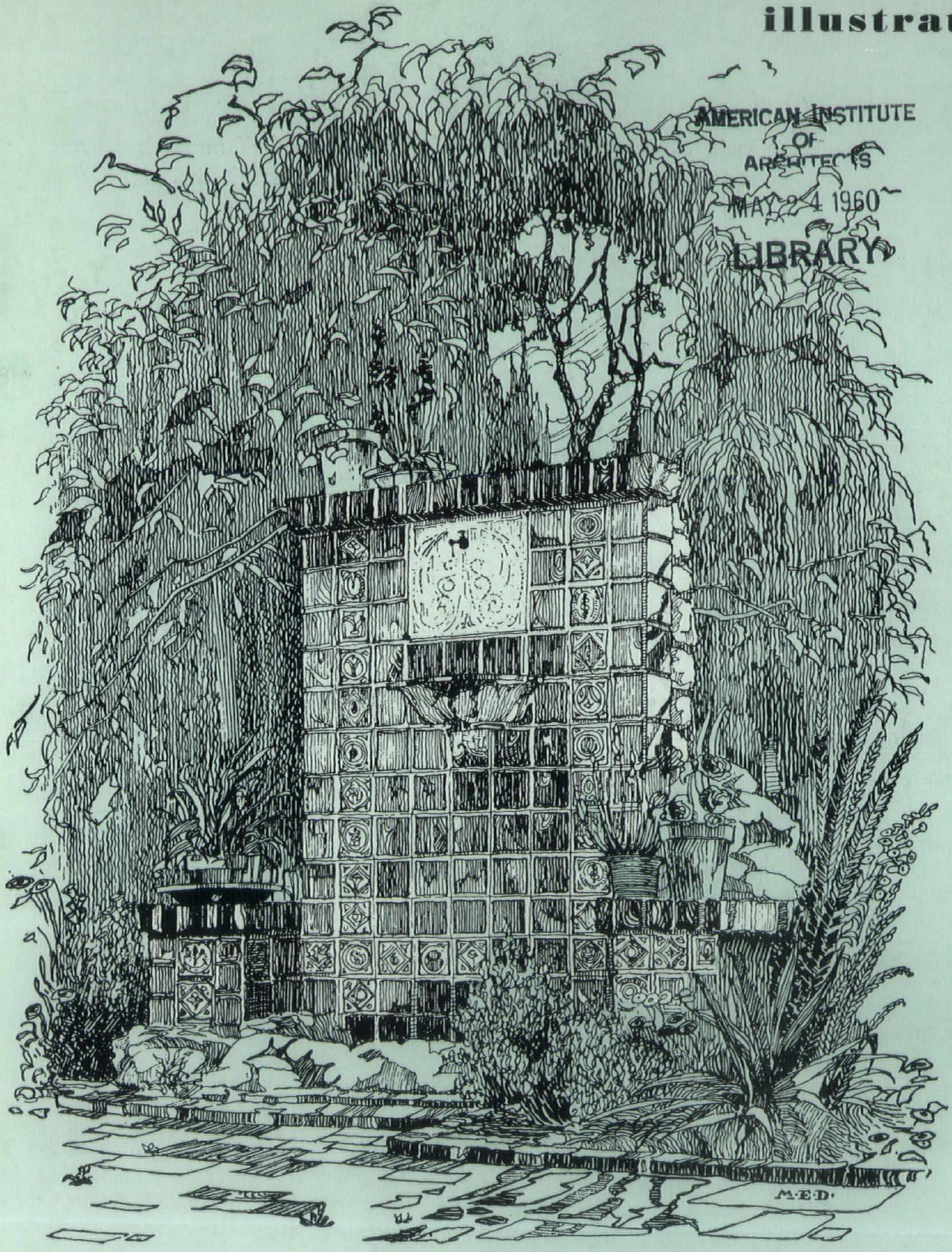
new england

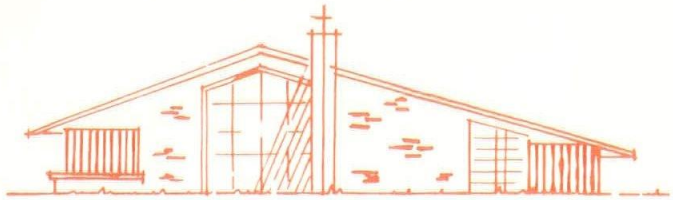
ARCHITECT AND BUILDER

illustrated

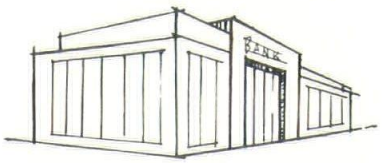


NUMBER SEVENTEEN

Miracle of the low cost electronic Bells . . . through the miracle of electronics, beautiful inspirational bell music is now within the reach of all Churches, Universities, Banks & Public Buildings.



FOR CHURCHES

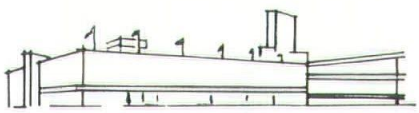


BANKS

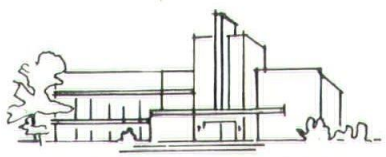
Cast bell carillons, bringing glorious music to all within hearing, date back to the fifteenth century. These were massive bells, some weighing tons, and their use was limited because of their cost and the need for specially constructed, reinforced towers to support the great weight.

Today, through the miracle of electronics, this same bell music is faithfully reproduced by tiny metal bars weighing just a few ounces, and tuned to create the exact vibrations of the cast bells they replace. This almost inaudible, true bell tone is picked up electronically and amplified to any desired volume.

The modern TELEMATIC electronic carillon or bell system is compact and moderately priced, bringing beautiful bell music within the reach of all who enjoy it.



SCHOOLS



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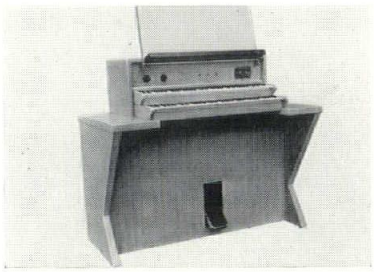
Here is truly the world's finest twenty-five bell electronic carillon, designed for automatic or manual operation. Engineered by Telematics electronics specialists, its patented rectangular tone bars are tuned, voiced and graded by master craftsmen to produce bell tones that faithfully provide the music of the great cathedral bells.



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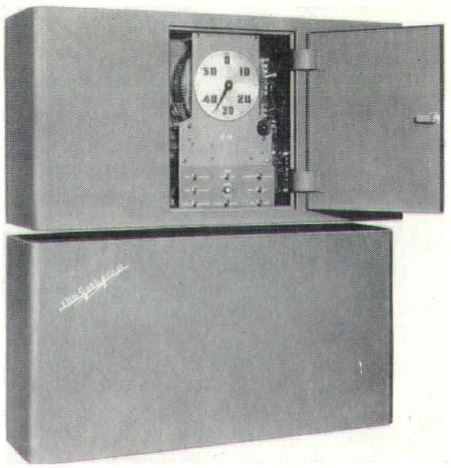
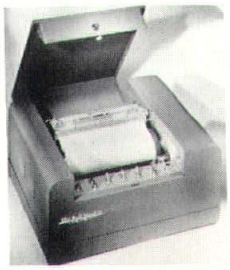
An exclusive development by Telematics, the new Flemish Master dual keyboard allows the player to dynamically emphasize melodic lines, as is possible with a cast bell carillon, and reduce accompanimental passages as the music may require. This unique flexibility greatly reduces the need to specially adapt tunes for bell playing.



BELL FUNCTION CABINET

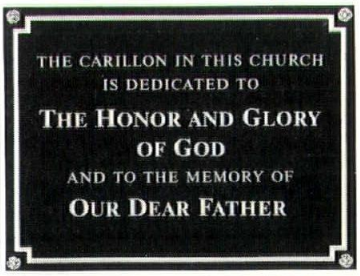
Houses the program timer clock, chime and hour unit and other function units. Easily accessible control panel with reset automatic-manual switches.



BELL MASTER Roll Player

Provides automatic playing of hymns and melodies pre-cut on rolls. Switches for manual or automatic starting, selection of indoor or outdoor speakers, and rewind after the last selection.

MEMORIAL PLAQUE



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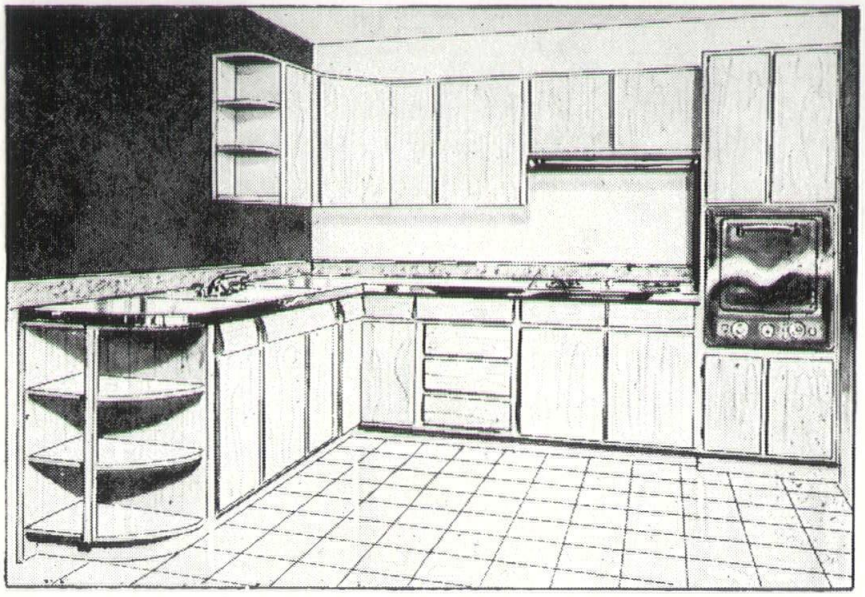

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COMPONENT DIVISION

VOLUME TWO • NUMBER SEVENTEEN
APRIL - 1960

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new england ARCHITECT **and** BUILDER **illustrated**

ARCHITECTURE and CONSTRUCTION

FEATURE

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COVER

Bachelder Tile
Fountain Design
by Ernest O. Batchelder

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SMITHSONIAN'S NEW MUSEUM OF HISTORY AND TECHNOLOGY

Courtesy of the Smithsonian Institution — Dr. Leonard Carmichael, Secretary
The new building for the Museum of History and Technology, Smithsonian Institution, Washington, D. C., started August 22, 1958. The purpose of this building is to illustrate by means of historical collections the cultural and technological development of the United States from colonial times. United States National Museum — Director, Remington Kellogg; Museum of History and Technology — Director, Frank A. Taylor.

ARCHITECTS
McKIM, MEAD & WHITE

The new building for the Museum of History and Technology of the Smithsonian Institution is being constructed on Constitution Avenue between 12th and 14th Streets, N. W., in Washington. The plans for the new building have been approved by the Commission of Fine Arts and the National Capital Planning Commission. The building was designed by the architectural firm of McKim, Mead & White.

The new building is contemporary in design, but it has retained a classical spirit that will harmonize with the existing monumental buildings on the Mall and on Constitution Avenue. The bays of the exterior of the structure are formed by offsetting slabs of Tennessee marble and are related in scale to the mass of surrounding buildings. Windows in the narrow faces of these bays provide effective daylight areas to relieve the large, artificially lighted enclosed spaces which are required in modern museums.

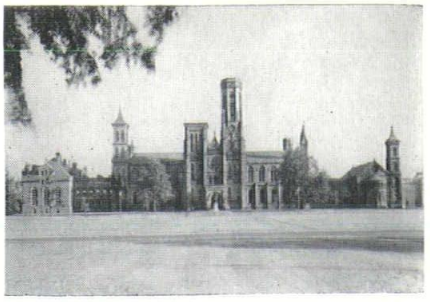
The Smithsonian's unequaled technological collections, many important parts of which have never been displayed before, and which illustrate the history and development of science and engineering, will be exhibited on the first floor on the level of Constitution Avenue. On the floors above will be presented the great national collections of the Smithsonian illustrating civil and military history and the growth of the United States.

The exhibition floors of the building are arranged to provide for the maximum convenience of the more than 5 million visitors who are expected to come to the building each year. Space for necessary workrooms, laboratories, and study collections is provided above the exhibition floors and in a basement below the Constitution Avenue level.

Visitors starting to view any part of the great new museum could most conveniently begin in the centrally located flag hall. The principal object in this hall will be the famous Star Spangled Banner, which measures approximately 30 by 42 feet. This flag, which flew over Fort McHenry in 1814 and which inspired our national anthem, has been characterized by museum experts as the number one museum item of America.

The Norair Engineering Corporation of Washington, D. C., is constructing the building. The Otis Elevator Company has the contract for elevators and escalators. The total cost of the building is $36,000,000.

Completion date for the building is late March, 1962.



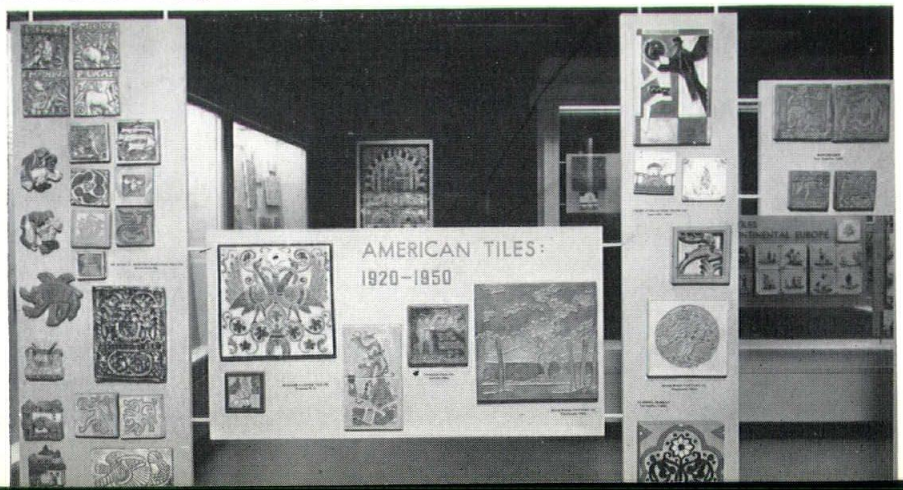
The Smithsonian Institution was created by Act of Congress in 1846 under the terms of the will of James Smithson, distinguished English scholar and scientist. Smithson bequeathed his entire fortune to the United States to found at Washington, D. C., an establishment "for the increase and diffusion of knowledge among men." The Institution is governed by a Board of Regents, composed of the Vice President, the Chief Justice, three members of the Senate, three members of the House of Representatives, and six distinguished private citizens. The chief administrative officer, Dr. Leonard Carmichael, who holds the title of "Secretary of the Smithsonian Institution," is appointed by the Board of Regents.

Joseph Henry, the first Secretary of the Institution (1846-1878), defined the objectives expressed in Smithson's will and established the range of Smithsonian activities for the years to come as the increase of knowledge through original investigation and research; and the diffusion of knowledge, not only in the United States, but throughout the world, by means of publications and the interchange of scientific thought among nations.

In a diversity of fields stretching from the physical and natural sciences to history, art, and technology, the Smithsonian conducts its own investigation, exploration, research, and publication. It stimulates scientific work elsewhere, aiding exploration and research by other organizations and individuals and assisting in the publication of the results of this work.

From the activities of the Smithsonian over the 114 years of its history, a number of specialized bureaus have developed, many of which are supported by appropriations from Congress but administered by the Institution.

One of eight cases displaying decorative tiles donated to the Smithsonian National Museum, Washington, D. C., by E. Stanley Wires. Pictured, American Tiles — 1920–1950 period.



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ACADEMY AVENUE ELEMENTARY SCHOOL, WEYMOUTH, MASSACHUSETTS

Coletti Brothers, Architects

Louis Proia Construction Co., Inc., Contractors

FOR THIS SCHOOL (twelve classrooms, offices, cafeteria and an all-purpose meeting room) the only available site was one broken by a steep ledge. To solve the problem of economical construction, while providing the best possible land use, the architects' design uses two stories on one side and one on the other. The long walls on both sides are Hope's steel framed Window Wall units supporting Hope's Heavy Intermediate ventilator sash above porcelain enameled insulated panels. Their strength, rigidity and assurance of positive operation throughout the life of the building are the reasons why Hope's Windows and Window Walls are selected in school buildings that are planned with the greatest care.

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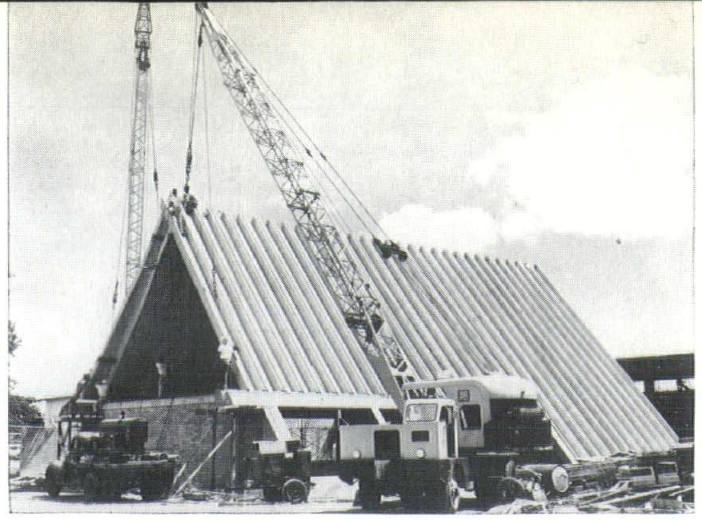
THE FINEST BUILDINGS THROUGHOUT THE WORLD ARE FITTED WITH HOPE'S WINDOWS

Harry H. Edwards is one of the pioneers of the prestressed concrete industry. He was chairman of the Prestressed Concrete Institute Specifications Committee and has been responsible for many of the standards established by the industry.

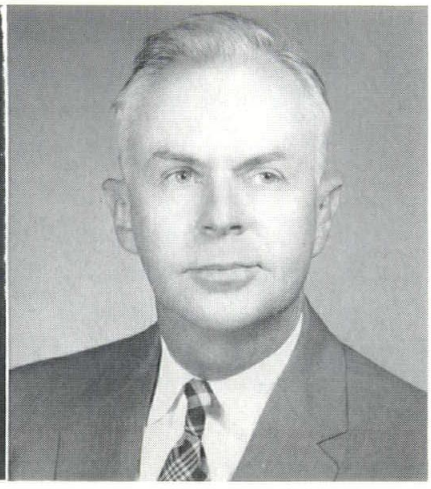
Mr. Edwards is president of Leap Associates, Inc., Lakeland, Florida, a firm which provides a consulting service and research and development program for the benefit of the 55 Leap Associate prestressed concrete producers located in 26 states and several foreign countries.



Inverted channels used in office building in Hawaii. **Architect:** *Lemon, Freeth & Haines;* **Contractor:** *Pacific Construction Company;* **Prestressed Concrete** *by Concrete Engineering, Ltd.*

A Change IN CONCRETE

BY H. H. EDWARDS



Concrete construction is undergoing a change that is just now being realized by the building industry. When this evolution fully develops its course, it will have affected our design customs, construction techniques and material supply sources. It will end in a greater percentage of our structures being built of concrete.

Prestressing is the reason for this big change, bringing reduced costs and speedier construction. But more important, it is bringing many improvements in the physical characteristics of concrete structures. It increases the strength of concrete, reduces its mass, and permits long spans. Furthermore, it reduces cracking and gives resilience and flexibility to concrete.

Prestressing is now being used extensively in two different phases of building, the poured-in-place composite structure and the precast structure. Both have good fields of application and both are expected to have a steady growth.

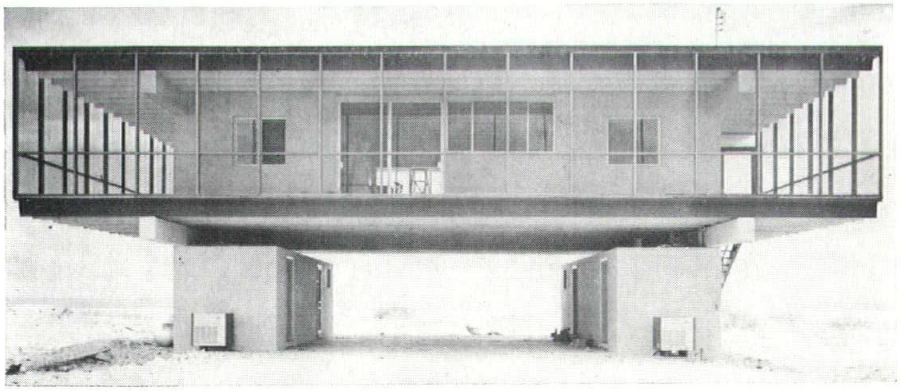
The single story building is lending itself well to precast and prestressed concrete. These are the one-story commercial and industrial buildings — schools, offices, garages, motels, shopping centers, warehouses, churches. In some instances, only parts of the buildings have been precast. In others, the entire structure of roof walls, columns and beams have been prefabricated in precast, prestressed concrete.

Multi-story construction of two or more floors is more suited to a composite design whereby a poured-in-place reinforced concrete deck is combined with a precast, prestressed beam or joist. This composite design has several advantages for high buildings. It solves easily the difficult problem of connections that would be encountered in the entire precasting of a high building. It also simplifies erection problems since the size and weight of the precast members are relatively low. Long spans are easily handled.

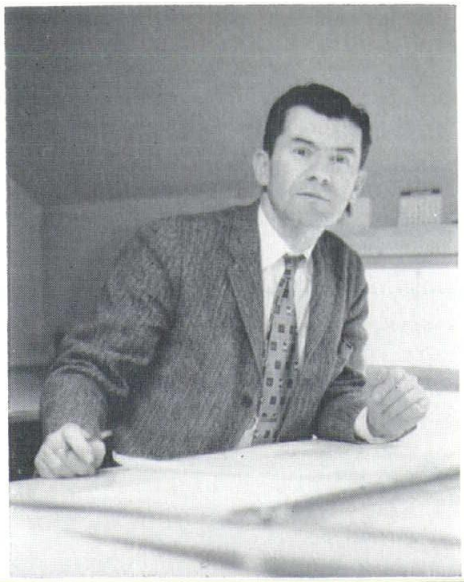
Speed of construction with composite design is slower than that for an all precast structure. However, it is considerably faster than for an all reinforced, poured-in-place concrete building. The precast, prestressed beams serve as convenient supports for the deck formwork. Usually their spacing can be made identically for the project, permitting the use of full sheets of plywood or other form board to be used over and over. The placing and stripping of these form boards can be very fast, thus overcoming the usual objection to time and expense of on-the-job forming.

The desire for longer clear span in office buildings can be satisfied with the composite design. This is done with low loss of head room from floor-to-floor. It is also possible to cast holes in the beams so that utilities may pass through at right angles to the framing. The prestressed composite system also has sufficient mass in the joist to have a high degree of fire resistance. It is possible to have a thick cover of concrete over the prestressing steel.

(Continued on page 42)

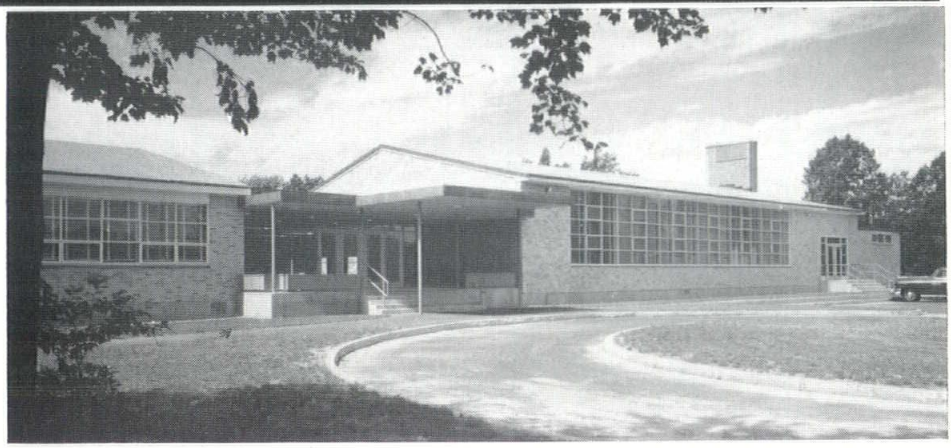


Beach House, Dauohin Island, Alabama



Profile

CHARLES H. COLE II — Architect



MEMORIAL PARK ELEMENTARY SCHOOL

It's quite simple to understand Charles Cole's honest approach to architectural design — it's merely the reflection of his excellent background in the profession.

When Mr. Cole received his B.S. from the Harvard College Engineering School in 1930, he decided he would work for a few years before attempting his Masters Degree in Architecture. He followed this decision through and entered the Harvard School of Architecture in 1933, graduating in 1936.

The list of firms Mr. Cole worked for until opening his own reads like the "Who's-Who" of Architecture. Among them: Coolidge, Shepley, Bulfinch & Abbott; Ralph Harrington Doane; Lackwood Greene, Inc.; Thomas Worcester, Inc.; and a stint in the store design department of the F. W. Woolworth Company.

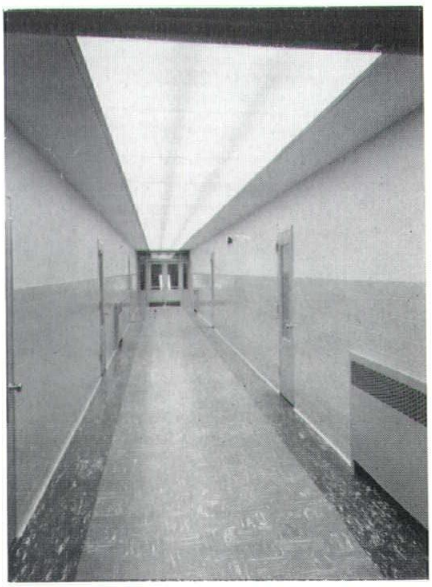
Associate Architect
Thomas Worcester, Inc.

Engineers
Thomas Worcester, Inc.

General Contractor
Poorvu Construction Company, Inc.
Wellesley, Massachusetts

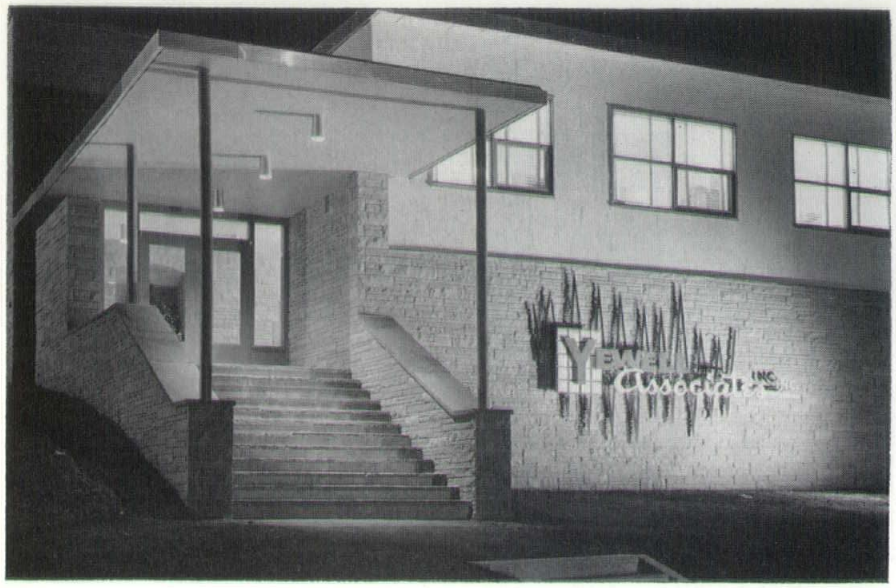
Total Cost
$471,000 (not including equipment)

Since opening his own office in 1951, in Lexington, Mass., Charles Cole has been a mighty busy gentleman. Among some of the projects designed to date have been: Two complete housing projects, several residences, an office building, seven elementary and three secondary schools. When noting the type of project Mr. Cole's firm seems to excel in, their Latin motto could well be, "Pro Bonum Publicum."



Excellent choice of fiber glass reinforced ceiling panels serves dual purpose — floods corridor with daylight from ridge skylight panels and serves as lighting fixture at night.

CHARLES H. COLE II - ARCHITECT



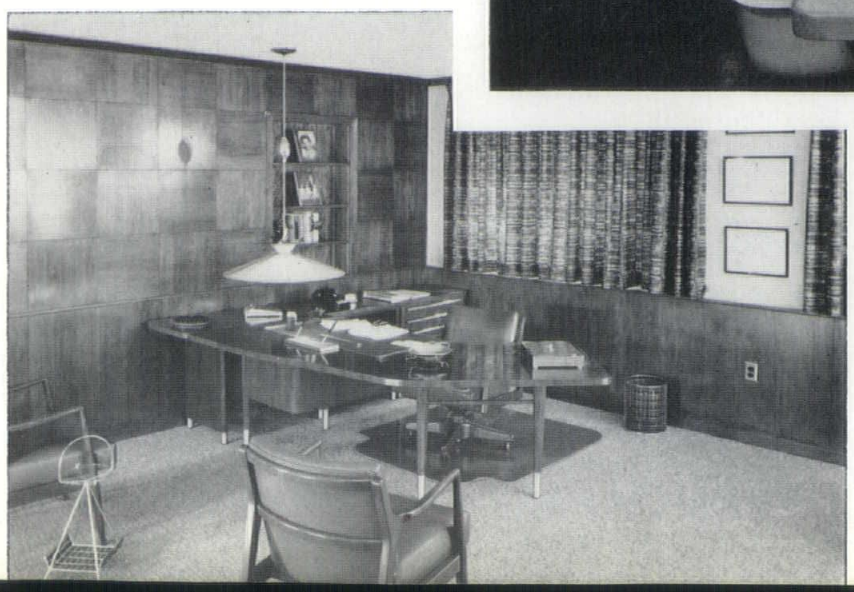
YEWELL ASSOCIATES

General Contractor
A. J. Martini
Medford, Massachusetts

Electrical Contractor
Richardson Electric Company

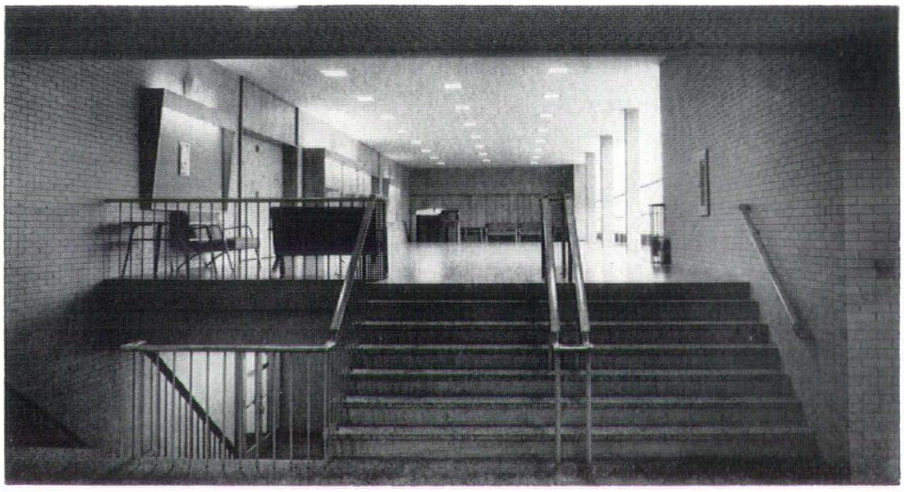
Total Cost
$135,000

Skillful and imaginative use of color both in the contemporary plastic chairs and walls gives this windowless sales and conference room a unique spirit of friendliness.



Prefinished paneling was selected by Architect Cole for its richness and simple dignity — combined with colorful fabrics provides a muted effect deserving of the president's office.

BILLERICA MEMORIAL HIGH SCHOOL



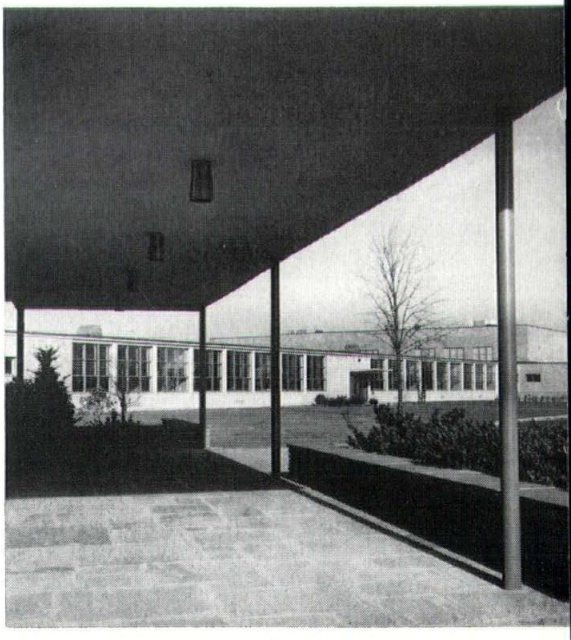
General Contractor
Poorvu Construction Company, Inc
Wellesley, Massachusetts

Engineers
Cleverdon, Varney & Pike
Boston, Massachusetts

Total Cost
$2,074,000

School design is always a problem. It matters not how many times an architect is commissioned to design one. There is no pat set of rules, no iron bound precedents. Each one is unique in its own demands and basic requirements.

Billerica Memorial High School illustrates an architectural case-in-point in that extreme care was taken during the design and working drawing stages to have the aesthetic architectural treatment of the building always controlled by the requirements of the structural system used. Here, the structural system was predicated upon a rigid module of ten feet, two inches for exterior walls and on interior column module of fifteen feet, three inches. (Note: 2x15′–3″ and 3x10′–2″) Clear spans in the opposite direction are twenty-four feet in almost all cases.



The building proper is constructed of reinforced concrete throughout, using a grid flat slab system, except for the roofs of the auditorium and gymnasiums which are span steel bar-joists carrying two and a half inches of gypsum on acoustical form boards. The form boards were left in place to be utilized as part of the insulation factor.

Bolt, Baranek & Newman of M.I.T. acquitted themselves and Cole admirably on the ever-present acoustics "bug-a-boo." The auditorium, accommodating seven hundred and fifty, has ceilings and walls taking free form or arbitrary shapes. In order to accomplish this, sidewalls were made of open steel studs with wire lath and plaster, while the ceiling is "hung" and also fashioned with wire lath and plaster. The high sound quality was then determined by the pre-planned acoustical treatment of various parts of these surfaces.

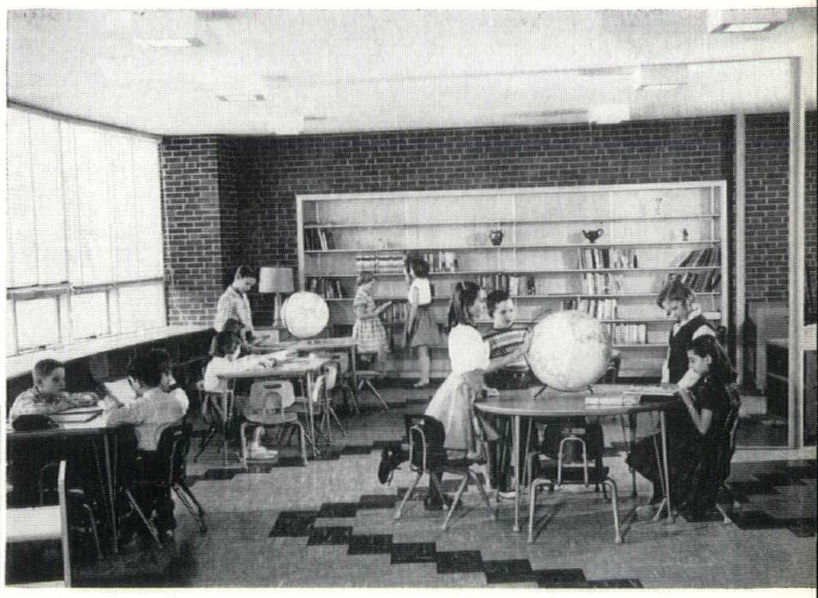
The school has a capacity of one thousand pupils and divides itself into thirty-six rooms of "classrooms" designation, six for administration, a cafeteria and kitchen, the auditorium and a triple gymnasium, complete with showers and lockers.

Some of the exterior walls have an unusual and interesting treatment, we thought. For example, all classroom areas are of "stripped" construction, expressing the complete concrete form. All the special areas such as offices, toilets, stairways and walls of the gymnasiums and auditorium have the concrete frame "clothed" as usual, with a high grade face brick. In one "stripped" area a "Mosai" spandrel is used.

Without being bizarre, Mr. Cole achieved some striking effects with further use of unusual materials and their treatments. Such as Bluestone for outside areas of main entrance, Terrazzo floors for public lobbies and exhibition hall, glazed tile for all main corridor dadoes and with the exception of special areas where vertical Birch siding is used, all interior partitions are of cinder block.

CHARLES H. COLE II - ARCHITECT

Billerica High occupies one of the most beautiful sites on the Northwest side of Great Hill in Billerica Center. The view from the North and Northwest windows, on a clear day, shows the pastoral of Mt. Monadnock and the New Hampshire hills. Twenty acres of land slope gently downward forming the Southeast and Northwest corner, a total drop of fifty feet. The design and position of the building follows the contours of the site in such a manner that the upper side is primarily one story and the lower side, two and even three stories in height. For sheer beauty of architectural imagination and design, planning and construction and site-selection, this school reflects the premium of the total cost of $2,074,000 — and more.



MARIA HASTINGS ELEMENTARY SCHOOL
Lexington, Massachusetts

General Contractor
Tocci Brothers Construction Company
Newton, Massachusetts

Engineers
Cleverdon, Varney & Pike
Boston, Massachusetts

Landscape Architects
Shurcliff & Merrill
Boston, Massachusetts

Total Cost
$672,000

PINE HILL SCHOOL

General Contractor
Park Construction Company
Boston, Massachusetts

Structural Engineers
Melvin Jay
Boston, Massachusetts

Mechanical Engineers
Cleverdon, Varney & Pike
Boston, Massachusetts

Landscape Architects
Chambers & Moriece
Cambridge, Massachusetts

Kitchen Consultant
William T. Loud
Boston, Massachusetts

Site Contractor
P. Nicolai
Sherborn, Massachusetts

Total Cost — $609,634

Pine Hill School — a combination elementary and Junior High school is designed for three hundred pupils with fifteen classrooms, special facility rooms and featuring the multi-purpose room pictured above. This all-purpose room used as a gymnasium, auditorium and cafeteria provides a dignified and restrained charm in its finished roof decking and laminated beams.

Reception space and lobby are so planned that conversations at the desk cannot be overheard in the waiting room. Counter space overlooks corridors both to the left and right in this "U-shaped" building.

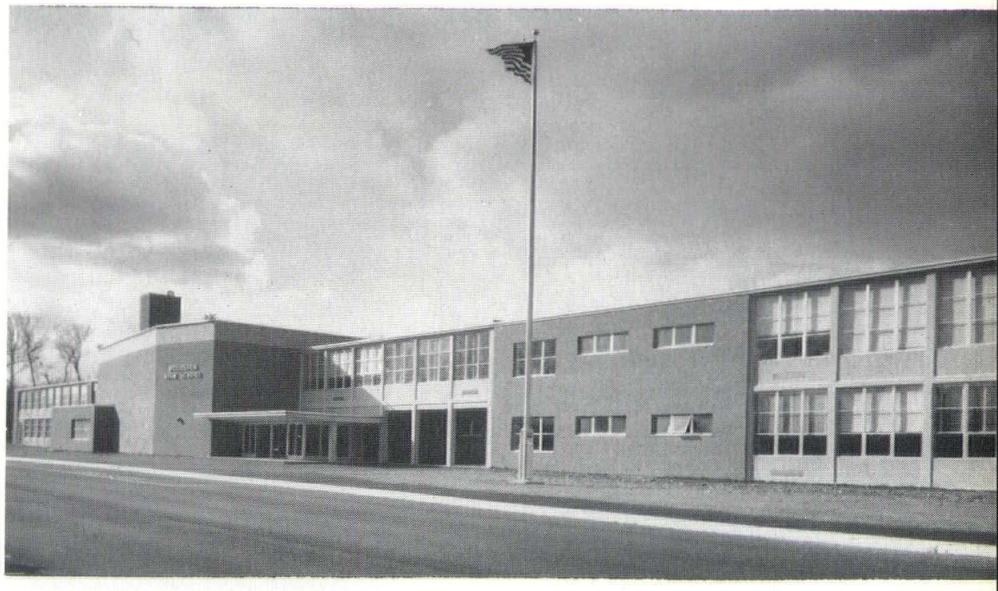
HOLLISTON JUNIOR/SENIOR HIGH SCHOOL

General Contractors
Grande & Sons, Inc.
Malden, Massachusetts

Engineers
Cleverdon, Varney & Pike
Boston, Massachusetts

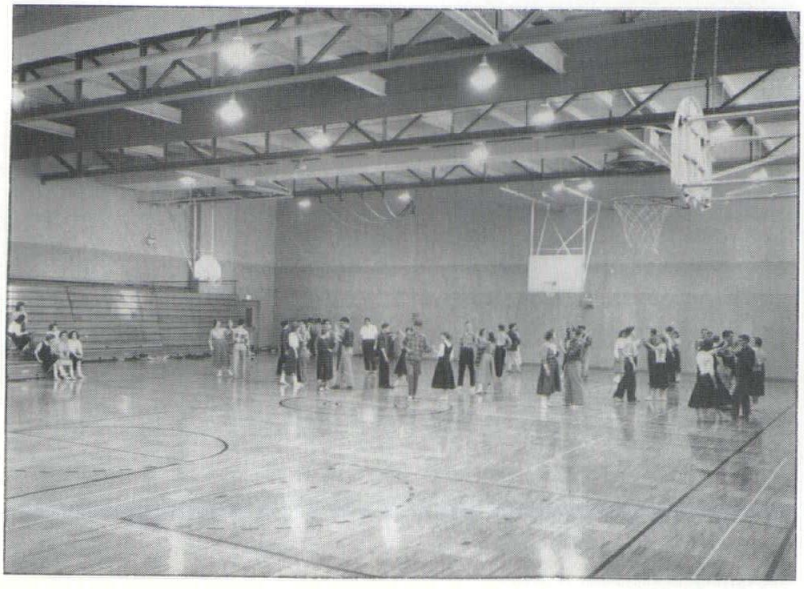
Landscape Architects
Chambers & Moriece
Cambridge, Massachusetts

Total Cost
$1,350,800

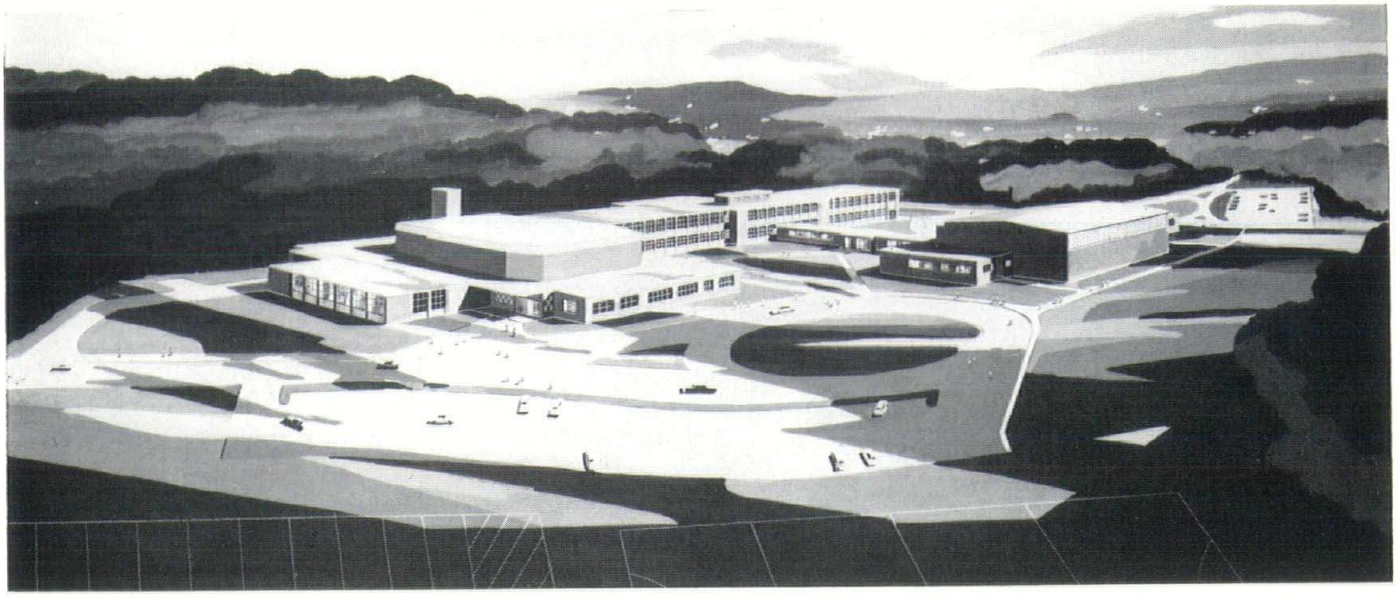


In greater measure, Holliston (six year) High School owes its shape and combination of one and two story construction to the character and orientation of the site selected.

Taking a farsighted view and a most necessary one, both from a standpoint of expenditure and increasing tax rate, Architect Cole planned special features into Holliston High School in anticipation of the population expansion in the years to come. Drawings called for oversized auditoriums, gymnasiums and lavatories for a student population of six hundred, even though there are sufficient classrooms for only four hundred and fifty at present. At a future date when it will become necessary to provide for the increased student enrollment, it will only necessitate the construction of additional classrooms in the one or two story wings.



CHARLES H. COLE II - ARCHITECT



WILLIAM DIAMOND JUNIOR HIGH SCHOOL - LEXINGTON, MASS.

General Contractor
White Construction Company
Boston, Massachusetts

Engineer
Cleverdon, Varney & Pike
Boston, Massachusetts

Acoustical Engineers
Bolt, Bernek & Newman
Cambridge, Massachusetts

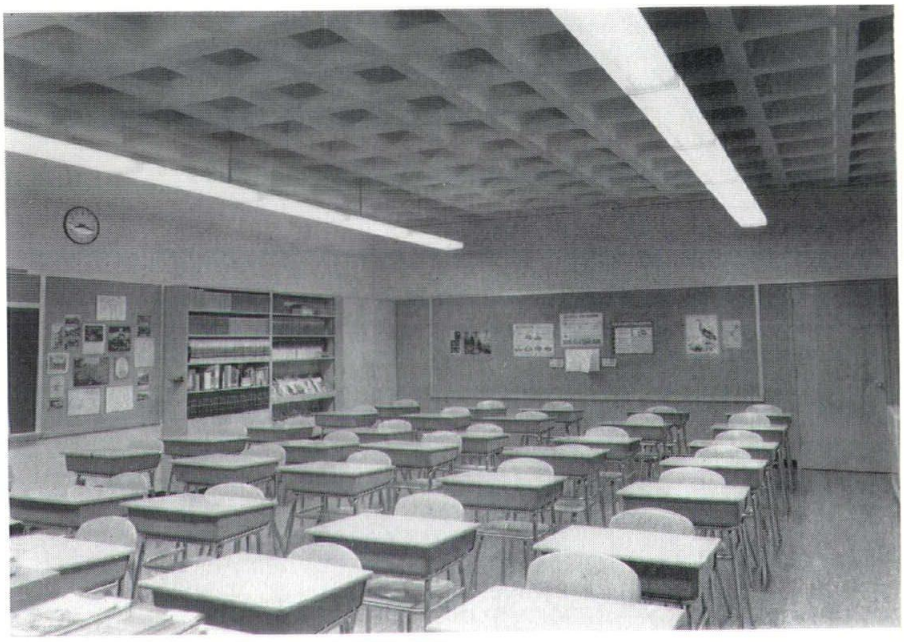
Educational Consultants
Cambridge Consultants, Inc.

Equipment Consultant
Samuel Crabtree

Kitchen Consultant
William T. Loud

Color Consultant
Mary Sayward Cole

Total Cost
$2,080,000



The reinforced concrete frame of this completely fireproof building has been designed on a basic unit, or module of 10′ 2″. The dimensions of most areas, large or small, are multiples of this module which was chosen as the most flexible for a school building. Building materials were selected on the basis of durability and economy of maintenance weighed against initial cost. Considerable time was spent in the choice of colors to overcome the plainness of some materials used.

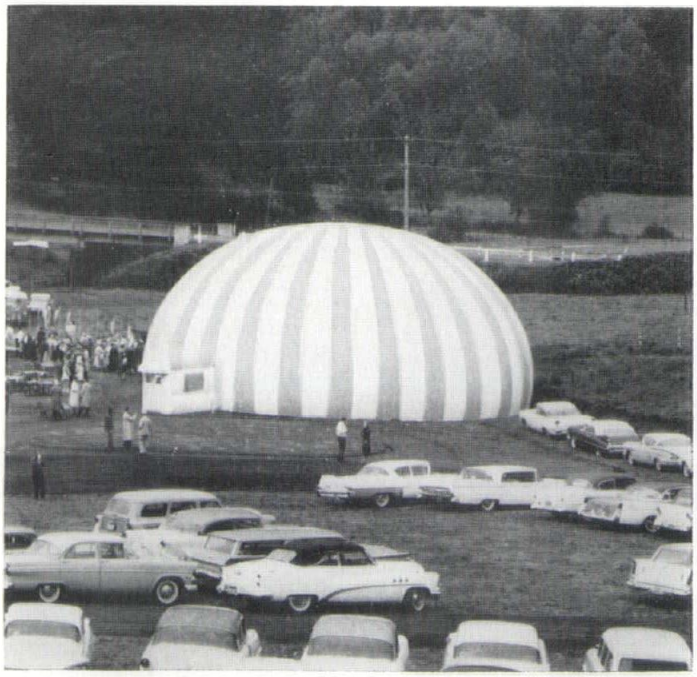
The beautiful tiles in the main lobby were designed by students of the Lexington High School under the able direction of Mr. Russell Mann. The tile bodies were *donated by Mr. E. Stanley Wires*, who has one of the world's outstanding tile collections, now on view at the National Museum in Washington, D. C.

The school is named after William Diamond, whose drum mustered the Lexington Minute Men on April 19, 1775. Thomas Peckham, now a student in this school, submitted the winning name in a town-wide essay contest in May 1958, while in the 5th grade.

The pupil capacity of this school is 900. Specialized classrooms consist of 5 Science rooms, 2 Music rooms, 2 rooms for Arts and Crafts, 2 Homemaking, 3 Industrial Arts, a Wood Shop, Metal Shop and Planning Room. Other facilities include: Auditorium, Gymnasium, Lunchroom, Kitchen, Teachers' Lunchroom, Activity Rooms, Library, Guidance Suite, Health Suite, Faculty Room, Administrative Offices, Life Science Area and Instrumental Practice Rooms.

Colorful Air:Seal airhouse gives added beauty and warmth to this backyard scene while converting the homeowner's outdoor swimming pool for year-round use.

Air Supported STRUCTURES



Realtors at Seattle's exclusive suburban residential development, Valhalla, entertain prospective home buyers inside a white and gold airhouse exposition "hall."

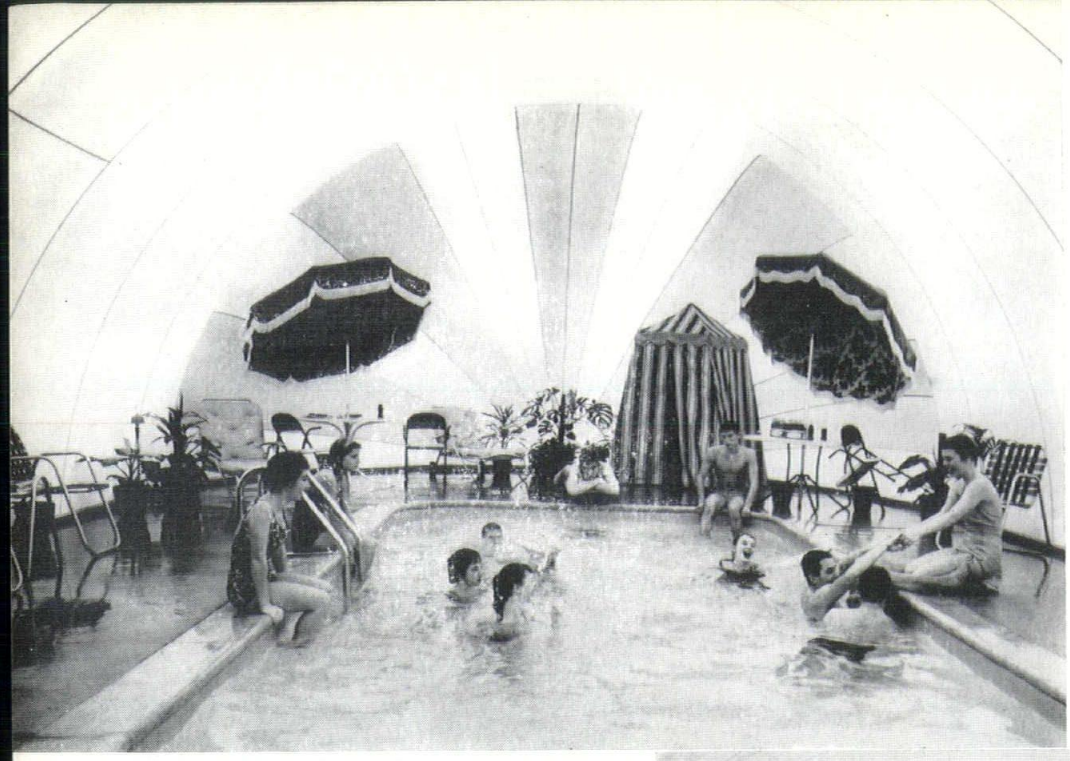
Inclement weather, long a major bug-a-boo for contractors, can now be controlled by the builder at any construction site, thanks to development of practical air-supported structures.

The shelters, called Air:Seal airhouses, are designed to withstand adverse temperatures, near hurricane force winds and other extreme climatic conditions while protecting workmen and equipment inside.

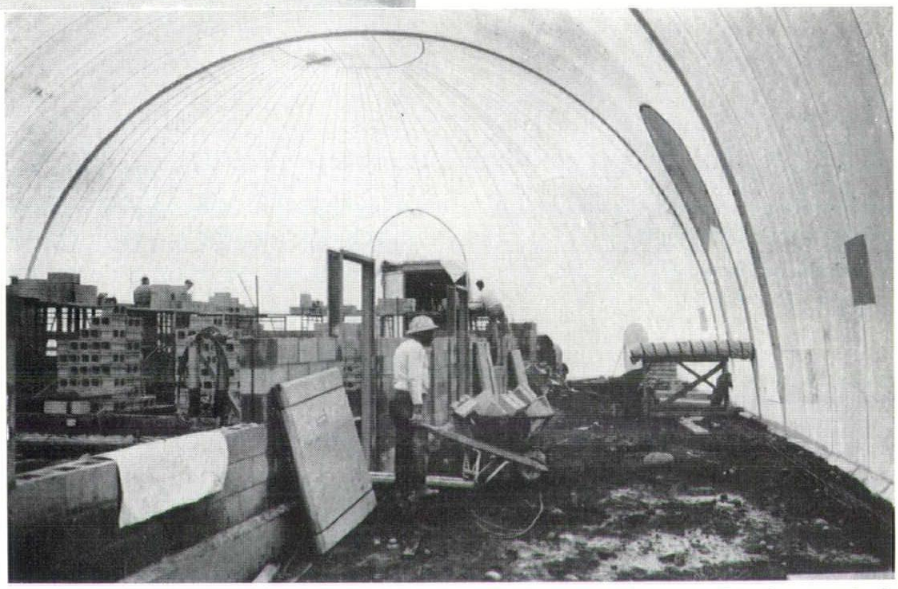
Supported solely by air pressure, the vinyl impregnated nylon domes have no interior props or poles to interfere with the work being conducted inside.

During a recent job at Larson Air Force Base, Moses Lake, Washington, contractor Leslie-Miller of Fort Worth, Texas, erected an Air:Seal airhouse over buildings under construction. Designed and fabricated by Seattle Tent & Awning Company, Seattle, Washington, the 60 x 110-foot "house" was moved from site to site to cover a series of 35 x 85-foot buildings. Remaining space was utilized to accommodate materials and equipment and provide ample working area.

(Continued on page 18)



"LET IT SNOW," these happy swimmers seem to say as they enjoy year-round summer-like temperatures inside a Seattle Tent & Awning Company Air:Seal airhouse. The dome-like structures are designed to withstand adverse weather conditions while protecting funseekers from the elements.



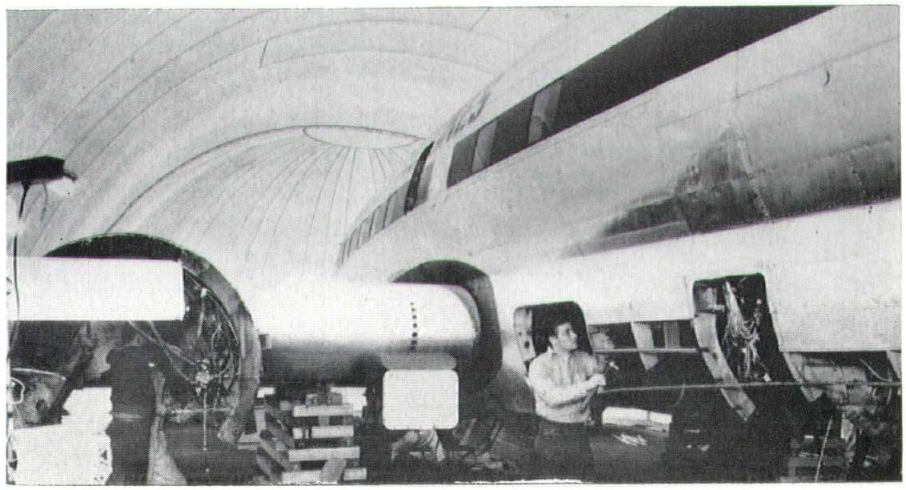
"UNDERCOVER MEN" — Despite winter weather, mechanics work in comfort inside an Air:Seal airhouse while overhauling a twin engine airliner. The dome-like shelter is supported solely by air pressure from two electric fans.

Despite outside temperatures as low as five degrees, temperature control inside the airhouse allowed mixing and aging of mortar at the government-required temperature of 42 degrees. Interior heat was maintained by a 450,000 BTU portable heater which also supplied air pressure to support the structure. Two cage type blowers supplied pressure when the heater was not in use.

The airhouses are fastened to the ground by one of three methods: interlocking metal ballast strips bolted to a concrete foundation, or by a pipe ballast ring attached by cables to either deep soil spears or to a number of large wooden pallets weighted down with sand bags.

In addition to savings made possible to contractors through drastic reduction of lost time, Air:Seal airhouses offer the lowest per square foot cost ($1–$1.50) for any known building.

Other industrial applications range from temporary and semi-permanent warehouses to maintenance hangars for aircraft repairs. In addition Air:Seal airhouses are widely used in converting outdoor swimming pools for year-round enjoyment.



WEATHER CONTROL — Despite outside temperatures as low as five degrees above zero at this Larson Air Force Base, Moses Lake, Washington, construction site, work goes on uninterrupted under a giant Air:Seal airhouse.

FORMICA MOVES OUT OF THE KITCHEN . . . to every room in the house

Wipe wood lightly with paint, then rub for an attractive softly tinted woodgrain appearance. This is the effect of the Formica ® color grains — blue and gray — used in horizontal random width planks in this attractive family room. Notice the pass through to the kitchen, and the "all-in-one" radio-television-hi-fi area. Drawer fronts and counters are covered with Formica, as are the tables. Thus, Early American charm is combined with modern laminated plastic to create a room which is cozy, attractive and easy to clean.

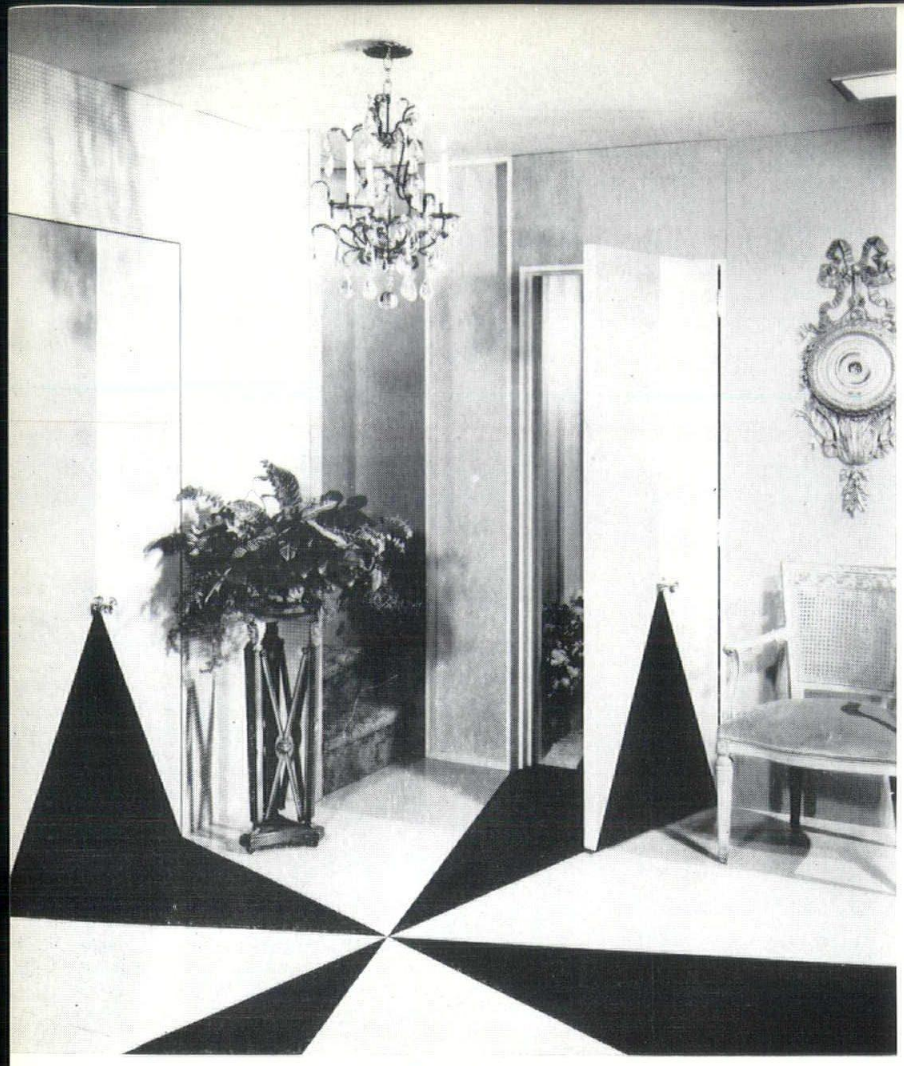
Bold brass strips divide panels of Formica's Antique Milano with its appearance of fine Roman stone in this attractive living room. Formica® is also used on the bookcase which adjoins the fireplace and the louvered room divider. A special Formica "artlay" in a Japanese obi design appears on a custom built cocktail table.

Almost unheard of at the end of World War II, Formica® laminated plastic has become one of the nation's top building materials.

In the building boom of the late 40's and early 50's, Formica was used in new home construction throughout the country, but primarily on counter tops and areas where foods are frequently spilled and which require easy maintenance.

Today, Formica is used not only on the counter top, but on the walls of the kitchen as well. It has moved out of the kitchen, too, into the bathroom, the playroom, living room.

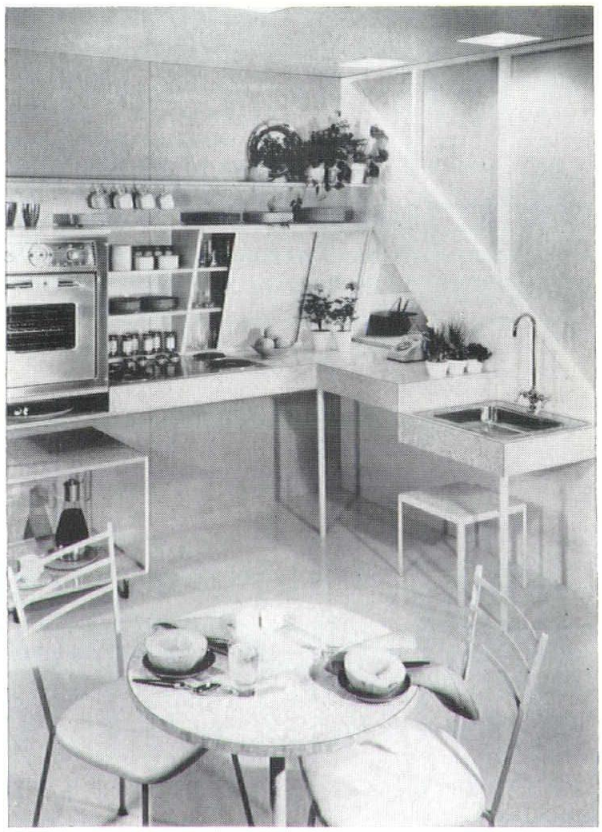
(Continued on page 20)



Here is a lovely entrance hall with all the elegance of a European castle, plus the durability and easy maintenance of miracle materials. Formica® covers the doors and walls, and a vinyl flooring is used to dramatize the diamond effect of Formica on the doors.

20th Century materials unite with Victorian elegance in this attractive twin Vanitory surfaced with Formica®. A Formica Picwood surfaces the drawer fronts and sides, while Formica Frost covers the counter top and wall surfaces. The coach lamps offer the final touch to the 19th Century atmosphere.

The clean airy lines of Modern Danish are the key to this attractive kitchen with its free standing cabinets. Formica® Nassau covers the surfaces of the counter and kitchen table, as well as the serving cart which stores beneath the counter. A Formica woodgrain on the wall and cabinet fronts adds a note of attractive contrast.



In fact, Formica is currently being used in residential construction in all areas of the house which are subjected to heavy traffic and the sometimes uncontrollable impulses of small fry.

Now available in more than 85 different colors, picwood grains and stylized designs of Raymond Loewy Associates, internationally known product designers.

Today some of America's finest furniture is surfaced with Formica picwoods that convey all the splendor, depth and charm of fine woods.

Formica picwoods have been used for wall paneling to give a room the luxurious feeling of wood, yet still is practical. Antique Milano, which gives the appearance of fine Roman stone, is good to use in living rooms and foyers and other formal rooms.

When wood is wiped lightly with paint, then rubbed for an attractive softly tinted woodgrain appearance, you get the same effect as the Formica color grains. Used in horizontal random width planks, this material is attractive when used in the family room.

Because Formica is moisture resistant and easy to clean with a damp cloth, it is an ideal material for laundry rooms, and for work and hobby rooms.

Throughout the house, whether it be used in basement playroom, mudroom or in a formal living room or bedroom, Formica lends beauty to any room and will last for many years to come.

Its carefree maintenance makes life easier for the homemaker.

Courtesy The Mosaic Tile Company — Residential entrance. In this entrance, designed by Wm. Pahlmann Associates, Byzan tile mosaics have been effectively used.

DECORATIVE TILES - PART IV

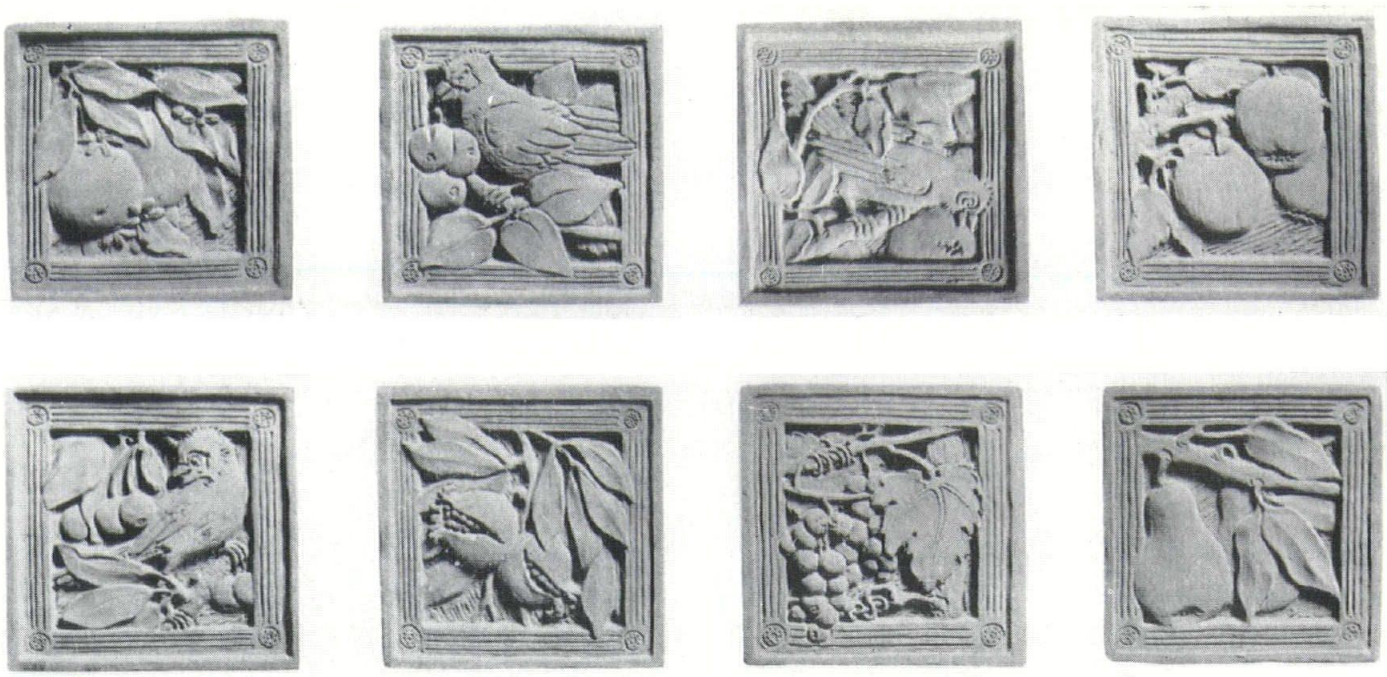
(CONCLUSION)

Their Contribution to Architecture and Ceramic Art

by E. STANLEY WIRES

The later development of the tile industry in the United States

The development of decorative tiles in the United States gained great headway in the first quarter of the 20th Century. A welcome phenomenon was the appreciation of color which led to the use of faience tiles for an ever-widening variety of purposes. Designs were applied by the raised and incised process, where the decorating was done by hand. Of lesser importance were the silk screen process and the use of decalcomania transfers. This was the heyday for companies that specialized in the production of hand-decorated faience tile and allied forms of decoration: the American Encaustic Tiling Co., Mosaic Tile Company, Gladding McBean and Co., and the small potteries with their individual talented designers.



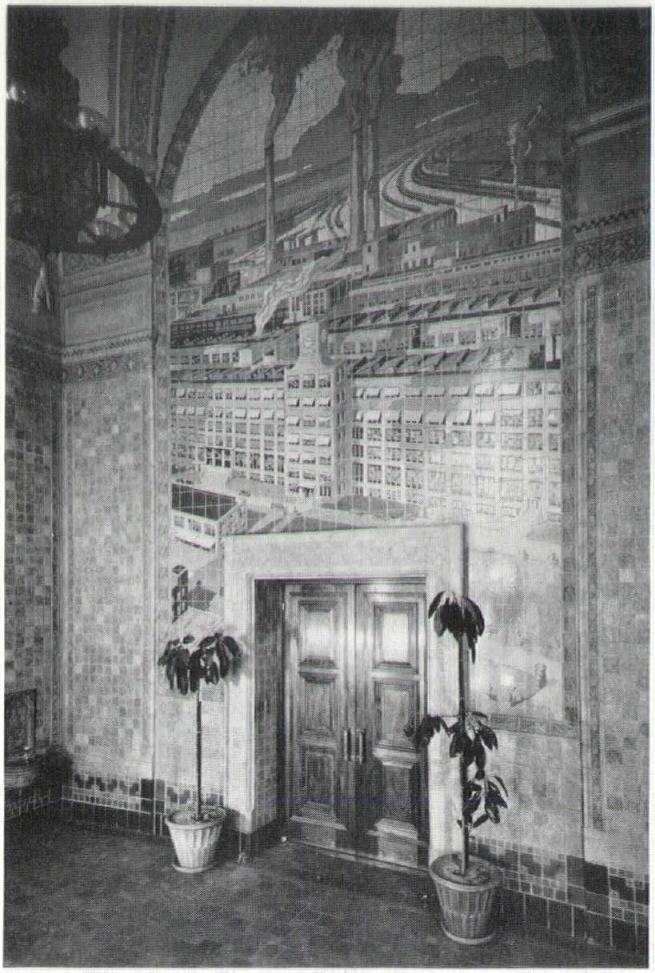
Batchelder Tiles — Batchelder-Wilson Co., Los Angeles, California

Batchelder Tile Fountain Design by Ernest O. Batchelder

With business depression came a reduction in spending power and mechanical devices began to replace hand-made techniques. World War II intervened and perhaps what was most important a drastic change took place in our schools of Architecture. A strong creative trend calling for the use of new materials and the elimination of expensive decoration appeared. When the resultant peace-time adjustments faced the industry the manufacturers united to organize an industry-wide promotion campaign. In 1945 the Tile Council of America came into existence.

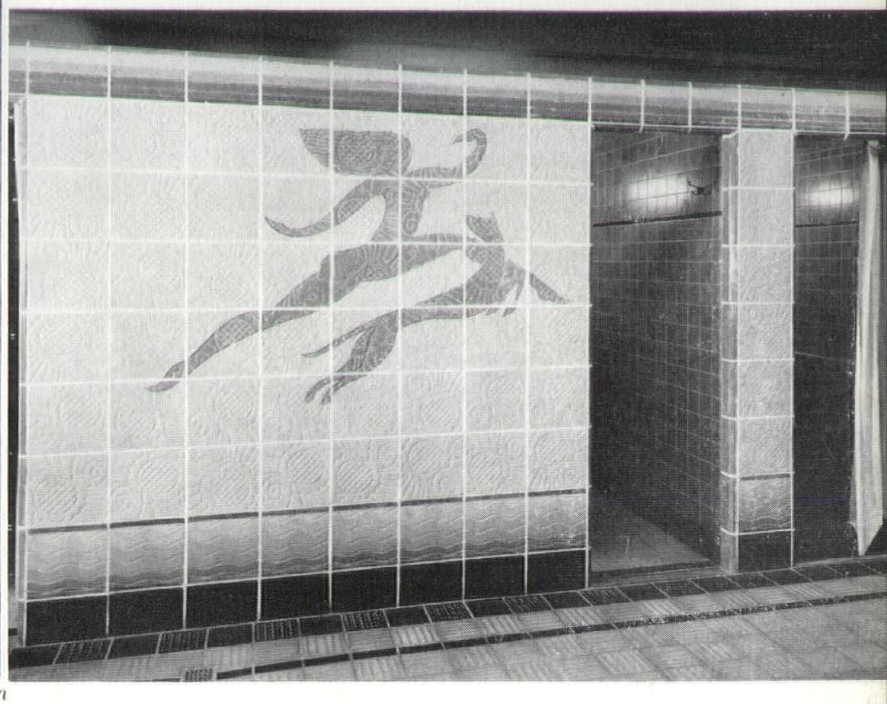
The initial membership was composed of manufacturers representing ninety per cent of the industry. A list of these member companies, as well as the non-associated companies, will be found on page 31. The Council developed many functions, including a well-rounded advertising program; participation in national exhibits; a close association with architectural projects; a scholarship plan in conjunction with many schools of architecture; the publication of promotional and educational material and the building of its own research center in Princeton, New Jersey.

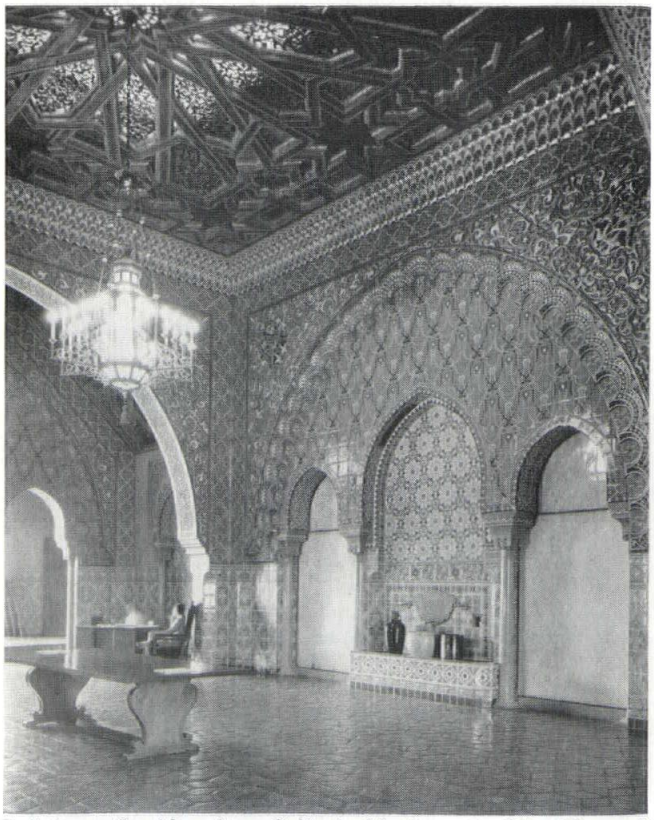
Faience Tile Fountain and floor. Installation by the Tile Shop



Faience Tile Mural, Firestone Rubber Company — Special design by Gladding, McBean & Company

Bath-house Lobby, Agua Caliente, Mexico. Architect Wayne D. McAllister. Faience Wainscot, panels and floor by Gladding, McBean & Company





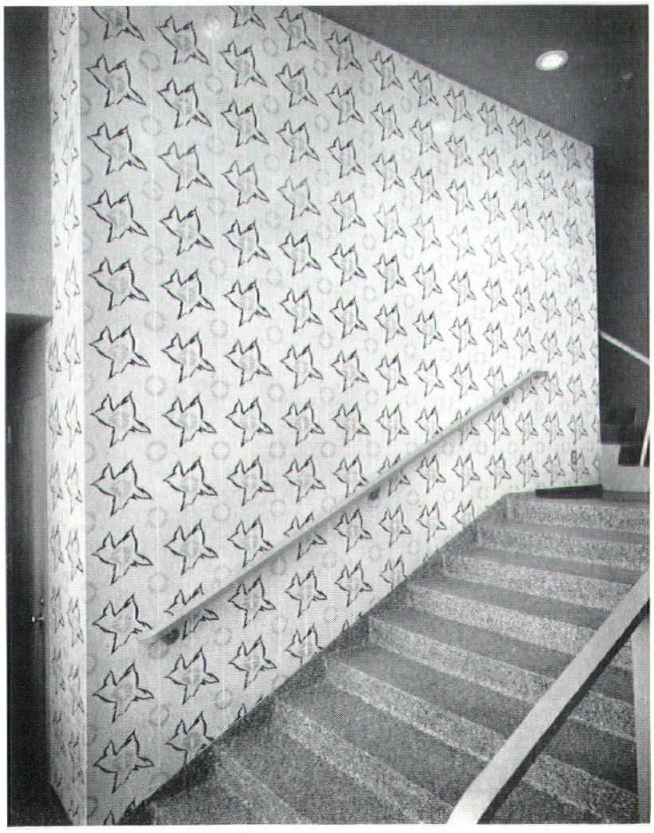
Bath-house Corridor, Agua Caliente, Mexico — Architect Wayne D. McAllister. Special faience design by Gladding, McBean & Company

The research program of the tile industry was started in the early thirties as a joint project of the Tile Contractors' Association of America and the Associated Tile Manufacturers' Association. This program was organized by the scientific research committee, the members of which were D. P. Forst, Robertson Art Tile Co., H. R. Cole, secretary of the Tile Contractors' Association and the writer E. Stanley Wires. The work was done under the direction of Professor John Kauffman in the Ceramics building at Rutgers University. The investigation of many projects was undertaken: the prevention of crazing; new type bonding mortars; tests of glazed tiles for exterior and heavy-duty use. Many research bulletins of great value to the industry were subsequently published.

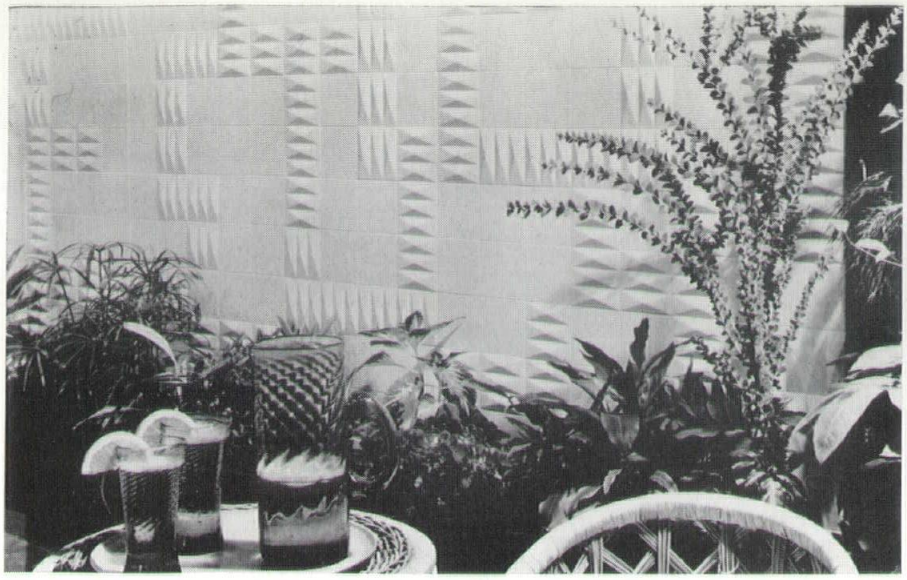
Courtesy of the Tile Council of America, Inc.

The Tile Council's present research program is under the able leadership of its research director, Dr. J. Vincent Fitzgerald. The new center has already stepped-up many new programs, resulting in improved installation techniques and expanded uses of tile. The tile companies have striven for mechanical perfection in their products. Talc has replaced clay. Spacing lugs have been placed on the edges of the tiles. Ceramic sheets have been back-mounted to eliminate the removal of the mounting paper. Prefabricating techniques, including tilt-up panels, have been developed. In the field of installation, drastic changes have taken place through the use of thin setting beds and waterproof adhesives. New dry-set mortars requiring no pre-soaking of tile have been developed.

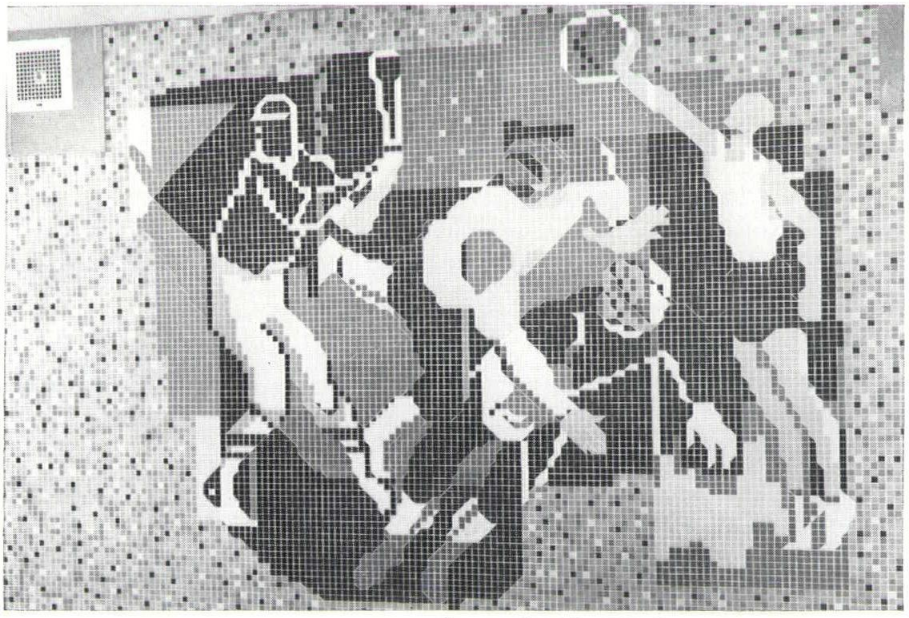
During the last few years the tile industry has entered more and more into the area of architectural relations, with emphasis on architects, students, contractors, and decorators. By 1950 a gradual demand for color variation became apparent, and it was necessary to eliminate certain characteristics of faience before decorative motifs could be devised. This was in line with the new contemporary trend.



Courtesy of the Pacific Tile and Porcelain Company

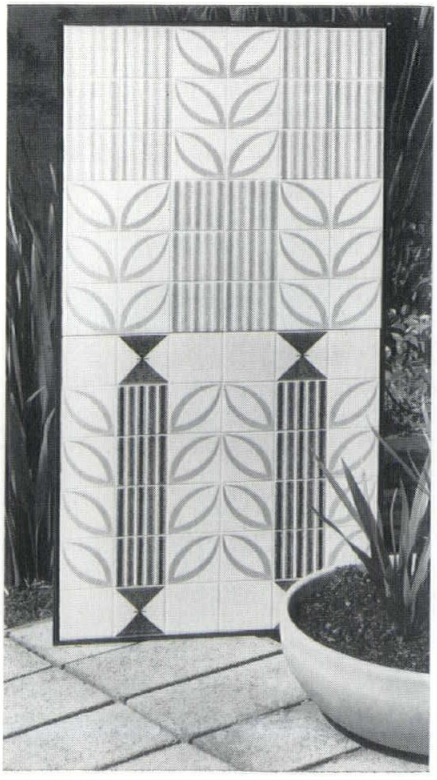


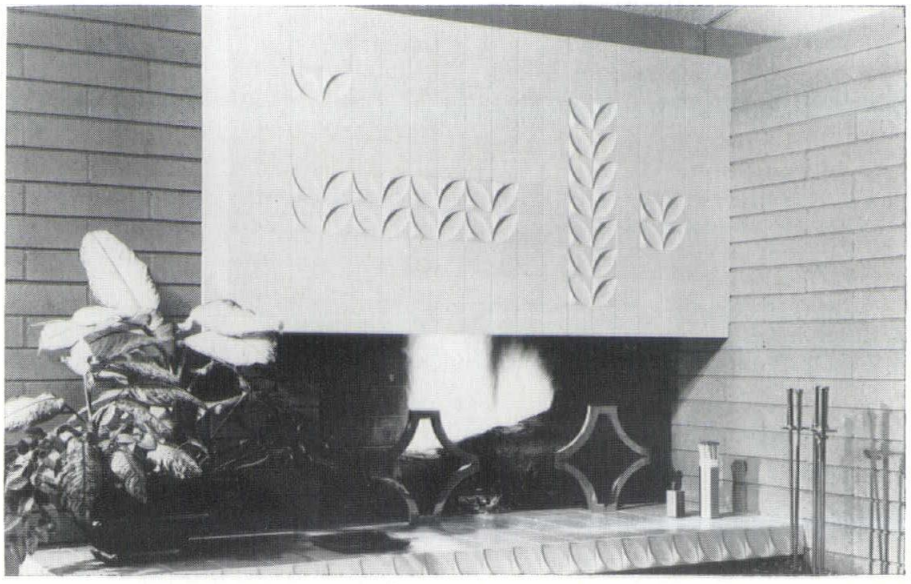
Sculptured tiles — by Pomona Tile Manufacturing Co.



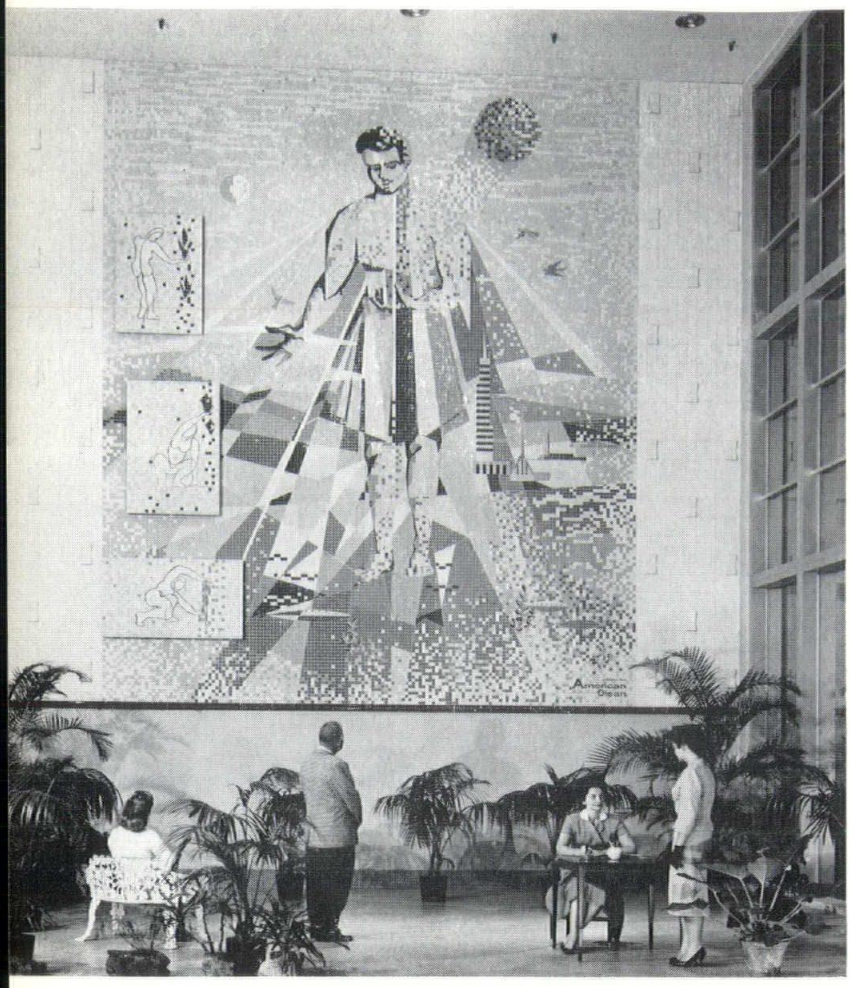
Courtesy of The Tile Council of America, Inc.

Ceratile Panel — Courtesy Pacific Tile and Porcelain Company



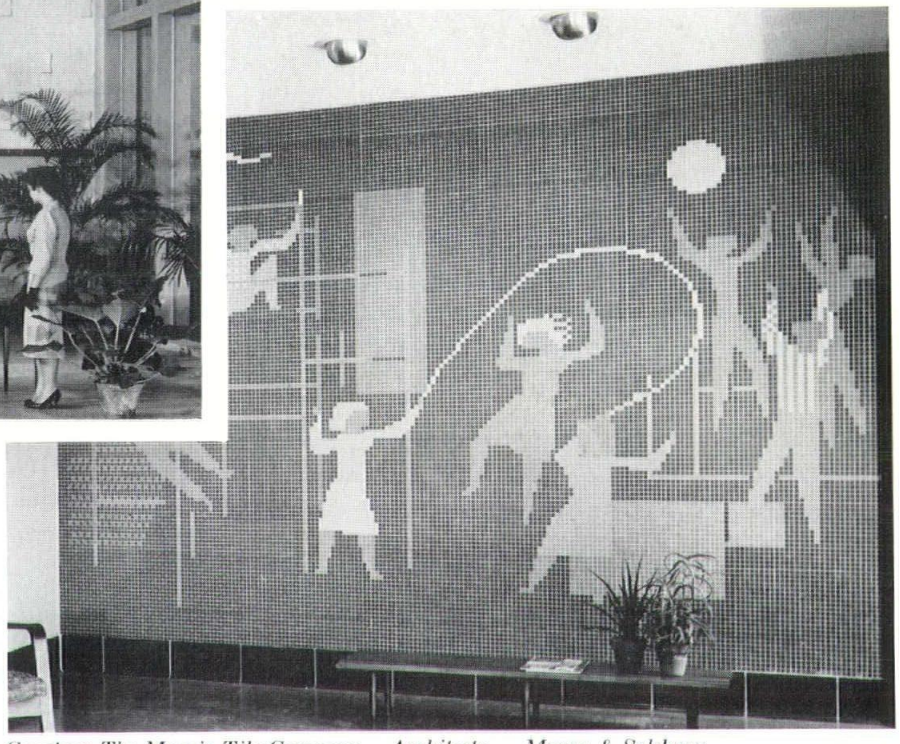


Sculptured tiles — by Pomona Tile Manufacturing Co.



Courtesy American Olean Tile Company. Kenneth E. Froberg — Director of Design

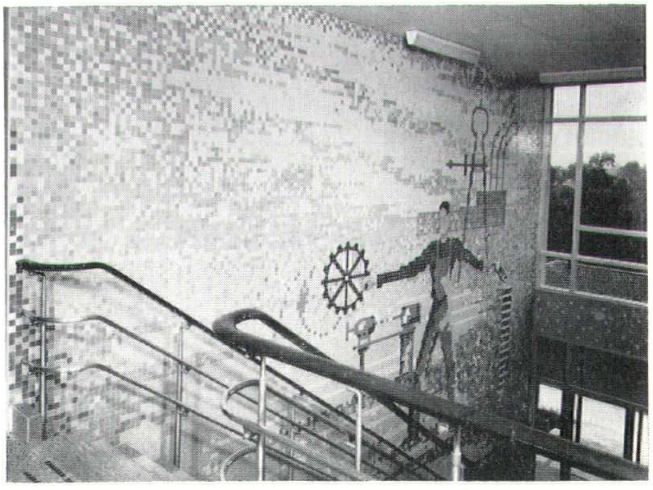
This colorful mural, made up of 33,000 pieces of glazed ceramic tile is located in the DuPont Plaza Center, Miami. It illustrated the use of a material offered the architect for unlimited creative design



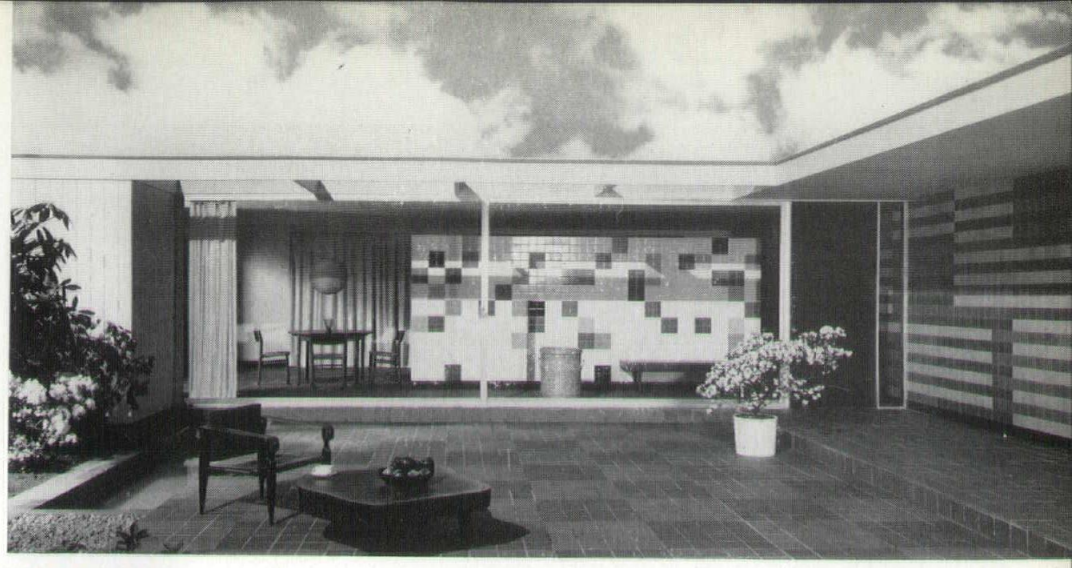
Courtesy The Mosaic Tile Company. Architects — Moore & Salsbury. Ceramic Tile Mural, Whiting Lane School.

The demand for richness of pattern and permanence of color is being provided through the inherent qualities of ceramic mosaics. We are beginning to see the use of this material in every area of building activity, resulting in a great increase in exterior decoration. Patterns and medleys, as well as murals, are being applied to building exteriors and interiors.

The early production of ceramic mosaics was largely for utilitarian purposes, but gradually the variety of units has been increased. Over 200 colors, ranging from dark to pastel shades, now give the creative architect a great amount of material to work with. Several of the tile manufacturers have pioneered in the field with their Formfree Mosaics; Byzantine Mosaics; Reflecta Tile; Ceratile; Spivak Ceramics and the new sculptured or three-dimensional wall tiles. They also have furnished the architect with professional design service.



Williamson Trade School, Media, Pa. Courtesy of American Olean Tile Company



Courtesy the Tile Council of America, Inc.

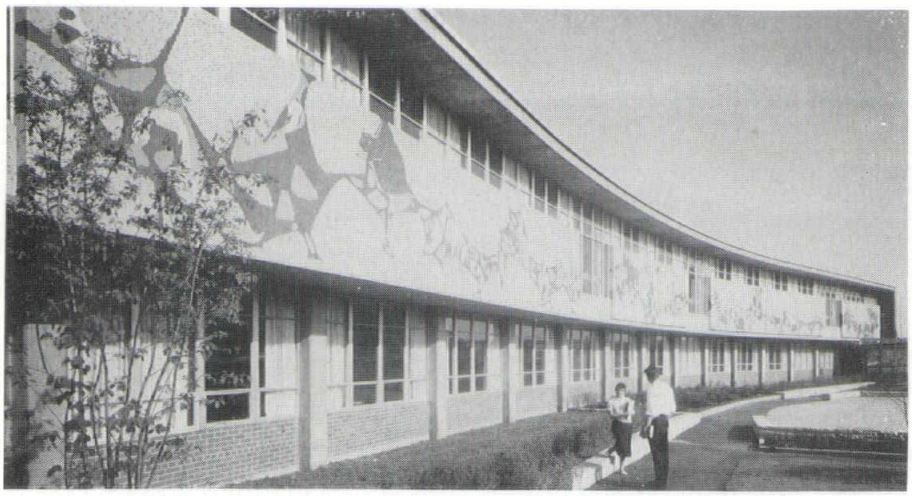
Walter Gropius and The Architects Collaborative have achieved an interesting play of color and line in this modern home entrance.

Our very own tiles . . . two little girls of the elementary school in Taunton, Massachusetts point to their own tiles in a mural in which the pupils of the school participated.

Kenneth Gale, for example, has been associated with the Mosaic Tile Company since 1926. He studied at the Chicago Art Institute for four years and subsequently spent a year of study in Europe. He became an outstanding designer of faience decoration and is to be credited for much of the design work produced by his company. Harry J. Macke (1890–1959) received his early training as a designer of wood carving in his father's church furniture factory. He spent four years of study at the Cincinnati Art Academy where his work included painting and sculpture. After spending a year of study in Paris he returned to become a tile designer for the Rookwood Pottery, Cincinnati. From there he joined the Cambridge Tile Manufacturing Co., Cincinnati, to remain as art consultant for thirty-two years. He was a talented artist, dedicated

Courtesy The Architects Collaborative — Partner in charge, Louis A. McMillen

Main entrance, Hallmark Building, Kansas City, Missouri. Ceramic mosaic — American Olean Tile Company — Architects: Welton Becket Associates.



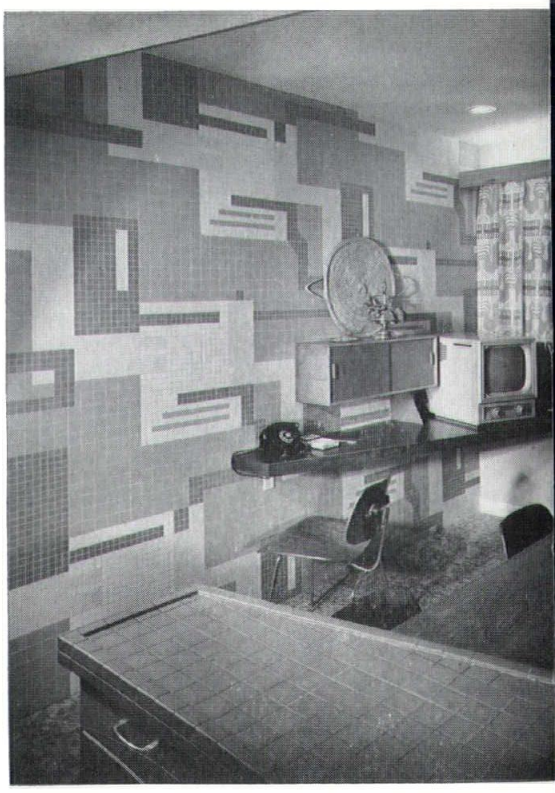
Courtesy The Cambridge Tile Mfg. Company. Proviso High School — Chicago, Illinois, Architects — Perkins & Will.

Courtesy American Olean Tile Company — A patio setting designed by Emily Malino Associates

to his work. Arthur D. Pickett studied architecture at the University of Illinois, but gave up his architectural practice to become a tile designer and consultant, eight years of which were spent with the Associated Tile Manufacturers. He then became associated with The Sparta Ceramic Co., and through his efforts this company became an important factor in the industry. Probably no other tile designer foresaw as he did, the important place ceramic mosaics would take in the fields of architecture and decoration.

As to the future increase in the use of tile decoration, we should first note the general growth of the industry during the last forty years. From 1922 to 1959 the production value of ceramic tile has increased from about $12,000,000 to $141,000,000. In 1959 over 257,000,000 square feet of tile was produced in this country.

For the immediate years ahead we only need to visualize the coming revolution in consumer wants, population expansion, increased educational facilities and a large expenditure in national research to realize the possibilities in a decade of spectacular progress. To be sure, the tile companies must rise to the challenge of our time and with the architectural profession meet these requirements.



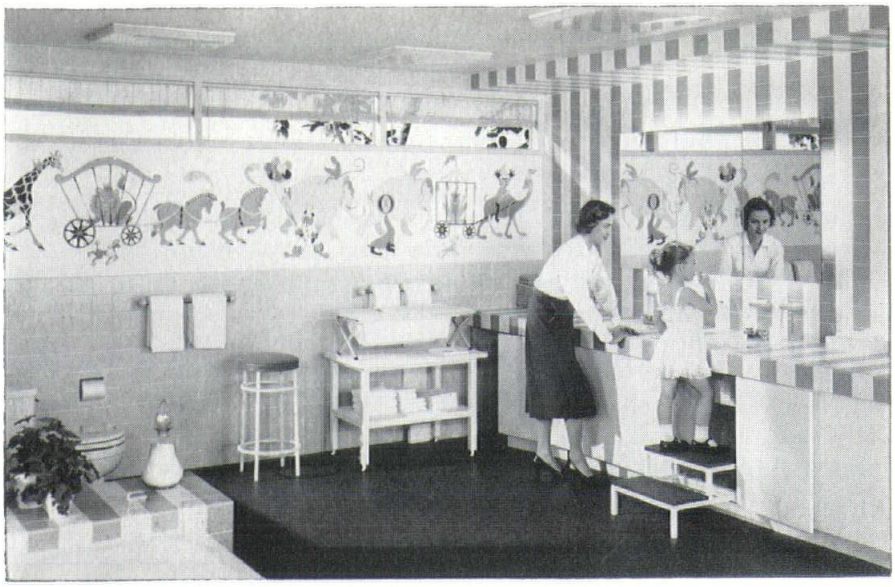
This sitting-room end of the kitchen invites informal living and the Industrial Designer Woodie Garber has added color and interest with his blue and yellow mural

In completing the four periods covering the history of tile decoration, the writer wishes to thank his many friends in the tile industry and in the field of ceramics, who have furnished much information, printed matter and photographs from which the illustrations have been made. Comparatively little has been written on this subject, but recognition should go to two men for their outstanding contribution to this field of ceramic art: Mr. Arthur Lane, Keeper of the Department of Ceramics, Victoria and Albert Museum, London, England; and Professor Rexford Newcomb, former Dean of the College of Fine and Applied Arts, University of Illinois.

Examples of the tiles illustrated can be found in the great museums and a few private collections. The collectors should realize that decorative tiles do not necessarily have to be old to be beautiful and that they should collect for art or historical study, not just for their own enjoyment. In this way they will be contributing to the pleasure and instruction of succeeding generations.

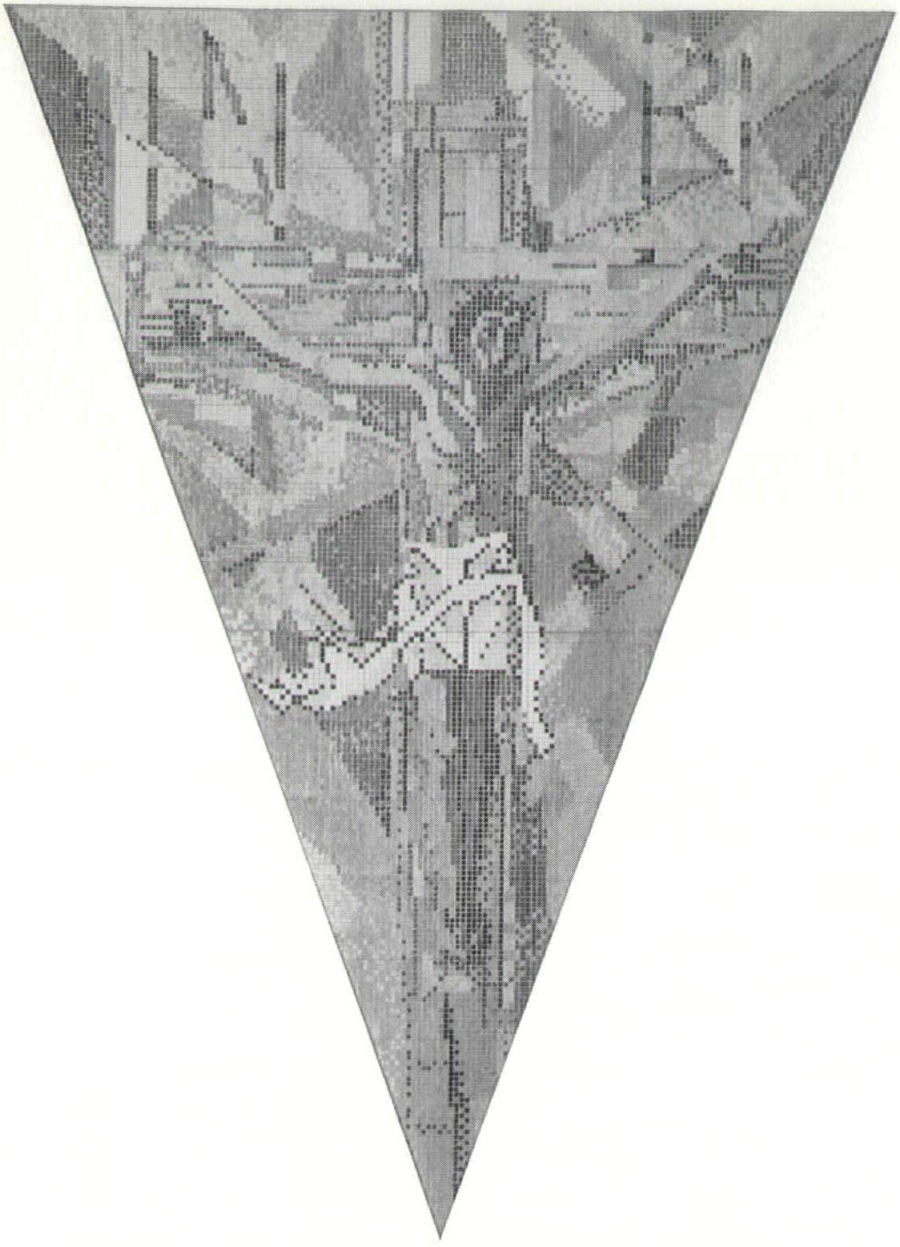
Palm Beach Towers, Florida. Ceramic-mosaic by Stylon Corporation. Architect — John Hans Graham

Courtesy the Cambridge Tile Mfg. Co. and House Beautiful



Courtesy American Olean Tile Company.
This "Circus Bathroom" is typical of the delightful effects that can be achieved with standard tile sizes and colors.

Courtesy American Olean Tile Company.
Detail Child's Bathroom.



Courtesy the Cambridge Tile Mfg. Company. St. Andrew's Church, Columbus, Ohio. Muralist — Charles Madden

Tile Council

Participating Companies

American Encaustic Tiling Company
Lansdale, Pennsylvania

Atlantic Tile Manufacturing Company
Matawan, New Jersey

Aztec Ceramics, Inc.
San Antonio, Texas

Cambridge Tile Manufacturing Co.
Cincinnati, Ohio

Carlyle Tile Company
Ironton, Ohio

Continental Ceramics Corporation
Biglerville, Pennsylvania

General Tile Company
El Segundo, California

Gladding, McBean & Co.
Los Angeles, California

Hood Ceramic Corporation
Daisy, Tennessee

Jackson Tile Manufacturing Co.
Jackson, Mississippi

Jordan Tile Manufacturing Co.
Corona, California

Lone Star Ceramics Co.
Dallas, Texas

Monarch Tile Manufacturing, Inc.
San Angelo, Texas

Mosaic Tile Company
Zanesville, Ohio

Murray Tile Company, Inc.
Cloverport, Kentucky

National Tile & Manufacturing Co.
Anderson, Indiana

Olean Tile Company
Olean, New York

Oxford Tile Company
Cambridge, Ohio

Pacific Tile & Porcelain Co.
Paramount, California

Pomona Tile Manufacturing Co.
Los Angeles, California

Redondo Tile Company
Redondo Beach, California

Ridgeway Tile Company
Gettysburg, Pennsylvania

Robertson Manufacturing Company
Trenton, New Jersey

Stylon Corporation
Milford, Massachusetts

Stylon Southern Corporation
Florence, Alabama

Summitville Tiles, Inc.
Summitville, Ohio

Texeramics, Inc.
Mineral Wells, Texas

Wenczel Tile Company
Trenton, New Jersey

Winburn Tile Manufacturing Co.
Little Rock, Arkansas

**Non-Participating Companies*

Architectural Tiling Company, Inc.
Keyport, New Jersey

Moravian Pottery & Tile Works
Doylestown, Pa.

Nemadji Tile & Pottery
Moose Lake, Minnesota

Sparta Ceramic Company
East Sparta, Ohio

United States Ceramic Tile Company
Canton, Ohio

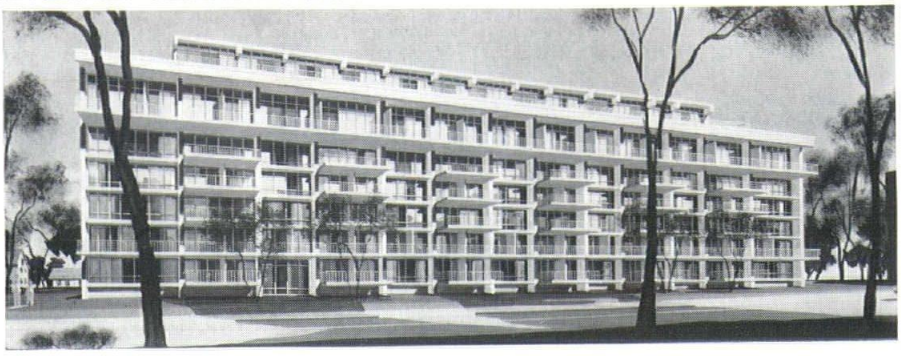
Wheeling Tile Company
Wheeling, West Virginia

* Partial List — About 20 small potteries are not listed.

Bulletin DIGEST

AS COMPILED BY M. PATRICIA WILLIAMS, ASSOCIATE EDITOR

RIVERVIEW REDEVELOPMENT



Apartment house to be built on the Riverview Redevelopment Project area at the corner of Mt. Auburn and Sparks Streets, directly opposite the Harvard Stadium. The Cambridge Redevelopment Authority is selling the land to the First Realty Co. of Boston, Inc., which expects the new buildings to cost $1,750,000.

Plans for the construction of a two-acre $1,750,000 garden park with new apartments on the Riverview Redevelopment Project overlooking the Charles River at Mt. Auburn and Sparks Streets, in Cambridge, directly across the river from Harvard Stadium, were announced recently by the Cambridge Redevelopment Authority.

John A. Lunn, Chairman of the Authority, said the First Realty Co. of Boston, Inc., of which Max Kargman is president, plans to start construction within a few months.

Mr. Kargman stated that he will build 63 apartments in an elevator-serviced building facing the Charles River; a low building containing 14 apartments; a 30,000 square foot underground garage with parking space for each of the 77 apartments; and a 25,000 square foot open garden separating the apartment building from neighboring homes.

Harris and Freeman of Cambridge are the architects and the Turner Construction Company of Boston are the builders.

The Riverview Redevelopment Project has displaced 12 families, five individuals and six commercial firms. The area from which all buildings have been cleared formerly was 77% commercial and 23% residential. This same area will be 100% residential when the new garden park is completed.

WILKINS ELECTED PRESIDENT

At a meeting of the Board of Directors on March 22, 1960, Ralph A. Wilkins was elected the fifth president of Bird & Son, Inc. He takes office immediately, succeeding Axel H. Anderson who is retiring under the provisions of the company's retirement plan.

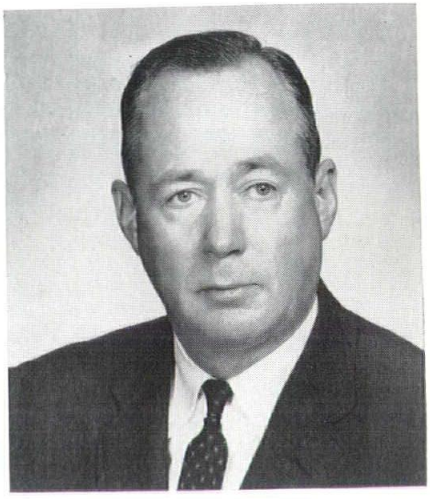
Mr. Wilkins has had a long career with Bird & Son, Inc., dating from 1923 when he was engaged as assistant superintendent of the Paper Mill. He has been vice president of the Paper Products and Felt Division for 13 years and executive vice president since January, 1960. Prior to being vice president he was Paper Mill Superintendent for five years and general superintendent of the Paper, Box and Carton Divisions for eleven years.

He is a member of the Board of Directors of Bird & Son, Inc., Bird Machine Co., Berry Refining Co., the George W. Dinsmoor Company, of Lawrence, and W. J. Hill, Inc., of East Walpole. He is also president of the George W. Dinsmoor Company, which is a subsidiary of Bird & Son, Inc.

A distinguished alumnus of the University of Maine, Class of 1919, Mr. Wilkins is treasurer of the University of Maine Pulp and Paper Foundation. He also serves as a member of the executive committee of the Fibre Conservation Corporation and is a director of both the Fibre Box Association and the Eastern Conservation Committee of the Waste Paper Consuming Industries.

NEW GENERAL MANAGER

Bird & Son, Inc., East Walpole, Massachusetts, has announced that Richard H. Emerson has been named the new general western manager at Chicago.



He is a former resident of Wellesley, Massachusetts, and has been assistant general manager of the Western Division since last November. Prior to that he was sales manager of the New England District of the Building Materials Division for eight years. He is a graduate of Yale University, Class of 1932. From 1933 to 1951 he was a sales correspondent, then a salesman for Bird & Son, Inc. His first territory was in Pennsylvania. Later he transferred to Connecticut and it was from this position that he was advanced to sales manager of the New England District in 1951.

PARTNERSHIP

Word received from Walter E. Damuck and Kelton C. Painchaud of Madison, Connecticut, of the formation of a partnership and continuing the services of Carleton B.

Ryder. The new firm will practice under the firm name of Damuck and Painchaud, Architects.

NEW ASSOCIATION

Joseph D. Leland, Fellow of the American Institute of Architects, has voluntarily discontinued his connection as consultant to the firm of Leland, Larsen, Bradley and Hibbard, Architects. Mr. Leland is pleased to announce that he is now practicing architecture at the offices of Kilham, Hopkins, Greeley and Brodie, Architects, Arlington Street, Boston.

STAINED GLASS CONFERENCE

The Stain Glass Association of America will hold its 51st annual conference on June 21, 22 and 23 in Cleveland, Ohio.

One of the feature events will be the biannual Apprentice Competition. Stained glass panels, designed and made by young persons learning the intricacies of this ancient craft in American studios, will be exhibited and judged.

A record attendance of world renowned artists and craftsmen is expected.

PARTNERSHIP ANNOUNCED

Gordon B. Griswold

Ralph T. Rowland, Architect, of 5 Ives Street, Hamden, Connecticut, has announced the formation of a partnership with Gordon B. Griswold, Architect, of Stratford, Connecticut. The new firm will be known as Rowland and Griswold, Architects, and will be located at the Hamden address.

Mr. Griswold is a graduate of Yale University, 1950, and of the Yale University School of Fine Arts, Department of Architecture, 1953. For the past five years he has been an architect with the office of Fletcher-Thompson, Inc., of Bridgeport, and has been instrumental in the design of schools, churches, commercial and industrial buildings, including the Stamford Catholic High School and the Whitehead Metals Co. Office Bldg., Syracuse, N. Y.

Mr. Griswold is a Registered Architect in Connecticut and is a member of the Connecticut Society of Architects and the Yale Club of Eastern Fairfield County. He and Mrs. Griswold reside at 4561 Main Street in Stratford. They have two sons.

Mr. Rowland's office was established in Hamden in 1958, and has been active in the design of commercial buildings, residences and government facilities. At present the office is engaged in the design of the new Mutual of Omaha regional office building in Hamden, as well as various facilities at the U. S. Naval Submarine Base in New London.

(Continued on page 39)

New State Organization

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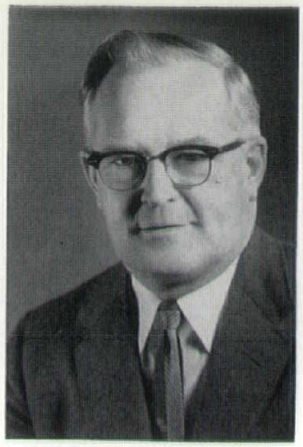
Brick Service & Development Assoc. for Connecticut



BILL BLISS
Executive Director

Newly-developed service activities, to assist the building trades in promotion of all phases of brick application, is planned by the Brick Service & Development Association, Inc. of Connecticut.

The announcement of the formation of the new state organization, first of its kind in New England, was made by Joseph Kane, the first president, and also president of the Michael Kane Brick Company, of Middletown.

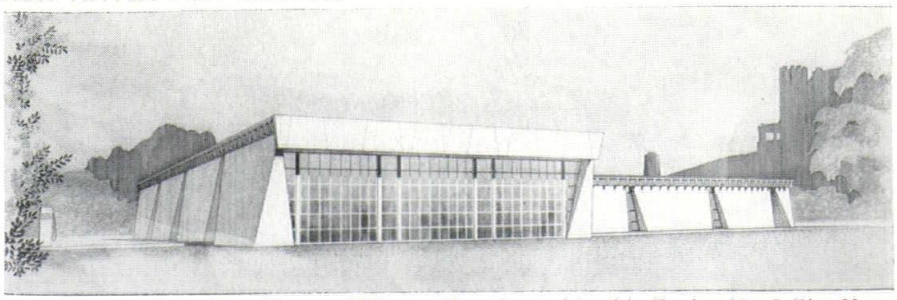
Connecticut brick company executives, prominent in the new Brick Service and Development Association, Inc., are shown above at a recent meeting where final details relating to the organization were formalized. Standing, left to right, are W. H. Bliss, executive director; Stephen Donnelly, Sr., president, and Henry Rose, vice president, the Donnelly Brick Co., New Britain; Alfred Paolella, general manager, the Stiles Corporation, North Haven; Thomas Birch, manager, and Samuel Ferguson, president, the Kelsey Ferguson Brick Co., South Windsor. Seated, left to right, are George N. Tolman, Jr., sales manager, the Stiles Corporation, and Association secretary; M. Joseph Kane, president, the Michael Kane Brick Co., Middletown, and Association president, and Stephen Donnelly, Jr., sales manager, Donnelly Brick Co., and Association treasurer.

Other officers of the Association are George N. Tolman, Jr., secretary, and manager, Stiles Corporation, North Haven, and Stephen Donnelly, treasurer, and president of the Donnelly Brick Company, New Britain. Messrs. Kane and Tolman, along with Henry H. Rose, vice-president, Donnelly Brick Co., and Samuel M. Ferguson, president of the Kelsey Ferguson Brick Co., Windsor, comprise the board of management.

Mr. Kane also announced the appointment of William H. Bliss, 14 Samoset Avenue, North Haven, as executive director of the new organization. Mr. Bliss has left his post as client-service executive with Hugh H. Graham & Associates, New Britain, to accept the new position.

(Continued on page 38)

NEW HAVEN FIRE STATION



The "New Look" for New Haven will be greatly enhanced by this Engine No. 5 Fire House which is the first entirely pre-fabricated structure of its kind in this part of the country. The architect was Earl P. Carlin of New Haven.

Something new in the way of fire house design and construction is being pioneered by the City of New Haven, one of the country's leaders in urban redevelopment. Now being erected in the section known as "The Annex," is the first of three stations being planned.

As far as can be determined this is the first entirely prefabricated structure of its kind in this part of the country. The one-story building, in the shape of a "T," is built on a concrete slab with structural wall panels and double-tee beam, prestressed concrete roof. The engine house will have aluminum overhead doors set with glass from ground to roof.

The building, designed by New Haven architect Earl P. Carlin, is a far cry from the two-story red brick, granite trim structures that have been standard, for so many years, in this part of the country.

The attractiveness of this structure is greatly enhanced by the Mo-Sai white quartz facings on the structural wall panels and the cantilever of the double-tee roof beams. The panels were fabricated by the Dextone Company of New Haven and the beams by Blakeslee Prestress of Hamden.

There are no poles to slide down and the comfortable living quarters will open into the equipment garage. There will be a dormitory for twelve men, three officers' rooms, kitchen and dining section and a recreation room.

The cross section of the "T," the apparatus house, has panels 22'9" long by 14' high. They are wedge shape, four feet at the base and six inches at the top. The Mo-Sai facings are 18' x 10'.

The structural panels for the living quarters are 18'9" x 10' and have facings 15'9" x 8'. These are separated to allow for floor-to-ceiling steel framed windows between them. The straight walls are in the interior so that from the outside the windows are recessed except at the roof line.

The double-tee prestressed concrete roof beams were erected by C. W. Blakeslee & Sons, Inc., and fabricated by its prestress division. They are 56' long over the apparatus section so it is not necessary to use piers between the three bays which will house six trucks. In this section the beams act as a ceiling and the spaces between the tees, where they rest on the panels, will be glass.

The L-shape lintel over the engine house door is 56' long and 4' high with a complete white quartz face. The Dextone Co., the creator of Mo-Sai, say that this is the longest single piece of this type of facing ever cast.

The structural engineer on the project was Henry A. Pfisterer of New Haven, the mechanical, Jerome Mueller of Hartford, and the general contractor, Bomarc Construction Co. of Derby.

A close-up of the structural wall panels with Mo-Sai white quartz facings and the cantilever, double tee prestressed concrete roof beams of New Haven's new fire station.

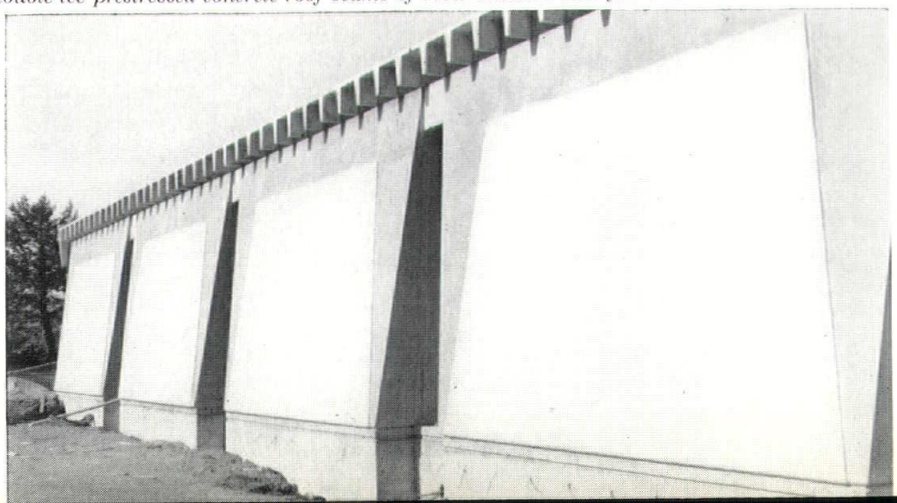


Photo Courtesy of Samuel M. Langston Company

ARCHITECT: SUMNER SCHEIN
BUILDER: LILLY CONSTRUCTION COMPANY

The New Plant of Allied Container Corporation, Dedham, Mass.

Good things come in enormous packages...

... good things, we mean, like the largest container plant in New England, now housed in a new, 200,000 square foot "package" built by Lilly Construction Company.

Every advanced feature available to modern box design and manufacture is included: a completely enclosed railroad siding that can accommodate 14 freight cars ... a corrugator that produces 96-inch board at speeds of up to 750 feet per minute ... a research and development department for devising new packages ... and a ventilating system that changes the air completely every 14 minutes. In just 6 hours of production, the plant could package the entire John Hancock Building, and this production capacity can be doubled whenever future expansion requires it.

Making boxes is big, big business today. The package has to fit, of course, without cramping or waste space; it has to protect the contents; and it has to please the eye. The same applies to building plants — the same necessity for precisely engineered space and beautiful execution. In packaging, the name to trust and to watch is Allied Container; in construction, the name is Lilly.

LILLY
CONSTRUCTION COMPANY
BOSTON

LILLY
construction company

PRIDE IN CRAFTSMANSHIP

BOSTON, MASSACHUSETTS

NEW STATE ORGANIZATION

(Continued from page thirty-five)

Before joining the Graham organization, Bliss, a native of Providence, R. I., was connected with the Winchester-Western Division of Olin Mathieson Chemical Corporation in New Haven for eighteen years, eight of them in the sales organization, and the remainder as assistant sales promotion manager.

A member of the North Haven zoning board of appeals, Mr. Bliss is also zone chairman of district 23A, zone seven, of Lions International, which includes North Haven, Cheshire, Meriden, Wallingford, Hamden and Wolcott. He is a member of the adult educational committee of the New Haven YMCA.

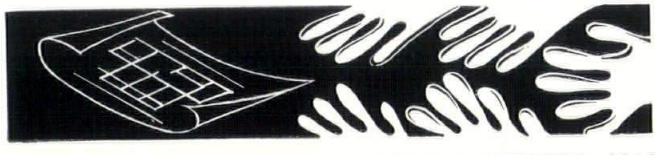
Association President Kane said that Mr. Bliss' broad advertising and sales promotion experience fit him well to assume his new responsibilities, including a wider diffusion of brick construction facts to architects, contractors and home builders, as well as prospective home builders and those contemplating home renovations and improvements.

Connecticut's brick manufacturing industry is an important segment of the state's construction activity, both for home and industrial structures. Connecticut's four brick producing concerns, Stiles Co., North Haven, Donnelly Brick Co., New Britain, Michael Kane Brick Co., Middletown, and Kelsey Ferguson Brick Co., Windsor, all maintain well-equipped and staffed research laboratories.

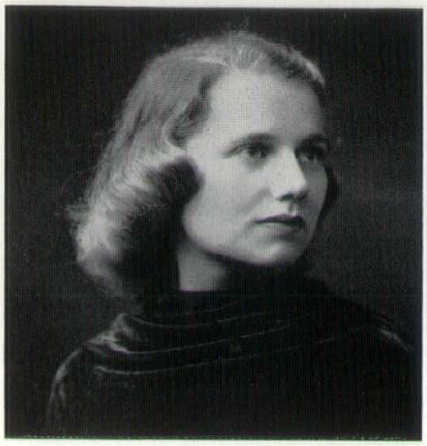
Brick manufacturing facilities in the state are being steadily improved, the most recent advances being directed toward glazed brick manufacture. There are two basic types of brick production, wire cut extruded and moulded, according to President Kane. "Architects, contractors and home builders have at their disposal some 36 colors and textures, from black to white, in various sizes, to choose from," Mr. Kane said.

"The uses of brick beginning with basic construction purposes, are almost unlimited, "Mr. Kane emphasized. "To mention a few are: fireplaces, indoors and out; decorative retain and outdoor walls; patio designs, swimming pools, septic tanks, and home remodeling applications, again both indoors and exteriors, and many others. Constantly-increasing color designs being made available to add to brick's effectiveness, both in the home and in industry," Mr. Kane noted.

Information regarding brick for any type of use can be obtained by writing William H. Bliss, 14 Samoset Avenue, North Haven, Connecticut.



WIC WEDDINGS OF THE YEAR



Maria A. Dellorfano, President of the Boston Chapter of Women In Construction, will be married to Patrick A. Plante on June 25th, at a Nuptial Mass at 11:00 A.M. in Saint Anthony's Church, Cohasset, Mass. The groom's cousin, Reverend George Plante will perform the ceremony and celebrate the Mass. Sixteen seminarians and Right Reverend Russell Davis of Saint John's Seminary in Brighton will sing the Mass. Maria will be given away in marriage by her father, Fred M. Dellorfano. There will be fifteen in the wedding party. The reception will be held at the home of the bride's parents in Cohasset. Four hundred and fifty guests are expected. Miss Dellorfano was graduated from Regis College in 1957. Mr. Plante is a graduate of Wentworth Institute and Northeastern University. He is presently teaching at Cohasset High School. Upon returning from their honeymoon, the couple will reside in their new home in Cohasset.

Theresa M. Kiley, Vice President of Women In Construction of Boston, has announced the wedding of her daughter, Kathryn Kiley to Philip J. Segalla. The ceremony will take place on June 25th at 11:00 A.M. at a Nuptial Mass in St. Mark's Church, Dorchester. The reception will follow at the Boston Club. Miss Kiley is a graduate of Notre Dame Academy and Katherine Labouré School of Nursing. Mr. Segalla, now teaching at Boys' English, is a graduate of Boston College High School and Boston College. The bride will be given away in marriage by her father, John A. Kiley.

ARA MEETING

The Massachusetts Council of the Society of American Registered Architects Inc., announces the appointment of Mr. Edmund Turiello of Revere, Mass., as temporary Chairman and Mr. Henry J. Euler, Jr., of Pittsfield, Mass., as temporary Recorder. Membership is open to all Registered Architects in Massachusetts. Direct all inquiries to either of the above noted persons.

NEW PRODUCTS

ILLUSTRATED BROCHURES ON TRANSLUCENT PANELS

New 8-page brochure on Kalwall Translucent Panel and the Kalwall Panel Unit Wall system gives complete information — including technical details, test data, light transmission — on building with translucency. Also available is a 4-page brochure on Kalwall Skylights and Kalwall Translucent Roofs. Both feature half-size details of the clamp-type installation systems available for all construction requirements.

Brochures are available at no charge from Kalwall Corporation, 43 Union Street, Manchester, New Hampshire.

ANNOUNCEMENT

BRISK WATERPROOFING
COMPANY, INC.
450 Statler Office Building
Boston 16, Mass.

APPOINTED AUTHORIZED
APPLICATORS OF GLAZED CEMENT —
Vitreous Wall Surface
Entire New England Area

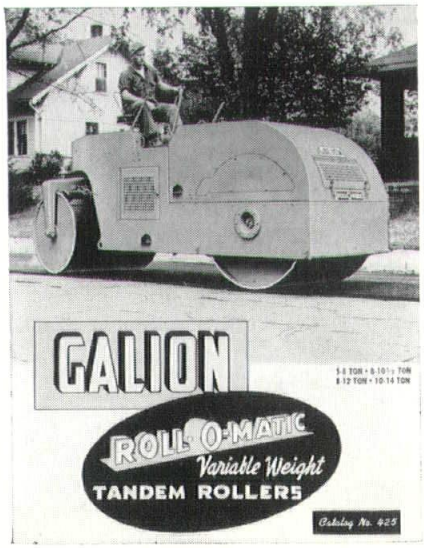
NEW GALION BULLETIN ON SMALL TANDEM ROLLERS

The operating and construction features of Galion's 3 to 5 ton and 4 to 6 ton variable weight tandem rollers are fully described and illustrated in Bulletin No. 435.

Also described is a pneumatic-tire towing attachment for the 3–5 ton size roller. This hydraulically operated towing attachment permits the roller to be towed from job to job by any truck.

The Galion 4–6 ton tandem roller comes equipped with a set of retractable towing wheels which are hydraulically lowered into towing position whenever it is desired to move the roller to another location.

Features of the Roll-O-Matic torque converter drive, as well as compression data and complete specifications, are also given in this new bulletin. *Free copies are available from The Galion Iron Works & Mfg. Company, Galion, Ohio, or any of their distributors.*



A CHANGE IN CONCRETE

(Continued from page 8)

A four-inch thick concrete floor deck has sufficient compressive strength to balance a prestressed tensile component for spans up through 100 feet. The composite design utilizes this slab in compression, resulting in the utmost in economy for long span multi-story floor construction.

The role that steel plays should be given greater recognition in prestressed concrete. It is so reliable in its great strength and so consistent in its physical properties that we tend to take it for granted. The steel used for pretensioning in the United States is a seven-wire strand, usually of 3/8 or 7/16-inch diameter, although other sizes are used occasionally. It is shipped on reels of 10,000 to 15,000 feet on one reel. The wire making up the strand is an alloy steel, wire-drawn through several dies to reduce its diameter and increase its strength. After wire-drawing, it is stranded and stress-relieved in a furnace, resulting in a remarkable steel having a working strength six times that of mild steel reinforcing bars, acting as an elastic material to within a small percentage of its ultimate strength. It shows remarkably low creep characteristics when tensioned below 56% of its ultimate strength.

This seven-wire strand is the greatest bargain in the steel industry today. When considered on a dollar-per pound-of-strength basis, it costs less than rolled structural steel or mild steel reinforcing bars.

The strand is too strong to be used as ordinary reinforcing steel. Having the same modulus of elasticity as mild steel, it would show too great an elongation under load. This drawback is eliminated when the steel is pretensioned against a beam of concrete. The concrete is precompressed in advance of the tension it is expected to have under live and dead load. As the beam is loaded, the compressive stress in the concrete is reduced. However, the steel has had practically no change in its tensile stress; the concrete under compression has given the stiffness required in the beam. Also, the beam will behave as a resilient member free of tensile cracks when loaded within its design range. Concrete in compression loses its brittleness and behaves as an elastic material.

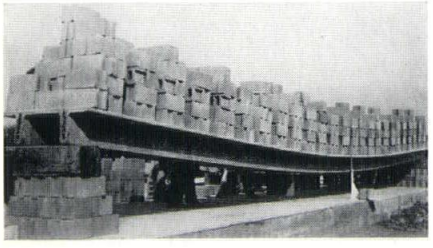
Concrete has remarkable ability to bond to a seven-wire strand. This strand is stretched to a tension of 130,000 p.s.i. or more in long moulds. The concrete is poured into the moulds

around the strand and within a few hours, sufficient bond has been obtained that the strand may be cut. The stored-up energy of five to ten tons in each strand is transferred into the beam to precompress the concrete.

Prestressing has given a boost to precast concrete, lifting a 60-year-old industry to a position of prominence. Prestressing has solved the major problem of the precast industry — that is the great weight of concrete. Substantial weight reduction of precast members has been made possible through prestressing.

Other improvements have been made in precasting as a result of prestressing. These are: a relative freedom of tensile cracks under flexure, increased flexibility, new resiliency, greater strength, better camber and deflection controls. Long spans were also made possible — spans that were impractical and even impossible with reinforced precastings. It is interesting to note that these advantages were attained at a reduction in cost.

The precast, prestressed industry in the U. S. is now ten years old. During that short period, several precast products have gained wide acceptance. Today, there are enough standardized mass produced precastings available so that practically any one-story building can be prefabricated either in part or the entire structure.



Strength and character of Prestressed Concrete illustrated by load test on "Double Tee" concrete beam.

Double Tees are the best known members. Used for roof and floor decking, their span range is from 20 through 60 feet. Tee Joists, Keystone Joists and I Joists are already widely used in roof construction. The Tee Joist in particular is believed to have a great future because of its low costs, its ease of manufacture, and its reliability and safety. The joists are being used with any decking — wood, steel or concrete.

Other precast, prestressed items that have been introduced are solid planks designed for continuity, hollow core slabs, folded plates, long wall panels, multi-story columns, ledger beams and piling. Continuous automatic production has even entered the picture, hollow core roof and floor slabs are now extruded on long pretensioning beds. The extrusion machine permits a high volume of output for a relatively low capital investment. It utilizes a dry, low slump mix using less cement and obtaining higher concrete strengths. It eliminates forms and reduces labor costs.

There are two extruders on the market, the Spancrete machine and the Dodd Extruder. The Spancrete machine is in the form of a large gantry holding the extruder over the bed and extruding the product pancake fashion over the previous casting. The Dodd machine is small, light, and has a low cost. It runs on a flat, level bed and extrudes the product directly onto the concrete surface of the casting bed. One hour after casting, the product is saw cut down to the strand. The next day, the saw cut is completed through the strand, the casting is removed from the bed and the production cycle repeated. The Dodd Extruder requires no tracks for its guidance since it is self-steering from the taut prestressing strand which it straddles. Its speed is 3½ to 5 feet per minute.

The prestressing industry is still in its growth phase — new products will be developed and many new uses and applications will be found. It is already in a favorable cost picture with its costs steady, and even decreasing while its competition is in a rising cost period. Prestressing is bound to leave its mark on the changing building industry.

ROSS SELECTED ARCHITECT

George Earl Ross, Architect, of Braintree, Massachusetts, has been selected to design S. Gunnar Myrbeck and Company's new building to be located on Route 128 at the intersection of Route 37 and the South East Expressway.

Myrbeck and Company, industrial advertising agency, of Quincy, Mass., and Washington, D.C., is the first agency to move to its own building on 128. It will provide for needed expansion of the agency's activities and facilities to serve its industrial and scientific clients around Route 128 and New England.

The new 28,000 square-foot building will be two levels. Present plans call for breaking ground during this summer.

New Product

SOLARAY

Fused quartz is the secret of this scientifically designed SOLARAY Infra-red Focused Electric Heater, which can efficiently and economically spot-heat any indoor or outdoor area. The fused quartz heating source of this unit emits a temperature of 1800°F. in order to reach the 2.1 micron wave-band range essential for high frequency radiant heating and general industrial processing. SOLARAY contains an optically engineered reflector which focuses the long-wave rays only upon objects which are within its beam, while heating surrounding areas through convection.

SOLARAY Outdoors units are completely waterproof and weatherproof. Furthermore, they are immune to thermal shock, making them ideal for use in the coldest climates.

The Indoor units give more usable radiant heat than any other type of spot-heating. They are easily installed anywhere, and can be thermostatically controlled to give instantaneous operation.

SOLARAY comes in 110 volt, 1600 watt units ready to be wired for plug-in installation, or is available in 208 and 230/240 volts, and 2000, 3000, 4000 watt units. Sizes are 41¼″L x 10″W x 5″H for the 1600, 2000, and 3000 watt units; and 53¼″L x 10″W x 5″H for the 4000 watt unit.

This product is manufactured by Wiggins Products Company, Inc., and has U.L. approval. For further information, write SOLARAY OF N.E. INC., 232 Summer Street, Boston, Massachusetts.

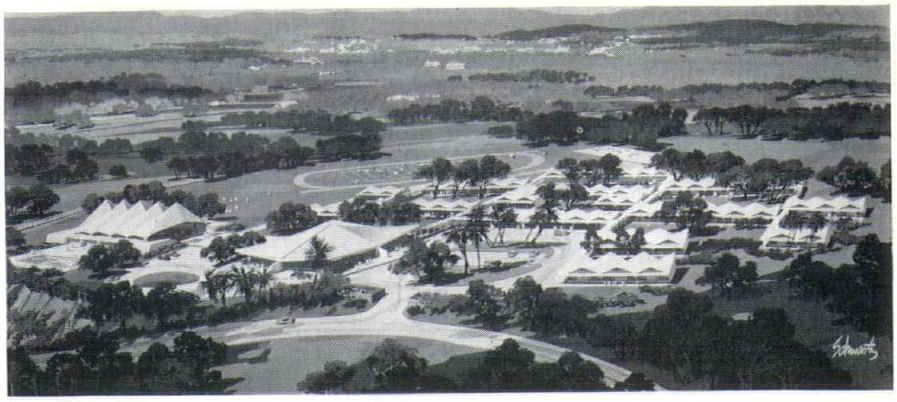
NEW DATA OFFERED ON PLYWOOD SHEATHING

Douglas Fir Plywood Association has completed a series of tests showing that ⅜-inch roof sheathing is fully adequate in certain applications when the panels are laid with the face grain parallel to framing members.

Normally, allowable spans for plywood are based on applications where the panels are applied with the face grain perpendicular to framing members which develops maximum strength and stiffness in the plywood. However, it is occasionally economically desirable to lay plywood the other way as in certain types of stress skin panels. The test methods and results are outlined in detail in DFPA Laboratory Bulletin 60-A.

Write Technical Department, Douglas Fir Plywood Association, Tacoma 2, Washington.

AMERICAN SCHOOL SPECIALISTS DESIGN NOVEL SCHOOL IN GUATEMALA



Rendering of the proposed American School (El Colegio Americano) in Guatemala City, Guatemala, designed by architects Sherwood, Mills and Smith of Stamford, Conn. The 1,000 pupil, bilingual, laboratory, elementary and secondary school is being sponsored jointly by the U. S. government, the Guatemalan Ministry of Education, and private sources.

The American School in Guatemala has selected one of this country's top architectural firms, school specialists, Sherwood, Mills and Smith of Stamford, Conn., to design its new school in Guatemala City, Guatemala. The bilingual, 1000-pupil laboratory, elementary and secondary school is being sponsored jointly by the United States government, the Guatemalan Ministry of Education and private sources. Located in the gently sloping outskirts of the Guatemala capital, the site commands an impressive view of the city and volcanoes in the distance.

Using novel construction techniques specially adapted to locally available materials and labor supply, the architects have designed a single story, multi-bayed series of corridorless buildings, grouped around landscaped courts. Each bay is roofed by a thin shell of reinforced concrete which is curved in two planes. This form, known as a hyperbolic paraboloid, lends itself ideally to the local conditions, eliminating the need for interior support columns, reducing excess weight and roof thickness, and minimizing earthquake hazards. At the same time, the double curvature, which is composed entirely of straight lines, imparts improved stiffness and strength to the shells, increasing their ability to span and carry unsymmetrical loads.

Because of its low cost and ready availability, concrete, reinforced with steel rods, provides the basic structural material for both the frame of the buildings and the roof. The roof shells, each measuring 16′ x 32′ are made at the site by pouring concrete into prefabricated wooden forms or molds. Because of the unusual strength of the hyperbolic paraboloid shape, the roof is less than 3½ inches thick. Imported and decorative materials have been kept to a minimum. The repeating patterns of the white sculptured roofing provide dramatic contrast both in form and color to the semi-tropical landscape.

Because the American School serves children from kindergarten through senior high school, the facilities are separated by age group. The kindergarten, primary grades and high school are housed in separated building groups, each with its own courtyard and recreation area.

Indoor corridors have been largely eliminated, with classrooms opening directly onto shaded exterior walks, protected from sudden tropical rainstorms and blistering sun by the deep roof overhand. Covered paths connect the various pavilions. Plans have been drawn allowing maximum flexibility for expansion or adaptation to changing requirements.

In addition to the classroom bays, there are a landscaped entrance court and administrative and research departments. Facing them, across another court area, is the library. Plans include designs for a completely equipped manual arts division, housing the school's printing shop which publishes bilingual teaching aids in Spanish and English.

Left of the entrance is the large combined auditorium and cafeteria, with kitchen, service, stage and music facilities. Plans include a gymnasium, swimming pool, locker rooms and outdoor playing fields.

The building program is expected to be completed early in 1961. Meanwhile, the school is continuing to operate in the temporary facilities which it has occupied since its founding in 1945.

NEW RIVALRY IN BUILDING FIELD

"Forum" says it may get harder and harder to tell the Architects from the Designers. — Under a new rule of the building game, you may not be able to tell the industrial designers from the architects without a program.

It used to be that designers would draft small items of equipment to be produced en masse. The architects, in turn, would create large structures, "long lasting and complex . . . but vigorously unified in form."

Now, reports the professional building magazine, things are getting topsy turvy. Designers are taking part in city building and architects are found designing X-ray machines. And peaceful co-existence has turned into a new rivalry.

Canadian Plum

Architectural works of varied importance being undertaken by non-architect designers include one of the biggest plums on the North American continent — the $13.5 million cultural center in Montreal.

While some clients feel that designers are right for them when it comes to creating a new building — and a "corporate face," others want architectural firms to maintain overall responsibility. Some interior design outfits, to combat the idea that they lack sufficient professionalism, have hired big-name architects to work on their staffs and have suggested being credited as "interior architects."

Some architectural firms are balanced to handle all aspects of almost any design problem. Eliot Noyes, who has been responsible for an extraordinarily wide range of products and buildings — from X-ray machines to a $3.5 million education center for I.B.M. — comes closer to the European concept of the total designer than any other architect or designer in the United States.

Some critics feel that architecture and design are merging, without either system being aware of it. Others think that designers will abandon their competition with architects when profits become slimmer.

"A more probable forecast," concludes *Forum*, "is that designers will remain as a challenge to architects, and that between the two . . . there may grow some resemblances."

CONTRACTS AWARDED

This resume was compiled with the cooperation of GAINEY'S CONSTRUCTION NEWSLETTER of Boston, Mass., from building construction contracts awarded during the month of March, 1960.

MASSACHUSETTS

AMHERST — $872,357
Infirmary Bldg. — Univ. of Mass.
Archt: Thomas A. Kirley, Amherst
Contr: Daniel O'Connell's Sons Inc., Holyoke

AMHERST — $1,447,000
Science Building — Univ. of Mass.
Archt: Desmond & Lord, Boston
Contr: Joseph Rugo Inc., Dorchester

BEVERLY — $587,500
Ryal Side Elem. School
Archt: Hugh Stubbins & Assoc., Cambridge
Contr: J. F. White Contrg. Co., Westwood

BOSTON — $9,993,000
Municipal Auditorium
Archt: Hoyle, Doran & Berry, Boston
Contr: S. Volpe & Co., Inc., Boston

BRAINTREE — $1,845,500
Junior High School
Archt: Rich & Tucker, Boston
Contr: Leonard Rugo Inc., Wellesley

CANTON — $118,118
Elem. School Addn.
Archt: Thomas F. McDonough, Boston
Contr: Domenick Puleo & Son, Jamaica Plain

DEDHAM — $250,000
Registry of Deeds Bldg. Addn.
Archt: Hoyle, Doran & Berry, Boston
Contr: Werner Constr. Co., Norwood

EAST LONGMEADOW — $718,200
Mountain View Elem. School
Archt: Warren H. Ashley, West Hartford, Conn.
Contr: E. J. Pinney Co. Inc., Springfield

HOPKINTON — $226,785
Jr.-Sr. High School Addn.
Archt: L. W. Briggs Assoc. Inc., Worcester
Contr: Cameron, Fay & Co., Wakefield

LEXINGTON — $1,003,000
Elem. School
Archt: Clinch, Crimp, Brown & Fisher, Boston
Contr: C. R. Burns & Son, Brookline

NORTH RANDOLPH — $861,000
Junior High School
Archt: Stoner Assoc., Boston
Contr: Leonard Rugo Inc., Wellesley

NORWOOD — $1,286,000
Senior High School Addn.
Archt: Korslund, LeNormand & Quann, Norwood
Contr: Vara Constr. Inc., Boston

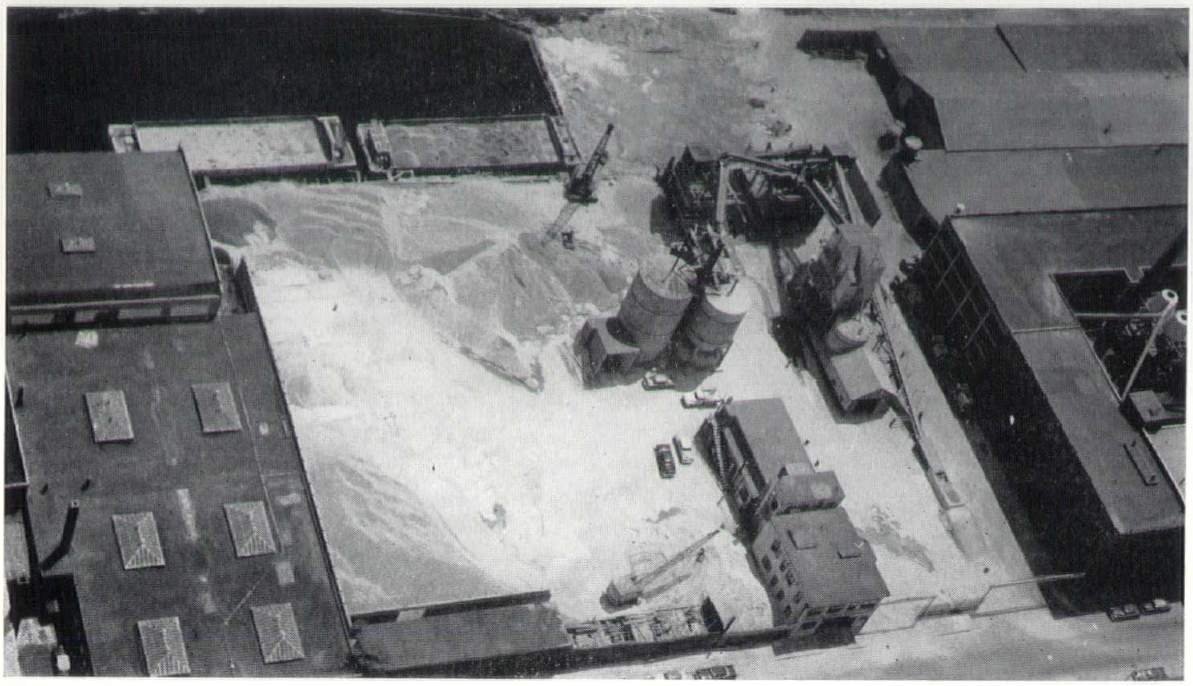
SOUTH WILLIAMSTOWN — $1,665,964
Mt. Greylock Regional High School
Archt: Alderman & MacNeish, West Springfield
Contr: George E. Emerson Inc., Pittsfield

SPRINGFIELD — $585,051
North Branch Tributary School
Archt: Morris W. Malony, Springfield
Contr: J. G. Roy & Sons Co., Springfield

SPRINGFIELD — $613,257
Elem. School
Archt: Elroy Webber, Springfield
Contr: J. G. Roy & Sons Co., Springfield

(Continued on page 50)

PLANT CASE HISTORY:



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BURLINGTON plant servicing towns in the Burlington area and north to Wilmington, north and west to Billerica — Bedford — Lincoln and general surrounding area.

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CONTRACTS AWARDED - (Continued from page 48)

WARE $1,107,333
High School
Archt: Alderman & MacNeish, West Springfield
Contr: H. P. Cummings Constr. Co., Ware

WEBSTER $970,990
Intermediate School
Archt: Domian & Salk, Worcester
Contr: H. U. Bail Sons Inc., Southbridge

CONNECTICUT

BLOOMFIELD $567,755
School Street Elem. School
Archt: Jeter & Cook, Hartford
Contr: Louis Schoolnick Constr. Co., Hartford

ENFIELD $2,759,000
High School
Archt: Olson & Miller, Hartford
Contr: Vara Constr. Co., Boston

MIDDLETOWN $281,300
Jr. High School Addn.
Archt: Carl E. Segerberg, Middletown
Contr: Mauro Constr. Co., No. Branford

MILFORD $1,810,800
Elem. Schools (3)
Archt: Jesse James Hamblin, Bridgeport
Contr: Monaco Constr. Co., Bridgeport

NEW BRITAIN $594,000
Low-Rent Housing Project
Archt: Kane & Fairchild, Hartford
Contr: Ames Constr. Co., Hartford

NEW BRITAIN $2,700,000
Goodwin Regional Technical School
Archt: Henry F. Ludorf, Hartford
Contr: Anderson Fairoaks Constr. Co., Hartford

NEWINGTON $332,470
Church of Christ Congregational
Archt: Jeter & Cook, Hartford
Contr: Wadhams & May Co., Hartford

NEW LONDON $1,623,700
Enlisted Men's Barracks, U. S. Naval Base
Archt: Pedersen & Tilney, New Haven
Contr: Fusco Amatruda Co., New Haven

WATERBURY $1,165,600
Waterbury Hospital Addn.
Archt: York & Sawyer, N. Y. C.
Contr: W. J. Megin Inc., Naugatuck

NEW HAMPSHIRE

CONCORD $649,000
Blue Cross-Blue Shield Bldg.
Archt: Clifford Broker Assoc., Concord
Contr: Davison Constr. Co., Manchester

DOVER $704,000
Wentworth Dover City Hosp. Addn.
Archt: Irving W. Hersey Assoc., Durham
Contr: O. D. Purington Co. Inc., E. Prov., R.I.

EXETER $141,351
Eventide Home Inc., Home For The Aged
Archt: Edw. B. Miles, Exeter
Contr: Peirce Constr. Co., Stratham

VERMONT

OLD BENNINGTON $154,000
Bennington Museum Addn.
Archt: Freeman, French & Freeman, Burlington
Contr: Gordon & Sutton, North Adams, Mass.

MAINE

BATH $103,598
Armory Addn.
Archt: Bunker & Savage, Augusta
Contr: F. W. Cunningham & Sons, Portland

WINDHAM $128,460
Civil Defense Center
Archt: Philip P. Snow, Portland
Contr: Kibler & Storer Inc., Yarmouth

YORK $121,256
Elem. School Addn.
Archt: William O. Armitage, Portland
Contr: Paul E. Norwell, York Village

RHODE ISLAND

CRANSTON $275,000
Bowling Alley — Cranston Bowl Inc.
Archt: Maxfield Vogel, N. Y. C.
Contr: Gilbane Bldg. Co., Providence

NORTH PROVIDENCE $366,570
Elem. School
Archt: Joseph W. Mosher Assoc. Inc., Providence
Contr: Agostini Constr. Co., Pawtucket

ASSOCIATED

Mr. Oliver J. Foster, Jr., and Mr. Frank J. Rideout have been admitted to the firm of Moore & Salsbury, Architects, as Associates.

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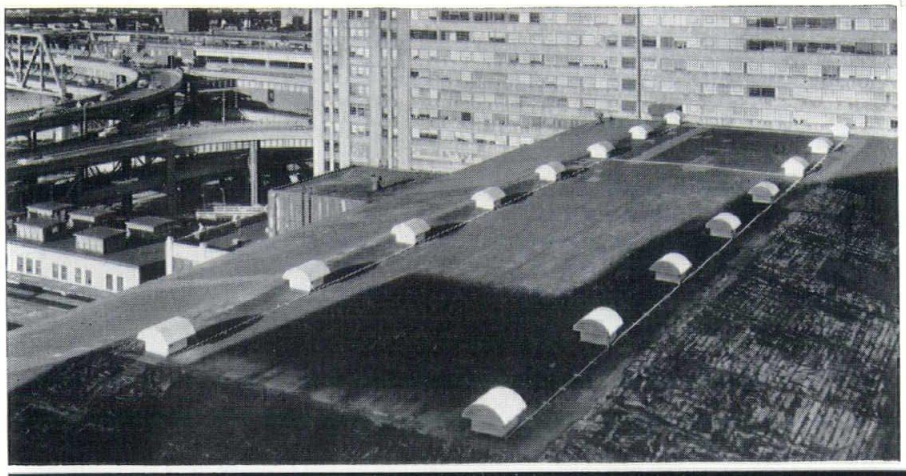

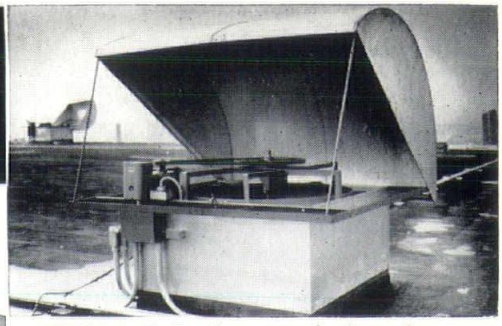

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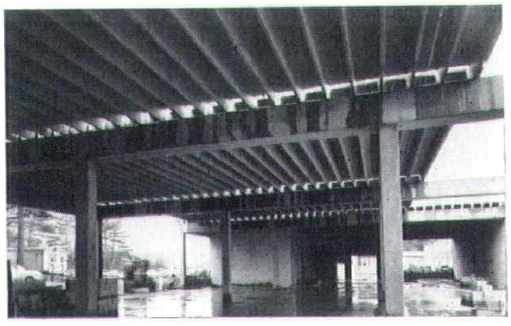

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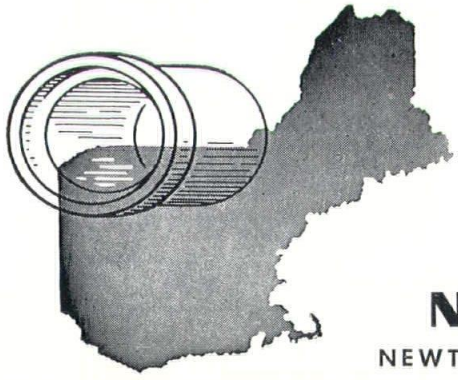

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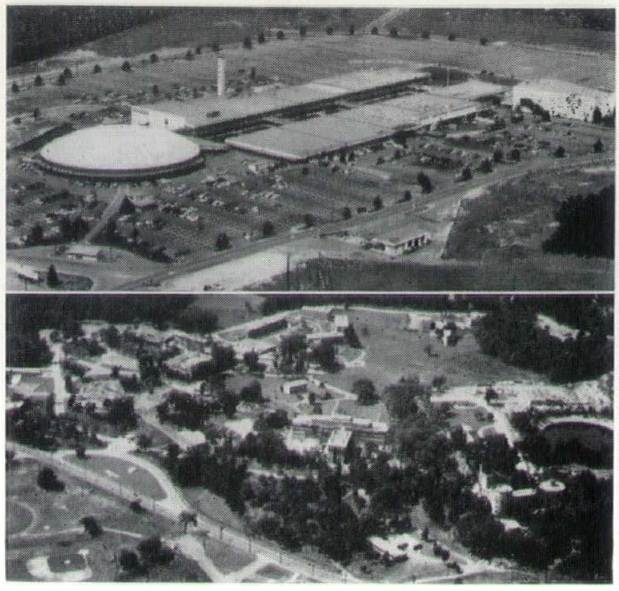

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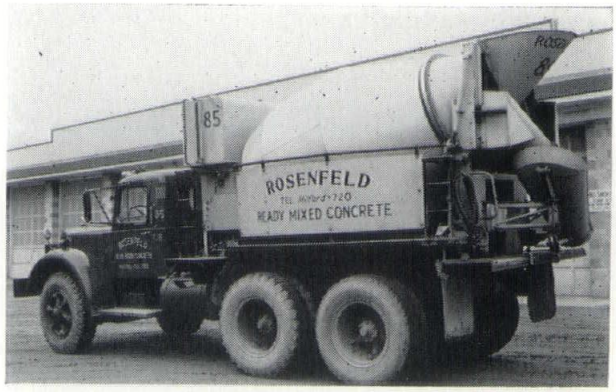

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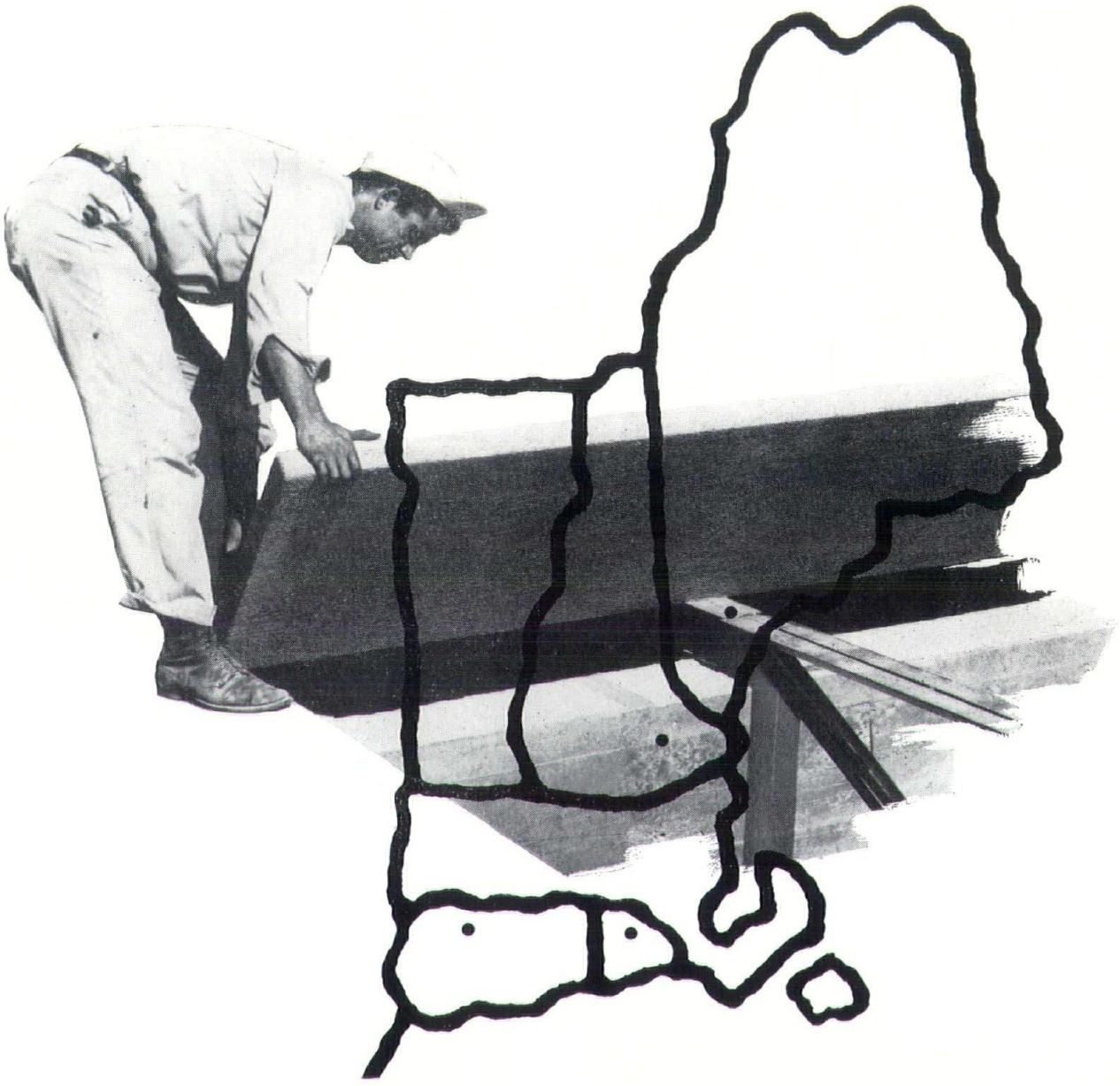

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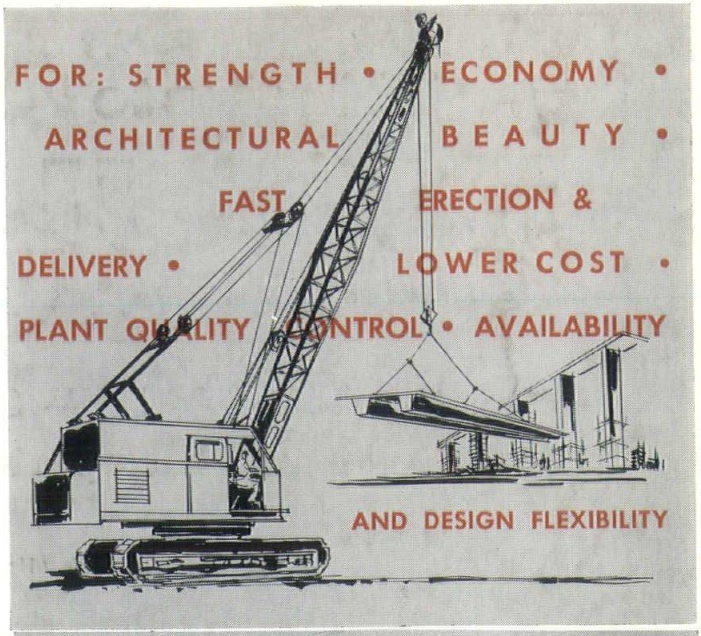

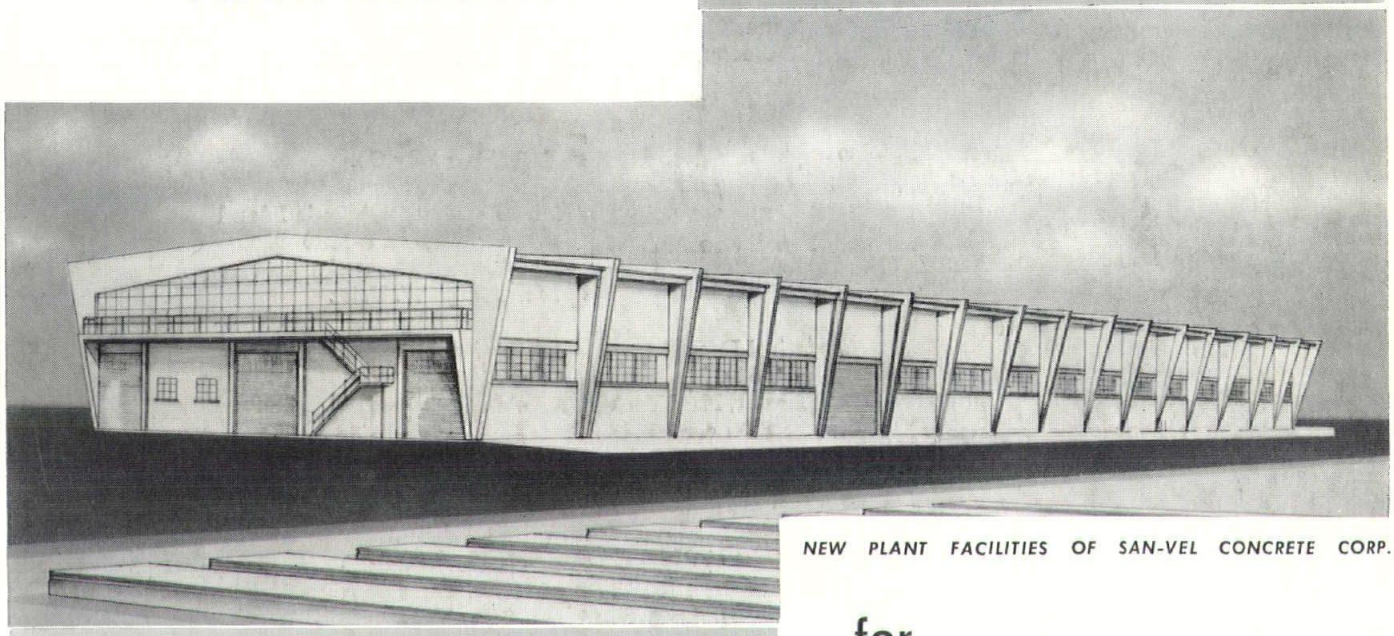

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