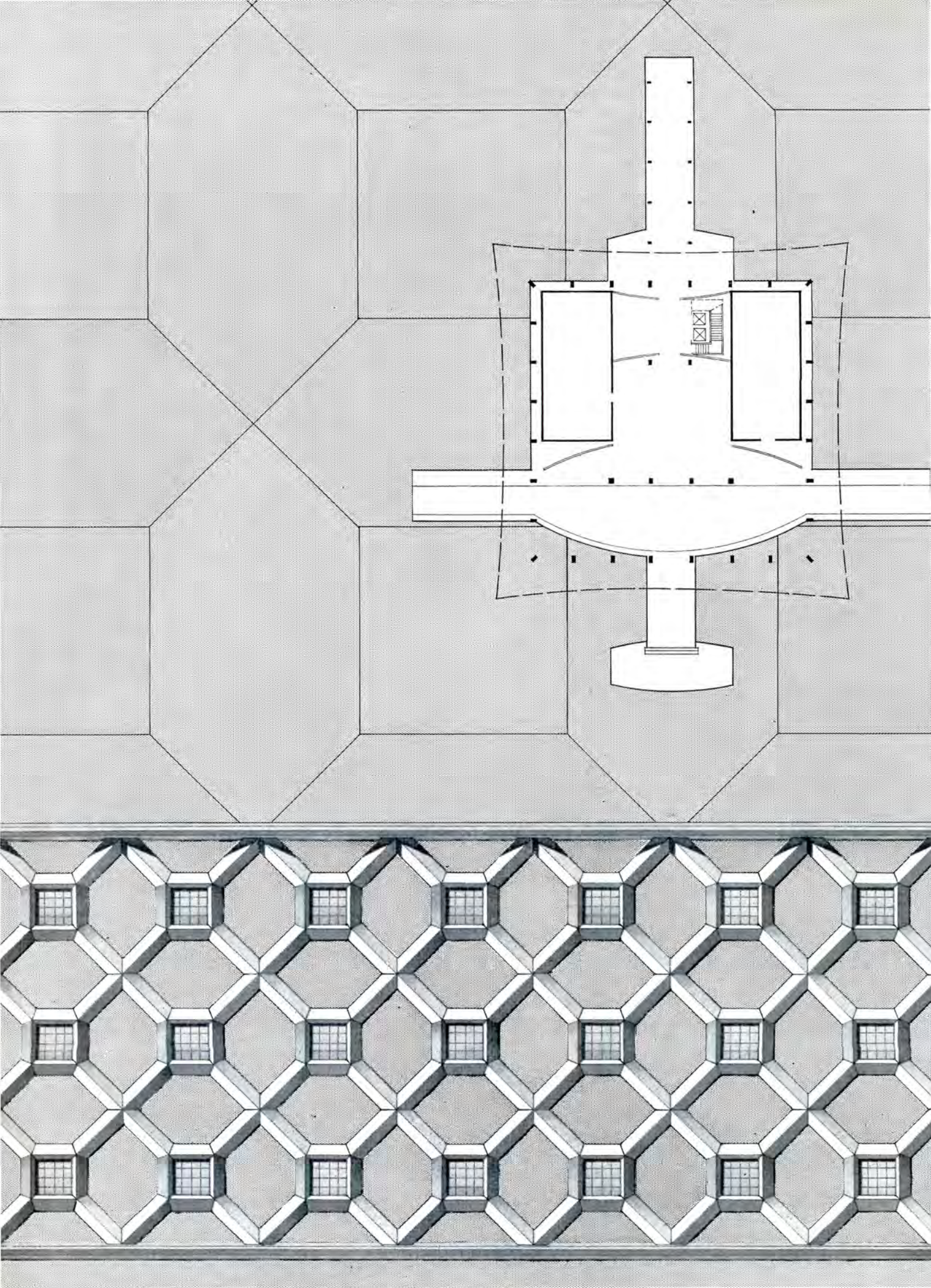


Embassy Design Reflects Two Cultural Traditions

The lacy white elegance of the design for the new Embassy at Bangkok blends with delightful ease the cultural traditions of two very different peoples—the Thais and the Americans—and yet achieves an identity of its own both as architecture and as symbol. In its subtle recollection of Thai religious architecture and in its more obvious reflection of local architectural detail—wide overhangs, balconies with their precast panels, marble floors, the *klong* which is the immediate site of the building, the columns on which the building is raised—the building imparts the feeling of serenity and peace so much associated with Far Eastern philosophies. The curved line, indigenous to the arts of the East; the lotus flower, from whose forms derive the shape of windows and doorways, minute detail and even whole structures; the dazzling whiteness of the stupas; the polished shine of the marble in temple and palace floors; the gaiety and the poetry of Thai customs: these, as surely as the more tangible technological means of translating them were the influences uppermost in the minds of the architect and his associate, Denis Beatty, in designing the building.







Balcony rails and pavement pattern are derived from that used in Marble Palace in Bangkok but will be of local pressed marble chip tile. Central court forms main reception area for visitors, arriving on foot or by car, with elevators to offices on upper floors at rear toward *klong*. Suspended from roof is Great Seal of United States

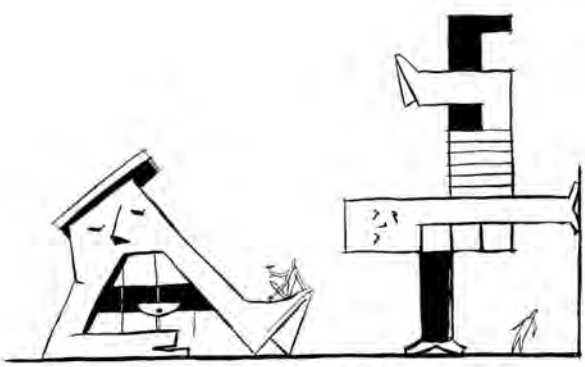
U. S. Embassy at Bangkok

As efficient as a well-designed American office building and as poetic as the lotus flowers in the *klong* over which it will be built, the Embassy at Bangkok answers with unusual grace and refinement the requirements of the State Department's Foreign Building Operation program. The building will provide offices and reception areas for the Ambassador and the 250 members of the diplomatic and consular staffs. The interior space is completely flexible, arranged around a covered central well which both minimizes circulation and permits a free movement of air from the open ground floor to the open clerestories above. Access to the building is from two bridges extending across the *klong* at ground floor level: one for pedestrians, the other for cars which will drive directly into the court, pleasantly cool and protected from the tropical heat outside. Between the flat slab floors will be walls of glass, impervious to mildew, protected from heat and glare by wide overhangs, and offering an outlook over the precast balcony rails (for which local buildings provide precedent both in use and in precasting) into the tops of rain trees and to the *klong* below. The curved line of the overhang is reminiscent of the concave ridges of temple roofs; the colors also—white accented with gold and bright red—occur in Thai buildings, particularly palaces and temples. Although piles were used because of the soil's poor bearing quality, the coincidence of this Thai residential design tradition with modern design concepts further blends the cultures of East and West.

PHOTO CREDITS: *page 159*—Denis Beatty; *page 160*—Buddah head by Rondal Partridge, hand by Frants Albert; *page 161*—Frants Albert; *page 164*—Louis Checkman (model by Virginia Green).

Architecture and the Individual

by Joseph Hudnut



Buildings are playthings to entertain us . . . astonish us like acrobats . . .

Drawings by Walker O. Cain

That spirit which in each epoch is the secret arbiter of architecture takes as its prime instrument the understandings and intuitions of its architects. However universal are the currents of thought and feeling that in each epoch shape the arts, however mysterious the processes of expression, an epoch cannot realize its will in architecture except through those who lend themselves to that still imperative. An historian may stand apart, looking backward from a cliff of time, and believe in the spontaneous rise and fall of architectures, but those who live and strive in the midst of that encyclic drama know how the era reaches out into the minds that are hospitable to its intentions: how it possesses, explores and kindles those whom it takes as its servants—and how it also builds about them the strict frontiers of their enterprise. In our time the nature of architecture has not changed. There is no highest excellence in our architecture that is not an affirmation of idea and spiritual power unique to our epoch: of idea and spiritual power channeled through individual life and character.

To our architects our epoch brings its unique harmonies and its undreamed-of vitality. At the feet of its architects our epoch lays the splendor of its technologies and the wide authority of its sciences, the surge and energy of its industries, the invitation of its social programs and the spacious ideals of order and human happiness which lie in its humane art of city-planning. Below the surfaces there lie also in our land an essential nobility of purpose, a new breadth of compassion and the vast drama of our crescent power.

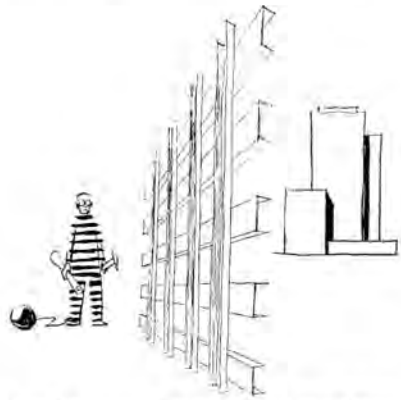
Buildings are utilities. Buildings are the channels of society. Buildings are (sometimes) the pegs upon which to hang a funded scholarship. Buildings are playthings to entertain us with their fantasies; they may charm us, like wall-paper, with wit and invention; they may astonish us, like acrobats, with their daring and surprise. Buildings are the ornaments of cities and the bright flowers of romance in the countryside. And yet there can be no supreme excellence in any building except as its architect, at some moment in the progress of his design, discovers in his heart intimations of beauty in the human scene of which his building is to be a part—and knows these to be true. From that moment all the complex elements of his design—program, plan, structure, expediency and the human factor—must assume new relationships and directions conformable to that secret word.

Around the architect thus possessed and quickened the epoch builds the boundaries that confine and channel him: the circumstances of social pattern and commercial usage, of valuation and opinion, of religious and institutional practice—and those more immediate encirclements which are specific to architectural practice and which, without the architect's consent, array and press upon his society-entangled art. By this I mean nothing more recondite than the business methods peculiar to our day: the legal con-

. . . somewhere a master architect who . . . leads
them against the historical styles and is always victorious

A modern architect may find new satisfactions
in the precisions and flawless simplicities of steel . . .

Gropius comes to terms with the machine . . .
Corbusier thinks it a work of art . . .
Wright uses it as an instrument of our creative purpose



. . . a screen of iron has come between our buildings
and the minds of those who build them

ventions and governmental stupidities, the discipline, or lack of it, in labor, the unphilosophical procedures in the manufacture, distribution and assembly of materials and the prejudices locked in the water-tight compartments of the public mind. These are the imponderable intricacies which with an intransigence infinitely more heavy than in any other era confuse and oppress the practice of architecture. These too are inherent in our culture and must not be apprehended as alien elements in an art of expression.

Our architects cannot escape whatever tyrannies may be congenial to a democratic commercialism. Our epoch, which brings them so many and so promising themes, denies them at the same time many themes which architects made eloquent in civilizations precedent to our own. However much, for example, our architects may wish to build castles on the Rhine—or along Fifth Avenue—they can find no foundation either of idea or of custom upon which to build them; and those Venetian piazzi with which they might willingly frame the festivals of the people are distinctly irrelevant to a culture in which festivals are no longer tolerated. There are in our populous cities no cathedrals—none worthy of that name; and those valiant pioneers who have proposed a modernity in church architecture well know the price at which the Christian legend is translated into steel. We build palaces, or the grand hotels which are their present equivalent, but the utmost of our genius has not teased into their lavish corridors the slightest breath of an aristocracy long since departed from our earth. And that wholesale art which wreathes our cities with split-level ranches and expandable cods betrays no hint of that tenderness and loyalty which, not so long ago, informed the dwellings of a people as yet untouched by democracy.

Within these magnificent vistas and these harsh frustrations the modern architect confronts his epoch. Receptive to its beauty, finding in his heart affirmations of its grandeur and its humanity, he is caged on all sides by the realities of his practice.

How shall our architects work within these enframements of time and circumstance without renouncing the persistent loyalties that tie them to their ancient art? Nor can our epoch stamp its own countenance upon its architecture except through individual freedom and poetic response.

* * * * * *

I suppose that the first architect, carving the frame of his house from the trunks of trees and with no other tool than his rude axe, found many opportunities for irrational selection and choice. Not only in the dimensions and proportions of beams, posts and rafters but in the relations of these to each other, in the elegance of their mortisings and joinings and in the naked qualities of the material itself there was translated the moods and preferences of the worker.

The saw mill, invented in the fifteenth century,

was among the first interventions of modernity in that interplay of mind and material; but the precisions and standardizations of the saw mill nevertheless left to the architect a wide range of discretion and experiment. The façades of urban houses, framed in wood long after the advent of the Renaissance, are as full of caprice as are the modeled spires of baroque churches; and it is obvious that the New England builder copied the *Complete British Carpenter*, sent him from London, with that same rugged independence of soul that informed the Boston Tea Party.

Today the I-beam affords no such opportunities for self-realization. The fabrication of a steel structure certainly does not encourage that "willing production of superfluity" which, we are told, was until recently so deep a source of delight to the architect. A modern architect may find new satisfactions in the precisions and flawless simplicities of steel, and no doubt he is often ravished by the inevitability of function as the fore-runner of form, but surely these rewards are not the same as those whose source was the free imprint of the maker's thought and feeling on that which he made. And whatever may be the compensations which we discover in the efficiencies of modern production and in the marvels of new techniques and new enterprise, the stubborn fact remains that a screen of iron has come between our buildings and the minds of those who build them.

The menace of this defeat to our inherited culture is the theme of the greatest spirits of our day—among these the noblest of our philosophers of architecture. Everyone will remember the courageous words of Wright in the famous lecture he gave at Princeton: we must use the machine, he told us, as an instrument of our creative purpose. To that end the architect must make his influence felt amid the crushing mechanisms of industry. Wright would be one of three to hang a bell on the neck of that monstrous cat. Gropius thought, on the contrary, that the artist ought to come to terms with the machine—since he could not hope to be its master. If the architect accepts willingly the boundaries set by the machine he may hope to share its energies and its significances. Le Corbusier thought that the machine itself might be beautiful. He had never looked under the hood of his motor car.

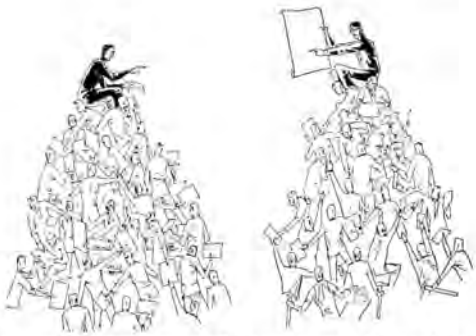
These are the words of brave and understanding men. But they have not stifled the anguished cry of William Morris.

I sometimes think that the future status of the architect is foretold by the appearance in our great industries of the *master-designer*—the designer who is concerned with the making of patterns from which a million duplicates are made. In our vast factories the creative processes of art are concentrated in the laboratories and drafting rooms of a style department; the rest is routine; and any evidence of the worker's part in the making of standardized manufactures is a flaw in the inexorable processes of mass production. But is the master-designer then free? Has he truly any range of personal achievement and choice? Alas, the master-designer. The mechanizations of duplication will not permit any such extravagance. The master-designer must think ever of the mechanical limitations of the manufacturing process, of convenience and economy as esthetic principles, of publicity values and the taste of next year's buyers, of the psychological effects of line and color, and the reports of the scouts who bring him the secret plans of competitors. Design in such an atmosphere can scarcely be expected to rise above the level of contrivance and ingenuity.

Are these conditions essentially different from those which surround many thousands of our architects? I sometimes think that somewhere in our land and hidden from public view—perhaps in one of the more occult laboratories of the General Motors Company—there exists, as there exists in that great corporation, a pattern-maker-supreme who is designing all the buildings of America. There is somewhere a *master-architect* who, like the general of a modern army, commands from his desk the march and countermarch of architectural ideas, arms these with the inevitabilities of his judgments, leads them against the historical styles (long since driven from the field) and is always victorious. An authority on tomorrow's preferences, a Babson in the market of architectures, a sovereign stylist in skyscrapers, schoolhouses and split-level ranches, the master-architect guarantees to all practitioners the comfortable, profitable routines of conformity.

Who is this master-architect? Is he not indeed first cousin to the master-designer? How shall we distinguish him either in method or purpose from that genius who determines the appearances of automobiles and carpet sweepers? Has he any more than they opportunities for individual choice and preferences? Alas, the master-architect. Around him, as around the master-designer, stand the iron exigencies of the industrial tyrant.

An architect is a craftsman and his fate is that of a craftsman. There was a time when an architect gave to his building a personal and loving care which differed only in degree from that which the carriage-maker gave to his coach and the wood-carver to his mantelpiece. He too touched every element of his construction with the humanizing colors of his intuitions and understandings. I can readily believe that there is in the work of Sullivan or Goodhue or Root no single stone that does not certify the character of the designer—so firm and immediate was their control. But today I am often unable to tell the work of one designer from another—unless indeed the work be that of Wright. The newest apartment houses rising in Rittenhouse Square are already half-built on Telegraph Hill; the newest hotel, built by American enterprise in Antioch, is already completed in Salt Lake City; and no one would be surprised if the Socony Mobile Building should tomorrow make its sudden appearance above Mellon



Corporative client and "corporative" architect

. . . seven sculptors at work on a Venus . . .

Plaza in the architecture-tortured city of Pittsburgh. Neither the climate and traditions of cities, neither the dignity or meanness of architectural theme, neither ambition, advertisement or success, is anywhere sufficient to erase the deadly impersonality of that silent, ubiquitous master-architect.

Contemporary architects are not of course the first to repair in a sub-conscious unity to a novel style. England copied Wren in a spirit that was almost adoration. In America Richardson so firmly established his ideal that all other architects imitated him without knowing that they were doing so. But these reverberations of personality set free, rather than enchained, the imagination. They furnished, each in its own way, mirrors of romance in which architects could find reflections of themselves. How did it happen then that the example of Le Corbusier, intended to be as liberating, should in the end prove to be so repressive—that this most idiomatic of architects should have been prophetic of the machine?

Le Corbusier wanted to use the machine in the province of art—and in the end the machine made use of him. Those blocks of space which are—or were—the prime elements of his compositions could be so readily imitated, by the mechanized mind, into blocks of sterility; and his esthetic surfaces, deliberately harmonized with a machine technology, could be turned out, as it happens, in mass production. An architect of a skyscraper may now order by telephone forty stories of ready-prepared ribbon window not to be distinguished from that of Le Corbusier or, if that be his whim, a square mile or so of patented plate glass curtain wall; or, to save him still further the ennui of invention, a city block of the American Bolt and Nut Company's stamped metal frame covering. And the vast promises of these efficiencies are already foreshadowed in the supply of standard ceilings, windows, partitions, and the doorways "from which you have only to remove the wrappings." From these it is only a step into that strange convenient world of standard schoolhouses, hospital wards, banking rooms and the framings and furnitures of Christian sanctuaries.

A tact in selection, however exquisite, is not quite the same as a progression of design. This will be true even when a building is original in its initial conception. Individuality cannot stop with the statement of an idea. Individuality, when it informs a building, must inform every inch of it. A character unique to personal thought and sentiment must be *carried through* so that it reappears not only in all parts of the structural pattern but in the details of decor and enclosure, of furniture, apparatus and textiles—and it must be extended, whenever that is possible, into terraces and gardens. It is intolerable that tables and chairs bought in a department store should find places in a house built by Wright; and I suppose that the wall-paper designed by Wright would in the same way (well, not quite in the same way) defeat the not-less-exacting spirit of Mies van der Rohe.

But there are few architects who can command their work to such utterances of harmony. We are enclosed by the will of that master-architect.

Of course I know that there are many and deep satisfactions in the making of a building which often compensate an architect, in part at least, for the prison walls that surround his personality. Even the range and profusion of standards affords the architect, in certain areas of design, some margins of expression—and so does the art of organizing these together with the marvelous new freedoms of engineering. Planning and contrivance addressed to a practical end are nevertheless delightful exercises of the mind and so also are the executive functions of organization and management.

Benjamin Latrobe must have felt an inexpressible contentment when the water-engine which he had built for Philadelphia began its first successful rhythms. With infinite resourcefulness and in the face of great difficulties—and for the first time in America—he had brought running water into the houses of a great city. And yet that was not the same contentment that he felt as he stood within the stately hall which he had built in the Capitol at Washington and knew that he had framed the debates of a nation in a beauty unique to his secret heart.

Architecture brings to her servants a gift in each of her hands. We should know which gift is spiritual.

* * * * * *

I wish now to speak of a second factor which, like our machines and our standardizations, channels and sometimes inhibits, that individuality through which our epoch makes itself known in architecture. I refer to that necessary unpredictable factor: the architect's client.

In this unnatural world a painter, a musician, a poet, a sculptor may practice his personal art alone and, if it so pleases him, in a garret; but not the architect. The architect must have a client—and of course I mean a client who values and respects architecture and respects it not merely as a practical art of shelter but as an art of expression. There are few great accomplishments in architecture in which that relationship did not obtain.

We know with what insight and understanding the bishops of the Ile de France inspired the conception and progress of Gothic architecture. It is probable that they apprehended more immediately than their architects the power and significance of medieval art. Meurice de Sully, Bishop of Paris, is the true author of Notre Dame. At the beginning of his episcopate a Romanesque cathedral, splendid and newly-built, stood on the Cité; he demolished this building —not to build more correctly for the offies of the Church—but to build a new cathedral in a style which he called modern. The new cathedral was built as he conceived it; the cost was defrayed from his own income.

We know how the greatest of the Roman emperors, imitating the kings of the Hellenistic states—who in turn had imitated Pericles—gave themselves to the study of architecture. It was Augustus, not his architect, who left Rome of marble and Hadrian traced with his own compass the round plan of the Pantheon. And who shall say how much of Versailles is LeNôtre and how much is Louis? Nor have there been lacking in our own country collaborators in architecture less devoted. What architect would not like to have as his patron that princely person who built at Asheville a chateau worthy of the Loire or that Medici-like banker whose private library is still one of the ornaments of Manhattan? There was once in Boston a librarian who cared more for the stately march of his façades than for the availability of his books; and in New York the Pennsylvania Railroad thought more of the majestic vaults of Caracalla than of the convenience of its passengers.

Alas, there is today no such librarian, no such railroad. Our librarians have become a species of shop-keepers, our railroads a new type of mendicant. There are no princes left with money to spend, no bishops with a taste for architecture. Our architects must be content instead with the shadowy collaboration of corporations engaged in merchandizing, insurance or banking; or with those corporate bodies which are agencies of government—employers rather than collaborators; or with those promoter-capitalists whose designs for building and for real estate development, the children of salaried imaginations, must necessarily be conceived as functions of adventure and advertisement.

Such clients make few contributions to the art of architecture. They are clients in quite a different sense than were the great aristocratic builders of the ancient days. Corporations collaborate, of course, in all that pertains to the practical business of building. They understand organization, administration and engineering. Often they desire also that prestige of progress which is the cachet of modernism. Responsive to publicity values they will sometimes allow the architect—in the words of a great industrialist—to "assert himself on the esthetic side" and to build, even though their own preference is for the Wrigley Building, a skyscraper of glass. But this is not precisely the same kind of collaboration as that which united in a mutual endeavor William of Sens and the Archbishop of Canterbury. The collaboration of industry too often ends at the line where architecture begins.

Architects should not expect the understanding of a client whose horizons deny him even an awareness of expressive values in the visual arts. To insist upon these is to bring into question an architect's competence in the practical sciences of building.

I hope that I shall not offend my friends in the profession of architecture if I add, by way of a parenthesis, that the corporations of our time, to whom architecture sometimes means little more than the dressing up of floor space with esthetic surfaces, also exercise a determinate influence on the design of

. . . we are in the midst of a building boom which is crowding our cities with tedious uniformities . . .

buildings (quite reasonably, to be sure) through their power to select the architects best suited to their purpose. They are apt to prefer, as did the emperors and the bishops, architects who are like themselves. Objective in their thought, the directors of corporations are impatient of subtleties; conservative in their conduct of affairs, they like conservatism in architecture; and because they are accustomed to routine, they approve the efficient routines of architectural offices commercially organized. They like architects who exhibit the common-sense virtues of engineers. Such preferences have given rise to a practitioner unique to our time: the corporation-architect, the architect whose esthetic is preharmonized to that of big business.

The corporation-architect has often a very shadowy personality. He is sometimes himself a corporation—or something very like one. I know at least one architect who has, among his two hundred employes, a dozen or more who, segregated in a "style department" not unlike that of General Motors, develop their designs in a collaborative manner. I can imagine no method more subtly corrosive of individuality. The art in architecture, however elaborate may be the processes of getting things done, must be individual in origin and control. The idea and feeling from which stem the life of a design are dissolved by conference and compromise. Seven experts may together lay out a plumbing system; but the thought of seven sculptors at work on a Venus fills me with uneasy forebodings.

I have spoken of corporations as if they were realities. They are, as everyone knows, phantoms; and their stockholders are also, except on one day of each year, airy nothings. That which exists is the complex of factories, shops, warehouses, oil wells and railroads which together form the materials of enterprise. There are also, happily, the officers and *directors* who manage these things. The officers and directors, being men, often show traits that are remarkably human: among these traits an impulse towards that humanization of buildings which we call architecture. I think that there is such a director on the board of the General Motors Company—how else shall we account for the controlled and stately beauty of the new Technical Center near Detroit? (I do not of course know how much of this is Saarinen and how much is General Motors.) And I suspect that there is on the board of the Seagram Company an angelic personage from whose influence there sprang that new office building on Park Avenue.

Shall we assume, knowing these instances, that our great corporations may presently play in architecture that role once played by the bishops of France? Shall we put our trust in princes?

* * * * * *

We are in the midst of a building boom which is crowding our great cities with the tedious uniformities of a technological architecture; and this is hailed as a triumph of the Modern Movement.

But the Modern Movement was, first and last, an instrument of liberation. It had many dogmas but these did not enchain its architects or destroy the general faith in individual life and character as the prime sources of architectural excellence. In that respect modern architecture continues the Renaissance, which delighted in heroes, not all of them on horseback, and lifted the architect to his golden throne beside painter and poet. We could not imagine modern architecture without the eager and resolute mind of Le Corbusier (and was there ever a masterpiece of a more personal order than his recent work at Ronchamp?) and the most sacred rituals of modernism took place before the pedestal of Wright. The art of Mies van der Rohe, who "rejected all doctrine and esthetic speculation" is nevertheless so intimate to his personality that I shall dare, considering its direction and consistency across the years, to call it, as I might call the art of Cezanne, impassioned. And I could characterize in the same terms the art of Gropius.

With these considerations in mind shall we say that the Modern Movement has triumphed? It could triumph, then, in standardizations and banalities?

When architecture becomes an anonymous art, like engineering, the Modern Movement will have come to an end. Architecture becomes anonymous whenever the exploitation of its technologies takes precedence over form and content. There are many virtues in the steel frame of a skyscraper uncompromised by memory or delight—even after the pattern has been repeated a thousand times and veiled in the tiresome cloaks of machine fabrication. There is power in that rigorous logic, that forthright honesty of purpose, that strange affinity with a religion of duty. Here is an emblem of man's supremacy over nature. And there are (and there ought to be) architects who find many satisfactions in a Spartan elegance attained through a severe restriction of means. Nuns fret not at their narrow convent walls.

Nevertheless, our age is *not* a technological age. Beneath these surface phenomena lie the great rhythms of freedom and justice, of progress and humanity, of eagerness and delight. These, too, are integral to that spirit which is the arbiter of architecture and which takes as its prime instrument the understandings and intuitions of its architects.

If we believe this—and I do believe it—we need not despair of architecture.

Roger Sturtevant photos

FOR INTERIOR ELEGANCE AND A VIEW

Ondine Restaurant and Lounge
Sausalito, California

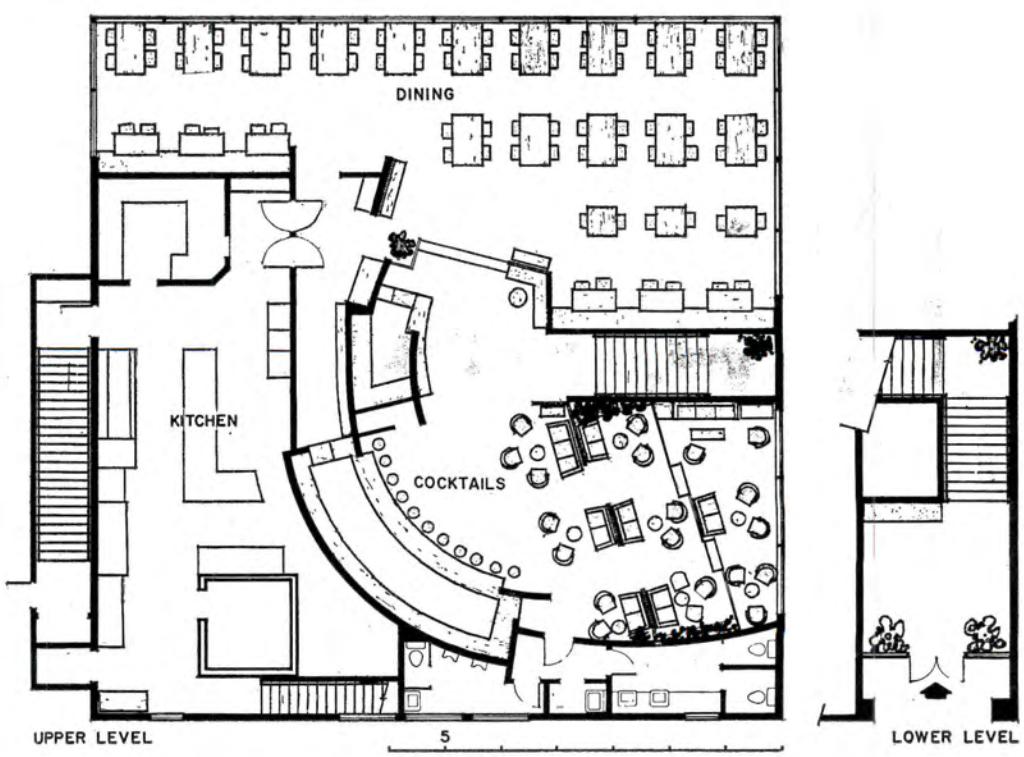
Campbell and Wong, Architects
William B. Gilbert, Structural Engineer
Daniel Yanow, Mechanical Engineer
Ben Lezin, Electrical Engineer

Ondine Restaurant

It requires only a little observation of this restaurant to note the skill with which space relationships have been manipulated. They range from the intimate, limited-range view from the bar and cocktail lounge to the almost limitless vistas revealed from the dining area. Throughout all of the spaces, the water's-edge feeling has been carefully and meticulously maintained. Working with the architects were interior designer Peter Rocchia, of Maurice Sands, and the graphic designers, Smith and Tepper.

Ondine (named for a water sprite) seats approximately 140 guests—90 in the restaurant proper, the remainder in the bar and the two levels of the lounge.

While some exterior repairs and alterations were accomplished, the major portion of the work consisted of remodeling the existing second-floor ballroom for the present uses. Interior partitions are gypsum board. Floors are plywood covered with carpet, except entrance foyer which is ceramic tile. Stained wood grilles have been used to cover the plaster board ceilings. Entrance doors are wood with plate glass lights and are 14 ft high. Flush doors are employed for interior openings. Fixed plate glass windows are used for the completely heated and air conditioned building



Ondine Restaurant

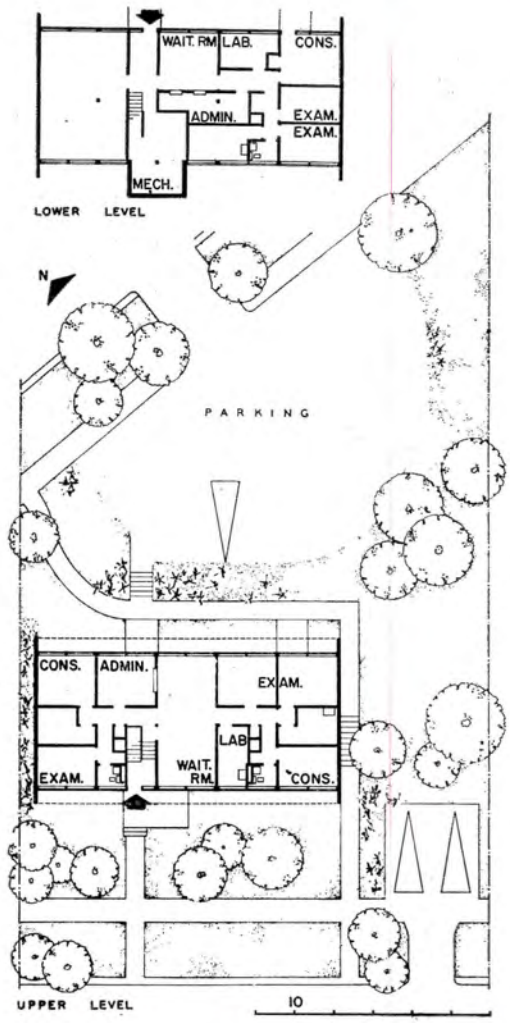
Colors and textures are rich, but subdued: gold wool carpets, pale-blue handmade Japanese paper with silver leaf and gold appliqué for the walls, blue-stained mahogany bar and space dividers, antique-white or charcoal plastic-covered lounge chairs and bar stools, burnt-orange and gold or blue and gold striped sofas, walnut chairs with natural cane backs

The shell-motif stained glass panel behind the bar is suspended in front of a white plaster wall. Executed by Don Smith, of Smith-Tepper Associates, it symbolizes the intent of the architects to equate the waterside location and view with fine food served in simple, elegant surroundings

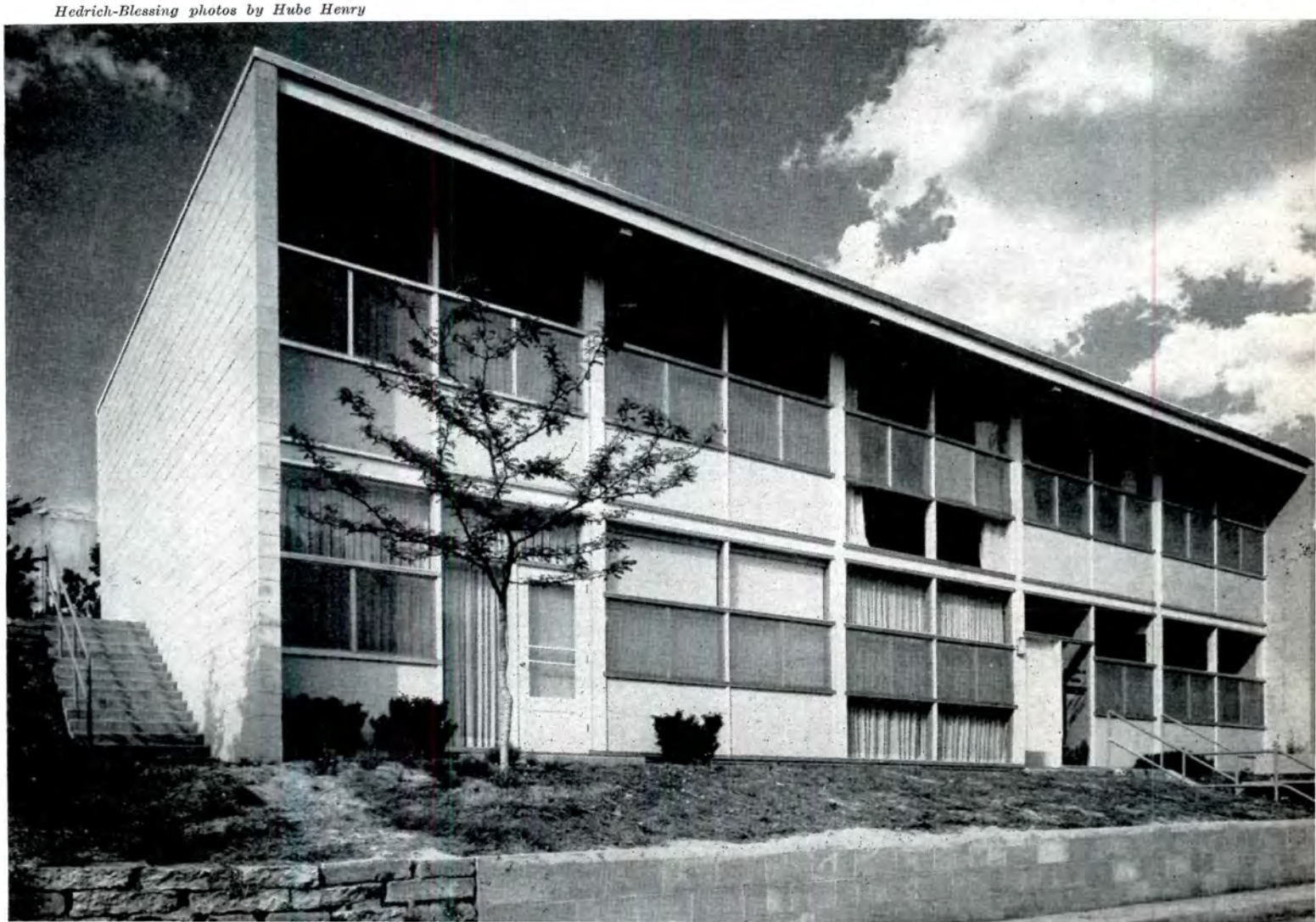
SMALL MEDICAL CLINIC ON A SLOPING SITE

for Dr. Robert E. Reagan,
Benton Harbor, Michigan

George Fred Keck-William Keck, Architects
Pearson Construction Co., Inc., Contractor



Hedrich-Blessing photos by Hube Henry



Small Medical Clinic

Reduced to its simplest elements, the program for the building required provision for the practice of the owner (a physician-surgeon), his assistant, and rental space for a cardiologist and an otolaryngologist, with off-street parking for the staff and patients. For maximum economy, the form of the building is a simple rectangle.

Structure is fireproofed steel frame with precast concrete floor and roof decks. Concrete block (8 in.) bearing walls are used on the ends of the building.

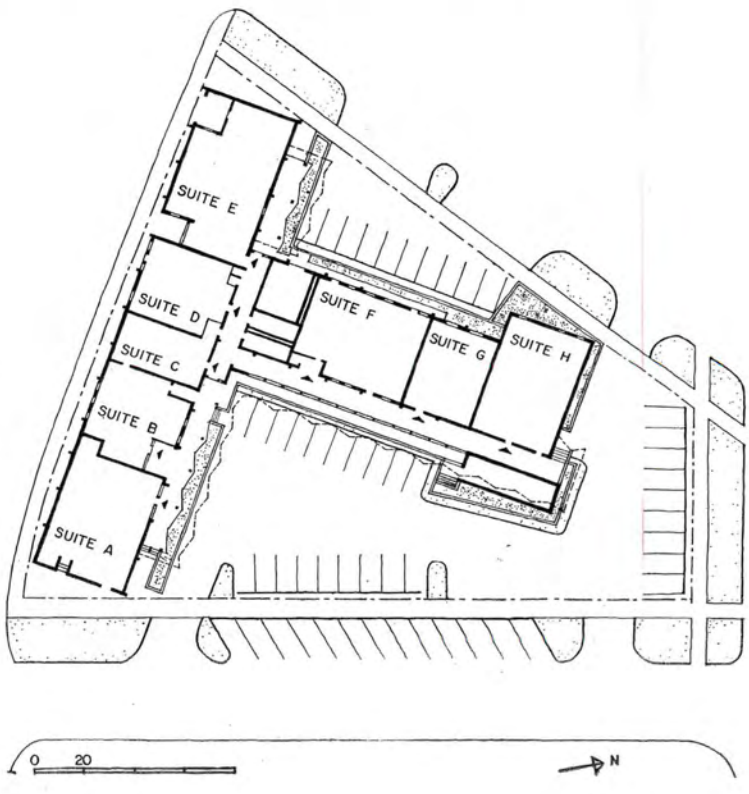
Interior partitions are exposed concrete block (4 in.). Floors and ceilings are concrete. Carpet is used in the waiting rooms and offices. Waiting rooms have acoustical tile ceilings applied directly on the concrete. Central heating and air conditioning is used. Electrical conduit is located in the wood door jambs (extra wide for this purpose).

Alexandre Georges photos

CO-OP MEDICAL BUILDING FOR EIGHT PRACTICES

The 1661 Building
Jacksonville, Florida

Hardwick and Lee, Architects
Gomer E. Kraus, Structural Engineer
Van Wagenen, Taylor, and Van Wagenen, Mechanical and Electrical Engineers
The Auchter Company, Contractors



Co-op Medical Building

This building is owned jointly by 16 doctors in eight separate practices. A one-story scheme to house these practices—yet avoid the appearance of a group practice—was the major requirement of the owners. The irregularly-shaped site was also a limiting factor of some importance. Regarding the design principles followed, the architects say, "conferences were conducted with each practice as if it were a separate client. When all schemes had been developed, their integration into an intelligent whole began. We believe this was preferable to the adoption of an arbitrary structual system of module and then developing suite schemes."

The structural frame is reinforced concrete. A portion of the space under the folded-plate concrete canopy is glazed to form a protected corridor. Exterior walls are structural tile with inserts of Italian glass.

HOUSING THE AGED IN SWEDEN

Some Examples from the Office of Boustedt and Heineman

As in the United States, the number of old people in Sweden has been expanding at a great rate. As here, too, a great deal of time and effort has been spent in trying to meet the problems which this population increase presents. If Sweden seems to have made a bit more progress than the U.S. along these lines, it is perhaps because she had a head start—she recognized the problem early, and has attempted to solve it concurrently with her solving of other social problems.

Independence is a sort of watch word in Sweden's approach to the situation. In pursuit of this end, the Swedes put great emphasis on home care. Pensioners live in their own homes or in flats until the time arrives when they can no longer care for themselves or their quarters, or until the care they require is a 24-hour job. With a total population of about 7 million, the country has more than 10,000 workers in this home help effort, 3400 of them paid by the state, another 6000 by other agencies. These workers have all had special training in courses lasting anywhere from three to 15 months.

The second part of the Swedish three-part system of care for the aged is comprised of the more or less institutional homes for the aged. Institutional, in this case, refers more to the organization required than to the attitude taken. In order to reduce the claustrophobia sometimes induced by institutionalism in nursing homes, most of these homes are small, the optimum figure being 30 or 40 places; this is a reasonable figure in view of the fact that most of these homes are in small communities (they are supported by the individual communities, too, with some assistance from the national government). The

smallest homes have 18-20 places; it is uneconomical, it has been found, to operate anything smaller. Only in the larger towns do the homes become large enough to accommodate 80-150.

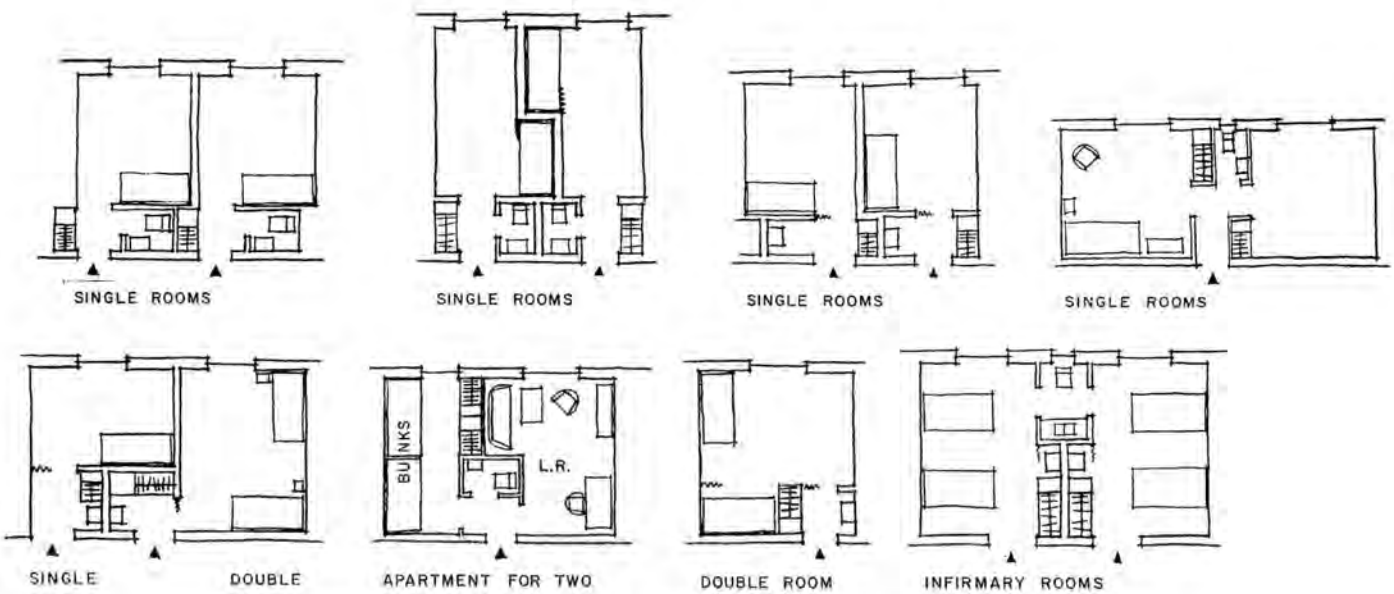
In terms of location, the effort to maintain the old person's sense of independence means building the homes at the center of the community. The Swedish feel that it is inhuman to deport the aged to the cities for attention. At best, the projects are placed near the shopping centers. Here those pensioners who are able to get about alone can mingle with their fellow citizens, and all can expect short and frequent visits from old friends and relatives. At the very least, the view from the windows is far more lively than an outlook over open country-side.

Architecturally, informality and a residential character are the primary goals. Bo Boustedt, a member of the firm designing the projects shown here, makes several basic suggestions for achieving this goal. Among them: the internal division of the home into units of no more than 16 beds, 12, on the whole, being preferable; the playing down of the main entrance—a large and formal entrance, he feels, immediately and obviously proclaims "institution" even from a distance—and where possible each unit should have its own entrance; a common dining room in small homes is normal, but even in middle-sized homes small dining rooms are now being placed within each unit, all served, of course, from a central kitchen; the elimination of long corridors, than which nothing seems more institutional —Mr. Boustedt feels that corridors should be short, well-lighted, and should have visual contact with furnished spaces.

A feeling of privacy and independence among the residents is encouraged by the almost exclusive use of single rooms; married pensioners are expected to live in flats, where, with home help, they can probably manage to help each other. Since the war, very few double rooms have been included in new homes. In each unit, there is a "coffee kitchen," with storage for coffee, sugar, bread, where pensioners can prepare mid-meal snacks.

Furniture and finishing are both selected to enhance the residential character. The homes generally provide any furniture required, but do permit, and encourage, pensioners to bring their own; the beds are always provided. Most furniture is modern; since even modern furniture in Sweden is crafted, and since craft is a long-standing tradition, the acceptance of modern furnishings may be easier for an aged Swede than for his American counterpart. In finishes, great attention is paid to color—bright —and textures—wood and wallpaper are usual. From the American viewpoint, this use of soft materials presents serious problems of maintenance and sanitation, but it undeniably adds to the psychological wearability of the environment.

To Americans, who have pretty well committed themselves to the premise that medical attention is a must in any organized effort to care for the aging, these homes are sadly lacking in medical facilities. Ideally, they are not intended to serve any medical requirements beyond the physical assistance needed by the feeble or which cannot be handled by regular visits of the doctor. More extensive care should be rendered by either general or long-term treatment hospitals. As it has worked out, however, Sweden's great shortage of hospital beds has demanded that the homes give more medical help than expected, a burden which, it is hoped will disappear as the country makes headway in hospital construction.



Prototype room plans are typical of solutions from Boustedt and Heineman's offices

Bo Boustedt and H. E. Heineman
Architects

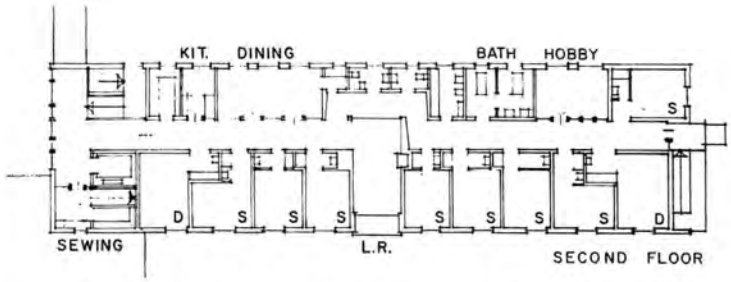
The interiors on these pages were chosen by the architects "to show a modern Swedish furnishing style with a deep connection with tradition." They add that furniture is selected both for its appearance and its practicality, and that materials, curtains and carpets are carefully selected and matched with wallpapers and wall colors. These examples are from the Gislaved home (previous page, two center photos at right) and from Munkedal (at right, top and bottom)

Entrance court has staff wing at left, pensioners' rooms in center building and wing at right; ground floor below right wing

Munkedal Home for the Aged

Amenities include aquarium set in wall, sculptured handle over fireplace to regulate draft. New and old furnishings are used

Planning takes advantage of sloping site, places hobby rooms and auditorium below with view out, storage space under hill, sleeping rooms above



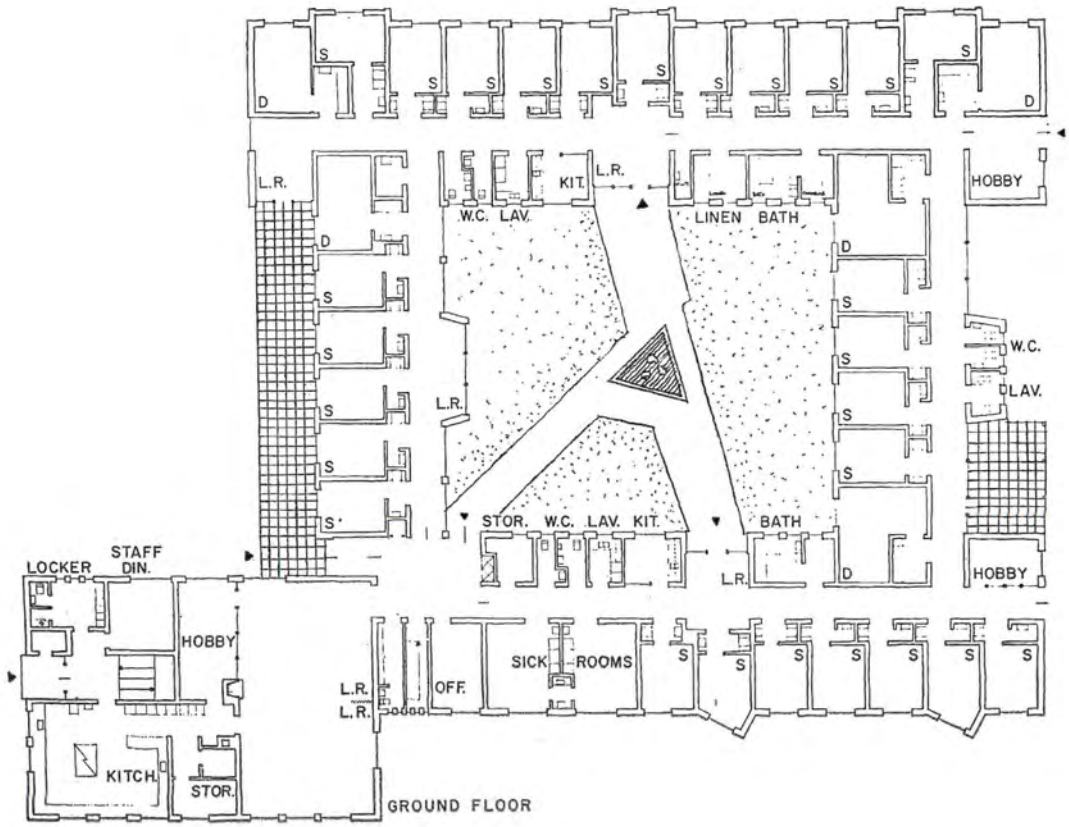
The second floor of Munkedal, a typical solution, is an almost self-contained unit; kitchen is not for meals, but a "coffee kitchen" where residents can prepare their own snacks

This home serves a village of 4800. Because the ground falls off sharply at one side of the site, an unconventional three-story plan was used (a small ground floor under one of the wings contains two hobby rooms and an assembly room). Pensioners' rooms are located on two floors of the central building (the second floor is shown in plan at the right) and over the ground floor in an adjoining wing. Staff facilities and quarters—a two-room flat for the matron, four assistants' rooms, a guest room, and a common living room with a small kitchen for coffee and snacks—are located in another two-story wing; they are connected by a glazed passage to the main building. A storeroom for out-of-season clothing, luggage and furniture is also on the ground floor, with easy access to the elevator.

Furnished stair hall provides sitting room with view over entrance court. Bright rugs are cheerful, are secured by furniture for safety

View across central courtyard. Doorways, here and elsewhere, are designed with little or no step-up for ease of entrance

Vifolka Home for the Aged

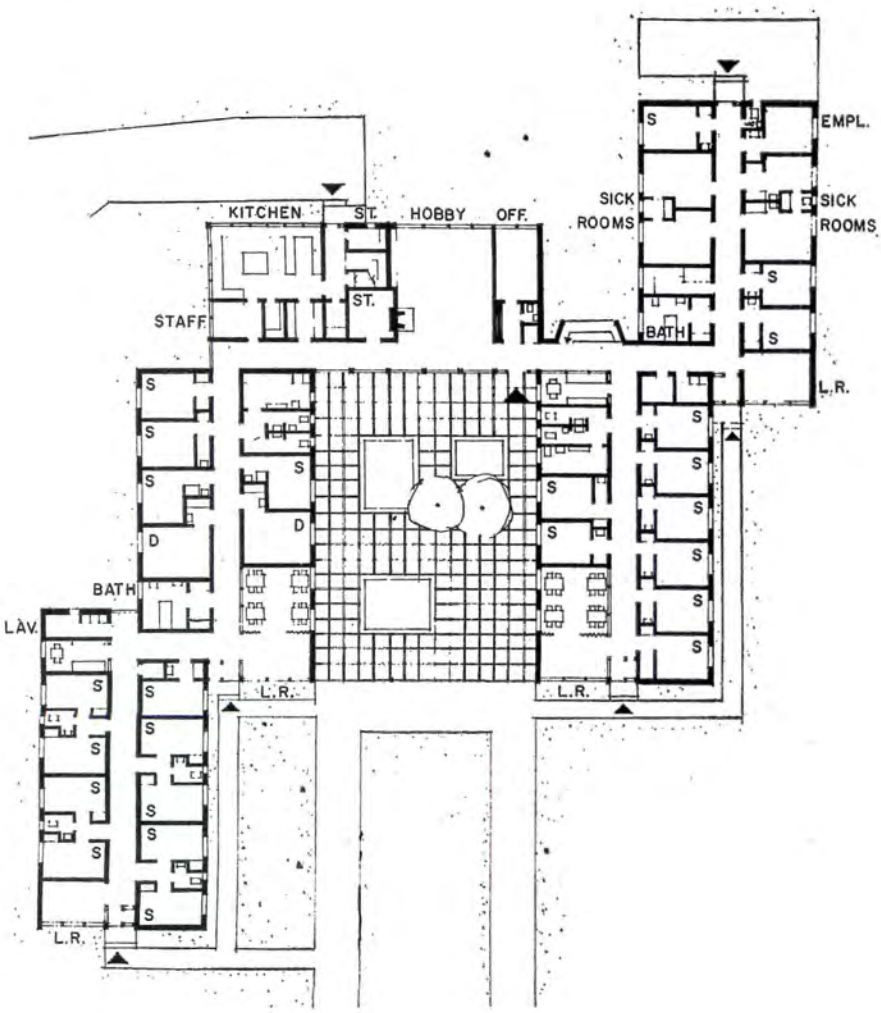


Corridor, widened and furnished, becomes a living room with good views inside and out; device is conducive to friendly conversations

This is a 42-bed home in a town of 4500. A one-story building, it is built around a sheltered square to "prolong and stimulate the outdoor life." Two of the corridors are single-loaded, with glass walls; a furnished bay-window along one of them also serves to relieve the usual monotony of long corridors. Only a few of the rooms have windows overlooking the center court; the larger proportion of rooms and of sitting space looks outward. As in most homes, the staff does not live in, but the staff dining room, along with service rooms which only the staff enters, is located in a wing off the main building. A separate entrance is provided for one of the hobby rooms for the convenience of the non-resident aged in the village who use these facilities in the daytime.

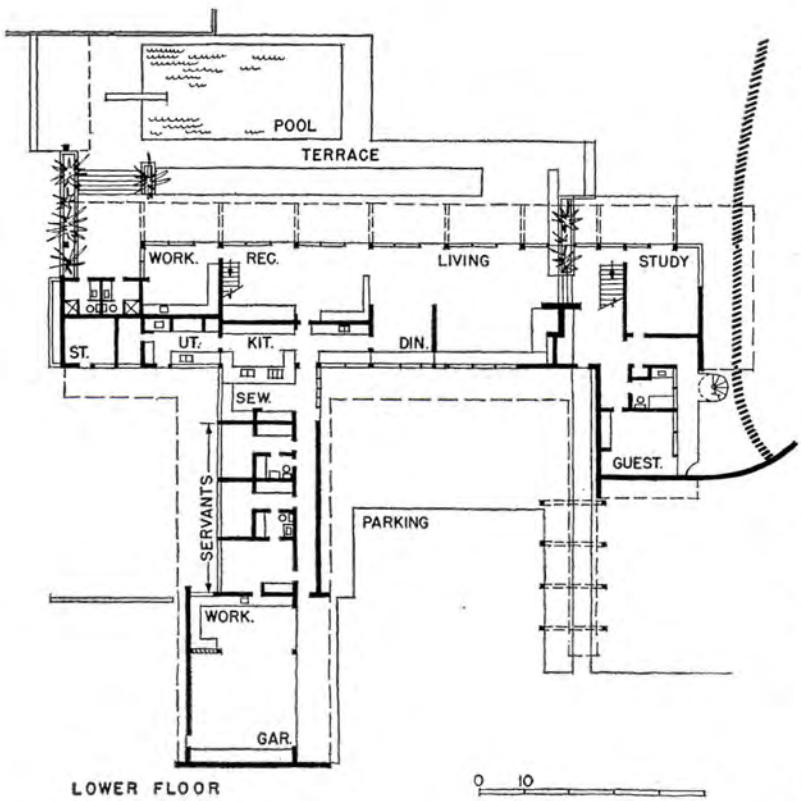
Another living-room-within-a-corridor, also overlooking the pool and sculpture in the central courtyard

Frändefors Home for the Aged



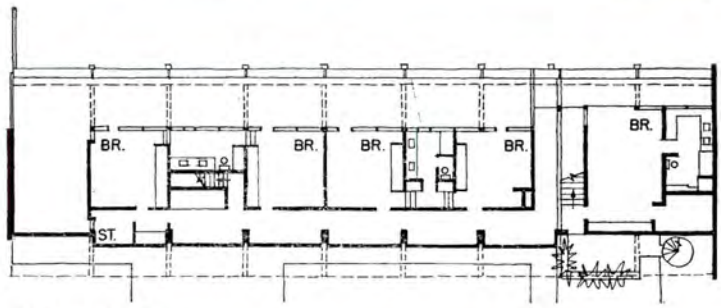
Frändefors home, with 36 beds, serves a village of 3100. Here, a small sitting room has a glass wall to give the corridor more light as well as to extend space visually in both directions. The sleeping rooms, as in all homes designed by the firm, are made as individual as possible by varying color, shape and furniture. Frändefors provides no separate assembly room, but a folding wall between living and dining rooms can be opened if a larger room is needed. The sick bay is somewhat larger than usual.

Three Caribbean Houses: 1—Havana, Cuba

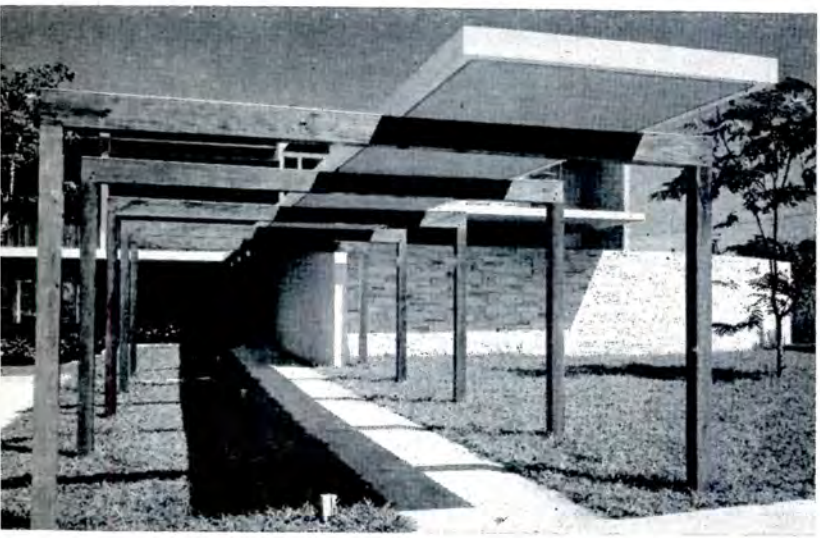


Richard J. Neutra, Architect. Mr. and Mrs. Alfred De Schulthess, Owners. Collaborators: Benno Fischer, Serge Koschin, John Blanton. Raul Alvarez, Supervising Architect. Roberto Burle Marx, Landscape Architect

This large house in the Country Club section of Havana provides unusually complete facilities for expansive living and entertaining. The property includes three acres; the house was sited to take full advantage of the prevailing northeast breeze, sloping ground to the northwest with a view of the ocean, and good exposure. A long, narrow scheme was developed to provide these factors to all major rooms in the house, which open to the north. The entrance drive, parking area, and service wing are to the south of the building, fully separated from the gardens and recreation areas. A louvered wall is to be built along the east side of the house to add further protection from the street. The structure is built of reinforced concrete on a modular system, with filler walls of stone and wood.



UPPER FLOOR



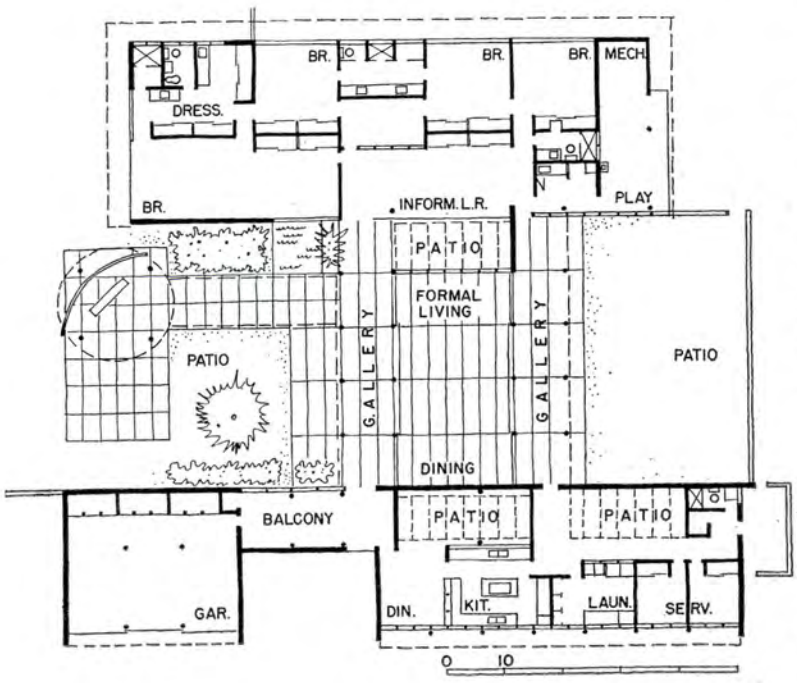
Schulthess House, Cuba

The house is placed on the highest point of the site, and the landscaping plan provides numerous wandering paths and reflecting pools from which the house can be seen at different angles. The second floor has six bedrooms ranged along a balcony which extends the full length of the building. A guest suite, with its own patio, is on the first floor.

The entrance of the house (left) is marked by a dramatic, partially covered pergola; a large motor court is provided for guest parking. Structural materials are fully exposed in the interiors, as can be noted in the photo of the major living area (below left). The smoothly finished concrete beams contrast sharply with the brush hammered concrete slab supporting the second story. Windows edge all ceilings to promote better air circulation

Alexander Georges photos

Three Caribbean Houses: 2—Santurce, Puerto Rico

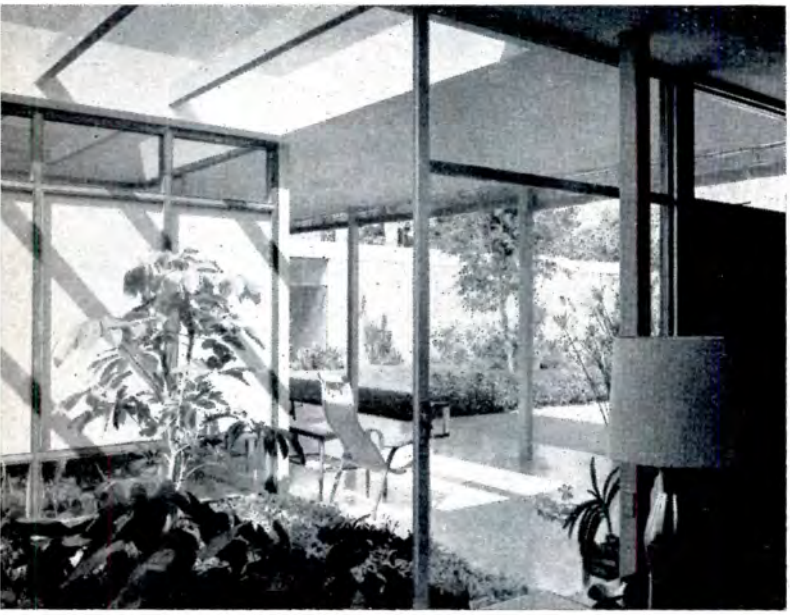


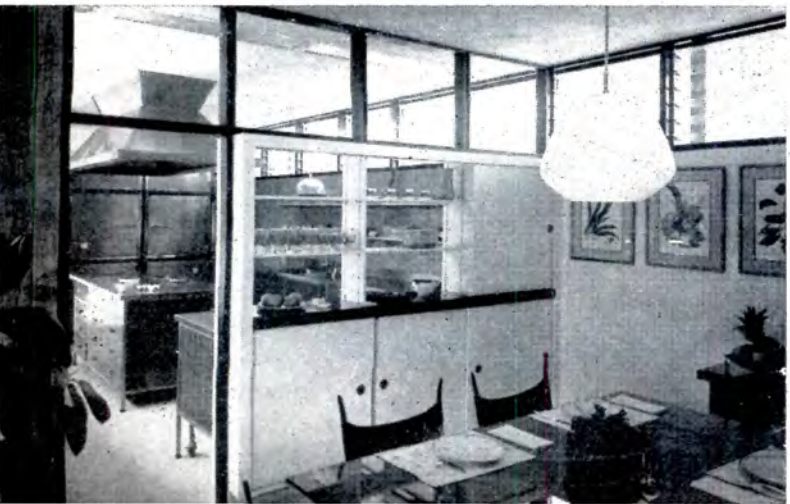
Toro & Ferrer, Architects. Mr. and Mrs. Cesar A. Calderón, Owners. José Alegria, Interior Designer

A series of courts, gardens and patios have been devised to help adapt this house to the island climate and informal, outdoor life. The house is zoned into three major sections—sleeping, living, and service. The bedroom wing, however, is almost a complete house in itself, with two "living areas," a playroom, and a complete kitchenette. This arrangement could provide for simultaneous use by several age groups, or permit the rest of the house to be closed off on occasion.

The service wing faces the street, and also provides sitting, dining, and patio areas for family or servants.

The central part of the house is devoted to spacious indoor and outdoor areas for lounging and entertaining. Open, covered galleries lead across the area to connect service and bedroom wings.





Calderón House, Puerto Rico

The east patio of the house includes an open, circular pavilion housing a bar and snack counter (top). The sitting area in the center of the bedroom wing opens both on this patio and on a lushly planted interior court (top center). The large, formal living room has strip windows at floor and ceiling. These open on similar courts at each end (bottom center). The service wing (bottom left) is as well finished and open as the rest of the house. The dining area can be opened to the kitchen, or closed as desired, and serves for informal family meals or the servants. The post and beam house has walls of wood, plaster or stone; floors are terrazzo or plastic tile, with carpeting in major rooms; ceilings are plaster throughout

Alexander Georges photos

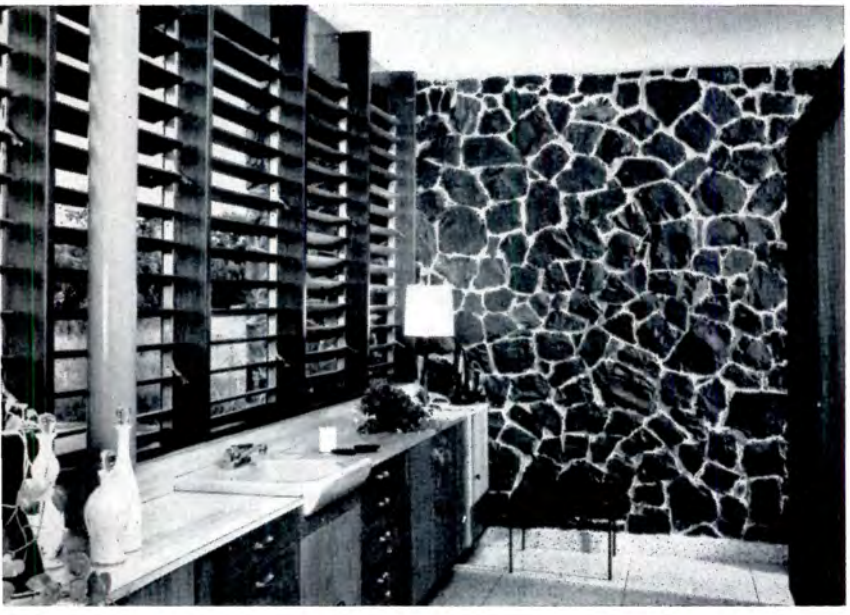
Three Caribbean Houses: 3—Santurce, Puerto Rico

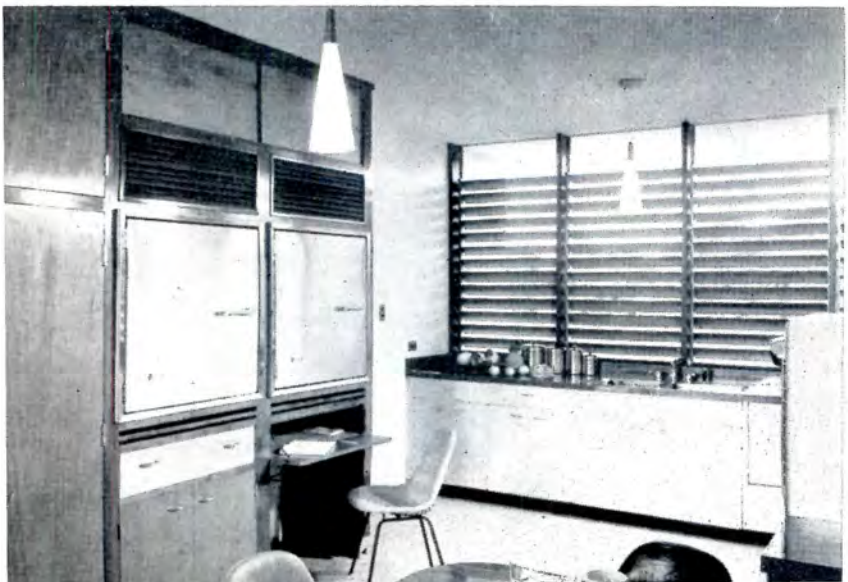
Toro & Ferrer, Architects. Mr. and Mrs. Jose L. Pérez, Owners. José Alegria, Interior Designer

UPPER FLOOR PLAN

In contrast to the preceding one-story courtyard scheme, this house is adapted to the climate by using the traditional "raised cottage" idea. All major rooms are on the second level, closed-in by movable jalousies. The lower level contains a game room and workshop, and open recreation terraces and a carport. The latter are separated by the stair hall, a powder room and a small bar. A decorative ceramic grille screens the stair well. The structure is supported by steel columns and native stone end walls. The stone is left exposed on the interiors.

Jalousies are also used on the interiors to separate service areas from corridors, and give privacy with the needed ventilation. At the front of the house, sliding glass doors replace the louver units to open the living room to an adjoining balcony.





Pérez House, Puerto Rico

The façade of the house (top) has a cantilevered, outside entrance stair. This is screened by a wire mesh held taut by turnbuckles; this will form a trellis for flowering vines. The gardens are defined by serpentine, rough-finished-concrete walls. The corridor leading from bedrooms to the living area (top center) is fitted as a small study area. The louvers open into laundry and kitchen. The native stone walls form the major decorative note in living areas, master bedroom and its dressing area (bottom center). The kitchen is well fitted with built-in equipment, and includes an informal dining area (bottom left). Floors are terrazzo throughout: walls are stone, plaster or wood; ceilings are plaster

Bake Shop—Wall Painting from Pompeii

SHOPS

AND THE MARKET PLACE

MORRIS KETCHUM, JR.
of Ketchum and Sharp, Architects

In collaboration with the editors of Architectural Record

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The sole function of a shop is to sell. Every shop or store is therefore a basically simple planning problem. It consists in a sales area where goods are displayed and sold (*1*), a service area for handling incoming and outgoing merchandise, and a store front used to advertise the business within.

These three elements must be planned to suit the sales and operating methods of the retailer, the buying habits of his customers, and the shopping environment in which the shop is placed.

Store planning has followed this formula since the dawn of history.

The heart of any retail establishment is the space where merchant and customer meet over the sales counter. A sales area that is well organized for over-the-counter operations can be compared to an indoor shopping street. Its various merchandise departments should be arranged on the customer traffic aisles like shops along an outdoor thoroughfare (*2*). These departments are best located in a horizontal or vertical (*3*) sequence, starting at the entrance door, of *impulse, convenience* and *demand* goods.

The merchandise on sale in a shop or store will be largely demand in character with a generous assortment of impulse and convenience items added to complete the picture. The economic success of any shop depends on how well it stimulates impulse buying. The purchase of household furniture is a demand transaction; the purchase of living room bric-a-brac an impulse sale that may make the difference between a day's profit or loss.

The store planner's first job is to locate and interrelate all types of merchandise for maximum impulse buying and to take full advantage of every square foot of sales area for selling functions. After that, he must tie the selling space to its own non-selling areas, to the store front and to the outdoor shopping environment.

Ever since peddlers settled down to fixed locations in some market place and started to deal with sidewalk traffic, shopping environment has played a vital part in the design of shops and stores. From then on, store fronts have been built to provide, in varied ways, on-the-spot contact between the customers out front and the merchant inside. Their design has expressed the different ways of living, trading and building in successive civilizations, but the basic solution has always been the same. The shops of ancient Rome, of medieval Europe, or of Colonial days are strikingly similar to those today in all except technical detail.

The market place changes more often than its shops and stores.

City and suburban market places were first organized for foot traffic only (*4*). Over-the-sidewalk displays and advertising, store fronts and signs, were in direct contact with the shopping crowd. Then horse drawn, and finally, motor driven traffic, broke into the picture and destroyed ideal contact between merchant and consumer. The market place became hazardous environment for customers and a less profitable one for merchants. It became more and more difficult to do business in a traffic jam.

During the nineteenth century and the first half of the twentieth, our shopping districts lost all resemblance to older and quieter market places (*5*). Except within the special indoor environment provided by our giant department stores, shopping became a dangerous obstacle race. Downtown shopping conditions were essentially the same in our towns, cities and suburbs from coast to coast (*6*). The street pattern inherited from horse and buggy days had become overcrowded and unsafe. Private automobiles had no place to park, busses collected and left their passengers at random street corners, trucks had only curbside unloading terminals. Noise, confusion and congestion made life irritating for both shopper and motorist.

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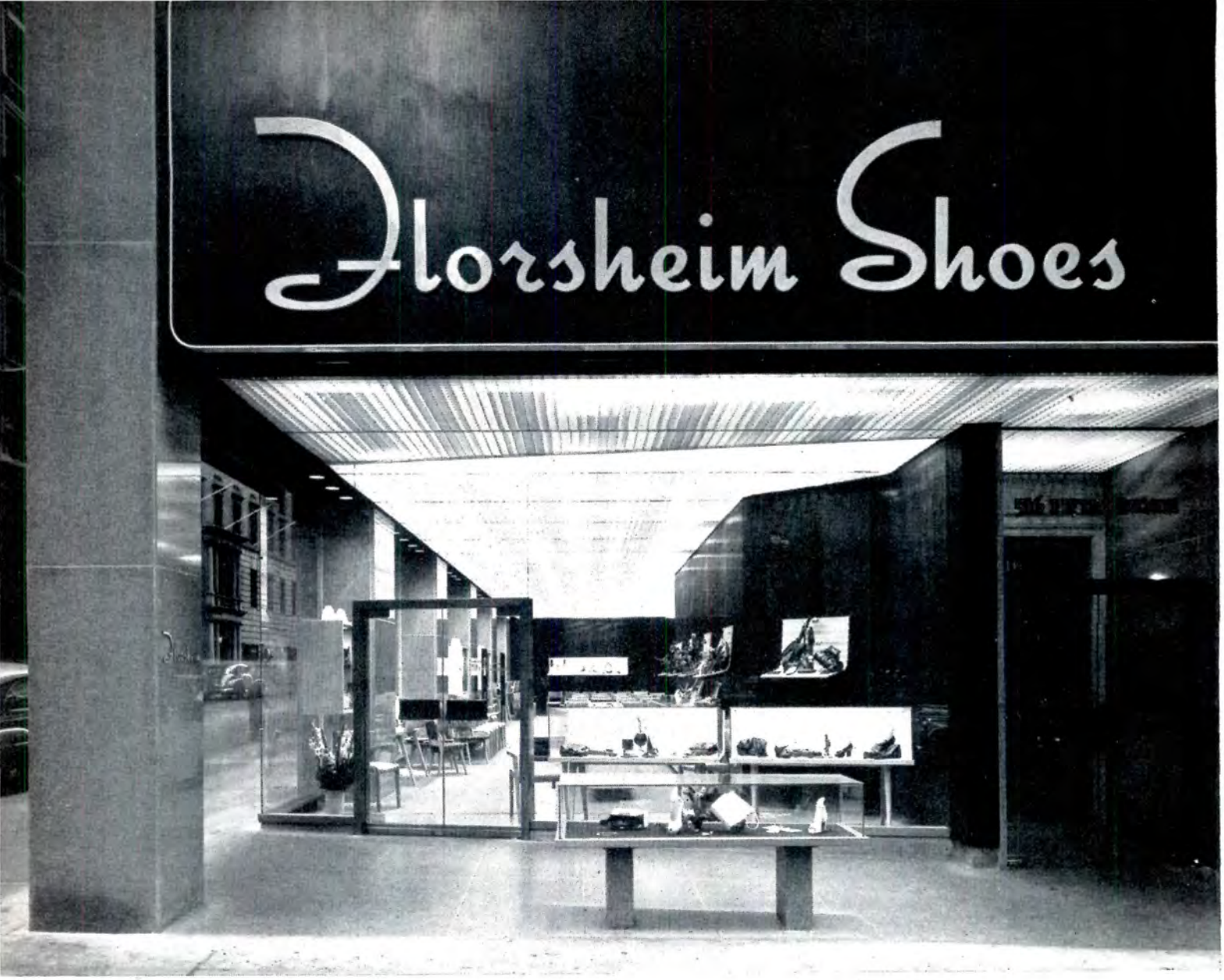

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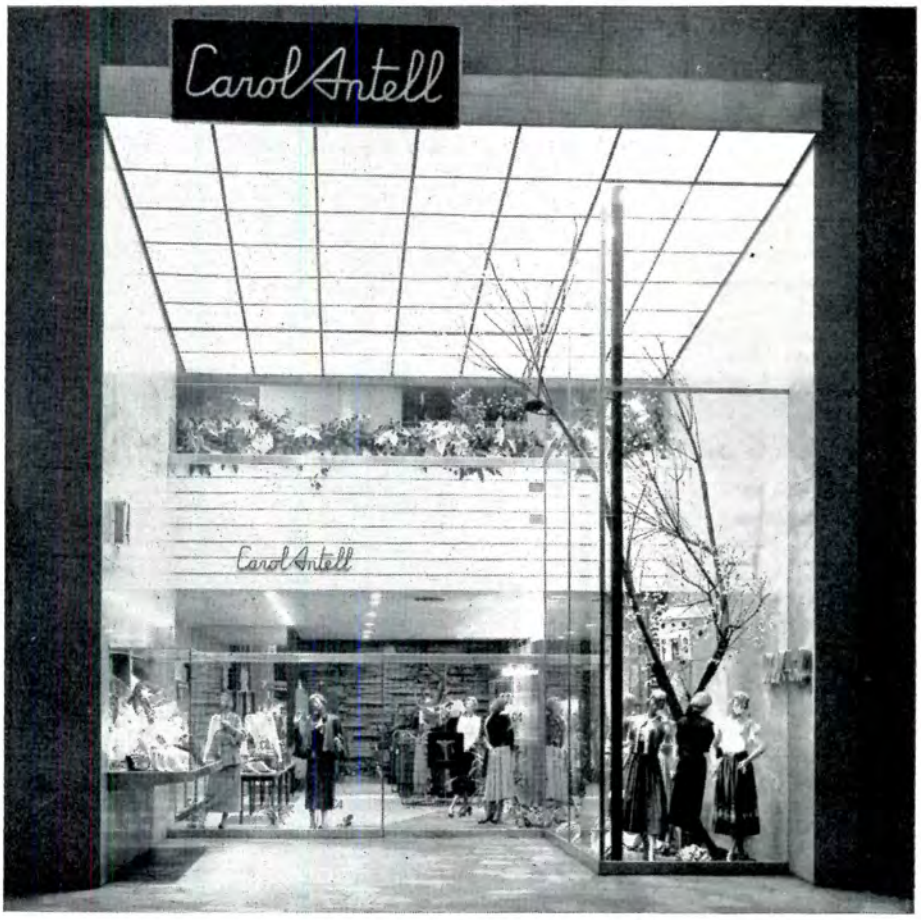
In spite of all this, downtown shop fronts are still designed for pedestrians because no one can park and shop from an automobile window. They attempt to catch the distant eye with overhead signs that can be seen across the street above the intervening stream of motor traffic (*7*). These shops fronts are sometimes visually closed and directly on the building line, especially for service establishments with no goods to display (*8*). More often, the trend is towards a front that is set back from the building line in order to enlarge the sidewalk and to create display in depth (*9*). With more elbow room and quieter conditions, window shoppers can spend more time inspecting show windows and the interior sales floor. Fully glazed store fronts and entrance doors (*10*) help to eliminate any visual barriers between the moving crowd on the sidewalk and sales area inside. Today's shop fronts are cleverly designed picture frames for merchandising stage sets (11).



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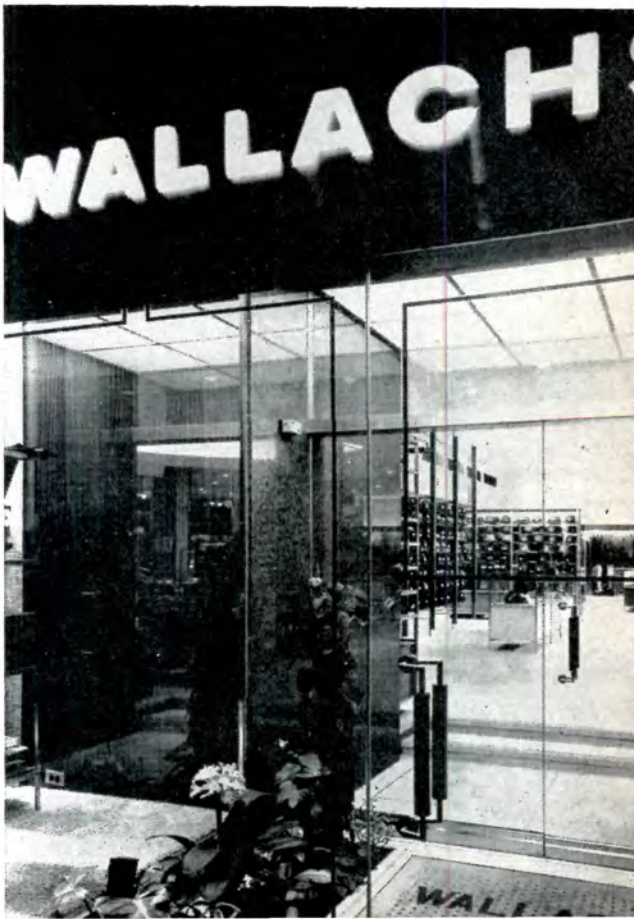

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Even the best shops and stores cannot win against the wrong shopping environment. During the last ten years, the danger point has been reached—in New York alone, eight major department stores closed their doors forever. Merchants and their architects have tried to regain traffic-free outdoor space for shoppers and to provide off-street parking and trucking in one form or another, all in an effort to meet suburban competition. Pedestrian plazas set within building sites *(12-13-14)* have partially enlarged the city's sidewalks, freed buildings from their neighbors and increased the amenities of downtown life. Today, there is a great surge of urban redevelopment projects. In city after city—Pittsburgh, Boston, Chicago, New York, Denver—attempts are being made to redevelop and reestablish the central shopping district.

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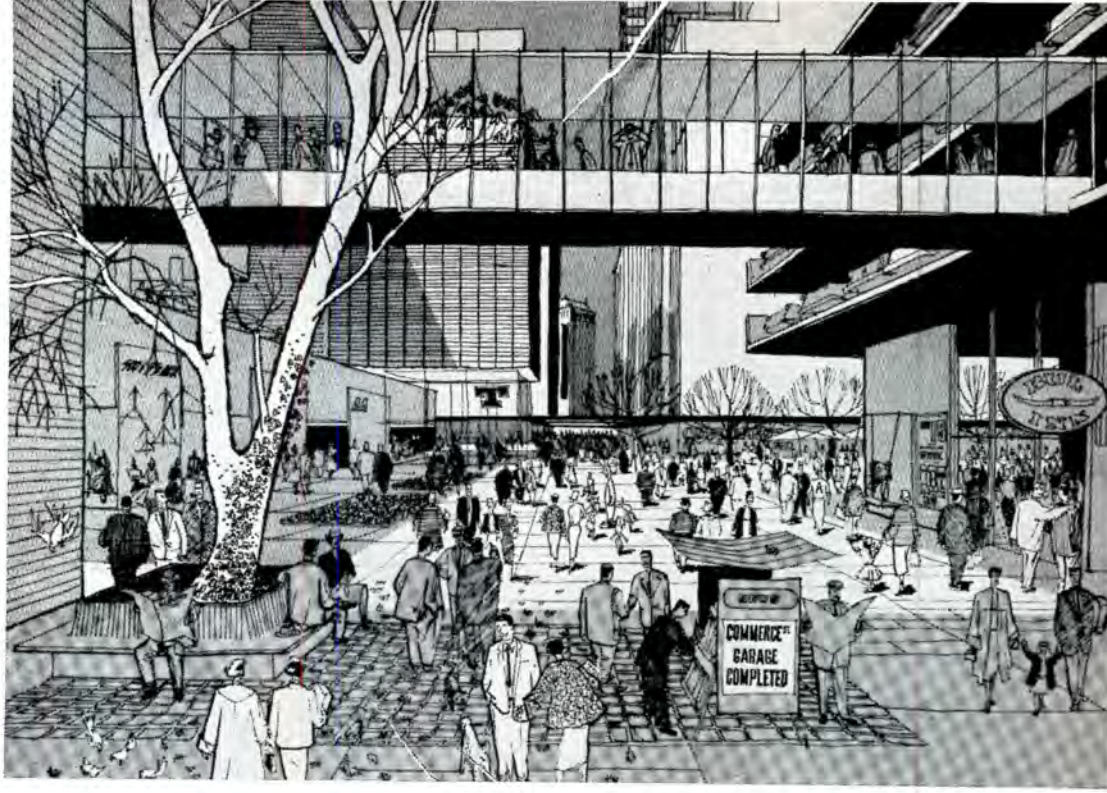

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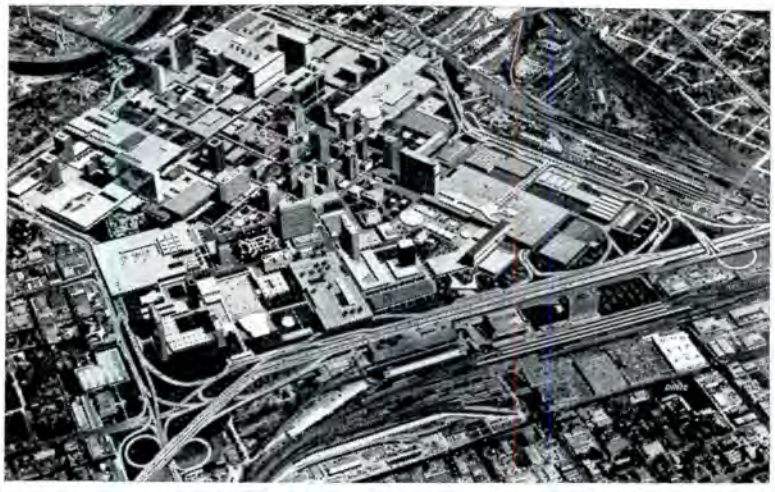

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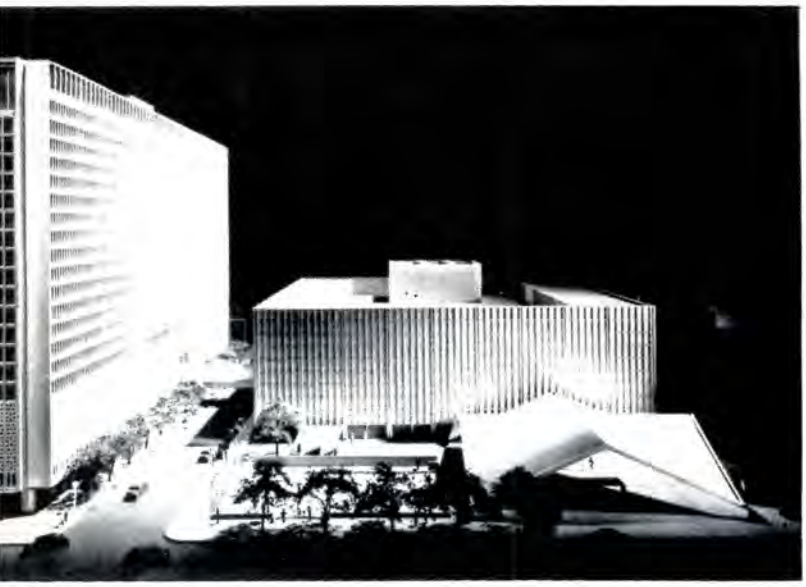
Partial redevelopment is not enough—entire downtown areas must be remodeled if the growth of decentralized shopping is to be balanced by an upturn in urban shopping volume. Down in Texas, where people like to think and act on a big scale, Fort Worth has put the redemption of its central business district ahead of any other civic improvement. It is determined to cope with the blight, congestion, and shopping paralysis that threaten its existence.

Fort Worth has a compact city core of more than 300 acres bounded by a river and railroad lines (*15*). This core will be encircled with a belt highway. On the inner side of this belt highway a series of giant parking garages will be located. Incoming and outgoing motorists will never penetrate the heart of the city. City busses will take the belt highway around the business district. Below street level, truck deliveries will be made from the belt highway by means of a tunnel loop servicing every city block. Beyond the central core, the new belt highway will be fed by existing arterial highways. Motor traffic will be organized, *tamed* and given proper terminals.

The mile square heart of Fort Worth then becomes a pedestrian paradise (*16*). Each street will be a sidewalk. Planting islands, covered walkways, kiosks, little shops, frequent areas for rest and recreation, trees and fountains, turn the whole business district into a public park. For the weary, laden, infirm and lazy, there will be small electric busses, similar to those used at world's fairs, to carry them from shop to shop, or from office to lunch, or the theatre.

The Fort Worth plan has its economic advantages as well. City maintenance costs will be reduced, city land will be regained and sold to private developers, business and shopping will prosper and yield more municipal taxes. The entire project should be self-liquidating.

The importance of the Fort Worth plan is that it points the way towards the regeneration of downtown urban areas from coast to coast. No plan of this type can be realized overnight, but each stage of progressive rebuilding will help to revitalize a central shopping district.



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Department stores have always had—indoors—the controlled shopping environment that our urban centers are striving to regain. These retailing giants are equivalent in scope and size to a multitude of specialty shops all located under one roof and under one management. As such, they can be in themselves an indoor shopping center.

A quarter century ago, most department stores looked like warehouses. Their gridiron traffic aisles resembled the gridiron streets of the outdoor city. Their customers became footsore and bewildered by monotonous acres of merchandise. Today, some department stores may still look like warehouses but most of them have been reorganized as indoor shopping centers where every sales department is designed as a separate shop, and carefully located in good relationship to its neighbors and to freely planned traffic aisles. Sales departments compete with sales departments in style and price, so that customers may enjoy all the benefits of comparative shopping just as they do along some outdoor Main Street. The shopping environment—lighting and climate, displays and sales backgrounds, atmosphere and character—is a tightly controlled indoor version of an outdoor shopping center.

Department stores are also beginning to solve for themselves the traffic and parking problems of a downtown shopping environment.

In the Court House Square Development set in the heart of Denver, Colorado, two city blocks have been rebuilt as an integrated urban development consisting of the May D & F department store, a 900-room hotel, a lower level shopping center, and an underground parking garage (*17*). The department store is linked with the main shopping street by a unique entrance pavilion which is, in itself, a giant showcase containing women's accessories shops. A covered bridge links the fashion floor of the department store and the hotel restaurant at second floor level. Customers are brought up by elevator from the garage below. The lower level shopping center is in direct contact with the basement store of the department store. Finally, the winter time skating rink becomes an outdoor promotion area for the department store in the summer months. The entire development thus has all the advantages and all the glamour of a suburban shopping center, yet is located in the heart of downtown Denver.

A perfume shop and gourmet food shop shed their store fronts and take their place on customer aisles within urban department stores. The perfume shop (*18*) is small in size and lightly organized. Its merchandise is stocked by brand name in separate sales fixtures; its background wall identifies the shop and conceals a reserve stock area. The gourmet shop (*19*) is identified by an illuminated mural wall of translucent glass. Its goods are stocked and displayed on metal-framed floor fixtures and wall shelving. The alcove location helps to establish its shop-like atmosphere.

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These two sales divisions within department stores have all the intimate atmosphere of specialty shops. Special ceilings (*20*) or display walls (*21*) mark their boundaries. Lighting, color schemes, materials, textures, character, are powerfully organized to attract customers wandering down the indoor shopping street. Departments of this kind must compete against other sales divisions featuring similar merchandise differently priced or styled. Both departments are in suburban Baltimore stores, both cater to women, both are well organized.

One of the current trends in shop design is an increasing emphasis on decorative character, expressed in murals, lighting fixtures, signs, furniture and displays. This children's shoe shop in a branch department store (*22*) sums up the casual informality so often associated with suburban shopping.

Department store buildings, too, reflect the character of this shopping environment. As compared with downtown stores, informality and local character are the architectural keynotes, used to express a casual country atmosphere without any loss of institutional prestige. Shown is a sketch of such a branch department store (*23*) organized on three shopping levels and set on a sloping site that permits entrances at two of these three levels. Its largely windowless exterior is saved from monotony by a pattern of brick panels in alternate colors, set flush or recessed, which expresses in a decorative way the sales floors within the building.

23


Bakery
GARDEN COURT

24 25

The controlled indoor shopping environment of a typical department store has influenced the design of a prototype shopping center. In this project, two department stores and a multitude of small shops are clustered on two levels around an enclosed two-story, air conditioned, indoor shopping concourse enlivened with trees, planting beds, pools, statuary, garden courts, and recreational areas (*24*). The shops themselves sometimes have open entrances (*25*); sometimes, more conventional glazed store fronts (*26*). Like department store sales divisions, they are properly related to each other and to the overall customer traffic pattern.

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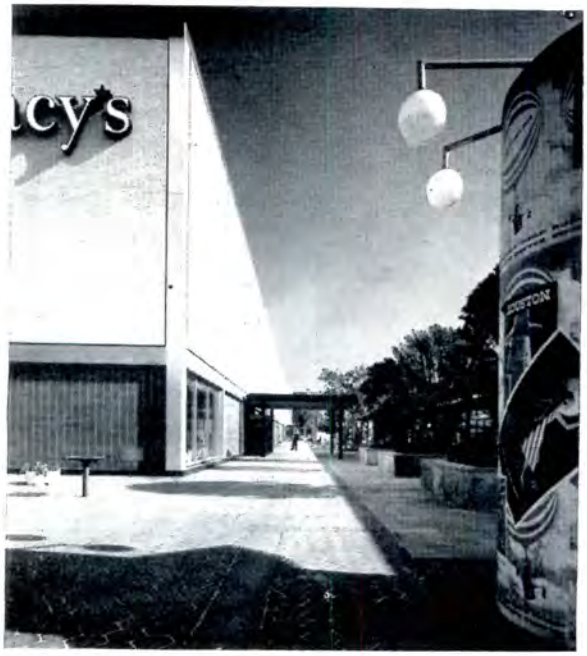
During World War II, the first suburban shopping center with a pedestrian mall, a ring of shops and stores and an outer ring of parking was built near San Diego. Linda Vista (*27*) established a new building type and started a revolution in shopping environment. Since then, giant regional shopping centers have been planned and built all over the country. These centers have solved the interrelated problems of auto traffic, parking facilities, truck traffic, pedestrian traffic and the specialized planning problems of large groups of stores.

Store locations are worked out along their shopping concourses so as to group related shops by trade classifications, to spot powerful traffic generators such as department stores in key locations, to encourage comparison shopping and to maintain an even flow of traffic throughout the entire center.

All shops and stores are in direct contact with foot traffic on the pleasant covered walkways, landscaped plazas and outdoor shopping areas. Shopping hazards and design handicaps created by motor traffic are kept away from this new green world where shopping has gained the pleasant environment of a garden and the gaiety of a carnival.

These new opportunities are accompanied by a new restriction—the necessity for overall harmony of design. Shop interiors and shop fronts must be kept within bounds set by uniform roof heights and arcade dimensions. Signs and color schemes are regulated and restrained for the common good. Only



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big department store units and other special buildings can escape such overall rules and regulations.

Shown are two shopping centers where these rules have been applied along outdoor shopping concourses. In the first one (*28*), the rules for signs have been formulated along lines similar to those used downtown. The signs above the canopy are far above pedestrian eye-level and are still trying to assert themselves over and above an imaginary stream of motor traffic. In the second (*29*), the signs are more successful. They are located below the canopy at the proper eye-level and are controlled by the design of the canopy and the sign areas themselves.

One of the most pleasant and sophisticated shopping environments ever produced exists in the Roosevelt Field Shopping Center. Its architectural detail (*30-31-32*), landscape design (*31*), fountains (*32*), flags and street furniture are all outstanding. These, added to all the usual advantages of a well planned regional center, make it a pleasant place for shoppers and a profitable site for shops.

Many of these shops are located where they can draw on two streams of customer traffic. On one side, their principal entrance taps the traffic stream of one of the main shopping arcades (*32*); on the other side, a minor entrance faces one of the exterior customer parking areas. On the following pages, one of these shops is presented as an example of how such a location and shopping environment affect the organization of a small shop in a suburban center.

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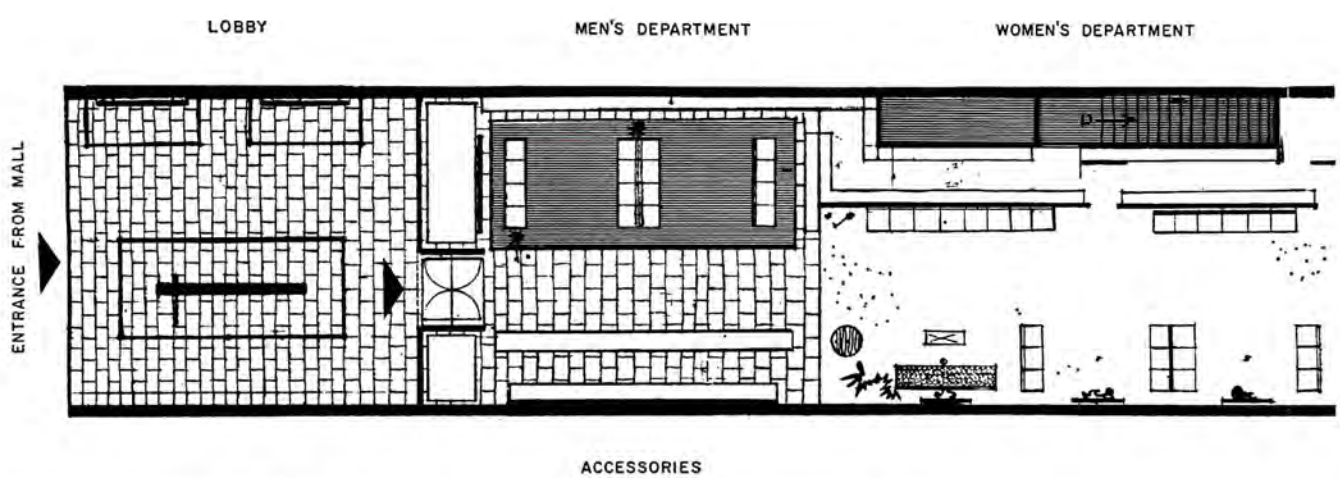
The Harwyn Shoes Store at Roosevelt Field Shopping Center [*33*] is a small shop that is treated like a miniature department store. It sells men's shoes, women's accessories, women's shoes, and children's shoes. Its plan [*34*] and interior design express this merchandising program. There are separate but interlocking sales departments, each with its own distinctive character, arranged in the above sequence from the mall entrance [*35*] to the parking area entrance [*36*]. These successive sales units help to break up a narrow, corridor-like sales area into a series of well proportioned spaces.

The garden mall entrance [*35*] is a display lobby with depth enough to feature all types of merchandise sold. Women's shoes occupy the island show window; men's shoes the full height windows at the left; women's shoes and accessories are shown in the shadow boxes at the right; children's shoes in the right rear show window. Both fluorescent and incandescent light sources add sparkle to the lobby and its displays.



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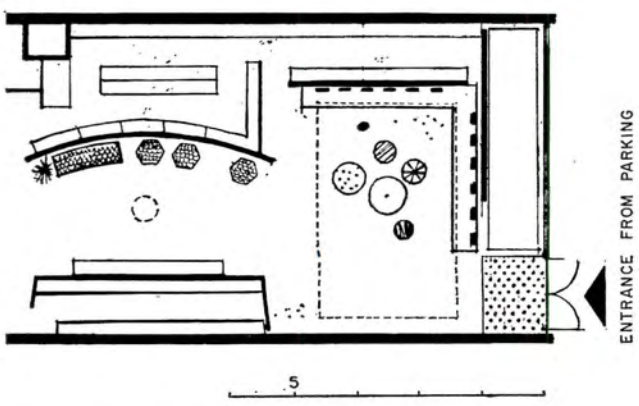
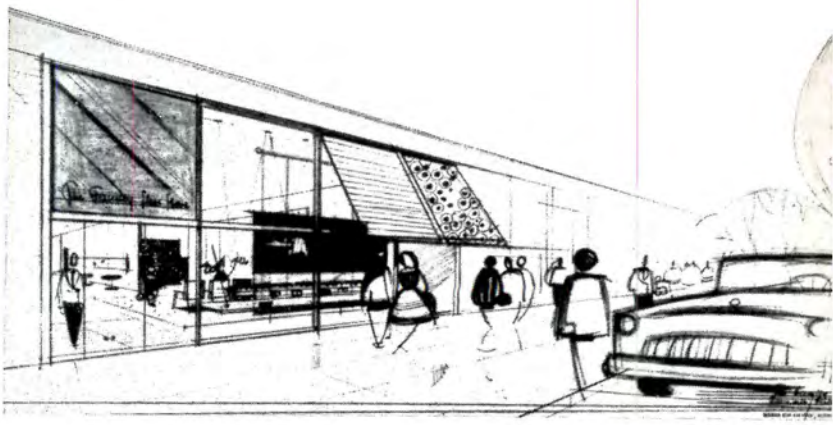
CHILDREN'S DEPARTMENT





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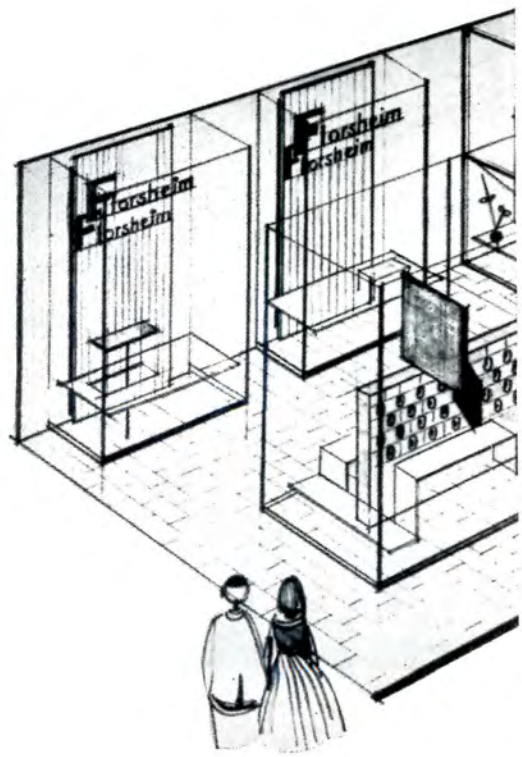
Men's shoes (*37*) are stocked along the rear wall of that department. The yellow color of the stock boxes is reflected in a gold toned carpet. A natural teak fin wall, a hung ceiling in light gray, and another low fin wall display bound the department within its alcove. Opposite, metal-framed counters and wall fixtures, backed by a large display panel, set the stage for women's handbags, costume jewelry and miscellaneous accessories (*38*).



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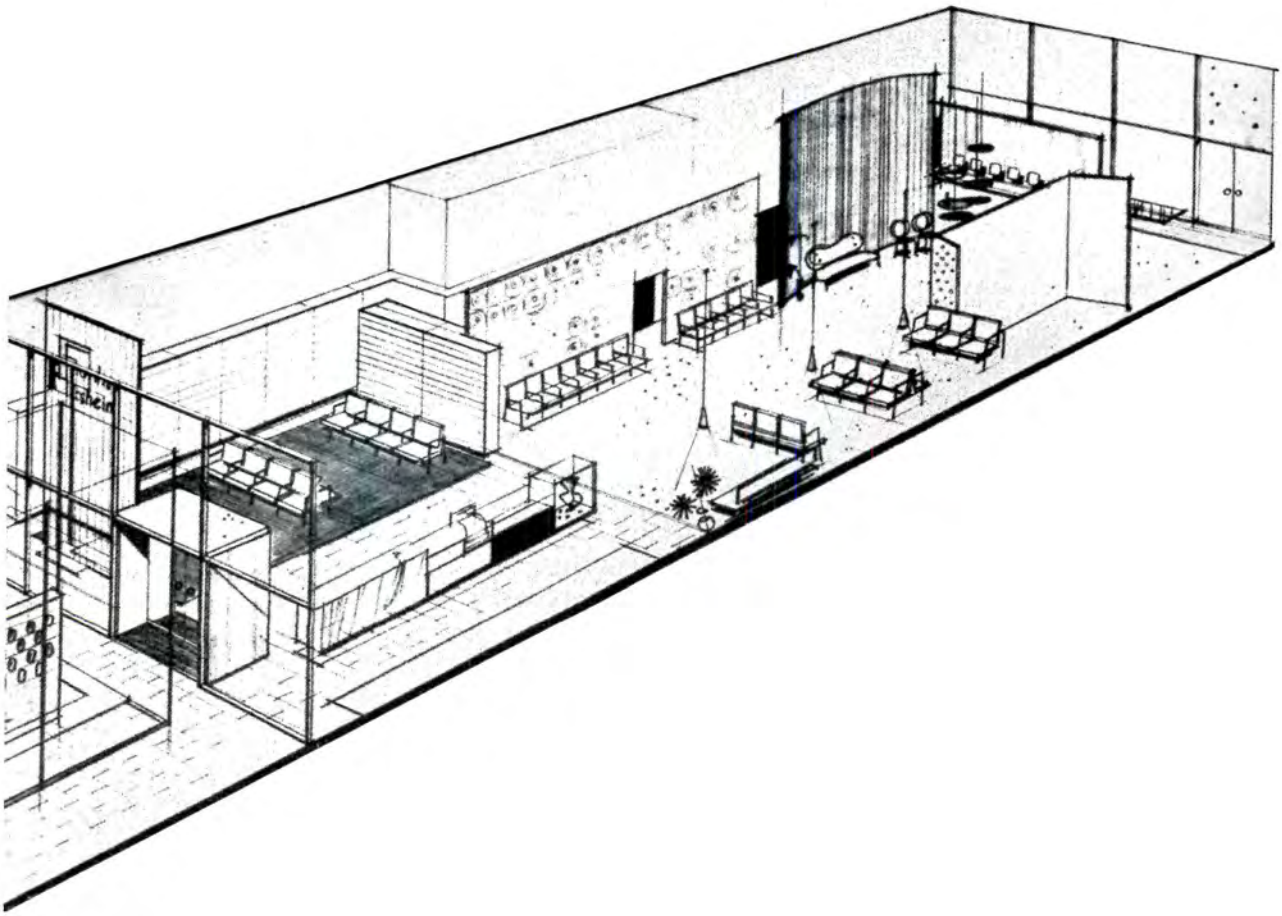

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The pink painted wall of reeded wood travels behind this panel and on into the women's budget shoe department (*39*), which is followed by a special section for higher priced women's shoes (*40*). Here one wall is curtained in a black fabric shot with blue, the other wallpapered in gray and white. The curtained wall conceals a reserve stock area.

At the end of the store is the children's shoe department (*41*). Another hung ceiling in deep maroon, walls in light gray, and child size furniture in gay upholstery colors set the tone of this area. The circular ceiling pattern ties in with a nursery toy display platforms. This department is visible to customers entering from the adjacent parking area (*42*). At night, the illuminated name sign gives effective identification across the parking area.

42

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1—The Plymouth Shop, Cross County Center, N. Y. *Ketchum, Giná & Sharp, Architects*

2—American House, New York City. *Ketchum, Giná & Sharp, Architects*

3, 10, 43—20th Century Shop, New Orleans, La. *Burk, LeBreton & Lamantia, Architects*

4—Market Place, 1560; engraving by Stradanus Galle

5—Market in Salerno, Italy

6—Street Scene, New York City

7—Florsheim Shoe Salon, Fifth Avenue, New York City. *Ketchum, Giná & Sharp, Architects*

8—Albert McGann Securities, South Bend, Ind. *Ketchum, Giná & Sharp Architects*

9—Carol Antell Shop, New York City. *Seymour Joseph, Architect*

11—Florsheim Shoe Salon, Fifth Avenue, New York City. *Ketchum, Giná & Sharp Architects*

12—Rich's Department Store, Knoxville, Tenn. *Stevens & Wilkinson, Architects*

13—Mile High Center, Denver, Col. *I. M. Pei & Associates, Architects*

14—Seagrams Building Plaza, New York City. *Mies van der Rohe & Philip Johnson, Architects*

15, 16—Fort Worth Redevelopment. *Victor Gruen & Associates, Architects*

17—May Company D & F Store, Courthouse Square Development, Denver, Col. *Ketchum & Sharp, Architects*

18—Valdiri Perfume Shop, Bogota, Colombia. *Ketchum, Giná & Sharp, Architects*

19, 20—Hutzler Brothers Store, Baltimore, Md. *Ketchum, Giná & Sharp, Architects*

21—Hecht Co. Store, Baltimore, Md. *Daniel Schwartzman, Architect*

22—Children's Shoe department, Lord & Taylor, Bala-Cynwyd, Penna. *Raymond Loewy Corp., Designers*

23—Project for Hutzler Brothers, Westview, Md. *Ketchum, Giná & Sharp Architects*

24, 25, 26— Southdale Shopping Center, Minneapolis, Minn. *Victor Gruen & Associates, Architects*

27—Linda Vista Shopping Center, San Diego, Calif. *Earl F. Giberson & Whitney R. Smith, Associated Architects*

28—Harlem-Irving Shopping Center, Chicago, Ill. *Barancik, Conte & Associates, Architects*

29—Woodmar Shopping Center, Chicago, Ill. *Victor Gruen & Associates, Architects*

30, 31, 32—Roosevelt Field Shopping Center, Nassau County, N. Y. *I. M. Pei & Associates, Architects*

33 to 42—Harwyn Shoe Store, Roosevelt Field Shopping Center, N. Y. *Ketchum, Giná & Sharp, Architects*

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Ezra Stoller: 11, 13, 14, 20, 30, 31, 32

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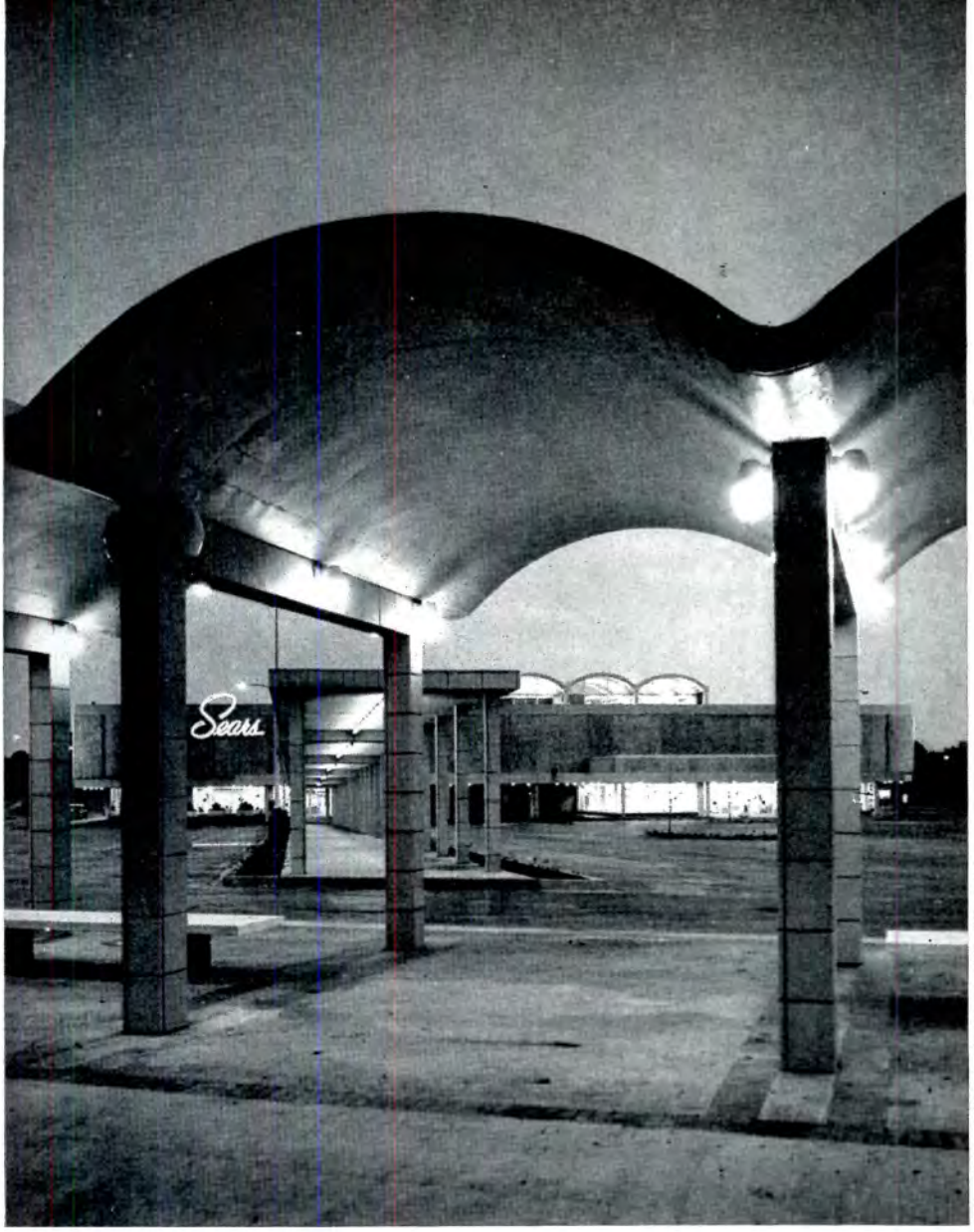


All photos: Allied Photographic Illustrators

Two New Stores in the Southeast

1. Retail Store
Sears, Roebuck & Co.
Memphis, Tenn.

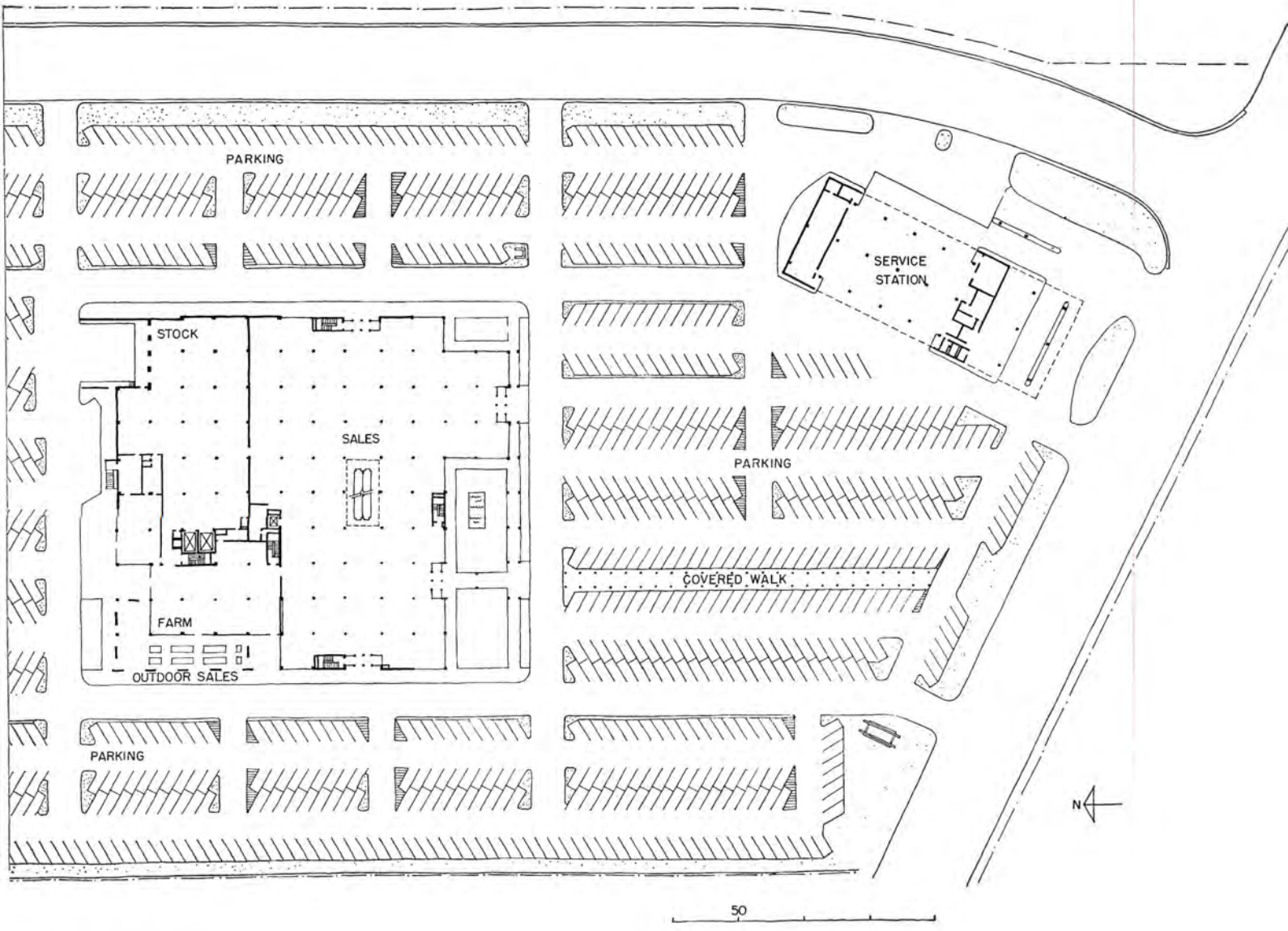
A. L. Aydelott & Associates
Architects

These two stores—while different in size and situation—none the less have in common the architectural problem of organizing, articulating, and enclosing a series of given sales spaces upon a given portion of the plot, with a set relationship between departments and a designated flow pattern between entrances and vertical circulation; all in general accordance with a set of schematics prepared by the owner's planning department. The Memphis store is one of two in suburban locations that serve that city; the Pine Bluff unit caters to an entire community of 40,000.

The exteriors—important in attracting the suburban motorist or pedestrian—have been handled with a degree of style and imagination. In both cases the regularity of the exposed, painted steel frame sets up a basic rectilinear pattern against which the surfaces, texture, and color of the panel infilling treatment offer an interesting counterplay.

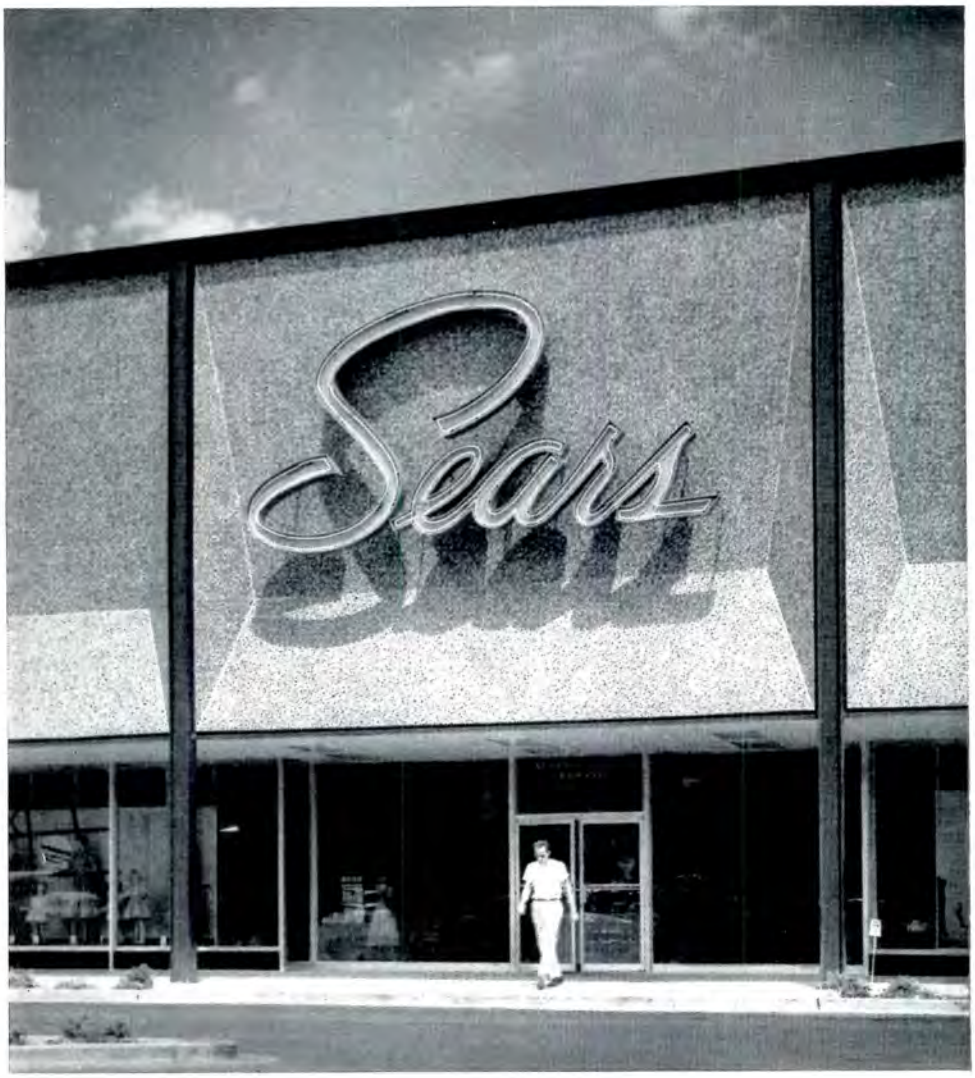
For the garden and farm sales area, textured pierced brick and gates of wrought iron lend a felicitous scale and character not common to a store containing 16,000 sq. ft

Sears, Roebuck — Memphis



The infilling—consisting of 9 by 20 ft precast panels—builds up an effective in-and-out texture of patterned rectangles. Blue gray terra-cotta bands at top and bottom tie together the various high and low elements of the scheme in neat fashion.

The third floor penthouse, devoted to offices and services, is enclosed by five barrel vaults that provide a gracefully undulating contrast to the rectilinearity of the main mass. The motif is repeated in the service station unit.



Trapezoidal Surfaces of Mosaic Tile

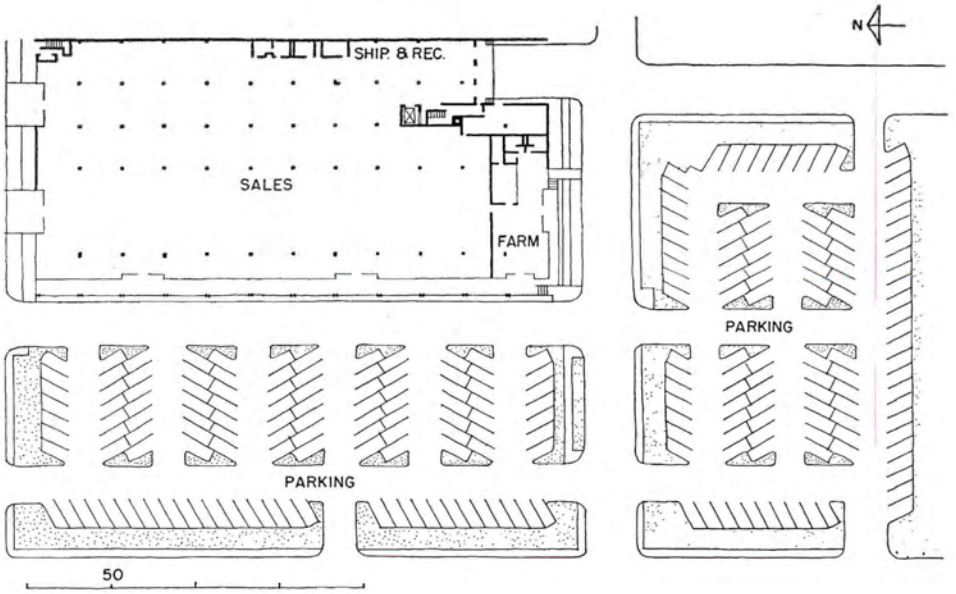
The infilling panels for the Pine Bluff store are of ceramic mosaic tile arranged in a concave trapezoidal pattern. The tile setting bed is supported on metal lath within steel frames, which are left exposed and painted to become part of the exterior design. The combination of panels, matte black structural steel members, carefully placed lettering, and the local yellow-flecked red brick creates a striking effect that is popular with both town folk and store personnel. The owners say "the store is doing well."

Presented with the problem of combining a two-story office and service element running the length of the building with an adjoining one-story sales space, the architect raised the ceiling of the sales area, used the 7-ft truss space for ducts, electrical and mechanical facilities, and came up with a clean, well organized parallelepiped as the enclosing form for the entire store and its services.

2. Retail Store
Sears, Roebuck & Co.
Pine Bluff, Ark.

A. L. Aydelott & Associates
Architects

With the exception of the exterior finishes, the construction and materials for the two stores are similar. Both are steel framed with roof slabs of lightweight insulating concrete; interior walls are painted plaster; floors are terrazzo; ceilings are finished with acoustic tile. Both stores are completely air-conditioned, and lighted by a combination of incandescent and fluorescent fixtures



The service station, an important element in every Sears retail store, had to be located in this case across the street. However, the essential character of the larger store was carefully maintained in the design of the smaller unit

Sears, Roebuck — Pine Bluff

A view of the principal façade as seen in sharp perspective, below, emphasizes the three dimensional aspect of the trapezoidal patterns in the exterior panels, which are 20 by 25 ft, with a maximum concavity of two ft

Architectural Engineering

LET THERE BE LIGHT Lighting levels are inexorably on the increase. In fact, the foot-candles for general lighting have jumped about 10-fold (from 10 to 100) in the last 30 years. Signs are that they will go still higher, if the newly recommended levels of the Illuminating Engineering Society are taken as an index. Averaged out, these are about 50 per cent higher than previously recommended. But more meaningful are the levels for specific tasks: in office buildings, 200 ft-c are suggested for detailed drafting (formerly, 50); for general office work, 100 ft-c (formerly 30).

Until now, pushing up lighting intensities was not a critical thing. But if they go to the magnitude lighting engineers are talking about—200,500, even 1000 ft-c—designers will have to work out solutions to the air conditioning load (even radiant heat effect at 500 ft-c is a problem), to glare and to brightness contrast (what about color in interiors?).

HOW MUCH LIGHT? Various classic researches have been used by the lighting industry in times past as rational justification for recommended levels. Basis for the new IES recommendations is research conducted by Dr. H. Richard Blackwell at the Vision Research Laboratories of the University of Michigan (he is now at Ohio State U.). This is generally acknowledged to be the best work yet for evaluating lighting needs. Key to the study is a concept called "visual capacity" which has to do with how long it takes a person to "see" some task—flaw in a gem, spot on some cloth, type on a page. This is measured in assimilations per seconds (APS). If it takes you 1/10 second, then the APS is 10. Blackwell has determined the foot-candles required for 56 practical tasks. Here are a few examples: A typed original done with a good ribbon would require only 1 ft-c; a typed carbon, fifth copy, would require 133; a typed original with very poor ribbon would require over 3000. Such are the variations encountered, which leaves room for differing interpretations when you get into specific buildings or areas. IES technical committees have used Blackwell's figures to revise their foot-candle tables. Eleven of 14 committee reports are in (one of the exceptions is schools). A detailed list is available from IES, 1860 Broadway, New York 23, N. Y. for 20 cents. Blackwell used students as observers in collecting data, and it is important to note that motivation as a factor was not a part of this research.

11-STORY CLEAR SPAN FRAME COLLAPSES Many questions are being asked about the collapse of an 11-story, welded steel frame for the home office building of Union Carbide Canada, Ltd. in Toronto, September 6. It happened at 6:20 p.m. on a Saturday, and miraculously there were no fatalities or injuries. Floors were 215 ft by 65 ft, with columns to be outside the skin, 11 on each of the longitudinal sides. Seven of the 11 stories had been welded, the top four had been bolted. Wind gusts were predicted, and it was raining hard at the time, but there were no reports of a windstorm. In this type of clear-span, rigid frame the wide columns and deep girders expose quite a bit of area to a wind. A newspaper photo taken 10 days before showed no spandrel beams in place at that time, but horizontal bracing in the longitudinal direction. Weiskopf and Pickworth of New York and a Canadian firm have been hired by UC to investigate the failure.

RESILIENT FLOORING SCRUTINIZED What are the sorts of things that give greatest trouble with resilient, smooth surface flooring? Some of the answers are given in a survey conducted for the Building Research Institute meeting on this subject last month in Washington. General conclusions of the survey were that there is a demand for both better information and workmanship, and that failure to follow installation instructions is one of the most serious difficulties. Major complaints against materials, as reported by 490 contractors, suppliers, building owners and government agencies were indentation; buckling or cracking; nail heads show through; hard to clean and polish; too hard. Elements of the supporting floor which gave trouble included underlayment, wood subfloors and concrete subfloors and slabs.

Footnote to the BRI conference: Not considered were the pockmarks that might be caused by women wearing the currently popular steel stilleto heels. An item in the September issue of Building Materials magazine of London quoted a story in the London Times to the effect that these heels could wreak more damage than a bull elephant or a wild rhinoceros whom "nature . . . endowed with a form of footwear . . . for all types of ground." A calculation by the editor showed that a young woman weighing 120 lbs, standing momentarily on one foot would exert a force of 1440 psi, over half a ton.

RUSSIAN CONCRETE MADE ONLY IN FACTORIES The Russians have gone after automated concrete component production as avidly as they have pursued their sputnik program, one would gather from talking to Ben C. Gerwick, Jr., former president of the Prestressed Concrete Institute. He estimated one plant he saw to be worth at least 12 million dollars. But he feels they have been over-eager in their mechanization, because many operations could easily have been handled by laborers with less fuss. Reason for their avidity is that there was practically no cast-in-place concrete in Russia, but all masonry. He says any of the plants he saw could turn out one-third the total U.S. production of any type of precast unit. Quality is poor; in fact in floor slabs, wire reinforcement placed by laborers sometimes comes in the bottom of the slab, sometimes on top, but by and large are structurally sound. While this is so, he still feels the bugs are minor, and that the Russian potential in the precast-prestressed field is tremendous.

THIS MONTH'S AE SECTION

"Folding Partitions Appraised for Noise," pp. 220-223. Shows how much noise reduction can be expected from a well designed, properly installed folding partition and the effect on intelligibility of speech.

"Fans Replace Tall Chimneys," pp. 224-225. Gives background information on induced draft fans; shows typical locations.

"Concrete in Europe and Russia," pp. 226-229. First-hand reports on precasting and prestressing.

"Reactor for Industry," pp. 230.

Time-Saver Standards, pp. 235, 237, 239. Public Swimming Pools.

FOLDING PARTITIONS APPRAISED FOR NOISE

By Howard C. Hardy,
Consultant in Acoustics
Chicago

Ideally, the best way of providing privacy between spaces is to use partitioning that has mass (weight) and no air leaks. There are times, however, when a solid, heavy partition is not the answer functionally, and a folding partition seems the most attractive solution. If this is the case, due account must be taken of the acoustical properties of the folding partitions, so that both architect and client will be satisfied with the result. Presented here is some quantitative information on their acoustical properties as well as recommendations on how to get the most out of them

The folding partition has become a compact, economical and attractive solution to the problem of multi-purpose flexibility for meeting rooms. Visual separation was once considered the primary requirement for the folding partition. More recently, acoustical characteristics have loomed importantly. Sometimes severe sound isolation demands have arisen, and the folding partition has been expected to perform better than may be possible physically.

Acoustical Measurements

Much of the misunderstanding in the appraisal of folding partitions is based on confusion regarding reports of its acoustical performance. The results of these reports have been confused because:

1. Acoustic performance is often reported in more general terms than is meaningful; it needs to be specified in terms of frequencies. These are usually expressed as averages, but many performance claims have been based on the average of values from different sets of frequencies.

2. Sound measurements have been made under unrealistic conditions. The test sample is generally smaller than typical installations, and may be mounted in arrangements which are not typical of representative use.

3. Considerable variance exists between data originating from different laboratories. It now appears that the most correct data have been obtained only recently through newly improved techniques. Performance figures from the newer tests are lower, and have not been widely publicized.

4. Laboratory results are reported within closer limits than are significant for most normal use. In fact laboratories report results to 0.5 decibel for partitions of which different samples might vary statistically by the order of 2 db.

5. Folding doors are sometimes compared acoustically with solid walls, which they are not intended to replace.

There also is some technical misunderstanding on how the sound is transmitted through a partition. The

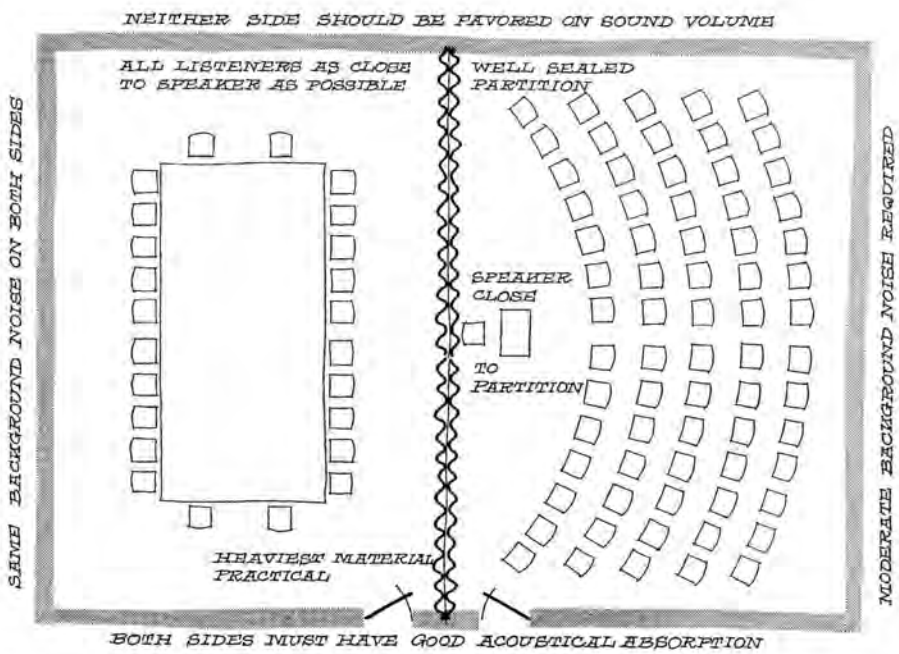


Figure 1.
Good practice criteria for sound isolation of meeting spaces when folding partitions are used

two most important factors in restricting transmission are (1) mass, and (2) the tightness of seal of the openings at the top, bottom and sides of the partitions. The approximate data are given in Fig. 2. The sealed door has an ASTM sound transmission loss (STL) (average of the 125, 175, 250, 350, 500, 700, 1000, 2000, 4000 cycles per second frequencies) given by the upper line. These data are realistic estimates based on precise laboratory results which have been correlated with the field measurements described below.

The greater the sound reduction provided by mass, the more important the seal. If the open area is greater than 0.3 per cent, sound reduction cannot be greater than 25 decibels. A ¼ in. crack at the top and bottom of a 10 ft partition would approximate an open area of 0.3 per cent. An opening of as much as 1.0 per cent would reduce transmission loss in heavier folding partitions 10 db, but would make a difference of only 2.5 db with the lighter ones. For example, a door with 25 db would drop to 15 db; whereas a lighter door with 15 db would drop to 12.5 db.

Because of the confusion in reported laboratory data, the writer has undertaken a field study of the performance of various types and designs of folding partitions in a range of typical locations. Measurements were made in churches, schools, conference rooms, hotels and lecture halls. The floor areas ranged between 200 sq ft and 3000 sq ft.

Magnetic recordings of noise in narrow frequency bands provided the source of sound energy. Sixteen of these frequency bands were used throughout the audible range. The sound was reproduced by loudspeakers on one side of the folding partition. Measurements were made with a sound level meter and band pass filter on each side of the partition.

The difference of the two readings gave a very detailed set of performance data. In most installations the results of these tests should have been one to three decibels higher than those obtained in the reference laboratories. In some instances this difference was found. However, in many cases the numbers turned out to be many decibels below published information. Most of these discrepancies probably can be ascribed to installations which were not up to the specifications of the manufacturer.

In Fig. 3 the noise reductions through a partition in a typically good and a typically poor installation are compared. The difference is 12 db or more. When the room absorption and the sound leak are taken into ac-

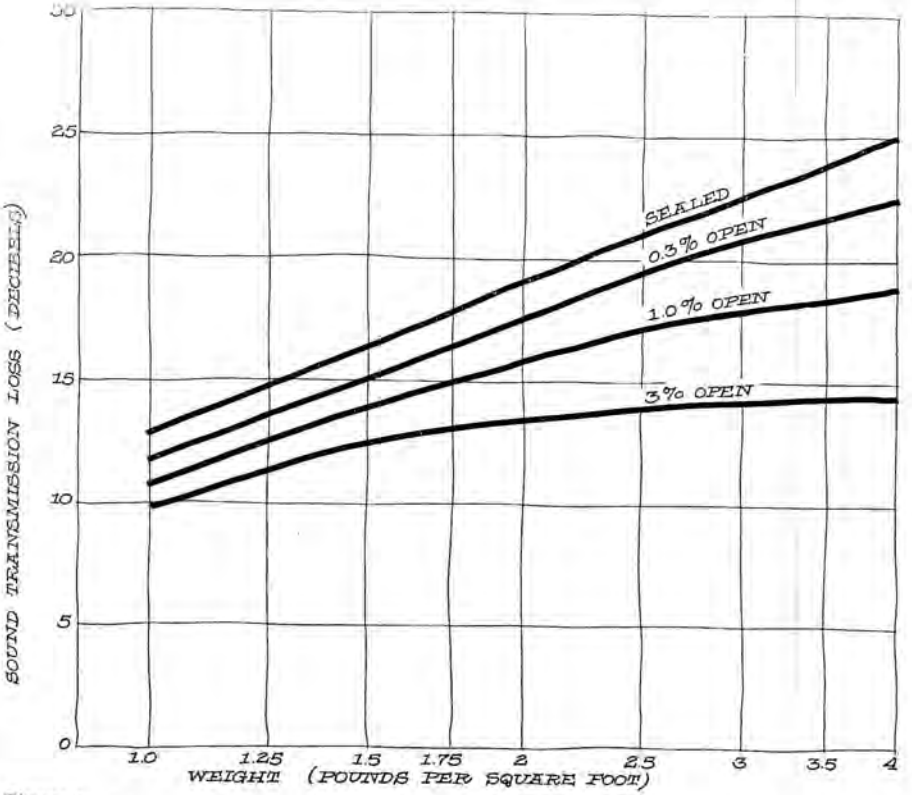


Figure 2.
The relation between sound transmission loss and the mass of a folding partition as it is affected by sound leakage through cracks

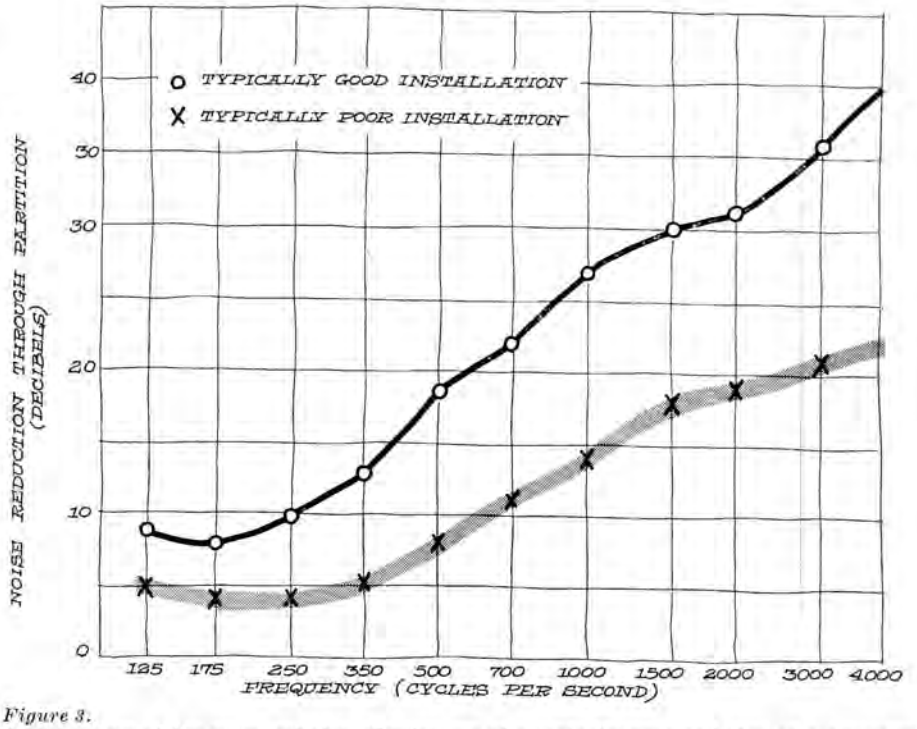


Figure 3.
A comparison of the noise isolation effectiveness of a typically poor and that of a typically good installation of folding doors

count, however, both agree with the design curve given in Fig. 2. All folding partitions by nature have little sound reduction at low frequencies. For elimination of speech interference, large low frequency noise reduction is not necessary, as shown in Fig. 5 A & B.

No significant differences were found among the various manufactured brands of similar types of folding partitions *provided they were of similar mass and were carefully installed.* The greater the mass, the better the performance of the partition, with careful installation.

Gaps beneath and above some of the partitions tested proved to be significant sound transfer paths. In one installation, where sound reduction was important, a floor gap up to one inch was found. To a lesser extent gaps were also found at the point of closure. The performance of folding partitions, therefore, depends very materially upon the efficiency of the sweep strips and jamb seals (Fig. 4) used in better installations to seal the tops, bottoms and jambs. The efficiency of the sweep strips depends mostly on the alignment of the door in relation to the floor and ceiling.

How Much Noise Reduction?

This brings us to the discussion of how much noise reduction is required for folding partitions. In many cases the most severe requirements occur when two meetings are being held simultaneously. Disturbances are caused by middle and high frequency noise from adjoining space interfering with the speech on the listener's side of the partition.

There is considerable information available in literature and handbooks which enables an acoustical engineer to calculate the effects of such conditions and to set up standards on performance. These standards have also been experimentally confirmed by qualitative and quantitative observations. The volume of a normal speaker's voice rises and falls during speech over a range of approximately 30 db, about 12 db above the average and 18 db below the average. It is not very important if the levels 12 to 18 db below average are heard since the lowest levels are often masked by the ambient noise. This leaves a fluctuation of about 24 db of voice sound which should be isolated by a barrier to prevent interference between the two rooms. Assuming that both sides have an equal chance, a reduction of about 25 db in the middle and high frequencies has been found to be about the minimum for acceptable performance. Our field tests show that a 25 db isolation is obtained in practice by a partition with a true ASTM (laboratory) sound transmission of about 20 db.

Graphically, the situation can be shown by Fig. 5A and Fig. 5B. In this figure the magnitude of the sound in decibels is plotted vertically, and the figure of the scale is plotted horizontally. The latter scale has been distorted purposely to weight the frequencies in equal proportion to their contribution to good listening. In this perspective, low frequency bands are quite crowded together and have little effect on the speech.

A typical noise background for a room such as a conference room or a small lecture hall is that given by the shaded area in the lower part of each figure. The relative effectiveness is measured by how little the transmitted speech overlaps the direct speech. It can be seen that, with poor isolation, as was shown in Fig. 3, much more of the speech comes through the partition and much greater interference is caused.

Effect of Acoustical Absorption

The sound reduction of the barrier depends not only on the barrier itself, but on the acoustical absorption which exists on each side. The deader the space, the better the sound reduction. Without special acoustical treatment, and with a reasonable number of people present, absorption will usually cause two to three decibels greater loss in transmission than that specified for the partition. If one has a partition which has 25 db attenuation, the total loss including that due to absorption may be as high as 28 db.

In better installations, attenuations as high as the above are obtained for the important speech frequencies. It is emphasized, however, that even under these circumstances care must be taken by the user in providing satisfactory environment.

To assure optimum acoustic performance of a partition separating two areas in which meetings, conferences, luncheons, class exercises, or lectures can be held, the following conditions must exist (see Fig. 1):

1. Neither side should be favored in the sound power output. For instance, one side should not operate a public address system without the other side having one too, and amplifications must be carefully controlled.

2. The greater the acoustical absorption on either side of the partition, the better. This may limit the size of the space which can be used on each side, however, to insure adequate voice power.

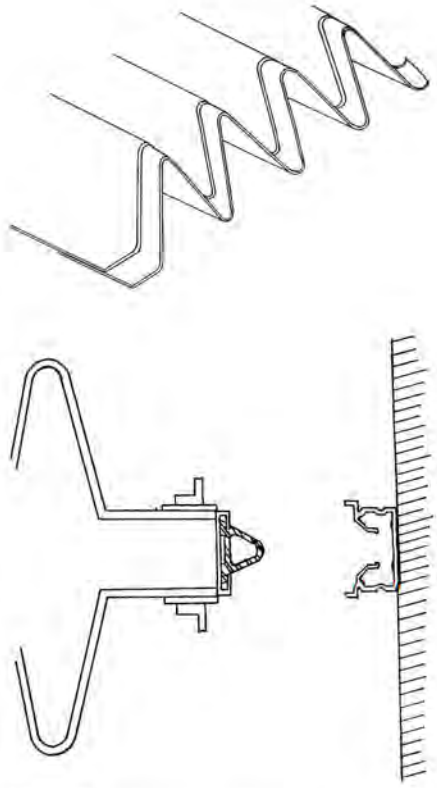


Figure 4.
Sweep strip and jamb seal

3. Moderate background noise is required, preferably equal on both sides.

4. The nearer all persons are to the speaker, the better. This means that seating people around a conference table or a single dining table is a better arrangement than locating the speaker at the end of the room.

5. Where it is necessary to have two lecturers in separate spaces speaking at the same time, the best arrangement is to have them back-to-back with the partition separating them. This will generally tend to increase the ratio of sound from the wanted over the unwanted side.

As a result of intensive study of field tests made in a range of typical situations, we can draw certain conclusions concerning the acoustic performance of folding partitions.

Caution should be employed in the use of published test results. They are sometimes derived by averaging different sets of frequencies and are usually obtained under non-representative conditions.

Mass and seal are the most important considerations for effective acoustic performance by folding partitions. Those with greater mass and careful installation, including sweep strips and jamb seals, will usually perform satisfactorily for the majority of requirements.

Even with optimum performance, reasonable care must be employed with public meeting arrangements to minimize inequities between adjoining spaces.

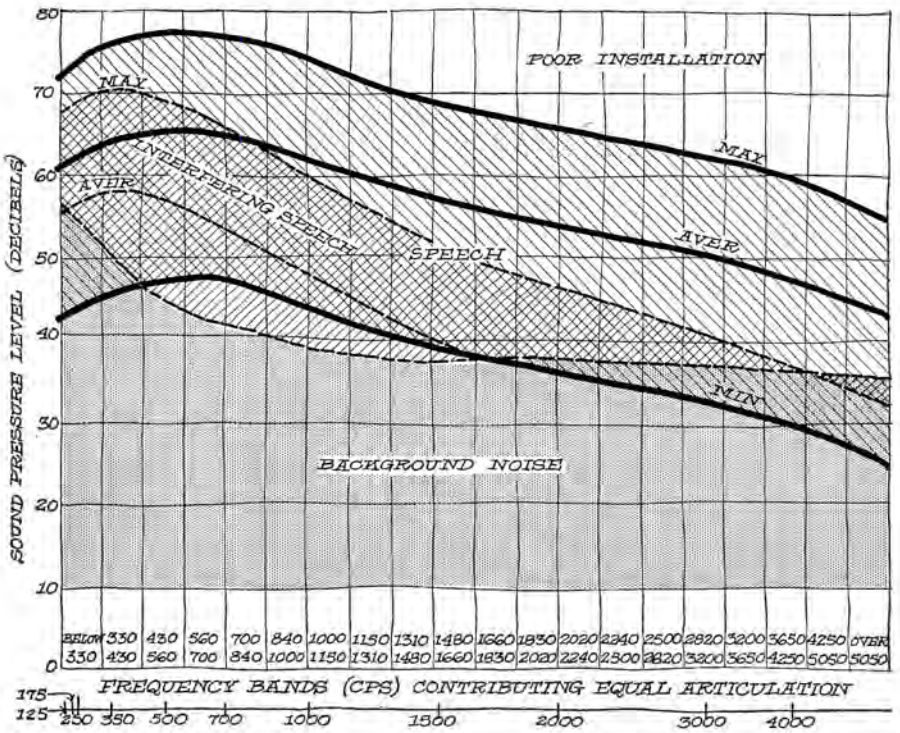


Figure 5a.

Charts comparing how much speech interference is transmitted through a good and a poor folding partition. The horizontal scale is distorted to give equal weight to the frequencies important in speech intelligibility. The lower shaded areas show the noise background that may be expected in a typical environment. The relative size of the speech interference area is a measure of the effectiveness. In the good installation, only the peaks of speech in the lower frequency bands are transmitted through the partition

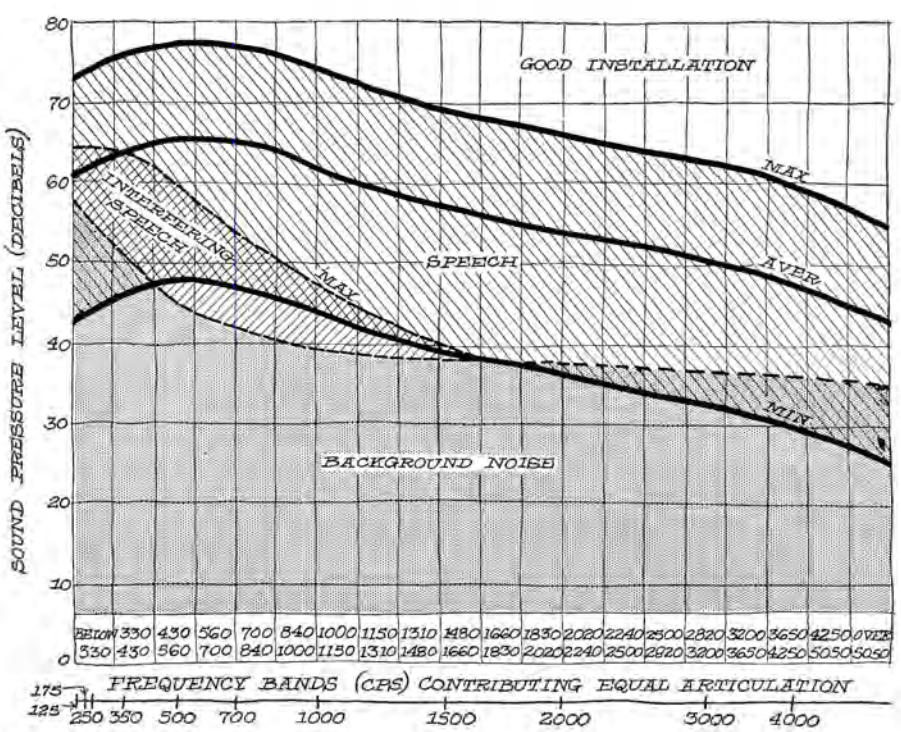


Figure 5b.

FANS REPLACE TALL CHIMNEYS

By George Nash*

With either forced draft or induced draft fans, a chimney—which might detract from a building's appearance—can be avoided. Forced draft fans are generally used where the boiler may be pressurized with air (such as scotch-marine type); induced draft fans generally where such practice might be hazardous (such as cast iron boilers). Induced draft fans can be installed almost anywhere, and this article shows some of the possible locations for them

Placement and height of a tall smoke-stack or chimney in connection with boiler installations is frequently a problem for the architect, particularly with one-story buildings. A tall stack which ordinarily is required to create sufficient draft to insure proper combustion and to carry smoke above the building is difficult to integrate unobtrusively into the design of low buildings such as schools, factories, shopping centers and large private houses.

Also the chimney or stack height and location that are best suited to a building from an architectural standpoint will not always be satisfactory for the proper operation of the heating equipment.

Adequate and dependable draft is required for good combustion. Combustion products with insufficient draft are unburned particles and carbon monoxide, which not only make for inefficient operation, but pose hazard and nuisance problems as well. On the other hand an excess of air above the volume required for complete combustion not only is wasteful but can create combustion difficulties. The problem is one of providing the right amount of air in the combustion chamber of the furnace for any varied load condition.

A mechanical method of insuring draft is to use an induced draft fan to draw the combustion gases through the boiler. Only a short stub stack is needed to vent the flue gases to the outside.

Operationally, the draft inducer has the advantage of creating a dependable, steady flow of air at all times to suite the combustion requirements. One of the frustrations of natural draft induced by a tall stack is its variability. Natural draft varies with the outside temperature, with outside humidity and with the direction and force of the wind. It is affected by hills and neighboring tall buildings. Natural draft also varies with the stack gas temperature. A cold stack does not provide as much draft as one that has been heated by flue gases. While excess natural draft can be controlled by means of dampers, the operator does not always have sufficient draft available to permit control.

*Combustion Engineer, L. J. Wing Manufacturing Co.

Mechanical Draft Inducers

There are various types of draft inducers available. *Figure 1* illustrates a popular design which is a simple mechanism consisting of a motor drive airfoil fan in a metal housing that is made part of the breeching or flue of the stack. The fan rotates on air-cooled bearings. External cooling air is drawn over the bearings at all times. Hot flue gases do not contract the bearings.

The entire rotating fan assembly can be removed for inspection and maintenance from the housing when necessary, without disturbing the breeching.

CAPACITIES. The draft inducers illustrated can accommodate both heating and power boilers. They are available for all heating boilers as small as 1000 sq ft EDR (equivalent direct radiation), and for high pressure boilers up to approximately 100,000 lb per hour of steam.

DRIVES. Variable speed drive provides the most efficient operation, most convenient draft adjustment, and lowest electrical costs. V-belt drive eliminates possibility of misalignment due to expansion and contraction movements.

Variable speed motors permit running at high speeds for full-load operation of the boiler and at lower speeds for maintenance of steam pressure at lower steam demands. The same regulation of fan speed can be obtained by means of constant-speed motors in combination with adjustable pitch sheaves incorporated in the belt drive.

Direct drive by motor or steam turbine can also be furnished. A turbine is desirable if there is low pressure steam which can be supplied by reducing valves from a high pressure steam header. A turbine will also prevent disruption of operation due to electrical power interruption.

In some installations a combination of turbine and electric motor drive is most advantageous (*Fig. 2*).

LOCATION. Draft inducers are placed directly in the breeching between the boiler and the stack and can be mounted in a number of places. When space is too restricted in the boiler room, inducers can be mounted on top of the stack (*Fig. 3*). They can also be mounted on top of the boiler itself at the beginning of the breeching.

In cases when the stack is separated from the boiler room, the inducer may be installed out of doors in the breeching (*Fig. 4*).

Many inducers are installed in existing plants to replace stacks that have corroded or have been damaged. This situation often presents severe space problems. Existing girders, pipes and walls may interfere with the placement of the inducer. However, many ingenious designs have been worked out for fitting draft inducers into limited spaces.

Because of their relatively light weight, inducers can be supported in several ways. Many are hung from the ceiling or roof. In other cases they are mounted directly on supporting platforms built up from the floor. Wall mounting is still another method. *Fig. 5* illustrates a number of units suspended from overhead.

NUMBER OF INDUCERS PER INSTALLATION. Generally one inducer is installed to serve one boiler. There are however many installations in which one inducer is employed to serve two or more boilers especially where the stack height may be adequate for light loads (*Fig. 6*).

For multi-boiler installations, an inducer for each boiler is usually most advantageous from the standpoint of increased protection against draft interruption.

SELECTION. For many heating boiler applications, the correct size of draft inducer can be selected quickly and without difficult computations directly from manufacturers' tables.

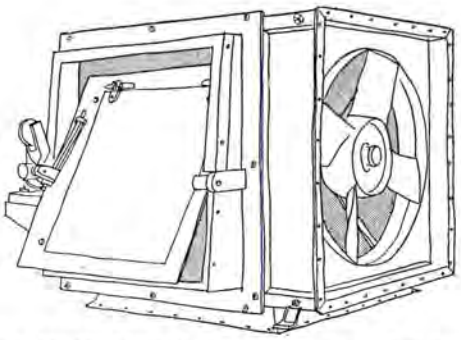


Figure 1. Draft inducer is a motor-driven airfoil fan in a metal housing

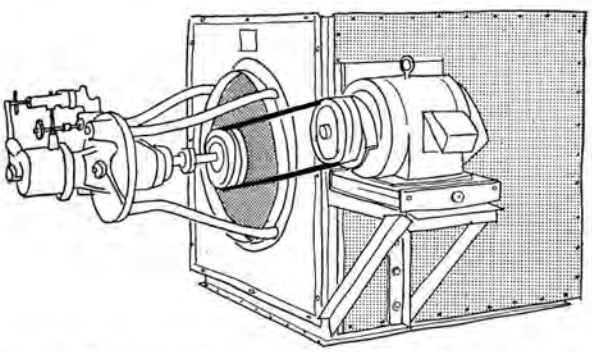


Figure 2. Combination motor-driven and turbine-driven inducer can operate on steam, when power fails

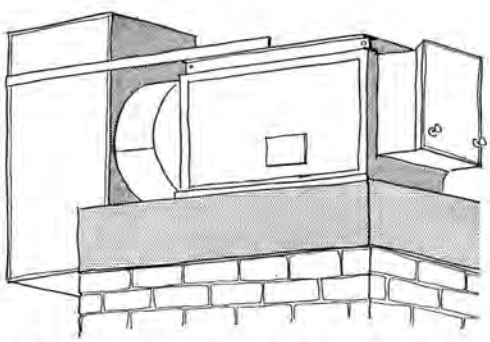


Figure 3. One place for a draft inducer is atop the short chimmy

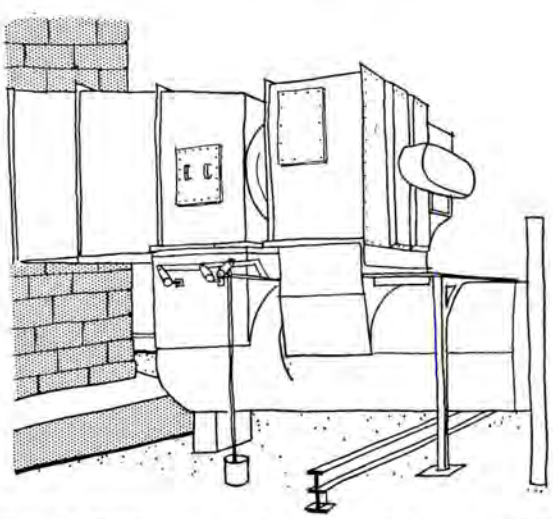


Figure 4. The inducer may be mounted at beginning of the breeching

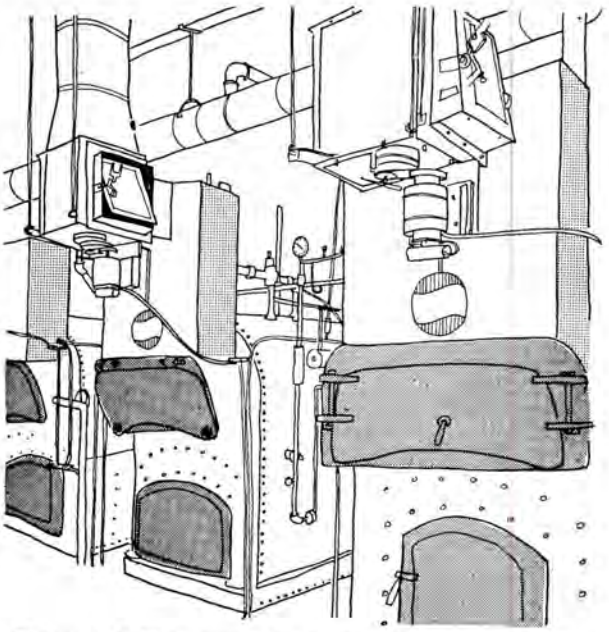


Figure 5. Ceiling suspension is frequently a way of installing inducers in boiler rooms

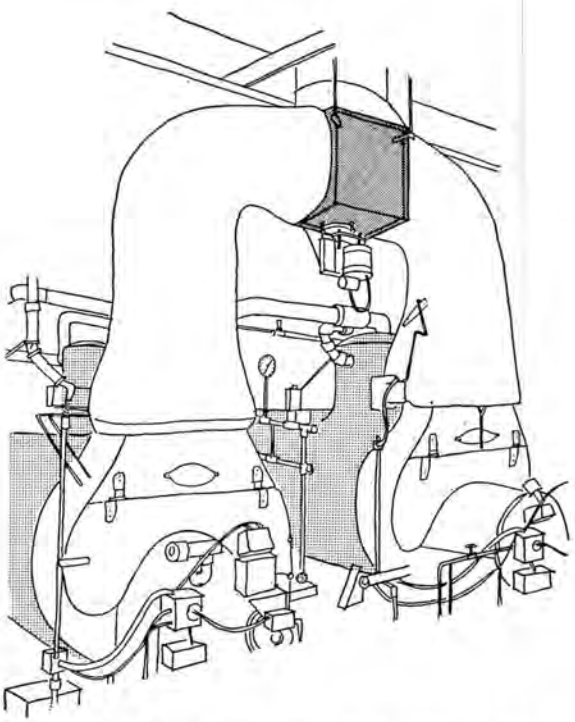


Figure 6. Here one draft inducer in the breeching serves two boilers

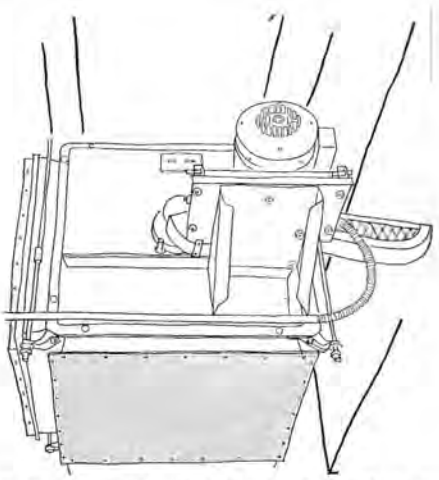


Figure 7. Steady, controlled draft by fan aids incinerator combustion

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CONCRETE IN EUROPE AND RUSSIA

Increasing trend to prefabrication noted by recent observers

Conferences of note on prestressed concrete started at M.I.T. in 1951 and have continued with the San Francisco meeting in '57 and three congresses of the Federation Internationale de la Precontrainte [Prestressing] in London ('53), Amsterdam ('55) and this year in Berlin. These latter meetings have provided opportunities for Americans to keep up with the latest practices overseas and to see some of the latest structures at first hand. Following the meeting in Berlin this May (where it was evident that, among other things, prestressed concrete has become as recondite as any accepted science) several US engineers availed themselves of the opportunity and did some sight-seeing, among the new structures and factories. Two engineers from the New York area have reported on their trips for AR. The first of these is of Irwin Speyer of the Freyssinet Company, New York. (Photos by the author)

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John Laing & Son, Ltd.

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European Report

While the spectacular is always impressive, much can be learned from everyday projects, and it was these that most interested us. Surprisingly, and contrary to our usual impression of European practice, manufacturers report that, since field labor is a lot more costly these days, even in Europe, precasting achieves considerable economies. This is apparently true in England, where precast buildings have been the subject of research and development by both manufacturers and general contractors. Fig. 1 shows a full-scale mockup of two-story wall panels for school construction. These panels incorporate the columns and lintel beams, and are connected to the remainder of the structure by welding of the reinforcement and some cast-in-place concrete. In Denmark also, much is being accomplished in the field of precast concrete housing. Fig. 2 shows stored wall panels for multi-story construction, particularly interesting in that glazing is factory-installed. Exterior finish has a pattern of regularly spaced indentations, formed by a synthetic rubber mold liner. This finish reduces the observable differences in color which occur when concrete is trowel finished. A number of proprietary systems have been developed in this field, two prominent ones in England being *Intergrid* and *Laingspan* (Fig. 3). Precast trusses are a feature of both these systems and these trusses, made up in standard lengths, are joined to form the required lengths by post-tensioning. To be economical such systems must be designed on a modular basis and *Intergrid,* for instance, uses a 40 in. grid module. Load capacities are usually determined by exact and detailed engineering analysis, followed by testing a full-sized prototypes. The resulting structures are remarkable for their thinness. It is probable that variations of these systems could be made economical for the American market provided that individual framing members were made longer to reduce the number of field joints.

The development of long span trusses is exemplified by a warehousing facility in Denmark where trusses are made in standard panel lengths and joined by post-tensioning. It has been reported that some concrete truss structures have shown hairline cracking at the junctions of chord and diagonals, and this points up the fact that adequate reinforcing must be provided for the secondary stresses occurring at those joints. With such reinforcing, this hairline cracking will not reduce the safety of the structure.

In the Lowlands, particularly Holland, the bridge construction for their excellent highway system is impressive. A recent advance in technique in the construction of precast roadway overpasses is illustrated by the bridge in Fig. 4. This structure employs factory-cast pretensioned members, made continuous by lapping alternate members over the pairs and post-tensioning transversely in this region to provide the necessary shear resistance for moment transfer. The method can be illustrated by interlocking the fingers of both hands and squeezing transversely. The total resulting depth of

construction is less than that of the more usual I-beam construction and presents a pleasing finished appearance.

A product of the precasting plants in Holland, which has gained wide acceptance and is seen everywhere along the highways, is the bus stop shelter shown in Fig. 5.

In all the countries visited there is an observable trend toward automation in the factory-cast pretensioning industry. In England, for example, a proprietary concrete extrusion machine produces approximately 2000 sq ft of hollow cored flat slabs daily, requiring only 5 men in the process. The extrusion machine travels along laying the zero-slump concrete, carrying with it a short section of side form and rubber core form. Slabs are cured by heating the casting bed and keeping the top surface moist. When the proper strength is reached, the pretensioning force is released and rollers in the casting bed are actuated, rolling the complete length of slab (250 ft) toward a stationary concrete saw. The slab is cut into the required lengths which, while being cut are supported on a fork-lift truck. The cut pieces are then carried to the storage yard. In Denmark there is a plant manufacturing light inverted T members designed to support ceramic tile floor units which uses movable pretensioning beds. In this increasingly-popular scheme, the beams are passed through the various operations of steel placement, tensioning, concrete placing, curing and stripping in gang molds, designed to act as compression struts against which the reinforcing wires are anchored. The beams, employing a combination of straight and deflected wires to achieve a more desirable profile of prestress, were being manufactured at the rate of 550 ft per hour.

There are several factories in northern France which produce the widely-used (in Europe) floor slabs made up of ceramic tile and prestressed concrete. These slabs are plastered below and topped with concrete. A number of textile mills were visited whose owners, having discovered the advantages of long-span construction, find it economical to use 60 by 80 ft bays or larger, employing continuous prestressed concrete construction to achieve these spans.

Everywhere in France, dotting the landscape like thick-stemmed mushrooms, are prestressed watertowers as shown in Fig. 6. These are generally built using slip forms [as in the New York-Boston television relay towers] with the top being circularly prestressed in the usual way. In the region near LeHavre, a suspension bridge is being built with a span of 2000 ft. The bridge is notable in part for its towers cast in slipforms (Fig. 7), its prestressed approach spans (Fig. 8) of 150 ft and the use of neoprene bearings in the right bank anchorage and approach spans.

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Russian Report

Many reports from individual observers have come out of Russia about the heavy emphasis on precast and prestressed concrete. This May, following the F.I.P. Congress in Berlin, six American concrete experts visited Moscow and Leningrad by invitation of the Soviet Academy of Construction & Architecture and saw huge automated factories turning out standard prestressed, precast concrete elements for housing projects. The USSR (which doesn't have to worry about stockholders) has invested heavily in equipment and research concerning housing design and components manufacture and the US delegation saw many of the results of this investment. Below, is a report from one of the Americans, David Billington, Project Manager, Roberts & Schaefer, New York.

Our delegation, reciprocating a visit made by Soviet engineers to the World Conference on Prestressed Concrete in San Francisco last year, was under the leadership of Professor T. Y. Lin of the University of California and included Prof. Lin, Prof. Boris Bresler (also of U. Cal.), Ben C. Gerwick Jr., president of the Prestressed Concrete Institute, James D. Piper, vice president of the Portland Cement Association, Walter Price, former president of the American Concrete Institute, and myself. In both Moscow and Leningrad we gave lectures on American engineering and were treated with courtesy and respect wherever we went.

Precast concrete factory overall view; inside domes made of precast segments; construction view of precast prestressed concrete column

Photos on this page taken for ARCHITECTURAL RECORD *by Jane Doggett*

Photographs of manufacture and assembly of apartment buildings in Leningrad. These buildings are made up of precast and prestressed panels cast in a factory (different from that shown on previous page) and trucked to the site. Picture above shows joints between panels being touched up after assembly. Above right, buildings are being assembled with the aid of the ubiquitous 3-ton crane. Right and below are pictures taken in a thoroughly mechanized concrete panel factory: first a view of the casting floor showing floor panels on setting beds; and below the interior of the control booth on the casting floor; at bottom, a view of the concrete batch-mixing station showing the operator reading batch scales

Exploded assembly drawing of the typical apartment building shown above, illustrating manner of joining precast parts

We saw large research laboratories carrying on multimillion dollar research programs in building with numerous large scale testing projects such as a prestressed concrete truss 100 ft long, and precast prestressed concrete thin shells. One entire laboratory is devoted to production machine design for factories making prestressed concrete products. One of the machines (shown in a film at San Francisco last year) works on the same basic idea of wire wrapping used on prestressed concrete tanks in this country. Wire is wrapped around steel pegs set at each end of steel pan forms, the concrete is cast and when it hardens, the pins are withdrawn, transferring the stress to the concrete. Of course various paths may be traced out by the wire for particular shapes.

We saw huge factories where prestressed and precast concrete slabs, pipes, girders, etc. were produced on assembly lines using machinery developed in the research laboratories. In one factory, the buildings themselves are unusual structures, all fabricated of prestressed, precast pieces. One building features a pair of 133 ft square domes, each made from 135, 3½ ton pieces, assembled on the ground and raised 66 ft up onto precast columns. A second structure is roofed with corrugated thin shell arches 330 ft in clear span with a post-tensioned diaphragm tension tie. A third building made extensive use of precast prestressed trusses for columns, main frames, crane girders and wind bracing. Even the foundations were made with precast spread footings.

The structures mentioned above were displayed in the form of plastic models in the USSR pavillion at the Brussels Exhibition and are typical of many such structures of which we saw architectural renderings and preliminary designs. They seem to indicate a trend toward modern space architecture as opposed to the monumental style typified by the huge Moscow University, completed just three years ago.

We saw big apartment house projects with thousands of apartments all built of precast concrete pieces made in factories and shipped to the site for erection. These projects are being built as fast as possible in order to reduce their severe housing problem, and as a result there is some sacrifice of quality and, to some extent durability. On the other hand their methods of production and erection are interesting and ingenious.

The importance of prestressed and precast concrete to the Soviet

Union is well illustrated by the fact that we were told upon our arrival that Premier Khruschev had had a private showing of a US film on the Lake Pontchartrain bridge (24 miles of prestressed concrete) just prior to our visit. We saw a good deal in eleven days and were impressed, not so much by the quality of their work or its beauty, as by the scale of their undertakings and their apparent potential for mass production.

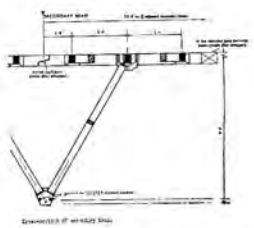
Proceedings on Prestressed Concrete

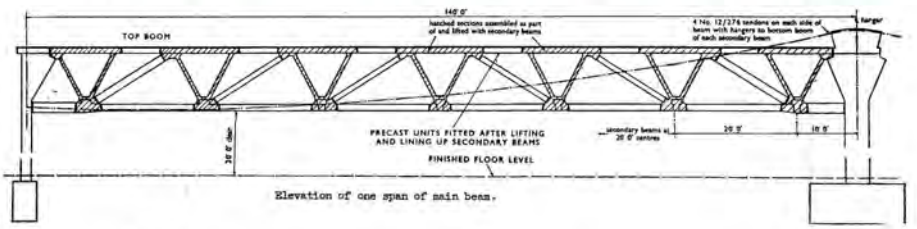
Second Congress of the Federation Internationale de la Precontrainte *Cement and Concrete Association (50 Grosvenor Gardens, London, S.W. 1), 1958. 990 pp., illus. $15.00*

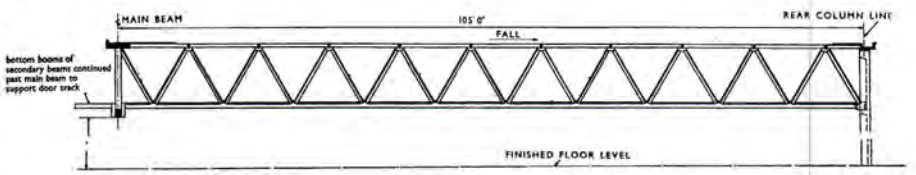
The result of a two-year compilation effort, this fat (2½ in) volume contains the complete transactions of the 1955 F.I.P. congress in Amsterdam. More than 80 contributors from 30 countries delivered the papers here printed in the language in which they were read. Abstracts, general reports and communications are in the three official languages, French, German and English. The reports all deal with work completed in the period 1953-55 in such categories as grouting, steel, indeterminate structures, and thin shells. The proceedings of the first F.I.P. congress, London in '53, 254 pages and 30 contributors, was issued in 1955.

An Example of Precast Space Frame in England

Left: Building while still in progress showing main beam and its relation to secondary beams. Main beam prestressing cables exposed near center column. Below: Completed building, airline administrative offices to the left







Cross-section of hangar showing side elevation of secondary beam.

Top. Underside view of assembled space frame, main beam beyond top of picture. Above. Section of secondary beam, dark areas in bottom member are slots for post tensioned prestress cables. Right Above. Left half of main beam, hatched sections assembled with secondary beams. Right Below. Secondary beam, assembled on the floor and hoisted directly into place

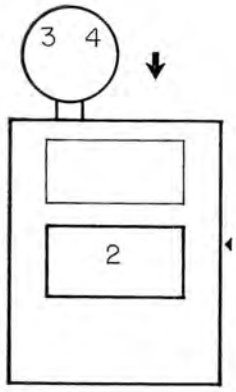
Built at Gatwick Airport (South of London, England) for an independent airline, this building provides an operations base, offices and a maintenance hangar for the company. The roof structure provides clear span coverage of 110 ft by 280 ft and a clear height of 30 ft while occupying 11 ft of depth, of which roughly 9 ft is structure. All structure is prestressed concrete, the roof structure being precast and post tensioned concrete of an elegant thinness. Making the secondary beams triangular in cross section eliminated purlins, and horizontal thrusts of the triangular web members were opposed by diagonal members in the plan of the roof. After all the frames were lifted into place they were stressed together transversely by continuous cables. The completed roof weighs a little under 30 lb per sq ft of which 22 lb per sq ft is beams.

The concrete apron in front is also of prestressed concrete. A. J. & J. D. Harris were the designers.

REACTOR FOR INDUSTRIAL RESEARCH

1. Entrance to main building, reactor dome behind utility attic

2. South side in inner court, showing laboratory windows and vent stacks



3. Top of pool, control rod operating gear at left, taken from control room

4. View of control room from main floor, circular crane track above, hot end of pool at left

Turner Construction Company

Air view showing garage and pool cooling tower upper left, lab cooling tower in attic

Due to be formally dedicated this month is "the nation's first privately owned nuclear research reactor, intended for experimentation on consumer goods." The facility is to be operated by Columbia University and is owned by ten manufacturers including American Machine & Foundry Co. whose subsidiary AMF Atomics Inc. acted as agent and prime contractor for the group. The main building of a total of three, all designed by Skidmore Owings and Merrill's New York office, has the reactor dome to the South, a wing full of utilities and "hot" cells with accompanying storage and handling facilities, and the North wing of laboratory rooms. The reactor is a "stock" 5 megawatt pool type using 4.5 kg of Uranium and having walls up to 10 ft thick at the hot end. Air conditioning maintains a slight negative pressure in the dome and does not recirculate the air, exhausting through "absolute" filters.

Operations of the reactor will in-

continued on page 240

MODULES FOR TEXAS SCHOOLS

by Charles T. Roberts, Chief Consultant
School Plan Services, Texas Education Agency

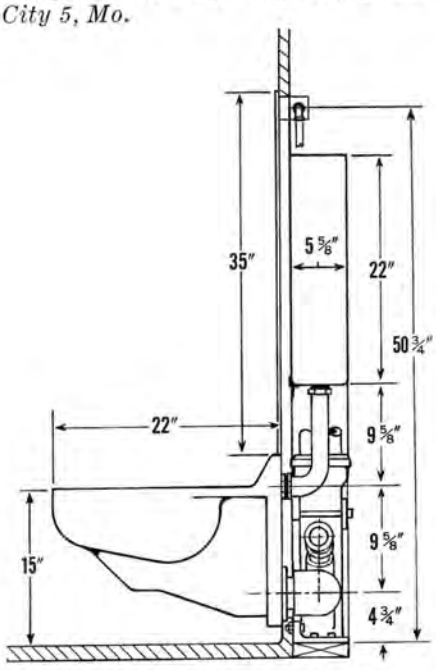
The Texas Education Agency, assisted by the building research staff of the Southwest Research Institute of San Antonio, is working toward the day when, through dimensional coordination, an architect can design and the contractor can erect a school building in considerably less time than now required.

The United States Office of Education provides most of the funds for this 3 year study and the Texas Education Agency is providing staff time and services. The research is being done by research architects and engineers from the Southwest Research Institute, a not-for-profit scientific organization. The study is scheduled for completion by June 30, 1960.

continued on page 240

Odorless Gas-Fired Incinerator

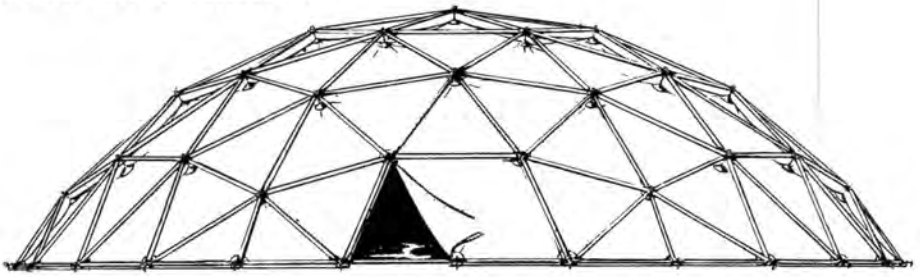
The *Warm Morning* incinerator is said to achieve odorless, smokeless burning by the use of a special burner and baffles. The primary flame will burn an average load in two and a half hours. An "after burner" completes combustion in gases driven off in the primary burning. *Locke Stove Company, 114 West 11 Street, Kansas City 5, Mo.*



Wall-hung Residential WC

Walsan is said to be the first WC to have a concealed steel tank that fits into a 6-in. wall. The tank, coated with insulation to prevent condensation, can be reached through a 12 by 35 in. steel panel which can be painted to match the room. The commode protrudes 22 in. from the wall, and is supported on a combination fixture that holds up the bowl and carries off waste as well. *Crane Company, 836 South Michigan Avenue, Chicago 5, Ill.*

ALUMINUM AND PLASTIC DOME FOR STORAGE, TEMPORARY SHELTER



A 1300-lb aluminum and plastic dome, 57 ft. in diameter, is designed as a reusable, demountable warehouse, barn, salesroom and silo. The dome is constructed of aluminum struts with a non-rigid, seamless plastic skin, and, according to the manufacturer, can be put up or taken down in eight man-hours. The cost is $3,750, FOB Mechanicsburg, making $1.50 per square foot, exclusive of construction. *Capitol Products Corporation, Mechanicsburg, Pa.*

Combination Intercom

One system can be used for intercommunication between parts of offices and warehouses, and for playing background music at the same time. Each *"Harmony"* system consists of a master station and several remote stations. The master station can include a radio receiver and a phonograph. Cost is low, and installation easy, says the manufacturer. *Continental Manufacturing, Inc., Omaha, Neb.*

Shelf and Lavatory

The *Ledgend* lavatory combines a dressing table and bathroom sink in a single china unit. Designed for hotels and motels, it can be equipped with fittings for hot, cold and iced water. It is available in eight colors. *Kohler Co., Kohler, Wis.*

Door-Closing Hinge

Spira-Lift hinges are reputed to make thresholds unnecessary, and to eliminate dragging on floors, because of the way they lift a door when opening. The manufacturer says that they are as easy to install as any hinge, and that no weatherstripping is necessary with them. *Beckhart Hinge Manufacturing Company, 11433 East Garvey Avenue, El Monte, Cal.*

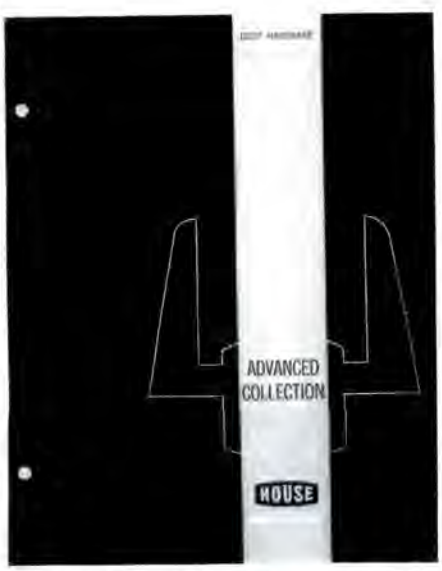
Light Indoor Fire Hose

Rack-N-Reel, a cotton-and-dacron jacketed, neoprene fire hose for use indoors weighs two pounds less per 50-ft length than standard hose used in the past, says the manufacturer. It is claimed to be more flexible than standard hose, and the lining eliminates the "weeping" usually associated with unlined hose *Hewitt-Robins Incorporated, Stamford, Conn.*

New Concrete Form Lubricant

A new form lubricant for prestressed concrete leaves concrete with a smooth surface and will not build up in the forms according to the manufacturer. The compound costs about 20 cents a gallon, and ordinary spraying equipment can be used for applying it to wood and steel forms. *Shell Oil Co., 50 West 50th Street, New York 20, New York.*

more products on page 268



Door Hardware (A.I.A. 27); complete "Advanced Collection" of door hardware for all types of doors. Fully illustrated, with drawings showing dimensions. 21 pp. *Elmer T. Hebert, 219 East 44 Street, New York 17, N. Y.*

Formica Application Data Sheets

Additions to the *Formica* handbook, including spec bulletins 112 B, for laminated counter top and base cabinet; 115 A, for *Formica* panelling in shower and tub areas; 116 A, 117 A, for manufacturing *Formica*-covered hollow-core and solid-core doors, respectively; 118 A, for applying *Formica* to metal elevator cabs. *Formica Corporation, 4614 Spring Grove Avenue, Cincinnati 32, O.*

Lighting Fixtures

Catalogue of commercial units, troffers, strips, industrial reflectors, bullets, residential units, etc. 32 pp. *Luminous Ceilings, Inc., 2500 West North Avenue, Chicago 47, Ill.*

New Bulletin on Circuit Breakers

For residential, institutional, commercial, and industrial applications. Bulletin SD-100 gives detailed description of QO breaker features, and information on load centers and panelboards. Tables and specifications guides are included as aids to selection. 16 pp. *Square D Company, 6060 Rivard Street, Detroit 11, Mich.*

Doors, Windows, Glass Walls

(A.I.A. 16-E) Contains illustrations and specifications of all Arcadia aluminum and steel sliding glass doors, windows, and window walls. Both stock and specially made-up items shown. 36 pp. *Arcadia Metal Products, Fullerton, Cal.*

Plastics Catalogue

Gives data and prices on plastics in the form of sheets, rods, tubes, balls, liquid, and films. 74 pp. *Auburn Plastics Engineering, 4616-24 South Loomis Street, Chicago 9, Ill.*

The Talents of Tile

. . . *in School and College Buildings* (A.I.A. 23-A-2) is a collection of pictures of Romany Spartan tile installations. *United States Ceramic Tile Company, 217 Fourth Street N. E., Canton 2, Ohio.**

Underfloor Ductwork Catalogue

(A.I.A. 31-C-62) includes descriptions of types and sizes of ducts, and fittings, as well as detailed dimensions. *Spang-Chalfant Division, The National Supply Company, 2 Gateway Center, Pittsburgh 30, Pa.*

Weldwood Textured Wood Panelling

. . . Contains data about four decorative plywood panels. 8 pp. *Nancy Stuart, United States Plywood Corporation, 55 West 44 Street, New York 36, N. Y.**

Automatic Controls Catalogue

. . . for heating, ventilating, and air conditioning systems describes a complete line of electric thermostats, pressure controls, humidistats, motor-operated valves, etc. Operational and application data incorporated into each description. 52 pp. *Barber-Colman Company, 1300 Rock Street, Rockford, Ill.**

Solar Screen

. . . Bulletin containing eight new designs of ceramic veneer sunbreaks. *Federal Seaboard Terra Cotta Corporation, 10 East 40 Street, New York 16, N. Y.*

Gymnasium Floor Facts File

Includes information about sanding, sealing, stripping, finishing and maintaining gymnasium floors, as well as how to lay out a basketball court and much information about Midland Finish and sealer. *Midland Laboratories, Dubuque, Iowa.*

Expansion Joint Standards

Contains new information about design, construction, application and testing of expansion joints. According to the publisher, much of the information included has not been published before in any textbook or handbook. 31 pp., $1.00. *Expansion Joint Manufacturers Association, 53 Park Place, New York 7, N. Y.*

Immersion Steam Boiler

Bulletin No. 5208 gives specifications and sizes of the Sellers model 77-E Immersion Steam Boilers. *Sellers Engineering Company, 4876 North Clark Street, Chicago 40, Ill.*

Fire and Flood

Building Loss Possibilities From Fire and Natural Hazards discusses the damage that can be done to buildings by windstorms, termites, lighting, fire, earthquakes, floods and fire, and suggests preventative measures. Pertinent codes and standards are listed. *National Board of Fire Underwriters, 85 John Street, New York 38, N. Y.*

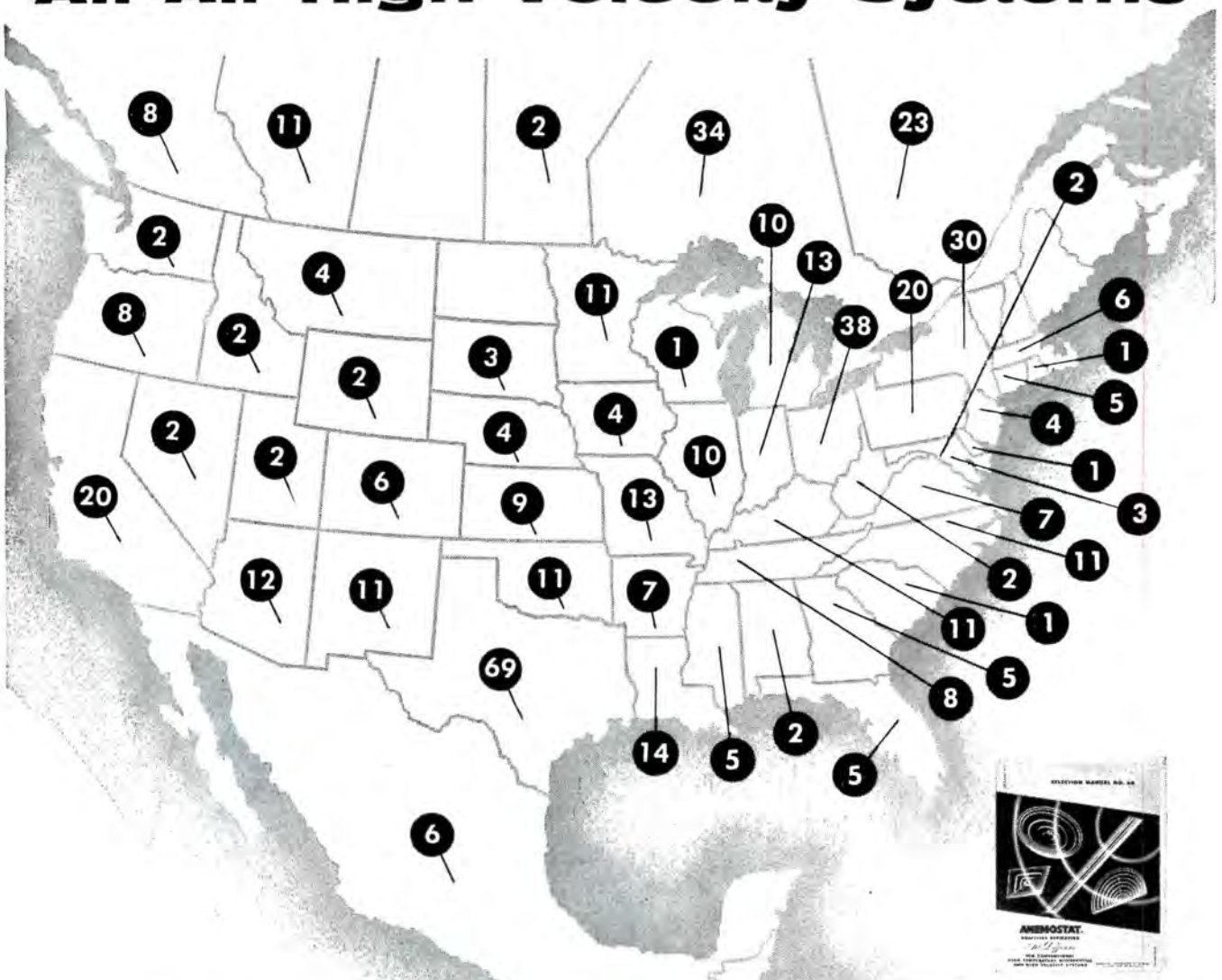
Vaportight Lighting

Brochure describes aluminum wall and ceiling fixtures that are completely gasketed and enclosed for operation in commercial and industrial buildings; contains specifications data, drawings and photographs of fixtures and accessories. *McPhilben Lighting, Inc., 1329 Willoughby Avenue, Brooklyn 37, N. Y.*

**Additional product information in Sweet's Architectural File, 1958*

more literature on page 300

ANEMOSTAT reports on All-Air High Velocity Systems



Selection Manual No. 60 will be sent to you promptly on request.

Anemostat Corporation of America pioneered the development of All-Air High Velocity Systems. Anemostat leadership in high velocity systems has resulted in more than 500 fine installations using more than 60,000 units in office buildings, schools, hospitals, auditoriums, etc. throughout the United States, Canada and Mexico.

Anemostat Selection Manual No. 60 contains complete information on the many architectural and engineering advantages of the Anemostat All-Air High Velocity System.

ANEMOSTAT®

DRAFTLESS *Aspirating* AIR DIFFUSERS

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10 EAST 39th STREET, NEW YORK 16, N. Y.

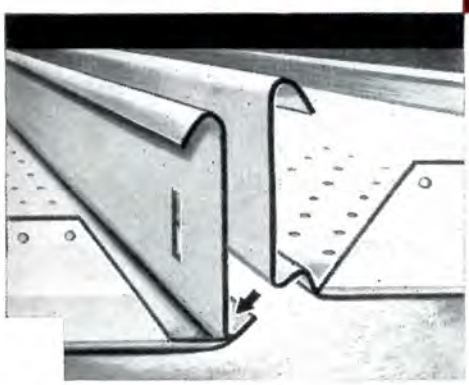
REPRESENTATIVES IN PRINCIPAL CITIES

Exclusive self-locking panels keep

Eastern Products Corporation

SILENT CEILING

LEVEL-PERFECT



Panel "locking-lip" guarantees a micro-smooth ceiling unaffected by vibration.

Thanks to Eastern's advanced engineering, no other acoustical system ever offered so many unique advantages to the architect. When you specify "Silent Ceiling," your ceiling problems disappear.

Alignment is no problem! Eastern's all-metal panels lock themselves together perfectly, permanently.

Room height is no problem! Eastern's self-contained suspension hugs any type of ceiling construction.

Installation is no problem! Eastern's longer modules, as long as 12 feet, can be installed with maximum ease and speed. Sound-absorbing pads are fully pre-fitted into the panels.

Maintenance is no problem! Eastern's baked-enamel finish won't stain or discolor. Panels stay level-perfect. The entire system rates Class A in flame resistance, high in efficiency.

Write for detailed specifications and prices.

Eastern Products Corporation

Acoustical Division, Eastern Products Corp.,
1601 Wicomico St., Baltimore 30, Maryland.

All-new, all-metal, all-in-one "Silent Ceiling". . . more sound control for less!

PUBLIC SWIMMING POOLS: 1

Minimum Standards prepared by the National Swimming Pool Institute

Items are numbered consecutively for convenience in identification

DEFINITION AND POOL TYPES

1. All artificially constructed swimming pools other than residential pools shall be deemed to be public swimming pools. This shall not be applicable to residential pools as defined or wading or spray pools, which shall be covered under separate sections.

(a) **Private pools** which are excepted herein shall be defined as follows: "Residential swimming pools include all constructed pools which are used or intended to be used as a swimming pool in connection with a single-family residence and available only to the family of the householder and private guests."

(b) **Classifications of Pools:** For purposes of Minimum Standards, Public Swimming Pools shall be defined as listed in the following categories, based upon specific characteristics of size, usage and other factors:

Type "A"—Any municipal pool, community pool, public school pool, athletic or swimming club pool.
Type "B"—Institutional pool (such as Girl Scout, Boy Scout, YMCA & YWCA, Campfire Girls and Boys' and Girls' Camps).
Type "C"—Country Club, large hotels of more than 100 units, with pools having a water surface area in excess of 1600 sq ft.
Type "D"—Motels and apartments, multiple housing units, small hotels of less than 100 units, not open to the general public and with pools having a water surface area not larger than 1600 sq ft.
Type "E"—Treatment pools, therapeutic pools and special pools for water therapy.
Type "F"—Indoor pools.
Exceptions: The above categories shall be the basis for certain specific variations from the Minimum Standards for public swimming pools as a whole.

NOTE: plans and specifications with supporting data, prepared by a professional engineer or architect holding registration in the state where pool is to be constructed, shall be, as a prerequisite, submitted to and approval obtained from said state regulator agency prior to award of any contract for equipment purchase or construction.

STRUCTURAL FEATURES, MATERIALS, MARKINGS

2. Structural Stability: All public pools shall be constructed of an inert and enduring material, designed to withstand all anticipated loading for both pool empty and pool full conditions. Working stresses shall be based upon predetermined ultimate strengths of materials used, with a factor of safety of not less than 2½.

Provision shall be made for the relief of pressures which might occur as a result of unbalanced exterior hydrostatic pressures, or means shall be provided for positive and continuous drainage from under the pool floor or around the pool walls, whether ground water is present, or might occur at some future time.

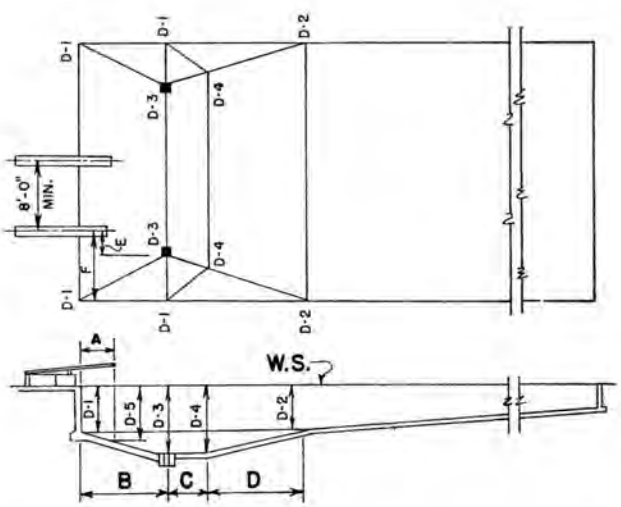
Special provisions shall be made to protect the pool structures from both internal and external stresses which may develop due to freezing in cold climates.

3. Obstructions: There shall be no obstruction extending from the wall or the floor, extending into the clear area of the diving portion of the pool. There shall be a completely unobstructed clear distance of 13 ft above the diving board.

4. Wall & Floor Finish: Wall and floor finish shall be of masonry, tile or other inert and impervious material and shall be reasonably enduring. Finish shall be moderately smooth and of a white or light color.

5. Depth Markers: Depth of water shall be plainly marked at or above the water surface on the vertical pool wall and on the edge of the deck or walk next to the pool, at maximum and minimum points

The technical data presented here gives basic requirements for public and semi-public pool design, systems and equipment. It is intended by the NSPI to serve as recommended minimum standards, and not as a model code.



STANDS & BOARDS		Depth—Feet & Inches					Length of Section—Feet & Inches					
		D-1	D-2	D-3	D-4	D-5	A	B	C	D	E	F
3-Meter Board	Min.	5-0	4-6	10-0	9-9	8-6	5-0	*6-0	*9-0	20-0	1-0	8-0
	Max.		5-6				6-0	10-0				
1-Meter Board	Min.	5-0	4-6	8-6	8-3	7-6	5-0	*6-0	*9-0	15-0	1-0	8-0
	Max.		5-6				6-0	10-0				
Deck Level Board	Min.	5-0	4-6	8-0	7-6		2-6	†6-0	†6-0	12-0	1-0	8-0
	Max.		5-6				4-0	10-0				

As D-2 varies between min. and max., D may vary, but slope of D may not exceed 1 ft vert. to 4 ft horiz. D-1 shall be at end wall of diving area, or not more than 12 in. from it

* *B & C May vary to attain 15'—0" Min.*
† *B & C May vary to attain total 12'—0" Min.*

Neoprene gaskets seal panel joints...speed erection of Thinlite Curtain Wall

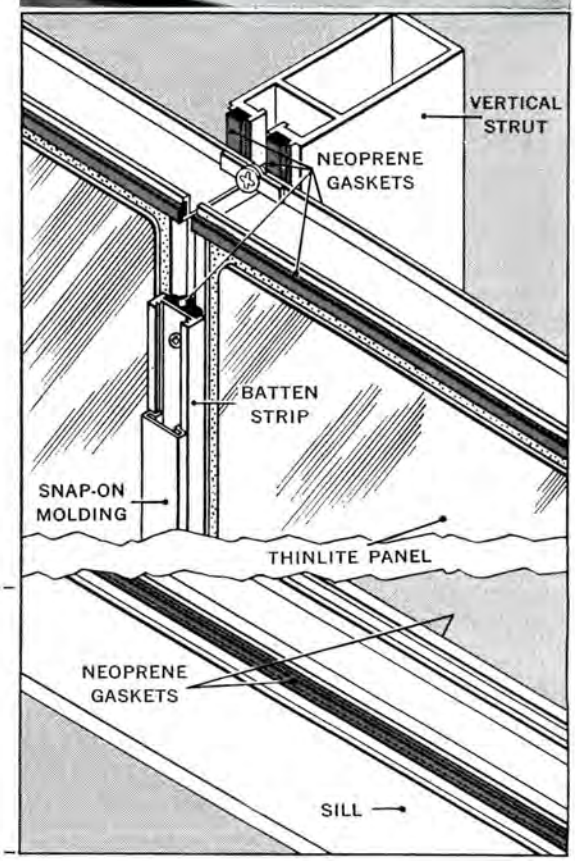
According to Owens-Illinois, their new Thinlite* Curtain Wall system provides all the structural components needed to enclose a building . . . yet offers the architect a maximum of design freedom. To insure a weatherproof, trouble-free seal, this new system was designed with double neoprene gaskets at all vertical and horizontal joints.

These gaskets come to the construction site already installed on individual panels, struts and sills. As the building is erected, the mating of these components automatically forms a weatherproof seal that has proved to be completely watertight when exposed to simulated 80 mph winds.

The neoprene gaskets used in the Thinlite system can be counted on to do their job effectively for many years. They won't crack or dry out, get hard, soft or take a "set" and lose their sealing pressure.

Neoprene gaskets have the additional advantage of long-term resistance to sunlight, oxygen and ozone. In an early curtain wall structure, they are still providing a maintenance-free seal after five years' exposure to the elements. For more information and a list of gasket suppliers, send the coupon today.

Patent pending



The Thinlite Curtain Wall System includes jamb and head members, struts, sills, panels (in a wide choice of materials), and all standard erection accessories. After framing and struts are set, the panels are stacked vertically between the struts. Horizontal joints are sealed by neoprene gaskets that come attached to the top and bottom of each panel. Vertical joints are sealed by two neoprene gaskets on each strut and by neoprene sponge on the screw-in batten strip.

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BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

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Elastomer Chemicals Dept. AR-10
Wilmington 98, Delaware

Please send a list of neoprene gasketing suppliers and a copy of your new booklet, *NEOPRENE GASKETS FOR CURTAIN WALLS.*

*Name*_____ *Title*_____

*Firm*_____

*Address*_____

*City*_____ *State*_____

PUBLIC SWIMMING POOLS: 2

Minimum Standards prepared by the National Swimming Pool Institute

and at the points of break between the deep and shallow portions and at intermediate increments of depth, spaced at not more than 25 ft intervals. Depth markers shall me in numerals of 4 in. min. height and of a color contrasting with background. Markers shall be on both sides and ends of the pool.

6. Lifeguard Chairs: Each public swimming pool shall have at least one elevated lifeguard chair. This shall be presumed to be adequate for 2,000 sq ft of pool surface area and one additional lifeguard chair shall be provided for each additional area of 2,000 sq ft or fraction thereof. Where a pool is provided with more than one lifeguard chair and the width is 40 ft. or more, they shall be located on each side of the pool. In Types D & E pools, lifeguard chairs need not be provided.

7. Life Line: A life line shall be provided at or near the break in grade between the shallow and deep portions of a public swimming pool, with its position marked with colored floats at not greater than 5 ft spacing. Life line shall not be ¾ in. min. diameter and its terminals shall be securely anchored and of corrosion-resistant material and of type which will be recessed or have no projection which will constitute a hazard.

8. Ladders: A minimum of one ladder shall be provided for each 75 ft of perimeter and not less than two ladders shall be provided at any pool. Where stairs are provided in a pool, one ladder may be deleted for each set of stairs provided. A side handrail extending up above and returning to the horizontal surface of the pool deck, curb or coping shall be provided at each side of each ladder.

All stairs entering a public pool shall be recessed. An exception to this may permit the construction of steps directly entering the pool and not recessed into the pool walls, in Types C, D, & E.

POOL DIMENSIONS, WALKS, FENCES

9. Shallow Minimum Depth: Every public swimming pool shall have a minimum depth in the shallow area of the main swimming area of not less than 3 ft, nor more than 3 ft 6 in. from the overflow level to the floor. Exceptions may be made for Types B, C, D & E pools, or in pools built principally for instruction, or in a recessed area of the main swimming pool where pool is of an irregular shape such as the leg of a T, L or Z.

10. Shallow Area: In a swimming pool with a diving area, the shallow portion of the pool shall be defined as the portion between the shallow end and the break point between the shallow area and the diving area. The slope of the floor shall be uniform from the break between the diving area and the shallow portion to the outside edge of the shallow portion and shall not be greater than 1 ft of slope in 12 ft, except in small Type B pools where the pool is less than 42 ft in overall length, in which case the rate of slope shall not exceed 1 ft in 8 ft.

11. Diving Area: The area of a public swimming pool where diving is permitted shall be, in the case of a rectangular pool, at one end, or may be in a recessed area forming one of the legs of a T, L or Z shaped pool, divorced from the main swimming area by a life line, or may be a wholly separate pool structure. Exceptions to this may be made in special-purpose type pools intended for training and instruction.

Pools of the types wherein diving is permitted shall have adequate area and depth of water for safe diving and the minimum depth and area characteristics for this area shall be as indicated in the accompanying chart.

12. Diving Towers: Diving towers in excess of 3-meters in height shall not be considered as acceptable in a public pool without special provisions, controls and definite limitations on their use.

13. Vertical Wall Depth: As a minimum, the pool walls shall be vertical at all points for a depth of not less than 2 ft 6 in.

14. Walks: Walks shall be continuous around the pool with a minimum width of 8 ft of unobstructed clear distance including a curb at the pool edge, if such a curb is used. Exceptions may be made in Types B, C, D, E, & F as follows: B—4 ft; C—4 ft; D—4 ft; E—No minimum; F—4 ft.

A minimum of a 3 ft walk width shall be provided on the sides and rear of any piece of diving equipment.

All walks, decks and terraces shall have a minimum slope of ¼ in. per foot to drains or points at which the water will have a free unobstructed flow to points of disposal at all times.

The finish texture of walks must be non-slip and such that there will be no discomfort to bare feet.

Hose bibbs shall be provided around the perimeter of the deck area at intervals such that all parts of the swimming pool deck area may be reached with a 50 ft hose.

15. Fence: A wall or other enclosure of 4 ft minimum height and with maximum 2 in. mesh, 2 in. wide vertical openings, or otherwise so constructed as to be difficult to climb, shall be provided completely enclosing the pool area, all of which shall be paved.

Exceptions may be made for Types C & D

In Types C & D where the fence is dispensed with, a hedge or other clear demarcation shall be provided, with instructions and posting clearly defining the pool area as for bathers only and from which spectators and others in street clothes are rigidly excluded.

Access to the pool by bathers shall be provided only through the bathhouse or dressing room facilities, and any other fence opening shall be for service operations only.

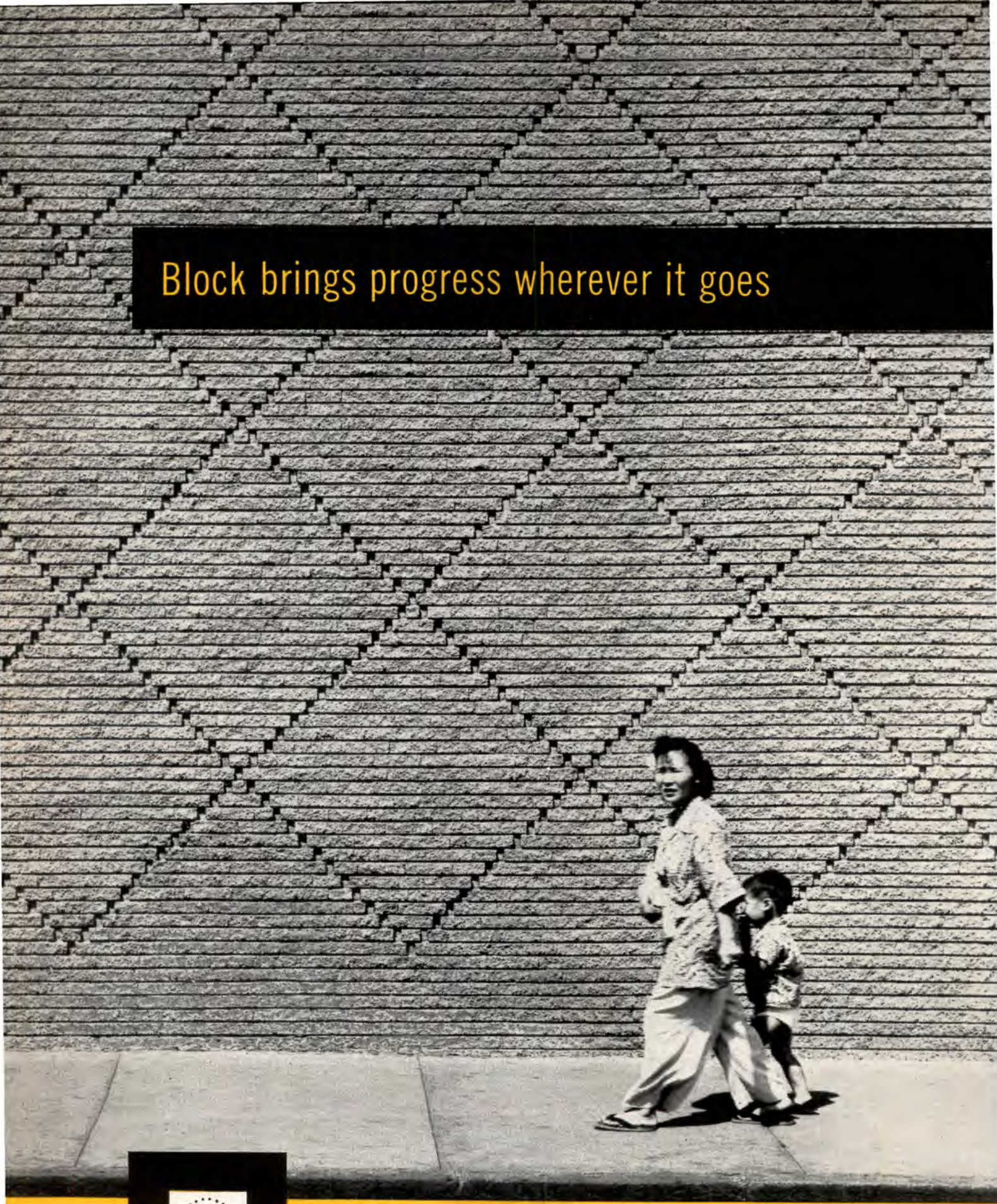
GUTTERS AND SKIMMERS

16. Overflow Gutters: An overflow gutter shall be installed continuous around all public swimming pools, with the exception that it may be eliminated in Types B, C, D & E. The overflow gutter may be eliminated across the top tread where steps occur.

Overflow gutter shape, wherein the outer edge of the lip is flush with the pool wall above and below and the gutter entirely recessed, shall not be permitted.

The overflow gutter depth below the overflow lip shall be a minimum of 2 in. at the high points between drains. The drains shall be spaced at a maximum of 15 ft on centers and a slope provided in the bottom of not less than 2½ in. in 10 ft. In no sense is this intended to preclude the use of roll-out or deck level type pools where other conditions are met and satisfactory design is provided. In an installation where the overflow gutter is not carried to waste but is a part of the recirculation system, the provisions of spacing of drains and slope at bottom of gutter may be modified but shall conform to good hydraulic design.

The branch piping to each overflow gutter drain shall be not less than 2 in.



Split block used in the Liberty Bank Building, Honolulu, Hawaii. Vladimir Ossipoff, Architect.
Ask your local NCMA member for a copy of the new booklet "Split Block Architecture."

National Concrete Masonry Association • 38 South Dearborn Street • Chicago

PUBLIC SWIMMING POOLS: 3 *(to be continued in a future issue)*

Minimum Standards prepared by the National Swimming Pool Institute

Where overflow gutter drains discharge into sanitary sewers, a trap shall be provided in each main before discharge into the sewer.

The overflow gutter mains shall have a sufficient minimum size and be increased as necessary to carry the overflow water freely with a maximum of 2 ft pressure head or surcharge, at all times.

Where overflow gutters discharge into a sanitary sewer or storm sewer, an air-gap of not less than 1 ft shall be provided between the point of discharge of the gutter and the drains into the sewer, or a relief *manhole* shall be provided where surcharge or back pressure will overflow at a point not less than 12 in. below the elevation of the overflow gutter fittings in the gutter.

Disposal of water from the overflow gutters may be either to waste or may enter the circulation system and be filtered and returned to the pool.

17. Surface Skimmers: Skimmers may be permitted in lieu of overflow gutters on swimming pools of Type B, C, D & E, providing acceptable handhold is installed. At least one skimming device shall be provided for each 800 sq ft of surface area or fraction thereof. The handhold must be no more than 9 in. above the normal water line. Skimming devices shall be built into the pool wall, shall adequately remove floating oils and waste and shall meet the following general specifications:

(a) Each skimmer shall be designed for a flow-through rate of at least 30 gallons per minute and the total capacity of all skimmers in any pool shall be approximately 50% of the required filter flow of the recirculation system.

(b) They shall be automatically adjustable to variations in water level over a range of at least 3 in.

(c) An easily removable and cleanable basket or screen through which all overflow water must pass shall be provided to trap large solids.

(d) The skimmer shall be provided with a device to prevent airlock in the suction line. If an equalizer pipe is used, it shall provide an adequate amount of makeup water for pump suction, should the water of the pool drop below the weir level. This pipe shall be at least 2 in. in diameter and shall be located at least 1 ft below the lowest overflow level of the skimmer.

(e) An equalizer line shall be provided with a valve that will remain tightly closed under normal operating conditions, but will automatically open at a differential of not more than 4 in. between the pool level and the level of the overflow tank.

(f) The overflow weir shall be of sufficient length to maintain a rate of flow of at least 20 gallons per minute per lineal foot of weir lip.

(g) Skimmer shall be of substantial, enduring and reasonably corrosion-resistant material.

One skimmer will be placed at a point in the pool opposite the direction of prevailing summer winds.

FILTRATION

18. Recirculation and Filtrations: All public swimming pools shall have recirculation and filtration equipment provided for water purification in accordance with criteria in this report.

19. Filters, Sand: These minimum standards shall apply, where applicable, to either gravity or pressure sand filters.

Filter tanks shall be designed with a factor of safety of 4 in relation of working pressure to ultimate strength.

The filter bed shall consist of suitable grades of filter sand and a supporting bed of graded gravel or other porous material which shall serve to support the filter bed and distribute both filtered and backwash water uniformly. The supporting bed consisting of graded gravel or other material shall support not less than 20 in. of filter media consisting of silica sand or other durable, inert material with an effective size between 0.4 and 0.55 mm, and a uniformity coefficient not exceeding 1.75.

The minimum freeboard to the draw-off point shall be not less than 12 in. above the normal level of the top of the filter bed. The minimum backwash rate shall be not less than 12 gallons per square foot of filter bed per minute.

Where anthracite coal or other filter media is employed, the freeboard shall be adequate to prevent the media being carried off to waste when the filter bed is backwashed at a rate adequate to carry off foreign material filtered from the water. The freeboard and the rate of backwash shall be the subject of individual design, based upon specific gravity of the media.

Under-drain system shall be such that uniform distribution of backwash water shall be provided over the entire bed area.

Ratio of total under-drain orifice area to total area of bed shall be not less than .25 per cent.

Orifices in the under-drain system shall be spaced at approximately 6 in. on centers both ways throughout the area of filter bed. The total orifice area may be provided by means of porosity of the material over the total under-drain area.

Under-drain system shall be provided of material which is corrosion-resistant and enduring, wherein the orifices shall be so designed and of such material that they will maintain approximately constant area.

Where the under-drain system is of manifold and lateral type, the total area of the manifold shall be equal to not less than the total area of the laterals. The total area of the laterals shall be not less than 1¼ times the total area of the orifices.

Design rate for sand filters shall be 3 gallons per minute, per square foot of bed area, as a minimum standard.

The filter plant shall be provided with influent and effluent pressure gauges, backwash sight glass and air-relief valves.

The filter plant shall be provided with face piping and valving to permit the functions of filtering to pool or backwashing to waste with the battery as a whole or any unit operated singly.

The filter plant shall be provided with means for draining all filter units and piping, so that all parts of the system may be completely drained to prevent damage from freezing.

Each filter unit shall be provided with an access opening of not less than a standard 11 in. by 15 in. manhole and cover.

Pressure filter tanks shall be supported by jack legs or other supports to give a free movement of air under each tank and to permit access for painting.

Filter turn-over cycle shall be of capacity to completely filter the entire pool body in not more than 8 hours.

Industrial Reactor

continued from page 230

clude study of the effect of direct radiation on products or processes. Exposure to radiation is effected by opening up holes in the sides of the pool, by passing a sample through the pile using the pneumatic tube "rabbit" (blower visible in Fig. 4), or by several other means. The irradiated sample may then be examined or worked on in the hot cells mentioned above, using remote manipulators and observing the operation through 3 ft thick boron glass windows. "Cooler" samples are dealt with in the laboratories in the North wing where, as in the whole building, the air is monitored to detect dangerous radiation levels.

Structural engineers were Severud, Elstad & Kruger and the mechanical engineer was Guy B. Panero. Overly Manufacturing Co. provided the dome covering. The builder was the Turner Construction Co. and the building is owned by:
National Lead Co., The American Tobacco Co., Continental Can Co., Corning Glass Works, Socony Mobil Oil Co., U. S. Rubber Co., American Machine & Foundry Co., Atlas Powder Co., Radio Corp. of America, National Distillers and Chemical Corp.

Modules for Texas Schools

continued from 230

The first stage of the project was the investigation and collection of background information. This was pursued in three aspects. One aspect dealt with data on all that had been done and written about the subject. This traced the development of the idea in the United States and Europe. Much has been done by the European Productivity Agency, an organization of several European countries teamed up to develop a modular system for the building industry.

Another aspect was to search the literature and interview architects, administrators, and teachers about educational philosophy, methods of procedure and ideas for space utilization. For how many purposes should space be used? It was imperative that the research staff have a fair degree of understanding of the type of educational environment that is desired.

The third aspect of the background study was to get the reactions of the building industry. Members of the building research staff conferred with architects and industry representatives in all sections of the nation. Almost every official contacted was enthusiastic about this project. Many of those contacted were practitioners who had studied and incorporated the modular method in their office procedure.

The research staff is examining plans and specifications of school buildings completed recently. In all, 125 plans were selected from outstanding buildings.

The plans are being examined:

1. To determine if there were basic measurements common to all schools and what were the deviations, and
2. To determine whether these buildings were designed with modular coordination and, if not, what changes would have been necessary to make such a design, and if it would have improved the dimensional quality of the building.

Other phases of the study will deal with space utilization by teachers and pupils, explore the feasibility of developing a numbers system for materials and component dimensions and formulate tentative grid patterns for planning design and construction.

more roundup on page 246


Modern Door Control by LCN • THE NEW "SMOOTHEE" DOOR CLOSER
MORTON SALT BUILDING, CHICAGO, ILLINOIS
Application Details on Opposite Page
LCN CLOSERS, INC., PRINCETON, ILLINOIS
Graham, Anderson, Probst & White, Inc.
Architects — Engineers
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Interior Designer

48-250 open reflector downlight uses inexpensive general service type lamps up to 300 watts. Most often specified for department stores, banks and public lobbies.

Architect: Office of Alfred Easton Poor/Consulting Engineer: Edward E. Ashley/Electrical Contractor: Charles F. Zweifel/Electrical Supplier: Westinghouse Electric Supply Co.

Chemical Corn Exchange Bank, New York

48-500 high ceiling ellipsoidal open reflector downlight for auditoriums, churches, museums. Available with Alzak natural or golden reflector in 300, 500, 750 and 1,000 watt sizes.

48-1220 for gymnasiums and lunchrooms, playrooms and arenas. Spoke guard is of solid cast aluminum, heat-treated for strength. Available for surface, recessed, pendant or I-beam installations. Wattages up to 1,000 . . . also in mercury vapor series.

This photographic report taken by the Committee on Lighting of the Central Station Properties, Illuminating Engineering Society in October 1954 visually proves the importance of properly ventilated lamp husks.

Dirty	Improvement	Cleanest
No. 1 Test	No. 2 Test	No. 3 Test
No vents	Vents poorly located	Vents properly located

downlights by mc Philben

cooler burning
lower maintenance costs
tested and proved

mcPhilben's 48 series interior downlights were selected to light the main area of the Chemical Corn Exchange Bank in New York in 1957. Today, after more than a year of operation, maintenance engineers report an operating efficiency and lamplife unequalled by any other downlight in use.

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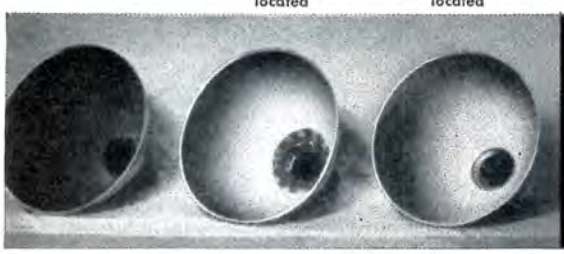
Full details on these downlights are now available on individual specification data sheets. Ask your mcPhilben representative for your copies or write to mcPhilben. Ask for the 48 and 84 lines.



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Here, No. 66 expansion casing bead provides permanent separation between acoustical-plaster ceiling and sanded-plaster wall.

Milcor Casing Bead separates acoustical and sanded plasters

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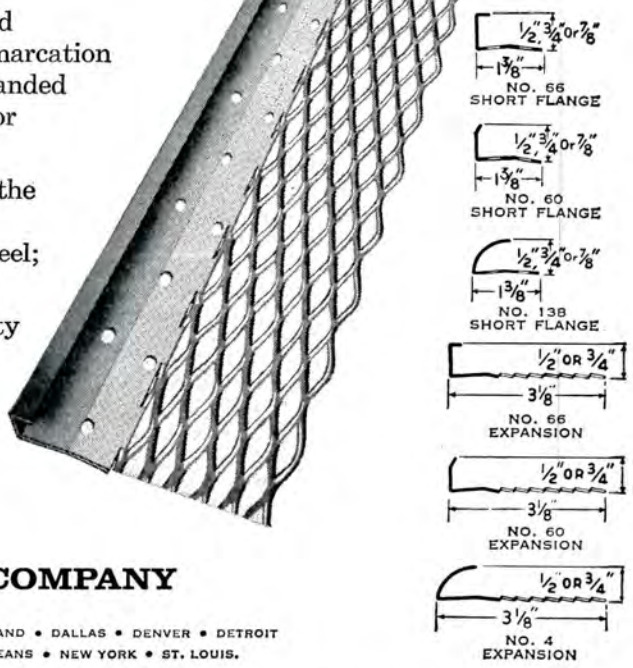
Milcor Casing Bead's versatility makes it the perfect answer for neat plaster terminals — places that require (1) The permanence of steel; (2) Resistance to fire and impact.

Milcor Casing Bead is available in a variety of styles — in short-flange and expansion-wing types. See Sweet's, Section 12a/In — or write for Catalog 202.

MILCOR® CASING BEAD



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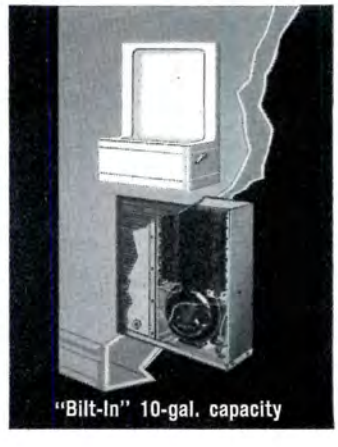
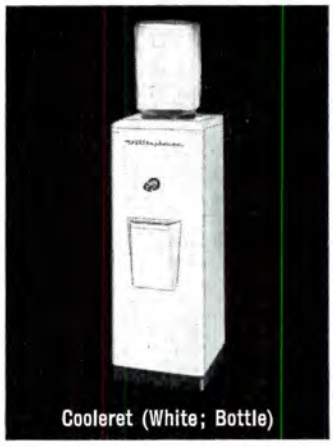

"Bilt-In" 10-gal. capacity


Air-Cooled 17-gal. capacity


Hot & Cold (Bottle)


Cooleret (White; Bottle)

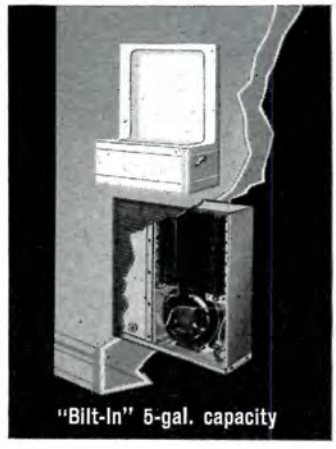

Hot & Cold Compartment (Bottle)


Cooleret (Gray; Bottle)


Air-Cooled 8-gal. capacity


Compartment (Pressure)


Bottle Cooler 3-gal. capacity

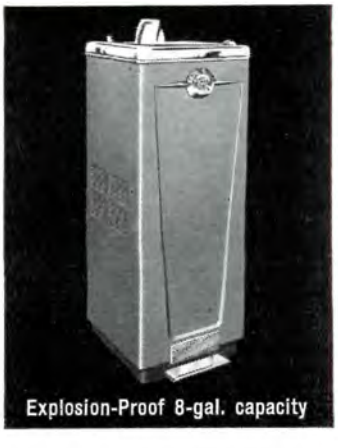

"Bilt-In" 5-gal. capacity


ooleret (White; Pressure)


Water-Cooled 20-gal. capacity


Explosion-Proof 14-gal. capacity


Air-Cooled 13-gal. capacity


Explosion-Proof 8-gal. capacity

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Westinghouse Water Coolers are available through AMSTAN, Noland and other leading plumbing wholesalers. Also through all branches of Westinghouse Electric Supply Co. Ask them about the *Special Westinghouse Offer* for architectural firms. They're listed in the Yellow Pages.

YOU CAN BE SURE...IF IT'S **Westinghouse**

Westinghouse Electric Corporation, Water Cooler Dept., Springfield 2, Mass.

Technical Roundup

Btu Meter Determines Heating-Cooling Costs at Idlewild Airport

Hot water for heating and chilled water for cooling the far-flung buildings at New York's new International Airport is supplied by the Port of New York Authority from a central plant that forms the heart of the largest non-military high temperature water system in existence. Major domestic airlines will draw from this central source to heat and cool their own separate terminals, and will be charged accordingly.

However, since the individual terminals will have different periods of operation, different heat transfer characteristics and different air conditioning requirements, the usual method of charging on a square foot basis was clearly *inequitable; and* the Port Authority was faced with the problem of establishing an accurate measure of "accordingly."

Its solution is a Btu meter which consists of a liquid meter, an integrator and two temperature sensing bulbs, one in the supply main and

one in the return main. The total Btu's consumed are determined by the integrator, which mechanically multiplies the temperature difference by the weight of water used, and registers the cumulative result on the face of the meter.

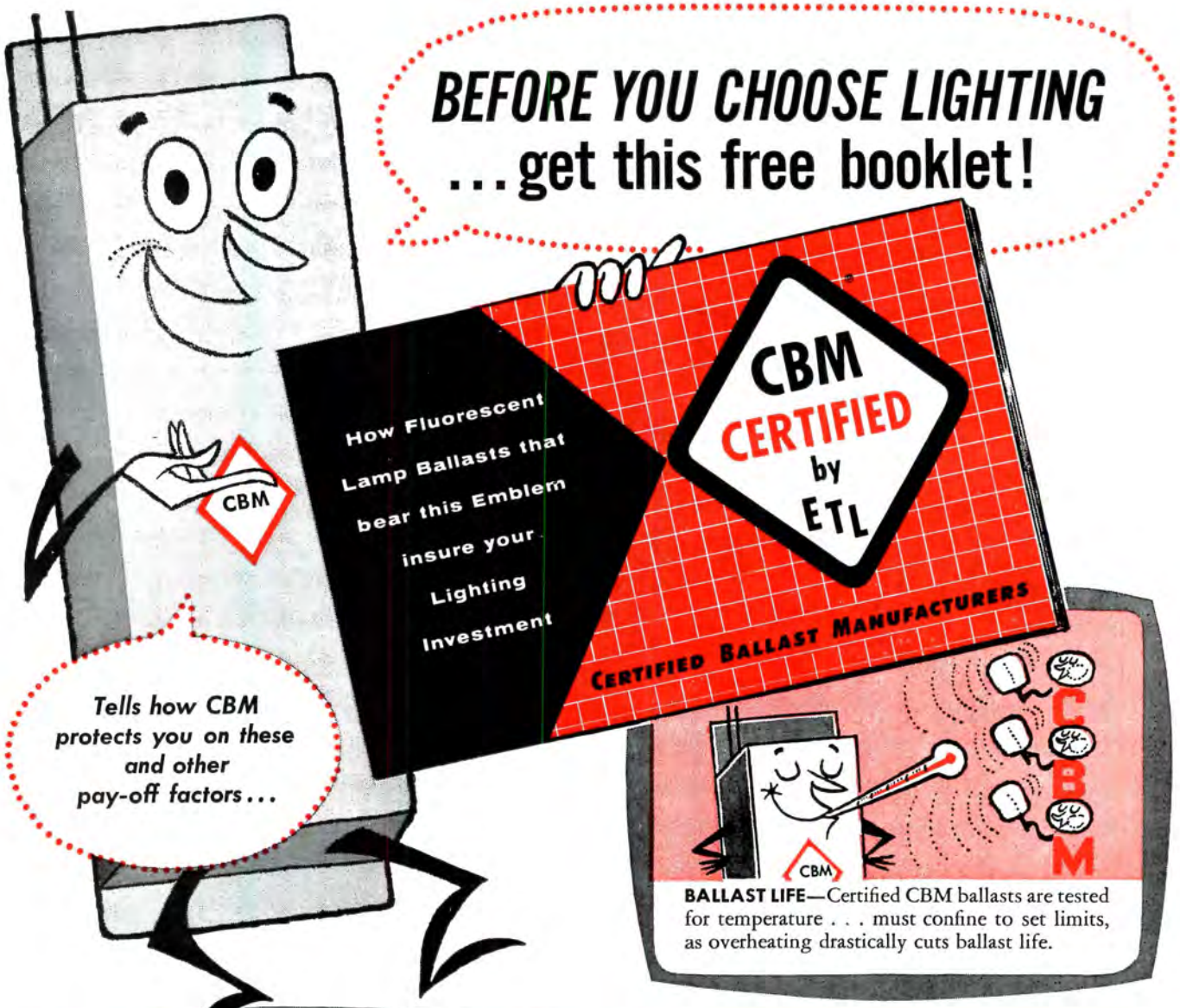
Two such meters, one for chilled water and the other for high temperature water, are being used to measure the cost of heating and cooling the Port Authority's Operations Building at Idlewild. Others may be installed in the lines serving the individual terminals so that charges for heat and refrigeration can be based on actual use.

Deep Freeze in Chase Basement

Last June, when a still-unexplained accident caused a crane to fall into the great hole dug into the financial district of New York for the Chase Manhattan building, a 40-ft bracing I-beam was bent. The replacement had to fit in place and be

continued on page 253

BEFORE YOU CHOOSE LIGHTING ...get this free booklet!



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Send for this free booklet and learn how these factors and 11 others help insure your lighting investment when you buy fixtures equipped with Certified CBM ballasts.

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CERTIFIED BALLAST MANUFACTURERS

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Participation in CBM is open to any manufacturer who wishes to qualify

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American Bridge Division, U. S. Steel—with over 50 years' experience in precision steel fabrication and erection—presents an integrated group of steel modular components for high-quality school buildings. Their flexibility, architectural freedom and ease of design make USS AmBridge Modular School Components big news and *good* news for architects.

Quality. Every AmBridge Modular School Component has been tried and proven architecturally. Stainless steel, porcelainized or baked enamel exterior curtain walls and interior steel partitions are available in a wide range of pleasing colors, permitting great latitude for aesthetic consideration.

The structural components include AmBridge Standard and Longspan Steel Joists, steel roof deck, and tubular steel columns, assuring the great structural stability proved in thousands of other buildings.

Construction and design speed. Every AmBridge Modular School Component is fabricated to fit readily and precisely, making it possible to construct in weeks a beautiful building that will serve a lifetime. Furthermore, the modular design and speed of construction greatly reduce the architect's design time and site supervision.

Design freedom. The flexibility of the structural frame, the multiplicity of components and the great variety of panel colors and finishes give the designer great latitude for creativity. Modern architectural features can be freely expressed. USS AmBridge Modular School Components blend well with existing architectural atmosphere and other building materials which you may wish to use to complement the steel components. Whether you are designing a new school or an addition, attractive AmBridge Modular School Components will reflect the architectural character you desire.

American Bridge specialists will be glad to discuss with you the specific application of these time-saving modular steel components.

USS and AmBridge are registered trademarks

American Bridge Division of  **Un States S**

Designed by J. Trevor Guy, A.I.A., Cleveland, Ohio.

THE PICTURES:

EARLY BIRDS—Left: This picture was taken in August. On September 2, the boys probably weren't nearly so anxious to get inside their new AmBridge Modular School. But, once in, they'll find that lots of natural light, color and modern beauty will help make learning a little easier for them.

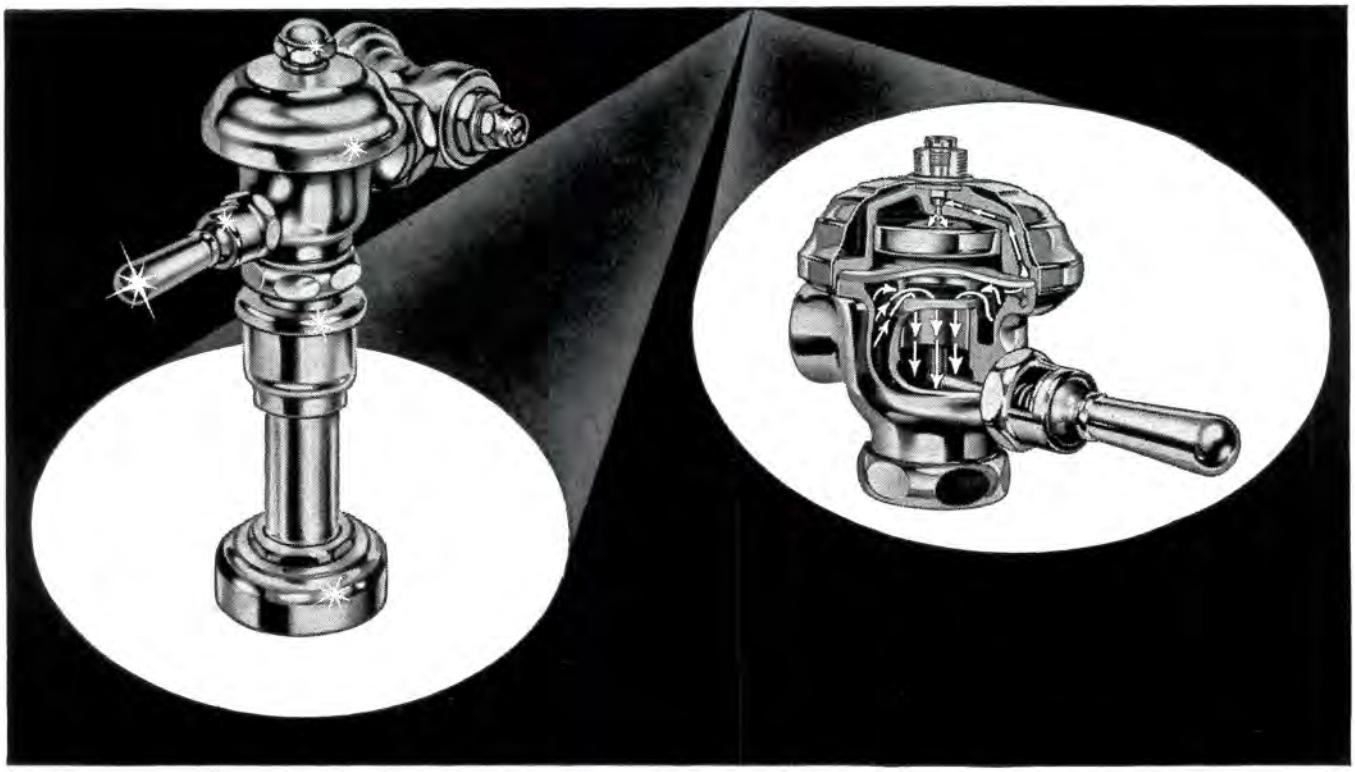
A IS FOR ATTRACTIVE—Below left: The beauty of this AmBridge Modular School will always remain because the weather-tight, vermin-proof walls are made of durable steel. Permanent panels eliminate extensive refinishing and frequent cleaning. Modular construction makes expansion of this school a simple matter.

B IS FOR BRIGHT—Below center: A comfortable teacher's room—typical of the auxiliary features easily incorporated in any USS AmBridge Modular School. Interiors come in 16 colors.

C IS FOR CHEERFUL—Below right: Everyday is a bright day in this pleasant, well-lighted classroom . . . a natural environment for study. Since steel partitions don't support roof, the room size can be changed easily at any later date.

a solution for you?

Watrous FLUSH VALVES / *FIRST with the features that cut maintenance*

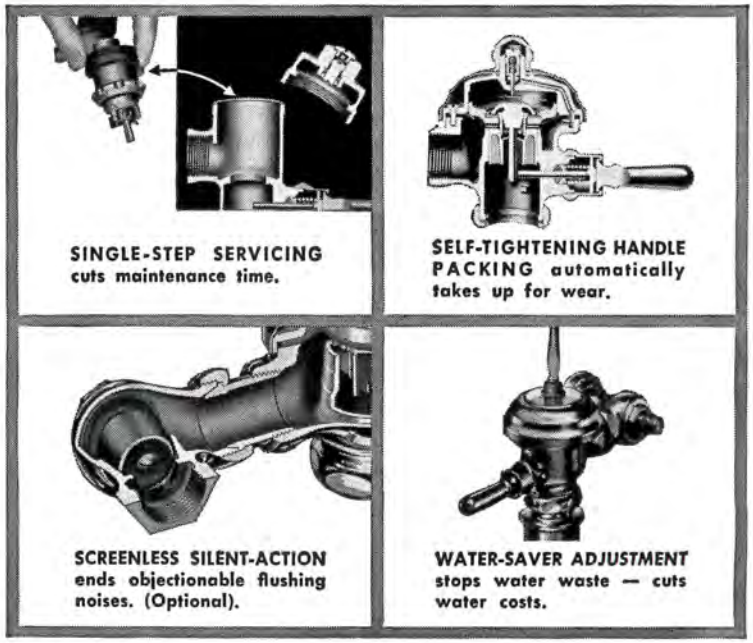


MORE SAVINGS for your clients when you specify WATROUS

Everybody benefits from a better, more dependable installation when you pick Watrous Flush Valves. Watrous design features tell the story. Self-cleansing by-pass (above) for example, purges the by-pass before each flush — quickly rids itself of obstructions that could cause trouble. It's a typical Watrous advantage . . . one reason your clients get more for their money with Watrous.

More advantages are extra-attractive styling . . . wide selection of diaphragm and piston type valves to choose from . . . plus water economy, dependability and easy service features other flush valves cannot equal.

For complete information on the line that's FIRST in features, FIRST in quality — write for Catalog 449-A



IMPERIAL Watrous

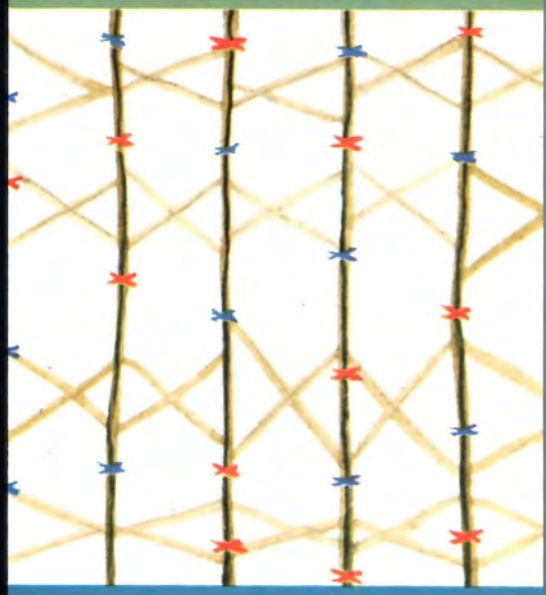
THE IMPERIAL BRASS MFG. CO.
6300 West Howard St., Chicago 48, Ill., Dept. AR-108

ADJUSTABLE FLUSH VALVES BOTH DIAPHRAGM AND PISTON TYPES

distinguished designers series

With bold and sure strokes, famed watercolorist Dong Kingman fashioned the sixth dramatically different design for Pomona Tile's "Distinguished Designer Series." Appropriately named "Fishnet" by the artist, this enchantingly Oriental creation subtly reflects Mr. Kingman's Hong Kong origins and training. Wherever flavor of the Far East is dominant, in commercial or residential construction, "Fishnet" ceramic tiles blend into the overall plans. Available in 4¼ x 4¼ modules; in satin or Perma-Glaze finish. See "Fishnet" at your nearest tile contractor or any of Pomona's showrooms.

"FISHNET" . . . by DONG KINGMAN



POMONA TILE

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North Hollywood | Phoenix
Long Beach | Denver | Dallas
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Arkansas City | Nashville

narrow stile lock specialists

...at the service of the sliding-door industry

ADAMS-RITE established the concept that sliding glass doors can and should be secured with locking devices as modern and as functional as the doors themselves. Only ADAMS-RITE locking devices fulfill the most rigid requirements—heavy, hooked-shaped deadbolts that are adjustable, that fit *inside* the door rail, that are operated by positive turn action and, when necessary, controlled by standard cylinders. Residential front door keying or commercial master systems are optional.

The ADAMS-RITE 1848 Deadlock provides each of these important features to satisfy the needs of architect, manufacturer, contractor and final user alike.

The 1848 Sliding Wall Deadlock shown above measures only 3 3/16" x 1 1/8" x 1/2", has a collapsible bolt for protection of door and lock, and operates with positive "feel appeal". To compensate for possible misalignment of door and jamb, bolt projection can be adjusted a full 3/16" by simply turning a screw in the lock face. The 4025 cylinder group is a clean-lined outside pull, offering key control that can be keyed-in with most popular cylinder systems.

Specialists in Narrow Stile Locking Devices for Sliding and Swinging Glass Doors

ADAMS-RITE
MANUFACTURING COMPANY

Dept. AR-108, 540 West Chevy Chase Drive, Glendale 4, California

In addition to being the leading manufacturer of narrow stile sliding and swinging door locking devices, ADAMS-RITE also supplies virtually all the locking devices and handles for commercial and military aircraft in the United States—an overwhelming testimonial to the superiority of ADAMS-RITE design and the lasting strength of ADAMS-RITE products.

The sliding door manufacturers listed below are representative of those in the industry who provide ADAMS-RITE extra quality locking devices as standard equipment.

ABC SLIDING GLASS DOORS
Adams Engineering Company, Dept. G2
P. O. Box 875
Ojus, Florida

ADOR
ADOR THERMODOOR
Ador Sales, Inc.
2345 W. Commonwealth Ave.
Fullerton, California

CUSTOM-G
The Alumiline Corporation
Pawtucket, Rhode Island

ALUMINAIRE
Aluminaire Company
1743 No. Country Club Drive
Mesa, Arizona

PATI-DOR
Aluminum Metals Company
1733 Sebastopol Road
Santa Rosa, California

CRESTVIEW
Aluminex, Inc.
2408 Forney Street
Los Angeles 31, California

VACOL
V. E. Anderson Mfg. Co., Inc.
P. O. Box 430
Bradenton, Florida

NU-VU
Bailey-Kelleher Company
500 Bellevue
Detroit 7, Michigan

BELLEVUE DELUX STEEL
BELLEVUE DELUX ALUMINUM, RAMONA
Bellevue Metal Products
1314 E. First Street
Los Angeles 33, California

GULFSPRAY LONE STAR
Binswanger & Co. of Texas
P. O. Box 3051
Houston 1, Texas

BRITT DELUXE
Britt Sliding Door Corporation
2501 Wroxton Road
Houston 5, Texas

BELLA VISTA, BELLA'S CHAMP
Bur-Val Mfg. Co., Inc.
1012 No. Lake Street
Burbank, California

FLEETLITE
Fleet of America, Inc.
2015 Walden Avenue
Buffalo 25, New York

G. S. D.
Glass Shower Door Co., Inc.
105 W. Wacker Drive
Chicago 1, Illinois

CORONA
H & D, Inc.
6515 Highway 99 So.
Everett, Washington

ARTDOR BY BASCO
Hecker Mfg. Co.
758 Clementina Street
San Francisco, California

THE HELLER DOOR, EL PATIO
The Heller Company
715 Francis Street
Houston, Texas

CAPISTRANO, MALIBU
Malibu Mfg. Corporation
P. O. Box 413
El Monte, California

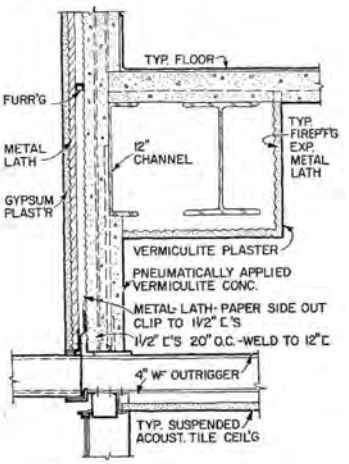
Technical Roundup

continued from page 246

stressed the same as the original. The rub was in the "stress" part of the specification. The solution, logically simple but logistically complex, was to fit a slightly shorter replacement into place, build a wooden trough around it, and fill the trough with dry ice (7 tons of it). When the beam was 50 degrees colder than the air, wedges were driven at both ends and the dry ice removed. The result was an exact replacement in length and stress.

Rigid Frames, Sprayed Fireproofing Cut Cost of Twin Office Towers

Two Los Angeles office buildings, located only two blocks apart and identical above the second floor, are reported to have the added distinction of being the lightest limit-height steel structures on the West Coast. The substantial steel savings (three to four pounds per square foot over similar buildings) is attributed to the rigid welded frame and to the use of lightweight aggregrate gypsum plaster for membrane fireproofing and spandrel walls.



TYPICAL SPANDREL

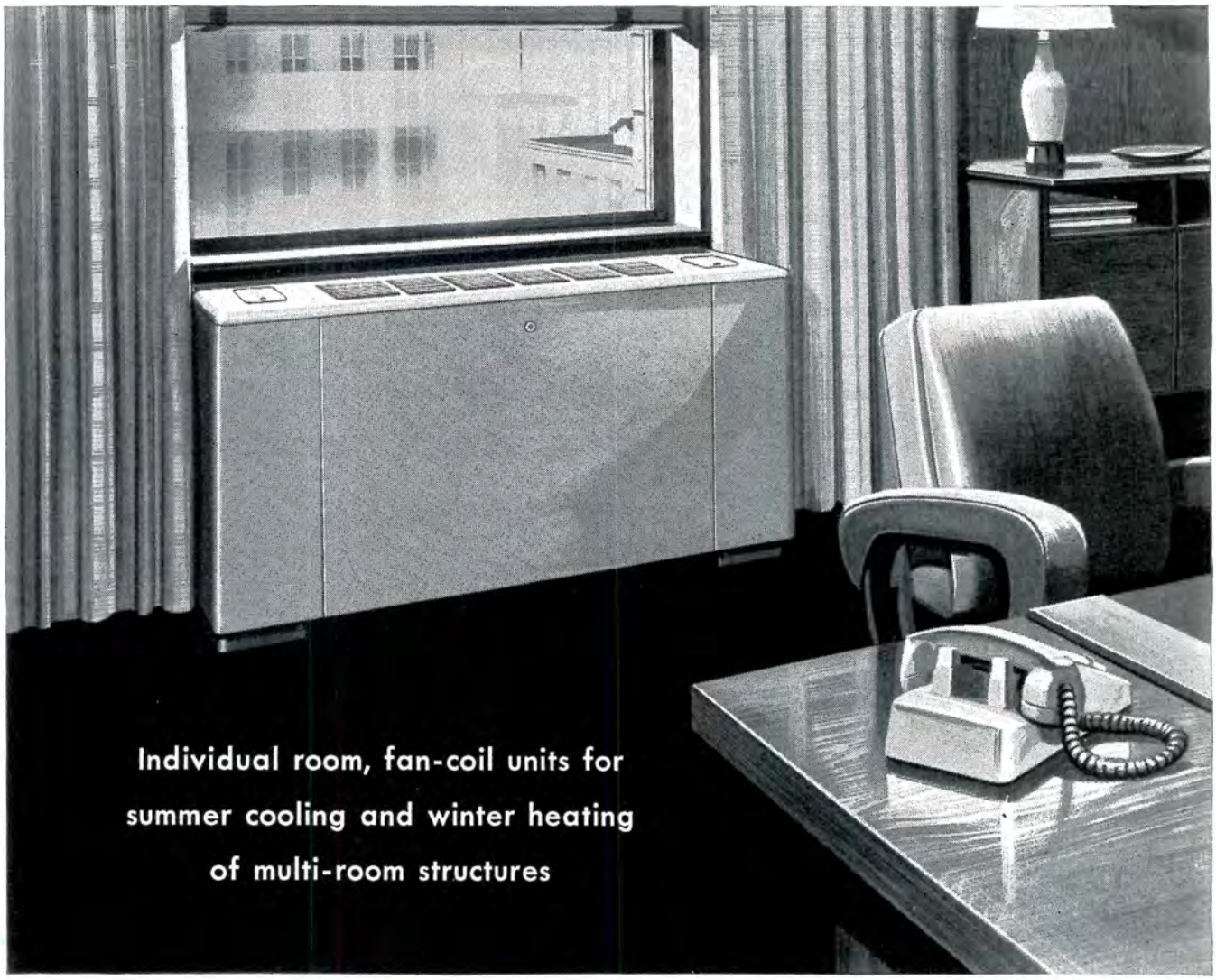
The all welded two-way frame used for each four by eight bay tower is rigid in both directions, making it possible to eliminate all structural walls, including shear walls, above the basement level. This in turn permitted the use of lightweight materials for the interior partitions and exterior skin, a factor which is reflected back into savings in the weight of the structural steel. Further savings were achieved via the use of fully continuous, end-cantilevered girders.

The portions of the exterior walls that were required by the Los Angeles building code to be of four hour fire resistant construction consist of 4 in. thick vermiculite concrete

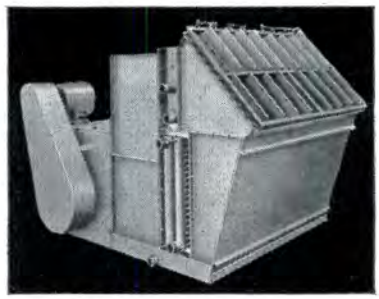
continued on page 260

ALL NEW AMERICAN

FAN-COIL-TYPE



Tonrac® Centrifugal Refrigeration Machines maintain constant chilled-water temperature regardless of load. Advanced design, quiet operation.



Type AB Multi-Zone Unit. Single arrangement provides either vertical or horizontal blow. Designed for either low-pressure or high-pressure systems.

American Blower Packaged Air Conditioners. Sizes from 3 to 20 tons. Air- or water-cooled models for use with or without ductwork.

BLOWER DIAFLO®

UNIT AIR CONDITIONERS

Diaflo units are designed, engineered, and manufactured to meet the professional requirements of each member of the building team

Architect

"They provide the design flexibility and pleasing appearance an architect likes in a unit air conditioner. They adapt readily to both new and existing buildings, with a choice of lengths to fit modularly spaced partitions. Diaflo units are completely suitable for new curtain-wall-type buildings or for other types of construction."

Consulting Engineer

"They're versatile mechanically, too, with rugged, heavy-gauge construction. Two basic units permit either vertical or horizontal installation. Front or top discharge is available on vertical unit. Universal coil permits summer cooling with chilled water, and winter heating with hot water. Coil is suitable for manual, electrical, or pneumatic control."

Mechanical Contractor

"Diaflo units provide a really 'clean' installation. Base unit is easily mounted with free access on both ends for all connections. Installer can work freely without being cramped. This saves time and money. Then just prior to start-up, clean, undamaged enclosure can be hung in place."

Owner

"Diaflo units certainly fit the requirements of modern building air conditioning. They harmonize well with practically any interior decor—are quiet, draft-free, and permit room occupants to select their own temperature. Maintenance is economical, too. Filter removal is easy, and there is ready access to all controls."

You can pinpoint responsibility for equipment performance, delivery dates, user satisfaction on any air-conditioning system you plan by using American Blower equipment . . . the complete line that's designed, engineered, and manufactured to work together.

And 73 branch offices offer local product help or nation-wide sales-service coordination. American-Standard,* American Blower Division, Detroit 32, Michigan. In Canada: Canadian Sirocco products, Windsor, Ontario.

AMERICAN-Standard

AMERICAN BLOWER DIVISION

NOW ABOLITE BRINGS "OFFICE TYPE" EYE COMFORT TO INDUSTRIAL HIGH BAY LIGHTING

Eye fatigue is reduced, workers are more efficient with "glareless" high bay lighting from Abolite uplight units. Uncomfortable contrasts of bright lamps against dark background are eliminated by light directed upward through Abolite's open top. This light (18%) washes out the deep shadows, gives lamps a soft background. 35° shielding practically eliminates glare.

Open-top design also gives Abolite high bay units a self-cleaning action that keeps maintenance at a minimum. Air circulates through the fixture and sweeps it clean of dulling dust.

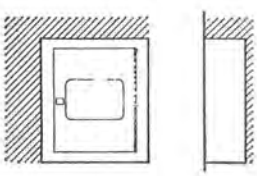
There are four Abolite uplight units for high bay lighting: 18″ and 24″ diameter Alzak aluminum fixtures for use with 400 and 1000 watt mercury lamps; 14″ and 18″ Alzak aluminum fixtures for 500 watt incandescent lamps (ideal for gymnasium lighting). For full information on these units, see Sweet's Industrial Construction File, 12i/AB, or write *Abolite Lighting Division, The Jones Metal Products Company, West Lafayette, Ohio.*

ABOLITE Lighting

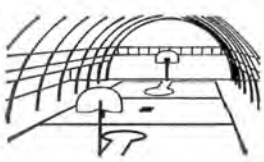
THE JONES METAL PRODUCTS COMPANY
West Lafayette, Ohio

"Greatest improvement in Standpipe Fire Protection in 50 years!"

New... ALLENCO HOZEGARD CABINETS

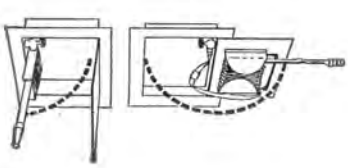


- **Save Space**—35% less area, less depth; not limited to walls, may be installed on any plane, even floors*



- **Cut Cost**—save 25%-30% on each unit installed, by eliminating costly pin-type rack and time of loading hose on it

- **Serve Best**—foulproof door-rack swings full 180 laterally *or* vertically; hose "points" faster, reaches further



- **Pre-proved**—thoroughly tested; *first* complete fire hose cabinet unit, including equipment, to be 100% Underwriters Listed

**using appropriate framing and solid (no glass) door*

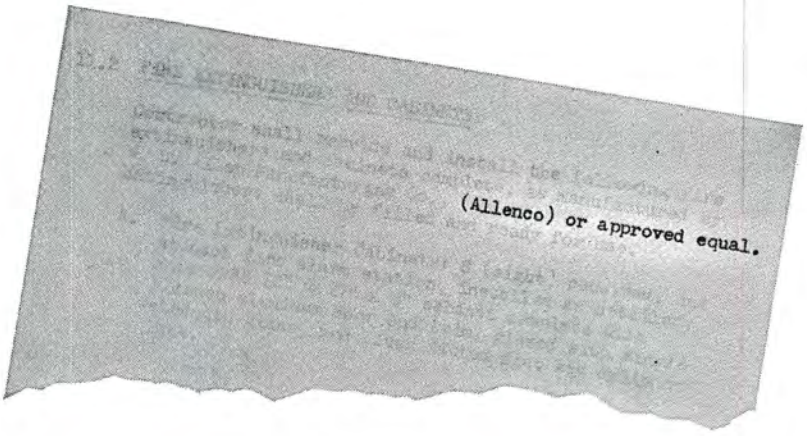


Fig. 7168
19″x22″x5½″ I.D.
Holds 50 or 75-feet
of 1½″ linen hose

Fig. 7169
26″x27″x8″ I.D.

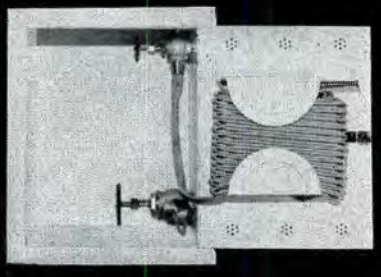


Fig. 7172
24″x30″x8½″ I.D.

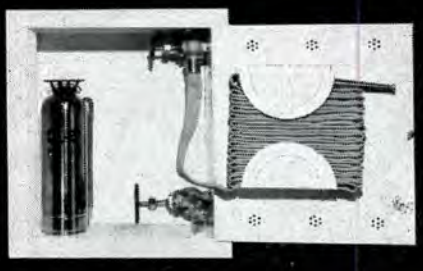
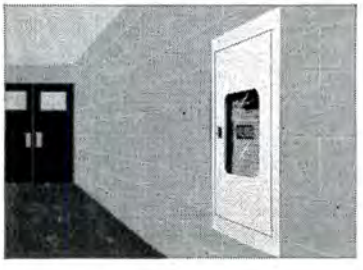


Fig. 7173
27″x30″x8½″ I.D.

Each holds up to 100 feet of 1½″ linen hose, 50 or 75 feet of Allen-flex hose, or 50 feet of Qua-flex hose, plus choice of extinguishers where shown and Fire Department valve where shown.

Tamper-proof Latch Shield (*optional*) keeps contents safe for emergency, yet breaks clean instantly



Blends Into Any Surface: choice of 3 trims, 2 door styles; finish on the job or by factory to your specs; face-flush vents

For SELF DEMONSTRATION or DATA phone your Allenco*nsultant* (listed in Yellow Pages) or write . . .

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W. D. ALLEN Manufacturing Co.

Room 500 Allenco Bldg. 566 W. Lake St. Chicago 6

Tell us where to send your copy of this handy digest reference (not a catalog) for specifying or installing non-sprinkler fire protection.

Technical Roundup

continued from page 253

sprayed from inside the building onto a layer of paper-backed metal lath supported on a lightweight channel frame. The walls on the east and west sides are all-glass, shielded by vertical aluminum louvers; on the north and south, gypsum-plastered spandrels extend up to a sill line 3 ft above the floor.

Both buildings were designed by Victor Gruen & Associates.

New ASHAE Comfort Chart

The new environmental test room at the Cleveland Ohio Research laboratories of the ASHAE will be put to use soon in a restudy of the well-known "Comfort Chart." This test room is arranged to carry out subjective tests with groups of up to ten people at a time. Temperature, humidity, air motion, radiant heat gain and other characteristics can be varied over a wide range in the room. This study is part of a wide range of subjects planned for study by the American Society of Heating and Air-Conditioning Engineers.

Addendum

Architect for the El Leon confectionery factory illustrated on page 193 of Felix Candela's article, "Understanding the Hyperbolic Paraboloid" (ARCHITECTURAL RECORD, July 1958), was Joaquin Alvarez Ordonez.

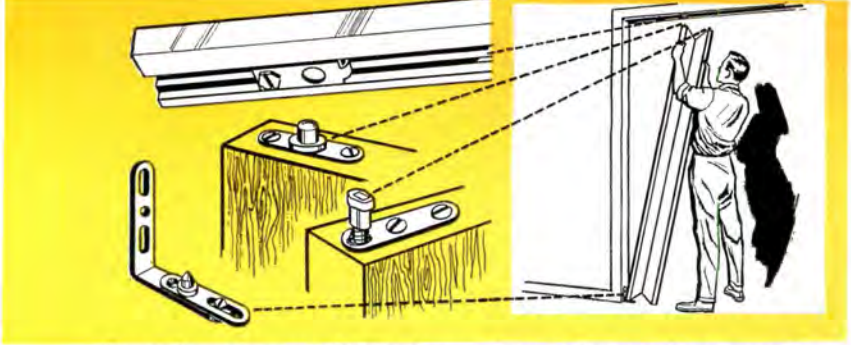
Composite Seal Weatherproofs Stainless Steel Curtain Wall

In the face of the current controversy over which seal to use where, the designers of the Columbus and Southern Ohio Electric Company's new building in downtown Columbus weatherproofed its stainless steel curtain wall with a composite seal that combines three of the more widely-used techniques.

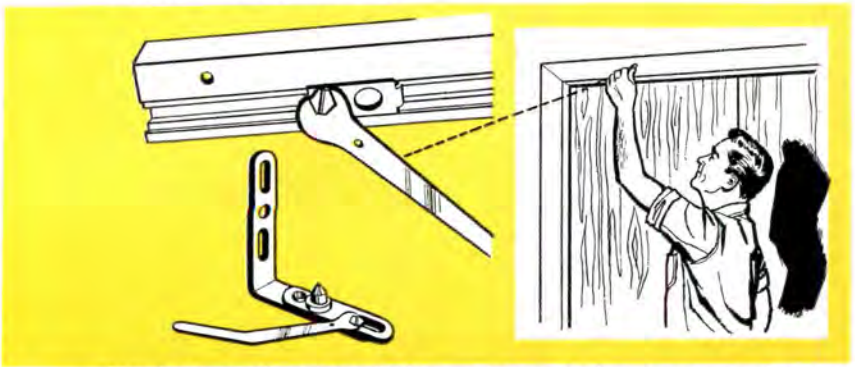
The building, which was designed by architect Edgar I. Williams, and engineered and constructed by Ebasco Services, is sheathed in a curtain wall composed of stainless steel spandrels topped by double-glazed, vertically-pivoted sash. The spandrels, each approximately 4 ft 3 in. wide by 8 ft 4 in. high, are faced with textured Type 302 stainless steel laminated to a phenolic resin-impregnated, phenolic foam-filled honeycomb core. The backup sheet is of galvanized steel.

At the shop, the sandwich units were set in stainless steel frames and the joints tightly caulked with fiber insulation. The excess fiber was

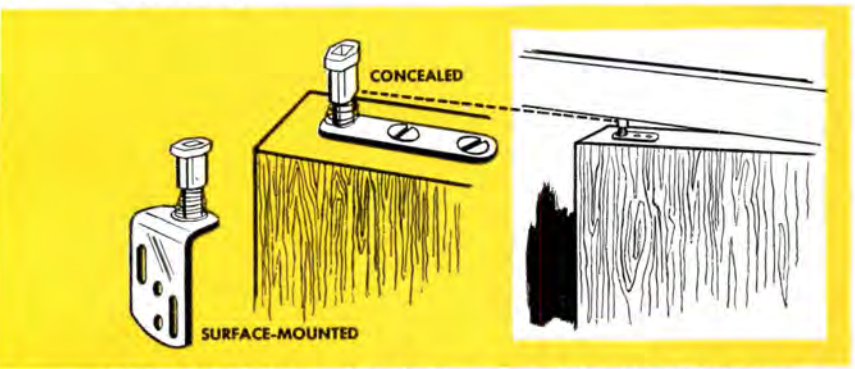
continued on page 264



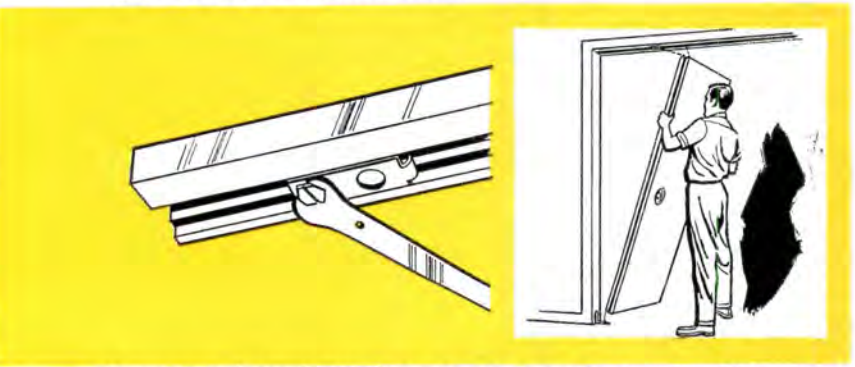
Doors hang in seconds! Slip bottom door-socket over jamb pivot. Push top socket toward center of track. Tilt door, insert top pivot and guide. Door slides easily into position — ready for adjustment with wrench, supplied in every bi-fold set.



Simple door adjustment. Tighten or loosen single nut on top socket and bottom jamb pivot. Doors can be adjusted from either side, even when fully closed. Eliminates old "repeated adjustment" routine. And doors fit closer to jamb!



Doors can't fall out of track. New suspended guide won't let them — no matter how out of square they may be. Rubber snugger and stop eliminate door play, rattles. Nylon pivots and guides provide really quiet operation, long dependable service.



To remove doors, loosen just one nut on top track socket. Slide toward center. Top pivot and guide slip out of track. Just lift door off bottom pivot and away they go for painting, etc. Fastest, simplest removal ever — and from either side!

The answer to BI-FOLD DOOR PROBLEMS.

New bi-fold hardware greatly simplifies hanging, adjusting, and removing doors — stays in track — operates with a whisper!

Mighty strong claims — but true! For Stanley's new bi-fold hardware positively solves the prime troublespots of bi-fold door installation and operation.

The secret: a unique one-nut, one-wrench system that makes hanging, adjusting or removing bi-fold doors almost unbelievably simple — a one-man operation that can now be done in seconds!

And with Stanley's new suspended guide pivot, doors can't possibly fall out of the track — even when out of square as much as an inch.

This, plus really quiet operation and attractive styling, makes Stanley's new bi-fold hardware your best bet for any bi-fold application. Remember the numbers:

2983 surface-mounted for closets
2989 concealed for passage doors

AMERICA BUILDS BETTER AND LIVES BETTER WITH STANLEY

STANLEY

This famous trademark distinguishes over 20,000 quality products of The Stanley Works—hand and electric tools • builders, industrial and drapery hardware • door controls • aluminum windows • stampings • springs • coatings • strip steel • steel strapping made in 24 plants in the United States, Canada, England and Germany.

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Stanley Hardware, Div. of The Stanley Works,
160 Lake Street, New Britain, Conn.

Name _____

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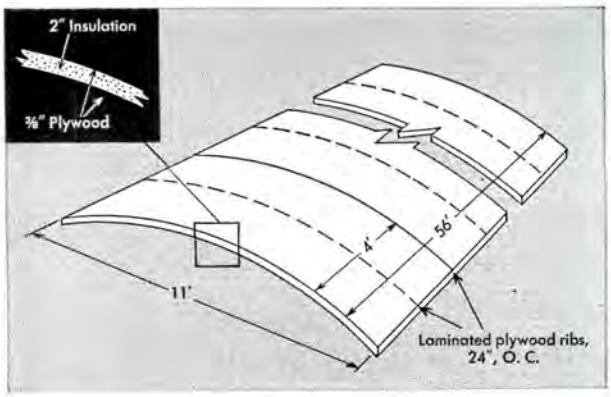
Street _____

City _____ State _____

new approaches to structural design with fir plywood



Prefabricated roof vaults are 11 feet wide at the chord, and 56 feet long (40 foot span plus 8 foot cantilever both ends). Key to system is the outstanding shear strength of the stressed fir plywood skins.

FIR PLYWOOD

ARCHITECT: Theodore T. Boutmy, A. I. A.
George Kosmak, Consultant
John E. Brown, Structural Engineer

PLYWOOD VAULTS designed and engineered by Berkeley Plywood Co., Oakland

THESE lightweight fir plywood stressed skin barrel vaults designed for a California yacht club provide large clear floor areas at low cost plus an attractive profile and interior.

Combining roof decking, insulation and ceiling, the prefabricated vaults span 40 feet from front to rear and 11 feet from valley to valley, without use of beams or trusses. Vaults are cantilevered 8 feet front and rear; spouts which join units at the spring lines extend an additional 10 feet to act as gargoyles in carrying off water.

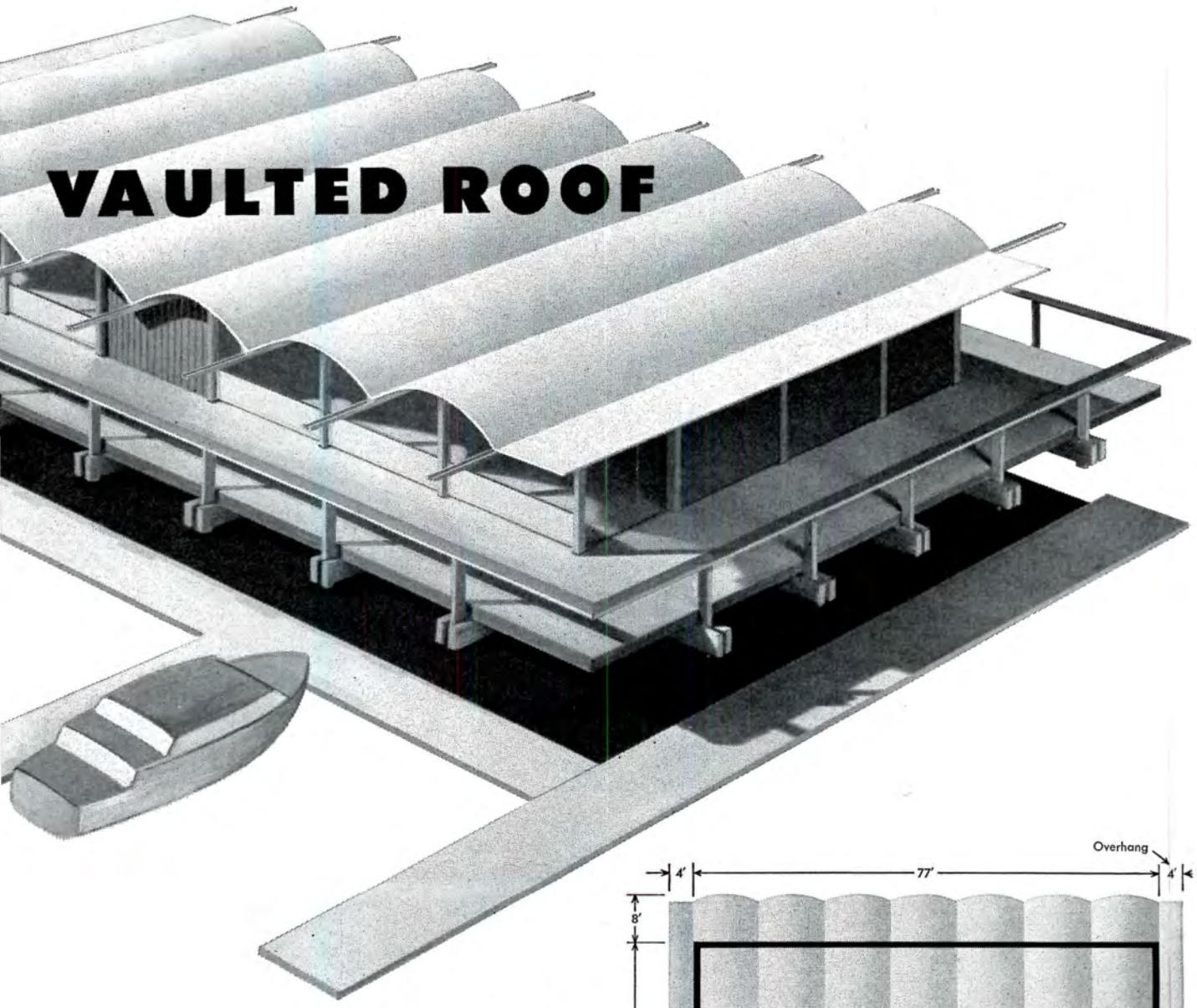
The roof system provides complete freedom in interior arrangements. Additions can be made simply by adding new vaults or extending the existing ones.

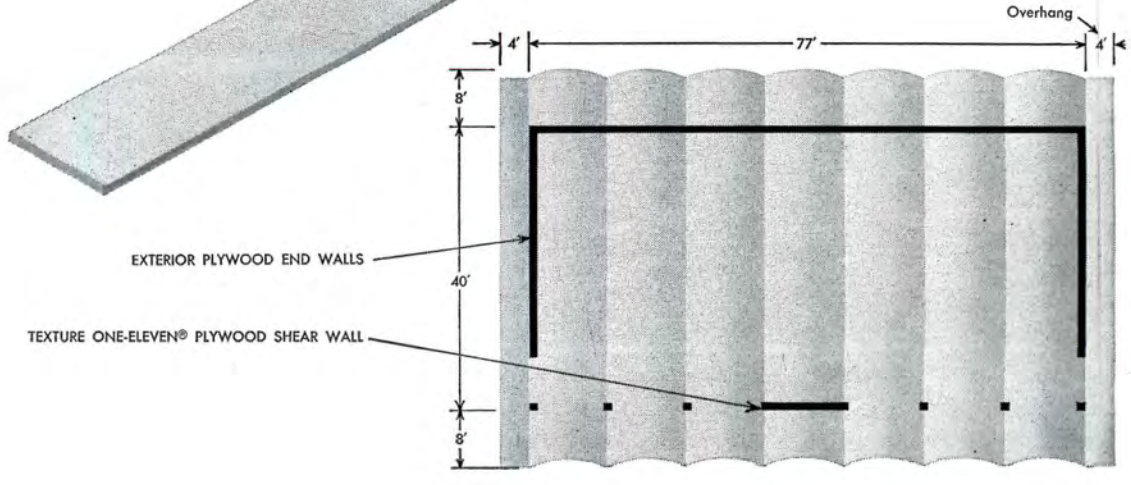
Structurally, the entire roof acts as a rigid plywood diaphragm in transferring lateral loads to the plywood end and shear walls. Two test vaults were successfully used at the San Francisco Arts Festival. Berkeley Plywood is contemplating mass producing the vaults as a standard construction component.

SEND FOR YOUR COPY OF "SCHOOLS OF THE FUTURE"

. . . a portfolio collection of outstanding designs by six leading architectural firms. Includes 10-page booklet on fir plywood diaphragm construction. For your free copy, write (USA only) Douglas Fir Plywood Association, Tacoma, Washington.
Also write for information about DFPA design and engineering consultation services.

VAULTED ROOF





Technical Roundup

continued from page 260

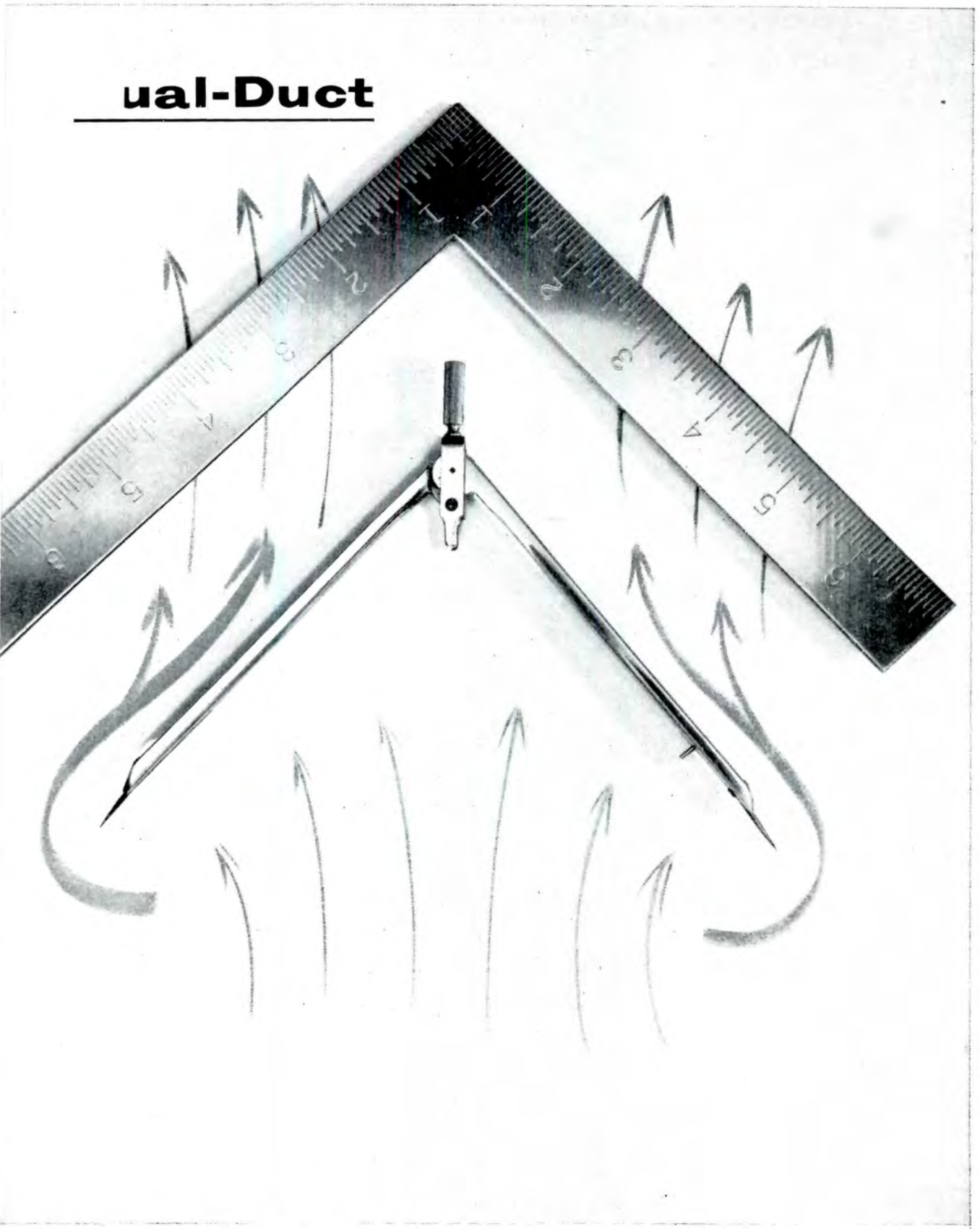
then trimmed, a neoprene gasket set in the joint, and the whole assembly sealed by a strip of polysulfide liquid polymer. To trim the joint, a stainless steel molding was placed over the seal.

Prior to installation, vinyl gaskets were secured to the frames with temporary retaining tape. The spandrel units were then hoisted into place, the uprights caulked, and the frames locked in position with retaining clips designed to exert pressure on two adjacent units at the same time.

Worker trims excess from fiber caulking packed between "sandwich" and frame

Pre-formed neoprene gasket is inserted in joint over caulking fiber insulation

Strip of polysulfide liquid polymer, gunned on over fiber and gasket, completes seal



PLICITY
con itionin DESIGN

There is no substitute for safety, and Polished Misco (wired) affords proven protection for youngsters in the new Walt Disney Elementary School, at Tullytown, Pennsylvania.

Architect: John Carver,
2112 Spruce St., Philadelphia, Pennsylvania

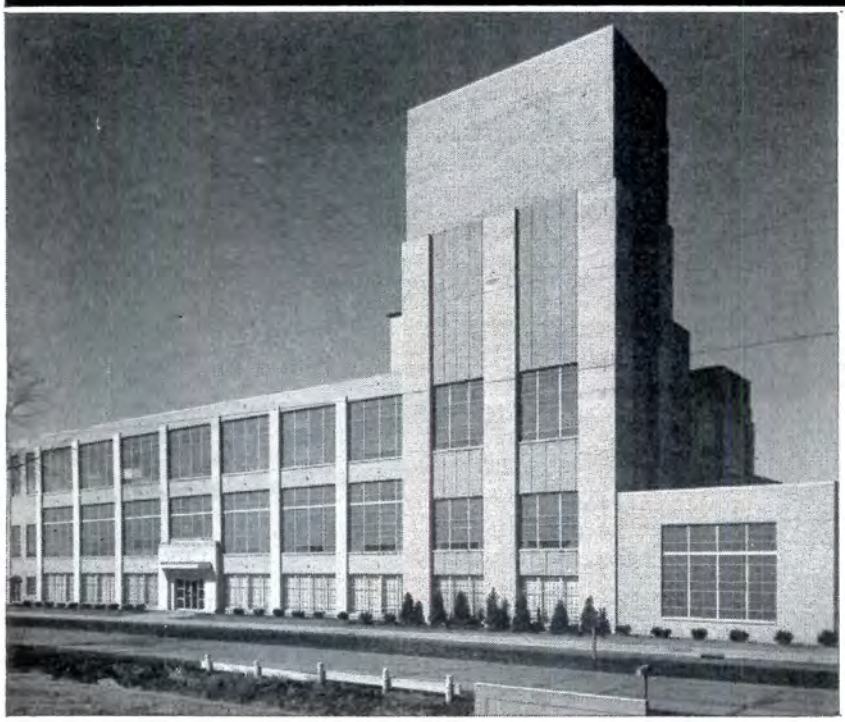
Heat absorption provided by 38,750 sq. of Mississippi Coolite glass make patients more comfortable in the John J. Kane, Allegheny County Institution District (Hospital for the Indigent Sick).

Associate Architects: Button & McLean—Mitchell & Ritchey, Pittsburgh, Pennsylvania
General Contractor: Sherry Richards Company, Chicago, Illinois
Glazing: United Plate Glass Company, Pittsburgh, Pennsylvania

At the Philadelphia International Airport, modern vistas are created by 10,000 sq. ft. of 60″ wide lights of Polished Misco (wired glass).

Architect: Carrol, Grisdale and Van Allen, Philadelphia, Pennsylvania
Glazing: Pittsburgh Plate Glass Company

ROLLED GLASS . . . .



New factory of American Chicle Company, Rockford, Ill. where 14,000 sq. ft. of Coolite Wire glass, Glare Reduced, combines heat absorption with protection.

Architect: William Higginson & Sons,
New York, N. Y.
General Contractor: Sjostrom & Sons, Inc.,
Rockford, Illinois
Glazing: National Mirror Works, Rockford, Illinois

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WORLD'S LARGEST

today's best buy in *Daylighting*

The versatility of Rolled Glass provides architects with a practical solution to a variety of daylighting problems. Glass for daylight control, glass that absorbs heat, glass that decorates and glass that protects—they're all available in translucent light diffusing patterns, plain or wired (the latter for obscurity or clear vision) to meet every requirement. For utility, beauty, and economy unmatched by any other glazing medium, specify Mississippi Glass. Write today for free catalog. Address Dept. 7.

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MANUFACTURER OF ROLLED, FIGURED AND WIRED GLASS

Product Reports

continued from page 231

Incandescent Lighting Fixtures

Uni-Frame 300 and *Uni-Frame 200* are said to provide the largest lens area available for a 12-in. square opening. According to the manufacturer, a rigid, seamless box requires no plaster frame and can be installed in a poured concrete ceiling. It is designed to replace a 12-in. square ceiling tile, and its frame can be adjusted to compensate for various ceiling thicknesses. *Day-Brite Lighting, Incorporated, 6260 North Broadway, St. Louis 15, Mo.*

Mosaic Vinyl Floor Covering

Tiny square-faced blocks of vinyl, embedded in vinyl and surrounded by vinyl grout, make up the wearing surface of Armstrong's new mosaic-like *Tessera* floor covering. Made in 6-ft sheets with a flexible, moisture-resistant backing, the heavy gauge flooring is suitable for installation in basements and other below-grade areas as well as on suspended and on-grade subfloors. It comes in seven subtle tone-on-tone colorings: sage green, warm beige, medium gray, gray beige, putty, ivory and suede brown. *Armstrong Cork Co., Lancaster, Pa.*

Stainless Steel Bubble Fountains

Eight new models of drinking fountains, made in 18 gauge stainless steel, with access and closure panels in 24 gauge stainless, have been introduced by *Just Manufacturing Company, 9233 King Avenue, Franklin Park, Ill.*

more products on page 276

Rockwood shopping center of Fred Meyer, Inc., Portland, Oregon, is 216' x 313'-6" in size, with structural framing of cantilevered glulam girders which provide 44'-9" bays. Heavy timber decking is placed over natural finish glulam purlins spaced at 8'. Architects: Jensen and Gilham, Portland, Oregon. Andersen & Westfall, Portland, were general contractors.

JOB DATA — **Exterior walls:** stone, painted concrete, ceramic tile, asbestos panels, glass. **Interior walls:** gypsum board, glass. **Heating:** gas fired forced air. **Ventilation:** full air conditioning. **Lighting:** Fluorescent fixtures. **Volume:** 1,151,172 cubic feet. **Floor area:** 67,716 square feet. **Cost:** approximately 10% below prevailing costs of similar structures in this area.

modern store design

with structural framing of glulam timbers by Timber Structures, Inc.

No structural material is more adaptable for modern design than glulam timber members. Dimensionally stable and free from seasoning action, they are "factory grown" in virtually any desired shape, and size is restricted only by limitations of shipping. If the store is to be enlarged later, additional timbers of identical design may be obtained on short notice.

Handsome appearance of glulam timbers is evident in thousands of outstanding store buildings throughout the nation. Economical, too, for since the timbers serve both structural and decorative functions when left exposed, they frequently result in worthwhile savings in both construction and maintenance.

When planning your store buildings, consider glulam timber framing. It will give you permanence, handsome appearance, adaptability for unusual design, and genuine economy. What else could you want?

Interior view shows wide span bays which provide unhampered display space and facilitate customer traffic.

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MEMBER

see our catalog in Sweet's or write for copy

Double Switch-Box

Designed for use where space is limited, this new switch-box includes two single-pole-single-throw switches behind one switch-plate, and permits installation where there is not room for two switch-boxes. *H. J. Theiler Corporation, Whitinsville, Mass.*

Odorless Gas-Fired Incinerator

The *Warm Morning* Model L-16 incinerator is said to achieve odorless, smokeless burning by the use of a specially designed dual gas burner and a system of interior baffles. The primary flame is used in direct burning of an average load in approximately two and a half hours burner time. The "after burner" is used to complete combustion in the gases driven off in the primary burning as they pass over the secondary burner, conducted by a duct and baffle system. The flame is controlled by a timer and a safety pilot valve. *Locke Stove Company, 114 West 11th St., Kansas City 5, Mo.*

Double Duct Mixing Unit

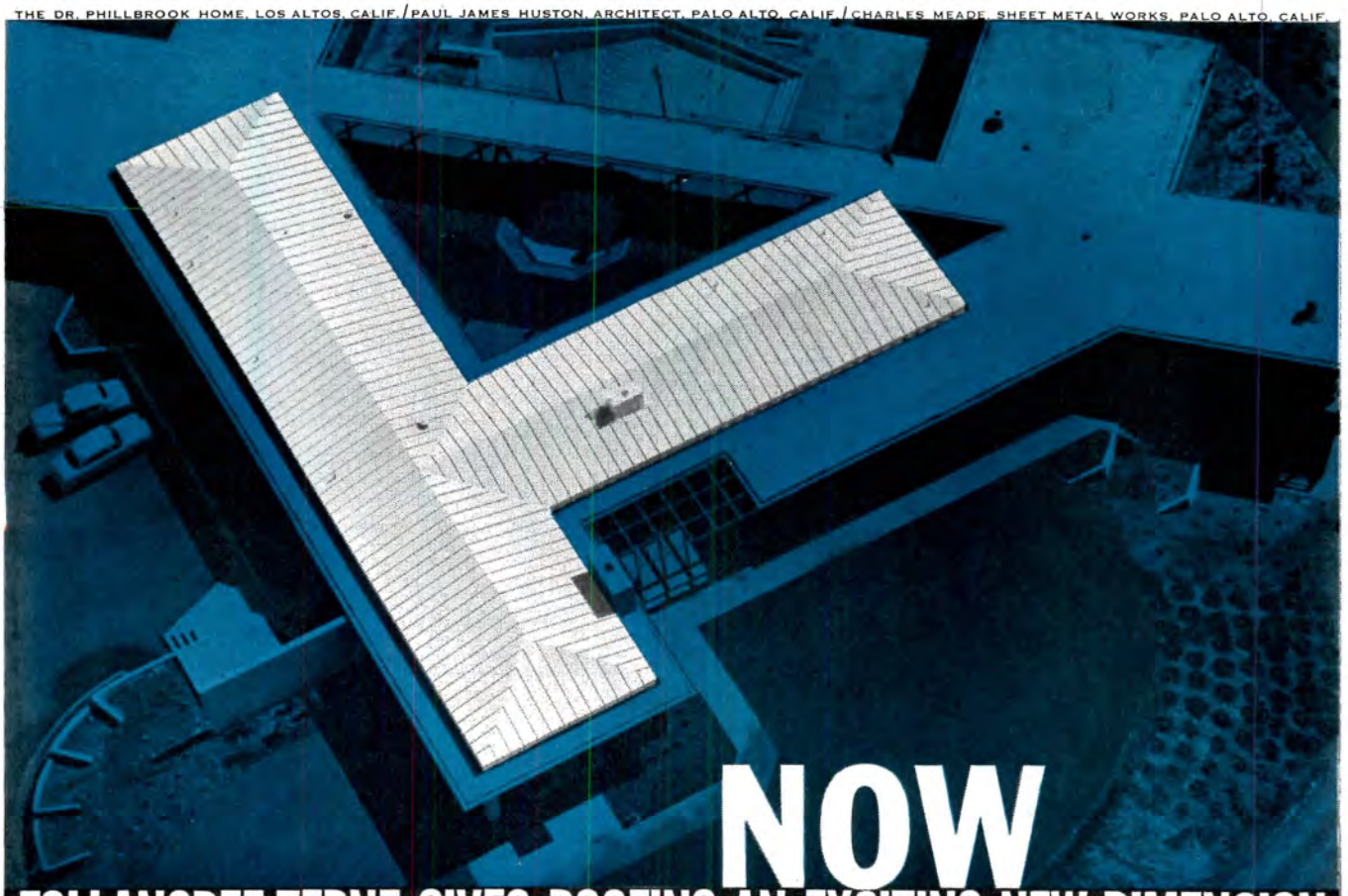
A double duct mixing unit is said to deliver constant CFM while mixing hot and cold high velocity air and reducing it to conventional velocities with minimum noise. Temperature and volume regulation are treated as separate functions and operation of one cannot adversely affect the other. Inlet control valves can be either electrically or pneumatically operated, with the motor mounted inside or outside the unit. *Barber-Colman Company, Rockford, Ill.*

New Ceiling Tile

Classic Cushiontone, an acoustical ceiling tile, features hundreds of tiny perforations scattered through a non-directional field of larger openings. Two coats of white washable paint are applied at the factory. Available with tongue and groove or butt joints, the tile come in three sizes: 12 by 12 by ½ in., 12 by 12 by ¾ in., and 16 by 16 by ¾ in. *Armstrong Cork Company, Lancaster, Pa.*

more products on page 282

THE DR. PHILLBROOK HOME, LOS ALTOS, CALIF. / PAUL JAMES HUSTON, ARCHITECT, PALO ALTO, CALIF. / CHARLES MEADE, SHEET METAL WORKS, PALO ALTO, CALIF.



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seamless

FOLLANSBEE seamless TERNE HAS UNUSUAL VERSATILITY FOR THE CREATIVE ARCHITECT

It can be formed into many contemporary designs
It can be custom colored
It affords permanent protection
It is safe
It is easy to install
It is economical

WHAT IS FOLLANSBEE TERNE?

As a word, terne means three. As a metal, Follansbee TERNE is the combination of three metals —steel, lead and tin. More properly, it is copper-bearing cold-rolled strip steel with a lead-tin coating. The coating is an alloy of 4 parts lead to one part tin. This makes TERNE's surface perfect for painting and soldering. Since TERNE is basically steel, its coefficient of expansion is lower than any other roofing metal; it is fire-proof, weathertight, windproof, and will last more than a lifetime.

You can form it—and it will never crack
You can paint it immediately—no special treatment is needed

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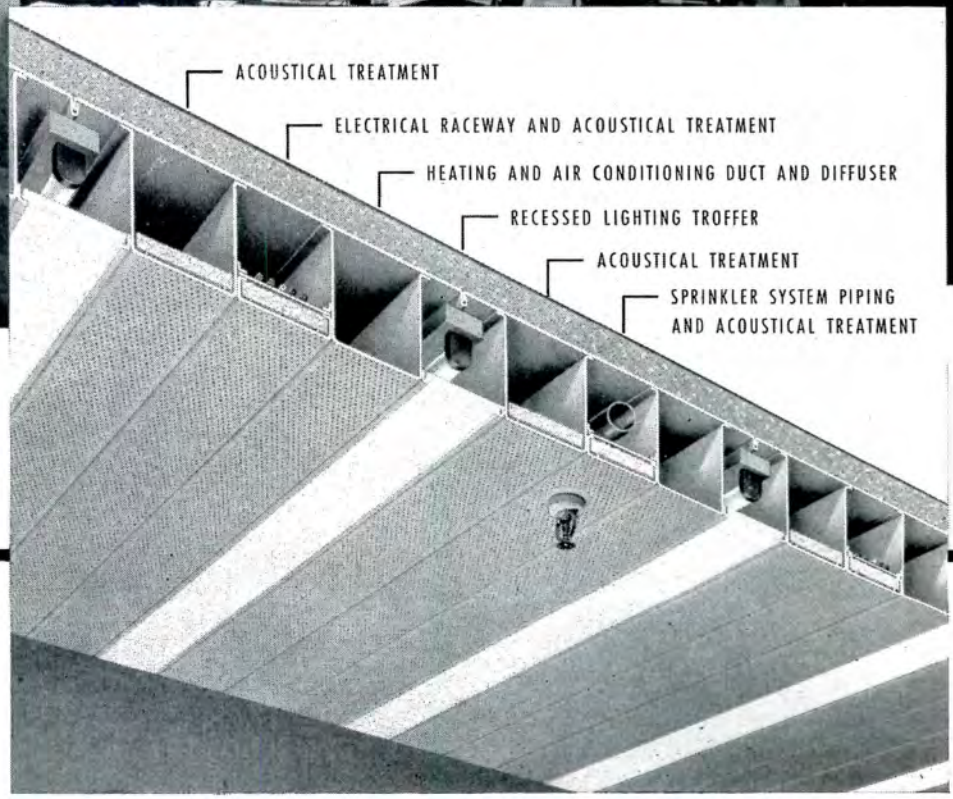
STEEL CORPORATION
FOLLANSBEE, WEST VIRGINIA

SEND TODAY FOR ADDITIONAL INFORMATION & YOUR FREE COPY OF STANDARD SPECIFICATIONS FOR FOLLANSBEE SEAMLESS TERNE ROOFING

Mahon M-FLOOR Is Utilized

Above: Interior View of Office Building for Whirlpool Corporation, Clyde, Ohio. In this building the Heating and Air Conditioning Ducts and Diffusers, Recessed Lighting, Electrical Raceways, Acoustical Treatment, and Sprinkler System Piping are all contained in the Combined Structural Floor and Ceiling constructed with modified M-Floor Sections. See Detail at Right.

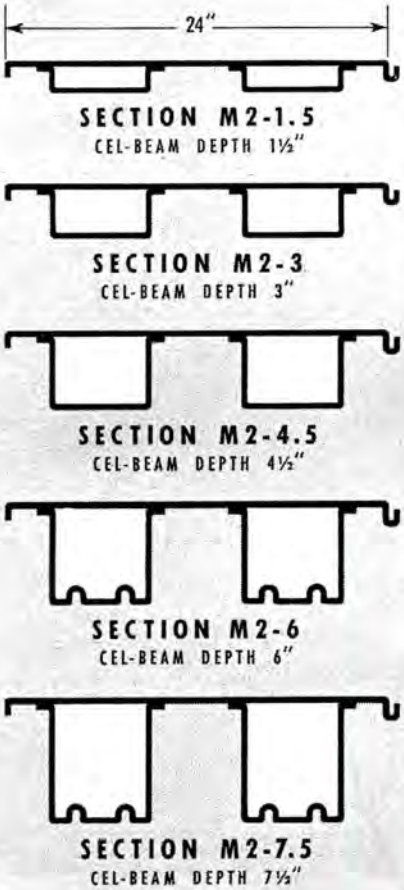


The Cross Section above shows a unique adaptation of M-Floor Construction to provide both the Structural Sub-Floor and Acoustical Ceiling. In this application, Cel-Beams and Channels between Cel-Beams in the M-Floor Sections are ingeniously utilized for several other functional purposes.

for SIX PURPOSES in Addition to Its Primary Use as a Light-Weight Structural Sub-Floor!

Modified M-Floor Cel-Beam Sections Provide: (1) Finished Ceiling Material. (2) Acoustical Treatment in Ceiling. (3) Troffers for Recessed Lighting. (4) Air Ducts and Diffusers for Heating and Air Conditioning. (5) Raceways for Electrical and Telephone Circuits. (6) Housing for Sprinkler System Piping.

MAHON
M-FLOOR SECTIONS



☆ OTHER MAHON BUILDING PRODUCTS and SERVICES:

- Insulated Metal Curtain Walls
- Underwriters' Rated Metalclad Fire Walls
- Rolling Steel Doors (Standard or Underwriters' Labeled)
- Steel Roof Deck
- Long Span M-Decks (Cellular or Open Beam)
- Permanent Concrete Floor Forms
- Acoustical and Troffer Forms
- Acoustical Metal Walls and Partitions
- Acoustical Metal Ceilings
- Structural Steel—Fabrication and Erection
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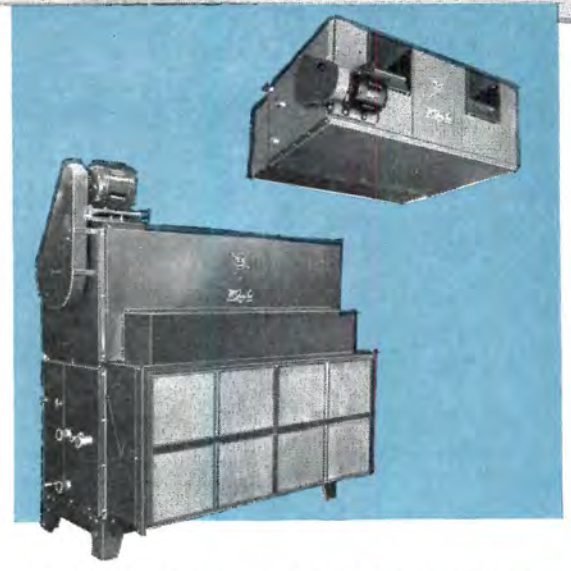
PERSHING AIR CONDITIONING BY McQuay

Pershing Municipal Auditorium, Lincoln, Neb.
Architects: Davis & Wilson, Lincoln
Consulting Engineer: William Cassell, Kansas City, Mo.
Mechanical Contractors: Natkin & Co., Lincoln.



The Pershing Municipal Auditorium is a showplace in Lincoln, Nebraska. It is a monument to General Pershing and a monument to air conditioning. Thirteen McQuay Seasonmaster units and ten McQuay water coils provide year 'round air conditioning for this modern structure. To be sure that your next air conditioning job functions at its very best, see your McQuay representative. He will be glad to assist you in any air conditioning heating or refrigeration problems you may have. McQuay, Inc., 1605 Broadway Street N. E., Minneapolis 13, Minnesota.

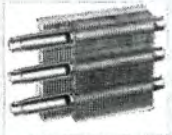
McQuay Horizontal and Vertical Seasonmaster central station air conditioning units. They are available with water coils, steam coils or direct expansion coils. Removable panels permit complete accessibility for inspection or service. All Seasonmaster units are made with the exclusive McQuay Ripple-Fin coils. Seventeen sizes available. Range from 640 cfm to 38,000 cfm.

McQuay INC.

AIR CONDITIONING • HEATING • REFRIGERATION

MAKE THE SEASONS COME TO YOU

McQuay Means Quality



McQuay units feature the exclusive Ripple Fin Coils which create maximum air turbulence and have wide, full fin collars that act as automatic spacers to form a tube around the coil tube for greatest heat transfer and protection. Dura-Frame "V" channel construction provides the strength and rigidity necessary for quiet, trouble-free operation.

Fiber Glass Speaker Baffles

Spiral-Jector loudspeaker baffles, available in two types for 8-in. speakers, are made of a non-resonant material for best sound quality, according to the manufacturer. The material, *Preformed Fiber Glass* is said to be as strong as steel, as light as aluminum, and as beautiful as wood. A special diffusion plate gives an impression of "presence" by disguising the source of the sound. Available in two-tone finish. *Fourjay Industries, 2360 West Dorothy Lane, Dayton 9, Ohio.*

Kingsize Aluminum Extrusions

A new line of structural aluminum shapes, in sizes up to the equivalent of a 33 in. wide flange steel beam and lengths up to 80 ft, includes tube; integrally stiffened panels; stepped extrusions; structural sections such as I-beams, H-beams, channels, angles, tees and zees; and others. Generally speaking, the big extrusions can be used wherever rolled steel shapes are used, with the advantages of better strength-to-weight ratio, reduced fabricating costs, and maximum resistance to corrosion. They are also recommended whenever a large shape can replace sections now being assembled from smaller components. *Harvey Aluminum Co., 19200 S. Western Ave., Torrance, Calif.*

New Concrete Form Lubricant

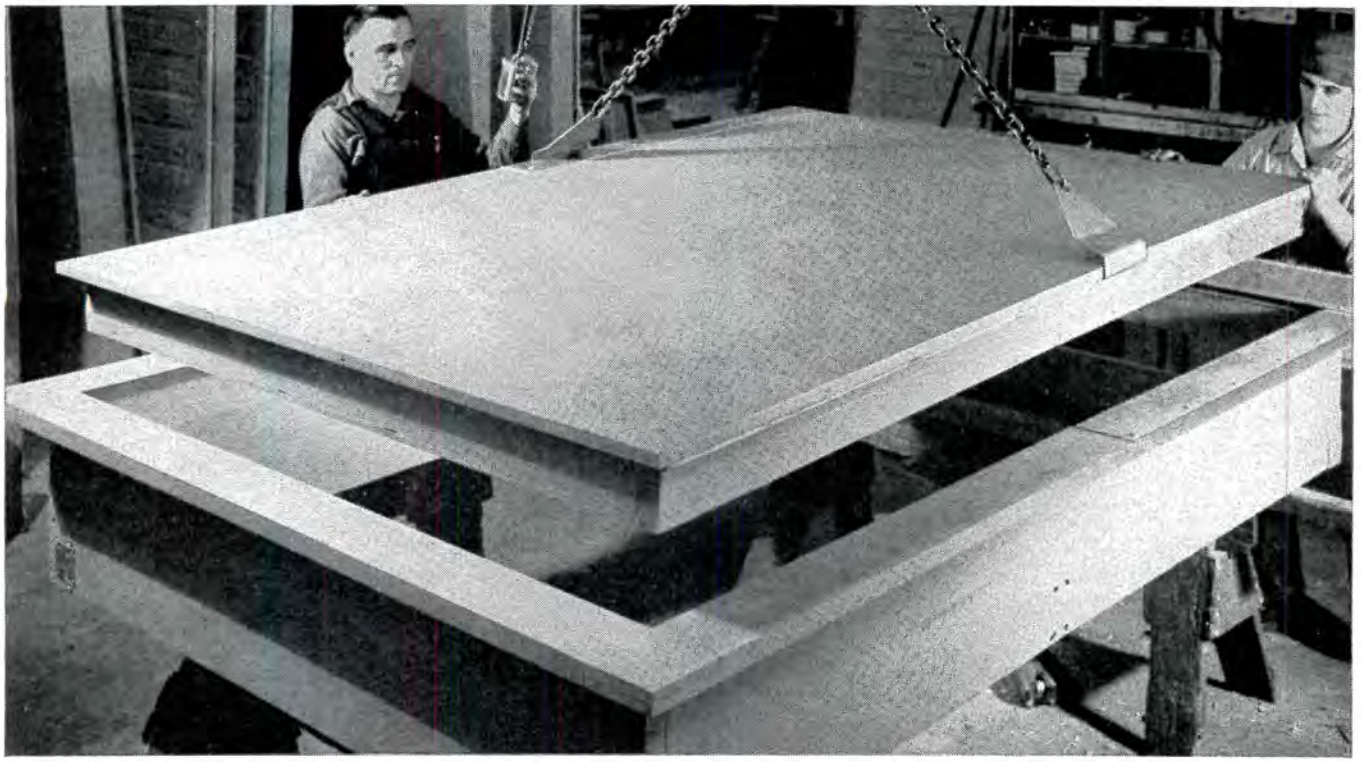
A new form lubricant for prestressed concrete leaves concrete with a smooth surface and will not build up in the forms according to the manufacturer. The compound costs about 20 cents a gallon, and ordinary spraying equipment can be used for applying it to wood and steel forms. About three gallons will cover a full double-tee bed. *Shell Oil Co., 50 West 50th Street, New York 20, New York.*

Chemical-Resistant Counters

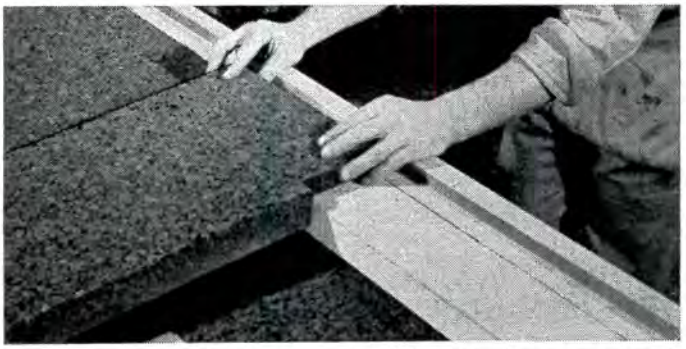
Wooden laboratory counters treated with a new formula are said to be non-reactive with acetic, formic, chromic, and 20 per cent hydrochloric acids, ethyl and butyl alcohols, formaldehyde, acetone, ether, toluene, gasoline, mineral oil, hydrogen peroxide, and chlorine gas. The counters, available in edge-grain birch or maple, are subjected to six chemical coatings and a wash. They come in all sizes. *Hyde-Murphy Company, Ridgway, Pa.*

more products on page 288

Inside and out...Jamison cold storag doors show *quality* construction



Box girder construction of highest quality boat hull plywood gives maximum strength and rigidity. Large series "50" door is shown as door and frame meet on assembly line.

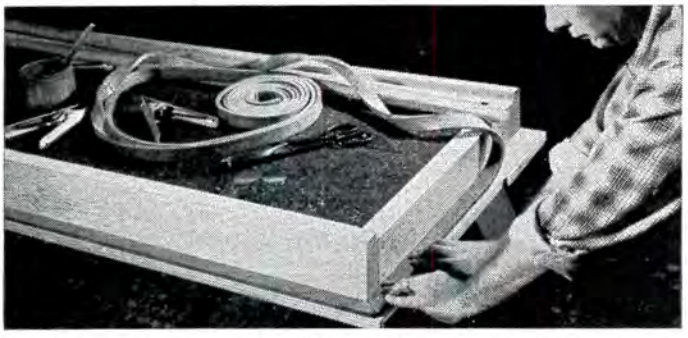


Insulation—Each block of insulation is individually measured and cut to give maximum insulation efficiency.

Materials and workmanship assure top efficiency in rugged service

The reason behind the reputation of the Jamison Series "50" Cold Storage Door is apparent here. Some of the most important parts and components are never seen by customers . . . Yet operational efficiency in all types of installations continues to prove that Jamison quality materials and precision workmanship mean superior protection and overall economy.

If you have plans for modernization or expanding, first get the story on Jamison's Series "50" Door. Write for your copy of Section 3. Jamison Cold Storage Door Co., Hagerstown, Md.



Tight Seal is assured by carefully applied gasketing. Gasket is soft sponge rubber resistant to acids, oils and greases.

JAMISON
COLD STORAGE DOORS

Product Reports

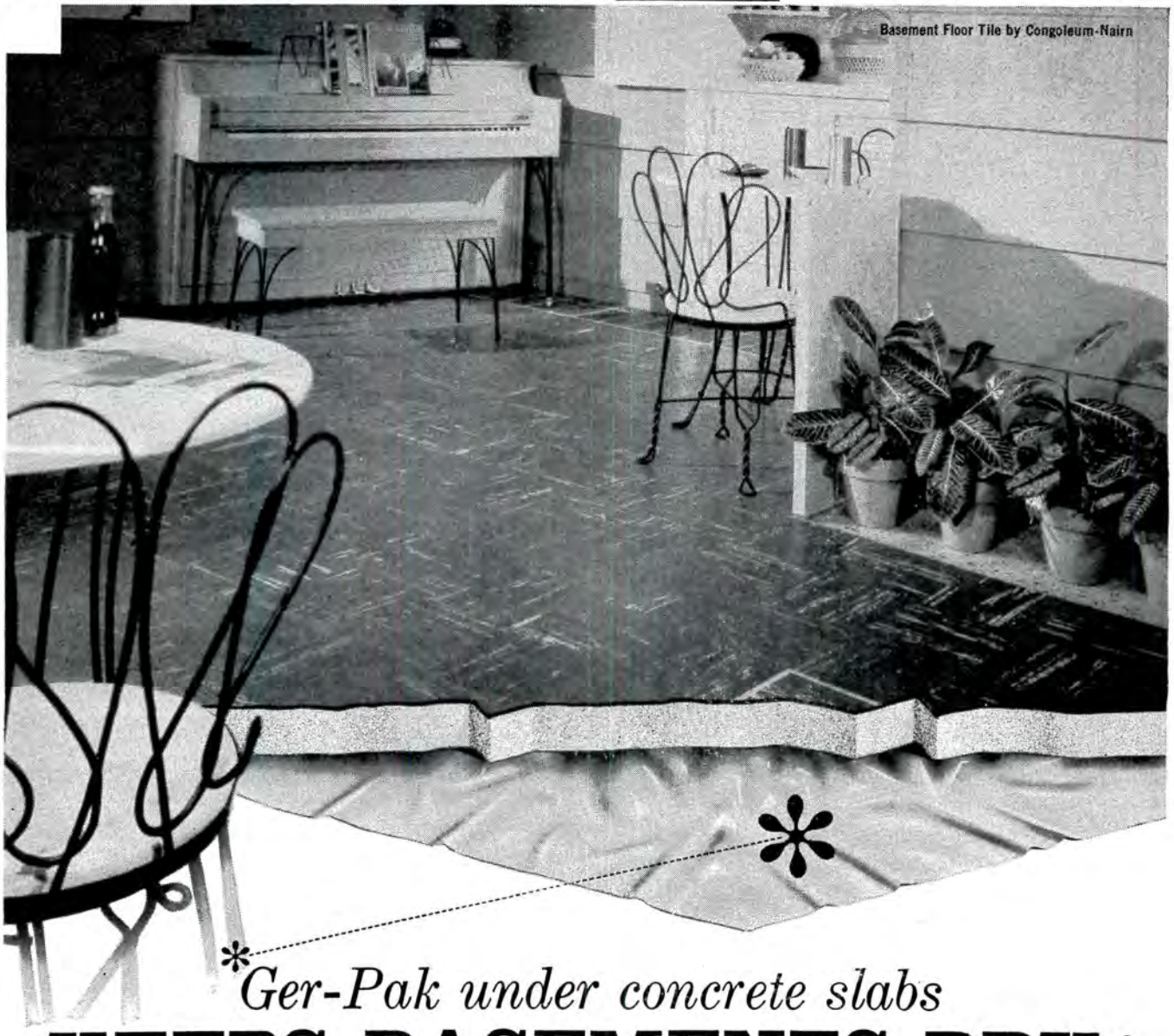
Suction-Oxygen Outlet

A dual outlet for vacuum and piped oxygen for medical gas and distributing systems incorporates a bracket to hold a vacuum bottle, gauge and vacuum control valve. Each service requires a special plug and is color-coded, eliminating the possibility of connecting to the wrong outlet. The outlets, said to be as easy to install as electric outlets, are housed in standard wall boxes designed for flush mounting. Overall size of the dual outlet face plate is 4½ in. high by 8¼ in. wide. *A. Schrader's Son, 470 Vanderbilt Avenue, Brooklyn, New York.*

Waterproof Sliding Door

A sliding glass exterior door designed for economical installation is said to be completely waterproof thanks to a new sill design and outside slider that eliminate interior and exterior pressure problems. The doors can be glazed before delivery with ordinary glass or ⅝-in. insulating glass, according to the manufacturer. *Arcadia Metal Products, 801 South Acacia Avenue, Fullerton, California.*

Ger-Pak—THE SHORT WAY TO SAY SUPERIOR POLYETHYLENE FILM



Ger-Pak under concrete slabs

KEEPS BASEMENTS DRY!

Build extra value and lasting satisfaction into every home by ending the age-old problem of damp floors! GER-PAK Virgin Polyethylene Barrier Film is *the* barrier material that controls *water-vapor transmission* and will last the life of the building!

Lightweight, easy to handle and inexpensive, GER-PAK Film is specified by architects and used by builders across the country who want unmatched water-vapor protection in basements and side-walls as well as superior dust sealing between floors.

What's more, GER-PAK Film is ideal for protecting material and equipment from the weather... to close-in unfinished doors and windows... as painting drop cloths... plus dozens of on-the-job uses.

And GER-PAK Film offers the widest range of widths —from 10-inch for flashing all the way up to 40-foot. Available in CLEAR, BLACK and special opaque WHITE. Ask your dealer about GER-PAK Film today!

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Virgin Polyethylene Film

Gering Products, Inc., Kenilworth, N. J.

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☐ FREE samples and brochures of GER-PAK Film and Miracle Tape for joining film.

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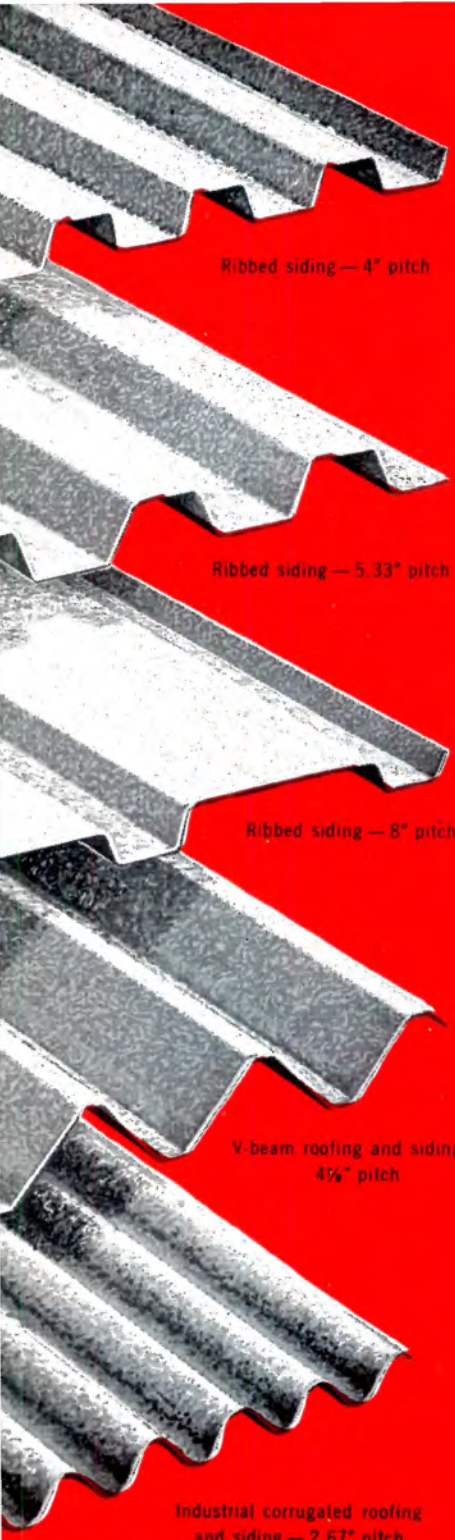


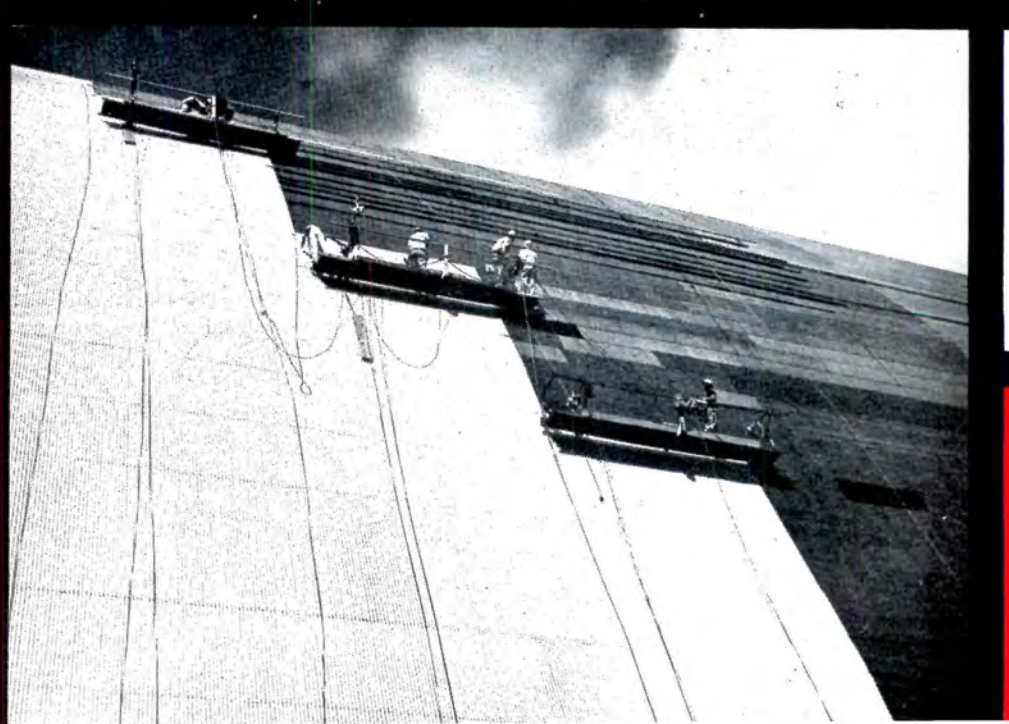
Ribbed siding — 4" pitch

Ribbed siding — 5.33" pitch

Ribbed siding — 8" pitch

V-beam roofing and siding — 4⅛" pitch

Industrial corrugated roofing and siding — 2.67" pitch



A KAISER ALUMINUM ROOFING AND SIDING SHEET FOR EVERY INDUSTRIAL NEED

These roofing and siding sheets are available in a selection of thicknesses, finishes, widths, lengths. Flashing sheet, pre-formed flashing, closure strips and other accessories also available. For full information, see Sweet's 1958 Architectural File 8b/Ka or Industrial Construction File 4b/Ka. Complete specifications provided on request.

16-ACRE OVERHEAD PROBLEM SOLVED!

Two huge Navy hangars get a sturdy re-roofing with lightweight sheets of low-maintenance Kaiser Aluminum

At Moffett Field, California, leaky roofs were threatening the structural wood framework of two giant Navy hangars with rot and deterioration. Repairs were constant and costly. A new covering was obviously needed.

Why did consulting engineers Waters, Ruth and Going specify aluminum for the job? Because careful studies pointed up these important advantages:

1. Aluminum is so *light in weight* that there would be no need to re-stress the buildings.
2. Aluminum is the most *inexpensive* of the durable, permanent-type roofing materials available.
3. Aluminum promises *minimum maintenance* because it won't rust or rot — and resists corrosion.

Quick to apply — Here's what contractor Dale Benz reports on the project: "Using extra wide 45⅝" sheets of 0.032" thick Kaiser Aluminum stucco-embossed industrial corrugated roofing, 16 of our men were able to place between 400 and 500 sheets every day.

"All told, over 700,000 square feet were efficiently covered—at a weight saving of a half-pound per square foot over the original composition material."

Functional good looks — Result: a low-cost, sturdy and attractive roofing capable of withstanding even high velocity winds. "Barring an act of God," says Benz, "these roofs should easily last the life of the hangars themselves."

★ ★ ★

Kaiser Aluminum offers a complete supply of cost-saving industrial building products, including the components for new insulated "sandwich wall" construction. Consult the yellow pages of your telephone directory or write for literature. Kaiser Aluminum & Chemical Sales, Inc., 919 N. Michigan Avenue, Chicago 11, Illinois.

Aircraft hangars, U. S. Naval Air Station, Moffett Field, California. Re-roofing of hangar at left commences as work on hangar at right nears completion. Consulting Engineers: Waters, Ruth and Going, San Jose, Calif.; Contractor: Dale Benz, Inc., Phoenix, Arizona.

Workmen easily apply corrugated Kaiser Aluminum over built-up roofing. Aluminum's light weight made the job go fast.

KAISER ALUMINUM

THE BRIGHT STAR OF METALS

APPROVED APPLICATORS

Additional information on Kaiser Aluminum industrial building products may also be obtained from:

WALTER G. MITCHELL COMPANY
2303 Jefferson Street
Torrance, California

CAREW STEEL COMPANY
R. D. 9
York, Pennsylvania

DALE BENZ, INC.
1912 West Grant Street
Phoenix, Arizona

WM. C. KULZER COMPANY
3340 North 10th Street
Philadelphia, Pennsylvania

HUGHES STEEL ERECTION CO.
171 Harvey Street
Cambridge, Massachusetts

CALLERY INDUSTRIES, INC.
130 Hillvue Lane
Pittsburgh 37, Pennsylvania

METAL PRODUCTS, INC.
106 Birney Street
Greenville, South Carolina

FRASER EDWARDS COMPANY
2412 Harrison Street
San Francisco, California

THE YOUNG COMPANY
1101 West First Street
Charlotte, North Carolina

SOUTHERN FABRICATING, INC.
P. O. Box 97
Staley, North Carolina

LYDICK ROOFING COMPANY
1301 Foch Street
Forth Worth, Texas

ALLENTOWN ROOFING & SHEET METAL COMPANY, INC.
Highland & Fenwick Streets
Allentown, Pennsylvania

PATTERSON STEEL COMPANY
P. O. Box 2620
Tulsa, Oklahoma

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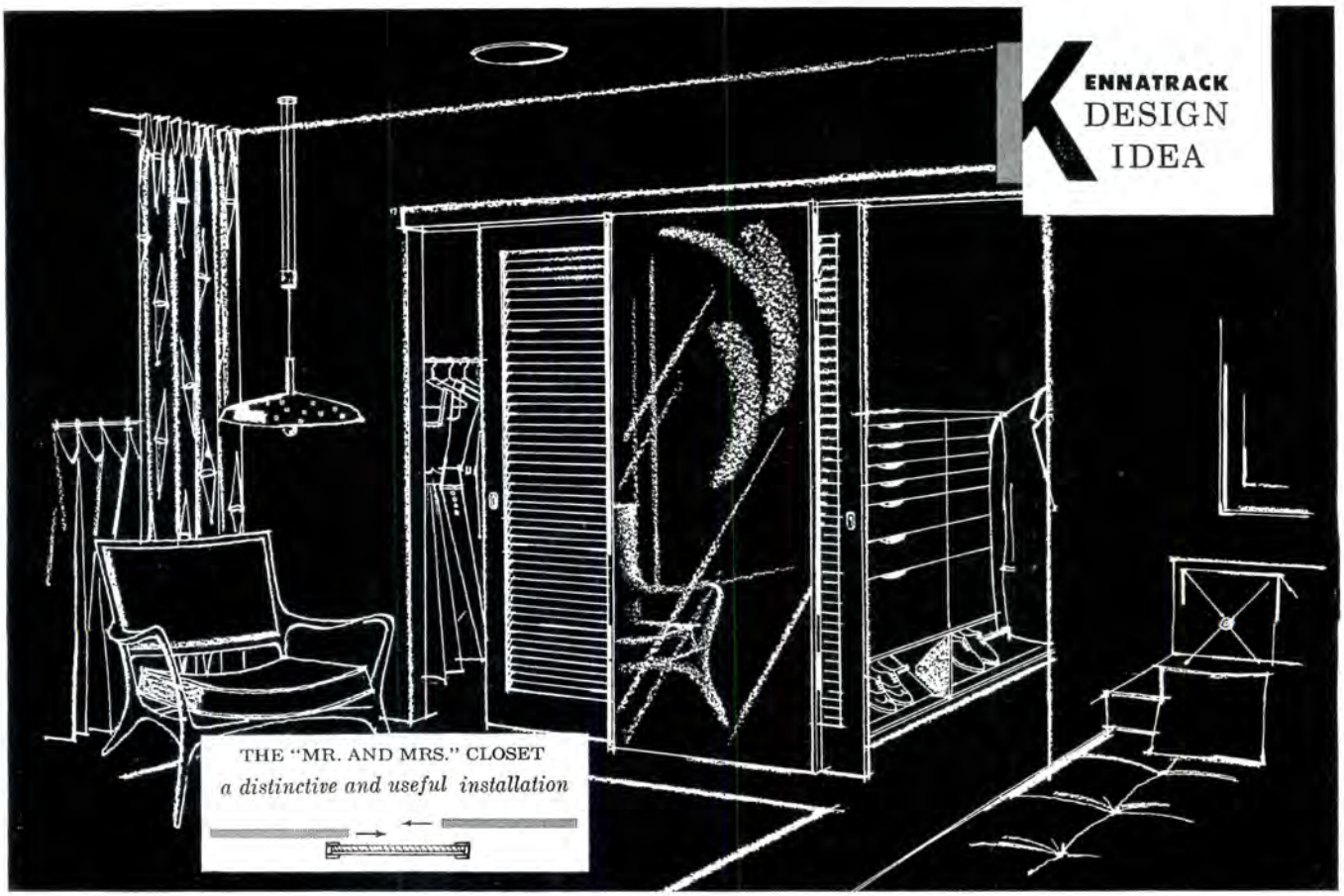
P. O. Box 781
Pine Bluff, Arkansas



MIRRORS AND GLIDING DOORS

with hardware by Kennatrack

Popular, space-saving "Mr. and Mrs." closet: sliding doors make best use of room . . . and mirror is always in view.

Gliding doors with Kennatrack hardware make this attractive and unusual "Mr. and Mrs." closet possible. A full-length mirror makes a design feature of the usual "written-off" wall space between two wardrobes. When either closet is used, fingertip pressure slides the door behind the mirror; afterwards, it's easily—*and quietly*—returned to its original position.

The "Mr. and Mrs." is only one of the many space-saving ideas now being developed by a full-time staff of designers and engineers at Kennatrack, the world's largest exclusive manufacturer of hardware for sliding doors. For quiet, free-moving hardware, always specify Kennatrack *Gliding* Door Hardware—the complete line that is guaranteed to give trouble-free performance for a housetime!

Write today for your FREE Kennatrack catalog. See why more architects specify Kennatrack *Gliding* Door Hardware!

KENNATRACK HARDWARE is sound conditioned; it glides. Only Kennatrack offers eight *floating* nylon wheels.

KENNAFRAME. Original, patented all-steel frame (with aluminum track) for pocket doors. Goes up in minutes.

KENNA-PAK. One-piece header assembly (with track installed) for quick, easy installations of by-passing doors.

WRITE TODAY for your free copy of our new 32-page catalog, or see Sweet's Architectural File 18d/Ke.

For quiet and for quality

KENNATRACK®

SOUND-CONDITIONED GLIDING DOOR HARDWARE

Kennatrack Corporation, Elkhart, Indiana
A subsidiary of Ekco Products Company

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in six sizes
80-1500 cfm air delivery

LINEAR DIFFUSER MODEL
in three sizes
80-450 cfm air delivery

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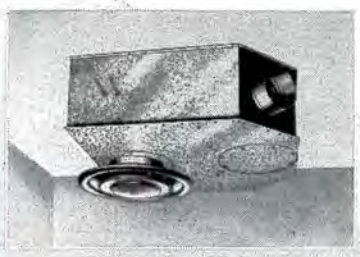
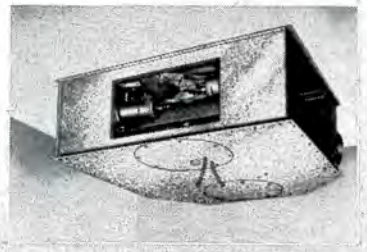
HIGH VELOCITY VALVE ATTENUATORS

UNDER-WINDOW MODEL
in three sizes
80-450 cfm air delivery

REMOVABLE UNDER-WINDOW MODEL
in three sizes
80-450 cfm air delivery



DIFFUSER MODEL
in six sizes
80-1500 cfm air delivery



OPEN END MODEL
in six sizes
80-1500 cfm air delivery
Rectangular and Multiple Round Outlets

NOW! ALL SIX MODELS offer greatest design flexibility for single and dual duct systems

All six high performance, space-saving, cost-saving models are available with Constant Volume Control . . . with either flat plate or sinuous baffle . . . with static pressure taps for quick accurate air delivery measurement . . . and with the patented helical spring damper that assures complete close-off.

Wherever your plans call for a high velocity air conditioning system—whether you're designing a new structure or remodeling an old one—choose Connor high velocity valve attenuators . . . there's a model that meets every design and performance test.

Request new 24 page Bulletin K33-A, which includes selection data on Connor equipment and special information for the design of *any* High Velocity system.

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Please send me New 24 page Bulletin K33-A:

NAME.....

COMPANY.....

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CITY.....ZONE.....STATE.....

Office Literature

continued from page 232

Aluminum Church Windows
Describes construction of *Twin-Beam* windows, which permit double glazing to protect stained glass. 8 pp. *Industrial Engineering Works, 69 Bloomsbury Street, Trenton 6, N. J.*

Sliding Closet Doors
Catalogue describing vertical-sliding wardrobe doors includes data on design and building requirements, and list of current installations. 50 pp. *Barber-Colman Company, Department 8E, Rockford, Ill.**

Water Paints
Priming and Conditioning Products for Exterior Masonry (A. I. A. 25-C) gives information on painting of exterior masonry and porous building block. *Synko Dry Wall Construction Products* (A. I. A. 23-L) explains taping and concealing joints in dry walls, and gives information on sealing and decorating plasterboard walls after joints and nailheads have been prepared. *Synkoloid Company, Department M, 3345 Medford Street, Los Angeles 63, Calif.*

A Paint Job
. . . is as Good as its Primer shows importance of prime coat in successful painting of buildings. 14 pp. *Eagle-Picher Company, American Building, Cincinnati 1, Ohio*

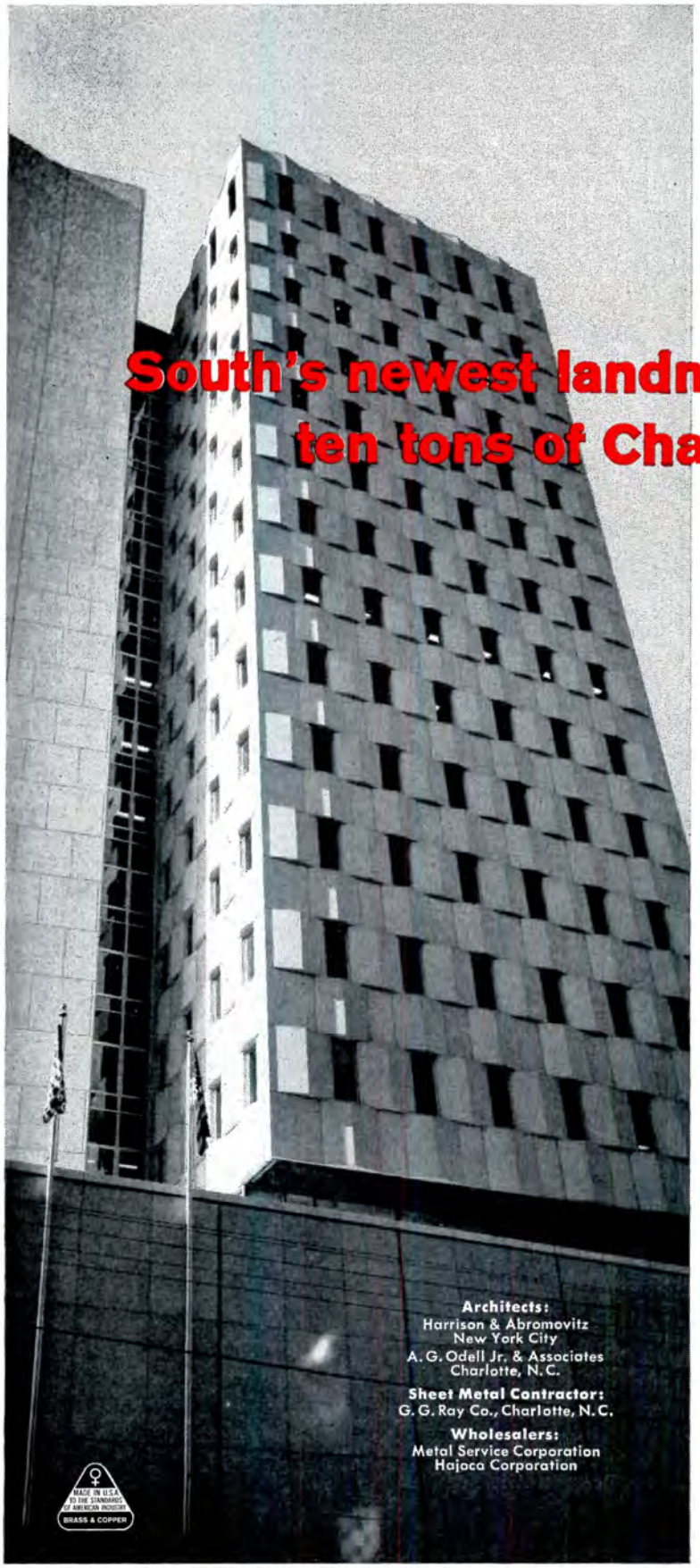
Aluminum Foil Insulation
Brochure describes four new types of *Alfol* reflective aluminum insulation, and provides data on thermal efficiency, uses and methods of application of the new products. *Reflectal Corporation, 200 South Michigan Avenue, Chicago 4, Ill.**

Curtain Walls
Brochure describes physical properties of *Foamglas* and its applications in curtain wall construction. 12 pp. Booklet No. FB-104, *Pittsburgh Corning Corporation, 1 Gateway Center, Pittsburgh 22, Pa.**

Transfer Switch Specifications
Cover mechanically linked, dual-circuit circuit breakers for transfer of power to emergency service. Useful for specifying standby, switch gear and emergency transfer installations, data covers normal and emergency ratings of units, type and capacity of circuit breakers, etc. *Lake Shore Electric Corporation, 500 Willis Street, Bedford, Ohio.*

**Additional product information in Sweet's Architectural File, 1958*

more literature on page 312



Five-million-dollar new home of Wachovia Bank & Trust Co. in Charlotte, N. C.—called one of America's most modern buildings.

South's newest landmark protected by ten tons of Chase® copper!

Wachovia Bank & Trust Co. building in Charlotte, N. C. uses sheet and strip copper flashing in construction

First building in the United States to use prismatic, pre-cast concrete panels. First tower-type structure in the South. Largest office building in Charlotte. These are some of the records set by the striking new office building of the Wachovia Bank & Trust Company.

More than 25,000 lbs. of copper flashing by Chase protect the building against weather. Ten tons plus of sheet and strip copper and lead-coated copper were used in its construction.

Chase is ready to help *you* meet the needs of *your* construction projects —large or small, from residence to major office building. Let your nearest Chase District Office or Warehouse show you the many ways that low-cost, long-lasting copper can serve better, protect longer, add beauty to buildings. Or write Chase, Waterbury 20, Connecticut.

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BRASS & COPPER CO.
WATERBURY 20, CONN.
Subsidiary of
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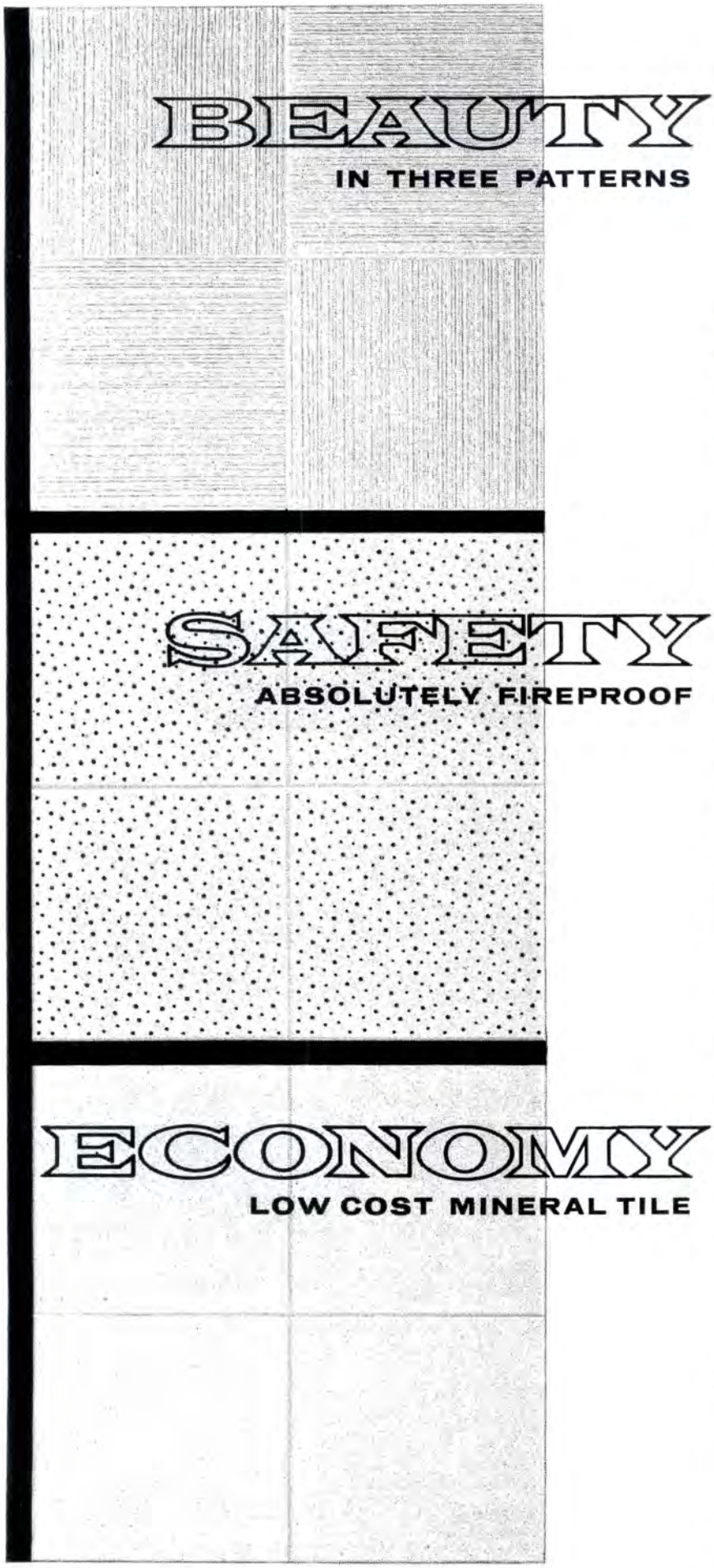
The Nation's Headquarters for Brass, Copper and Stainless Steel

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



Announcing: Gold Bond ACOUSTIROC

3 new acoustical tiles that add variety to your designs

3 patterns: Smooth, Striated and Random Perforated.

Suitable for any decor—traditional or modern—from business office to fine restaurant.

Absorbs up to 85% of all noise striking it.

Can be installed in high humidity conditions.

Class A Incombustible.

Light reflection up to 91%.

Cuts easily and neatly. Strong, not brittle.

Costs less than most mineral tiles.

For more complete information, see your Gold Bond® representative, or write Dept. **AR-108,** National Gypsum Company, Buffalo 2, N.Y.

Gold Bond
BUILDING PRODUCTS
NATIONAL GYPSUM COMPANY

Roll-Lock

New Aluminum Grille in Architectural Colors

Roll-Lock is a new concept in grille design. Bars are economically roll locked together into solid, light weight, rattle-proof panels that are handsome and decorative for wall panels, column facings, sun-shades, spandrels, partitions, room dividers, fixture supports, gates, fences, etc. To blend with the new look in buildings the grilles are available in ano-dized architectural colors. In the larger bar sizes, spark-proof, corrosion resistant Roll-Lock is ideal for flooring and treads in many industrial plants, par-ticularly power and sewage plants. Write on your letterhead for free fileworthy catalog and desk sample.

Kerrigan Iron Works, Inc.
NASHVILLE TENNESSEE

GENERAL SALES OFFICE, 280 MADISON AVE., NEW YORK CITY

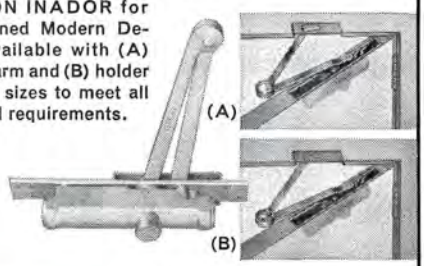
A continuing series of outstanding office buildings, schools, churches, hospitals, and industrial structures using NORTON DOOR CLOSERS.

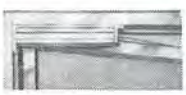
JOHN E. BRINK, A.I.A.—STATE ARCHITECT

New Kansas State Office Building Joins the Distinguished Roster of Norton Inador® Users

Complete Norton Line Meets Every Door Closer Need

NORTON INADOR for Streamlined Modern Design Available with (A) regular arm and (B) holder arm...4 sizes to meet all standard requirements.





NORTON 750: New corner design with concealed arms for all type doors, particularly narrow rail doors.

Norton Surface-type Closers are available for all installations where concealment is not essential.

NORTON 703E: Compact surface mounted type...first closer with extruded aluminum alloy shell.

An interior to match the dramatic simplicity of this imposing exterior called for painstaking attention to every detail, including door closers. The *Norton Inador* Closer was selected because it is so nearly invisible. Its compact mechanism being entirely concealed in a mortise in the top rail of the door, there is nothing to detract from the beauty of the door itself.

There is also no sacrifice of efficiency. Every *Norton Inador* is designed and built to last longer...require less maintenance and provide the long-range economies imperative in all public buildings. If, therefore, you now have such a building "on the boards," investigate *Norton Inador* while door closer specifications are still undecided. Write today for FREE copy of the new catalog on Norton's full line of concealed and surface door closers including important new models.

FOR ADDITIONAL MODELS, CONSULT NEW #57 CATALOG

NORTON DOOR CLOSERS

Dept. AR-108 • Berrien Springs, Michigan

JUNIOR CHANNELS
Lightweight J&L
Hot Rolled Channel Sections

Potomac Iron Works is using 10" Junior Channels (8.4# per foot) as stair stringers in this 15-story Baltimore, Maryland, state office building with 12-gauge J&L hot rolled sheet steel as risers. General contractor: Blake Construction Company, Washington, D. C. Architects: Fisher, Nes, Campbell & Associates, Baltimore.

"Clean edges and uniformity of Junior Channels speed stair fabrication"

. . . states leading architectural metal fabricator

"We have standardized on Junior Channels for stair stringers. They permit us to prefabricate stairs to exact dimensions with a minimum of waste," reports Mr. Milton M. Mulitz, president of the Potomac Iron Works, Inc., Hyattsville, Maryland.

Potomac Iron produced and installed 92 flights of stairs in this 15-story Maryland State Office Building and the adjacent six story Maryland State Roads building in Baltimore. Potomac Iron manufactures over 5,000 prefabricated stair units yearly for residential, apartment and commercial construction.

"Junior Channels are stronger than formed plate channels of equal depth. Yet their minimum steel weight speeds handling and fabrication," says Mr. Mulitz.

Junior Channels, hot rolled sections, are ideally designed for stairway stringers. Straight line simplicity and narrow flanges make possible their use with or without ornamental trim moldings and other modifications.

Write today for design data on Junior Channels, available in three sizes: 10"-6.5#; 10"-8.4#; and 12"-10.6# per foot. Write to Jones & Laughlin Steel Corporation, 3 Gateway Center, Pittsburgh 30, Pennsylvania.

J&L STEEL

Jones & Laughlin Steel Corporation

PITTSBURGH, PENNSYLVANIA

Office Literature

Designing for Flatness

. . . *in Porcelain Enamel Panels* features four design studies of representative panel types: laminated panel, involving aluminum honeycomb and rigid insulation; 4 by 12 ft mechanically assembled panel; combination laminated-mechanically assembled panel with corrugated face; thin-wall panel design including aluminum honeycomb laminated to front and back sheets of porcelain enamel. Other discussions of flatness are included. 16 pp. *Ingram-Richardson Manufacturing Company, Beaver Falls, Pa.**

Revised ASTM Standards

Four recent revisions of ASTM standards covering structural tiles and bricks have been approved as American Standards. They are:

American Standard A76.1-1958, ASTM Designation C56-57, Standard Specifications for Structural Clay Non-Load-Bearing Tile;

American Standard A77.1-1958, ASTM Designation C57-57, Standard Specifications for Structural Tile;

American Standard A98.1-1958, ASTM Designation C62-50, Standard Specifications for Building Brick; and

American Standard A99.1-1958, ASTM Designation C216-57, Standard Specifications for Facing Brick. 30 cents each. *American Standards Association, 70 East 45 Street, New York 17, N. Y.*

Precast Concrete Floor and Roof

(A. I. A. 4-K) Includes detail drawings and design data as well as revised information on specifications. *The Flexicore Company, Inc., 1932 East Monument Avenue, Dayton 2, Ohio*

Plywelsh Architectural Kit

Contains samples of prefinished plywood panelling and matching moldings in ten finishes. *Welsh Plywood Corporation, Memphis, Tenn.*

Pipe Insulation

Discusses physical properties, thermal conductivity, types of factory-applied jackets, comparison with other insulations, guide to specifications for application and finishing, and dimensions. 8 pp. *WPN-2, L. O. F. Glass Fibers Company, 1801 Madison Avenue, Toledo 1, Ohio.*

Literature Requested

Stanley Goldin, A. I. A., 233 West 7 Street, Long Beach 13, Calif.

**Additional product information in Sweet's Architectural File, 1958*

)W

PEELLE

:OTORSTAIRS

make good buildings better

NEW YORK INTERNATIONAL AIRPORT, New York, N. Y.

Peelle Motorstairs are demonstrating their value in many prominent commercial, industrial and public buildings. They increase profits, improve property values and add to the utility of buildings and transportation systems.

The exclusive Peelle Handrail, with its contrasting color spacers, the graceful proportions and the attractive color combinations of the Peelle Motorstair add to the beauty and *decor* of some of the finest buildings on the North American Continent.

Over two-thirds of the many Peelle Motorstair users are repeat customers. Such a tendency to re-order furnishes significant evidence of the mechanical excellence, low maintenance cost and satisfactory performance of Peelle Motorstairs.

Peelle Motorstairs handle hurrying crowds in transportation terminals, increase sales in stores, release ground floor space for high rentals in banks and hotels, help theatres fill balconies, make basement and roof parking areas more accessible, facilitate seating in stadiums and race tracks and perform many other valuable services.

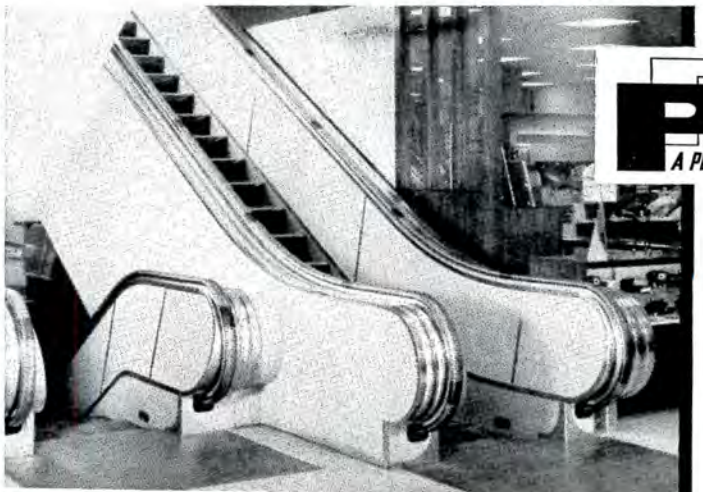
SHERATON HOTEL, Philadelphia, Pa.

PEELLE PLANNING SERVICE—Without cost, Peelle engineers will help you work out a plan for the advantageous use of Motorstairs in either new or existing buildings. Call or write fully about your requirements.

SEE OUR CATALOG IN SWEET'S

OAKLAWN RACE TRACK, *Hot Springs, Ark.*

MID-ISLAND SHOPPING CENTER, Hicksville, N. Y.



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A PEELLE-RICHMOND PRODUCT

THE PEELLE COMPANY

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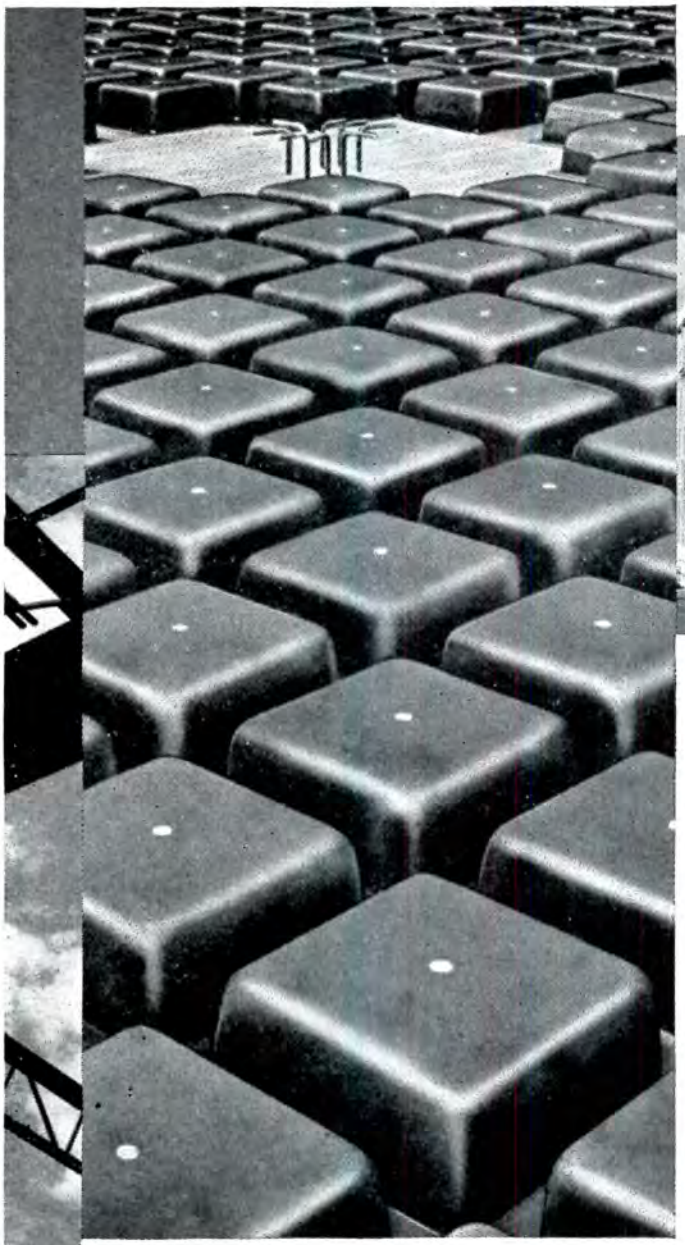
Why Ceco has no axe to grind...

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

Consider these 4 engineering concepts:

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



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

CECO STEEL

IN CONSTRUCTION PRODUCTS CECO ENGINEERING MAKES THE BIG DIFFERENCE

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

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

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

The Record Reports

On the Calendar

October

2-4 North Central A.I.A. Regional Conference—St. Paul, Minn.

2-4 Annual Convention, Structural Engineers of California—Ahwahnee Hotel, Yosemite National Park, Cal.

5-8 Gulf States A.I.A. Regional Conference—Biloxi, Miss.

7-9 1958 "Congress on Better Living," sponsored by *McCall's* magazine—Washington

8-11 National Conference, Industrial Designers Institute—New York and Silvermine, Conn.

9-11 13th Annual Forum, Pennsylvania Society of Architects—Galen Hall, Wernersville, Pa.

9-12 Northwest A.I.A. Regional Conference—Harrison Hot Springs, British Columbia, Canada

12-15 Annual Conference, National Association of Housing and Redevelopment Officials—Sheraton-Palace Hotel, San Francisco

12-16 60th Annual Conference and Exhibit, American Institute of Park Executives and American Association of Zoological Parks and Aquariums—Jung Hotel, New Orleans

13-17 National Convention (third of three), American Society of Civil Engineers, and second annual Civil Engineering Show—Hotel Statler-Hilton, New York

14-15 Annual fall meeting, Wire Reinforcement Institute, Inc. —Park Plaza Hotel, St. Louis

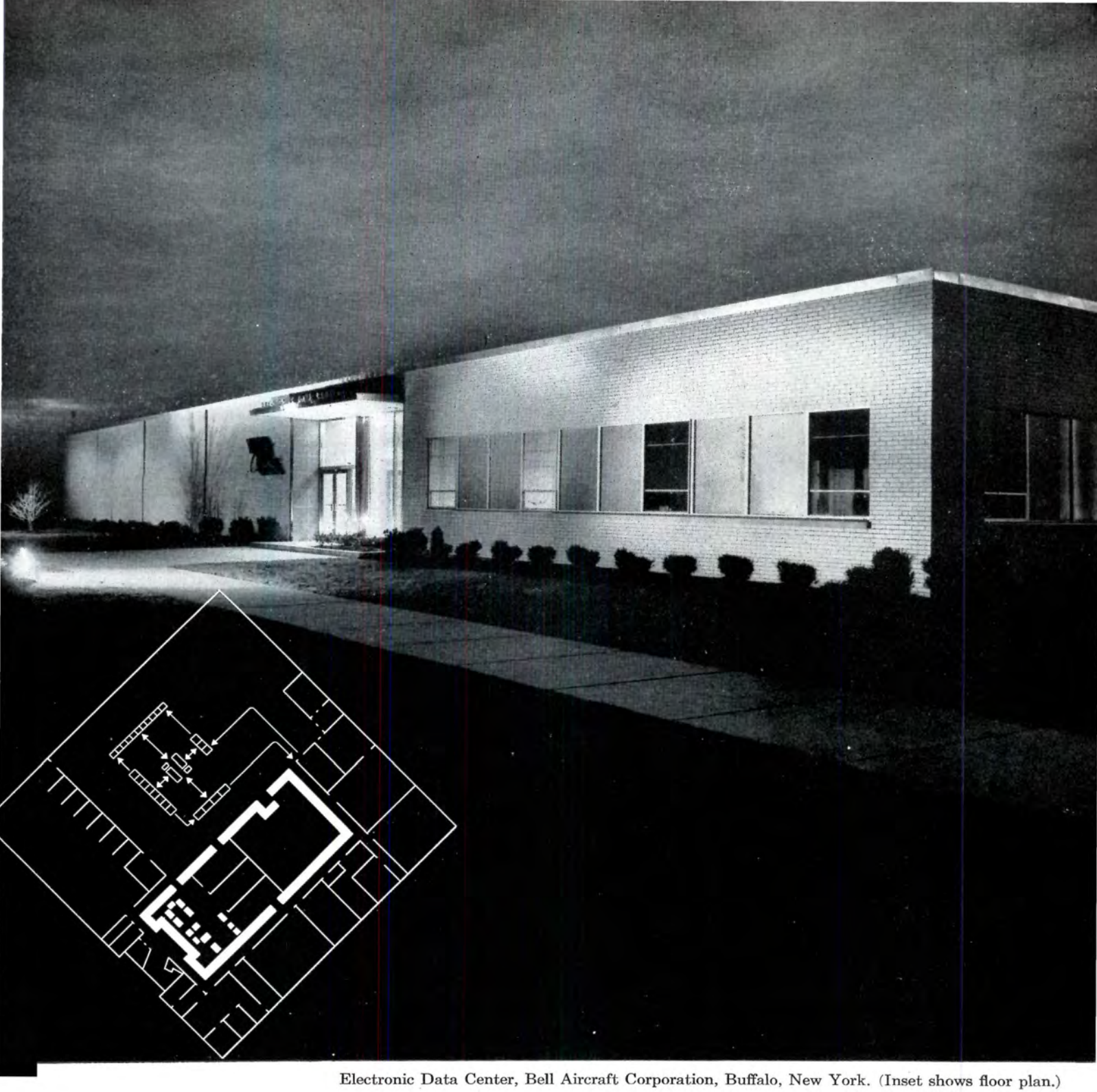
14-16 Women's Conference on Housing, sponsored by National Association of Home Builders and United Industry Committee for Housing—National Housing Center, Washington

15-18 New York State Association of Architects Convention (16-18) and Regional Conference of New York Area, A.I.A. (15) —Powers Hotel, Rochester

15-19 California Council, A.I.A., Annual Convention, and (17 only) Cal.-Nev.-Hawaii Regional Conference—Mark Thomas Inn, Monterey Peninsula, Cal.

18-21 14th Annual Design Conference and Meeting, American Society of Industrial Designers—Bedford Springs Hotel, Bedford, Pa.

20 "The Rapid Urbanization of America: Challenge to Safety," a special session of the



Electronic Data Center, Bell Aircraft Corporation, Buffalo, New York. (Inset shows floor plan.)

Electronic data center installed in specially designed building

YOU CAN BE SURE...IF IT'S Westinghouse

Group in conference room includes Robert J. Lichtenthal, Buffalo Electric Co., Westinghouse Distributor; Charles G. Jones, Walter H. Sherry and Associates, Consulting Engineers; George Dick Smith, Jr., Kideney, Smith & Fitzgerald, Architects and Engineers; Carl E. Diesen, Manager of Electronic Data Processing, Bell Aircraft Corporation; and Charles T. Hansen, Westinghouse Sales Engineer.

J-94113-2

Magnetic tape printer in computer room.

Bell Aircraft computer facility required unusual plant planning

The need of Bell Aircraft for electronic computer facilities led to the design and construction of a new building which would meet the special demands of such an installation. The computer center, which will eventually serve all Bell plants, contains complete computer equipment, a communications center for the entire corporation, and all offices and business machines necessary for the operation of such an installation. Expansion area has been provided for a duplication of the present computer facilities.

To satisfy the rigid requirements for control of humidity and temperature in the computer room, it is centered in the building (as shown in the diagram) and is insulated from any outside walls by the corridor, offices and equipment rooms which surround it. The new electronic data center is located immediately adjacent to the Bell Aircraft plant in Buffalo, N. Y., but because of the self-sufficiency of its design and the completeness of its equipment, it could have been situated at any other site selected.

Included in the self-contained center is a Westinghouse electrical system to transform and distribute electrical power to the computer installation, business machines, air conditioning machinery, lighting and other electrical requirements. Some of the components of this Westinghouse electrical system are shown in the accompanying illustrations. *(continued)*

J-94113-3

Robert Lichtenthal, James A. Reil, Ferguson Electric Construction Co., Electrical Contractors, and Charles Hansen discuss quietness and space-saving features which permit installation of Westinghouse 225-kva DT-3 dry-type transformer near office machines to which it supplies 120-v power.

Raymond E. Carroll, General Supervisor, Bell Electronic Data Processing, Charles G. Jones, Charles Hansen and George Dick Smith, Jr., examine the 150-kva Westinghouse power center supplying low-voltage power exclusively for computer equipment.

James Reil and Robert Lichtenthal check *one of the two* Westinghouse CDP panelboards which distribute 120 volts to the office machines from the Westinghouse 225-kva DT-3 dry-type transformer.

Charles Hansen, George Dick Smith, Jr., Charles G. Jones and Raymond E. Carroll discuss Westinghouse 500-kva building service power center. CDP panelboard is shown on wall at rear.

Bell Aircraft computer facility required unusual plant planning *(continued)*

Westinghouse welcomes the opportunity to work with you in determining the best solutions to your own special electrical requirements. See the Westinghouse Electrical Construction Engineer nearest you, or write Westinghouse Electric Corporation, Box 868, Pittsburgh 30, Pa.

Electronic Data Section
Bell Aircraft Corporation, Buffalo, New York
Architect: Kideney, Smith & Fitzgerald, Architects and Engineers
Consulting Engineer: Walter H. Sherry and Associates
Electrical Contractor: Ferguson Electric Construction Company, Inc.
Westinghouse Distributor: Buffalo Electric Co., Inc.

J-94113-4

YOU CAN BE SURE...IF IT'S Westinghouse

Over 275 Pages Westinghouse Data in Sweet's Architectural File

General view shows one section of electronic data computer room at Bell Aircraft.

The Record Reports

National Safety Congress sponsored by Home Safety Division of National Safety Council—Conrad Hilton Hotel, Chicago

20-24 Annual Congress, National Safety Council—Chicago

20-23 Tenth Mental Hospital Institute—Hotel Muehlebach, Kansas City

22-24 25th Annual Convention, Architects Society of Ohio—Sheraton-Gibson Hotel, Cincinnati

23-25 Fall Meeting, National Society of Professional Engineers—St. Francis Hotel, San Francisco

25-29 Annual Meeting, American Institute of Planners—New York

27-30 36th Annual Meeting, American Institute of Steel Construction—Greenbrier Hotel, White Sulphur Springs, W. Va.

27-31 National Metal Exposition and Congress, sponsored by American Society for Metals—Cleveland Public Auditorium, Cleveland

28ff Annual Meeting, American Council of Independent Laboratories, Inc.; through Nov. 1—Hotel Biltmore, Atlanta

29-31 Annual Convention, Texas Society of Architects—Hilton Hotel, San Antonio

30ff A.I.A. Central States Regional Conference; through Nov. 1—Kansas City

31ff Annual Meeting, National Trust for Historic Preservation; through Nov. 2—New Orleans

Office Notes

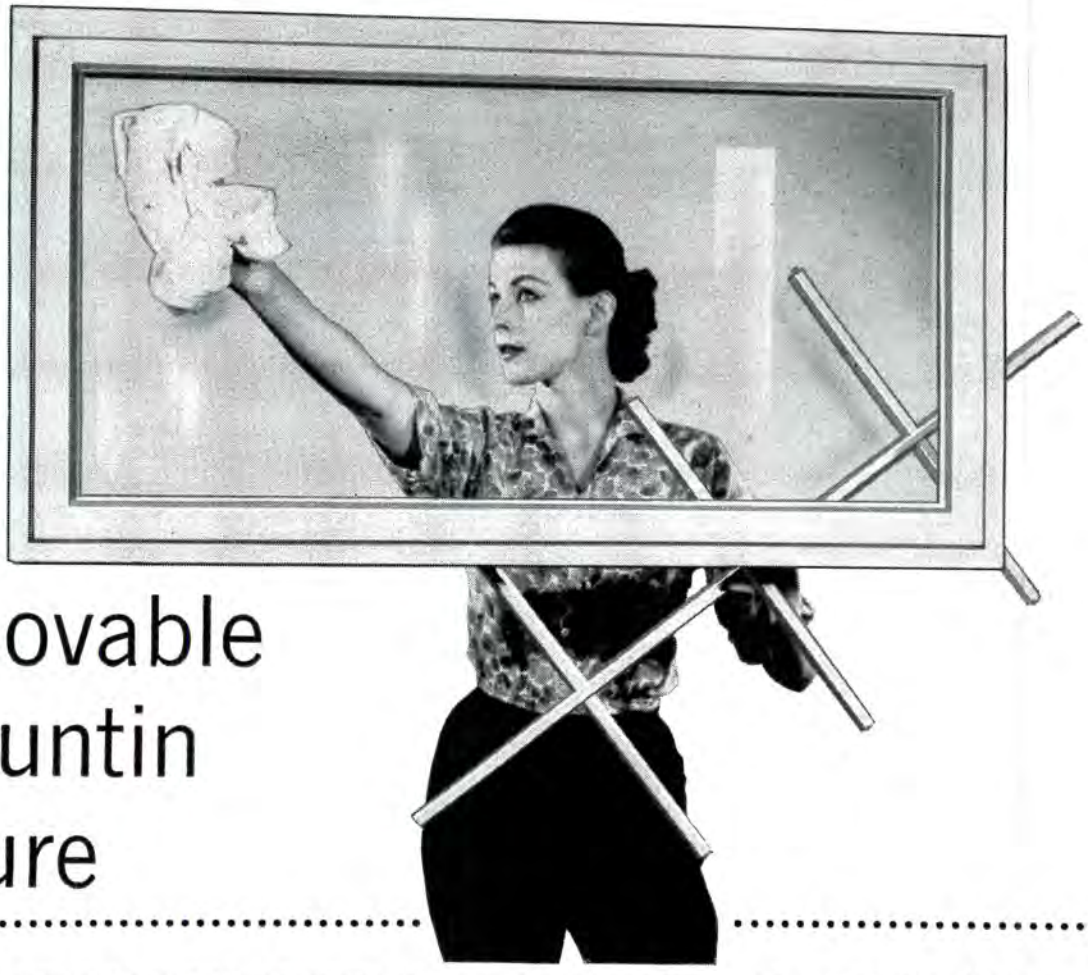
Offices Opened

Harold Edelman, A.I.A., announces the opening of his office at 124 Washington Pl., New York 14. Mr. Edelman formerly was associated with Huson Jackson and H. Seymour Howard, Jr.

Stanley Goldin, A.I.A., has opened an office at 233 W. 7th St., Long Beach 13, Cal. Mr. Goldin formerly was associated with Warren Dedrick.

Charles Haeuser, Architect, has a new office at 759 N. Milwaukee St., Milwaukee 2. He formerly was associated with William P. Wenzler and William G. Losch.

Arden L. Larson, Architect, announces the opening of an office at 606½ S. Nevada Ave., Colorado Springs, Colo.



Removable muntin feature

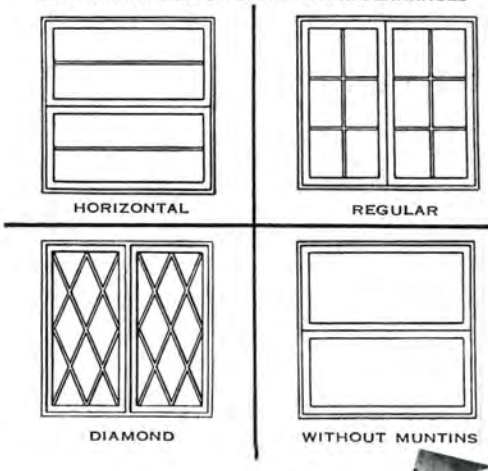
TAKES "PANES" OUT OF WINDOW CLEANING

SHE'S SOLD ON THIS WINDOW right now! It's the only window for those who like the beauty of small multiple panes, and for those who don't like to clean them. It's a snap-in, snap-out PELLA sales feature you can demonstrate in seconds.

Several styles of removable muntin bars are available, including new diamond patterns — and you can get them with *all* PELLA WINDOWS — CASEMENTS, MULTI-PURPOSE and new TWINLITE combination fixed and ventilating units.

Get *all* the good news about these more convenient wood windows! See our catalog in Sweet's or mail coupon today. Distributors throughout U. S. and Canada. Consult classified telephone directory.

ONE WINDOW... FOUR DIFFERENT APPEARANCES



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Please send data on PELLA WINDOWS with removable muntins.

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Catalina High School, Tucson, Arizona
Architects: Scholer, Sakellar & Fuller, Tucson, Arizona
Contractors: L. C. Anderson & J. J. Craviolini, Tucson, Arizona

ARCHED CEILING RAISES THE ROOF . . . LOWERS THE COST

Creative design and functional efficiency need not be hamstrung by budgeted dollars. Nor must structural and enduring qualities be compromised for economical construction.

This new school is an excellent example. Here, Fenestra* Acoustical "D" Building Panels form a combination structural roof and finished acoustical ceiling, replacing *five* different materials. They are erected in *one* operation, by *one* trade.

For curved structures like this, these lightweight, high-strength, cellular steel panels require minimum supports, and brace the steel arches at the same time. Notice the clean, uncluttered ceiling lines.

And *inside the panels*, just above the perforations, is a pre-formed, arched, sound-absorbing batt† which effects noise reduction coefficients up to 80%. The ceiling can be washed or painted without affecting acoustical qualities.

Write for FREE Fenestra Building Panel Catalog, or call your Fenestra representative. Fenestra Incorporated, Department AR10, 2252 East Grand Boulevard, Detroit 11, Michigan.

*Trademark
†Patent Pending

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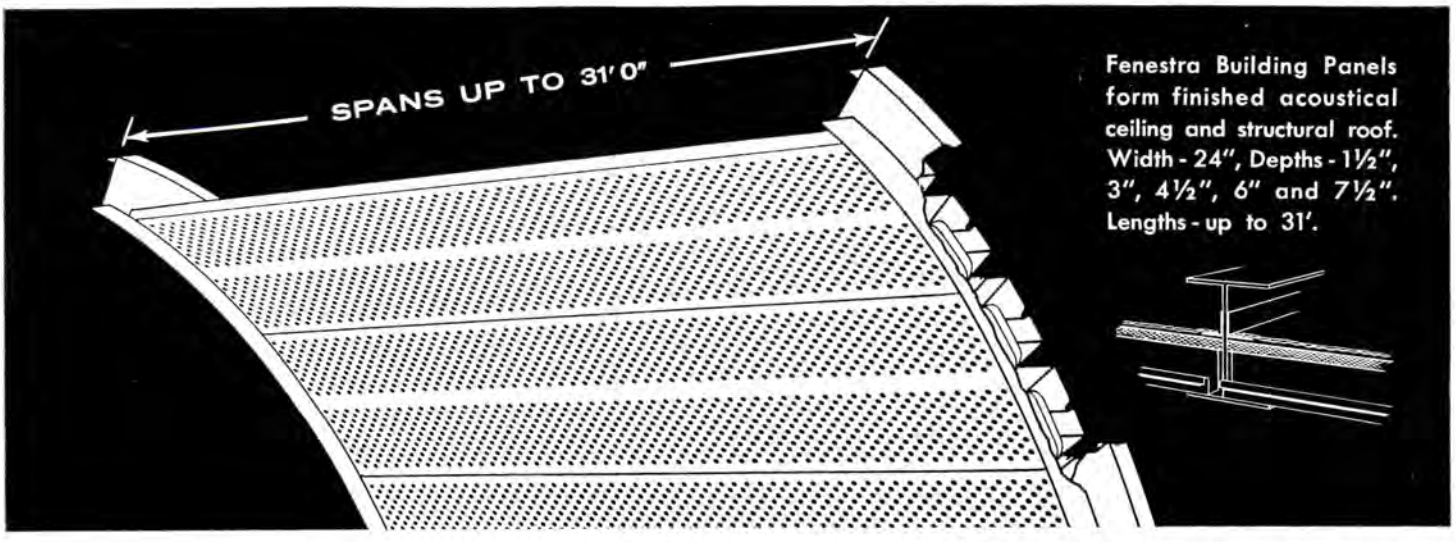
Your single source of supply for building panels • curtain walls • doors • windows



another modern corridor with "invisible" door closers

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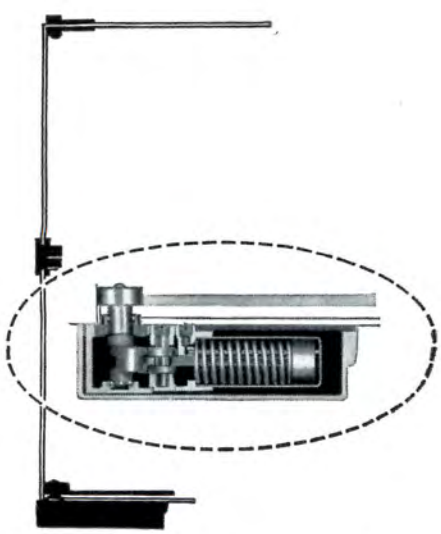
Strong, trouble-free, shallow door closers . . . firmly embedded in the rigid floor . . . no arms or closer mechanisms visible on either side. Easy to install or adjust. Write for complete details.



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

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You wouldn't do it this way...

...but do you know about these new controls for classroom heating and ventilating?

Now with unit ventilators equipped with room air sampling chambers, you can have precision heating and ventilating control for classrooms. New Barber-Colman controls "take the temperature" of both the room air and the air being discharged from the unit ventilator and automatically control the dampers to prevent overheating or overcooling.

The wall thermostat is gone! The thermostat and damper operator are combined in one "package" mounted on the unit ventilator. This reduces installation costs and helps provide greater control accuracy. Maintenance is reduced because the thermostat is protected from chalk dust and dirt. There can be no tampering with temperatures by unauthorized personnel.

BARBER-COLMAN COMPANY

Dept J, 1304 Rock Street, Rockford, Illinois

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

Barber-Colman makes these modern controls for every make and type of unit ventilator. (Also a complete line of controls and air diffusers for other types of heating and ventilating systems.)

Be sure you have all the facts to guide you on new school or modernization programs — simply mail the coupon below.

Barber-Colman Company
Dept. J, 1304 Rock Street
Rockford, Illinois

Please send literature on Barber-Colman controls and air distribution products for schoolroom heating and ventilating.

Name_____

Address_____

City_____ State_____

Please check your classification: — ( ) school board; ( ) school administrator; ( ) architect; ( ) engineer.

The Record Reports

Leslie G. Pickett and J. Clyde Parlier, Architects, have formed a partnership at 392 S. Central Ave., Bartow, Fla.

Schupack and Zollman, Consulting Engineers for the practice of civil engineering, is a new partnership formed by M. Schupack and Charles C. Zollman. The partners, who specialize in precast and prestressed concrete, have offices at 211 E. 37th St., New York 16, and 3605 Chapel Rd., Newtown Square, Pa.

Albert Sigal, Jr., A.I.A., has opened his own office at 800 Welch Rd., Palo Alto, Cal.

John I. Yellott announces the formation of John Yellott Associates, to render consulting services in mechanical engineering, at 901 W. El Caminito, Phoenix, Ariz.

Firm Changes

The architectural firms of Alexander and Rothschild and Finch, Barnes and Paschal have been consolidated as Finch, Alexander, Barnes, Rothschild and Paschal, Architects, with offices at 70 Fairlie St., Atlanta, Ga. The principals are James H. Finch, Cecil A. Alexander, Miller Barnes, Bernard B. Rothschild, and Caraker Paschal.

Harland Bartholomew and Associates, City Planners, Civil Engineers, and Landscape Architects, 317 N. 11th St., St. Louis 1, announces two staff additions: Whitney C. Huntington has become consultant and J. B. Blackburn has become associated with the firm.

H. E. Bovay, Jr., Consulting Engineers, announces organizational changes: Bennett W. Burns, partner, is managing partner, Houston; S. J. Bell, associate, is chief engineer, Houston; Guy Furgiuele, associate, is assistant chief engineer, Houston; L. S. Curtis has been made an associate and assistant to Mr. Bovay; Morris Backer is head of the air conditioning and plumbing design divisions. The home office is at 5009 Caroline St., Houston 4; branch offices are at W. 933 Third St., Spokane, Wash., and 5217 Government St., Baton Rouge, La.

A. M. Kinney Associates, Engineering and Architectural Consultants, announces that Malcolm G. Duncan, A.I.A., has joined the firm as project manager. Offices of the firm are at 2905 Vernon Pl., Cincinnati 19.

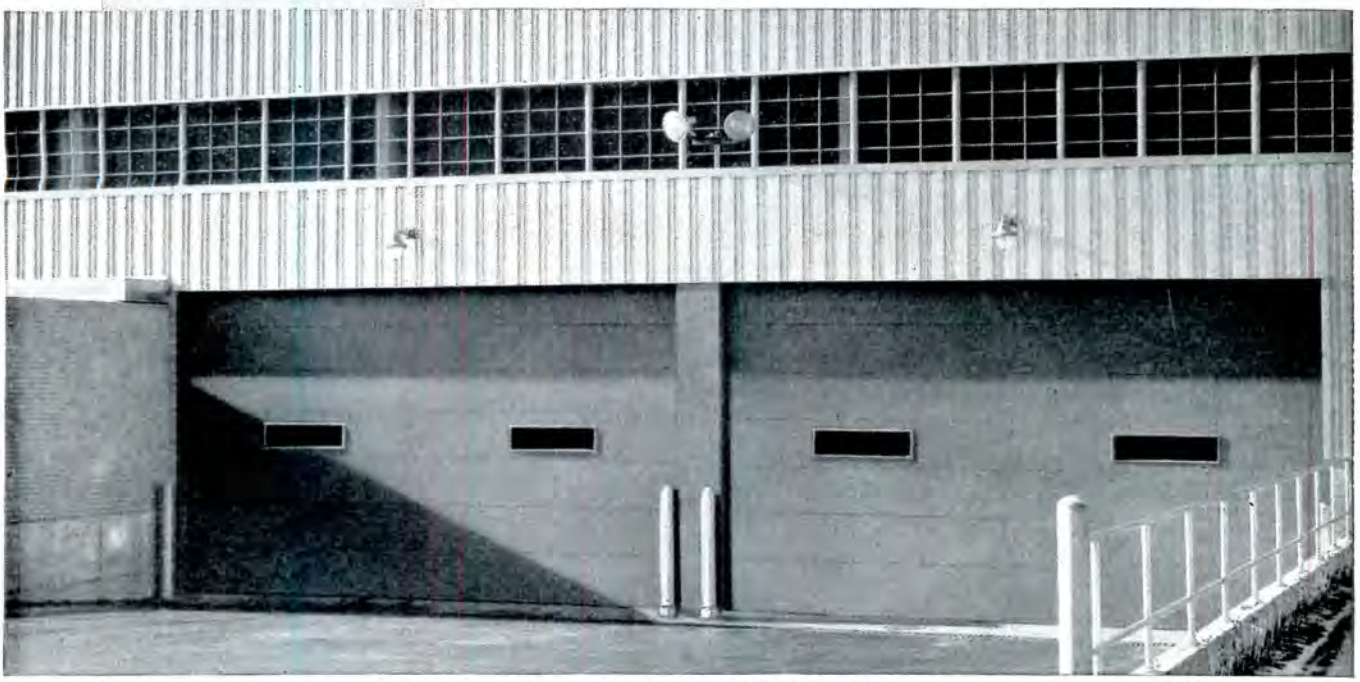
The George S. Rider Company, Engineers, 1044 Terminal Tower, Cleveland 13, announces that Edward M. Burrows, Architect, has joined the firm as vice president.

THE MARK OF QUALITY

BARBER COLMAN

Now Barcol helps you predict how much each OVERdoor feature will cut plant's operating cost!

BOOKLET OFFERED BELOW ILLUSTRATES METHOD *



Copper and Brass Sales, Inc., Detroit, Michigan. Contractor: Perron Construction Co. Architects: Giffels and Rossetti.

Builders and architects readily identify *three ways* Barcol OVERdoor installations cut plant operating costs:

1. Barcol Cam Action closing hardware gives a tighter air seal than conventional wedge-type closing hardware . . . *reduces cost of heating and cooling space inside.*

2. New Barcol WEATHER-KING Flush Door Sections are guaranteed weatherproof and have a U factor of .257 — twice the insulation value of a 12″ poured concrete wall — three times the insulation value of ordinary door panels! Combined with Cam Action closing, these new sections *materially add to savings on heating and cooling.*

3. Barcol Electric Operators applied to both exterior and interior doors and gates *eliminate costly starts and stops* in plant traffic and *save many man-hours annually* by freeing workers from nonproductive opening and closing of doors.

Now the Barcol engineers can predetermine the average amount of each of these savings, and the method is ready for use on your present door problems. Variables like local average weather conditions and intended use of each door are realistically applied. In many cases it can be predicted that these features will pay for themselves in two years or less through measurable *extra* plant economies. In other cases the tests show whether or not a feature of the installation is economical. Ask your Barcol distributor (under "Doors" in the phone book) for a savings estimate on your present project or use the coupon on the right.

* **SEND** for this new 8-page booklet demonstrating through specific case material the method by which your Barcol distributor helps you predict *how much* OVERdoor features can reduce heating costs and save on labor. Also describes and illustrates Barcol Cam Action, WEATHER-KING Flush Doors, and Electric Operators — features that, in many areas, can now be *proved* to pay for themselves in as little as two years through measurable direct savings.

send this coupon for your FREE copy

BARBER-COLMAN COMPANY

Dept. P810, Rockford, Illinois

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COMPANY_____

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WESTINGHOUSE TRAFFIC SENTINE

1 "Westinghouse developed Traffic Sentinel exclusively for its operatorless elevators," explains Betty Furness. "It is a door control mechanism which operates electronically. In this picture, elevator doors open the instant the elevator arrives at the floor to allow passengers to enter.

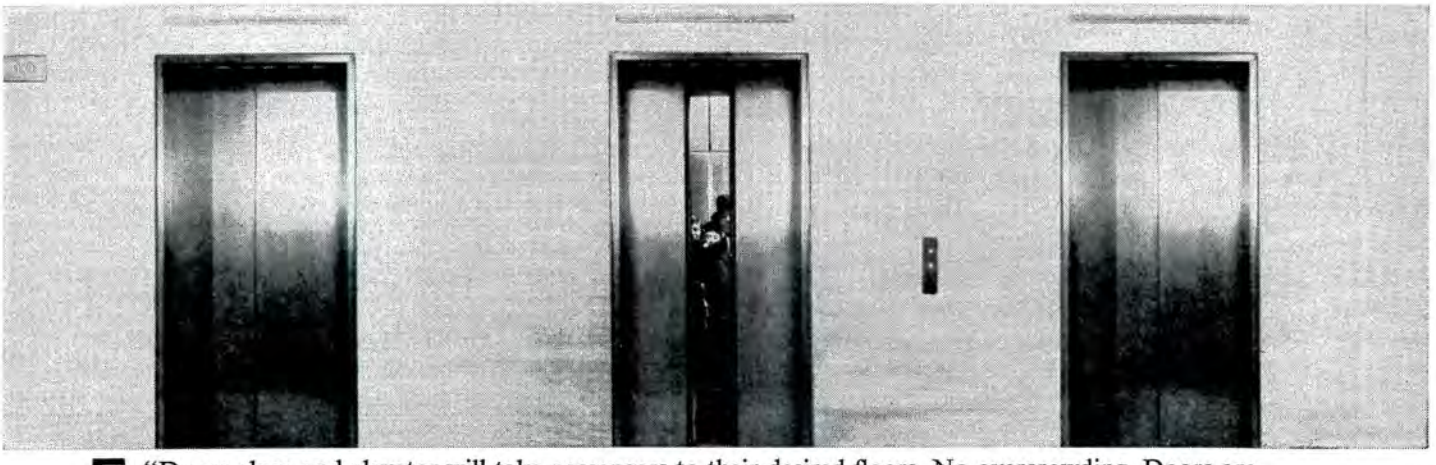
2 "Doors remain motionless during continuous loading of the elevator. This is the built-in courtesy feature of Traffic Sentinel. Doors don't startle passengers by closing prematurely, neither do they 'intimidate' with false starts.

3 "Last remaining passengers are entering elevator, yet not once have the doors attempted to close. The reason is simple: door openings and door closings are controlled by Traffic Sentinel which is activated by passenger traffic flow—automatically . . . electronically.

Westinghouse **TRAFFIC SENTINEL ELEVATOR DOORS**

DOORS HAVE BUILT-IN COURTESY

4 "All passengers have entered the elevator. We are about to witness the final timesaving feature of these magic Traffic Sentinel controlled doors. They will start to close almost immediately after the last passenger has entered.



5 "Doors close and elevator will take passengers to their desired floors. No overcrowding. Doors are closed automatically and courteously when the last passenger enters—or when the elevator becomes substantially loaded."

THE SEAGRAM BUILDING
375 Park Avenue in New York City

An advanced expression of modern architecture is embodied in this much publicized 38 story building.
All interior photographs shown were made on the lobby floor.
When you visit New York City, see this remarkable building with its smooth, quiet Westinghouse Operatorless Elevators.
Ride and experience for yourself the politeness and timesaving features of elevator doors controlled by Traffic Sentinel.

Architect—Mies van der Rohe and Philip Johnson
Contractor—George A. Fuller Company

YOU CAN BE SURE...IF IT'S Westinghouse

WESTINGHOUSE ELEVATORS AND ELECTRIC STAIRWAYS

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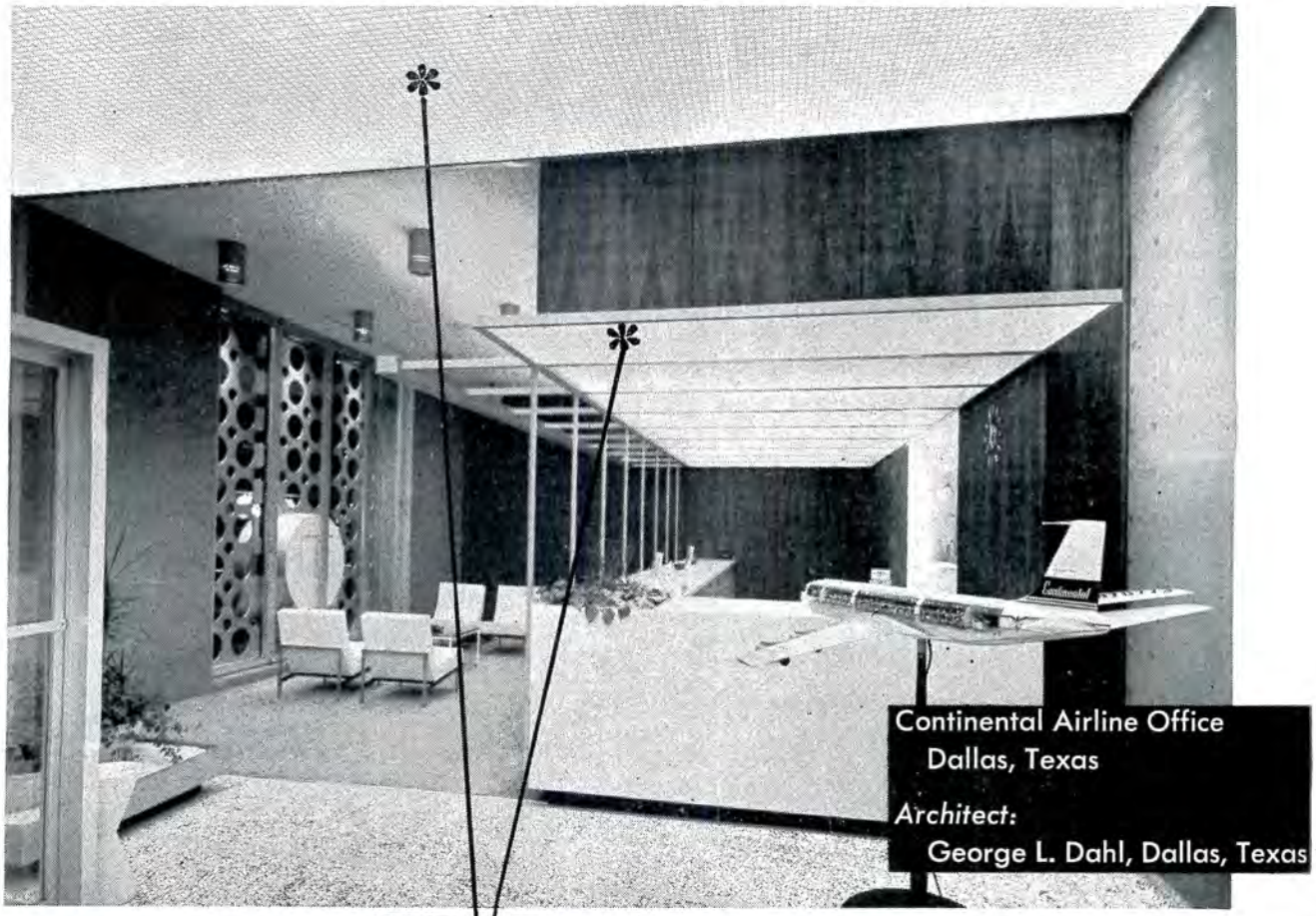
in the JET AGE



Continental Airline Office
Dallas, Texas

Architect:
George L. Dahl, Dallas, Texas

*Airline selects NEO-RAY for future Jet Travelers

*Gentlemen:

The outstanding reasons the Neo-Ray Louvered Ceiling was selected for the Continental Airline Office were the following qualities:

1. Light in weight
2. Sturdy in construction
3. Ease of installation
4. The neat, clean appearance, resulting from no ugly visible support channels

Sincerely yours,

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

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

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and
ACOUSTI-LITE catalog No. 557

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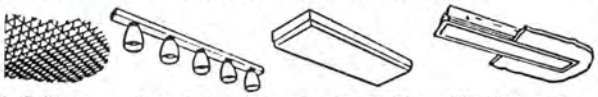
See Our Permanent Display At
ARCHITECTS & ENGINEERS INSTITUTE
230 Spring St., Atlanta, Ga.

MANUFACTURERS OF LIGHTING FIXTURES INCLUDING:



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

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Custom-made Color Plans Tailored to Your Needs

• **We'll be glad to make** a detailed color study for you to go with your plans without cost or obligation. These studies will include detailed color recommendations, complete with samples, bound in book form. Also included are the correct types of coatings for every kind of material and construction.

• **Call your nearest** Pittsburgh Plate Glass Company branch and arrange to have one of our color consultants see you at your convenience. Or send the coupon below.

More and more people who own or operate industrial, commercial or service enterprises recognize the importance of the influence of color upon people. That's why you can often make your plans more acceptable to clients by including a detailed color program.

• **Why not let us submit** a detailed colored program to you based upon the principles of Pittsburgh's system of COLOR DYNAMICS? This method of painting has demonstrated successfully its ability to improve productive efficiency, morale and safety in many fields.

Mail this coupon today →

Pittsburgh Plate Glass Company
Paint Division, Dept. AR-105
Pittsburgh 22, Pa.

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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The Record Reports

Shepley Bulfinch Richardson & Abbott, 122 Ames Bldg., Boston, announces that Jean Paul Carlhian has become an associate.

Adrian Wilson & Associates, Architects and Engineers, Los Angeles, has named as director of business development H. Lee Higley, Architect.

New Addresses

Welton Becket & Associates, New York office, 116 E. 55th St., New York.

John C. Deardorf, Architect, 919 Third Ave., S., Fort Dodge, Iowa.

Robert E. Johnson, Architect, 66 Beacon St., Boston 8.

Kelly & Gruzen, New York office, 10 Columbus Circle, New York 19.

Lipson & Dashkin, Architects, 1290 Bay St., Toronto 5.

Maynard W. Meyer & Associates, Architects, 797 N. Jefferson St., Milwaukee 2.

Robert P. Schoenijahn, Engineer, 800 Woodlawn Ave., Wilmington 5, Del.

Charles F. Smith, Architect, 408 E. Wells St., Milwaukee 2.

N.C.A.R.B. *continued from page 32*

investigate and make recommendations concerning new examination forms and develop suggestive question types for distribution to the Council membership; (3) supervise the development of manuals of suggestions relating to the improved types and methods of examination and also cause these to be published and distributed to the Council membership; (4) assume the leadership in acquainting the various states with the most forward looking and advantageous developments in examination procedure, etc., as they are found throughout the nation, to the end that a greater uniformity and higher quality of examination procedure may prevail.

Committee on Advance Planning. A committee of three past presidents to: (1) review past activities of the Council; (2) study and make recommendations for Aims and Objectives for the Council; (3) make recommendations to the Council for improvement of procedure and functioning of the Council.

With the above changes effected, the National Council of Architectural Registration Boards can look forward to an increased interest and activity which must result from having a larger group participating in its operation.

New Akron School Selects Lennox Comfort Curtain

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

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

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

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

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

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

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

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

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

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

LENNOX®

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

LENNOX INDUSTRIES INC., Dept. AR-86
P. O. Box 1294
Des Moines, Iowa

Name _____

Address _____

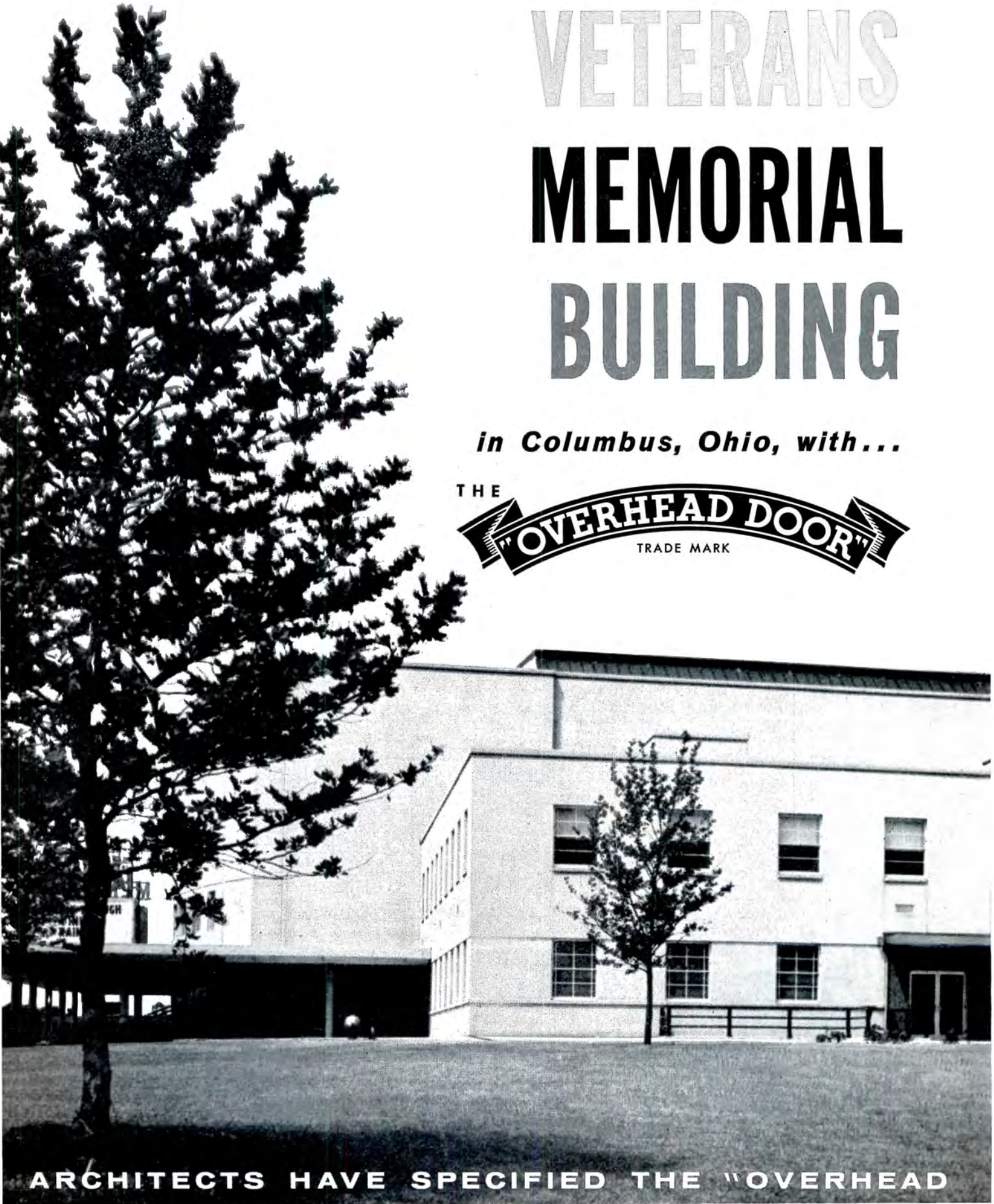
City _____ *Zone* _____ *State* _____

Architects solved door problems in

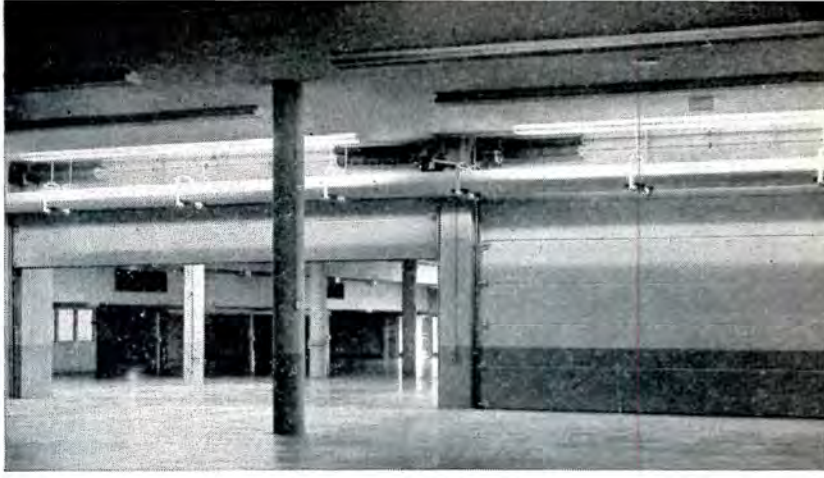
VETERANS MEMORIAL BUILDING

in Columbus, Ohio, with...

THE "OVERHEAD DOOR" TRADE MARK



ARCHITECTS HAVE SPECIFIED THE "OVERHEAD



ASSOCIATED ARCHITECTS
Columbus, Ohio

CONTRACTOR
James McHugh, Chicago, Illinois

PROBLEMS:

1. Divide the Exhibition Hall into two smaller halls.
2. Soundproof to provide 40 decibel sound reduction between the two large meeting halls when doors are closed.
3. Provide a safety device in event of possible cable breakage.

SOLUTION:

- *Closure:* Two vertical lift "OVERHEAD DOORS," 33′ x 10′ and 28′ x 10′ electrically operated.
- *Insulation:* Doors 2½″ thick with ⅜″ plywood both sides, insulated with rock wool.
- *Safety:* In event of cable breakage, safety bottom fixture prevents falling of door.

CONCLUSION:

This special requirement is common for Overhead Door Corporation's Special Services Division. Architect and factory-trained craftsman of Overhead Door Company of Columbus worked closely to achieve the solution, which was guaranteed for two years against faults, workmanship, material or device failures.

Whatever your problem in upward-acting doors—for commercial, industrial or residential closures—specify The "OVERHEAD DOOR." There are many reasons more architects have specified The "OVERHEAD DOOR" more than any other brand!

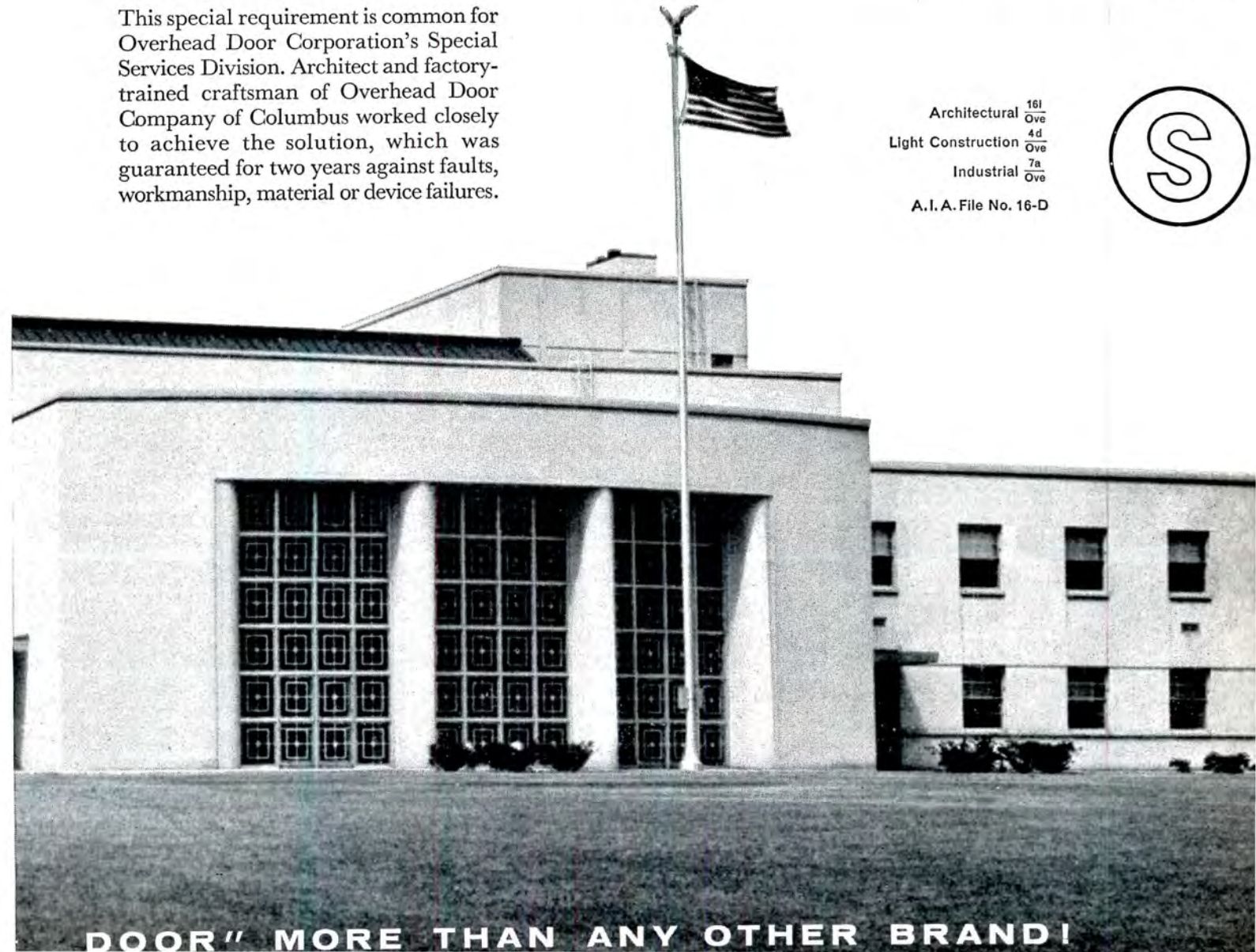
OVERHEAD DOOR CORPORATION

General Offices: Hartford City, Indiana

Manufacturing Distributors: Cortland, New York; Hillside, New Jersey; Lewistown, Pennsylvania; Marion, Ohio; Nashua, New Hampshire • **Manufacturing Divisions:** Dallas, Texas; Portland, Oregon • **In Canada:** Oakville, Ontario

Architectural $\frac{16i}{Ove}$
Light Construction $\frac{4d}{Ove}$
Industrial $\frac{7a}{Ove}$

A.I.A. File No. 16-D



DOOR" MORE THAN ANY OTHER BRAND!

Mountain Savings and Loan Association, Boulder, Colorado
Architect: Hobart D. Wagener, Boulder, Colorado
Contractor: Wilkins Company, Inc., Boulder, Colorado

This bank wanted a fresh approach—commented the architect, "A building to show the cordial comfortable informal glow. Banking institutions often are cold and forbidding . . . we thought that people coming to discuss home loans would like the atmosphere of a home.

"We believe the exposed RILCO laminated wood beams and posts are successful materials for fulfilling the requirement of both the residential and commercial atmosphere. The warmth of wood and the clear expression of the fine material seem to suggest simple clarity to those visiting the building."

That this design was eminently successful is evidenced by the regional award of merit from the Western Mountain Division, American Institute of Architects.

We like to feel that the rich warmth of the RILCO laminated members helped win this coveted award. For RILCO brings the functional beauty that only wood possesses, and keeps this beauty for years with minimum maintenance . . . because RILCO members resist cracking, warping.

RILCO laminated wood beams and columns inside and out. Beams 3¼" x 9¾" x 24' 1"; and 3¼" x 9¾" x 21'; Columns 3¼" x 4⅞".

To quote the contractor—"Well pleased with cost results . . . accuracy of construction . . . careful attention to finish and protection of members in shipment."

For additional information contact your nearest RILCO *office.*

RILCO
works wonders with wood

RILCO LAMINATED PRODUCTS, INC.

W818 First National Bank Building • Saint Paul 1, Minnesota

District offices: Tacoma, Wash. • Fort Wayne, Ind. • Newark, N. J.

Restoration of Sullivan Auditorium Planned

Roosevelt University in Chicago, owner since 1946 of Adler and Sullivan's Auditorium Building, recently announced plans to restore the landmark. The building, completed in 1889 (shown bottom right as it was then), has gone through progressive deterioration during the last 30 years or so. University officials plan not only to continue to use it to house their institution, but also to make the Auditorium Theater available to the city to resume its onetime role as a center of cultural events.

A preview of the effects of restoration is given in a brochure prepared by the University that includes photographs of the Rudolf Ganz Recital Hall, formerly Banquet Hall and Ballroom, already partially restored (ceiling coffering shown below).

Architects on the 43-man advisory committee formed by the University to help advance restoration include: Alfred S. Alschuler, Jr., Pietro Belluschi, Leon Chatelain, Jr., John R. Fugard, Jr., Walter Gropius, Wallace K. Harrison, Samuel T. Hurst, Philip Johnson, Alan K. Laing, Samuel A. Marx, Mies van der Rohe, Nathaniel Alexander Owings, Lawrence B. Perkins, Ralph Rapson, Earl H. Reed, John Wellborn Root, Eero Saarinen, Jose Luis Sert, Alfred Shaw, Crombie Taylor, Frank Lloyd Wright, and William W. Wurster.

Thomas H. Creighton, editor of *Progressive Architecture;* John Entenza, editor of *Arts and Architecture;* and Douglas Haskell, editor of *Architectural Forum,* are also members of the committee. The late John Knox Shear, editor of ARCHITECTURAL RECORD, had agreed to serve on the group.

DEVOE

Wonder Woodseal

does verything shellac can do* . . .

**on fine wood paneling . . . floors . . . furniture*

ND DOES IT FASTER! BETTER! AT LESS COST!

This is truly great news for painters, maintenance men, architects—in fact, for *anyone* who is concerned with sealing interior bare wood surfaces. For now, from the Devoe Laboratories comes WONDER WOODSEAL . . . a quick-drying, low-odor, and low-cost sanding sealer.

Here are just some of the practical benefits you get with WONDER WOODSEAL:

1. Exceptionally FAST DRY—sands and recoats within 3 hours.
2. Dust-free drying in 10-15 minutes.
3. Excellent sanding properties, doesn't gum the sandpaper.
4. Positive sealing . . . better than most lacquer sealers.
5. Complete and uniform adhesion.
6. Very easy application—brush or spray.
7. Easy clean-up.
8. Thins with regular paint thinner.
9. Mild odor—disappears quickly.
10. Provides wonderful base for fine wood finishes.

WONDER WOODSEAL is another important industry advance from Devoe. Write today for complete information on Devoe WONDER WOODSEAL . . . and the companion product—WONDER WOODSTAIN—a wiping-type stain in 12 beautiful colors.

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Gentlemen:
Send me complete information on Devoe Wonder Woodseal.

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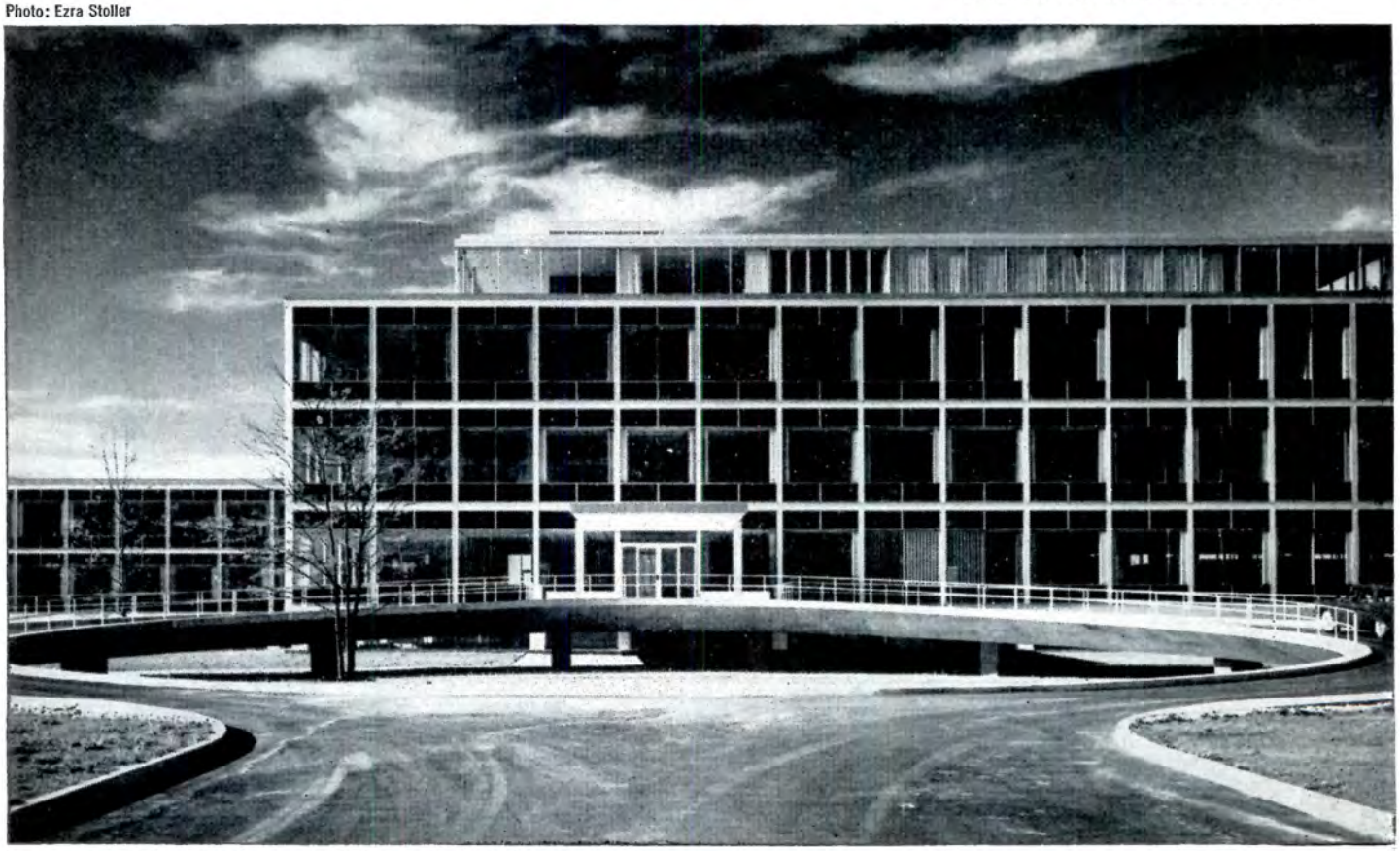
City_____ Zone_____ State_____

FOAMGLAS® INSULATION / waterproof, vapor-proof, strong, can't burn, acid-proof, vermin-proof, dimensionally stable

Sill and head panels were field fabricated in these four easy steps.

Workman applies adhesive to blocks of 1½" FOAMGLAS precut to fit all the spandrel panel areas.

Photo: Ezra Stoller



Spandrels are faced with gun metal gray Spandrelite* backed by a 1" air space and 1½" FOAMGLAS insulation. The insulation's unusual strength and rigidity permitted its use without special extra supports. Blocks of cellular glass insulation were also used to fill in the web between the flanges of the steel structural members of the new Connecticut General Headquarters.

*Manufactured by Pittsburgh Plate Glass Company

Architects:
Skidmore, Owings, & Merrill, New York, N.Y.
General Contractor:
Turner Construction Co., New York, N.Y.
Insulation Contractor:
Munro Dampproofings Co., New York, N.Y.

NEW CONNECTICUT GENERAL HEADQUARTERS

—where good design demanded vapor-proof **FOAMGLAS** spandrel panel insulation for constant U-value

Flexible flashing is quickly adhered to FOAMGLAS blocks to form panel-size units of insulation. Two men easily handled all cutting and assembly operations for the insulated spandrel panels.

FOAMGLAS panel units are quickly and easily installed in spandrel areas before the facing is applied.

Application of Spandrelite completes the installation. Five men assembled and installed all of the spandrel panels.

The design for Connecticut General Life Insurance Company's outstanding new Hartford headquarters building called for spandrel insulation at sills and heads of the building's vast window walls. Good design demanded an insulation that was vapor-proof to insure constant insulating value . . . and thus guarantee continuing economy in heating and cooling the building. And the insulation had to be incombustible to meet the 200°F. heat resistance requirement for all materials used in the project.

The architects, Skidmore, Owings, & Merrill, New York, picked FOAMGLAS. Because its sealed glass cells are entirely vapor-proof for constant thermal efficiency. Because it can't burn. Because it proved easy to cut and fit for quick, economical field fabrication of sill and head panels.

Your good designs deserve the best in long lasting insulating value. They deserve the many benefits of FOAMGLAS. Write for the detailed information contained in our latest architectural catalog.

PC Glass Blocks are another outstanding building product of Pittsburgh Corning Corporation.

PITTSBURGH CORNING CORPORATION

Dept. B-108, One Gateway Center
Pittsburgh 22, Pennsylvania

Builders are proving that concrete floors and roofs

Take less time to LAY Than to POUR!

DoxPlank crane-hoisted to Time-Table scheduled position — laid in proper alignment in record time. Provides immediate working deck for following trades.

DoxPlank

created to SAVE TIME!

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Millions of square feet of DOXPLANK have been used. Write for literature or see our Sweet's insert.

SEE OUR CATALOG IN SWEET'S

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Cleveland Precast Floor & Roof Div. The Cleveland Builders Supply Co.
Reeves and Beyerle Road
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106 Broadway Street
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Doxplank of Illinois, Inc.
135 South LaSalle St.
Chicago 3, Ill., RAndolph 6-2780

Dox System of Pennsylvania
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Portage, Pa., Portage 8503

Knox Concrete Products, Inc.
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Maule Industries, Inc.
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Miami, Fla., PLaza 1-6631

Mid-State Concrete Plank, Inc.
Hamilton, N. Y., Phone 420 & 799

Wm. Moors Concrete Prod., Inc.
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Multiplex Concrete Co., Inc.
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Terra Cotta
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Neville Island
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comes another challenging application of reinforced polyester plastic...

CURTAIN WALL PANELS THAT WEIGH ONLY 3 POUNDS PER SQUARE FOOT

The practical adaptability of reinforced polyester plastics to architectural design and engineering needs is reflected in the unique curtain wall panels used in Monsanto's new Inorganic Chemicals Division research laboratory. Each 4 x 7-foot panel is an all-plastic laminated sandwich: a 2″ styrene foam core jacketed by tough, weather-resistant glass-reinforced polyester skins. Unit weight: only 76 lbs.

Major advantages? Here are a few of the most important:

- *Lightweight panels cut handling, shipping and installation costs—speed construction*
- *Heat loss is practically non-existent because both plastic components are non-conductors*
- *Moisture can't condense within the panel or on the surface . . . "weeping" is no problem here*
- *Insulation, weather-resistance, interior and exterior color are* all *built in . . . costly maintenance problems are eliminated*

These lightweight curtain wall panels demonstrate only one aspect of the design and construction possibilities open to you through the use of versatile polyester laminations and moldings . . . thanks to the tremendous strides being made in polyester resin technology and fabrication techniques. For up-to-date lists of molders and laminators specializing in polyester reinforced applications who can work with you to your own specifications, write:

Monsanto does not manufacture polyester resins or fabricated polyester plastics. We are a major supplier of quality raw materials to the industry: phthalic and maleic anhydrides, adipic and fumaric acids, styrene monomer, bisphenol A.

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Organic Chemicals Division
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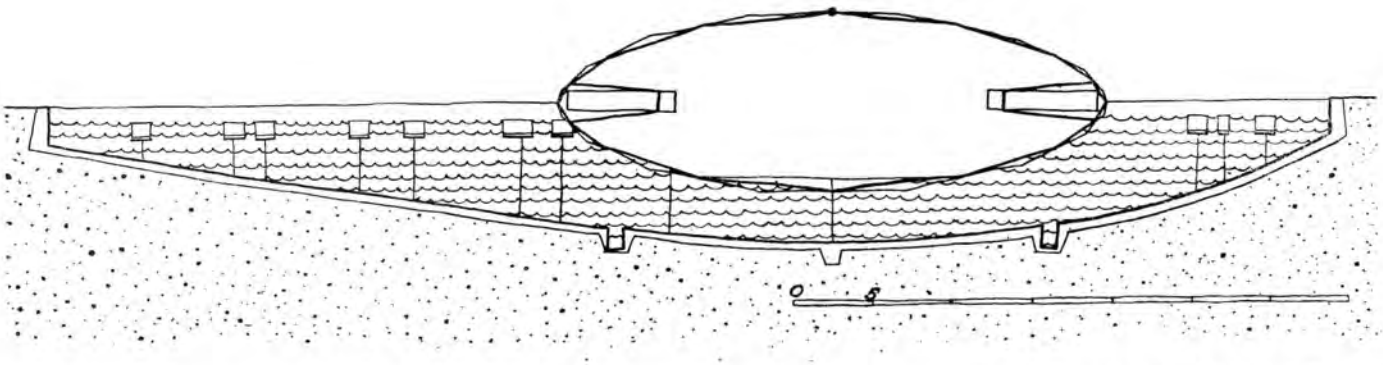


Floating Tomb in Artificial Pool Planned as Hungarian Memorial

Construction is to start soon on a tomb to float in an artificial pool in Vienna's National Memorial Park. The monument to the dead of the Hungarian revolt of 1956 has been designed by Sanford Hohauser, chief designer of William I. Hohauser, Inc., architects and engineers of New York, in association with Joseph D'Amelio. Donations have been received for almost all the estimated cost of $75,000.

The tomb is to have a tubular steel frame, covered with ½-in. cast-in-place fiber glass; the lower half will be reinforced with ¼-in. steel panels welded between the struts. Within, brackets cantilevered from the frame will support 20 coffins. At the apex will be an eternal light, slowly revolving, that is expected to be visible from several hundred yards away. The structure is to be 34 ft in diameter and 11 ft high overall.

In the bed of the concrete pool will be four powerful sunken lights (two are shown in the section) aimed so as to illuminate the bottom of the tomb. The memorial itself is to be chained in place with its lowest point 3 ft above the bottom of the pool.

Surrounding the tomb in the pool —which is to be 85 ft long by 55 ft wide—will be 20 cubes of red plexiglass, each anchored by a dowel containing wiring to its light. Each cube will bear the name, in bronze letters lit from below, of one of the dead interred in the tomb.

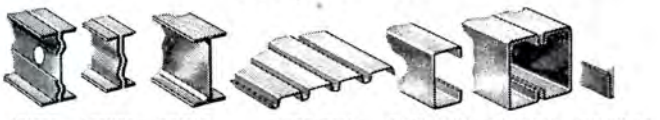
STRAN-STEEL JOISTS REDUCE HEIGHT PER FLOOR, CUT LABOR TIME

Seventy tons of Stran-Steel joists were used to frame the classrooms of Crain Junior High School, Victoria, Texas.

Stran-Steel joists are designed to fit snugly between the flanges of Stran-Steel wide flange beams, as shown in the diagram of a typical installation below. This eliminates the need for dropped ceilings or boxed beams and reduces height per floor by one course of bricks or equivalent. Nailable Stran-Steel joists save time and labor, too. Metal lath and roof decking can quickly and easily be attached with ordinary hammer and nails. No welding is necessary. And pre-punched holes speed conduit installations.

Nailable joists and wide flange beams are part of a complete Stran-Steel building system of space saving structural components for commercial or industrial construction, single or multi-floor. Its unique advantages and design flexibility make it well worth investigating. For information, contact your nearest Stran-Steel Architectural Products dealer. He's listed in the Yellow Pages under *Steel*. The Stran-Steel Structural Systems catalog can be found in Sweet's Catalog—index 2C/Str.

Stran-Steel Architectural Products Mean Construction Savings For You



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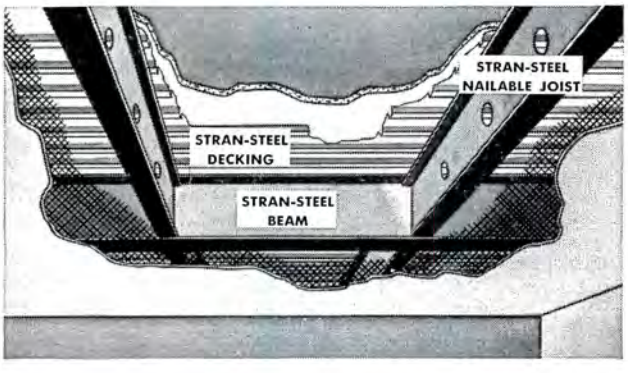
NATIONAL STEEL CORPORATION



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Now... recessed "ribbons of light"

that fit all modern ceiling systems:

Sylvania's Shallow Troffer Series

in both 1-foot and 2-foot widths

NOW YOU CAN SPECIFY recessed "ribbons" of light with nearly every type and make of ceiling material used today. That's because each model in Sylvania's new Shallow Troffer Series is available with one of *three* different types of housing (see closeups below). All units are carefully engineered for quick installation with a clean, neat, light-tight fit.

Both one-foot and two-foot widths measure only 5½" from top to bottom—slicing inches off old depths yet providing full illumination efficiency and needed heat dispersion. In many cases, no additional plenum depth is needed for mounting. Units are fully recessed. Latches and hinges don't show . . . only the clean lines of the outer framing and shielding.

In short, the Sylvania Shallow Troffer Series has a unique ability to meet many of the latest architectural requirements. It gives the creative lighting designer a new opportunity for freedom of expression, a medium for more effectively translating original decorative concepts into realities.

Lay-in type troffers are now provided for Z-spline and inverted-T ceilings. Exclusive *snap-up hanger* provides quick, secure mounting for most other types of acoustical ceilings. Contact your Sylvania Fixtures Specialist for further details. Or write to Lighting Headquarters for folder V-700 with complete specification data.

SYLVANIA ELECTRIC PRODUCTS INC.
Dept. K20, Lighting Division—Fixtures
One 48th Street, Wheeling, W. Va.

All it takes are these 3 Sylvania housing types

Exposed Flange Housing

For most acoustical tile and plaster ceilings. For appearance, wide side flanges and flange-type end caps trim the ceiling opening. Choice of Snap-Up Hanger, Hanger-Strap, or End-Support Bracket Mounting, depending on ceiling type.

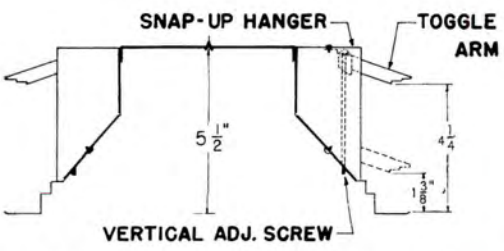
Fit-in Flange Housing

For use with metal pan acoustical ceilings. Has straight ends for proper functioning of metal pans. To facilitate installation, turned-up lips do not actually engage in the T-bar, but *do* provide appearance of complementing metal pan.

Concealed Flange Housing

For inverted T-grid acoustical ceilings. Used with Inverted-T acoustical ceilings or exposed Z-Splines running parallel to troffers, it always employs Lay-In mounting. Narrow side flanges, "cut-back" ends fit modular ceiling dimensions.

New Sylvania 2′ Wide Troffers—only 5½" deep—used with suspended ceiling system for combined eye-interest and good lighting. Shown: the new offices of Hagan Chemicals & Controls, Inc., Parkway West, Pittsburgh, Pa.



5½" high troffers utilize full plenum space

Exclusive new Snap-Up Hanger eliminates wasted plenum depth; toggle springs out, rests on ceiling supports when fixture is pushed into position. Leveling is accomplished with adjusting screw.

Easy access cuts maintenance time, costs

Simple push upward releases hidden latch. Concealed hinging swings shielding down, holds it throughout cleaning and lamp changes. Each fixture is individually fused.

Sylvania's standard troffer shieldings include—

Corning #71 Crystopal Flat Glass Lens
Corning Flat Albalite (diffuse opal glass)
Skytex
Patterned Clear Plastic Lens
Dished Acrylic Plastic (diffuse panel)
Plastic Louver—43° x 43°
Metal Louver—35°C x 45°L
Metal Louver—45°C x 45°L

Other shielding types will be provided on request.

Best fixture value in every price range

SYLVANIA

Fluorescent Lighting Fixtures and Systems

LIGHTING • TELEVISION • RADIO • ELECTRONICS • PHOTOGRAPHY • ATOMIC ENERGY • CHEMISTRY-METALLURGY

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International Revolving Doors have been the one proved way to say "welcome" to guests at

THE WINDSOR HOTEL

IN MONTREAL, QUEBEC

And, regardless of temperature, when guests arrive they enter a comfortable lobby, because "always open — always closed" Revolving Doors eliminate draft . . . make efficient conditioning of the inside air possible . . . and effectively keep out cold and street dust and dirt.

When Max Roth, B.Arch., M.R.A.I.C., who is responsible for all design in the Windsor Hotel's vast modernization program, considered doors to go with the hotel's new entrances, he decided on International Revolving Doors. Draft was eliminated and a clean, comfortable lobby greeted Windsor Hotel guests. Efficiency, economical maintenance and operation of the Windsor's entrances were the deciding factors in the choice of revolving doors.

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Two New Dormitories Introduce Modern Architecture at Smith

The first buildings of modern design to be erected on the Smith College campus at Northampton, Mass., were completed and occupied last fall. The college notes that their design "follows a tradition of building in the architecture of the time which has existed at Smith since 1875." Architects are Skidmore, Owings and Merrill.

The dormitories, of brick, wood and glass, are linked by a one-story

unit containing two dining rooms and kitchens. The dining rooms are separated by a movable wall so they can become one great room for great occasions. Each of the dormitories houses 80 students, in single rooms except for corner suites. Each house has also a large room for typing and a basement recreation room; a foyer, a long living room and a small parlor.

Dormitory rooms have built-in heating units, closets, bookshelves, and chests of drawers.

The exterior finish of the steel-frame buildings is brick and glass. The new houses, called Cutter House and Ziskind House after two of the college's benefactors, replace frame buildings. A tiled patio and garden in front of the dining rooms has also been named for a benefactor: Amanda Bryan Kane. Both halls were opened for student occupancy in September of last year.

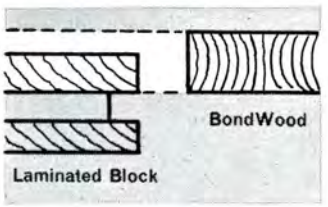
The general contractor for the buildings was the Turner Construction Co.; Elizabeth Draper was the decorator.

REVOLUTIONARY NEW HARDWOOD PARQUET

Illustrated: Harris Eagle Red Oak BondWood with Walnut divider strips and Eagle Walnut insets.

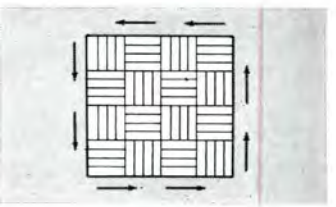
FOR INSTALLATION OVER CONCRETE OR WOOD

Here's the parquet architects are specifying across the country for various types of installations — unlimited design possibilities and a lifetime of wear — found only in HARRIS BondWood. Units are 5/16″ x 19″ x 19″, composed of sixteen 4¾″ squares, consisting of square edged slats of solid hardwood. Available in Oak, Walnut, Maple, Cherry, with or without divider strips. Specify HARRIS BondWood for commercial buildings, institutions, apartment houses, hotels, industrial applications and residences. It's revolutionary! See our catalog in Sweets'.



81.8% THICKER

Can be refinished countless times. A full 5/16″ of wearing surface — 81.8% thicker than ½″ Laminated Block — BondWood is solid hardwood, no tongue or groove.



DIFFERENT PATTERN

Grain direction changes every 4¾″! The most beautiful parquet you will ever specify. Unique construction plus exclusive adhesive makes for more stability.

HARRIS
Quality Flooring since 1898.
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POWERS

AIR CONDITIONING CONTROL

helps make sales

...in leading shopping centers and stores

WOODWARD & LOTHROP, one of Washington's large department stores, is at left end of main building. Its Branch store here includes an auditorium for community events.

Largest Regional Shopping Center in Suburban Washington, D.C.

At 7-CORNERS SHOPPING CENTER,
customer comfort and convenience are paramount.
Shoppers in each of its 45 stores enjoy air conditioned comfort controlled by POWERS.

Owners: **Garfield I. Kass and Irving D. Berger**
Designed and constructed under the direction of
J. Franklin Groff, Kass Realty Co., Inc., Washington, D. C.
Consulting Engineers: **Kluckhuhn, Cobb and McDavid**
Mechanical Contractor: **R. M. Thornton, Inc.,**
Carrier Corp. Equipment and Air Conditioning Units.

Unique Heating and Cooling Features at 7-Corners

Ingenious technical and design features make 7-Corners Shopping Center outstanding for efficient, economical operation and low cost maintenance. For example . . .

a) High temperature forced hot water at 250°F is accurately metered for each store, see photos opposite page.

b) Condenser water for entire shopping center is processed in a 3000 ton Cooling Tower built under the Food Lane Super Market. This space also serves as a Retention Basin for storm water and permits use of rain water for condenser cooling for all refrigeration.

c) Conventional Powers Control system regulates central fan systems and refrigeration compressors.

d) Snow-melting for ramps, at both ends of delivery *truck tunnel* to tenant loading docks and domestic water heaters, also are Powers Controlled.

Solving the many temperature, humidity and pressure control problems here exemplifies the engineering skill available at Powers and the versatility of Powers control to handle a wide range of requirements.

For Your New Building, be it a school, factory, hospital, church or commercial building—ask your architect to include a Powers Quality System of Temperature and Humidity control. Its unmatched dependable operation pays a big return on the control investment.

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Northland Shopping Center near St. Louis
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Famous-Barr Stores, St. Louis, Mo.
Gimbels, in Cheltenham, Philadelphia and Upper Darby, Pa.
Macy's, Roosevelt Field Shopping Center and Kansas City, Mo.
I. Magnin and Company, Los Angeles, Cal.
Nieman - Marcus Co., Dallas, Texas
Rich's, Atlanta, Georgia
Sakowitz Bros., Houston, Texas
Saks Fifth Avenue, New York - White Plains
Sears, "Worlds largest store", many large stores in U.S.A. and Latin America
John Wanamaker Stores in Wynnewood, Pa., Baederwood, Pa., Wilmington, Del.

CANADA: T. Eaton Co., Ltd., 6 Stores • Robert Simpson Co., Ltd., and Simpson-Sears, Ltd., 12 Stores • Dupuis Freres, *Montreal*

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THE POWERS REGULATOR COMPANY

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

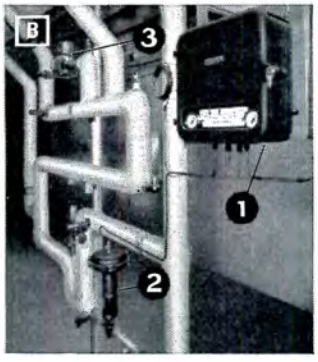
65 Years of Temperature and Humidity Control

JULIUS GARFINCKEL & CO., famed fashion institution in the Nation's Capital, occupies the large Colonial style store at the right end of the Main Building.

S & W RESTAURANT, one of its 12 fine eating places in the South, helps draw people to the center with its excellent food and attractive decor.

MAYER & COMPANY, outstanding furniture store occupies a prominent place in the 7-Corners Shopping Center and it offers a complete decoration service.

Below: **POWERS BTU Metering Control for Each Store.** Photo A shows instrument panel with Powers circulating pump control for high temperature forced hot water heating. Powers control automatically starts and stops the pumps as the load changes. Photos B & C show Powers control employed for BTU heat meter service. B for small stores and C for larger stores.

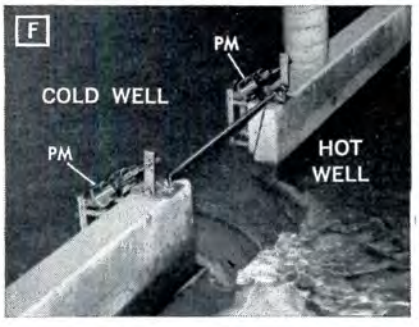


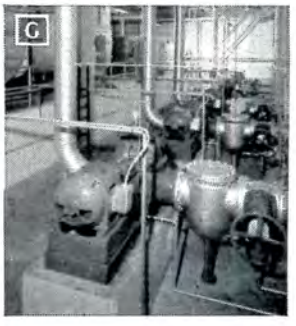
(1) Powers Indicating Heat Meter.

(2) Powers Flowrite Control Valves.

(3) Registering Water Meter.

Below: **Cooling Tower under Food Lane Supermarket:** Photo D shows air intake, portion of retention basin and bank of fans; E shows water sprays; F shows one of two by-pass gates thermostatically controlled by four 6" POWERSTROKE pneumatically operated motors PM; G shows circulating pumps supplying condenser cooling water to air conditioning units throughout the Shopping Center.





A. Epstein and Sons, Inc. sums up the reasons why PRESTRESSED CONCRETE was chosen for University of Illinois' new digital computer laboratory

Architect's rendering of Digital Computer Laboratory, University of Illinois.

Designers: A. Epstein and Sons, Inc., Engineers, Chicago, Illinois.

All prestressed concrete members by Crest Concrete Systems, Inc., Lemont, Illinois.

Shown here are Arthur Hauswald, Design Engineer, and Joseph M. Brandstetter, Chief Structural Engineer of A. Epstein and Sons, Inc., checking plans for this building.

Designed and made by university personnel, this new digital computer will be used by engineers and industrial concerns on a rental basis

The firm of A. Epstein and Sons, Inc., Chicago, stated as some of the reasons for choosing prestressed concrete for the laboratory structure . . . "we selected the material for its ease and rapidity of construction, for the all-weather aspects of installation, for the smooth surface on the underside where it formed a ceiling for a semifinished room, and because we thought it particularly applicable to a building housing as modern an instrument as a digital computer.'

Whenever and wherever prestressed concrete structures are being designed and erected there are, as in this instance, a list of *particular* reasons for choosing this material and method. When prestressed concrete is dealt with in the broad sense, there are many *general* reasons that recommend its choice for virtually any kind of structure.

Architects, engineers and contractors are discovering that prestressed concrete's low initial cost, construction speed, structural strength. aesthetic values. low maintenance, as well as the reasons given above, are as readily applied to schools, motels, plants. office buildings, warehouses, parking garages. etc.. as they are to a digital computer building

Since the introduction of this construction method into the United States, John A Roebling's Sons Corporation has taken an active position on all phases, design elements, prestressing materials and methods, and the constant championing of prestressed concrete as a wholly new and highly important means of building virtually any type of structure

We have at hand literature, examples and the experience that cover every aspect of prestressed concrete. We will be pleased to share this with you Any means of communication to Construction Materials Division, John A. Roebling's Sons Corporation, Trenton 2, New Jersey, will bring a prompt reply.

CONSULT ROEBLING...*First* in the U. S. with prestressing and tensioning elements

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Subsidiary of The Colorado Fuel and Iron Corporation

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"Georama" black and white or in modern solid colors works beautifully with Bolta-Floor feature strips or patterned floor tile to give you the perfect pre-cut solution to your personal decorating plan. For complete information about low-cost, idea-creating "Georama" mail the coupon below.

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The General Tire & Rubber Company

By the makers
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Fox Plans $400 Million "City" On Production Lot Site

A $400 million residential and office development to be known as "Century City" will be erected by 20th Century Fox on a 175-acre tract of the company's 284-acre production lot in Los Angeles. The project, for which Welton Becket and Associates is architect and land planner, will also include a hotel, a shopping center, restaurants, parks and broad concourses (one to be fashioned after and named for the Champs Elysée). The first building in the development will be the international headquarters for the Becket firm; another building is planned for the film industry, to contain offices for industry guilds and agents. Demolition is underway now, and construction is expected to begin in July.

The move to use part of the Fox lot for investment purposes was explained as the result of rising land costs. The studio's sound stages and offices will be consolidated in new quarters to be built on the remaining 80 acres of the original lot; sets and outdoor shooting will be moved to a 2300-acre site in Malibu.

Planning was somewhat complicated by the oil drilling rigs now in evidence on the lot; production will continue with operations going underground.

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. . . . year 'round or at

Christmas — fine gifts

for anyone in the

construction industry

THE STRUCTURES OF EDUARDO TORROJA

an autobiography of engineering accomplishment

Eduardo Torroja, famous Spanish architect-engineer, has written a book which illustrates, describes, and explains the 30 most significant accomplishments of his career. These structures *include bridges, dams,* hangars, sports arenas, factories and churches. Many are of reinforced concrete — for Torroja's most unusual engineering feats are in pre-stressed and post-tensioned concrete — but wood, brick, and steel are used as well.

The book shows the author's reasoning in arriving at the design of each structure, and reveals his unusual building philosophy. Engineering details are given. There is a profusion of photographs, plans and drawings — over 275 in all.

208 pages, 7 x 9¾, $8.50

BUILDINGS FOR RESEARCH

by the editors of Architectural Record

This timely book analyzes in detail a wide variety of research facilities built by industry, government agencies, and universities during the past seven years — 44 separate projects. The installations shown are in these fields: Nuclear research, Industrial engineering, Biological research, Electronics and electrical engineering, and Institutional laboratories.

Opens with a general discussion of the principles of laboratory design, with emphasis on the ingredients common to all laboratories. Every point is made clearer by the inclusion of numerous photographs, plans, diagrams — over 500 illustrations in all.

232 pages, 8¾ x 11⅛, $9.50

CONSTRUCTION ACCOUNTING AND FINANCIAL MANAGEMENT

by William E. Coombs

The first, and only, complete manual of accounting and financial control for the construction industry, written by a specialist who has served as an attorney, accountant, and executive in the construction business.

Describes and specifically recommends proper accounting and management procedures. Tells you what records to keep, why they must be kept, and several possible ways of keeping them. Relates accounting and record keeping to the size of the firm, type of job, and never loses sight of the fundamental purpose — giving you effective financial control over every operation. Contains 200 tables, charts, and sample forms.

488 pages, 6 x 9, $12.85

GROUNDS MAINTENANCE HANDBOOK (Second Edition)

by Herbert S. Conover

The only comprehensive reference work of grounds development and maintenance. Contains all the detailed information you need to plan, supervise and maintain grounds of every type and size.

It is a big book, and fully illustrated (over 175 illustrations). It consolidates all the needed information on planning, turf maintenance, planting and care of trees and shrubs, equipment selection, control of weeds, insects and diseases, materials specifications, and erosion control. Throughout the book practical, economical methods and materials are stressed.

503 pages, 6 x 9, $10.75

THE SELECTION OF RETAIL LOCATIONS

by Richard L. Nelson

A new book which provides the newest trends and techniques in site selection and potential volume analysis for stores, shopping centers, banks, restaurants and other establishments. The author is a noted real estate economist.

Answers your questions on anticipating geographic trends, future of the downtown area, determining the volume potential of an area, rent-advertising ratios, effects of decentralization, compatibility of store types, and many more topics. With this book you can estimate business potential of a site, evaluate its growth capacity, and appraise the influence on the proposed business of other stores in the vicinity.

384 pages, 6 x 9, $9.00

THE CONTEMPORARY CURTAIN WALL

its Design, Fabrication and Erection

by W. Dudley Hunt, Jr.

One of the most important recent developments in the construction industry, curtain wall construction is still so new that there is a great demand for information on proper methods of design, construction and installation. Meeting that demand, this new book presents, for the first time in one place, a wealth of new information about this construction system.

Analyzes and evaluates the walls, their functions, their component parts, materials and installation. Lists and tables give all the known data about insulation, fire resistance, dimensional stability. Amply illustrated with drawings and photographs.

468 pages, 7 x 9¾, $12.75

FIELD INSPECTION OF BUILDING CONSTRUCTION

by Thomas H. McKaig, B.Arch., C.E.

A guide to the supervision of construction for architects, engineers, and field inspectors which charts a clear path through the maze of owner-architect-contractor-subcontractor relations and responsibilities. Defines responsibilities for such matters as quality of materials and workmanship, coordination of work by different trades, safety precautions, safeguarding of work in place, and many more.

Outlines the pitfalls the inspector should avoid, and gives him guidance in safeguarding the owner's interests against a variety of contingencies, without exposing him to charges and possible claims for interference or delay.

384 pages, 6 x 9, $9.35

APARTMENTS AND DORMITORIES

by the editors of Architectural Record

In response to numerous requests for information on this building type, the editors of *Architectural Record* have selected 48 superior examples of apartment houses, college residence halls, and other multiple dwellings, designed by some of the world's leading architects. The buildings range in size from two-family houses to vast housing projects.

In addition to the buildings, there is a section containing useful technical information, and a series of studies on trends in apartment buildings and community development. Over 250 illustrations.

238 pages, 8¾ x 11⅛, $8.95

ESTIMATING GENERAL CONSTRUCTION COSTS

by Louis Dallavia

Provides an accurate, foolproof system for estimating all direct production costs in earthwork, reinforced concrete, masonry, structural steel, and carpentry. This unique system can be applied at any time and in any place with equal validity, and can never go out of date. It was developed and perfected by the author during his 22 years as an estimator in heavy construction and building.

Presents an index set of unit costs for typical shift crews, against which you compare local crews, arriving at a productivity percentage. By checking that figure against only three tables, you arrive at the shift cost, output range, and unit cost of the operation. There is a total of 160 tables and checklists in the book.

205 pages, 6 x 9, $8.50

RELIGIOUS BUILDINGS FOR TODAY

by the editors of Architectural Record

Presents 35 new religious buildings, each of which is the work of a gifted architect collaborating with a clergyman and building committee who were not afraid to break with the architectural past. Protestant, Catholic, and Jewish buildings are shown, from all parts of the United States as well as Europe and Asia. Each is shown in brilliant photographs, and plans and drawings.

There are several other sections. One is called "Worship and the Arts". It explores the relationship between eternity and the present, as it pertains to the design of churches. There follow six articles on worship and the arts in different traditions — Jewish, Catholic, Orthodox, Episcopal, Reformed, and Lutheran. Also contains cogent studies by leading architects, clergymen, and secular authorities. Over 300 excellent illustrations.

184 pages, 8¾ x 11⅛, $7.50

THE MODERN CHURCH

by Edward D. Mills

A comprehensive study of the requirements and design standards of Christian churches. Covers new church construction step by step from the site selection and approval by church authorities through acoustics, materials, furnishings and religious art, and building costs. Some 200 illustrations of the best in contemporary church architecture in America and Europe.

189 pages, 7 x 9½, $9.75

ADVENTURE IN ARCHITECTURE

by Whitney S. Stoddard

The exciting story of the rebuilding and expansion of 100-year old St. John's monastery in Minnesota. The client is the Benedictine order of monks. The architect is Marcel Breuer. How he was selected, the rapport established between him and the building committee, and the flexible master-plan they drew are all explained here. The text has a narrative quality, and the 100 photographs and drawings cover every phase of the project.

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THE CHAPEL AT RONCHAMP

by LeCorbusier

LeCorbusier's own account and explanation of the chapel of Notre Dame du Haut, which is one of the truly revolutionary buildings of our time. He presents the building in its 3 facets: as a place of worship, as a work of art, and as a practical exercise in architecture and construction. Contains notes and sketches in LeCorbusier's own handwriting.

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Clear, easy-to-follow instructions for building your own professional quality furniture, plus step-by-step plans for 53 contemporary pieces by a famous furniture designer.

The first section gives instruction in basic woodworking operations, selection of materials, joints, assembly, wood finishing, and upholstery. Standard measurements of all furniture pieces are listed.

The second section presents 53 separate furniture pieces: Hi-fi cabinets, chests, tables, chairs, beds, and many others. Text is brief and clear — unique exploded diagrams do most of the teaching. Each project contains a list of materials, directions for assembling, and several plans and diagrams. There are over 1200 diagrams and drawings in all.

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by Mario Dal Fabbro

Step-by-step instructions for constructing 102 contemporary built-ins. Indispensable for making any home more livable, beautiful, and spacious with expertly-designed, easily-made built-ins. This practical book presents unique sequence plans and illustrations which virtually eliminate the errors and miscalculations which arise in these projects. Projects can all be built from standard grades of wood using common woodworking tools.

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BUILDINGS FOR INDUSTRY

by the editors of Architectural Record

An outstanding selection of new industrial buildings, together with a series of informative studies on trends and factors in present-day industrial building design. 74 projects from all over the United States, as well as a few from overseas, are completely analyzed. Explains choice of site, plan, lighting, colors, loading docks and rail spurs, employee facilities, and many more features. Over 700 illustrations.

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Here is the book which helps the user recognize his landscaping needs, plan them on paper, substitute pencil work for shovel work, and eventually provide useful, beautiful outdoor space to the limits of his lot. Especially valuable to the new home buyer or builder, who cannot afford the services of a landscape architect, and cannot afford to make costly mistakes in his basic planning.

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by Garrett Eckbo

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TIMBER DESIGN AND CONSTRUCTION HANDBOOK

prepared by Timber Engineering Company

The complete master handbook of timber design and construction, written and edited by 34 engineers and timber specialists. Serves two purposes: It is a comprehensive timber design refer-

ence, and it is also a practical field handbook. Offers every bit of essential information needed to develop and construct the best wood structures.

The first portion covers the fundamental structural characteristics of wood. Lists types, grades, and ways of preservation. The next ten chapters analyze preliminary design considerations, design details, fabrication and erection. The final chapter presents 129 pages of design and engineering specifications and precise tabular data allowing easy conversion for particular grades and species.

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100 case studies which present the latest developments in architectural engineering. Each study was chosen for being a detailed, up-to-date source of specific information for which there is current professional demand.

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JAPANESE TEMPLES AND TEA-HOUSES

by Werner Blaser

The English edition of a prize-winning Swiss book, profusely illustrated with brilliant photographs (8 in full color), line drawings and plans of classic examples of Japanese architecture. Its thoughtful text examines the social, historical, and spiritual forces which produced this highly defined art, and gives — as a result — a richer, new perspective in which to view all architecture, including our own contemporary work.

Although the text is lucid and analytical, it is the author's intention to let the photographs speak for themselves; in Blaser's own words, ". . . to suggest how these structures might shadow forth a new spiritual style for the West."

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by Pier Luigi Nervi

Pier Luigi Nervi of Rome draws on over 30 years of experience as architect, engineer, and builder. Contains much valuable information on the properties of concrete and "Ferro-cemento", which was developed by the author and used by him in the construction of some of the largest and most beautiful thin-shell concrete structures in the world.

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by the editors of Architectural Record

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Emphasis here is on current design trends, techniques and structural features. Within each category, buildings of many sizes, styles, and localities are included. Each project is profusely illustrated with photographs, plans and renderings.

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Step-by-step guidance in planning the general hospital. 30 master plans for hospitals of every size are shown. Each plan is fully detailed, and visualized in skillful rendering. Site plans and numerous tables and charts are also included.

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66 new school buildings which are working proof that sound planning can pay off in better buildings at lower costs. Elementary and secondary schools are shown from all areas of the country. Over 900 illustrations.

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The authoritative work which contains every item of basic information needed to execute a successful school building program. Analyzes and defines the exact duties of every party in the building program. Provides complete checklists and specimen contracts covering every contractual relationship.

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A comprehensive study of design standards, equipment, and facilities required for today's elementary school buildings. Traces the pattern of daily pupil-teacher-administrative activities, and relates them to the problems of physical design. Over 250 excellent illustrations.

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by William W. Caudill

Relates school design to the aims and methods of education, to the influence of environment on the learning process, and to the role of schools as community institutions. Shows how the planner must assess each factor to arrive at an architectural solution. Includes 91 case studies where the author's approach has resulted in better schools.

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by Dr. Louis Parnes

In this book Dr. Parnes demonstrates the amazing degree to which good design speeds and increases sales in department stores and specialty chain stores. With more than 500 illustrations, this book explores each detail of the store and its equipment — entrances, arcades, show windows, furniture and fixtures, receiving services, departmental and floor layouts, display counter and cabinets, lighting.

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10 stories up at 8 below

Erection of USS AmBridge Steel Joists continued through Pittsburgh's coldest winter

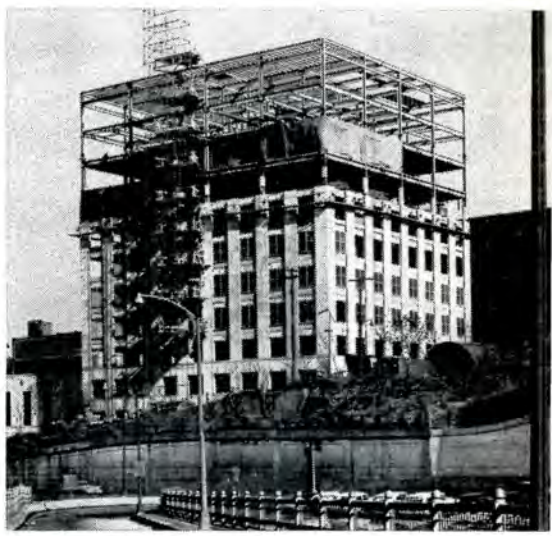
This picture was made on one of the coldest days in Pittsburgh last winter. It shows steel joists that will support the roof of Duquesne University's new 10-story steel-frame Hall of Law and Business building overlooking downtown Pittsburgh.

While most outside construction work in the Pittsburgh area came to a dead stop during the cold snap, *the placing of steel joists* went on as usual.

USS*AmBridge Steel Joists—standard and long-span—provide rigid, economical and lightweight construction suitable for any type of roof, ceiling and floor. The under-slung and open-web design provides for maximum head room and allows passage of pipes, ducts and conduits in any direction. Their ease and simplicity of erection cuts installation time, enabling you to get your structure under cover sooner. Once they have been erected and properly bridged, they immediately furnish a safe working platform for other trades.

In addition to their use in the 10-story classroom building, AmBridge* Steel Joists were also used to support the roof and stage floor of the Auditorium Annex. American Bridge also fabricated the steel frame for these structures. In all, 1,131 tons of steelwork was supplied for this job.

If you would like to know more about the time- and money-saving advantages of USS AmBridge Steel Joists, ask for free copy of our 40-page catalog containing complete design information for spans up to 120 ft.



Duquesne University Law and Business Building, Pittsburgh, Pa.
Designed by William York Cocken, Architect, Pittsburgh, Pa. ▶

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STEEL JOIST INSTITUTE MEMBER

A Washington Report

continued from page 20

million for its reclamation construction this year.

Congress more than doubled the cash for plant and equipment investment by the Atomic Energy Commission. This jumped to $249.9 million this year compared with $108 million appropriated for fiscal 1958.

As Congress swung into its final days, there appeared to be as much furor over the omnibus housing measure as over any other legislation concerned with building. Both Congress and the Administration found themselves in a unique position regarding an omnibus housing measure. The emergency bill put through in April as part of an anti-recession drive had satisfied large areas of need in housing and there was not the enthusiasm for the general legislation that always had been apparent in former years.

The Senate gave virtually unanimous approval to the omnibus measure and sent it over to the House in good time. The House Banking Committee turned out its version of the general terms for handling those parts of the programs which had not been covered in the emergency legislation.

Then the matter languished in the House Rules Committee for a long period which threw its final consideration by the House into the hurried adjournment days. It came to the floor under the suspension of rules and thus required a two-thirds vote which it failed to get by a narrow margin.

There were frantic efforts during the final week of the session to whip up other housing legislation that could quickly pass the legislative body and have White House acceptance, but the steam ran out of this attempt in the final days, and Congress went home without enacting general housing legislation. It was the first time this had occurred in a decade.

The development left the urban renewal program, among others, without additional authorization which it needed badly at this point. The President promptly released a $100 million reserve he had been holding since 1954, and with a $54 million carryover, the Urban Renewal Administration adjusted its handling of applications to carry on a fairly active program until January 1. It is expected that Congress will be asked early after it convenes January 7 to provide another $100 million for this effort so there will be no serious loss of momentum in the approving of urban renewal plans.

Applications of this sort on hand were well in excess of authorized funds and where URA had been processing them more or less on a first-come-first-served basis, the method was adjusted to spread the limited authority as equitably as possible.

The college housing loan program administered by the Community Facilities Administration of the Housing and Home Finance Agency also was left without added authorization. The CFA said it was continuing to process applications under this program, however, with no new commitments to be made.

A third housing program so affected, public facility loans, was altered so that remaining funds were spread among the smaller projects represented in pending applications; this made it go for a greater number of jobs at least.

The Federal National Mortgage Association, still another HHFA constituent, was left without the instructions from Congress it had expected and promptly issued a schedule of price changes for mortgages in its special assistance program. The prices now range from 97.5 to 100 per cent and affect all offers.

Gymnasium floor of Jefferson-Morgan Joint School District, Jefferson, Pennsylvania. Celli-Flynn, Architects; Grazianno Construction Company, Contractors.

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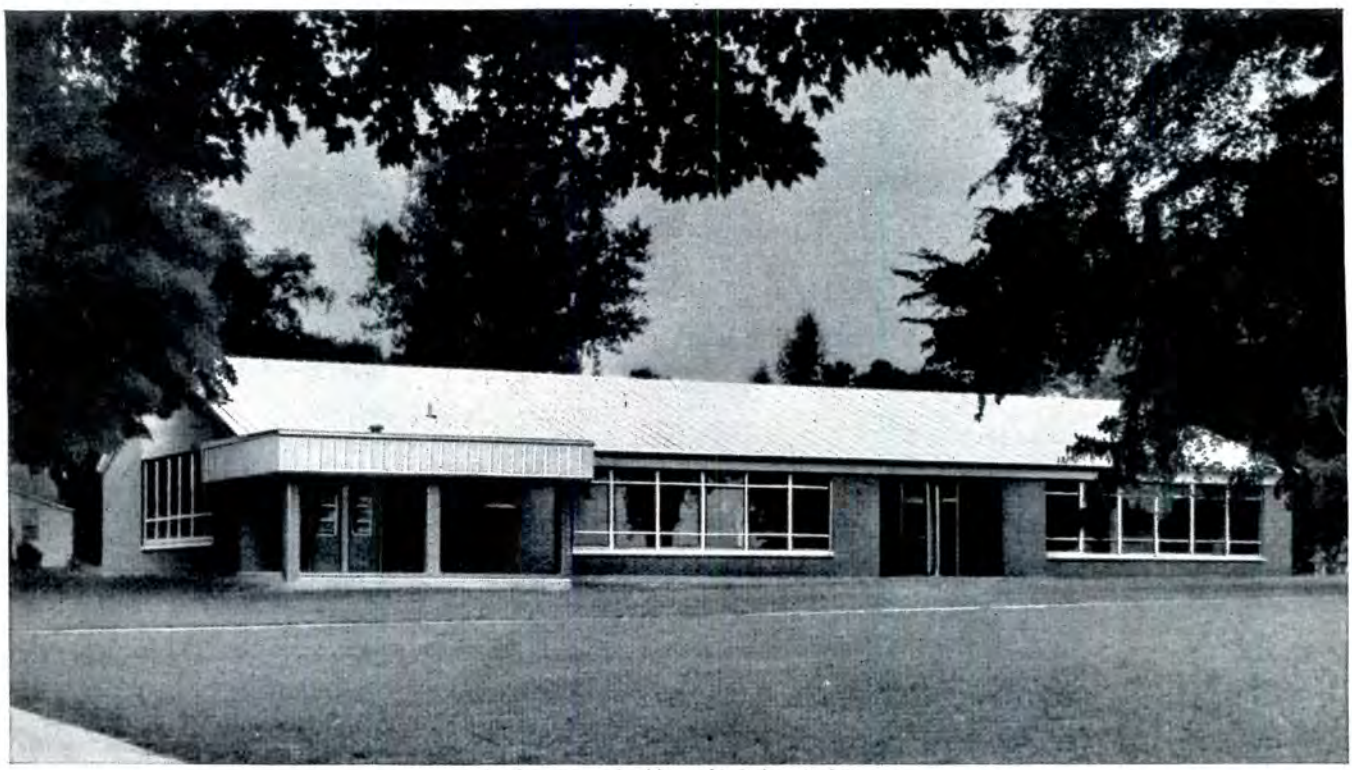
Jefferson-Morgan Junior-Senior High School, Jefferson, Pennsylvania.



An elementary school located in Holton, Michigan

Cartwright Elementary School No. 3 Phoenix, Arizona

One system of building created both of these schools on modest budgets

In spite of the vast difference in outward appearance, the schools above have one thing in common. They both provide much-needed classroom space at a cost-per-pupil that other quality building methods cannot match.

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the accompanying quotation is from a talk before the thirty-eighth annual meeting of the Eastern Association of College and University Business Officers held in Washington in December 1957 —delivered by Ernest V. Hollis, director of college and university administration, U.S. Office of Education

"We have three powerful and salutary forces working together to bring the profession to maturity. The oldest of these are the regional associations of college and university business officers, of which none has played a more important role than the Eastern Association. Among the many significant projects of the regional associations none has contributed more to the growth of the profession than the workshops for upgrading personnel that have been nurtured so ably by Charlie Hoff in Nebraska, Frank Peterson in Kentucky, Ray Kettler in California and the committee on workshops of the Eastern Association.

The second of these forces is the National Federation of College and University Business Officers, which is new, but which has already sponsored the 60-college study and several other projects of nationwide significance.

unifying and stimulating

The third unifying and stimulating force that has advanced the profession is a commercial one. I refer to Hal Herman [editor] and his associates, who are doing such a magnificent service for the profession through the publication College and University Business.

The only part of the profession I am talking about this evening is the chief business officer of institutions and those among his associates who want to become, like him, generalists rather than specialists in the field."

For Parking Garages...

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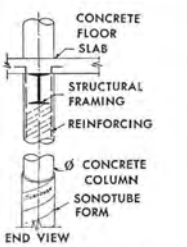
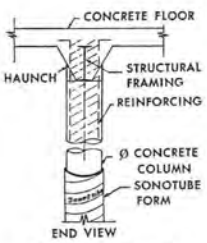
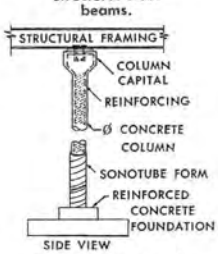
(not to scale)



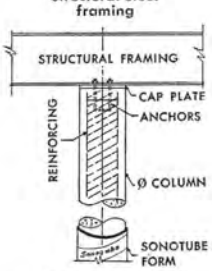
Round concrete column with structural framing and reinforced concrete slab.



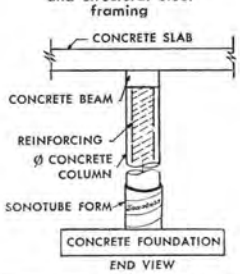
Round concrete column with haunched structural steel beams.



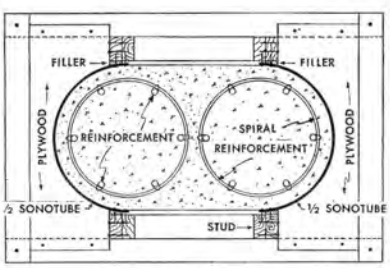
Tie between round concrete column with capital and structural steel framing



Tie between round concrete column and structural steel framing



Round concrete column with concrete beam and concrete slab



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3093

Washington Topics

continued from page 55

single enterprise or place may be permitted on each side of any one Interstate Highway.

The standards also authorize establishment of "informational sites" for erection of additional Class 3 and 4 signs on panels not more than 13 ft high or 25 ft in length. Individual signs on the panel are limited to 12 sq ft and must not be legible from the main traveled way or a turning roadway. Animated signs are not permitted, nor illumination by other than white lights.

All Class 3 and 4 signs permitted outside of informational sites are restricted to a size not more than 10 ft high nor more than 60 sq ft in area.

General provisions applicable to signs of the Class 3 and 4 type permitted outside of informational sites and Class 2 signs provide they shall not (1) resemble any official traffic device; (2) be permitted to obstruct official signs; (3) contain flashing, intermittent or moving lights; (4) be illuminated in any way to cause glare or impair the vision of a driver; (5) have animated or moving parts; (6) be erected on trees, rocks or other natural features.

Airport Construction Bill Gets Presidential Pocket Veto

The President's pocket veto of the multi-million-dollar bill authorizing additional Federal aid for airport construction and improvement as well as extension of the entire program for four more years beyond next June 30 disappointed supporters of airport expansion. Unhappy, too, were airline operators who looked forward to major construction at the principal airfields throughout the country in anticipation of jet transport travel.

Senator Mike Monroney (D-Okla.), chairman of the Senate's Aviation Committee, claimed that the refusal to approve the legislation left a $2 billion investment in advanced aircraft by the airlines in jeopardy.

The President did promise that he would request the 86th Congress to enact a transitional program to provide Federal funds for the building of "urgent" airport projects essential to an adequate system of aviation facilities. He felt, he said, that the existing aid program—$63 million in aid to states for the current fiscal year—was sufficient for the current period.

Repeating his stand, first announced last fall, Mr. Eisenhower

Why Bethcon is the ideal sheet for ductwork

There are *two* outstanding reasons for specifying galvanized sheet steel for heating and air-conditioning ducts.

Easy Workability

First is the fact that Bethcon is neither too soft nor too hard; it's just right for easy workability in the shop and structural rigidity in the finished product.

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Second is the fact that Bethcon's zinc coating is the stubbornest zinc coating you ever saw. Even when a Bethcon sheet is doubled back on itself, its galvanized coating does not peel or flake off.

Bethlehem's continuous galvanizing process provides the answer to both these points of superiority. This process includes a special annealing cycle which imparts to the basic steel the strength-with-ductility that makes the sheet so desirable. Seconds later the zinc is applied, and applied so tightly that it permits forming never before considered practical for galvanized steel.

You'll do right by your clients to specify Bethcon on jobs that require sheet metal ductwork or spiral conduit. It is available in gages 12 and lighter, with either plain open hearth or copper-bearing (Beth-Cu-Loy) steel for the base metal. A Bethlehem representative will gladly supply you with whatever details you need. Just get in touch with our nearest district sales office.

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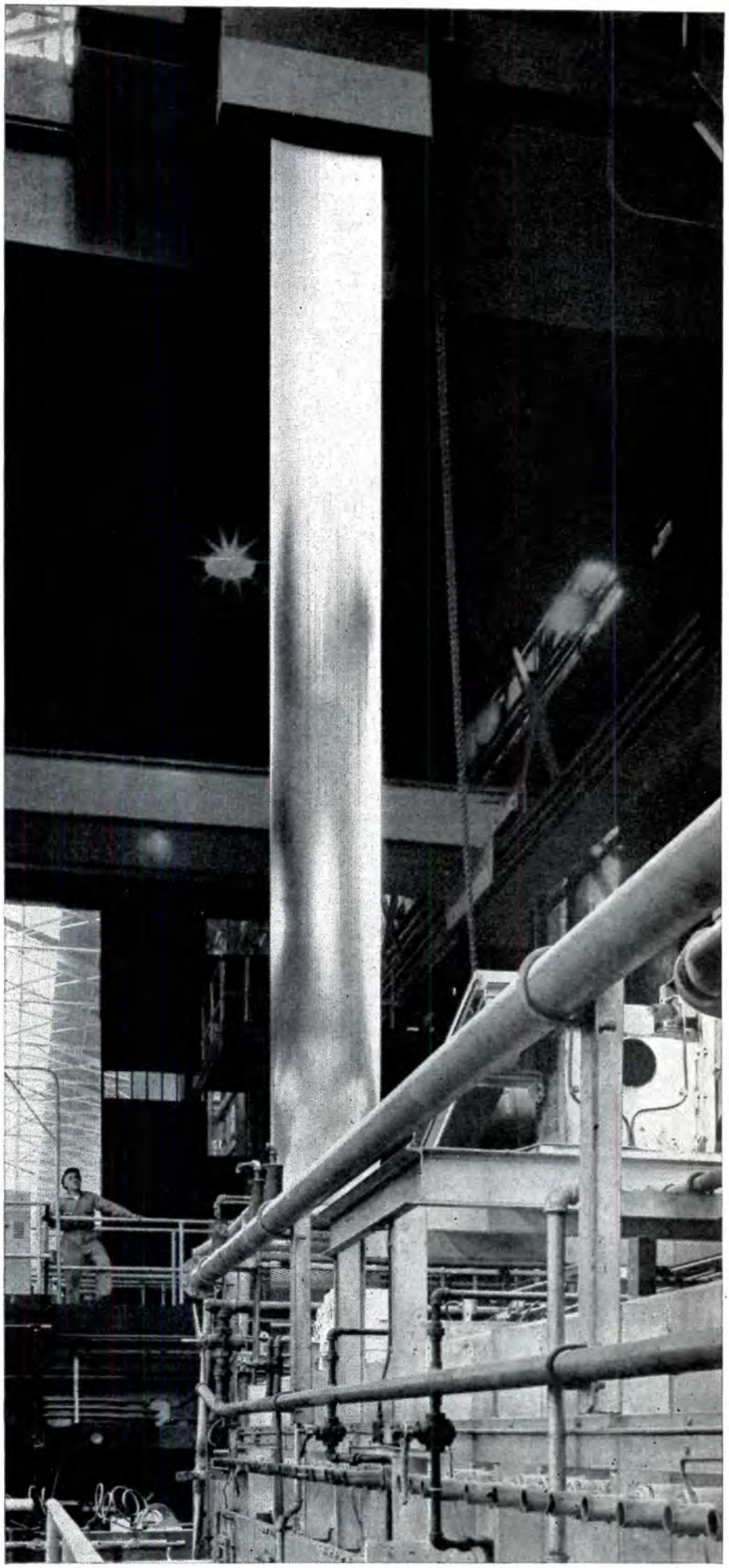

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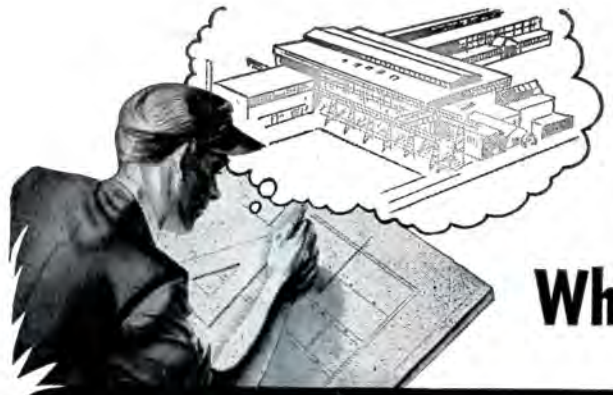
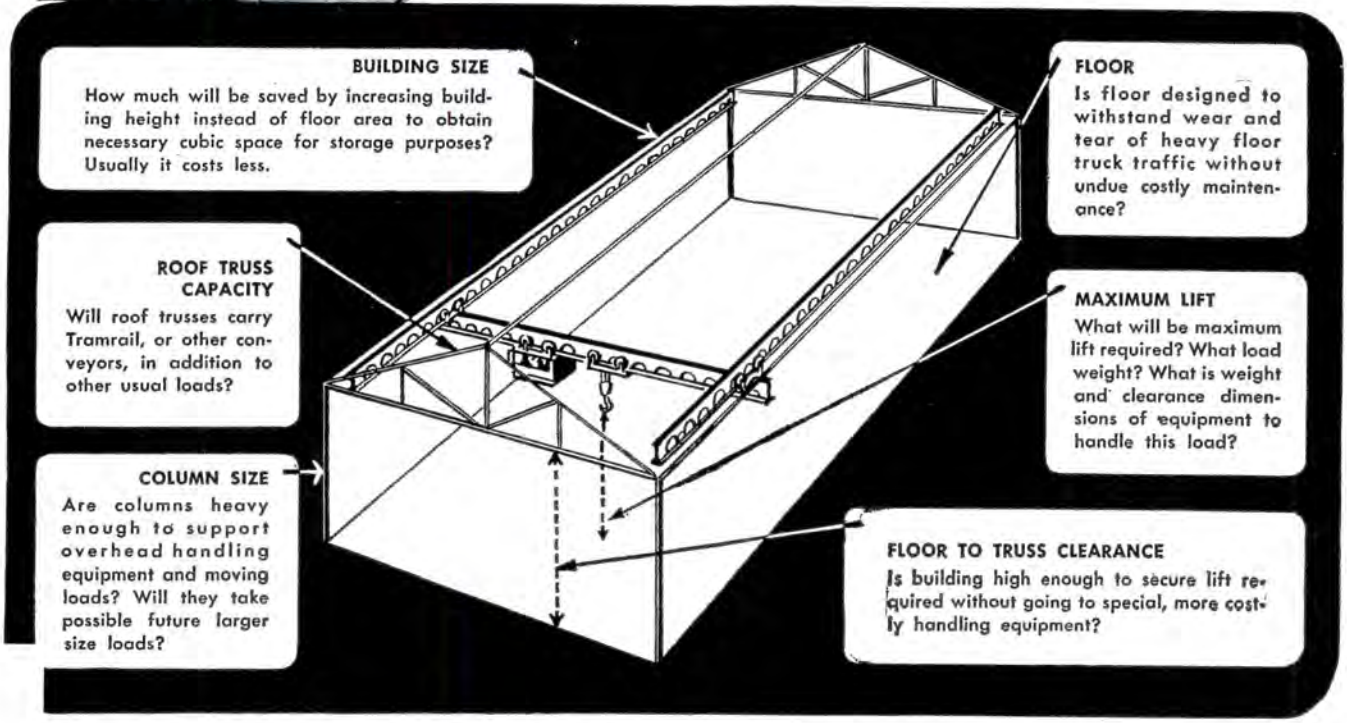
BETHLEHEM STEEL



Don't Forget *Materials Handling* When Designing the Building



The foremost demand of a new factory building, whether for production or storage, is that its design and construction aid overall operating efficiency to the utmost. Thus, the building becomes more than just an enclosure, but is actually a vital part of the manufacturing process.

It is, therefore, imperative that the various steps entering into the making of an item be thoroughly considered when the building is designed. One of the most important of these concerns materials handing because this item often amounts from 25% to 50% of the total production cost, and, also, because it is plant-wise in nature.

Regardless of what handling methods are deemed best, overhead cranes or Tramrail, roller or chain conveyors, floor trucks, etc., the building design, size and construction usually has a tremendous bearing on the ultimate handling efficiency secured. Building clearances, floor construction, column locations, aisleway allowances and other factors must be considered for the different handling methods for most satisfactory results.

For initial economy in installation, for most satisfactory operation and highest efficiency, plan for materials handling when you design the building. ***Do not make materials handling an afterthought.***

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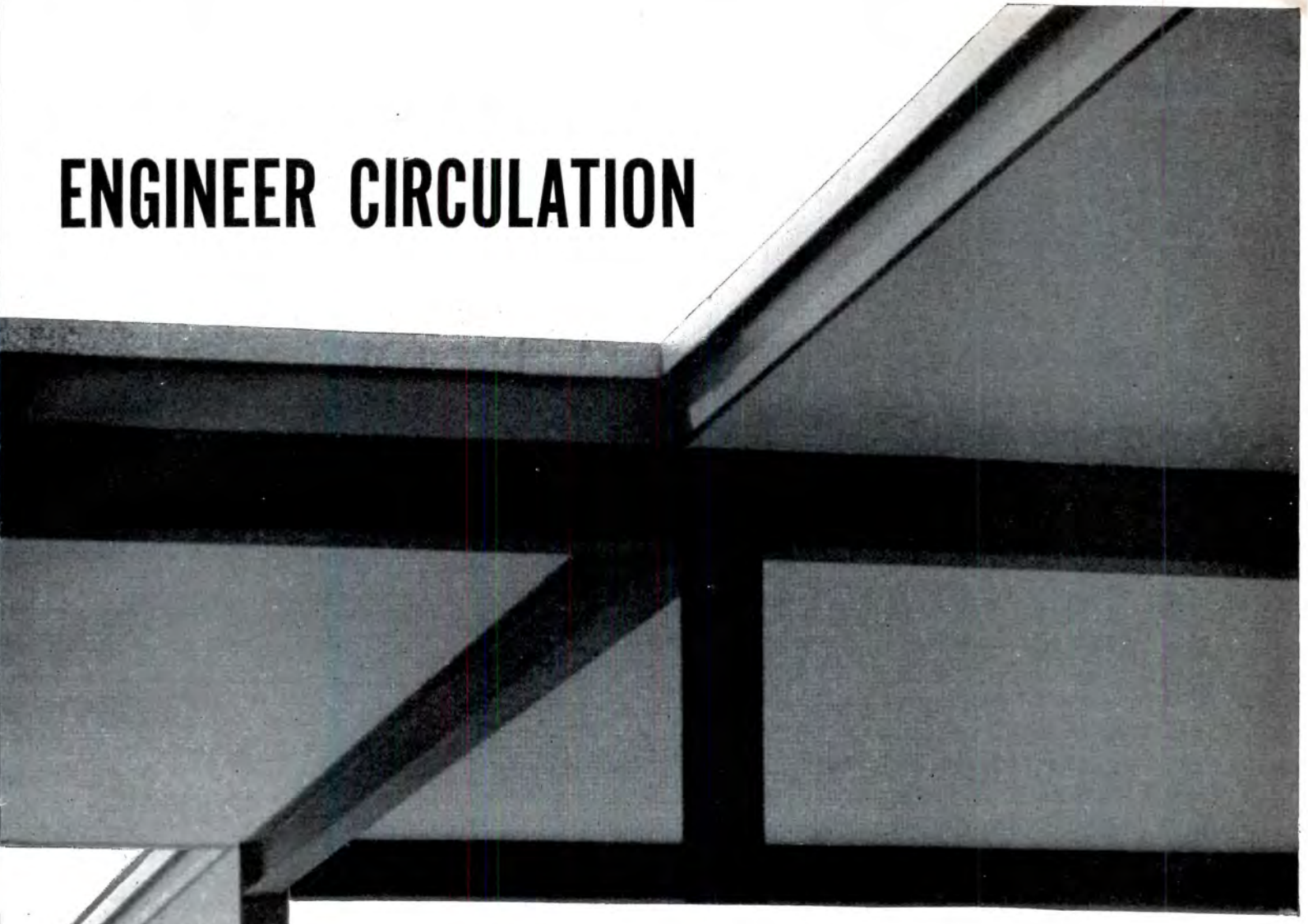

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And most important—these architects and engineers are *verifiably* responsible for planning over 94 per cent of the total dollar volume of all architect-planned nonresidential building and 77 per cent of all architect-planned residential building—facts documented by *Dodge Reports.*

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"WORKBOOK OF THE ACTIVE ARCHITECT AND ENGINEER"

Washington Topics

said: "I am convinced that the time has come for the Federal government to begin an orderly withdrawal from the airport program."

Mr. Eisenhower believes that others should begin to assume the full cost of civil airports. "Aviation generally has achieved a state of maturity in which the users should be expected to pay an increasing share of airport costs," he commented.

Proponents of the expanded aid held that the veto was a "body blow" to air safety and would leave the nation with only seven airports capable of accommodating fully loaded jet transport planes for landing and takeoff.

The measure passed by Congress and rejected at the White House would have boosted the annual authorization from $63 million to $100 million immediately and would have carried the authority on for another four years, to mid-1962. Thus the bill called for $437 million altogether.

CAA Runway Length Requirements May Be Increased 25 Per Cent

A proposed revision of the airport runway lengths promulgated by the Civil Aeronautics Administration in 1947 is being circulated for comment. In general it provides a 25 per cent increase in runway lengths over the 1947 criteria, double the CAA's estimates made earlier this year.

One of the commercial airlines has said it will require a minimum of 12,500 ft of runway for its Chicago-Paris nonstop jet flights. Effective length of the longest runway at Chicago's O'Hare Airport was given as 6800 ft.

A committee report from the House group on government operations said witnesses had suggested that despite conflicting or vague information from users and aircraft manufacturers, CAA could have obtained much of the information needed for airport jet planning from the military, whose jets have been in operation for over 10 years.

Criticism on airport planning came to the committee from another source. Max Karant, vice president of the Aircraft Owners and Pilots Association, complained of the failure of the national airport plan to include sufficient airports for general aviation. He pointed out that the airlines use 8.5 per cent of the country's public and private civil airports, with the rest used by general aviation exclusively.

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After generations of use, architects know that Idaho White Pine retains its position of preference where lasting beauty is the goal.

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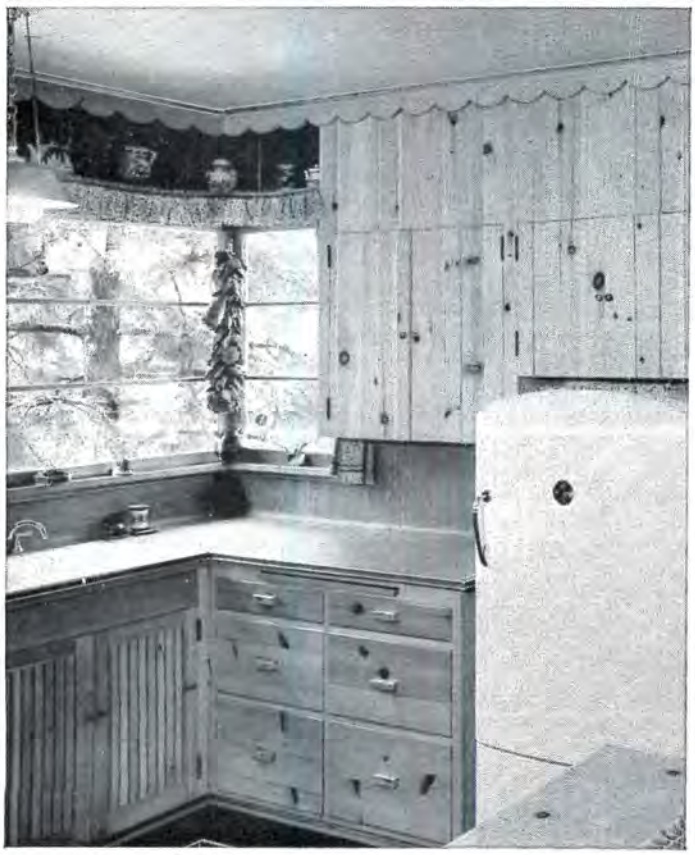

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Architects who specify Weyerhaeuser 4-Square Idaho White Pine also favor it as an excellent general, multi-purpose species, serving a broad range of needs. It is a good, sound lumber with the extra values for which white pine has always been noted.

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Architect: W. THOMAS SCHAARDT

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

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Pittsburgh, Pa.
Zonolite Direct-to-Steel Fireproofing
Arch.: Press & William C. Dowler & Assoc.
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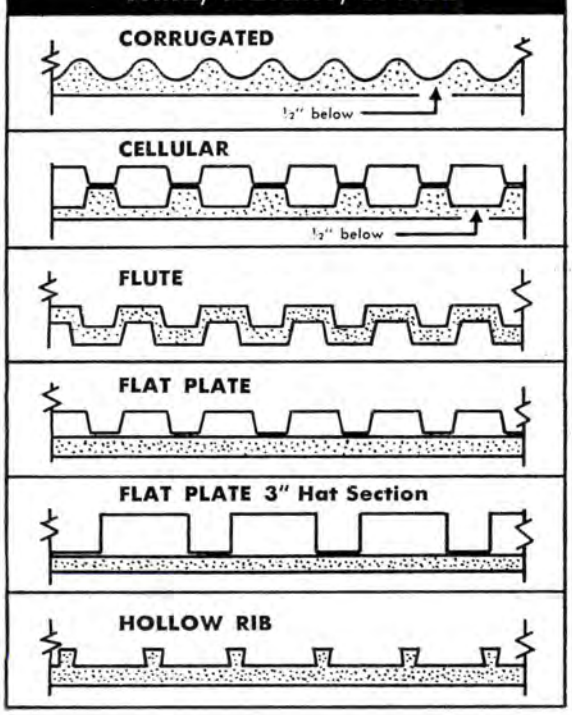
❶ Underside of steel deck prior to application of Zonolite Direct-to-Steel Fireproofing. Oil, dirt removed for strong bond.

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

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

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



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Required Reading

continued from page 63

flowers, or plants of any kind. It is not flagstone, brick, grass, or pebbles. It is not a barbecue, or a Fiberglas screen. It is an experience. If it were possible to distill the essence of a garden, I think it would be the sense of being within something while still out of doors."

The author first treats isolated gardens, in order to analyze fundamentals, then deals with the situation in which the harried landscape architect is called in to salvage a house by "trellising the hell out of it," and finally, illustrates the integration of house and landscape, made possible only by considering the garden as sculptured space. Interspersed throughout the book are detailed case histories of numerous projects that have enlisted Mr. Rose's talents. In these, as well as in the more abstract portions, many excellent photos in both black and white and color are used. An added bonus is the author's delightfully ready (and controversial) wit.

Everywhere in this volume Mr. Rose's deep personal commitment to his work, his grasp of problems both esthetic and social, and his primary concern with *people*, are very much in evidence. —ARTHUR FISHER

Technical References

PRE-STRESSED CONCRETE: THEORY AND DESIGN. *By R. H. Evans and E. W. Bennett. John Wiley & Sons, Inc., 440 Fourth Ave., New York 16. 294 pp., illus. $10.*

GRAPHIC SCIENCE: ENGINEERING DRAWING, DESCRIPTIVE GEOMETRY, GRAPHICAL SOLUTIONS. *By Thomas E. French and Charles J. Vierck. McGraw-Hill Book Co., Inc., 330 W. 42nd St., New York 36. 758 pp., illus. $8.50.*

MANAGEMENT FOR ENGINEERS. *By Roger C. Heimer. McGraw-Hill (address above). 453 pp. $6.75.*

MANUAL OF ACCIDENT PREVENTION IN CONSTRUCTION. *Associated General Contractors of America, Inc., 20th and E Sts., N.W., Washington 6. Illus. (5th rev. ed.). $3.25 (includes supplements).*

THEORY OF STRUCTURAL ANALYSIS AND DESIGN. *By James Michalos. Ronald Press Co., 15 E. 26th St., New York 10. 552 pp., illus. $12.*

MATERIALS AND METHODS OF ARCHITECTURAL CONSTRUCTION. *By Harry Parker, Charles M. Gay, and John W. MacGuire. Wiley (address above). 724 pp., illus. (3rd ed.). $12.*

ESTIMATING CONSTRUCTION COSTS. *By R. L. Peurifoy. McGraw-Hill (address above). 446 pp., illus. (2nd ed.). $10.75.*

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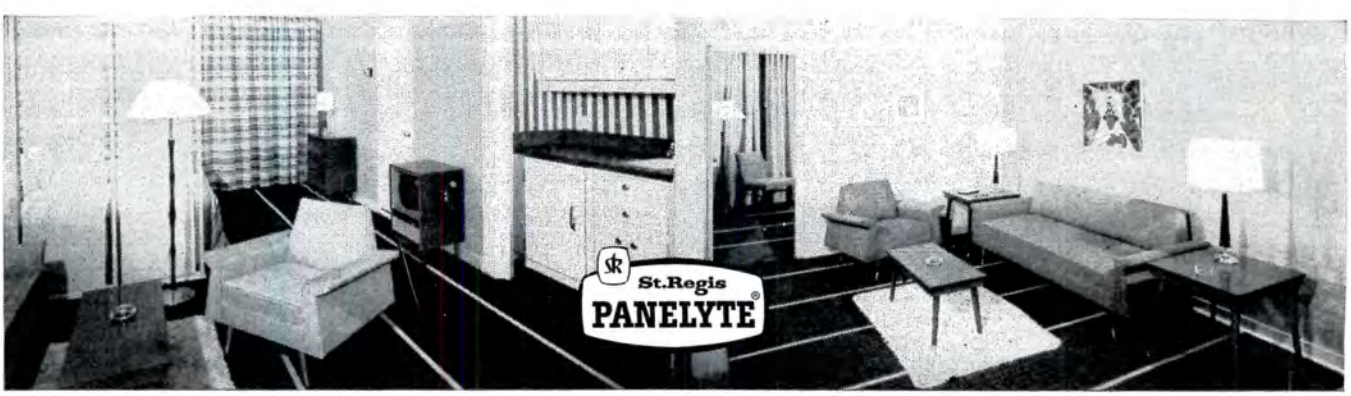

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ON THE WAY UP

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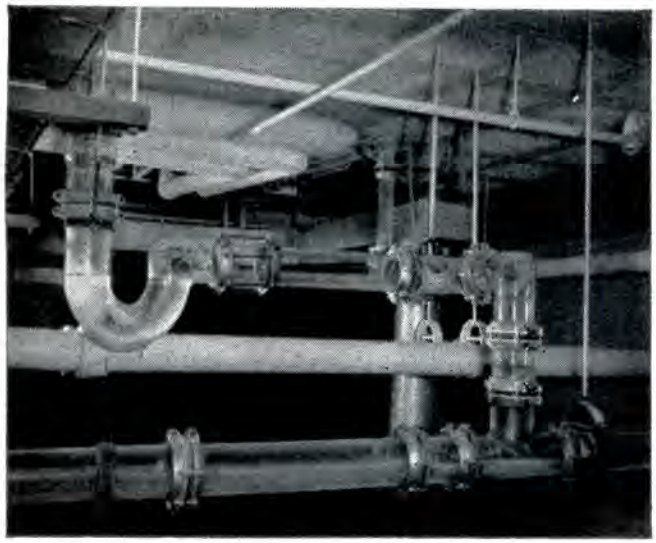

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