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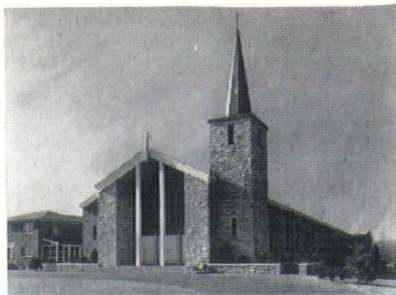
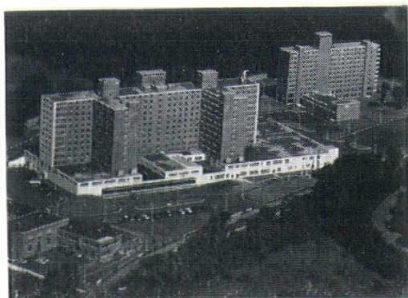
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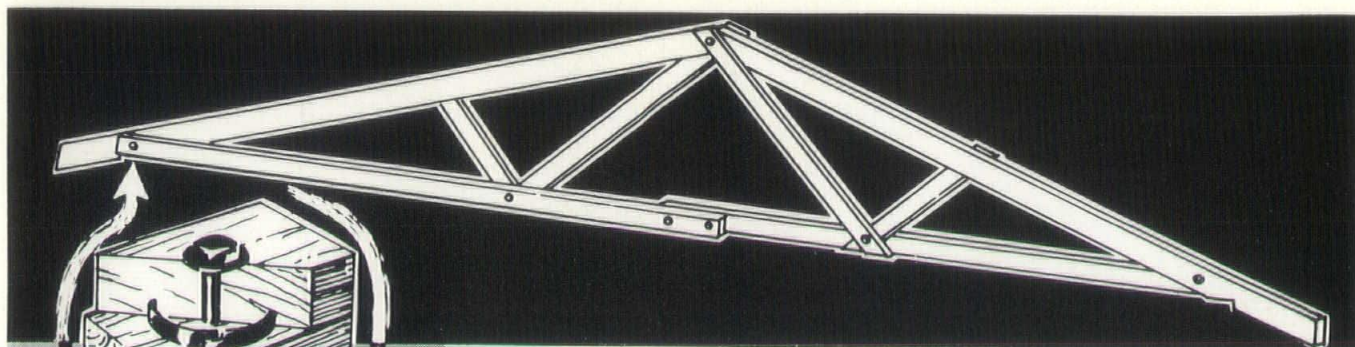


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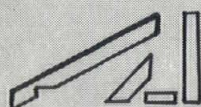
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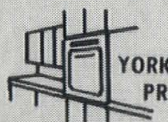
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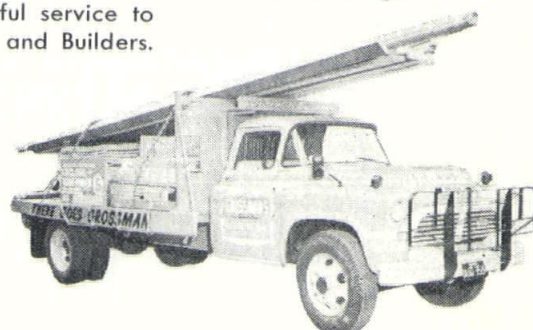
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ARCHITECTURE

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CONSTRUCTION

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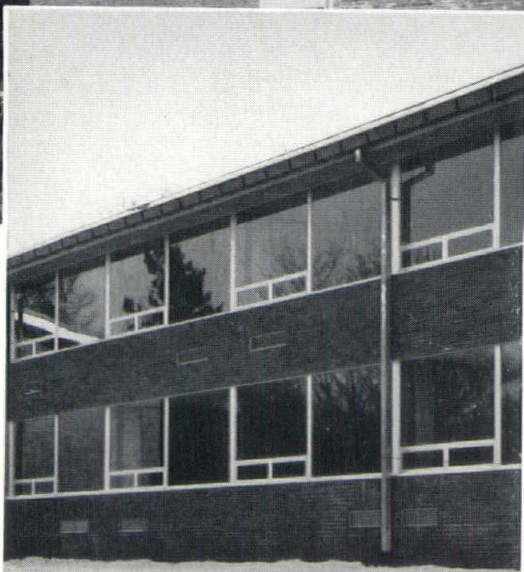
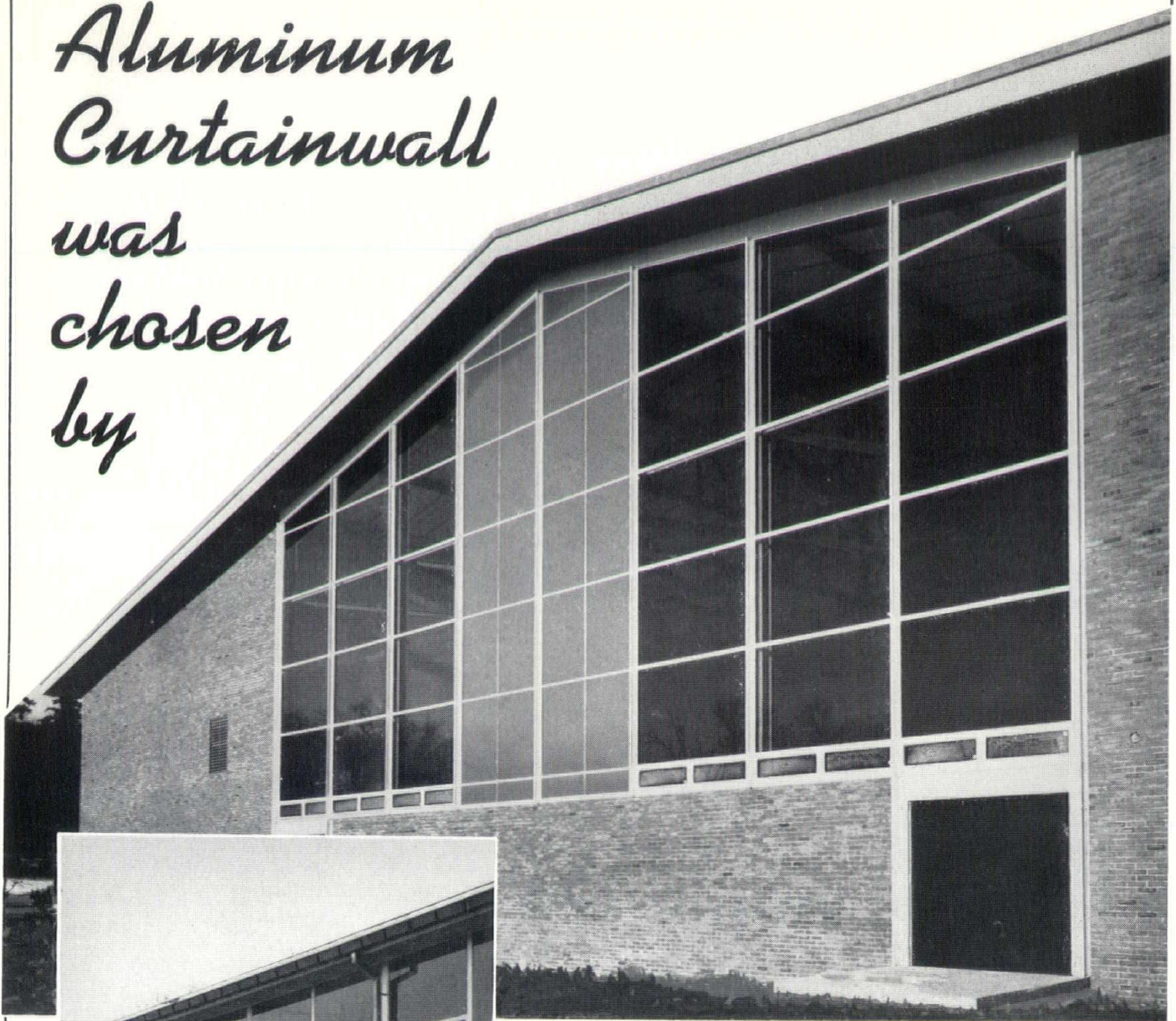
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START OF A NEW ERA

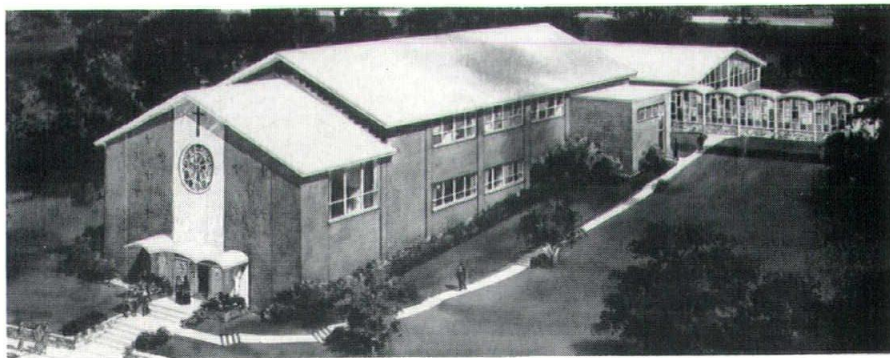
The start of a new year traditionally brings with it new ideas, new predictions, bright plans for future projects and expansion for old projects.

NEW ENGLAND ARCHITECT and BUILDER ILLUSTRATED is no exception to this trend. We too have some new ideas. In past issues we have presented profile reports on the works of various Architects in New England. These sketches have proven to be very popular with our readers and now we intend to present similar reports on various General Contractor firms and Engineering companies.

Our list of advertisers is steadily growing and with this growth will come more editorial content-illustrations in full color and the possibility of one or two new sections. The first section to be added will be devoted to Interior Decorating. Another new section we contemplate will be concerned with Architectural and Construction work in the State of New York.

In all, the year 1960 will be a crucial and busy year of development for us. Our desire to carry out these plans is solidly based on your encouraging comments and suggestions, in the past. Our future success can only be assured by your continued interest.

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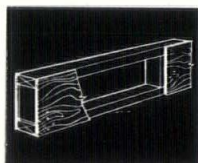


OMISSION — In the November, 1959 issue of "New England Architect and Builder, Illustrated," Page Nineteen, the firm of FRED S. DUBIN ASSOCIATES, Consulting Engineers, should have been listed as Mechanical and Electrical Engineers for the Venerini Academy Building in Worcester, Mass.



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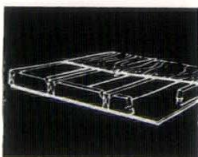
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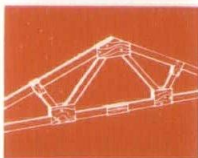
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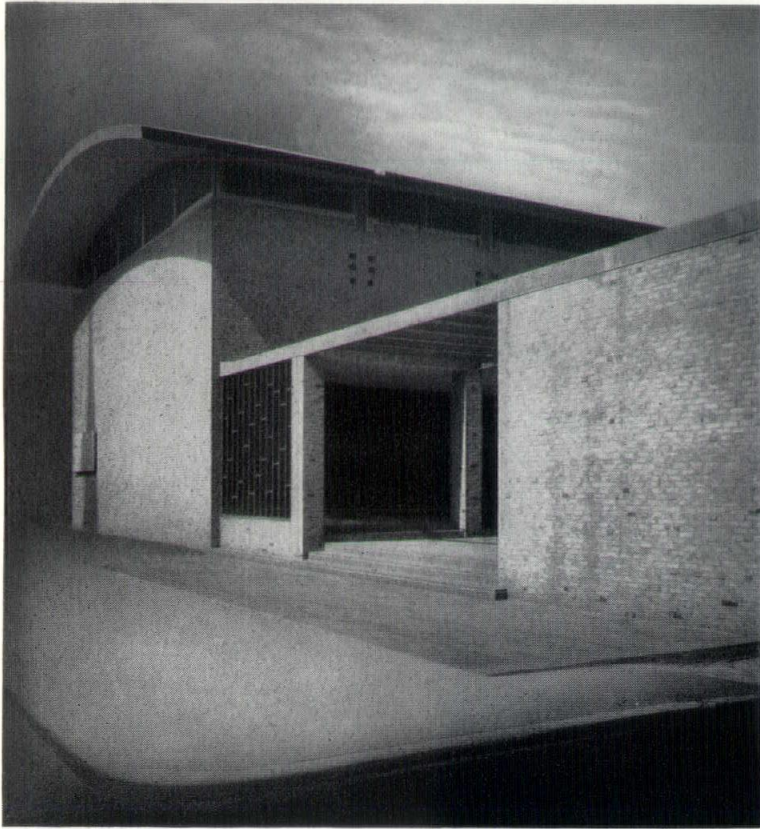
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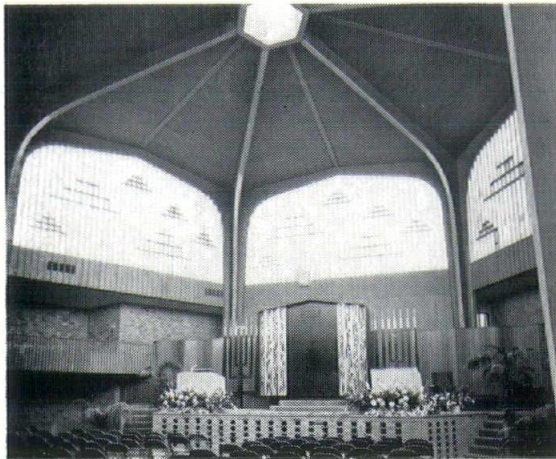
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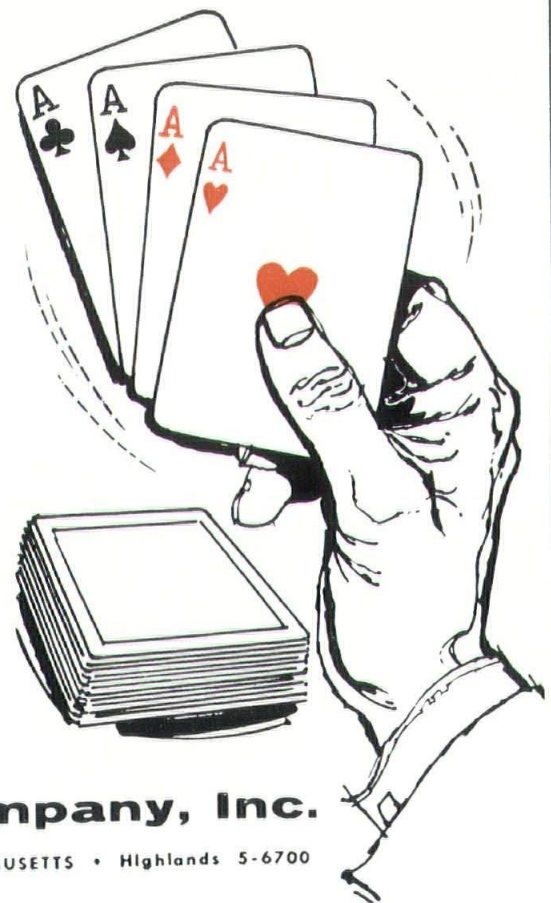


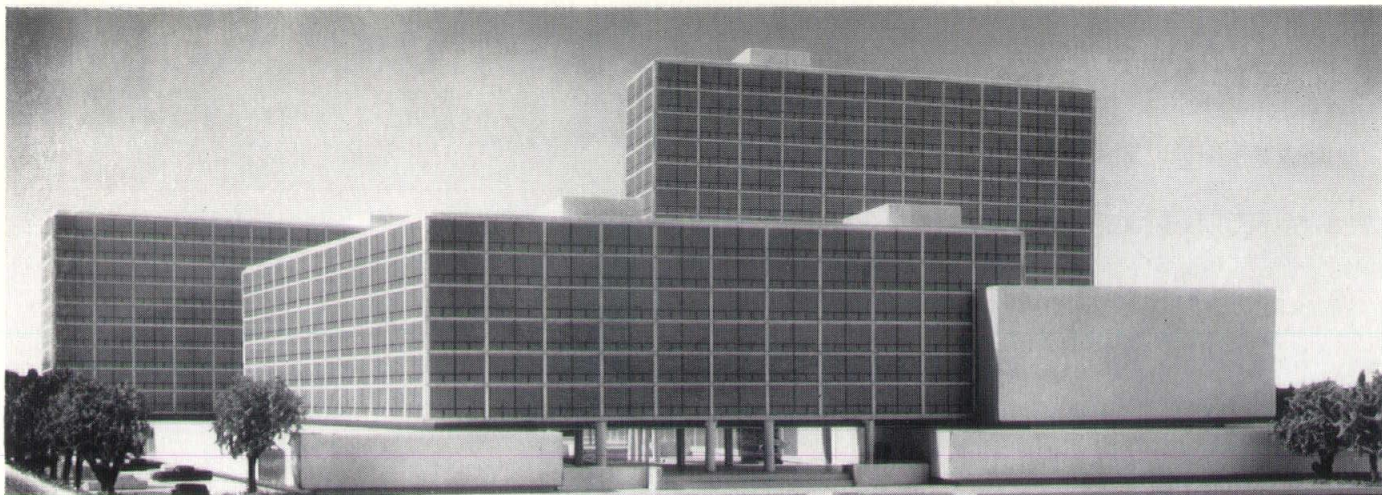
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WORK TO BEGIN SOON ON MULTI-MILLION DOLLAR RESEARCH CENTER

A 12 to 15-story building, the highest in Cambridge, will be the dominating structure in the \$15,000,000 industrial research center to be erected near the Massachusetts Institute of Technology.

Several buildings of various heights will be grouped about the tallest building, with plazas, courtyards, restaurants and parking facilities for more than a thousand cars, making the center a community within itself.

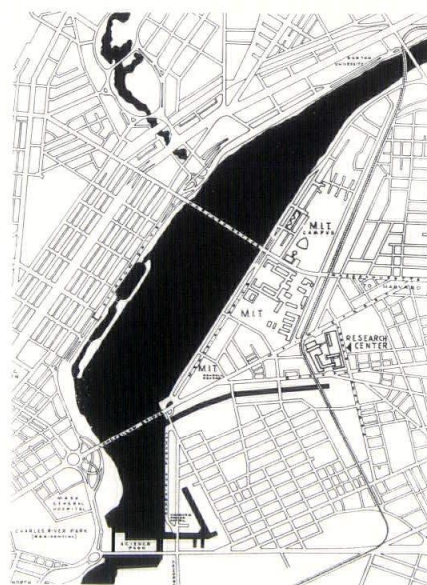
New details in the plan were announced following the disclosure last week by M.I.T. and Cabot, Cabot & Forbes Co. that they would form a new corporation to build the center on a 14-acre site. Preliminary architectural plans have been prepared by Cabot, Cabot & Forbes Associates, Inc.

Since an 1891 act forbids the erection of any structure (excepting church steeples) higher than 125 feet, the Massachusetts legislature will be asked for legislation which will provide for the removal of this height limitation in Cambridge, according to Paul R. Corcoran, Chairman of the Cambridge Redevelopment Authority. A bill to accomplish this has been filed by Cambridge City Manager John J. Curry. The Cambridge City Council is being asked to close streets within the project area.

Closing of the streets would make possible the joining of various parcels of land in the site. These include five acres known as the Rogers Block, which has been purchased from the Redevelopment Authority after buildings on it were cleared. The largest portion of the site has been purchased from Lever

Brothers. Factory buildings now on it will eventually be razed.

Work on the center will start within a few months, according to Dr. James R. Killian, Jr., Chairman of



Site of the new Research Center to be located in the eastern part of Cambridge, Massachusetts, directly adjacent to the campus of the Massachusetts Institute of Technology. The 14-acre tract is comprised of the five-acre Rogers Block and the Lever Brothers property. It is bounded on the north by Portland Street, Main Street is to the west and Broadway is to the east with the Boston and Albany Railroad forming the southern boundary.

the M.I.T. Corporation, and Gerald W. Blakeley, Jr., President of C. C. & F. Legal details in connection with the purchase of the land are yet to be completed.

Mr. Blakeley said that C. C. & F. is ready to negotiate for space with companies interested in establishing

laboratories in the center, which will have at least a million square feet of floor space and is being planned with such flexibility that it can be adapted to a variety of needs.

Proximity of the center to M.I.T. and other universities and to downtown Boston provides it with an attractive location for research-oriented industry, Mr. Blakeley pointed out. "In recent years Research Row in Cambridge has become renowned for scientific research and technological development," he said. "The center, incorporating new concepts of design, will provide such splendid facilities for research that it is likely to become the very nucleus of Research Row and will contribute importantly to an environment that is hospitable to research. In recruiting staffs, industries will be able to draw upon a large pool of scientists, engineers and technicians as well as clerical and managerial personnel in the Boston area."

Not only will the center be adjacent to the M.I.T. campus but it will be within a fifteen-minute drive of other leading universities. A subway station at Kendall Square is within a five-minute walk. Boston's airport can be reached in as little as ten minutes. The new Charterhouse Motor Hotel, soon to be under construction, will be only two minutes away by car and other hotels in Boston and Cambridge will be within easy reach. The center will have easy access to a new belt route to be constructed through Cambridge, as well as to Routes 1 and 2, which connect with Route 128, the outer belt highway of the area. A railroad freight line passes on one side of the site.

Forecasting the future of the economy — even a year ahead — is much like trying to pick the winner of a horse race. Both, to say the least, are an inexact science. A lot depends on a basic knowledge of the field but even more important at times are intuition and plain, old-fashioned luck.

In a sense, it may be easier to pick the winner of a horse race, because there are certain patterns that reoccur in racing. It's an established fact, for instance, that favorites — the horses on which the most money has been wagered — win about one-third of the time.

BUSINESS FORECAST FOR '60

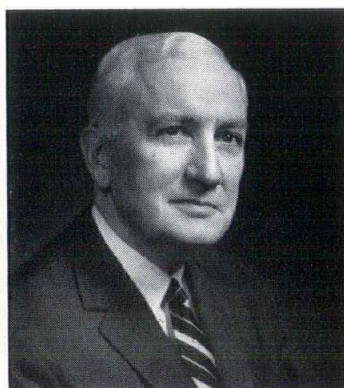
By Thomas J. McHugh,

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In business, there is no comparable standard on which the forecaster may rely. For that reason, many forecasters offer two sets of predictions — one, their so-called BEST BETS and the other, their LONGSHOT SPECIALS.

This is a most convenient dodge and one that protects the forecaster from any possible embarrassment.

For this particular forecast, I'd like to combine BEST BETS and LONGSHOT SPECIALS and offer what seems to be the most logical turn of events to be expected in the year ahead.

Some of these prognostications were developed as the result of an industry-wide survey of lumber manufacturers, conducted by the National Lumber Manufacturers Association. Other predictions are based on what private and government economists suggest will happen during 1960. Finally, some of the developments predicted here reflect nothing more than common sense.

For the economy as a whole, it appears that the first half of 1960 will be a period of considerable strength. Total construction activity, which hit another record high in 1959, should continue at peak levels with all major categories except residential, farm and highway work registering new gains.

Home construction, on a seasonally-adjusted annual basis, may suffer during the first six months of 1960

because of rising interest rates and tight money conditions.

In the second half of the coming year, there appears to be less certainty about business conditions generally. Total construction activity, however, is likely to remain high, bolstered in large measure by a second-half pickup in home building.

The best available evidence suggests that by mid-1960, there will be an easing of the stringent mortgage money market, encouraging a stepped-up rate of housing starts.

Actually, the 1960 trend in home building is expected to reverse the pattern of 1959. In the latter year, home building began at a fast tempo, then slackened off as the year drew to a close. For 1960, the outlook is for a relatively slow beginning with a sharp pickup during the second half.

While residential building was the mainspring of total new construction gains in 1959, increases in non-residential categories will be responsible for the upward movement of construction next year.

Industrial building is expected to show the greatest gain from the standpoint of new contract awards and actual work put in place. The increase in contract awards may amount to 20 per cent compared with 1959 while the increase in actual construction could approximate 30 per cent.

Commercial building outlays are also likely to continue their expansion next year, rising as much as 20 per cent above the level of 1959, due mainly to increased office building and suburban shopping center activity.

At this writing, it appears that the dollar volume for all types of new construction work in 1959 will total approximately \$54 billion — a gain of more than 10 per cent compared with 1958 and the largest annual increase since 1950.

New construction next year, assuming a continuation of favorable conditions for the economy as a whole, may amount to between \$55 billion and \$56 billion.

While overall residential construction work may show a slight decline, the recent trend toward more apartment building is expected to continue at an accelerated pace. Also likely to continue strong are outlays for home repair and modernization work.

If we can believe what private and government economists say about the money market, there will be an easing of conditions midway in the year or earlier. With home building likely to start 1960 at a relaxed pace, the mortgage money market will have a breather during this period, creating a situation — at least temporarily — where the supply of funds could exceed demand. This, of course, would pave the way for an easing of money market pressures in later months.

Total new construction contract awards next year may be down a shade from 1959, with a mild drop in housing offsetting gains in other major construction categories. Still, the contract award total is expected to be at least the second highest figure on record, with the market for construction materials and services among the largest in U. S. history.

As far as housing starts are concerned, the outlook is that total public and private units may fall to 1.3 million or slightly below. This compares with an indicated 1.35 million for 1959.

Actually, the year ahead is expected to be most significant for the fact that it will usher in a new era in our economy. A fairly conservative estimate is that during the next decade the U. S. population will increase by about 34 million persons, roughly equivalent to the present population of Canada, Cuba and Australia combined.

The greatest upsurge will come in the middle and late 60's when the children born during the 1945 and post-war baby boom graduate into adulthood. Population growth, of course, will never assure prosperity. But, if other factors are favorable, population growth becomes a most important element in reinforcing economic expansion.

Where does all this leave the lumber industry?

I believe it offers lumbermen the greatest opportunity in the long and honorable history of our industry.

Now, of course, is the time when we must begin to prepare for those opportunities.

At the November annual meeting of the National Lumber Manufacturers Association, a start was made in this direction. At that time, the staff of NLMA, its advertising agency and several industry principals outlined a proposed 10-year advertising, merchandising, research and trade promotion program to put wood ahead of its competitors in the race for new markets of the coming decade.

(Continued on page 34)

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FOREWORD

In the 1954 January and February Issues of the Technology Review, edited at the Massachusetts Institute of Technology, there appeared an article on the history of decorative tiles. The interest in this subject was so great especially in the light of present day use of tile as a construction medium both decorative and functional, that we are publishing the article in revised form as a series of Monographs in four parts as follows:

- I — Ancient Tiles of the Near East (Tiles of the Saracenic Period.) Tiles of India, Northern Africa and Spain. Also Medieval and Inlaid tiles of Europe and Renaissance Painted tiles.
- II — Dutch Tiles (English painted and Printed Tiles.)
- III — Early American Tiles.
- IV — The later development of the Tile industry in the United States.

PART I

DECORATIVE TILES

*Their contribution to
Architecture and Ceramic Art*

by

E. Stanley Wires

E. Stanley Wires, the author of these Monographs, is a graduate architect of the Massachusetts Institute of Technology, a past director and Vice-President of the Tile & Mantel Contractors' Association of America and past Chairman of the Tile Industry Research Bureau.

Mr. Wires has recently donated a large collection of decorated Tiles to the Smithsonian Institution, Washington, D. C., now on exhibition in the Smithsonian National Museum.

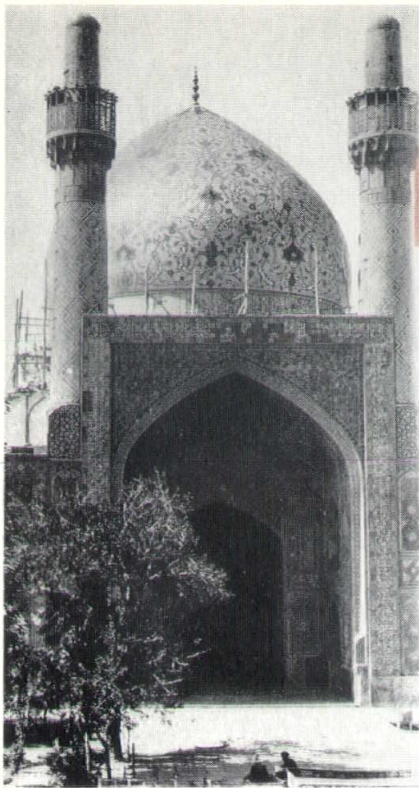


Photo — Pope

Gate of Madrasa Madar-I-Shah, Isfahan, Persia. Mr. Eric Schroder, an authority on Persian Art, advises that in Persia the call to prayer was made from the roofs of religious buildings and Minaret Towers were a form of ornament.

I N T R O D U C T I O N

IT IS THE INTENT to present the facts as concisely as possible and avoid making a dry record of this division of Pottery and Porcelain, an art that takes precedence over all others, as the index of human customs and character, a veritable library of history.

Ceramic tiles derive the name from the Greek word "Keramos" and the Latin word "Tequla" or its French derivative "Tuile", the significance of the term being that the tiles were made by the process of burning.

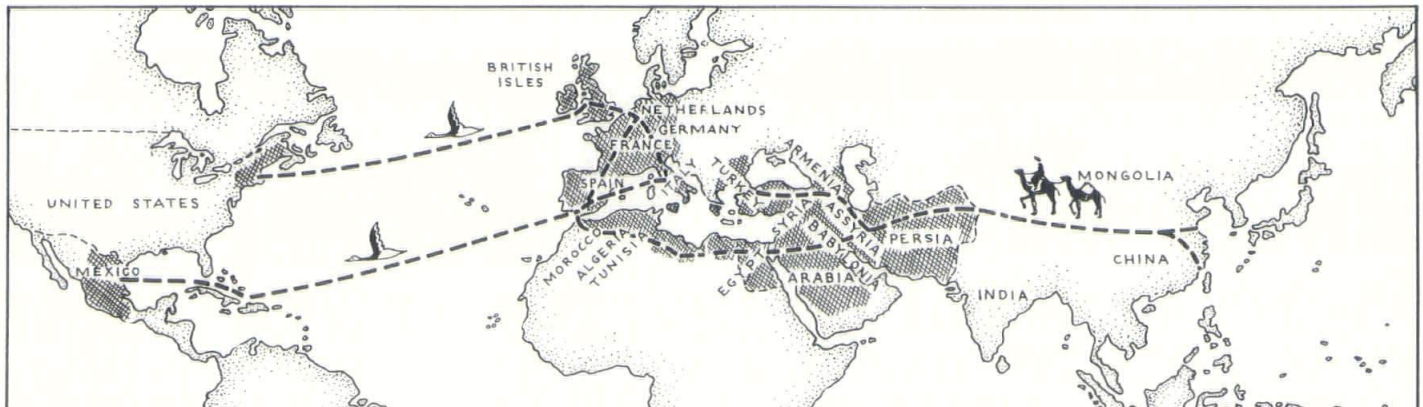
The proper study of this subject should be through the massed effect of many tiles, but the collector must base much of his research upon the design and color of the individual tile. He must also follow the fast moving history of those countries bordering the Mediterranean Sea, traveling across Northern Africa to the meeting place of the Mohammed and Christian religions in Southern France, through Central Europe to England and eventually to America. The westward development is shown on the accompanying map.

As to the early beginning of the Ceramic Art we are told that the Paleolithic people worked in clay 25,000 years ago, but tiles, as we know them today were first used in Egypt.

Tiles of Ancient Egypt, Babylonia, Assyria, and Persia

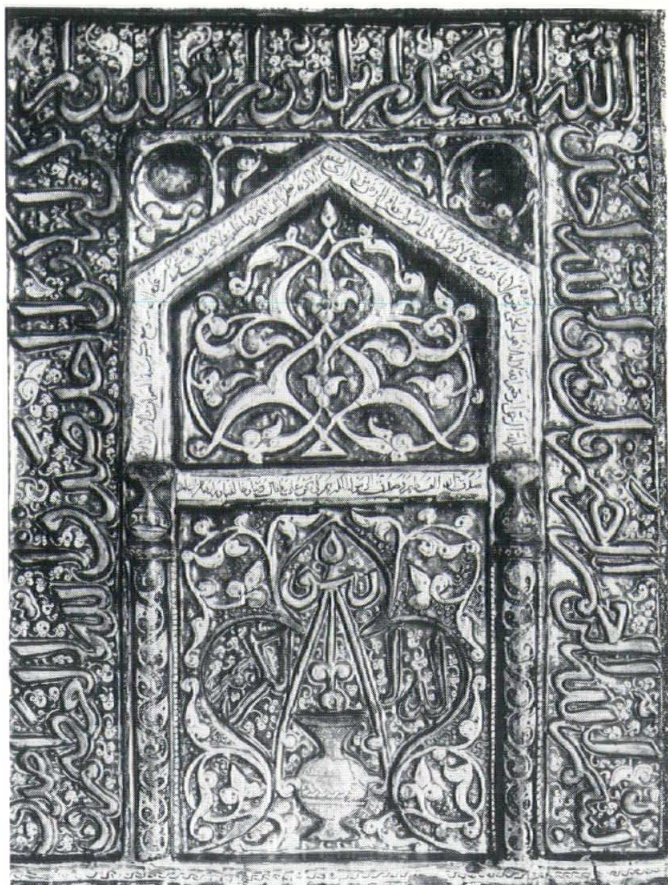
Decorative and glazed tiles, as we know them, originated in Egypt about 4700 B.C., but due to a plentiful supply of building material the ancient Egyptians never developed the architectural use of tiles to any great extent. In the tomb chamber of what may have been the first stone building in the world, the Pyramid of Sakkara, the walls were lined with two-inch x one-inch blue glazed tiles, and the door jambs with painted tiles. On the back of each tile a perforated tenon was provided, through which copper wires were passed to secure the tiles to the wall.

The use of ceramic decoration and enameling in Babylonia and Assyria was derived from Egypt. These countries were part of the Tigris-Euphrates Basin, the whole district being known as Mesopotamia, where the architectural material was largely the humble clay of the river bed. Babylonia dominated the valley until about 1100 B.C. when the Assyrians came into power and ruled the country from their capital at Nineveh. Under the rule of King Nebuchadnezzar, Babylonia again regained its power, to be relinquished in 538 B.C. to Cyrus, King of Persia.



M.I.T. Illustrative Service

Map showing the geographical progress of Tile-making covering a period of at least six thousand years.



Courtesy of Victoria and Albert Museum, London

Ceramic decoration in these countries took the form of both glazed and unglazed brick walls, with pictorial designs in low relief. The splendor of design and color — rich blue, red, yellow, and black — is comparable with the later tile-mosaic of the Saracens.

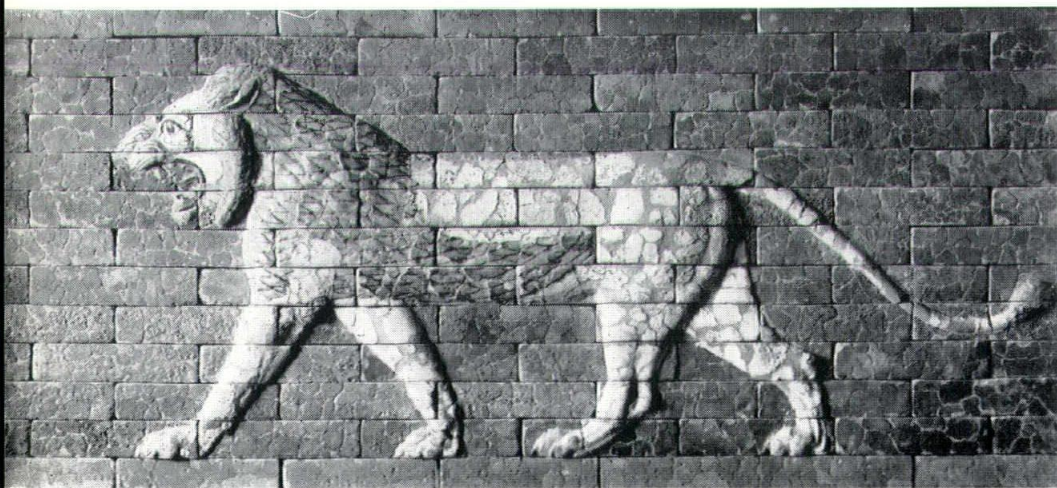
Two of the best examples of this work were in the Palace of Sargon, King of Assyria, at Khorsabad, and upon the walls of the sacred street of Marduk (Shrine of God) leading to the Ishtar Gate of ancient Babylon. In the great palace of Sargon, which was said to cover 25 acres, the colored murals lined the arches at the entrances of the approach ramps, up which the king's chariots were driven. On the walls bordering the sacred street of the God, Marduk, the enameled decoration was a procession of animals — lions, unicorns, bulls, and curious dragons — all sacred to the cult of Ishtar.

Tile with inscription, painted in blue and copper lustre, used as a mihrab or niche in religious buildings indicating the direction of Mecca.

The very important part that Persia took in the development of ancient ceramic art centers around the Achaemenian period 558–333 B.C. In this period, from the time of King Cyrus, Susa was the residence of the Persian kings, but under King Darius I, a great palace was constructed and typical examples of enameled brickwork were the "Lion's Frieze" and "Archers' Frieze." Although both of these examples are similar to the work of Babylon, the detail and color composition of the "Archers' Frieze" — with its brown of the skin, and robes of yellow or white relieved by colored rosettes — has similarity to the later work of Saracenic Persia.

The "Archers' Frieze" from Susa, about 500 B.C.

Courtesy of The Louvre, Paris



Glazed Brick Lion, Processional Way, Babylonia, 6th Century B.C.

Courtesy of Boston Museum of Fine Arts

With the fall of the Achaemenian line of Persia, when Alexander the Great crossed the Hellespont and gained control in 335 B.C., the technique died out and neither the Greeks nor the Romans made any extensive use of tiles. It was also true that India's role in the ancient history of ceramics was not important. The Indian people, somewhat like the Chinese, had little intercourse with other people at that time. It was in the later Moslem rule that the decorative tilework of India was brought to a climax.

Tiles of Saracenic Persia, Syria, and Turkey

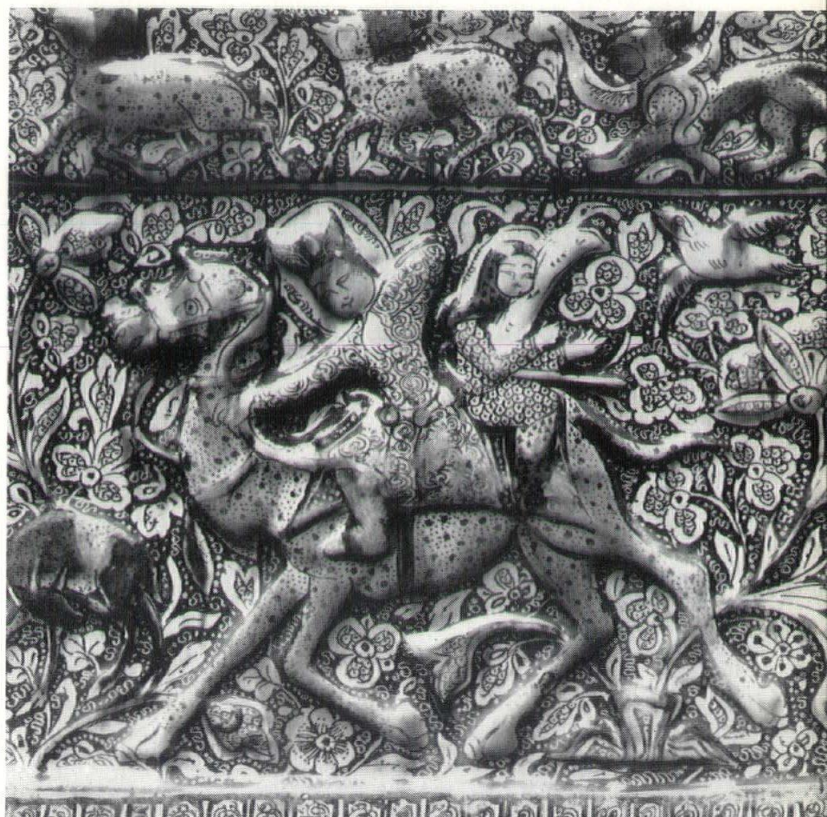
The Moslems, followers of their God (Allah) and the prophet Mohammed (570–632 A.D.) had their rise in Arabia and soon conquered their neighbors. Upon the death of Mohammed, his friend Caliph Abu Bekr became the leader and deliberately started to conquer the world for Allah. The Associated Tile Manufacturer's "Architectural Monographs on Tilework" by Professor Rexford Newcomb gives the following partial events outlining Saracenic history:

- 638 A.D. — Syria and Asia Minor conquered
- 640 A.D. — Egypt and Mesopotamia taken
- 643 A.D. — Spread into North Africa
- 644 A.D. — Persia proper conquered
- 661–750 A.D. — Omayyad Dynasty, Capital Damascus
- 711 A.D. — Saracens enter Spain
- 732 A.D. — Spread into France and defeat by the Christian army of Charles Martel at the Battle of Tours

The Arabs, having the oriental love for display and color and being decorators rather than great architects, quite naturally adopted and developed the ceramic arts of the conquered people. Whether these tilemakers had any knowledge of the work of their Achaemenian forefathers may be questioned, but it is clear that they had years of experience and laid the foundation for a great ceramic revival. The great devastation, such as that inflicted by the Mongols under the leadership of Genghis Khan, did not destroy the potter's art. The lives of the craftsmen were usually spared and often ceramic artisans lived with the strong and prosperous rulers.

Probably Persia played the most important part in the development of decorative tiles, and the finished tilework of this country exhibited a degree of skill and feeling for the material that has rarely been equalled.

For progress during the period from 622 to 1200 A.D., the historians of today can piece together only bits of information obtained from a limited number of excavations. The cities of Rakka, Rhages, and above all, Sámarrá, have each contributed their share of fragmentary evidence.

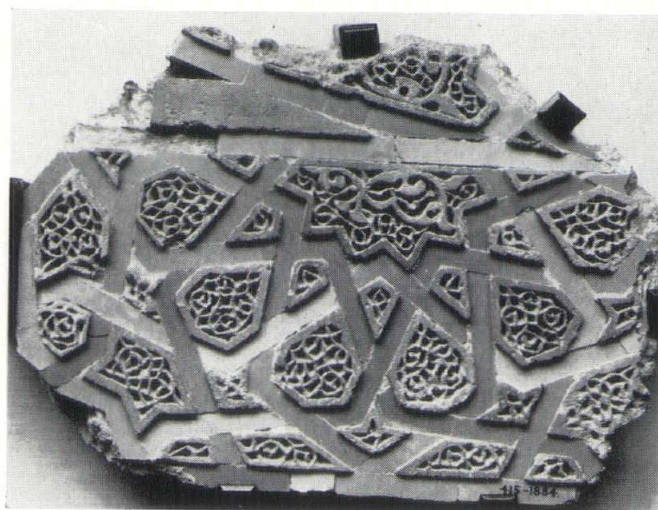


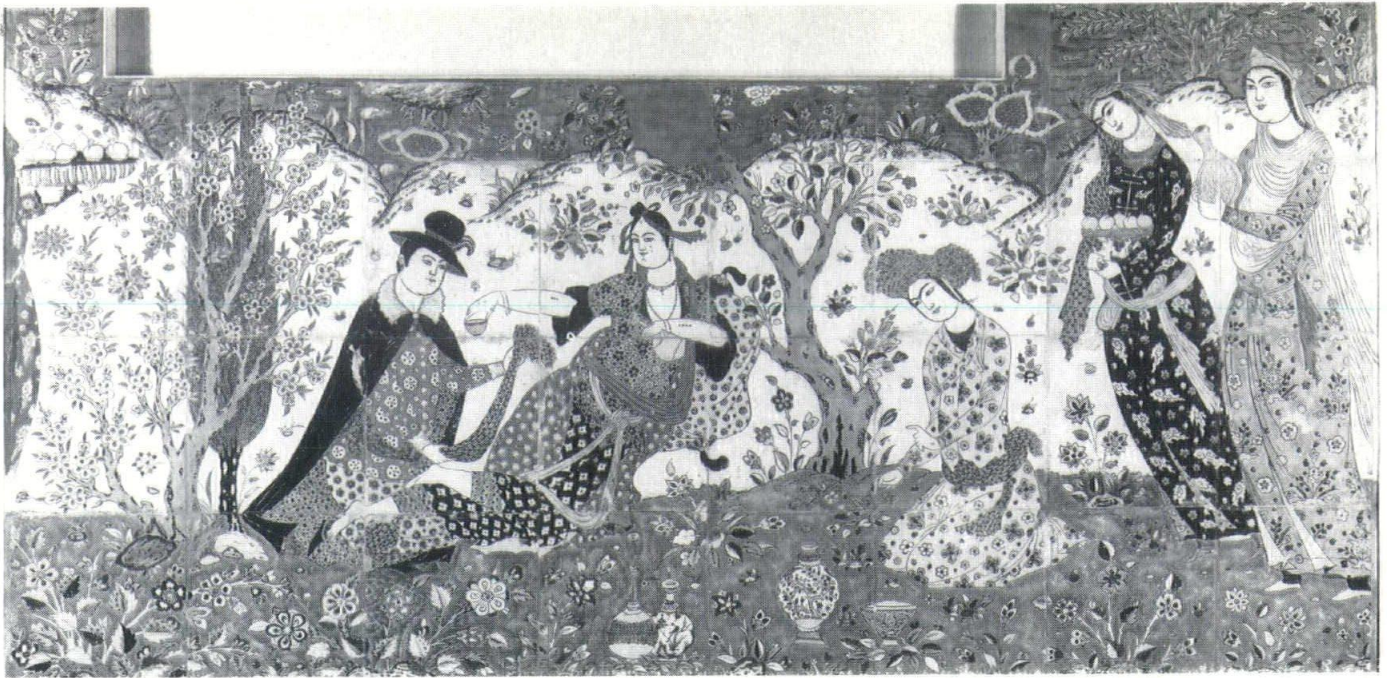
Courtesy of Victoria and Albert Museum, London

Persian wall tile 17th Century, showing King Bahram Gur and his favorite Azada.

13th Century Persian Tile mosaic separated by glazed strips. Note the Tile-seller making Mosaic in another illustration.

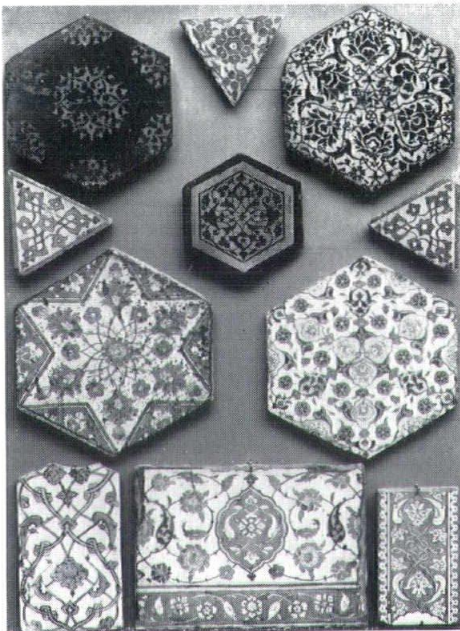
Courtesy of Victoria and Albert Museum, London





Courtesy of Metropolitan Museum of Art, New York

A Persian wall panel depicting the rich and languid life of the period of Shah Abbas I (1587-1629)

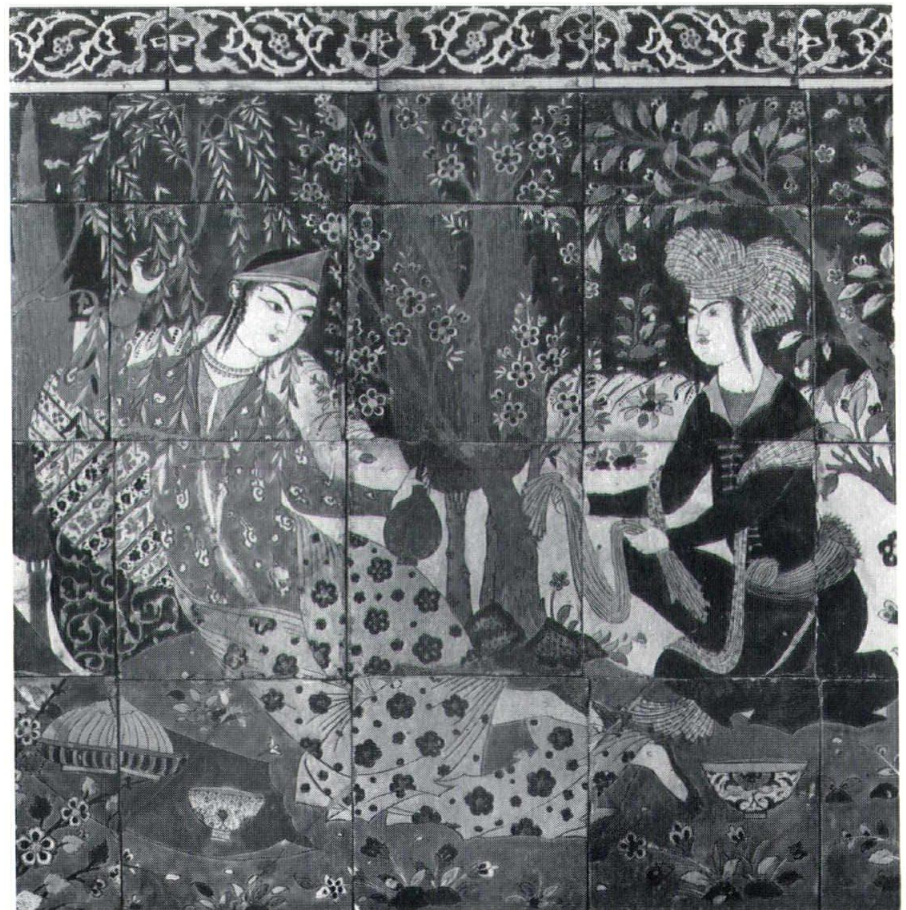


Courtesy of Victoria and Albert Museum, London

Turkish Painted tiles, 15th-16th Centuries

A fine example of a 16th Century Persian "Cuerda Seca" tile mural

Courtesy of Victoria and Albert Museum, London





Turkish wall tiles, 16th Century, bold in design and brilliant of color

Courtesy of Victoria and Albert Museum, London

The earliest tiles were found at Sámarrá in the Ninth Century. They were large 10½-inch squares surrounded by oblong hexagonal units, painted in red, green, yellow, and golden-brown luster. Between the Twelfth and Fifteenth Centuries, Persian tilework reached its perfection and as a result the mosques, public buildings, and even the houses of such magnificent cities as Rhages, Tabriz, Ispahan, and Veramin were resplendent with brilliantly glazed wall tiles, lustered in golden brown changing to an iridescent film of green, purple, or ruby red in the changing light. This luster technique, unique with Persia, was to influence later European tilework, especially that of Spain, as a sequel to the Moorish invasion.

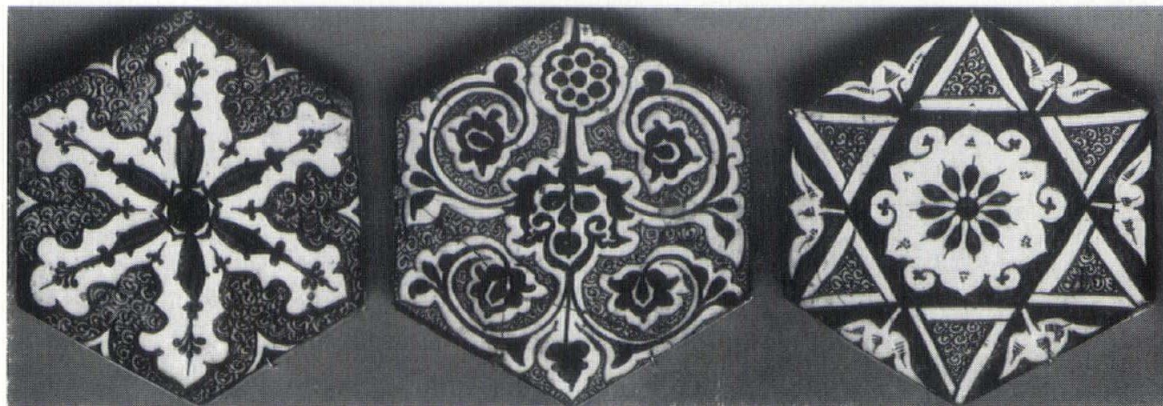
As the Moslem religion prohibited the use of animal and human forms in religious design, we find a marvelous use of lustered Koranic inscriptions raised in low relief, with background of stylized foliage.

Another characteristic shape was the eight-pointed star combined in pattern with the cruciform. These tiles were produced from inferior white clay, surfaced with a slip

(liquid clay), decorated in delicate patterns, with a final overglaze resulting in a rich color effect. The predominating colors were cobalt blue, turquoise, and copper green combined with the iridescent chocolate-brown luster. The decorative motifs covered a wide variety of subjects — the conventional pink, rose, hyacinth, and arabesques, the hare, the deer, and several kinds of birds.

Totally different from the painted tiles is the technique of tile-mosaic. The separate pieces were cut from large, glazed tiles already fired. They were then fitted to a pattern face downward, covered with reinforcing canes over which the mortar was poured. When dry, the panel was placed in its proper position on the wall. Famous examples of this tile-mosaic work are the Blue Mosque at Tabriz, completed in 1465 A.D. and the Tomb of Tamerlane at Samarkand.

To overcome the labor of cutting the pieces, a method made necessary to prevent colored glazes from running together, the Persians developed a dry cord technique, later known in Spain as "cuerda seca," where either dry channels or purple pigment lines were placed between the different



Syrian painted tiles — 15th Century. The designs are coarse, as compared to those of Persia and Turkey

Courtesy of Victoria and Albert Museum, London



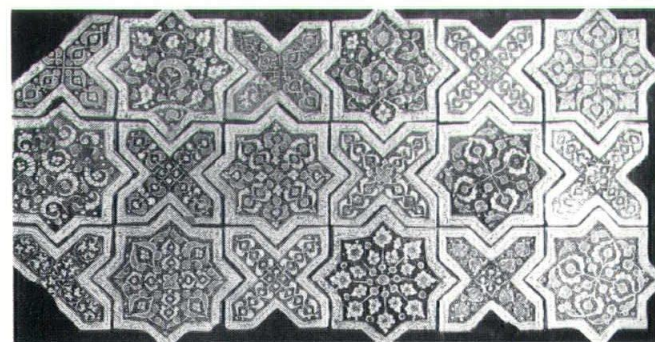
Courtesy of Boston Museum of Fine Arts

Persian painted portrait tile — 16th Century



Courtesy of Victoria and Albert Museum, London

Persian "Star and Cross" lustre floral tiles — 13th Century



Courtesy of Victoria and Albert Museum, London

Persian "Star and Cross" lustre floral design — 13th Century

glazes on a single tile. Polychrome glazed faience panels of this type of tile were used on the walls of the royal palace in the famous capital of Isfahan during the reign of Shah Abbas I, 1585–1627. These panels of human figures depicted the rich and languid life of the period, well illustrated by the tile mural owned by the Metropolitan Museum of Art which shows the ladies of the court receiving bribes or presents from European merchants desirous of the Shah's favor.

In the later work of the Sixteenth and Seventeenth Centuries, varieties of the painted panels were single tiles, with patterns in relief, showing figures of men hawking on horseback. Other tiles of this period show busts of men and women painted in flat tiles.

Little is known about the ceramic art of ancient Syria, for the Hebrews of Syria were a nomadic people, slow to adopt the art that surrounded their country.

In the later Saracenic period, Persian tilemakers found their way into Arabia, Egypt, Syria, and northern Africa where local schools of pottery were established. The Syrian tiles can be distinguished from those of Persia and Turkey by the rather coarse painted designs of arabesques, looped palmettes, and radiating motives based on the star, and the absence of red color. Turkey's part in the Moslem conquests started with the Ottomans and Seljuks who joined in the early crusades. Konia and Adrianople, in Asia Minor, became important ceramic centers until the capture of Constantinople in 1453 A.D.

At the height of its power in the Fifteenth and Sixteenth Centuries Turkey developed a national ceramic art and achieved great distinction for its decorative tiles. The victorious sultans, who fought against the Persians, brought back the craftsmen and we are told that Selim I, when he captured Tabriz and Kashan, moved 700 families of the best tilemakers to Isnik.

The tiles that lined both exterior and interior walls of the great mosques were unsurpassed for boldness of design and brilliance of color, and they endowed the inner walls, domes and mihrabs with special magnificence. The distinguishing color was a thick red obtained from a clay called Armenian bole and applied in the form of a slip.

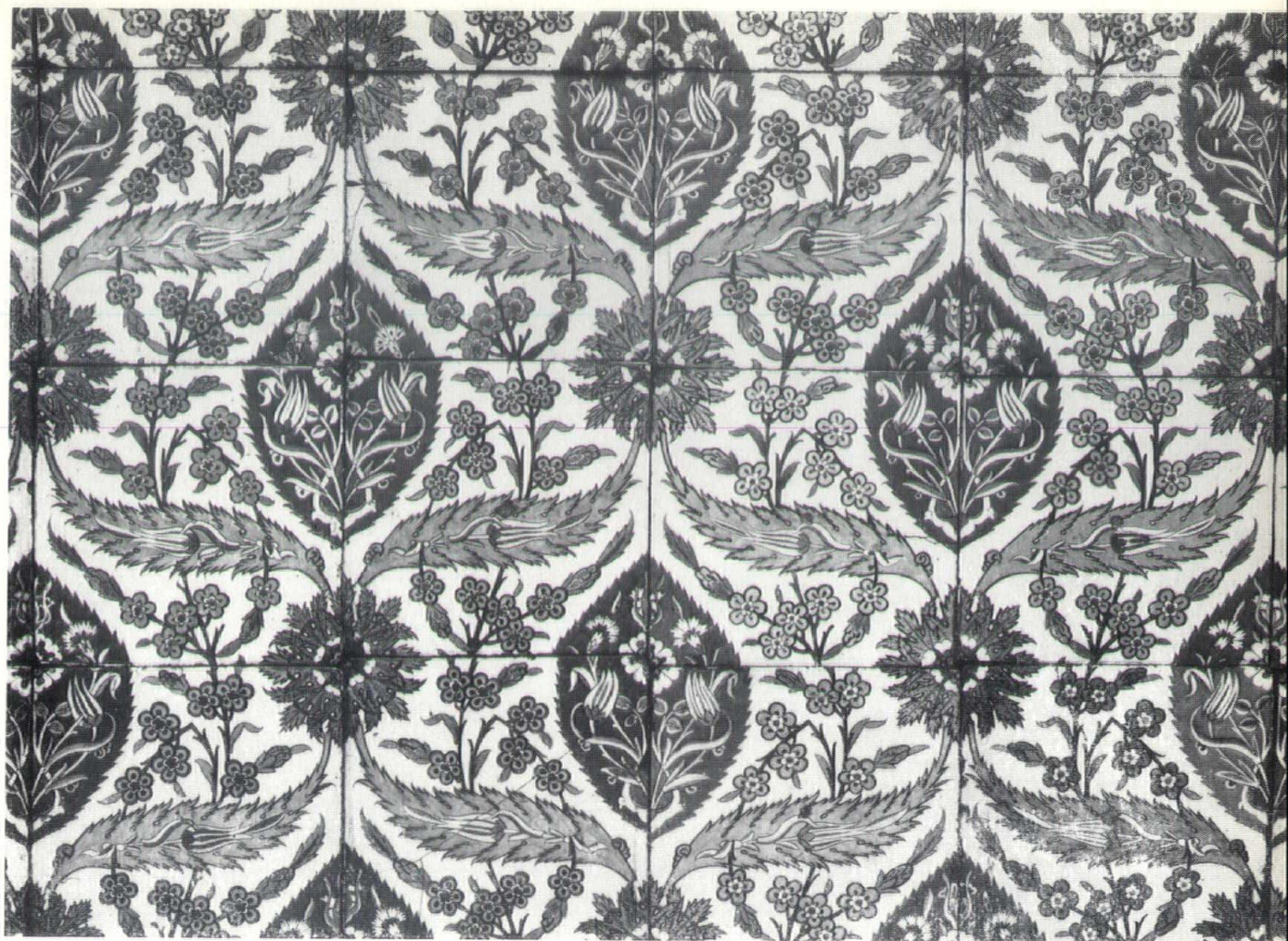
The tiles were of simple geometrical shapes, cut faience mosaic and unexcelled mural panels, painted with underglaze pigments on large areas of rectangular tiles. The best tiles were made from the clay of Nicaea (Isnik) coated with a transparent white glaze and a naturalistic rendering of flowers, all comparable to Chinese porcelain. The tile industry started to decline early in the Seventeenth Century and partially regained importance in the Eighteenth Century when Kutahia, largely populated by Armenians, became the center of tile manufacture.

India, Northern Africa and Spain

From Iran, the western plateau of Persia, emigrants went to India about 2000 B.C. Professor Rexford Newcomb states that these Aryan tribes were divided into four social classes: the Kshatriyas or nobles; the Brahmins or priests; the Vaisyas, the peasants and the Sudras of non-Aryan descent.

Below these were mentioned eighteen guilds of work people, including the potters.

Early native Indian architecture employed the use of brick, but there was little in the way of glazed tile until the invasion of the Mohammedans late in the 10th century. This culminated in the Pathan Dynasty which, due to misrule,



Courtesy of Victoria and Albert Museum, London

A Turkish wall panel representing a high type of tilework from the Mosque of Eyub Ensari, Constantinople, 16th Century

was easily conquered by the mogul chief, Tamerlane of Samarkand. His descendant, Baber, founded the great Mogul Empire that lasted until 1858.



Courtesy of Victoria and Albert Museum, London

Turkish border tile, 16th Century — Floral design on dark blue ground

The tiles of both of these dynasties were used to decorate domestic architecture, tombs or mausoleums, the Chini-ka-Rauza or "Tomb covered with China," located opposite the world famous Taj Mahal, being one of the best examples of the use of tile mosaics. Few Mogul buildings were entirely covered with tiles, as was the case in Persia. The work was executed in floral and geometrical patterns in green, blue, red and mustard yellow and some of the tiles were so carefully installed that the work appeared to be one piece. Age-old India brought forth a distinctive tile art, but its origin and inspiration was largely Saracenic.

A brief historical background of the Moslems in North Africa and Spain starts in 711 A.D. when the army of the Omayyad, Caliph of Damascus, defeated the Teutonic Goths and occupied both Africa and Spain. Gaining a foothold in Europe, the Mohammedans surged through southern France to be repulsed by the Teutonic Franks, in the savage battle of Tours, 732 A.D., settling the fate of Christianity. However, it was not until 1492 that the last Moslem king of Granada surrendered to Ferdinand and Isabella, and Spain became a Christian country once again.

Tiles of Tunisia, Algeria, and Morocco were not only influenced by earlier work but were imported from Europe. Tiled minarets, unlike the circular forms of Persia and Turkey, were square in plan, rising to a crenelated parapet, with box-like cupola above. In Morocco some of the tiles were designed and glazed with tin enamel, in the manner of the Delft School, by Dutch slaves captured in the Seventeenth Century.

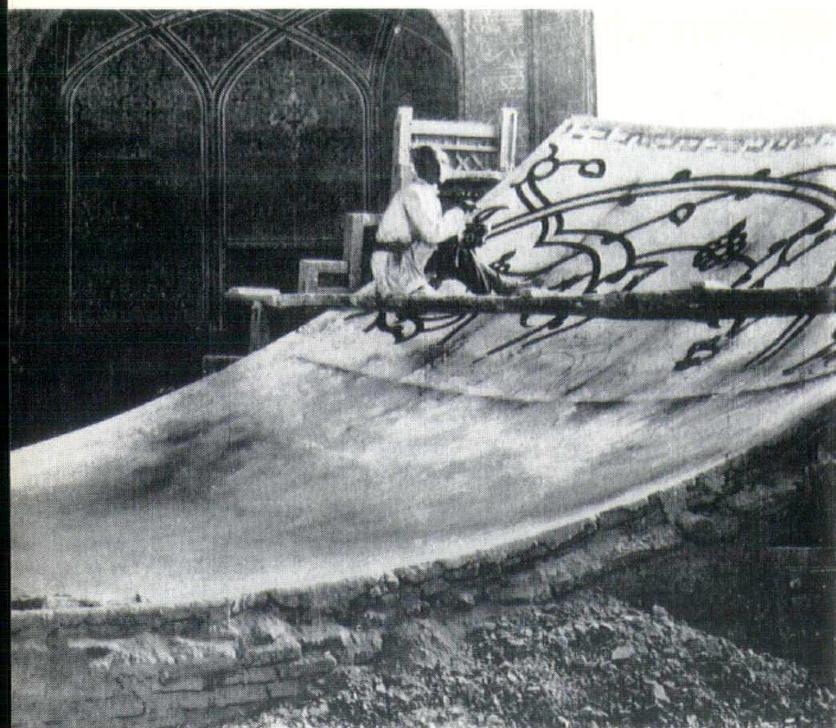


Photo — Pope

Isfahan, Madrasa Madar-I-Shah. These pictures illustrate the method used by the Persians in creating their wonderful Faience Mosaic. A masonry form was constructed on the floor and the artist painted the guiding pattern on this bed. Then the tile-setter cut and placed the tile mosaic in sections, pouring the mortar on the back of the tiles. The final work was to place the sections in their permanent position.

Photo — Pope



Strange as it seems, tiles were not extensively used in Spain until the Christians re-established their power. Many Moslems, called Mudejares, remained in Spain and their tilework naturally followed the Moorish style. In both public and private architecture, tiles were extensively used for decorating walls, steps, seats, and garden fountains; to have a house in Spain without tilework was a proverbial expression of poverty. Fine examples of this Fourteenth-Century work can be seen in the Alhambra and the churches and monasteries of Seville. The fact that the Moors of Granada held out for over two centuries after they had lost all of the other Spanish dominion, gave the kings of Granada the chance to build the famous Alhambra palace, which represents the highest achievement of Moorish art in Spain. Here glazed tile and colored plaster take the place of marble and mosaic.

Spanish tilework combined cut-mosaic, usually in geometric designs, with the method previously used in the Near East called *cuerda seca* (dry cord). Still another method appeared early in the Sixteenth Century, the *cuenca* (hollow) technique, where the design was pressed into the unfired face of the tile, leaving a raised outline that separated the colors. This and the *cuerda seca* technique allowed the reproduction of finer detail, such as the arms of the Pope, heraldry, candelabra, stylized leaves, flowers, and Renaissance designs.

Immigrant potters, among them being Francisco Niculoso of Pisa in Italy, came to Seville. Finding a popular enthusiasm for architectural decoration, they painted magnificent floral designs over panels of square tiles. Their method influenced the later tilework of Holland.

In completing our survey of Spanish tiles, it is interesting to note, that previous to the Eighteenth Century, skilled potters from Talavera, Spain, had established a pottery at Puebla, Mexico. However, the Spanish influence was gradually tempered by the native Indian Aztec art.

Medieval Inlaid and Relief Tiles of Europe

In striking contrast to the brilliant wall tiles, so extensively used in the long period of Saracenic conquest, are the inlaid and relief tiles of Europe. They were used under the Norman rule, from about 1200 A.D. to 1500 A.D., when the church held great power and every effort was made to excel the splendor of the Italian ecclesiastical architecture. In the middle of the Eleventh Century mosaic workers had been brought to Italy from Constantinople and a type of pavement called *opus Alexandrinum*, combining large discs of colored marble, was developed. From these pavements, the first earthenware tile pavements of northern Europe were derived, especially in those countries where native stone and marble were not abundant. The relief tiles, favored by Germany and Switzerland, were decorated in raised relief, the designs often influenced by tapestry motives of Persia. Other tiles common to the German cities along the Rhine were five-inch unglazed gray and red floor tile, with incised designs of monsters associated with heraldry stamped on the soft clay. Pavements of tile-mosaic consisted of red and brown tiles, usually geometric in shape, coated with a yellowish lead glaze.

Inlaid tiles were also derived from a type of stone pavement, made by the French in the Twelfth and Thirteenth Centuries, where the design was drawn on the stone surface, cut out and filled with a darker colored substance. The tilemakers borrowed this idea, and by means of a wooden die or sharp tool the design was struck into the moist clay. The impression was then filled with white or red clay, contrasting with the body color, and finally the tiles were glazed with transparent lead.

The technique of inlaid tilework was practiced with great success in England and the designs stand apart from those of continental Europe. These English tiles are one of the most interesting materials of the Gothic period and though somber in color, the designs were masterpieces of the medieval tilemakers. We can be reasonably sure that these tiles were made within the precincts of the monasteries. Confirmation of such a view can be found in the discovery of tiles in the Chapter House of Castleacre, in Norfolk, where there were said to be 39 monks and 48 benefactors. The motives combined geometrical combinations, conventional foliage, animals, heraldic emblems, and mythological figures, such as the griffin and the centaur. Examples of this tilework have been found in the medieval cathedrals, parish churches, and abbeys, such as the great Malvern Priory, the cathedrals of Gloucester and Westminster, the abbeys of Chertsey, Halesowen, and Keynsham. The cessation of this work dates from the Reformation, when the monasteries were dissolved and the craftsmen dispersed.

Renaissance Painted Tiles

When the Gothic influence drew to a close, the tilemakers turned to the Renaissance of Italy for their inspiration. This movement started in the Thirteenth Century but it was not until the Fifteenth and Sixteenth Centuries that it attained its greatest development. Art and science led to social distinction, and the expression of individual talent and realism took the place of medieval obedience to the power of God; all of which was reflected in the painted tiles. These tiles were known as faience or maiolica ware, the painting being applied over a stanniferous enamel. Public taste of the time can be judged from the following saying attributed to one of the clergy: "The inferior part of man will be in favor of Eastern porcelain, but the rational and intellectual will guide him to maiolica." It was unfortunate that these tiles were not used for wall decoration, for the soft glaze was not suitable for floor use and the designs were destroyed by constant wear.

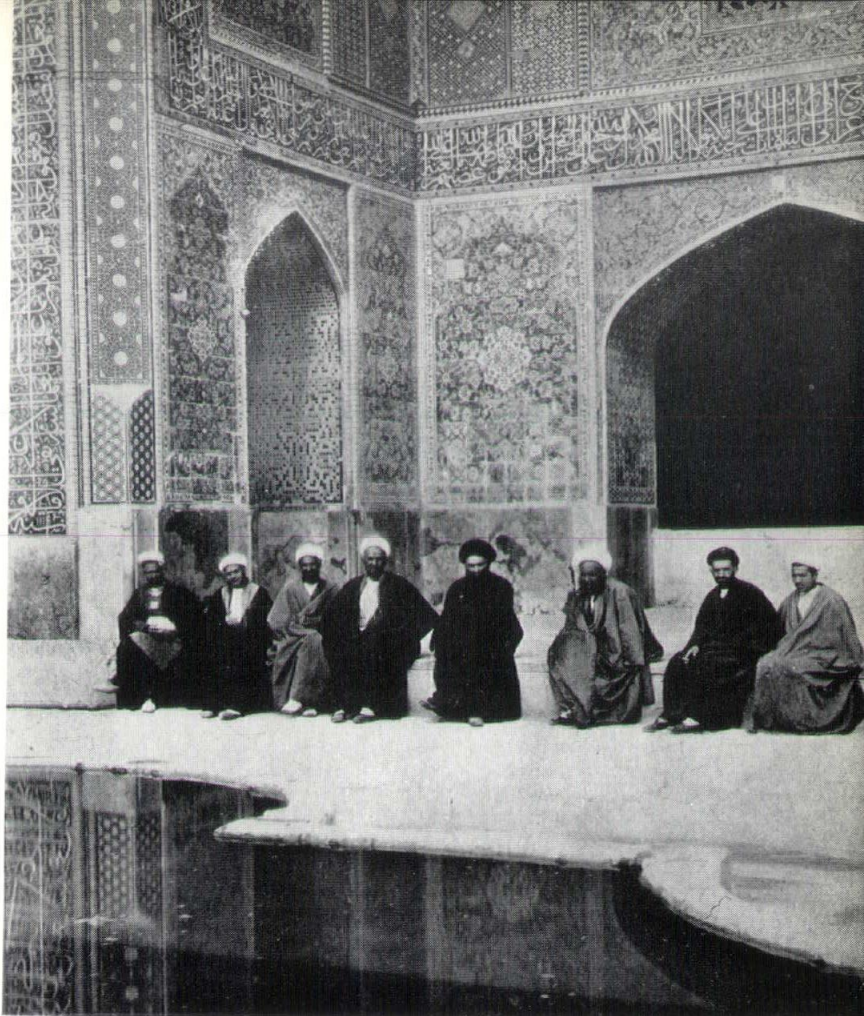
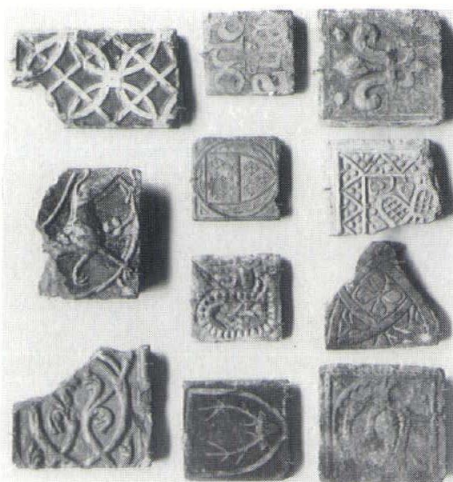


Photo — Pope

Isfahan, Madrasa Madar-i-Shah. This building shows the great gate of a college and the gentlemen in the foreground are the teachers. The wall decoration represents the extensive use of decorative tilework by the Persians and their ability to combine many motives effectively.

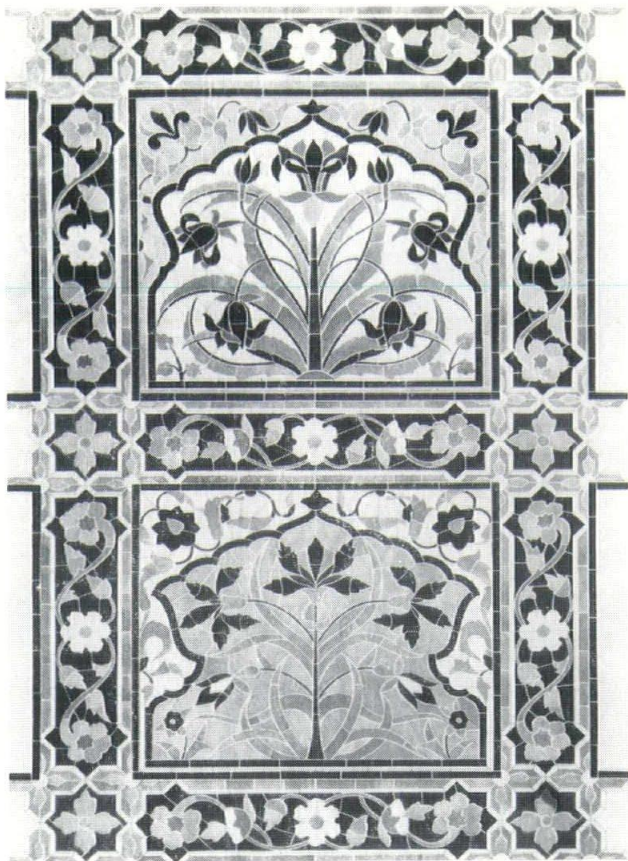
The tile painters were tempted to copy the work of the great masters, and inspiration came from such painters as Leonardo da Vinci (1452-1519), Michelangelo (1475-1564), Titian (1477-1576), Raphael Sanzio (1483-1520), and many others.



Courtesy of Victoria and Albert Museum, London
English and Scottish Relief tiles, 13th-18th Centuries



Courtesy of Victoria and Albert Museum, London
English Medieval Inlaid tiles, 15th-16th Centuries



Tile panel, Chini-ka-Rauza, Agra, India

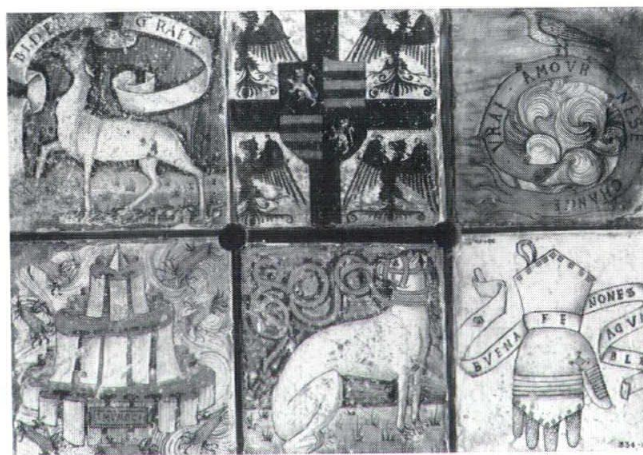
English Medieval Inlaid tiles.

Four tile floral design from Keynsham Abbey, Somerset

Courtesy of Victoria and Albert Museum, London

The idea of painted tiles for pavements was carried to Germany and Switzerland during the Sixteenth Century and the technique was soon adopted by the makers of stove tiles. The spirit of the Renaissance almost vanished in the Seventeenth Century and it remained for the Netherlands to revive the use of tin-enameled tiles for wall decoration.

Part II — "Decorative Tiles," covering the tile-work of Holland, England, will be published in the next issue of "The New England Architect and Builder, Illustrated."



Courtesy of Victoria and Albert Museum, London

Renaissance painted tiles showing the devices and mottos of the ruling families.

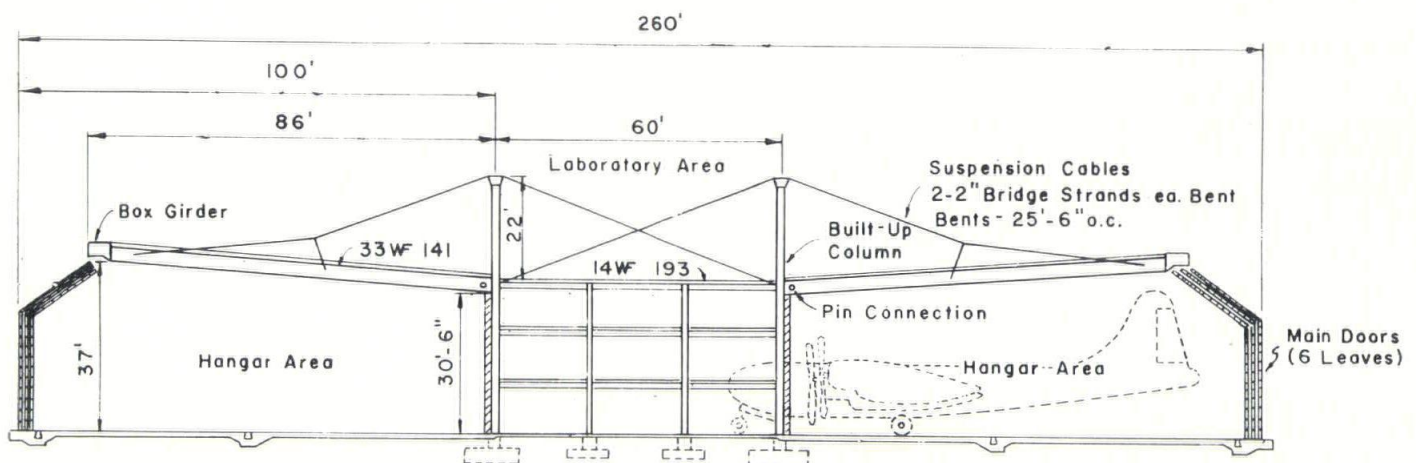
BIBLIOGRAPHY

- Lane, Arthur, "A Guide to the Collection of Tiles," Transatlantic, London, 1939
- Newcomb, Rexford, "Architectural Monographs on Tiles and Tilework" (Associated Tile Manufacturers, 1924)
- Prime, William C., "Pottery and Porcelain" (New York, Harper & Brothers, 1879)
- Hobson, R. L., "A Guide to the Islamic Pottery of the Near East," Transatlantic, London, 1932
- Birch, S., "History of Ancient Pottery," London, 1873
- Furnival, W. J., "Leadless Decorative Tiles, Faience and Mosaic," Stone, England, 1904
- A. U. Pope, "A Survey of Persian Art," Oxford, 1938

Suspended Roof Keynotes Raytheon Hangar

R. W. Albrecht,
Senior Engineer - Fay, Spofford and Thorndike, Inc.
Boston, Massachusetts

A cable-suspended roof design for Raytheon Manufacturing Company's new hangar at Bedford, Mass., provides at reasonable cost a necessary balance between hangar and laboratory space, and an optimum in access for airplanes. It is the first of its kind in New England, architecturally blending together a three-story central laboratory structure with two integrated hangar areas.



End view of hangar showing major structural framing arrangement and method of suspending the roof.

ORGANIZATION FOR RAYTHEON HANGAR PROJECT

CLIENT	Missile Systems Division, Raytheon Company
SPONSOR	Bureau of Aeronautics, U. S. N.
SUPERVISOR	Bureau of Yards and Docks, U. S. N.
ENGINEERS	Fay, Spofford and Thorndike, Incorporated
CONTRACTOR	General building and site work — S. Volpe and Co., Inc.
STRUCTURAL STEEL	Groisser and Shlager Iron Works
HANGAR DOORS	Byrne Doors, Incorporated

RAYTHEON HANGAR

INTEGRATING FUNCTION WITH DESIGN

Constructed under the sponsorship and supervision of the U. S. Navy (see Table I) for Raytheon's Missile Systems Division, the installation is used for developing electronic devices and adapting them to planes. As such it contains hangar space for planes, and laboratory and office space for test and development work. Emphasis is placed on functional aspects: main hangar doors are designed to provide maximum access at a minimum cost; auxiliary doors on one side of each hangar area are utilized for additional access by small aircraft; roof supporting columns are eliminated in the hangar bays by the cable-suspended roof; and a high degree of illumination is obtained by using fluorescent lights.

FACTORS IN DESIGN

An analysis indicated that to cover the required area of 186 feet by 260 feet specified for the structure, the costs for an arch hangar as compared with cable-suspended design were substantially the same. Because of the saving in steel, the cable suspension system was more economical than one having cantilever trusses. Further studies revealed disadvantages to an arch design relative to physical layout of space in the laboratory and access into the hangar areas.

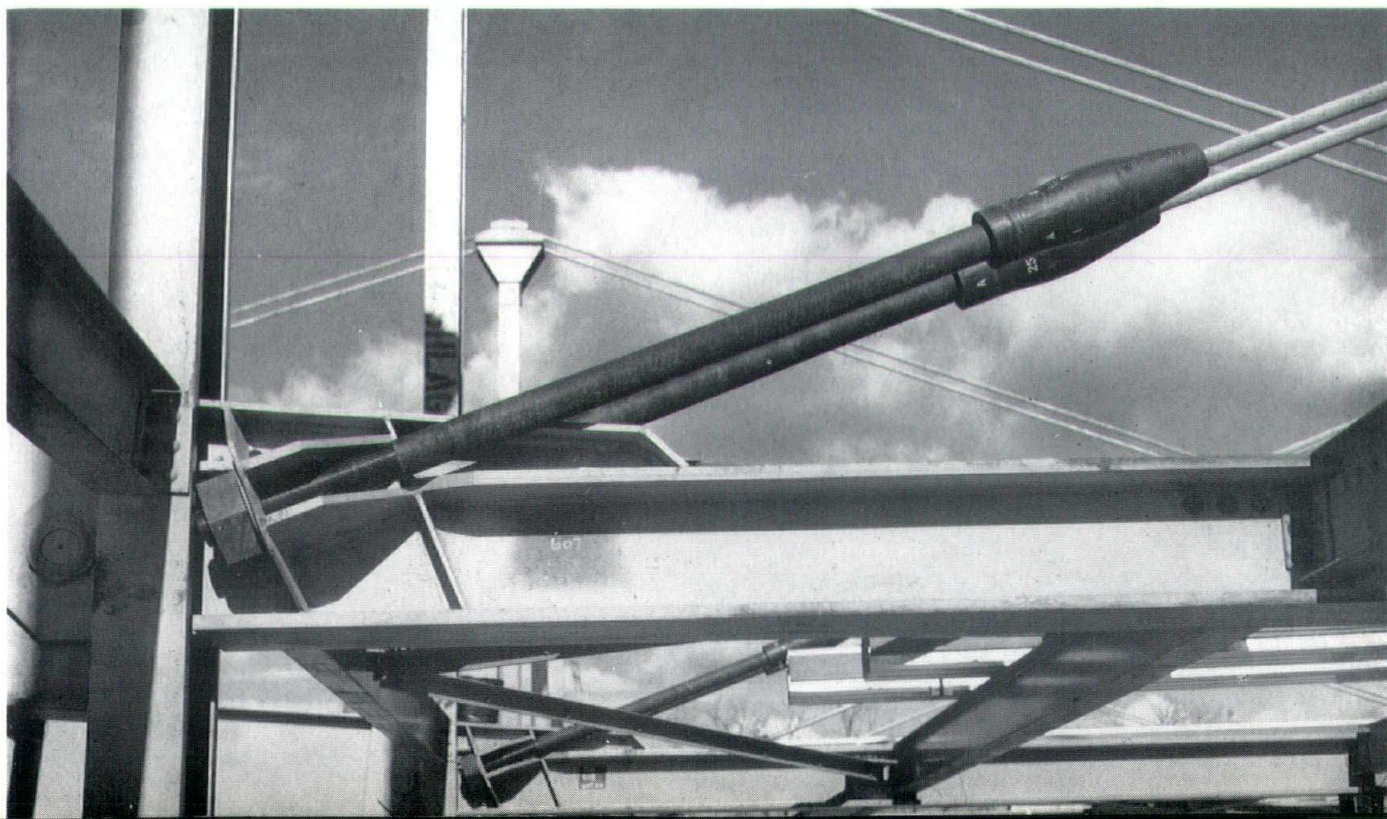
Final plans incorporated a central laboratory section about 182 feet by 62.5 feet with a suspended roof extending outward from each of two sides for a distance of 86 feet. At the outboard ends, doors slope outward to a hinge point and then descend vertically to ground elevation. A dimension of approximately 100 feet from the laboratory wall to these main doors is obtained without extending the 86-foot length of the roof beams. An overhead clearance of 37 feet is maintained at the door opening, decreasing to 30.5 feet at the wall of the central laboratory section.



Section of the box girder is raised into position. The outboard ends of the roof beams are tied to this member. Its lower section forms the guide rails for the main doors. Note the piping grid for the snow removal system.

Conventional sliding doors are installed in the end of the structure facing the runways to cover an area 72 feet wide by 16 feet high in each hangar. They may be utilized to bring small planes inside without disrupting other work in progress.

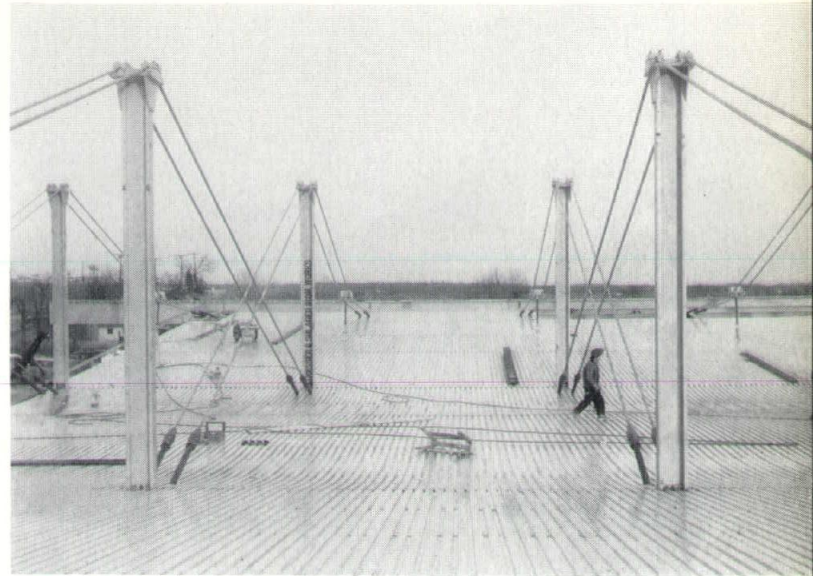
Cable anchorage for the roof suspension system. Sockets were assembled to the strands prior to shipping to the site. Pin at end of suspended roof beam can be seen to the left.



STRUCTURAL FRAMING AND ROOF DETAILS

The structural steel for the central laboratory is framed in bays 20 by 25.5 feet. Lateral loads are carried through a horizontal bracing system at the roof and through vertical bracing at the ends and in two interior bays. The two outer rows of columns are extended 22 feet above roof level to form the cable supports for the roof suspension system. Each is fabricated from two 9x2 inch flange plates and a 3/4x12 inch web plate. In lieu of rolled members, built up sections are used to obtain the section required for compression with a moment of inertia sufficiently small to give the flexibility necessary in the building columns to permit cable elongation. The 14-inch WF193 roof beams for the control laboratory resist the compression loads caused by the cables anchored at their ends.

In the suspended portion of the hangar roofs, the beams are 33WF141, framed so that the inner end is hinged to its corresponding column in the building frame with a five-inch diameter pin. A set of two galvanized bridge strands, each two inches in diameter, supports each beam at two points along its length. Carried on saddles attached to the upper ends of the columns above the roof, the cables are anchored to the opposite column at the level of the roof. The connection is through a socket and threaded rod



The pitch of the roof toward the central section is pronounced in this photo. Roof deflection of 12 inches downward and 10 inches upward measured at the outboard edge of the roof may occur under snow and wind loads. Breaking strength of each cable is 490 Kips; the maximum design stress is 215 Kips.



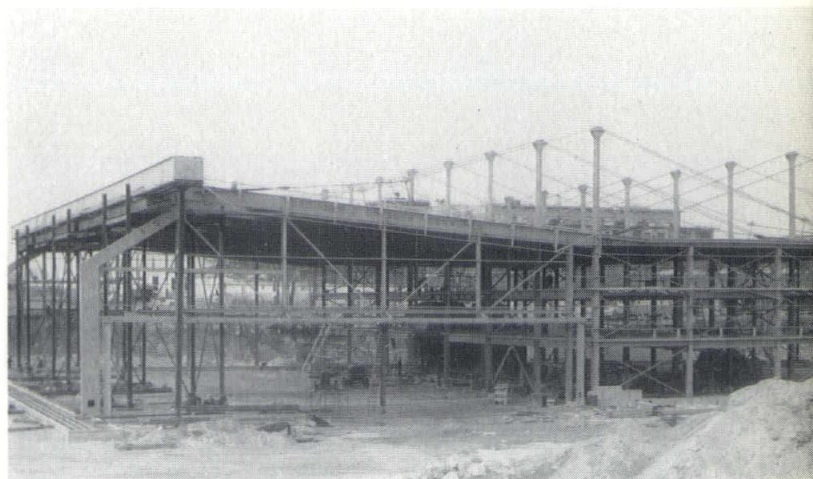
A layer of concrete is being poured over the roof deck. Covered with tar and gravel, this acts as a counterbalance to possible uplift.

arrangement. Viewed from the end of the hangar, the cables form an X over the central section of the structure.

During erection, the section of the cables located above the central section were rigged first. Prior to loading each set, the vertical roof columns were deflected four inches toward the anchorage points so that they would be vertical under dead load conditions and that bending stresses would be at a minimum.

The outboard ends of the 33-inch WF roof beams support a 54-inch by 40-inch structural steel box girder which acts as guides for the upper rollers of the main hangar doors. This girder spans the full width of the hangar and cantilevers approximately 36 feet beyond the exterior building walls of the structure to support the telescoping doors when fully open. In addition, it equalizes unbalanced roof loads and lateral loads from the hangar doors to prevent over-stressing any part of the structural system. The girder will deflect downward a maximum of 12 inches under snow load and upward 20 inches under wind load.

Design criteria for the hangar roof includes a snow load of 40 pounds per square foot and, for uplift due to wind, 36 pounds per square foot. A two-inch thick layer of concrete, rigid insulation, and conventional built-up tar and gravel roofing over the steel roof deck functions as a



A view of the hangar after steel has been erected and cables installed. Shoring that supports the box girders is still in place.



The completed hangar with aircraft typical of those that can be housed inside parked on the apron. The sloping side doors when opened nest on the overhang of the square girder thus giving unrestricted access to the hangar areas.

counterweight against uplift. The second and third floors of the laboratory section are designed for a live load of 150 psf.

A GLANCE AT OTHER FACETS

To facilitate experimental work, seven service pits are located in the floor of hangar sections. Equipped with hinged covers of aluminum, they have connections for compressed air, telephone service, 120/208 volt power and 400 cycle current. Grounding receptacles are included at convenient points throughout the areas.

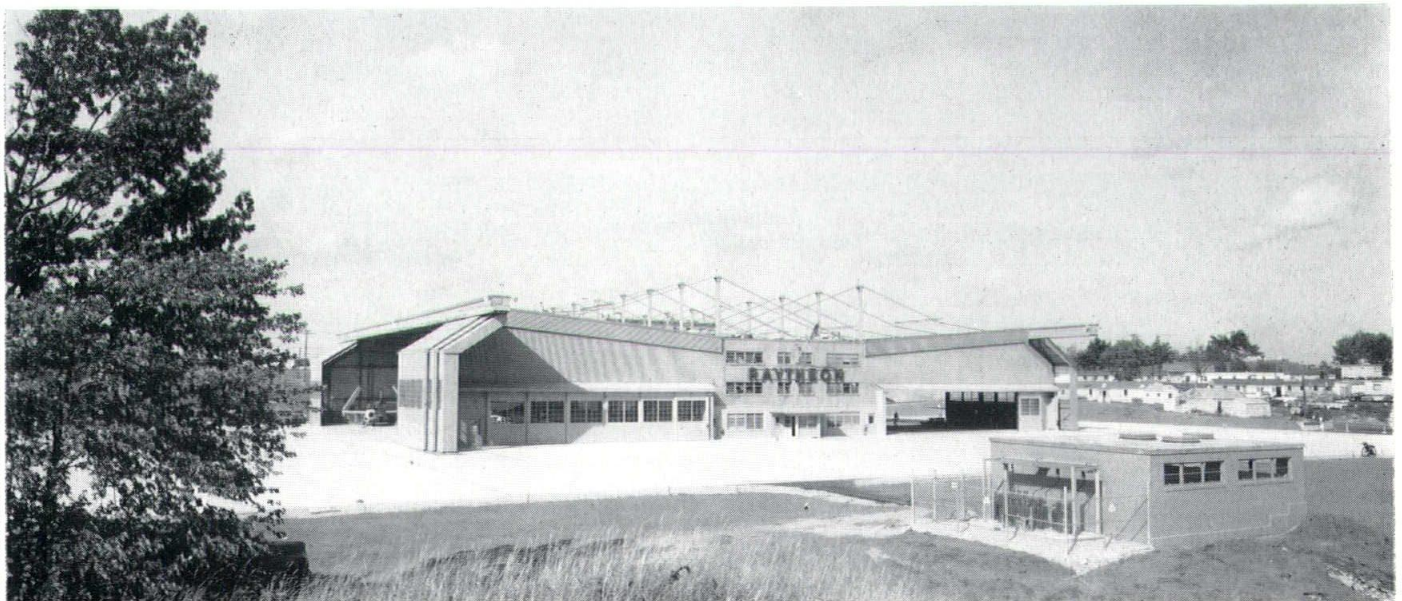
Drainage of the floor is through two trench drains across each hangar, one about midway between the central laboratory and the main doors, the other just inside the doors.

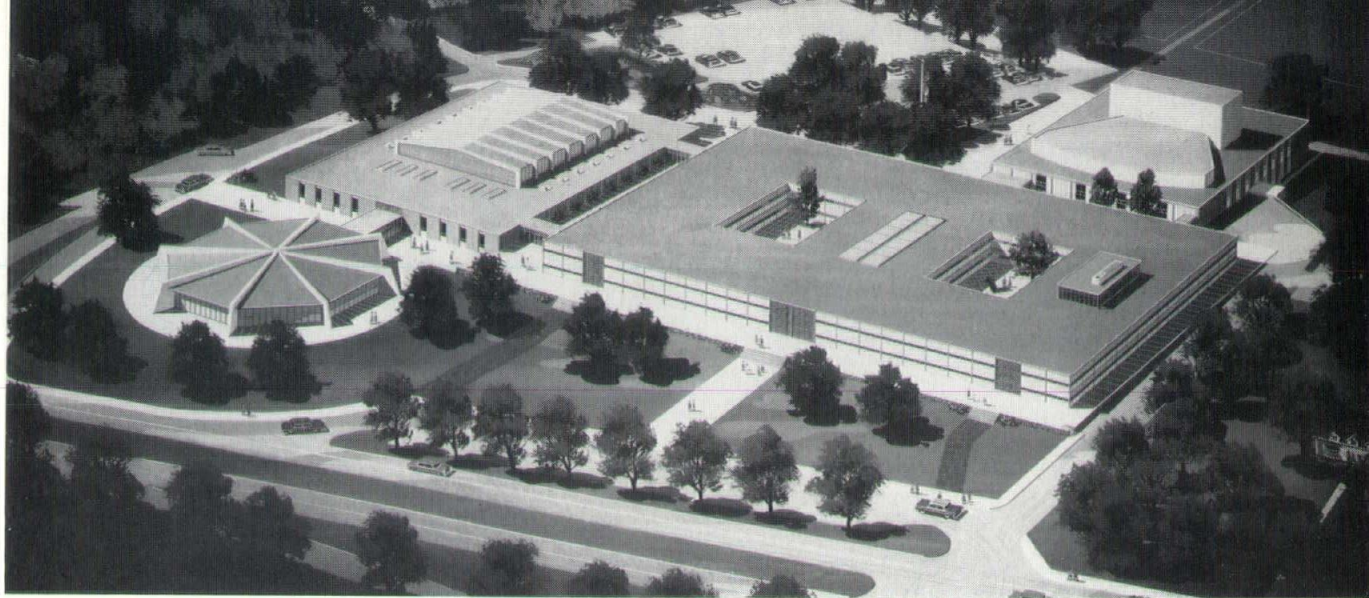
Opening the hangar doors causes substantial loss of warm air and requires a heating system that will recover quickly. Steam generated in two oil-fired package boilers is piped to high capacity unit heaters mounted under the roof. The system can deliver 15,000,000 BTU per hour.

Piping containing a heated glycol solution for snow removal is embedded under the hangar doors. When the hangar doors are closed, a large portion of this radiant piping actually is inside the structure and creates a heat barrier against cold air infiltrating through the doors.

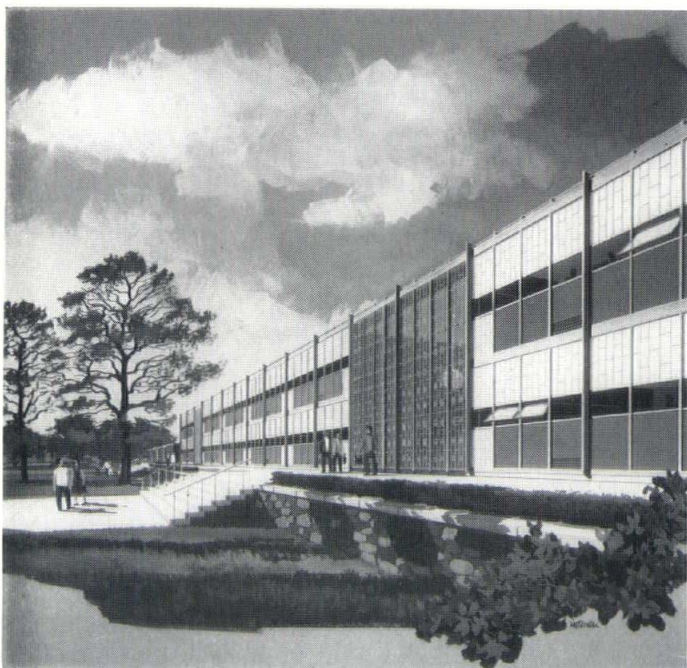
Fire protection is in the form of an overhead deluge sprinkler system in the hangar areas and an automatic wet pipe system in other sections. An underground water reservoir of 250,000-gallon capacity with two automatically operated pumps supplements the public water supply for the deluge system.

The completed hangar with the doors open and nesting under the overhang of the box girder. The small structure in the foreground is the pumping station for the deluge sprinkler system. Underground to the right of this building is the water reservoir.





AWARD-WINNING HIGH SCHOOL FEATURES TRANSLUCENT PLASTIC CURTAIN WALL.

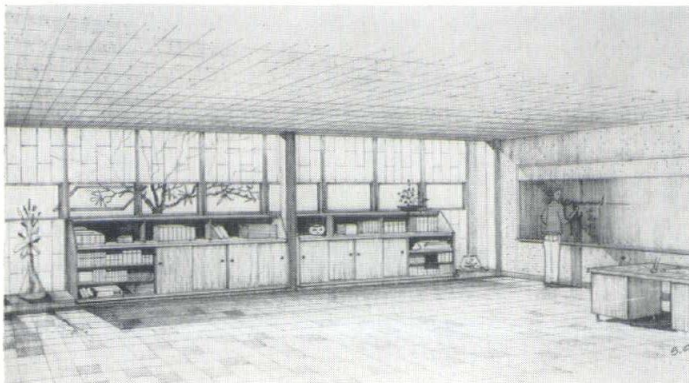


Construction has begun on the newest addition to the Stamford, Connecticut school system — the \$4 million Stamford Senior High School. Scheduled for completion in September 1960, the building features the new plastic and aluminum curtain wall system manufactured by Kalwall Corporation, Manchester, New Hampshire.

Designed by the New York architectural firm Urbahn, Brayton and Burrows, this school has been given a citation for "Excellence in Design" by the American Institute of Architects and the American Association of School Administrators. The plan consists of four buildings connected by enclosed passageways. The principal two-story structure contains academic classrooms for 1,600 students. The flexible arrangement of partitions and the modular design will permit an ultimate 2,400-student capacity. The exterior walls will be constructed of translucent plastic panels, opaque spandrel panels, and fixed and operable sash sealed into lightweight, structural, $3\frac{1}{2}' \times 10'$ Kalwall Panel Units. The unique plastic curtain wall treatment will provide evenly diffused natural daylight for the classrooms, and in addition will effect substantial savings in erection cost. The architects estimate that the translucent walls will provide a 75% savings in heat loss over equal areas of glass.

Directly behind the academic building will be a 1,000-seat auditorium, the music department and industrial arts facilities and to the left, a gymnasium seating 1,200 persons, 2 auxiliary gyms, lockers and special classrooms. In front of the gymnasium, an octagonal building will house a 25 meter, 5-lane swimming pool, with seating for 400.

In general, these buildings are constructed of fire protected steel and poured concrete slabs. Curtain walls of the Pool Building and the Academic Wing will be manufactured to the architect's design at the Kalwall plant into rigid, structural units, thus allowing unusually rapid erection at the job site.





Show-Room — New York City

Teakwood

World's Most Beautiful Wood

By: **Josef Wallner**

President, Hunter & Wallner, Inc.

In my twenty years of business life in many parts of the world, I have found very few materials that were subject to so much misinterpretation and controverse opinions as one can observe in discussions regarding teakwood. This most exciting wood, formerly limited to the budgets of European monarchs or American millionaires, is becoming great fashion, and with the

emphasis that nowadays is given to beautiful interiors, we may notice in the near future an amazing amount of teakwood-flooring and teakwood-wall paneling. Modern manufacturing methods and Far East government policies are the main reasons why teakwood installations are now available to members of our humanity which do not carry a roman number behind their first name. The achievements accomplished in the price reduction of teak have led to assumptions that teakwood rates soon might compete with those of oak. Such ideas must be considered as being absolutely ignorant towards the fact that the industrialization of teakwood has its strict limit in the pace of natural growth. In the following I will try to provide some basic information, while an article in next month's issue will deal exclusively with a description of teakwood production and the technical and human factors involved in it.

Genuine teakwood (*Tectona grandis*) has won fame for the outstanding beauty of grain as well as its high resistance to decay, providing at the same time almost absolute dimensional stability. The oily wood does not suffer from insect attacks and no other wood will withstand humid climatic conditions as well as *Tectona grandis*. Its strength properties compete with our White Oak, but it can be worked much easier with tools. Recognized as one of the strongest and most beautiful woods in the world, it is the "gold" among all timbers for shipbuilding, flooring, wall paneling and other interior woodworking.

Genuine teakwood grows in tropical rain forests. Commercial quantities are grown only in India, Burma and Thailand. There is no Danish teakwood, there is only furniture imported from Denmark, made from teakwood which they import from Thailand. Fifty years from today, you may be able to buy teakwood grown in the Caribbean region or in tropical Africa, but those plantations are relatively young and for the time being quantities come only from the Far East.

One acre of land produces about 40 merchantable trees per hundred years. Only the low operating cost of cheap labor insures a satisfactory return on capital investment. Management of the forests is mostly under government control and there are a number of reasons why teakwood supply will never be abundant.

The procedure from cutting to milling, involves a tremendous knowledge and training. Thousands of elephants and buffaloes are employed for performances that, by this time and maybe never, could be done by machinery.

Teakwood is graded in European terms and the selections of timber which goes for export is done with utmost care. All wood that does not meet the high requirements for exportation is used for local purposes; rejected pieces and waste pieces may go the way of the fireplace. It is impossible to provide a complete description of teak production in this limited space; however, I hope I have succeeded in making clear, that teakwood always will be noble, highly desirable material, and never "cheap stuff" as some may think — watching the use of waste material.

Strange as life is, it was necessary that a young student from Thailand, our friend Yindee Changtrakul, did an almost deadly jump in a shallow pool. With a broken neck and partially paralyzed, Yindee was convalescing in the home of American friends. The long illness led to professional discussions, and we have to thank the brave Yindee Changtrakul, that Bangkok has today the most modern manufacturing plant in the Far East. This plant, especially designed for the



Private Home in Philadelphia

production of parquetry flooring, is subject to continuous improvement and it is for this reason that a genuine teakwood flooring, as distributed by our company, is not anymore out of reach. Many homes in the price range of \$20,000 and up, numerous executive offices, hotel dining rooms, etc., have already acquired Thailand teak as manufactured by Yindee Changtrakul. We have many inquiries even from owners of lower priced homes who realize that the most beautiful furniture does not show all of its value on a low cost floor.

Nothing else emphasizes the beauty of a room more than a professionally designed and professionally installed floor or wall. It seems silly to build, as it happens nowadays, a \$35,000 home with a twenty cent soft wood floor installed, and hidden under an old-fashioned wall-to-wall carpet. Since Yindee from Bangkok broke his neck in an American pool, you can even afford a floor or a wall made from genuine teakwood.

Conference Room — Philadelphia



Bulletin DIGEST

AS COMPILED BY M. PATRICIA WILLIAMS, ASSOCIATE EDITOR



OFFICERS OF THE NEW ENGLAND HOME FURNISHINGS CLUB

Left to Right — Irving Petkun of Roslindale, Chairman of the Board; Murray Zimmerman, Brookline, Treasurer; George Lincoln of Wakefield, newly elected President; and Paul H. Mahoney, Lexington, Executive Director.

The Fourth Annual Home Furnishings Show will be held in the Commonwealth Armory, April 18th through April 24th. Complete story on page 32.

FIRST ISSUE

The first issue of "Architectural News Digest" is currently being forwarded to architects and builders throughout New England.

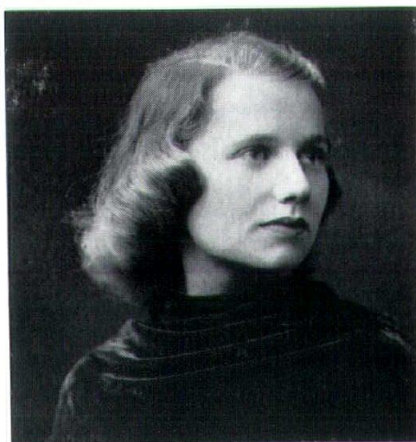
This publication is to be published issued monthly by the Boston Office of Owens-Corning Fiberglas Corp., manufacturers of Fiberglas, an important component to many building materials. It features outstanding buildings recently constructed in this area. According to Walter L. Bowes, Boston branch manager of O-C-F, the Digest is intended to gain public recognition for the distinguished work being done by New England architects and contractors.

PRESIDENT'S MESSAGE

President, Maria A. Dellorfano

In August 1958, Boston, Massachusetts, was Chartered as the thirteenth Chapter in the National Association of Women in Construction. There are now thirty Chapters throughout the United States — including Texas, Louisiana, Arkansas, Tennessee, California, Oklahoma, Mississippi and Massachusetts, with a total membership of over two thousand women.

The first officers to serve the Boston Chapter, along with the Committee Chairmen and each member, are to be commended on their industrious work and loyalty in laying the foundation of this organization in Boston. Without the endless efforts of each member, our Chapter would not have grown to be the largest in the country. We thank all of you for your splendid participation.



The newly elected officers for 1960 have been installed. We shall strive to continue the works of the past officers who have paved the way for us, and continue the growth of our Chapter. We hope to spread the policies and aims of Women in Construction to our neighboring states and establish Chapters throughout this area.

The strength we need to keep our Boston Chapter flourishing lies in the hands of each member. The officers, directors, and committee chairmen will be responsible for carrying on this organization, but it requires each member to cooperate if they are to succeed in their jobs.

We shall be looking forward to meeting many more members this year. For information regarding membership in the Boston Chapter, please contact:

Kathleen Happenny c/o W. Chester Browne and Associates, Inc. 122-128 Arlington Street, Boston 16, Massachusetts. HU-2-6060.

I would like to take this opportunity to extend my personal thanks to each member of the Boston Chapter of Women in Construction for the privilege of being your president this year. I will serve your needs for the betterment of our association and trust we shall enjoy a most productive year together.

NEW BUILDING DEDICATED



Wexler Construction Company of Newton was host to more than 500 state and municipal officials, civic leaders and members of the construction industry at an open house, Friday, January 22, dedicating the company's expanded headquarters at 118 Needham Street, Newton. The celebration coincided with the company's 12th birthday and its completion of \$75,000,000 in construction contracts throughout New England.

—DRAGON CEMENT—

The Dragon Cement Company of 150 Broadway, New York are pleased to announce the following promotions: William H. Klein to Executive Vice President — Production; and R. H. B. Smith, Executive Vice President — Sales; effective January first.



First Row: Susanne Murphy, *Director*; Kathleen Happenny, *Secretary*; Maria A. Dellorfano, *President*; Celia Wojcieki, *Treasurer*. **Second Row:** June Riley, *Director*; Mildred Gainey Reardon, *Director*; Theresa Kiley, *Vice-President*; and Gloria J. Salvo, *Director ex-officio*. Not present for the picture, M. Patricia Williams, also a *Director*.

NEW BOARD OF DIRECTORS WOMEN IN CONSTRUCTION

Following impressive installation ceremonies recently held in Boston our staff photographer caught this smiling group of WIC officers looking over plans for the coming season. A complete picture story on page thirty-six.



New England Insulation Company celebrated its 25th anniversary January 11, with a banquet at the Eastland Hotel in Portland, Maine. On this occasion it was announced that New England Insulation Company would enter the resilient floor tile business in Maine, New Hampshire and Vermont in connection with the Ruberoid Corporation. Along with their acoustical work the firm is also engaged in the sales and installation of movable steel office partitions and metal toilet partitions. New England Insulation Company maintains offices at 219 Anderson Street, Portland, Maine, and field offices in Bangor, Maine, and Alton, New Hampshire.

Left to right: Albert Moreira, New England Insulation Company, Portland, Maine, Office Manager; Robert N. Sheppard, New England Insulation Company, Regional Manager, Walter Temple, Acoustical Division of New England, Sales Representative; Bradford Beever, Ruberoid Corporation, New Hampshire Sales Representative; Jay Stewart Schraf, Ruberoid Corporation, Vermont Sales Representative.

Standing left to right: Louis D. Germani, New England Insulation Company, New England Superintendent; Curtis H. Lovejoy, New England Insulation Company, Portland, Maine, Branch Manager; Walter C. March, New England Insulation Company, New Hampshire & Vermont Sales Manager; Ralph J. Aceto, Foreman, New England Insulation Company; Ralph Tucker, Ruberoid Corporation, New York Manager of Tile Flooring Products Division; P. E. Patrick, Ruberoid Corporation, Assistant Sales Manager; Raymond J. Wilcox, Ruberoid Corporation, Sales Manager, Northern Maine; Leo J. Monahan, Ruberoid Corporation, South Maine Sales Representative.



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ACTIVITIES OF THE MASSACHUSETTS AGC

LABOR RELATIONS. Committee of the AGC works with the Building Trades Union to promote a better understanding of the needs of both labor and management and to secure the highest quality of workmanship and the production of only the best products.

INDUSTRY RELATIONS. Members of the AGC are on joint committees with representatives of various industries and labor organizations to develop programs which will result in a better understanding of the needs of both labor and management and to secure the highest quality of workmanship and the production of only the best products.

ACCIDENT PREVENTION. Members of the AGC are on joint committees with representatives of various industries and labor organizations to develop programs which will result in a better understanding of the needs of both labor and management and to secure the highest quality of workmanship and the production of only the best products.

EDUCATION AND TRAINING. The AGC is active in promoting a better understanding of the needs of both labor and management and to secure the highest quality of workmanship and the production of only the best products.

NEW DISPLAY

An important public relations tool of the Associated General Contractors of Massachusetts is this new three panel display prepared by the AGC Public Relations Committee. It summarizes advantages of dealing with the general contractor, importance of the construction industry to the economy of the nation and highlights some of the programs which AGC sponsors to help promote public acceptance and recognition of the general contractor as a responsible member of the business community.

new england ARCHITECT and BUILDER, illustrated — NUMBER FOURTEEN, 1960

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NEW ENGLAND HOME FURNISHINGS SHOW

Presenting the Fourth Annual New England Home Furnishings Show, in Commonwealth Armory, Boston, April 18 through 24th, the officers of the New England Home Furnishings Club are already hard at work preparing for the biggest show of this kind yet to be offered.

The dates this coming year are more satisfactory in that it gives a bit of an edge on the Daylight Saving, by moving up the dates, and in addition it is felt that April weather and climatic conditions are always ex-

ceedingly favorable in Boston. Also this year the hours during which the New England Show will operate are to be from 2:30 in the afternoon to 10:30 in the evening. This added half hour in the evening is expected to add materially to the comfort and efficiency in operating and to give patrons more time in which to leisurely view the many exhibits.

Many new features are to be presented, including a special area of glittering table settings, an outdoor-living section, complete with a

full sized swimming pool; lectures in the afternoons conducted by leading decorators and many prizes are to be offered, the top liner of which is to be the giving away of a completely furnished Frank Lloyd Wright styled Lake or Ocean cottage. Three rooms of high class furniture are to be given away each night of the Show. There also will be offered a Stage Show with top-flight entertainers to present their wares to the public attending the show. There will be seen the Parade of Kitchens, many Home and Garden Exhibits, Home Appliances of Tomorrow and Home Improvement Sections. Plus a widely distributed promotion, publicity and advertising campaign saturating newspapers, radio and television.

Commonwealth Armory is ideally situated for Show purposes, with plenty of available parking space and located only 12 minutes from Downtown Boston in the heart of a semi-residential section, and industrial display section of the Boston area. The MTA—rapid transit system—operates directly passing the front doors of the big Armory while Commonwealth Avenue, one of Boston's famous in-town drives, runs also directly parallel to the Armory's entrances, with wide lanes for automobile traffic.

This year will see a special theme developed along World Trade Fair lines, concentrating upon the interest in imported items and a section of the Show will be devoted to local Specialty shops featuring their own imports. In addition through special arrangement with the World Trade Fair in New York City, a number of leading foreign displays of Home Furnishings will be on display.

PARSONS, FRIEDMANN & CENTRAL OPENS COURTESY ROOM

Parsons, Friedmann & Central, Inc. Advertising Agency have announced the opening of their "courtesy room" for media representatives, suppliers and other salesmen calling on the agency. The room may be used as a "branch office" by any and all out-of-town persons dealing with the agency. The courtesy room is available at all times, since it has been set aside specifically for that purpose and is "out of bounds" for any other activity.

Parsons, Friedmann & Central recently moved to new, enlarged quarters at 69 Newbury Street in Boston. The agency occupies two of the building's five floors.

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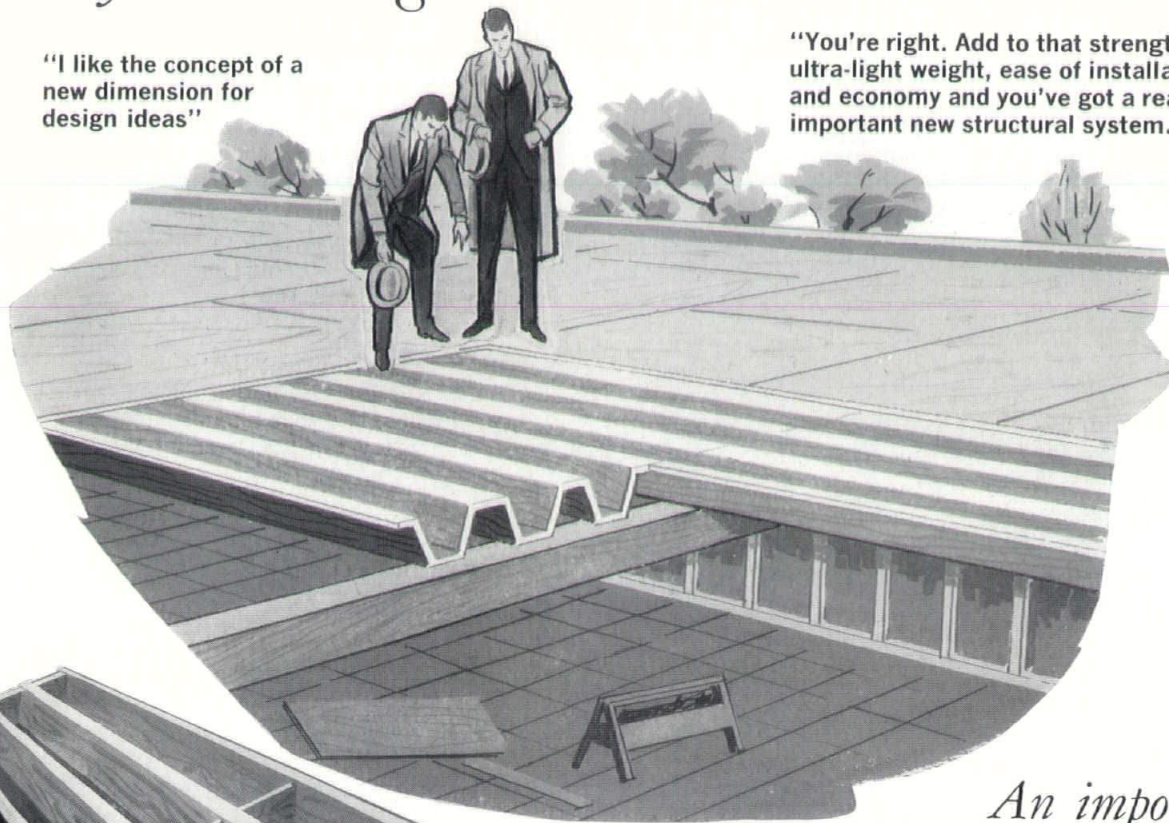
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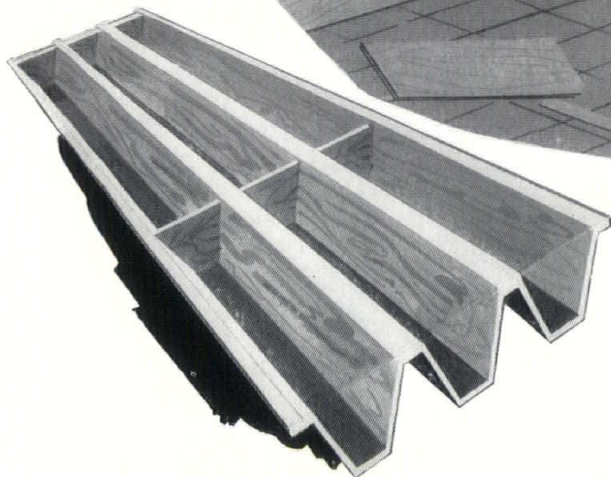
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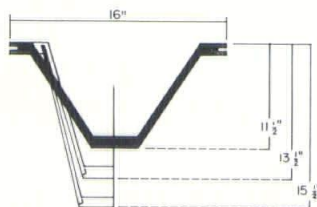
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BUSINESS FORECAST FOR '60

(Continued from page 11)

It was my privilege to participate in this presentation and to hear the favorable comments of those in attendance. It was clear from speaking to just a few of those present that here was a program that would have widespread and enthusiastic support among many forward-thinking elements of our industry.

It is my fervent hope that within the near future those contributing to our present \$1.3 million-a-year National Wood Promotion Program will see fit to present this new and even bolder program to our industry for further study and consideration.

Never was the time more opportune. Never was our industry stronger and better organized than it is today.

Our National Wood Promotion Program, launched only a year ago, has bolstered both the faith and confidence of the lumber industry, according to a recent survey by the National Lumber Manufacturers Association.

Largely as a result of what this program has accomplished to date, lumbermen responding to the survey predicted that both their production and dollar volume of gross sales will show a modest gain next year compared with 1959. This comes despite prospects of a slight decline in home building.

About 90 per cent of the nearly 500 manufacturers responding to the survey said they expect their 1960

production and gross sales figures to equal or exceed the level of 1959.

This is, indeed, a cheering prospect in view of the fact that 1959 lumber output, at this writing, appears likely to reach the relatively high total of about 36 billion board feet.

The prosperity of the lumber industry and other segments of the economy in 1960 will depend in large part upon settlement of the current steel dispute, the course of labor-management relations, conditions in the money market and whether the government and private industry are able to control inflationary pressures.

My own opinion is that these uncertainties will be resolved at least to the extent that 1960 will be another favorable year for both the lumber industry and the economy in general.

There are those who suggest that the economy in 1960 will lack the buoyancy it had in 1959. Whether this proves true or not, the year ahead, I feel, will reinforce our already-high level of business activity.

There is every reason for lumbermen to be optimistic about the next 12 months because of the inherent strength of our economy, the high degree of unity being shown within our industry and the prospects of great new markets coming into being.

The marvelous new age about to unfold may make the past seem pale by comparison.

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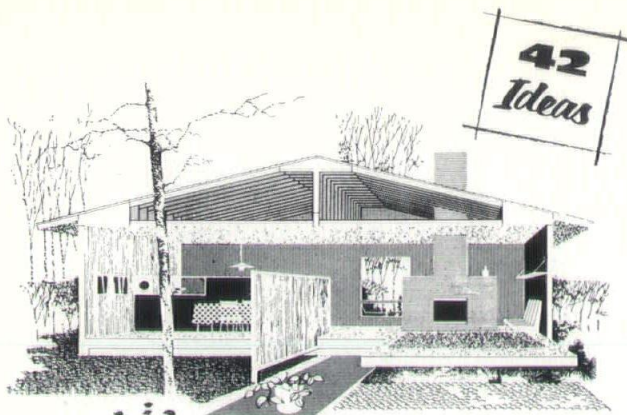
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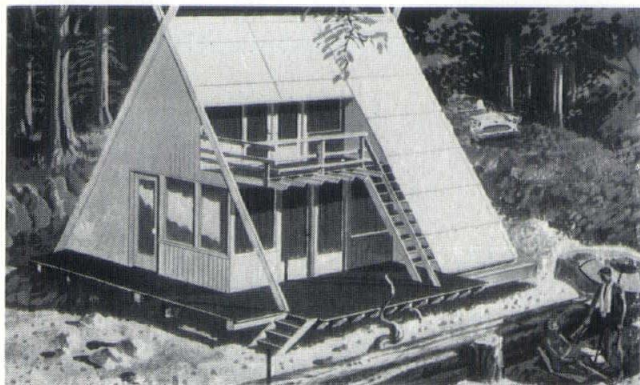
More than 40 illustrations of new ideas for cost-saving construction using all-nailed trussed rafters in a wide variety of buildings are shown in a handsome 24-page book which Independent Nail & Packing Company, Bridgewater, Mass., will have ready at their booth during the NAHB Convention, Chicago, Jan. 17-21.

The all-nailed trussed rafter design, now widely used throughout the U. S., is the result of the continuing program of research sponsored by Independent Nail at Wood Research Laboratory, Virginia Polytechnic Institute. It depends on the increased holding power and shear resistance of the hardened steel Screw-Tite Spiral Thread Trussed Rafter Nails which the company engineered especially for this purpose. The all-nailed trussed rafters may be speedily prefabricated either at the lumber yard or on the building site, with substantial savings in time and labor, as well as other advantages.

Shown in the new book are applications of the basic all-nailed trussed rafters in buildings which run the gamut from residences, carports, play shelters and community buildings of all kinds to farm, commercial and industrial buildings.

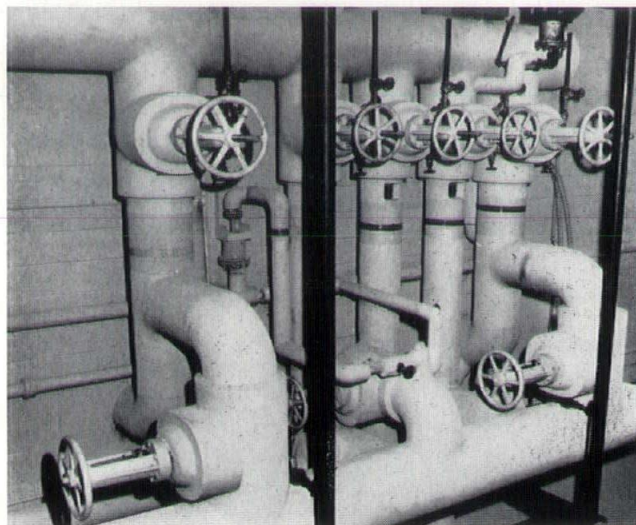
Independent Nail & Packing Company, manufacturers of The Stronghold Line of threaded and other improved fasteners, will exhibit in Booth 880 at the Coliseum during the NAHB Show. Attending will be George C. Stone, president and sales manager; Phillip D. Stone, assistant sales manager; Arthur S. Tisch, director of technical sales; William J. Good, Jr., director of the farm service department; and other company officials and sales representatives.

BEACH HOUSE AS DOOR PRIZE



A Frank Lloyd Wright *Styled* Beach House Will Be The Door Prize At The Fourth Annual Home Furnishings Show In Commonwealth Armory April 18th through April 24th.

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Maria A. Dellorfano — Newly Elected President WOMEN IN CONSTRUCTION of BOSTON



For PRESIDENT — Maria Dellorfano (left) installed by Past-President Gloria J. Salvo

Maria A. Dellorfano was unanimously voted to the office of President for 1960 by the membership of the Boston Chapter of WOMEN IN CONSTRUCTION. Maria served as Secretary during 1958-1959 and is also National Third Vice President. As reported by Maria, the outlook for the Boston Chapter during the coming year is indeed bright. Membership is rapidly increasing and further interest has been evidenced for the formation of other Chapters in the New England Area.

Plans are being made for the annual auction, Theresa Kiley of Stamell Construction Company, Inc., presiding. Theresa did a marvelous job of calling for the highest bidder last year and this year's auction is being much anticipated. Another project underway is the annual BOSSES NIGHT. A wonderful time was had by all last year, and it is reported that the WIC employers are looking forward to April when this soiree will be held.

With the new Officers, Board of Directors and Committee Chairmen, 1960 will be a big and busy year for the Boston Chapter. *For information regarding membership contact: Kathleen Happenny, c/o W. Chester Browne & Associates, 122-128 Arlington Street, Boston, Massachusetts, Hu 2-6060.*

INSTALLATION OF NEW OFFICERS Boston Chapter WOMEN IN CONSTRUCTION

VICE-PRESIDENT



For VICE-PRESIDENT — Theresa Kiley (Center) installed by Mary A. Curtin, Past Vice-President; Installing officer Lucy M. Donikian (Right) officiates

WOMEN IN CONSTRUCTION

SECRETARY



For SECRETARY — Kathleen Happenny (Right) installed by Maria A. Dellorfano, former Secretary

TREASURER



For TREASURER — Celia Wojcicki (right) installed by Susanne Murphy, former Treasurer

COMMITTEE CHAIRMEN



1960 COMMITTEE CHAIRMEN — (First row) left to right: Constance Russo, *Historian*; Beatrice Mamigon, *Friendship*; Helen Logue, *Program Planning*; Susanne Murphy, *Badges and Identification*. (Second row) Kathleen Happenny, *Membership*; Alice C. Brennan, *By-Laws*; Rosemary Shea, *Social*; June M. Riley, *Dinner*. (Third row) Marie McIntosh, *Roster*; and Theresa Kiley, *Ways and Means*. Not present for the photograph, M. Patricia Williams, *Publicity*.

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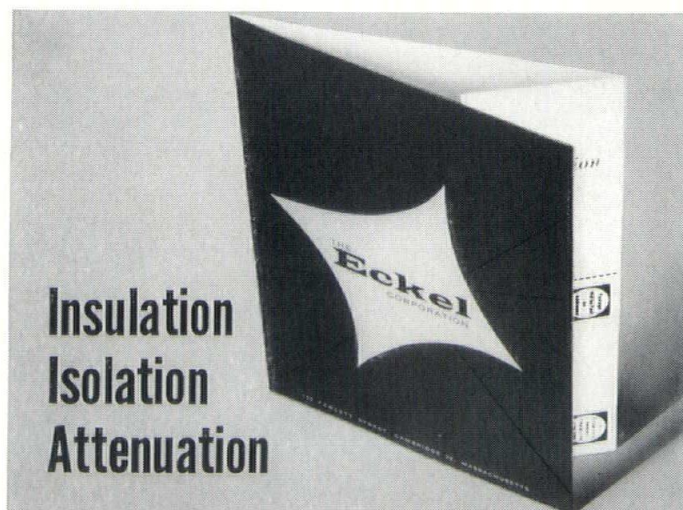
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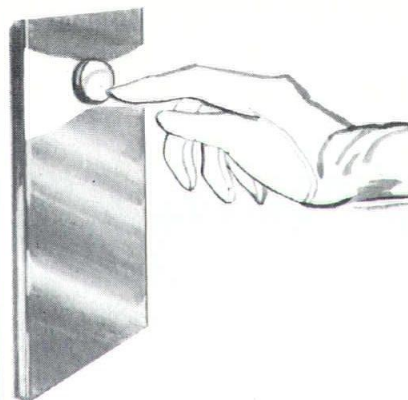
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SERVICE OF A CONSTRUCTION CONSULTANT

By

ERNEST L. VALLEE



*Ernest L. Vallee, F.C.S.I.
Construction Consultant*

During my years of estimating for construction companies, we often spent hours of time and considerable money estimating projects that were thrown out because of inadequate appropriation of funds. The feeling of frustration at such instances is beyond explanation, especially if, by chance, one was the low bidder. This situation today has eased somewhat, but only to the extent that fewer jobs are thrown out because public funds are more plentiful in plush times. But, in spite of all the free money (Municipal, State, Federal, and Private) that is on the market, jobs are still held up or rescheduled due to lack of funds. Sometimes the differences between money appropriated and money required are absolutely ridiculous, due principally to:

- (1) Lack of foresight or competent estimation of project costs by the architect.
- (2) Lack of insistence by municipal and other building committees, or awarding authorities, that architects or planning engineers submit costs of projects in black and white in detail in order to be assured that the bond issue or other means of financing is to be within reasonable bounds.

Too much reliance is put on cubic foot or square foot costs in the planning stage. Basically, this is a fair way to start a project to determine possible overall size or content, but in my estimation that is where it ends. A fair question at this time would be for someone to ask, "How much does a building cost?" Forget its content, detail, stories, site difficulties, lack of public sanitary provisions, extra space demanded by custodian Joe Doakes, his superiors, and again his superiors

— "We're not worried, our overseer and our planner say that our building has 'X' cubic (or square) feet and it is going to cost 'X' dollars." — Later comes the awakening.

More seriously, let me refer to a very touchy project (they are always more touchy if close to home) that came up a few years ago in my home town. A certain amount of money was appropriated for a much-needed hospital addition. The architects chosen for this work were naturally concerned regarding costs. My firm discussed many of the preliminary phases of costs with them, and after we determined basic designs of five different architectural schemes of design, three were thrown out as too costly, and detailed estimates of the remaining two were prepared for detailed comparison of costs. It must be borne in mind here that this work is all prepared from sketches and non-detailed $1/16"$ scale drawings. Such cost estimates at this stage are prepared only from knowledge of average hospital specifications, and from the experience of having built similar projects in the past. The net result was that the more economical of the schemes was chosen, the addition is practically completed, the design and planning are praised by everyone, and the addition will be opened next month. Here was one case where the architects had the foresight to get to the basic limitations of their work, and to design and have built a building of which they and the city can be justly proud.

This is but one instance that I have encountered. Similar ones have been presented to us through many other architects and agencies.

F. C. S. I. — This designation means "Fellow In The Construction Surveyors Institute" of New York. The fellowship is prized by me. Our principal motive is "Service to All In The Construction Industry."

Aims of a Construction Consultant

Few owners, private or public, are aware of the services that a Construction Consultant can render to a private concern, or a public institution. The field in this profession is limited because of the long apprenticeship that must be followed before taking up the profession. In general, the consultant must be an architectural or an engineering graduate who has spent at least 4 years drafting, 6 years as a field engineer or supervisor, and a minimum of 5 years as a full-fledged construction estimator.

The services rendered would include:

1. Aiding the owner, Building Committee, etc., in the selection of the most economical site.
2. Aiding in the selection of the proper Architect.
3. Advise on adapting the site in the most economical manner.
4. Prepare preliminary estimates from small scale drawings or sketches by the Architect.
5. Advise and suggest to the Architect and Building Committee, the most economical materials, services, etc., to use in the project during development of the final plans.
6. Check final architectural plans and specifications thoroughly in interest of client.
7. Prepare final preliminary estimate for bonding purposes prior to public bidding on the project.
8. Check and advise on all claims made for extras or changes made by the Contractor during the building phase.
9. Assist the owner in final inspection and acceptance of the project.

Desires Regarding Contractors

To help all contractors in preparing detailed quantities surveys of current project. Such quantity surveys are used by General Contractors to check their own estimators, or in many instances, to prepare bids directly from our presentation. Our office has figured for Architects, State, Federal, Municipal Government and for General Contractors, it is our duty to all clients to keep abreast of the current labor and materials market at all times.



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**ONAN INSTALLATIONS IN
NEW ENGLAND**

"Power and Light in the New England States" . . . is the title of a new 4-page promotion folder recently issued by D. W. Onan & Sons Inc., Minneapolis, manufacturers of electric generating plants.

Comprised entirely of photographs showing typical installations of Onan Emergency Electric Generating Plants in the New England area, the 2-color, 6½" x 9" folder pin-points the need for standby electric power in commercial, public and institutional buildings.

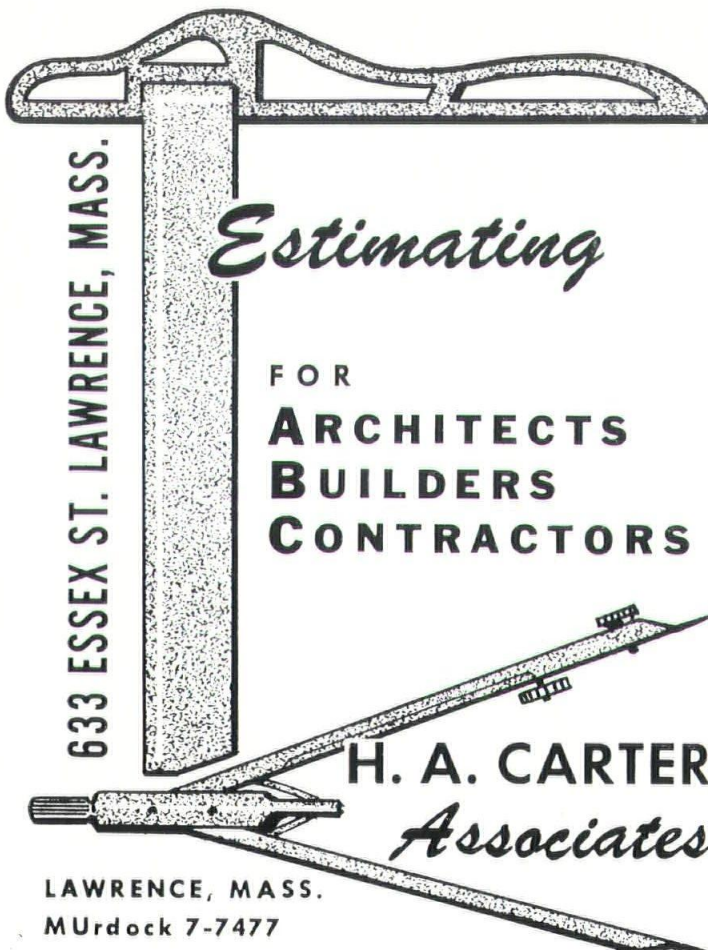
How the Bangor Auditorium in Bangor, Maine, relies on an Onan 50KW generating set for insurance against commercial power interruptions is told in a brief, front-page picture caption. A New England supermarket, a Howard Johnson restaurant and the Forbes and Wallace Department Store in Springfield, Massachusetts, provide striking examples of the use of auxiliary generating equipment to assure a constant, dependable source of power at all times.

Examples of emergency installations in public buildings include those in the Cambridge War Memorial and the Barrington, Rhode Island, Town Hall. How Onan

Standby Power keeps traffic rolling smoothly on the Everett Turnpike is also illustrated.

Institutions are particularly vulnerable to power outages and the folder pictures the Onan installations at the Shriners' Hospital in Springfield, the Lowell General Hospital in Lowell, Massachusetts (where 2 100KW gas-driven units provide emergency insurance) and at the St. Stanislaus Novitiate in Lenox.

The folder is offered free of charge by the manufacturer. Ask D. W. Onan & Sons Inc., 2515 University Avenue S. E., Minneapolis 14, Minnesota, for Folder F-147.



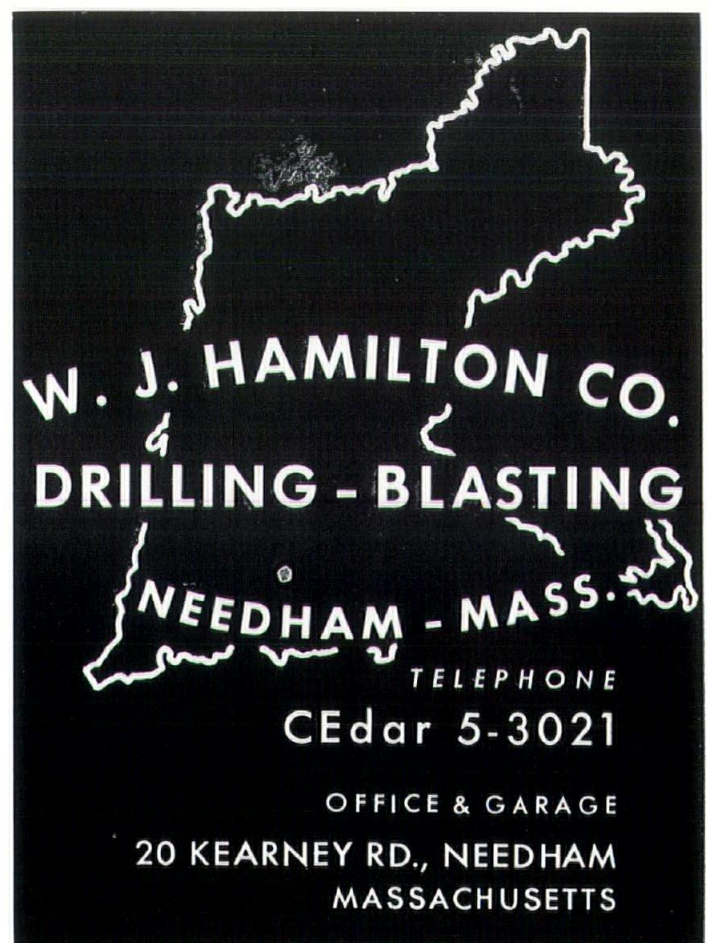
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PITTSBURGH HILTON

The Pittsburgh Hilton, world's first gold aluminum hotel, was dedicated today in the heart of this city's famed Golden Triangle.

A gleaming new landmark in the field of modern architecture, the hotel's most striking feature is a façade of 1,700 shadow-box aluminum panels, framing massive "picture" windows.

The 800-room structure, towering 22 stories atop a low knoll facing the city's new Point Park area, is the first new downtown hotel to open its doors in Pittsburgh in more than three decades.

It also constitutes the eighth aluminum-clad skyscraper to go up in the city's business area since the 30-story Alcoa Building launched the trend to metal curtain-walled structures in 1952.

Pittsburgh-born Aluminum Company of America supplied all metal employed in the strikingly handsome building, with many customer-fabricators sharing in the work of processing and installing the applications.

The unique exterior wall system, in itself employing 350,000 pounds of the light metal, was fabricated and installed by Flour City Ornamental Iron Company of Minneapolis. A major part of the color anodizing, utilizing an Alcoa-developed process to achieve the golden tone, was performed by Hiawatha Metalcraft, Inc., also of Minneapolis.

Each of the shadow-box window panels, measuring nine feet high and more than eight feet wide, was fashioned of fluted patterned sheet aluminum.

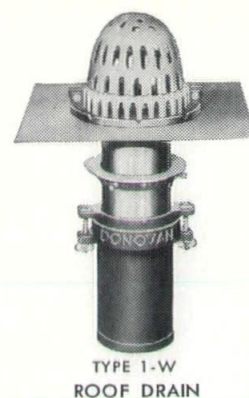
The panels received their gold-anodizing treatment after fabrication. Between each panel are matching gold extruded mullions running the height of the building. A fluted pattern on the sheet enhances the building's eye-catching highlights.

Other exterior applications of aluminum include gold column covers, fascia strips, grille work, louvers, and ornamental trim.

The Pittsburgh Hilton's handsome gold face is impervious to chipping or blistering. The Alcoa-conceived electrochemical process by which it was achieved also was employed to impart a blue finish to the nearby Pennsylvania State Office Building, and a two-toned gray to the adjacent Bell Telephone Co. Building. Both are next-door aluminum neighbors of the new hotel.

Designer of The Pittsburgh Hilton was the architectural firm of William B. Tabler and Associates, New York. Builder was the Turner Construction Company, New York and Philadelphia.

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Photos Courtesy of Arber/French Co.

DESIGNED FOR PUBLIC DINING

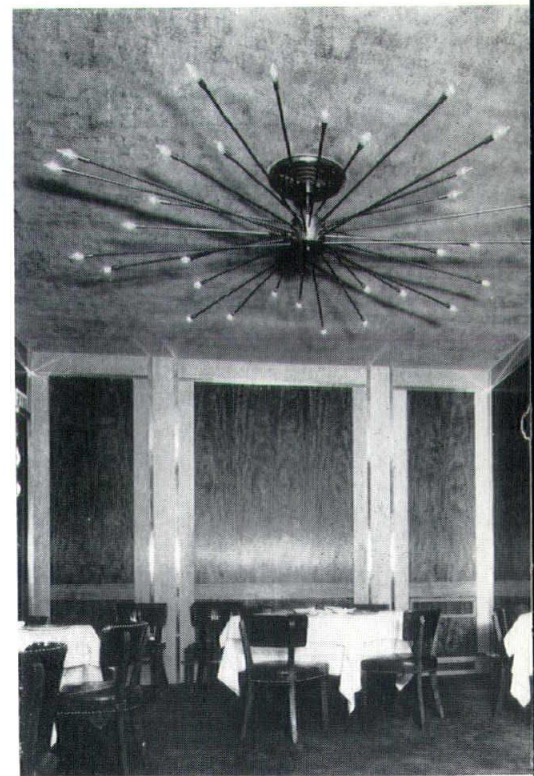
Architects	Saltonstall & Morton
Lighting Design	George Clifford of Henry L. Wolfers, Inc.
General Contractor	William A. MacLeod
Electrical Contractor	H. A. Holder Co., Inc.
Lighting Equipment	Henry L. Wolfers, Inc.

Contrary to popular practice, Architects Nat Saltonstall and Olive Morton tackled a somewhat routine renovation project by designing a dining room around its lighting fixture.

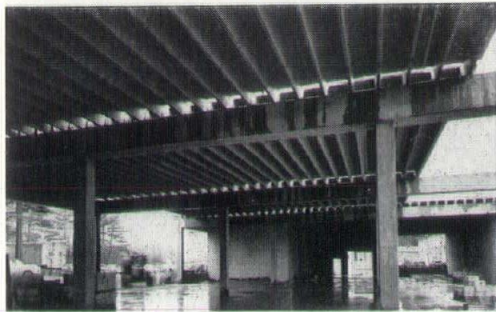
Usually lighting fixtures are selected to harmonize with architectural design and interior decoration. Considering the prominent role lighting was to play, the architects consulted with George Clifford, Lighting Designer for Henry L. Wolfers, Inc., prior to any preliminaries. From these early meetings with the lighting engineers, two handsome rooms with walls and ceiling that are pleasantly alive with the warm glow and sparkle of colorful lights were devised.

Although the crystal fixture shown above, glitters and sparkles, there are no bulbs in it, instead the light source which it reflects is hidden in the ceiling ring containing sixteen mirrors and sixteen clear 25-watt bulbs. Plate glass panels and a band of Bronze Filigree make up the sides of the eleven-foot ring. Golden Naira and white Mahogany plywoods make up the remainder of the ceiling. The walls have a bronze leaf design with red velvet draping the windows.

Walls of special mahogany veneer accented by stiles and rail of white oak and polished bronze trim pick up the sparkle of the thirty-two clear bulbs in the chandelier shown at right. The plaster ceiling is stippled with bronze paint.



Long Spans...call for

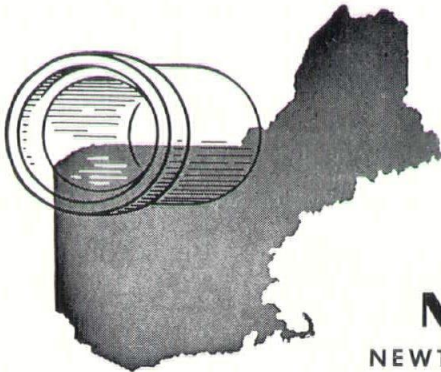


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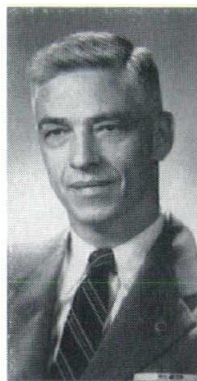
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THE GENERAL CONTRACTOR OF TODAY

by Joel Leighton
Managing Director,
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of Massachusetts



But the yearly list of business failures issued by Dun & Bradstreet demonstrates that a general contractor is more than a name and a bid bond. Even those who do not succumb are operating on a treacherously low 1.4% profit on sales. When one considers the many unforeseen circumstances which may and do arise between the time a contract is entered into for a fixed price and the time the project is completed months later it is a wonder that the failures are not higher.

The true general contractor thus has the distinctive function of assuming centralized responsibility for delivery of a properly completed structure at a specified time and cost. The professional function of managing and coordinating all construction operations and performing the major part of the work with his own experienced organization makes the general contractor a key figure on the owner-architect-contractor team.

This year the Associated General Contractors of Massachusetts will mark its 25th Anniversary. The 114 members are justifiably proud of their accomplishments, achieved by leavening their rugged individualism with a good portion of voluntary cooperation.

Some architects and some owners may think of the AGC as an organization dedicated solely to maintaining the profits of general contractors. While this is a perfectly legitimate

interest of the members of the organization, the Association is dedicated to a dynamic program which is of direct benefit to the other members of the construction team as well.

What are these day-to-day activities?

One of the most important is conducting a mature labor relations program. Under the guidance of a 14-member State Labor Policy Committee, the AGC of Massachusetts extended this program into most areas of the Commonwealth. Working rules have been standardized, and put into agreement form in order that a contractor need not include in his price a figure for hidden or unexpected labor costs.

By making available contracts and wage information for all areas of the state to its contractor members, the Association assures the owner and the architect that contract prices are based upon accurate labor costs, and not upon conjecture.

With the assistance of the building trades unions, the AGC has achieved a cooperative climate here of which the industry can be very proud. Such practices as featherbedding and jurisdictional disputes — which recent public disclosures have shown to be rampant in some sections of the nation — are almost completely unknown in this area.

Today, by engaging in true collective bargaining on an Association level, contractors in Massachusetts bargain on an equality with the building trades unions. A fair and well thought out approach has gained the respect of those who are elected to represent the skilled and unskilled workmen in our industry.

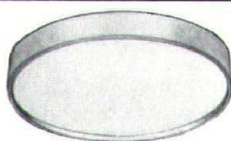
A Bureau of Labor Statistics study of all cities over 100,000 population

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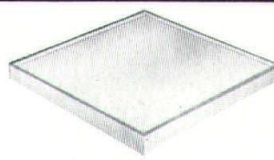
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gives the average hourly wage rate as of July 1, 1959: for bricklayers, \$4.04; for carpenters, \$3.63; for building laborers \$2.67. It can be seen that in the New England area, total labor costs in relation to productivity place the construction buyer in a position which compares very favorably with other areas of the country. Productivity is good. Strikes are almost non-existent. Payoffs to labor representatives are unknown. Owners, architects, contractors, sub-contractors, supplies and labor all benefit.

Why are we different? Certainly it is fair to say that some of the credit is due to the intelligent and organized assumption of responsibility in the vital field of labor relations by the general contractors in our area... men who still take pride in being master builders.

On the State, as well as on the national level, construction costs are affected by legislation. Every bill submitted before the Massachusetts General Court affecting the construction industry is analyzed to determine its effects not only on the general contractor, but upon the building owner, whether he be a private person or a taxpayer. The Association has earned the reputation of presenting authoritative factual information to those concerned with or responsible for passing on such legislation. Yet some bills have been enacted which we feel adversely affect the relatively good relations which have existed in our industry. There is a great need for a construction industry legislative council to try to achieve "togetherness" on these matters.

Members of the AGC of Mass. carry on an intensive, many-faceted accident prevention program under the leadership of a Safety Committee which has as its joint aims the reduction of suffering and the lowering of construction costs.

Members serve on Joint Apprenticeship Committees with representatives of the building trades unions to insure a continuing flow of skilled craftsmen into the industry.

An Education Committee is working with High School vocational counselors to interest young men in pursuing an engineering education in college in order to fill the need for trained management personnel.

A Joint Committee with the Massachusetts State Association of Architects has developed a set of recommended practices covering such items as bidding procedure, supply-

mental general conditions, payment procedures and specifications. This committee is now working on other programs to achieve even smoother functioning relationships.

The AGC has carried on a program to encourage greater use of arbitration under the Standard AIA General Conditions as a speedy, less costly means of settling those differences which may occasionally arise during the course of a construction project. Toward this end, AGC officers and directors serve as members of the voluntary commercial arbitration panels of the American Arbitration Association.

The AGC maintains close and cordial relationships with all agencies of the government, such as the Corps of Engineers and the Division of Building Construction, which are concerned with building construction. Attention to public relations is also a continuing activity.

We believe that healthy nations are those in which the citizens not only enjoy a good standard of living, but also take an active and democratic interest in their society.

Can we not draw a comparison with our own industry? Are not the "healthy" contractors those who take an active and democratic interest in their business society? And does it not follow from this concept that such interest to be effectively applied must for practical reasons be channeled through an association?

The AGC is just such an organization. And like truly healthy nations, it realizes that the long-run good — indeed the continued existence — of its society depends upon its success in finding the formula for peaceful cooperation for the common good.

One of the two major aims of the AGC of Mass. is to render information and service to its members which will enable them to "enjoy a good standard of living." The other is to carry out programs and activities which will bring about greater harmony and greater efficiency among the members of the building team.

Though we strive for perfection, we are not so egotistical as to assume that we always achieve it. Yet the fact that the AGC of Mass. has doubled its membership in the past ten years certainly indicates that we are not satisfied merely to seem to be accomplishing these aims, we are in a positive and measurable manner doing so.

Francis H. Curtin



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NEW LITERATURE

NORTHEAST CONCRETE PRODUCTS

Data sheets and construction details for standard prestressed concrete architectural and structural products manufactured by Northeast Concrete Products are included in a new brochure offered by this firm. The brochure may be obtained from: Northeast Concrete Products, Inc., Box 26, Plainville, Massachusetts.

MARSH WALL PRODUCTS

A new catalog, illustrating and describing the entire line of Marlite plastic-surfaced hardboard paneling for attractive and easy-to-clean walls and ceilings, has been released by Marsh Wall Products, Inc., Dover, Ohio.

Included in the catalog are four-foot panels, woodgrained Random Plank, colorful plank and block and Marlite Peg-Board.

Marlite's six new Trendwood finishes, 10 "companion colors," six marble patterns and special star-motif patterns are illustrated.

The new Trendwood finishes, developed by American Color Trends especially for Marlite paneling, come in three types — plain and grooved four-foot-wide panels and 16-inch-wide Random Plank. All three products are one-quarter-inch thick and can be installed over solid backing or furring strips.

Marsh installation accessories and moldings to match or harmonize with Marlite paneling are listed and illustrated in the catalog.

Four-color illustrations of Marlite-paneled home, commercial and institutional interiors are included in the new catalog.

AIR CONTROL PRODUCTS

A quality line of sheet metal tapping screws in a range of 5 popular sizes is featured in a NEW 2-page bulletin, No. 272-AC, published by Air Control Products, Inc., Coopersville, Michigan.

The first page of this bulletin describes important features, illustrates the 3 convenient packs, lists the 3 economical price ranges and mentions the 2 finishes.

The second page lists specifications and illustrates other popular Air Control products . . . including Registers, Grilles and Diffusers.

Copies of this bulletin can be obtained by writing the company direct.

REYNOLDS METALS

What are the best ways to mechanically join aluminum parts?

This question and others about mechanical fastening methods for aluminum are answered in a new technical handbook, "Mechanical Joining of Aluminum," just published by Reynolds Metals Company.

The illustrated 32-page book covers nails and pins, metal stitching, mechanically formed joints and architectural fasteners.

The new book is available on letterhead request from Reynolds Metals Company, Dept. PRD-28, Richmond 18, Va.

CERAMIC MOSAICS

American Olean Tile Company's new color booklet "Ceramic Mosaics Patterns and Blends" offers a wealth of ideas for creating fresh and unusual wall and floor treatments for both residential and non-residential application.

The twelve-page booklet features full color plates of 22 new American Olean patterns and designs in ceramic mosaics. Accompanying text explains how these basic patterns may be varied to achieve entirely new effects simply by substituting alternate colors, textures, sizes, and shapes from the standard American Olean line.

Also shown are American Olean's rich-textured and colorful Pan-O-ramic blends and popular Block Random Patterns which are coordinated with the most popular glazed tile colors.

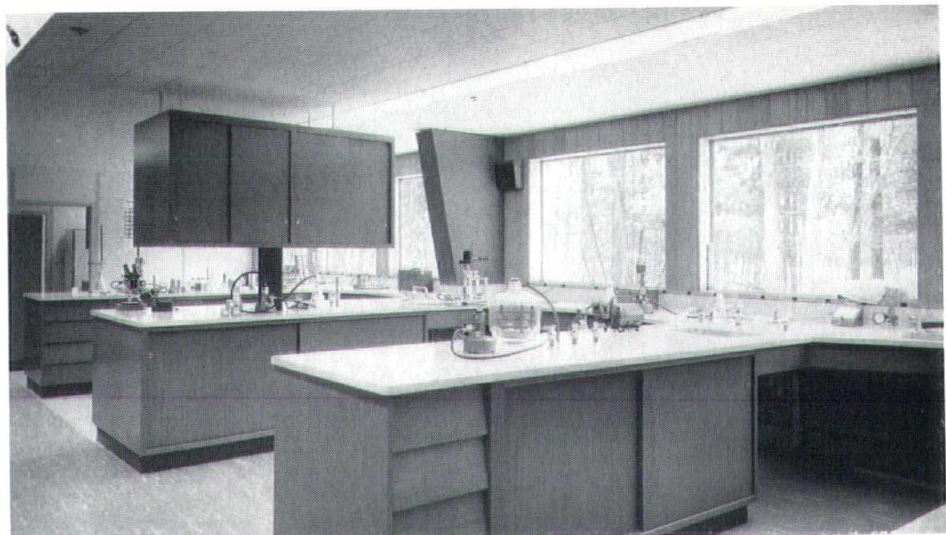
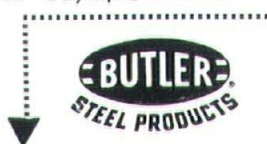
Full color photographs show examples of typical ceramic mosaic patterns in actual installations in homes and public buildings.

Copies of the booklet are available on request. Write for Booklet 550 "Ceramic Mosaics Patterns and Blends," to American Olean Tile Company, 1000 Cannon Ave., Lansdale, Pa.

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Above: Laboratory — Millipore Filter Corp., Bedford, Mass. Lower left: Millipore Filter Corp. exterior. Architect: Ira Rakatansky, AIA, Builder: Carlson Construction Co.



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NEW WALL COVERING BROCHURES

Two new booklets, entitled "Weldwood Flexwood" and "Weldwood Kalistron & Kalitex" have been revised by United States Plywood to include additional information and new colors.

Weldwood Flexwood, a real wood paneling in flexible form, is made of genuine wood veneers, permanently laminated to a special backing. Because of its extreme pliability, Flexwood may be applied to flat walls, curved surfaces — even wrapped around columns and pillars.

Literature on Flexwood shows two pages of samples, reproduced in color, from a wide range of richly grained domestic and imported woods.

"Weldwood Kalistron and Kalitex" gives installation data and special features of Kalistron, a decorative vinyl wall covering and Kalitex, a textured colored wall covering.

Both materials are strong, sturdy wall coverings made by fusing color to the underside of a clear, vinyl sheet, to which a suede-like backing is applied.

The booklets illustrate applications of Flexwood, Kalistron and Kalitex via handsome installations photographed in color.

"Weldwood Flexwood" and "Weldwood Kalistron and Kalitex" may be obtained by writing to: United States Plywood, Flexible Materials Division, 2921 South Floyd Street, Louisville 17, Kentucky.

TO SERVE SIX STATES OF N.E.

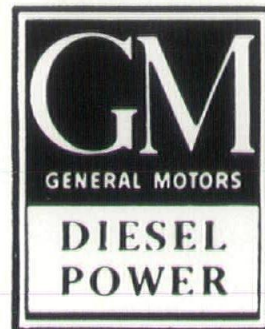
In order to serve its growing New England and mid-Atlantic construction markets, Natco Corporation is converting its Port Murray, New Jersey, plant to production of vitrified clay sewer pipe and allied products.

R. A. Shipley, Natco president, said that sewer pipe production at the plant will begin in January, 1960. The plant, located on New Jersey Highway 24, formerly manufactured red face brick.

Mr. Shipley cited "a rapidly expanding market for sewer pipe" as the reason for the product switch. Natco's other sewer pipe plant is located at Brazil, Indiana.

Said Mr. Shipley: "A combination of suburban building and urban

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renewal in the major eastern metropolitan areas has created a mounting demand for vitrified clay sewer pipe, wall coping, and flue lining. Our expanded and modernized Port Murray plant will assure production and rapid delivery of these products."

The Port Murray plant, Mr. Shipley said, will supply sewer pipe in an area which includes all of New England, eastern Pennsylvania, eastern New York, New Jersey, Delaware, and Maryland. Special sales emphasis will be placed on the New York, Boston, and Philadelphia markets.

He said that the decision to convert Port Murray production followed extensive examination of clay resources in the general factory region. "We found available raw material to be that prime quality required in sewer pipe manufacture," he added.

Among the sewer pipe products to be produced at Port Murray will be Natco's Vitri-Seal Joint, a self-centering flexible compression joint which facilitates use at the job site. This joint combines polyester plastic with a rubber gasket for flexible compression sealing. Natco has

reported wide acceptance of the new product in the Midwest.

One of the country's largest producers of structural clay products, Natco operates 17 manufacturing plants in the United States and Canada. Corporate headquarters are located in Pittsburgh, Pa.

PORCELAIN ENAMELING OF ALUMINUM

A new guidebook on the application of porcelain enamels to aluminum has just been published by Reynolds Metals Company.

The 22-page book, which contains several illustrations in color, covers alloy selection, metal preparation, choice of frit, slip formulation, enamel application and firing.

In addition, the book compares the advantages of porcelain enameled aluminum to those of porcelain enameled steel.

The book, "Porcelain Enameling of Aluminum," is available on letterhead request from Reynolds Metals Company, Dept. PRD-27, Richmond 18, Virginia.

CONTRACTS

AWARDED

This resume was compiled with the cooperation of GAINES'S CONSTRUCTION NEWSLETTER and represents a total of \$46,648,664 in building construction contracts (\$100,000 or over) awarded during the month of December, 1959.

MASSACHUSETTS

BELCHERTOWN	\$672,700	CHARLESTOWN	\$150,000
Nursery Bldg. — Dept. of Mental Health		Milk Plant Addn. — H. P. Hood & Sons	
Arch: W. Chester Browne & Assoc., Boston		Engr: Linenthal & Becker, Boston	
Contr: Poley Abrams Corp., Brookline		Contr: William M. Bailey Co., Boston	
BEVERLY	\$527,300	CHICOPEE	\$153,846
Beverly Housing for the Elderly		Storage Bldg. — City of Chicopee,	
Arch: Ray Thibedeau, Hamilton, Mass.		Elec. Light Dept.	
Contr: D. Guschoy Co., Boston		Arch: Henry J. Tessier, Springfield	
BEVERLY	\$127,911	Contr: J. G. Roy & Sons Co., Springfield	
Laboratory — Beverly Hospital		DORCHESTER	\$232,465
Arch: Bastille Halsey Assoc., Boston		Branch Bank — Dorchester Savings Bank	
Contr: Clemenzi Constr. Co., Beverly		Arch: J. Williams Beal Sons, Granger & Dyer,	
BOSTON	\$297,500	Boston	
Charlestown Savings Bank — Addn. & Alts.		Contr: John B. Deary Inc., West Roxbury, Mass.	
Arch: Hutchins & French, Boston		FALMOUTH	\$110,607
Contr: Reznick Constr. Co., Dorchester		Electronics Shop — Otis AFB	
BRAINTREE	\$1,000,000	Arch: Jones & Murphy, Warwick, R. I.	
Motor Hotel & Restaurant — Cabot, Cabot &		Contr: Theodore Loranger & Sons, New Bedford	
Forbes		LYNN	\$1,347,400
Arch: Curtin & Davis, New Orleans, La.		Housing for the Elderly	
Contr: Aberthaw Constr. Co., Boston		Arch: William W. Drummey, Boston	
BRAINTREE	\$229,392	Contr: Concrete Constr. Co., Everett	
High School Addn.		MEDFORD	\$469,614
Arch: Rich & Tucker, Boston		New Bus Service Bldg. — MTA	
Contr: Cameron Fay & Co., Wakefield, Mass.		Engr: Private Plans	
BROOKLINE	\$100,000	Contr: Scaldini Inc., Medford	
Nursing Home — Summit Nursing Home Inc.		MILFORD	\$318,000
Arch: Bellinghieri Assoc., Arlington		Housing for the Elderly	
Contr: Robert Abel, Jamaica Plain		Arch: Wendell T. Phillips Assoc., Milford	
BROCKTON	\$150,000	Contr: A. Acaro & Sons, Franklin	
New Building — Byrne Realty Trust Co.		OSTERVILLE	\$470,692
Arch: Emery J. Laliberte, Brockton		Elementary School	
Contr: Walter H. Barker Inc., Taunton		Archts: Richard Sears Gallagher, Barnstable	
BURLINGTON	\$1,803,000	and John Barnard & Son, Boston	
High School		Contr: Olson & Appleby Inc., New Bedford	
Arch: Clinch, Crimp, Brown & Fisher, Boston		PITTSFIELD	\$1,129,924
Contr: Vara Constr. Inc., Boston		Housing for the Elderly	
CAMBRIDGE	\$15,000,000	Arch: Prentice Bradley, Pittsfield	
Industrial Research Center — M.I.T. and		Contr: Carroll Verge & Whipple Inc., Pittsfield	
Cabot, Cabot & Forbes		SOUTH DENNIS	\$384,557
Engr: Cabot, Cabot & Forbes Assoc. Inc., Boston		Ezra Baker Elem. School Addn.	
Contr: Aberthaw Constr. Co., Boston		Arch: Walter M. Gaffney Assoc., Hyannis	
		Contr: Charles H. Cunningham Constr. Co.,	
		West Yarmouth	
		WALPOLE	\$1,430,394
		Junior High School	
		Arch: Shepley, Bulfinch, Richardson & Abbott,	
		Boston	
		Contr: J. L. Marshall & Sons Inc., Pawtucket R. I.	
		WESTFIELD	\$485,975
		Housing for the Elderly	
		Arch: Caolo Assocs., Springfield	
		Contr: Ralph Richard Constr. Co., Dedham	
		WILMINGTON	\$200,000
		Plant — Dragon Cement Co.	
		Engr: Hayden Harding & Buchanan, Brighton, Mass.	
		Contr: W. J. Hulbig Constr. Co., West Roxbury	

(Continued on page 51)

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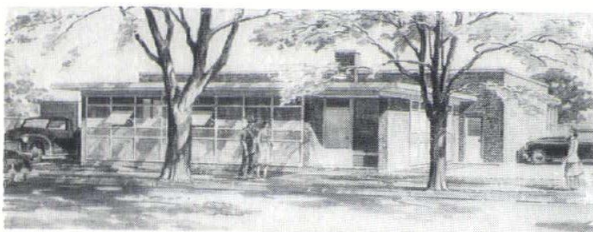
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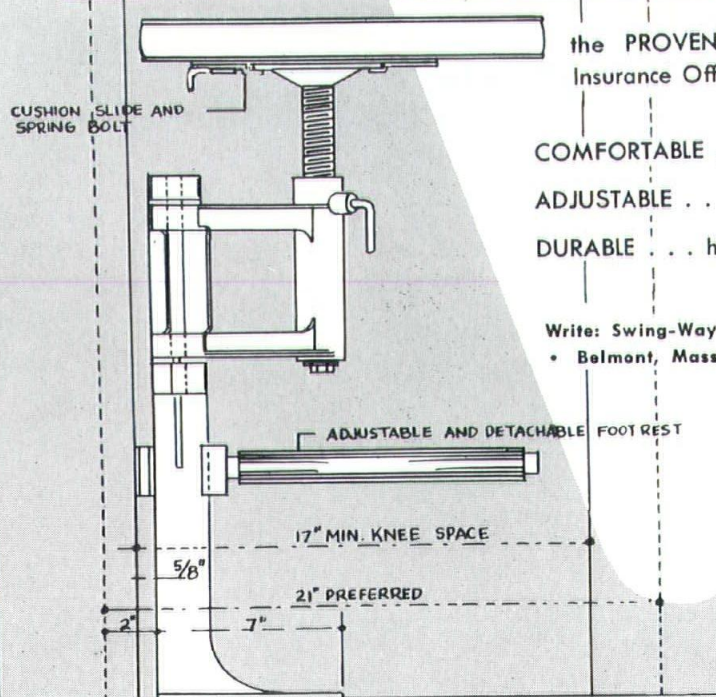
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Arch: Private Plans
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Arch: Moore & Salsbury, West Hartford
Contr: A. F. Peaslee Inc., Hartford

CHESTER \$577,000

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Arch: LaPierre, Litchfield & Priestly, Boston
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Vinal Regional Technical School
Arch: Seb. J. Passanesi, Middletown
Contr: W. A. Mauser, Jr. Constr. Co., W. Hartford

MILFORD \$180,335

Pumping Station
Engr: Metcalf & Eddy, Boston
Contr: DeFonce Constr. Co., Bridgeport

NEW BRITAIN \$100,000

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Arch: Olson & Miller, Hartford
Contr: Bessoni Bros. Inc., New Britain

NEW HAVEN \$198,300

Fire Station
Arch: Earl P. Carlin, New Haven
Contr: Bomarc Constr. Co., Derby

NEW LONDON \$8,600,000

Capehart Housing Project (500 Units) — USA
Arch: Kane & Fairchild, Hartford
Contr: Joseph P. Blitz, N.Y.C.

PROSPECT \$359,750

Grammar School
Arch: Alexander & Nichols, Waterbury
Contr: P. Francini & Co., Derby

SOUTHINGTON \$893,018

Two Elem. Schools
Arch: Louis R. Fucito, Waterbury
Contr: Victor Atkins, Waterbury

THOMASTON \$280,650

High School Addn.
Arch: Ernest Sibley, West Hartford
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(Continued on page 52)

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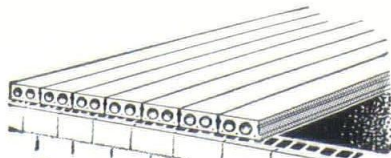
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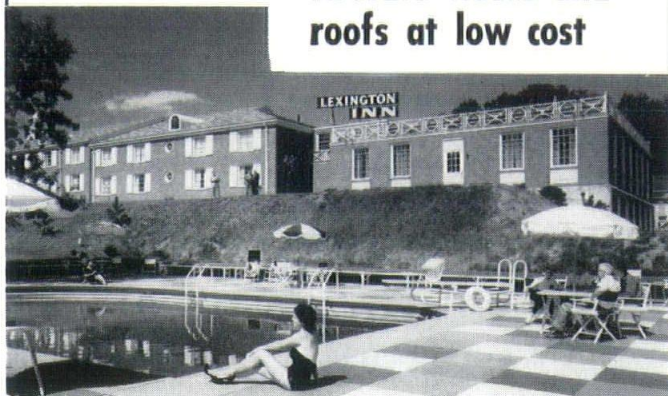
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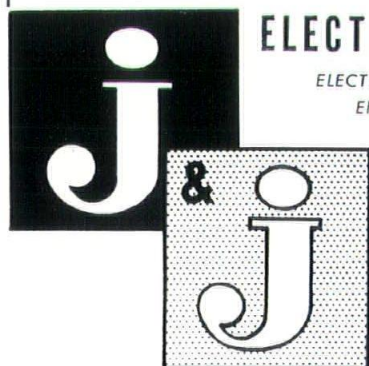
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Contr: Bacon & McLeish, Middletown

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Contr: Rex Constr. Co. Inc., Providence

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Contr: Alrae Constr. Co., No. Providence

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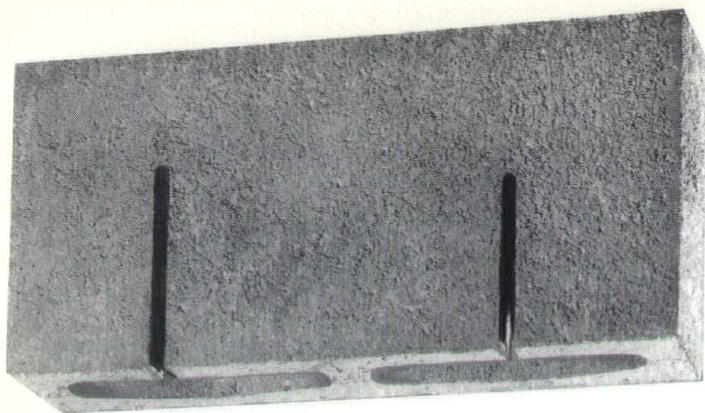
Armory — USA
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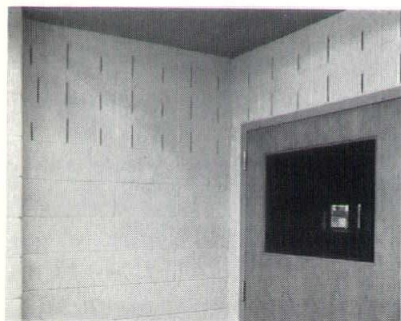
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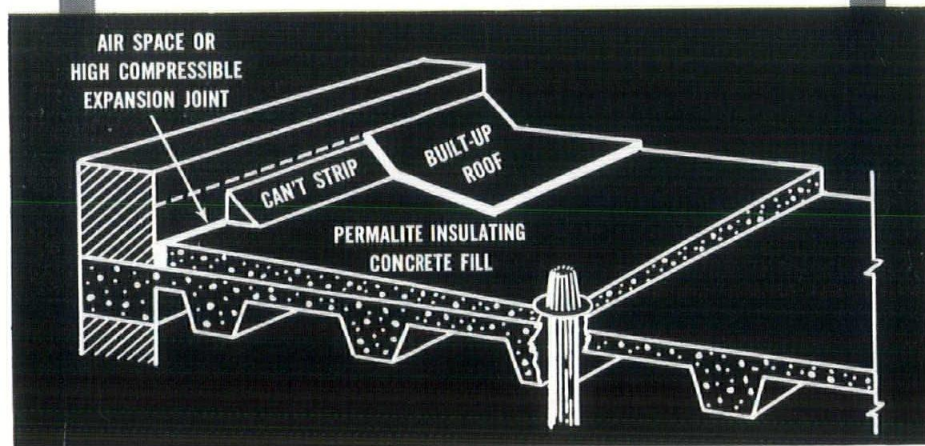
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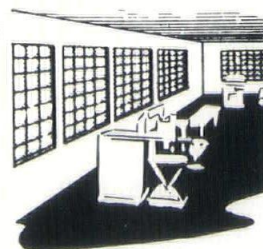
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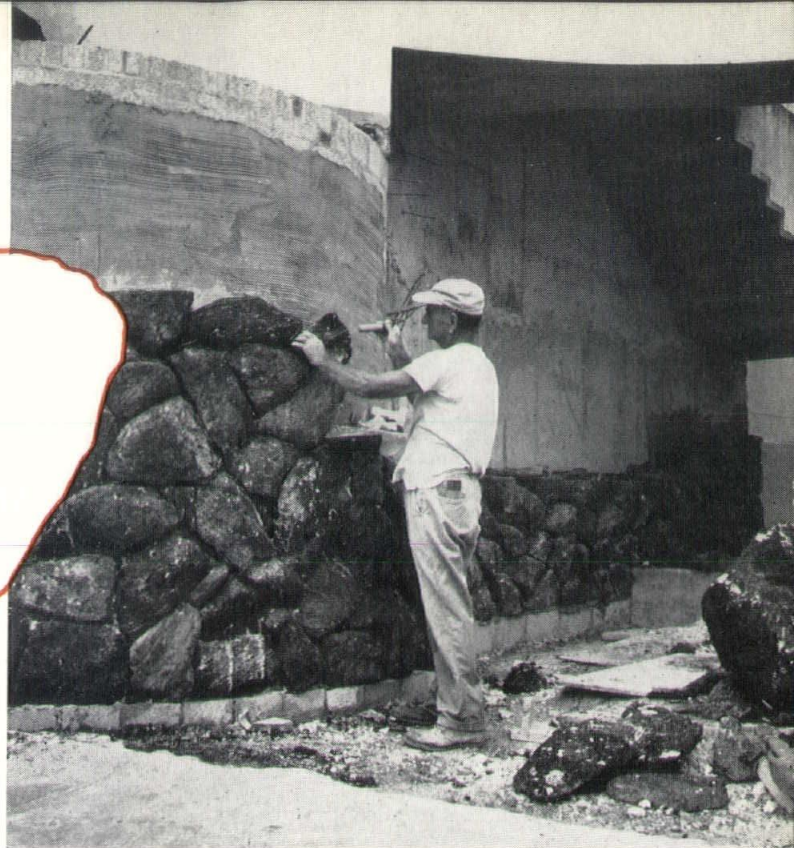
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