

# THE ARCHITECTURAL RECORD

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## ARTICLES

- Milgrim—A Fashion Shop for Women  
*Louis H. Friedland, Architect*  
*By John Taylor Boyd* 523-533
- Some Modern Paris Shop Fronts  
*By Wm. Dewey Foster* 534-542
- The A. S. Beck Shoe Store  
*Vahan Hagopian, Architect* 543-553
- A Method of Drawing in Sepia Wash  
*By Gurdon Howe* 554

## PLATES

- Garden of Eleanor Raymond, Boston *Frontispiece*  
*Frost & Raymond, Architects*
- Detail from Drawing of the Alcazar at Seville 555
- Carcassonne 557, 561, 563
- Paestum 559
- Venice 565
- Fred M. Dean Tile Shop in Hollywood, California  
*Marshall P. Wilkinson, Architect* 567, 569, 571
- Front Elevation—House of Eleanor Raymond, Boston  
*Frost & Raymond, Architects* 573

## PLATES—Continued

- Rear Elevation—House of Eleanor Raymond, Boston  
*Frost & Raymond, Architects* 575
- Garden of Eleanor Raymond, Boston  
*Frost & Raymond, Architects* 577, 579, 581

## NOTES AND COMMENTS

- The Sixty-second Convention of the American Institute of Architects  
*By William Stanley Parker* 611-613

## THE ARCHITECT'S LIBRARY

- Garden City Houses—*By T. Millwood Wilson*  
*Review by Arthur W. Colton* 614
- Les Theories de l'Architecture  
*By Miloutine Borissavlievitch*  
*Review by Henry-Russell Hitchcock, Jr.* 614

## TECHNICAL NEWS AND RESEARCH

- Store Buildings.  
*By the Editorial Staff of The Architectural Record* 583-610

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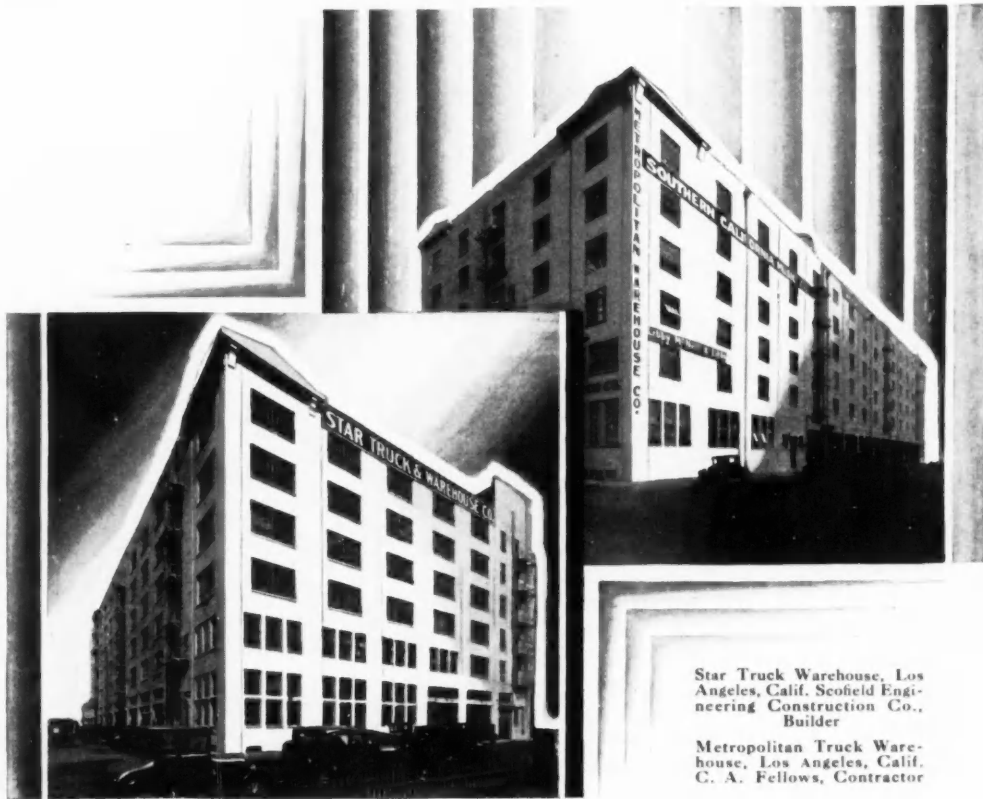
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## Floor Hardener

## ARCHITECTS' ANNOUNCEMENTS

BROOKS & EPSTEIN, architects, have moved to 215 Montague Street, Brooklyn, N. Y., from 26 Court Street.

VERNON H. HUGHES has moved his architectural office from 337 East 57th Street to 228 East 71st Street, New York City.

GEORGE G. MILLER, architect, has changed his address from 1482 Broadway to 545-5th Avenue, New York City.

WILLIAM C. HALBERT, JR., architect, has moved from 11 North Avenue to 202 North Avenue, New Rochelle, N. Y.

EUGENE S. JOHNSON and ALBERT C. MAACK have opened an office for the practice of architecture at 1123 Chemical Building, St. Louis, Mo., and request manufacturers' samples and literature for the A. I. A. file.

E. W. CRUMLEY, architect, has moved his office from 391 East 149th Street to 221 East 149th Street, New York City.

SIDNEY DAUB and JULIUS ECKMAN, architects, announce the removal of their office from 156 East 42nd Street to 155 East 42nd Street, New York City.

ALEX. MERCHANT, architect, announces the removal of his office from 72 Patterson Street to 1 Elm Row, New Brunswick, N. J.

F. A. DECURTINS, architect, announces that he has moved from Wapakoneta, Ohio, to Celina, Ohio.

EGERTON SWARTOUT, architect, is now located at 10 East 40th Street, New York City.

HOWARD T. YATES, architect and engineer, announces the removal of his office to 813 University Building, Syracuse, N. Y.

CHARLES H. HURD, engineer, is located at 518 North Delaware Street, Room 306, Indianapolis, Ind. His former address was 1607 Merchants Bank Building.

THOMAS A. FOSTER, architect, Wilkes-Barre, Pa., announces a change of address from 506 Coal Exchange Building to 909 Brooks Building.

JULIUS FLOTO, structural engineer and architect, announces that he is now located in his new office at 2032 Midland Building, 176 West Adams Street, Chicago, Ill.

JOHN H. LIEBAU and JOHN C. BREIBY announce that they have associated for the practice of architecture under the name of Liebau and Breiby, associated architects, at 238 Main Street, Hackensack, N. J.

SAM C. MOLLOY, architect and engineer, has opened offices at 1014 Protective Life Building, Birmingham, Ala. Manufacturers' literature and samples are requested.

C. C. BELL, architect, has moved from 17 Union Avenue, North Cranford, N. J., to 17 North Avenue, East Cranford, N. J.

THE FIRM of Bark & Djourp has been dissolved. E. Djourp has moved his office to 1345 Chisholm Street, New York City, and Mr. Bark is still located at the firm address, 1351 Broadway, New York City.

ROBERT T. LYONS, INC., architects, announce their removal from 342 Madison Ave., to 40 East 49th St., New York City. Manufacturers' literature and catalogues are requested.

E. A. WIKANDER, architect, is located at 55 West 42nd Street, New York City.

WILLIAM L. FINNE, architect, has moved to 1201 East Grand Street from 91 Broad Street, Elizabeth, New Jersey.

ROBERT E. HALL, whose architectural practice was formerly conducted from 152 West 54th Street, New York City, is now located at 342 Madison Avenue of that city.

ALFRED C. BOSSOM, INC., has opened architectural offices at 16 East 52nd Street, New York City. The former address of the firm was 680 Fifth Avenue.

SYLVAN BIEN, architect, is now located at 14 West 45th Street, New York City.

THOMAS S. VAN ALYEA and GEORGE F. SPINTI, III, architects, have moved from 424 Jefferson Street, Milwaukee, Wis., to 408 Albion Street of the same city.

COBB & EISENBERG, architects, Chicago, Ill., have moved from 5 North LaSalle Street to 123 West Madison Street.

LAMONT H. BUTTON, architect, has moved from the Fitzsimmons Building, 327 Fourth Avenue, to 2502 Grant Building, Grant and Fourth Avenue, Pittsburgh, Pa.

A. MOORMAN & COMPANY, architects and contractors, formerly of 600 Chamber of Commerce Building, St. Paul, Minn., announce the removal of their offices to 813 First National Soo Line Building, Minneapolis, Minn.

HERBERT E. REDMAN, architect, formerly at 326 South Sixth Street, and Fred H. Elswick, architect, formerly at 265 Starks Building, announce the opening of offices for the general practice of architecture at 416 Starks Building, Louisville, Kentucky.

HERBERT A. BRAND, architect and engineer, announces the removal of his office from 510 North Dearborn Street to 1941 Daily News Building, 400 West Madison Street, Chicago.

THE ARCHITECTURAL firm of Smart and Scheuneman has been dissolved. Mr. Paul R. Scheuneman is now practicing independently at 304 Magee Building, Pittsburgh, Pa.

J. LAKIN BALDRIDGE, architect, announces the removal of his offices to the Seneca Building, 121 East Seneca Street, Ithaca, N. Y., from the Savings Bank Building.

# An entrance rich in historic early American associations



An artistic heritage of early American industry and craftsmanship, the Bristol, Rhode Island entrance, shown below, has an originality and freedom of design that are characteristic of some of the best of the

early 19th century New England seaboard entrances.

Bold in scale . . . with fluted pilasters, and a cornice that literally sparkles with delicate little brackets above a meander . . . this entrance offers a wealth of suggestion to architects who design homes in the Colonial tradition.



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ENTRANCES AND  
GARDEN EQUIPMENT  
GLADLY SENT.



Hartmann-Sanders has recently published two booklets that will interest architects who design homes in the historic Colonial spirit. The booklets illustrate a notable group of entrances, columns and garden equipment. They also tell how Hartmann-Sanders craftsmen, long schooled in the Colonial tradition, lend correctness to every detail of these artistic features. *Write for the booklets.* No charge. Hartmann-Sanders Co., Factory and Showroom: 2152 Elston Ave., Chicago. Eastern Office and Showroom: Dept. R, 6 East 39th St., New York City.



## HARTMANN - SANDERS

PERGOLAS

COLONIAL ENTRANCES

KOLL COLUMNS

ROSE ARBORS

GARDEN EQUIPMENT





Garden of Eleanor Raymond, Boston  
FROST & RAYMOND, ARCHITECTS

# THE ARCHITECTURAL RECORD

AN ILLUSTRATED MONTHLY MAGAZINE OF  
ARCHITECTURE & THE ALLIED  
ARTS & CRAFTS



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VOLUME 65

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## MILGRIM—A FASHION SHOP FOR WOMEN

LOUIS H. FRIEDLAND, ARCHITECT

BY JOHN TAYLOR BOYD, JR.

THE FIRST impression which the Milgrim building has on the visitor is that of a restrained architectural design underlying a variety of new forms executed with taste and attention to detail. The interior expresses fashion and luxury, and is keyed to a somewhat higher pitch of showmanship than would be desirable in a home. Yet the effect is not strident or theatrical.

Light wood, beautifully grained, with flat surfaces and few moldings, is used for the walls, show cases, wardrobes and other forms of built-in furniture and also in movable chairs and tables. This wall scheme forms a contrast to other materials present, such as glass, metals and fabrics, which accent the wood background and are made luminous by means of concealed lighting. It is a setting for the people who gather there—customers, sales people and manikins.

Even though one may miss the conventional forms in such a design, it is probable that the designed method of using materials frankly is preferable to some of the fantastic attempts of extremists who substitute pattern for craftsmanship. Here is a store of many departments inspired by the ablest French modern designers—Dominique, Le

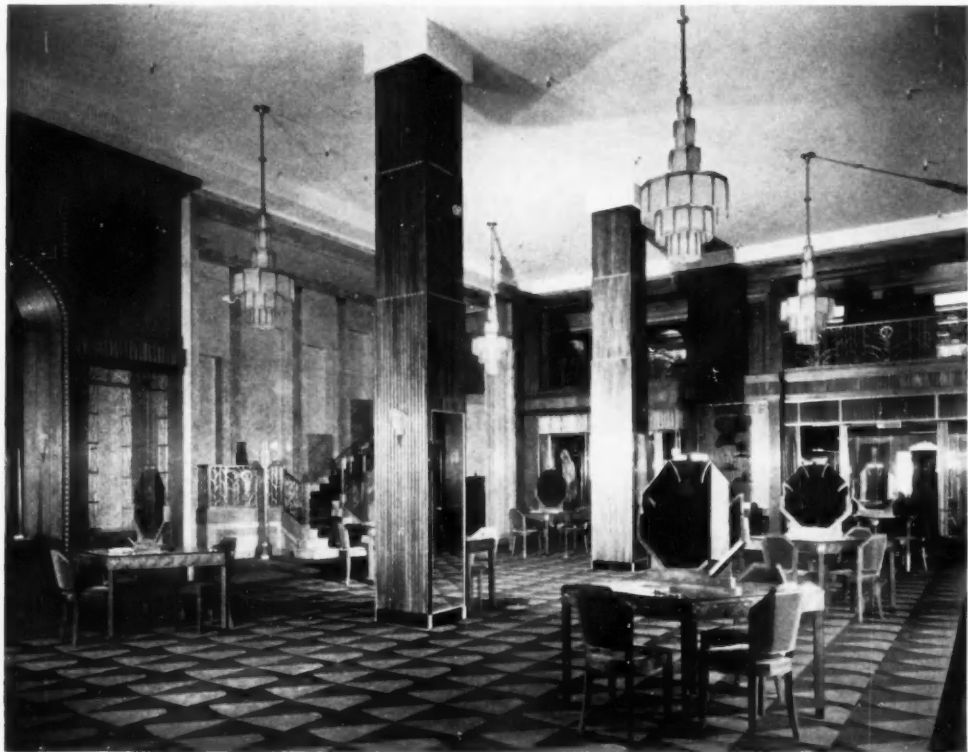
Cu, Lalique—who are primarily master craftsmen. An American modernist critic, Lee J. Simonson, holds them to be not so much modernists as true heirs of the fine old French tradition of European craftsmanship. Their designs in furniture, glass or metal are works of art, wrought largely by hand with elaborate skill. Such workmanship is necessarily costly, and can be appreciated and bought only by a very small clientèle of cultivated and wealthy people. This clientèle belongs to the old class of aristocratic patrons and amateurs. The big departure from tradition in this modernist craft art is in design. The furniture design, Simonson holds, is a source of ideas and inspiration for the modern movement in its simplification of surfaces into planes and simple lines, its elimination of carving, moldings, turnings, twistings, projections, breaks, and other conventional details which are natural in a craft art. Much historic furniture design is based on the use of ornament, and the carver as an original artist is now almost extinct. Hence the modernist craftsmen have created a new furniture designed without carving.

Also, the modernist craftsmen have done well in discovering the artistic use of the

new materials provided by modern technology. They have developed the exquisite character of the grain patterns in light colored wood, which can be brought out by the transparent finishes—the varnishes, lacquers, shellacs—of today. With the use of simple plain surfaces, the emphasis of color, texture and graining of wood is valuable in avoiding a dull, mediocre effect. All this technique should provide a valuable basis

effect which might repel a customer or cause her to doubt the authority of the shop as an arbiter of taste and fashion.

Although each floor is an individual design, the same distinctive character of harmonious design in light-colored beautifully grained wood backgrounds, generally light in tone and softly luminous, runs through the whole series of interiors. In fact, one is surprised to see so much wood wainscot



*Photo. Mattie Edwards Hewitt*

MAIN SALON ON ENTRANCE FLOOR  
MILGRIM

LOUIS H. FRIEDLAND, ARCHITECT

for the craftsman machinist of the future to work upon in developing furniture into a popular art like that of fabrics and women's wear. And it might be added that the European master craftsmen have handed on to the new style the ancient sound design, color texture, fine taste and humanness—in fact, the ancient ideal of the ancient handicraft art.

In designing the interior, the architect was careful to avoid any bizarre or extreme

used successfully in a building for women's wear. The wood and glass and steel and silvered surfaces are accented with tones and patterns of fabrics, such as those of rugs with their tones of warm grays and taupe shades; the somewhat more colorful shades of the curtains and draperies; and the darker and richer patterns of the upholstery of the furniture.

The work has been executed with extraordinary attention to detail. Particularly is



this true of the wood-work in which each piece of veneer, even on the walls, has been selected for pattern and for direction of the grain in relation to the whole effect.

Since this technique is unfamiliar, it may be worth-while to describe some of its features, especially with regard to the specifications. The large two-storied entrance salon is wainscoted to the ceiling with French walnut, mostly of selected veneer, though including some solid pieces of wood

are finished with silver leaf appliqué and shellacked. The wood is generally five- and seven-ply. The cornice of this main hall is painted wood.

The grilles, stair railings, and other metal work are of polished steel, with brush finish. Mirrors are V-cut, and the occasional accents of ornament are of wood, covered with silver leaf. The lighting fixtures are made of etched semi-opaque glass, with polished steel frames. Although chairs and



Photo. Mattie Edwards Hewitt

READY-TO-WEAR DEPARTMENT ON SECOND FLOOR  
MILGRIM

LOUIS H. FRIEDLAND, ARCHITECT

bleached to a soft finish. The light colored panels and display recessed panels in this wainscot are selected bird's-eye maple, with grain pattern showing in the design. The backs of the small show cases are also bird's-eye maple, while the cases and other furniture are ash. The wood in the show window backs on the street shop front is an exquisitely grained Hungarian ash. The cornice is painted wood. Generally, the edges of the overlapping thin pieces of wood or veneer

some of the lighter furniture were made from French models, most of the special pieces, like the dressing tables, were designed by the architect. This furniture is generally of maple and satinwood veneer. The carpet is in three shades of taupe, with black border.

The two departments (lingerie and millinery) at the rear of the main floor salon, and those on the upper floors are the most thoroughly modernistic, the most consistent,

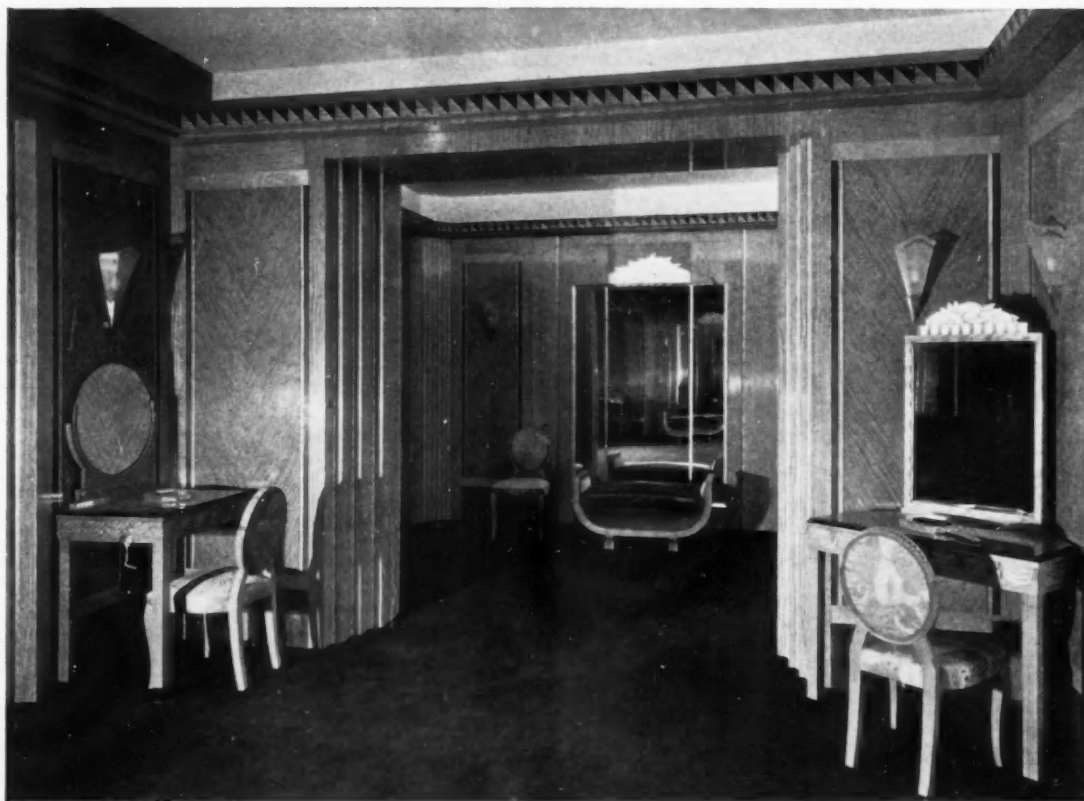
and the most successful parts of the design. The lingerie salon is, by contrast with the main floor salon, small and low ceilinged, but is luminous in its wainscot of wood panelling and show cases under the reflected concealed lighting of the ceiling. It is simple and utilitarian in arrangement. The wood is generally French satinwood, with marquetry pattern in the frieze of the wainscot. The occasional light-colored frames are made of polished steel with brush finish, or else are silvered wood. The inlay is ebony.

On the second floor (above a mezzanine) is the ready-to-wear department, consisting of a large salon for customers, and a row of small fitting rooms adjacent located along the street front. The salon is finished in a dark, rich teakwood, with silvered wood frames for mirrors. Lighting fixtures are etched frosted glass, with frames. The

fitting rooms have a wainscot of American walnut and maple, used in combination, and the scant cornice at the ceiling is silvered. On this floor, also, is a small conventional Louis XVI reception salon, with light grayish plaster panelled walls, small in scale.

The custom department on the third floor above follows somewhat the style of the rest of the shop. The most striking feature is the grain effects of the curly birch of the wainscot, extremely light and delicate, with thin inlaid strips of ebony, gray hawthorn and hollywood. The room has a small, low stage used by the models to display the gowns under various lighting effects.

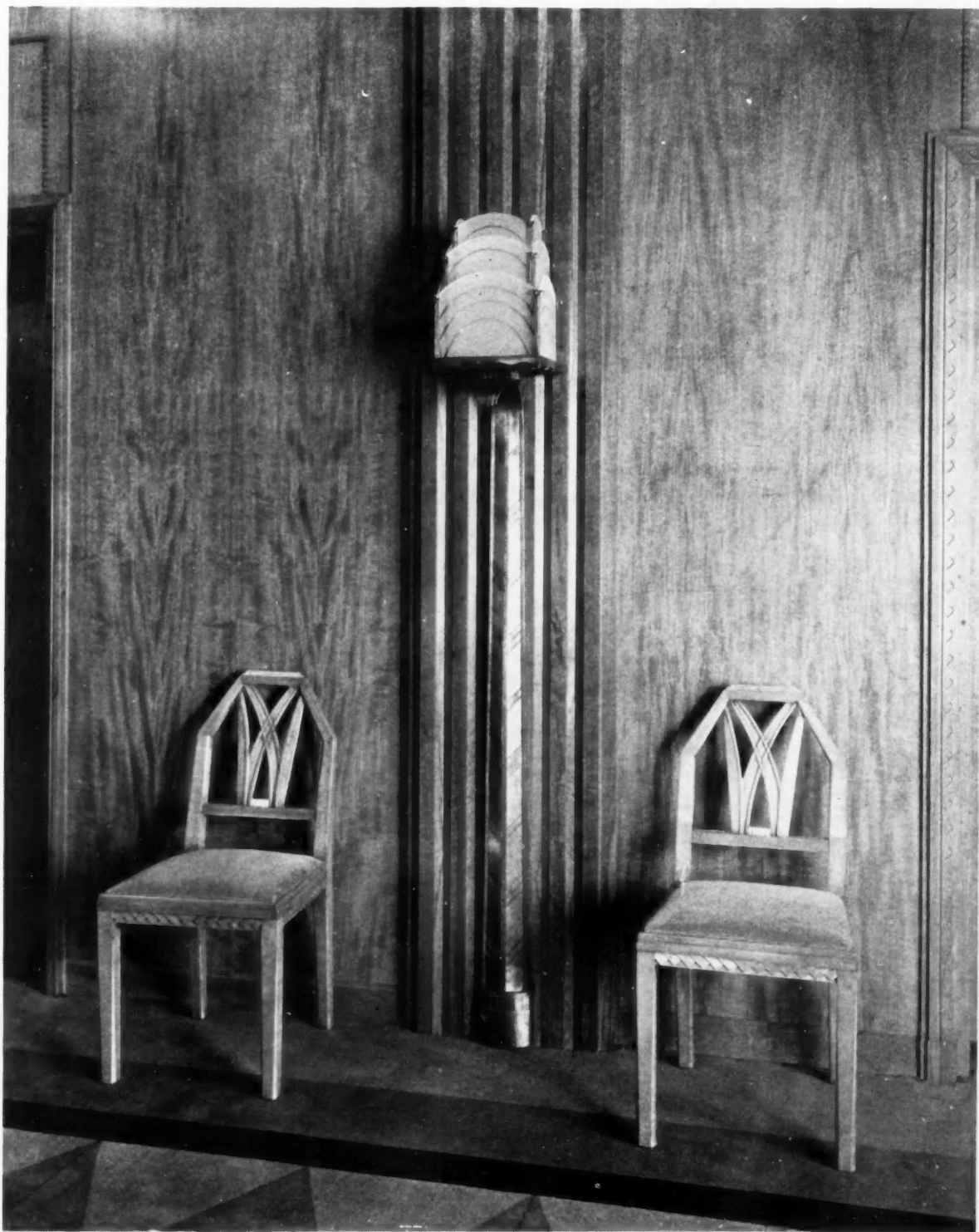
These are the main features of Milgrim Store. That the design has interest is due not to style but to materials, successful methods of display and to attractive color.



*Photo. Mattie Edwards Hewitt*

ONE OF THREE SMALL MILLINERY SALONS ON FIRST FLOOR  
MILGRIM

LOUIS H. FRIEDLAND, ARCHITECT



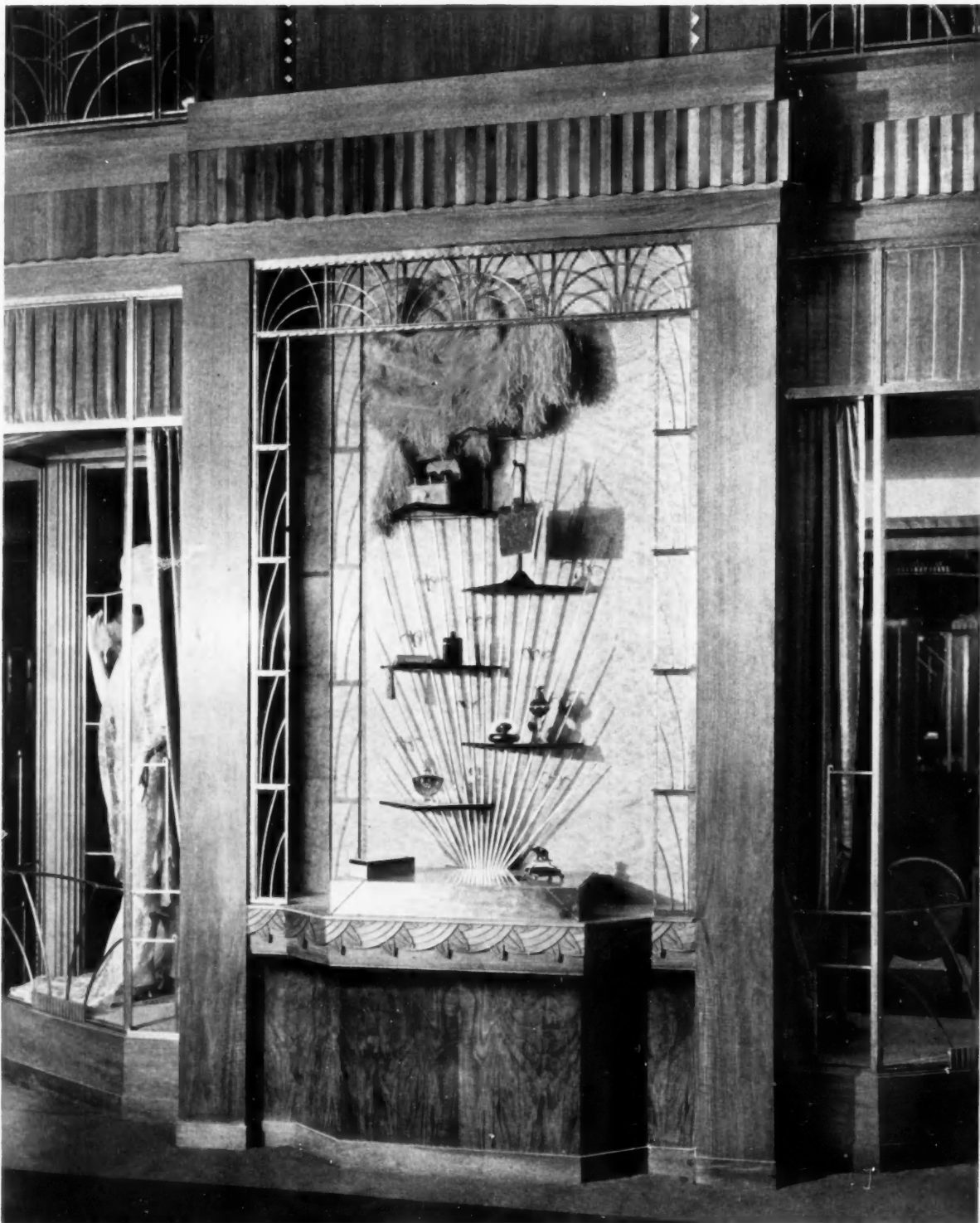
*Photo. Mattie Edwards Hewitt*

DETAIL OF READY-TO-WEAR DEPARTMENT  
MILGRIM  
LOUIS H. FRIEDLAND, ARCHITECT



*Photo. Mattie Edwards Hewitt*

MILLINERY SALON ON FIRST FLOOR  
MILGRIM  
LOUIS H. FRIEDLAND, ARCHITECT



*Photo. Mattie Edwards Hewitt*

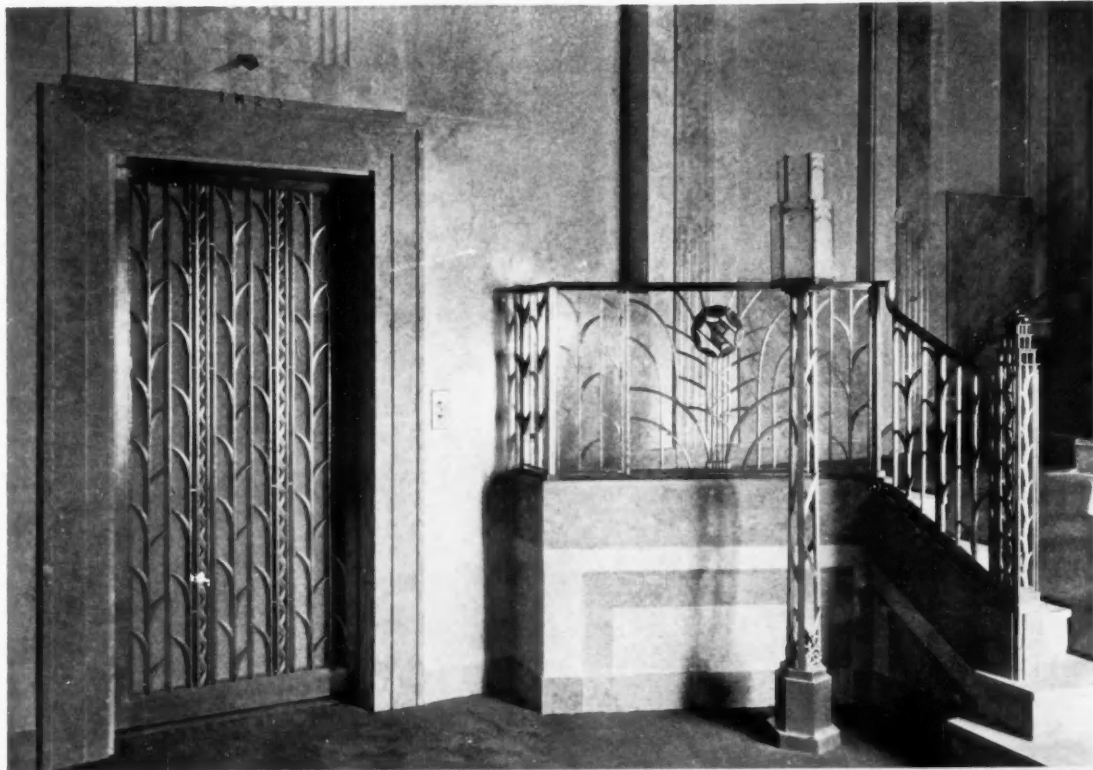
SHOW CASE AT ENTRANCE TO MILLINERY AND LINGERIE SALONS  
MILGRIM

LOUIS H. FRIEDLAND, ARCHITECT



*Photo. Mattie Edwards Hewitt*

ELEVATOR DETAIL  
MILGRIM  
LOUIS H. FRIEDLAND, ARCHITECT

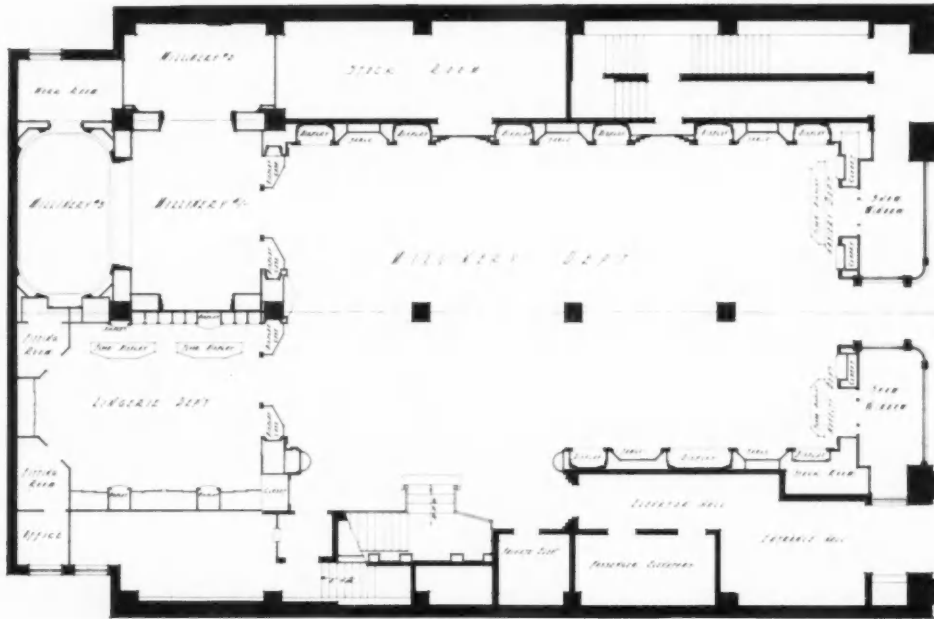


*Photo. Mattie Edwards Hewitt*

TWO VIEWS OF MAIN ENTRANCE SALON  
MILGRIM  
LOUIS H. FRIEDLAND, ARCHITECT



THIRD FLOOR

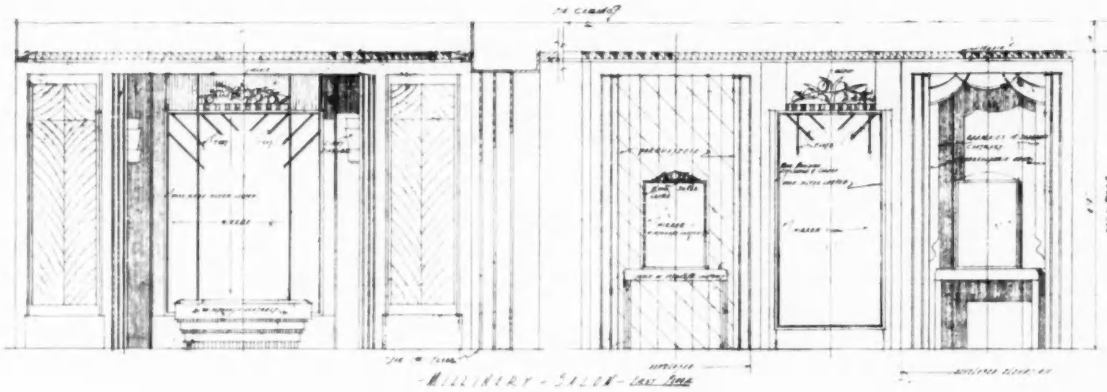


FIRST FLOOR

MILGRIM

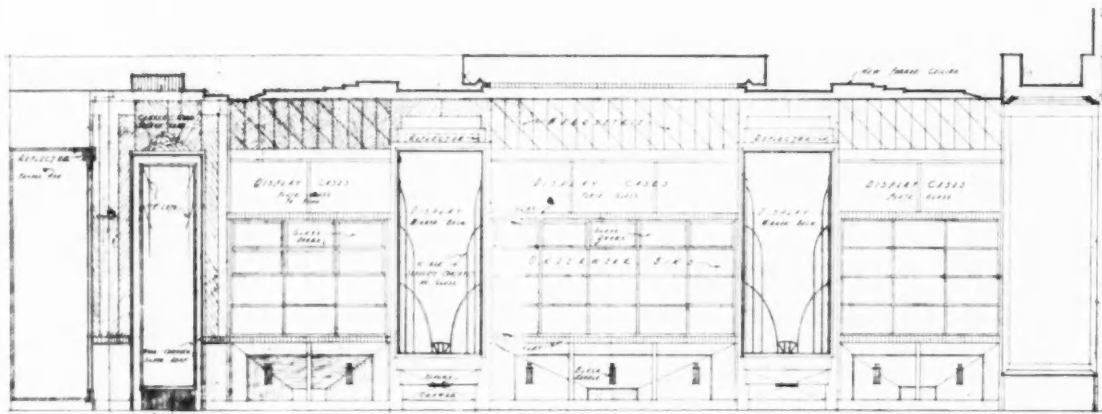
LOUIS H. FRIEDLAND, ARCHITECT



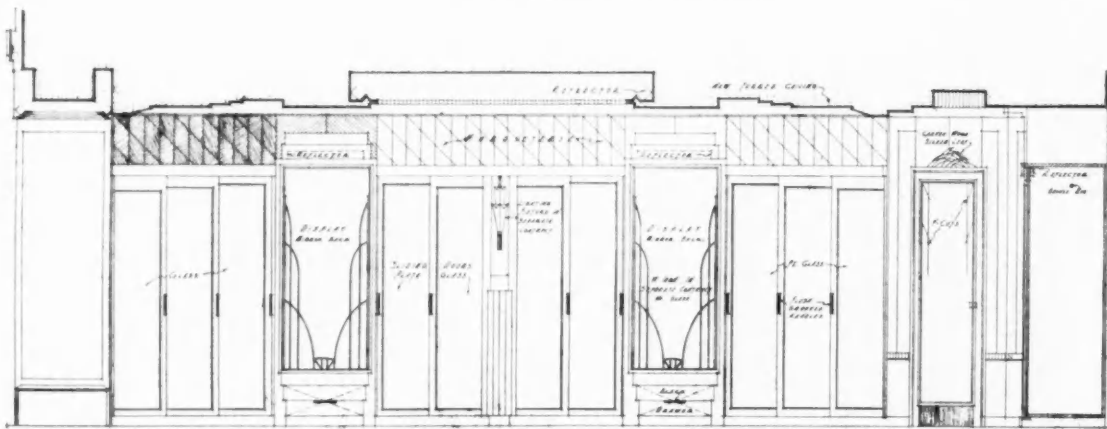


MILLINEY SALON - ONE SIDE

MILLINEY SALON - OTHER SIDE



LINGERIE DEPT - 1st FLOOR



LINGERIE DEPT - 1st FLOOR

MILGRIM

LOUIS H. FRIEDLAND, ARCHITECT

## SOME MODERN PARIS SHOP-FRONTS

BY WM. DEWEY FOSTER

Most of the shops which are shown in this article are new since the war. Those selected attract the eye not only by their modern quality of design but by combinations of colored materials, marbles, painted wood, gilded or painted ironwork—or by their utter simplicity. It is unfortunate that the colors cannot be reproduced, for half-tone plates fail to give some of the most interesting facts.

The "Jardins de France" a decorator's shop, depends for effect on the contrast formed by the lettering of the name against a very simple background. The lower part, to a height of about eight feet, is white scagliola veined with gray and above this the surface is stucco, carried up to include the low arches on the mezzanine floor. These arches have determined the axes of the openings below. An additional bit of color is obtained in the very deep reveals at the windows which allow for the shutters; these are painted a deep green. The lettering is cut from wood and painted black.

A very simple little perfume shop is that of "Bourjois." The original arched opening of one of the large old buildings on the rue de la Paix has been filled in with new stonework and the old stone has been cleaned to just the width of the shop. The framework for the door and windows is painted black as are also the letters of the name. It is this name with the wrought iron initial in the transom which gives the contrasting interest to the restrained design.

An opposite extreme is found in the ornate shop for the "Parfums D'Orsay." The facing is a very striking Sienna marble while the high relief valances over the windows and the interesting drapery under the windows are of cast iron very lightly gilded so that the whole design presents a brilliant effect. There are several similar bays extending down the side street. Inside,

the walls are dark gray up to the spring of the vaulting which follows the arches of the windows; above that the ceiling is a rich dark red spotted with high-relief gilded ornaments. With its indirect lighting this interior is very effective.

"Dumas" is a decorator's shop which was done before the war. Here again we find the simple contrast between marble and ironwork. The marble is white with a fair amount of gray veining; a darker black and white marble has been used for the medallions on the end piers. These medallions are held by wrought iron frames which form baskets underneath for flowers or evergreens. The lettering is of metal painted black. Here also the frame has a deep reveal with the pilasters placed several inches back of the face to allow for closing the grilles which are concealed during the day in the end piers. Wrought iron has been used for the pilaster caps and also in the door and transom, where the elaborate designs unfortunately do not show distinctly in the photograph.

The jewelry shop of Robert Linzeler is practically a monotone of dark brown. The frame is of a dark reddish brown marble without veining and simply molded; set in this is the very simple door frame with the two diagonal muntins and the extremely interesting grilles beneath the windows, all in a dull unpolished bronze. The only relief to this uniform tone of marble and bronze are the displays in the windows and the letters of the name which are gilded.

Several of the large department stores have recently altered their façades by refacing the lower part of their buildings with colored marbles or scagliola and adding new marquees. Such a renovation may be seen in the illustration of "Aux Trois Quartiers" where the new facing is gray in color and

the under surface of the marquee is entirely of glass illuminated from behind.

The shop of Andre Hunebelle, who creates glassware, is striking because of the elongated letters in white metal used for the name. Modern treatment of the lettering, though in a different manner, is an interesting feature of the shop known as "Le Bateau Ivre." The general color of this façade is a deep green with the door and lettering in white; the portholes in the door are an amusing variation from the ordinary.

The sign again plays an important part in the façade of the smart fruit shop, Dupont Barbier; here the letters stand free with a coved surface behind in which there is illumination which makes the name very pronounced at all times. Djo-Bourgeois was

the architect-decorator for this shop, where the interior with its cream stucco walls, mirrors, white metal trimmings, simple glass wall-lighting and built-in white counters and cashier's desk, is even more of a departure from the usual than is the exterior treatment.

While there may be a question as to whether a whole façade carried out in the spirit of most of these designs would not be disturbing and unsatisfactory, they do accomplish their purpose as shop fronts. Not only by their newness, but by their striking colors and the general "nouveau" character, they advertise the fact that behind them will be found the new and "chic" things, whether they be perfumes or ladies' dresses, or even pastries and fruits!



Photo. Bonney

#### LE BATEAU IVRE

Shop painted deep green, with white trim. Door painted white, with a silver metal handle



Photo. Bonney

## DUPONT BARBIER, FRUIT AND VEGETABLE SHOP

Exterior finish in cream colored cement, with red lettering, lighted from a niche behind



Photo. Bonney

## DUPONT BARBIER, FRUIT AND VEGETABLE SHOP

DJO-BOURGEOIS, ARCHITECT

Walls in cream stucco, with silver metal trim. Wall lights are in white opaque glass



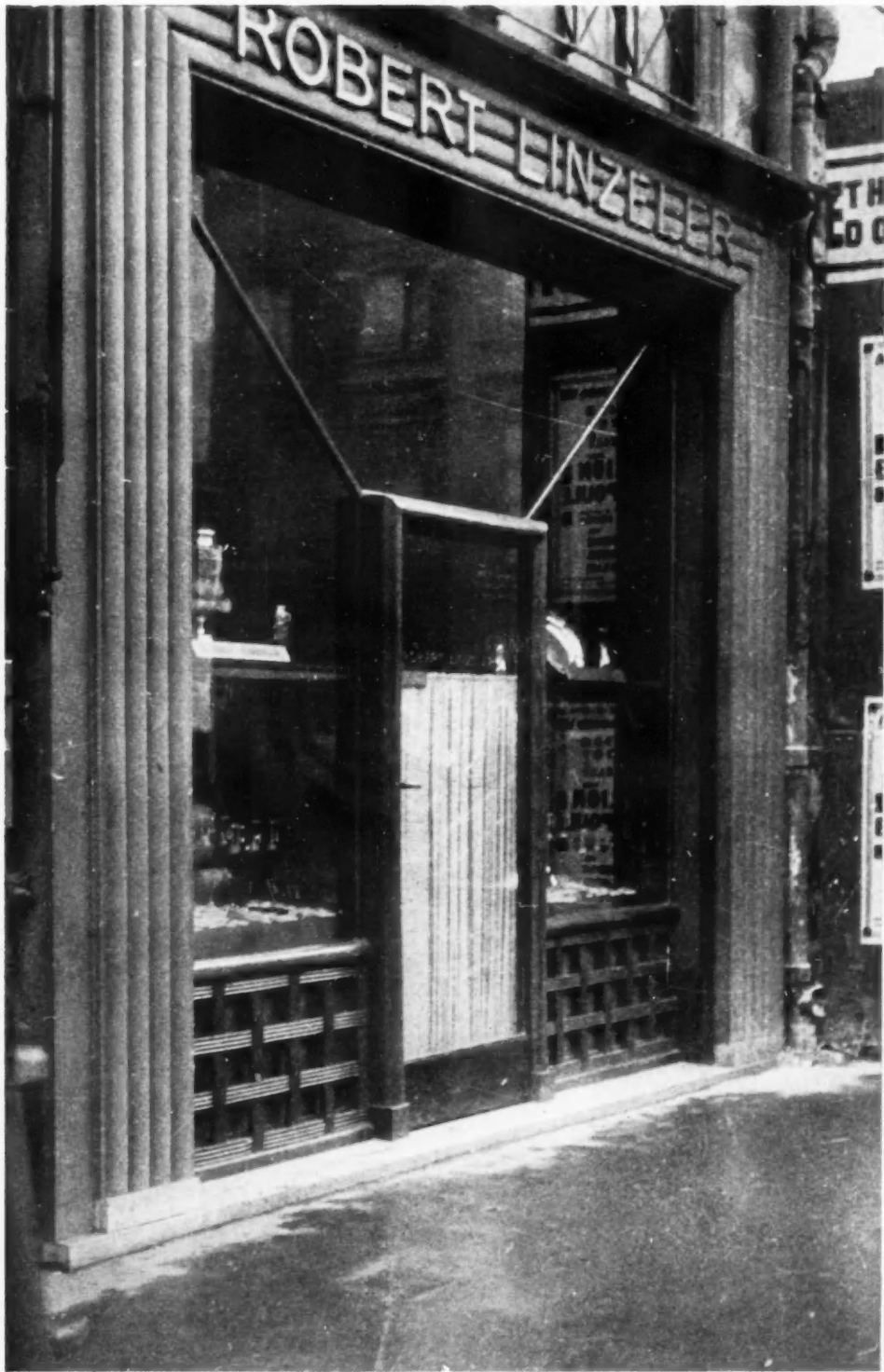
JARDINS DE FRANCE

A decorator's shop, faced with white scagliola veined with green



DUMAS, A DECORATOR'S SHOP

The marble is white with gray veining, with wrought-iron frames and dark marble trim



#### A JEWELRY SHOP

The glass is framed with a dark reddish-brown marble, simply molded  
The grille beneath windows is in a dull, unpolished bronze



BOURJOIS, A PERFUME SHOP

The arched opening of an old building was filled in with new stone work. The frame for the door and window was painted black



Photo. Bonney

A REMODELED DEPARTMENT STORE  
Faced with polished gray marble with illuminated marquee





PARFUMS D'ORSAY

The stone work is of Sienna marble with high relief decoration



Photo. Bonney

A VICTROLA SHOP

Faced with chocolate colored marble, with nickel lettering



Photo. Bonney

FLORENTIN, A COIFFEUR SHOP

VAYRAC-PAULHAU, ARCHITECT

Faced with black marble streaked in gray, with nickel lettering



Photo. Bonney

SHOP OF ANDRE HUNEBELLE, CREATOR OF  
GLASSWARE

Lower part of shop faced with figured marble. Lettering produced with metal strips

# THE A. S. BECK SHOE STORE

V. HAGOPIAN, ARCHITECT

THE PROBLEM before the architect was the design of a Fifth Avenue shop merchandising a \$5 shoe to a clientele of modest means, chiefly women employed in stores and offices nearby who would pass the store and be flattered to shop there.

A large volume of business being expected, particularly on Saturday afternoons and days preceding holidays, it was desirable from the owner's point of view that the store be used to capacity and sales facilitated as much as possible. An efficient seating arrangement was sought. Likewise, to focus more sharply the attention of passers-by on the display, it was found important to have a large expanse of glass in order that samples of all articles within the store might be exhibited. Unlike shops catering to the more expensive needs of the society matron with ample leisure to debate her choice, here the customer would make her selection while gazing in the windows and once she entered the store, the sale would be assured.

From this study of psychological needs the design evolved. There was no deliberate attempt to achieve a startling or "modernistic" architecture. Such unusual arrangements as resulted came from a purely objective handling of the problem with the aim of finding a tasteful and harmonious solution. The design is essentially to aid the selling of shoes, a translation into architectural forms of the precepts of what business men call sales psychology.

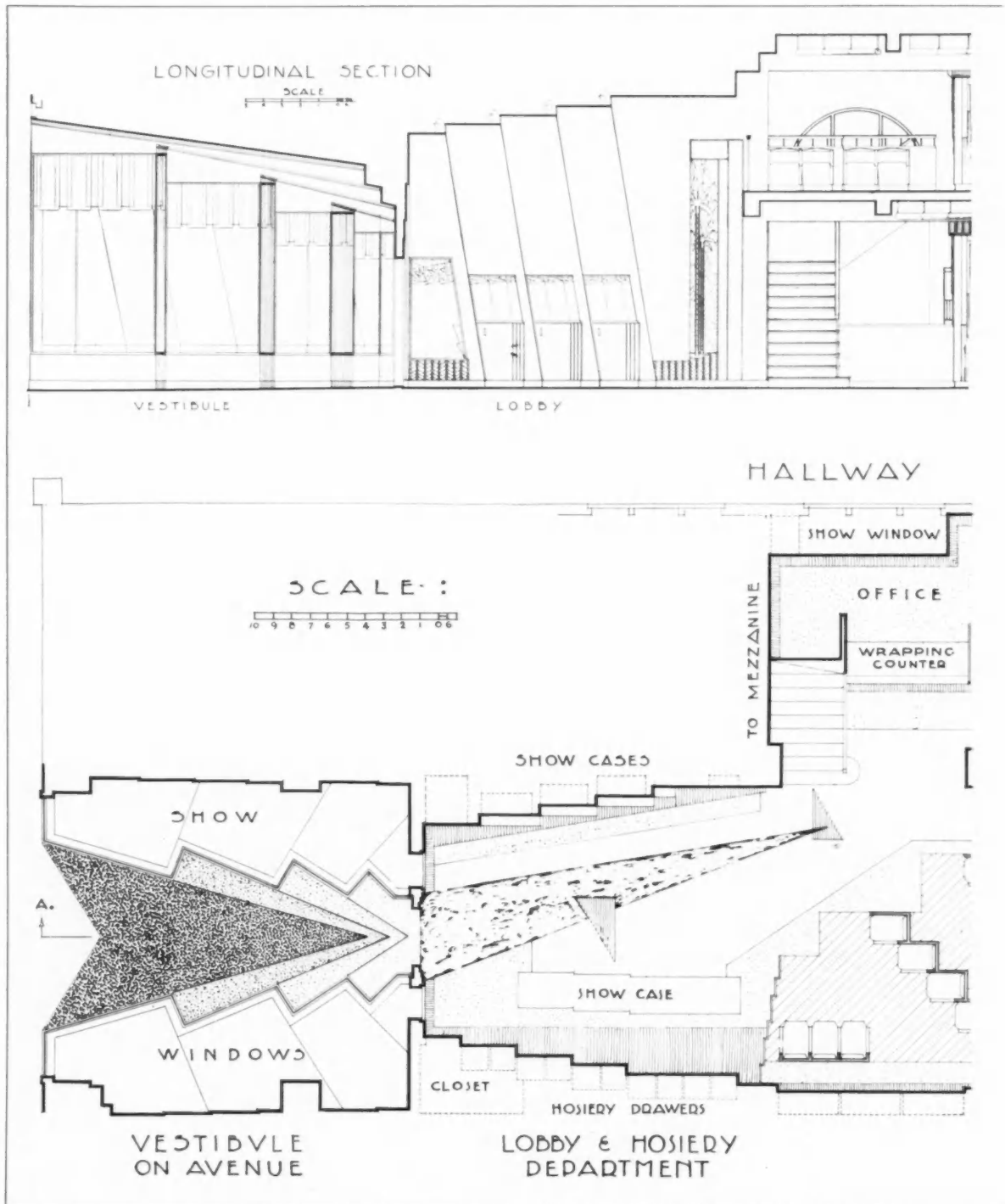
Throughout the design the immediate object of the architect has been to guide the attention of shoppers to points of interest. Where attention is to be concentrated, lines slope from all sides to a focal point of interest, the theory of the designer being that the persistent sloping lines, suggested by the masts of a ship, imply forward motion, and the eye is directed there. This is illus-

trated in the entrance vestibule where the lines of the ceiling and show cases converge to the door, which in its scheme of decoration recalls the ceiling motif and thus holds the eye.

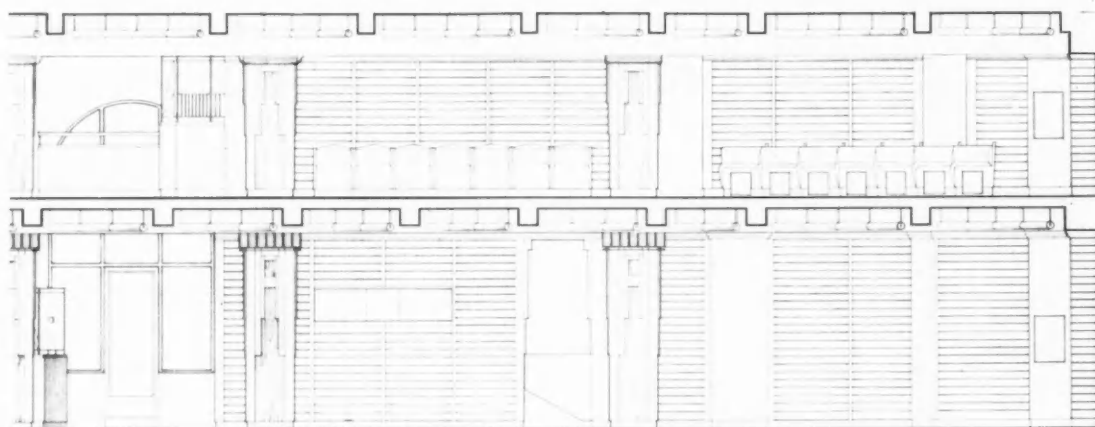
Where the attention of the spectator is to be carried farther, however, the motif repeats itself so that the eye jumps from one oblique line to another until the object of interest is reached. This scheme is found in the lobby, where on the left wall as one enters, the built-in display cases slope obliquely in successive set-backs and the shopper is directed to the shoe service. On the right wall, however, the lines are vertical, for here is placed the hosiery counter and the desire is now to hold the customer and tempt a further purchase.

Constant *reprises* of motifs, suggesting the major and minor tones of a symphonic composition, suffice for the relative absence of decoration. In the entrance vestibule, the floor design reflects the ceiling, each resulting from the disposition of the show windows. In plan the inclination of the window glass varies at each break, presenting a plane as nearly perpendicular as possible to the line of sight of the spectator and at the same time radiating to the door. This gives a floor pattern of overlapping triangles pointing to the entrance, which the architect has emphasized, making the triangles successively lighter by a gradation in the terrazzo aggregates and in this manner suggesting distance and motion in the design.

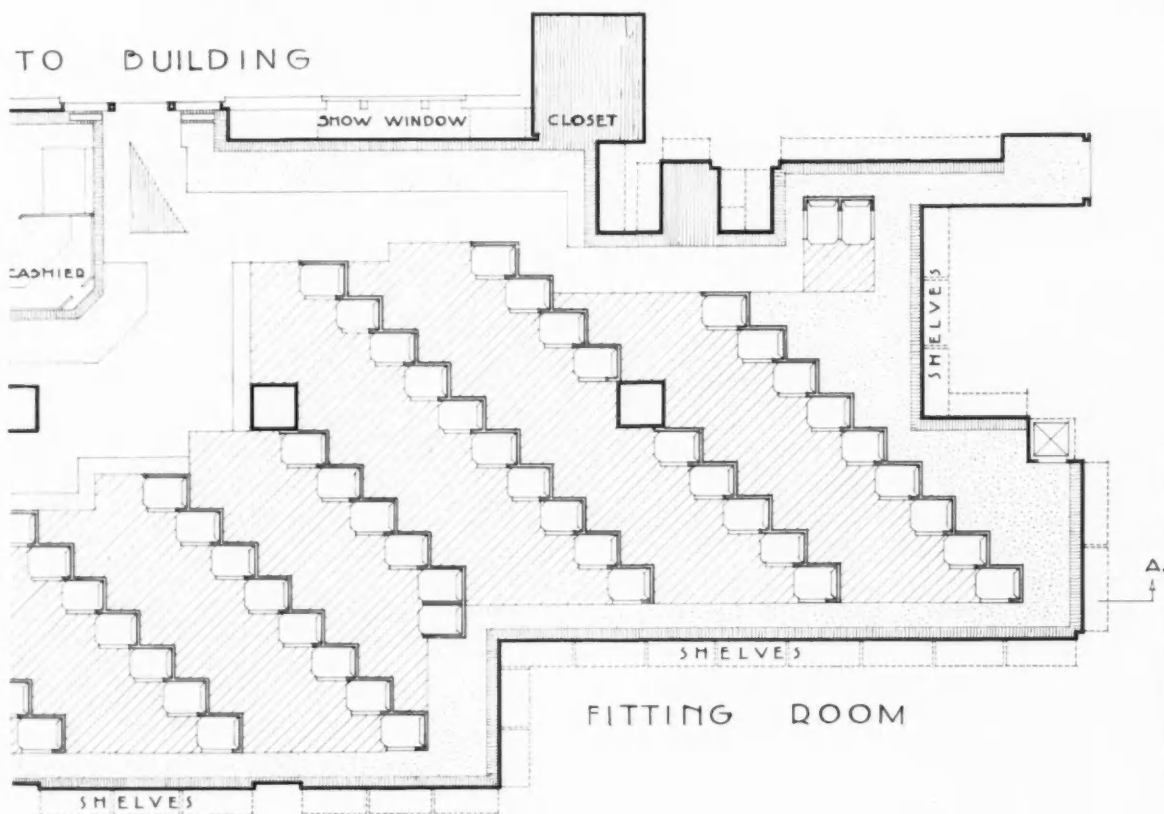
Large aggregates of terrazzo were selected for the floor, medium for the walls and small sizes for the ceiling, varying from a warm and dark color for the near surfaces to a lighter and cooler value for the more distant parts. The architect's original conception was a ceiling of neutral color by using particles in the three primary colors. Glass mosaic and glass terrazzo were sug-



A. S. BECK SHOE STORE  
 FIFTH AVENUE, NEW YORK  
 V. HAGOPIAN, ARCHITECT



FITTING ROOM, MEZZANINE & GROUND FLOOR.



A. S. BECK SHOE STORE  
FIFTH AVENUE, NEW YORK  
V. HAGOPIAN, ARCHITECT

gested but discarded, the first as too expensive, the second as not perfected. Marble terrazzo was used instead.

The excessive height imposed on the architect in the shop windows has been reduced by a hanging valance which hides the reflectors and reduces the glare. The paneling in the rear of the windows is in two sections, the lower of zebra wood and the upper of amaranth, a wood that absorbs and minimizes the glare of the flood lights.

The lobby, because of the position of the existing steel columns, has been furred out near the entrance so that by a series of step-backs along the walls and step-ups in the ceiling, the space becomes increasingly larger as one approaches the shoe service. The space thus furred out has been utilized for built-in show cases, hosiery stock drawers and a closet. This arrangement also conceals the strip lighting, and with a subdued illumination through the room, the goods on display, being brilliantly lighted, stand out in prominence.

The floor pattern of the interior has been designed to route the customers to one side and into the diagonal aisles. A bright orange triangle in the linoleum strip leading to the chair aisles points to the hosiery counter and attracts the shopper's attention to the display. Another triangle farther on indicates the stairs leading to the mezzanine floor. A third triangle marks the door to the office building arcade.

A continuous flooring was desired. The terrazzo of the exterior was too expensive and inappropriate for interior treatment. Rubber tiling obtainable in the market was found too small and the marbleized grain would not accompany the pattern. Finally linoleum was selected as a material offering the largest continuous surface and the desired grain.

Under the seats a specially designed rug harmonizing with the general ensemble has been placed to protect shoes, while being tried on, from any grit on the floor.

The diagonal arrangement of seats exemplifies further the demands of sales psychology in its application to architecture. From experience the owner had found that frequently a shopper trying on shoes would change her mind on seeing what her neighbor was buying and insist on the salesman showing her the same article. With the recession of one seat on the next, a certain privacy is offered the customer and the merchant has the pleasure of seeing his sales expedited.

The broken-up nature of the store made any arrangement other than the diagonal grouping impossible if the architect were to obtain unity in his design. This particular disposition gave also a maximum capacity, one hundred and nine chairs. Another advantage is the easy turn from the main aisle to the space between seats.

The chairs were desired by the designer to be part of the store architecture. Since they are not to be moved about, they have been built of heavy boards, hooked together, and the backs kept low purposely to give scale to the rooms which, for a store of this type, have very low ceilings. Under each adjoining chair is a mirror, tilted at a slight angle and lighted at the top by a concealed reflector. This mirror permits the shopper to see her feet completely without leaving her chair and thus walking to and from wall mirrors is eliminated.

To further the shopping and to bring the attention to the floor level, as elsewhere in the design, the mirrors arranged on the columns have been made wide near the bottom and narrow at the top, thus giving greater visibility on the shoes and less on the face.

Bright sources of light have been avoided, except around the shoes on display. The "V" shaped striped relief glass ornament of the vestibule ceiling has a faint source of light; this, however, is used not for illumination but for decoration, to break the monotony of the ceiling and to direct the eye to the door.

Within the store, the architect would

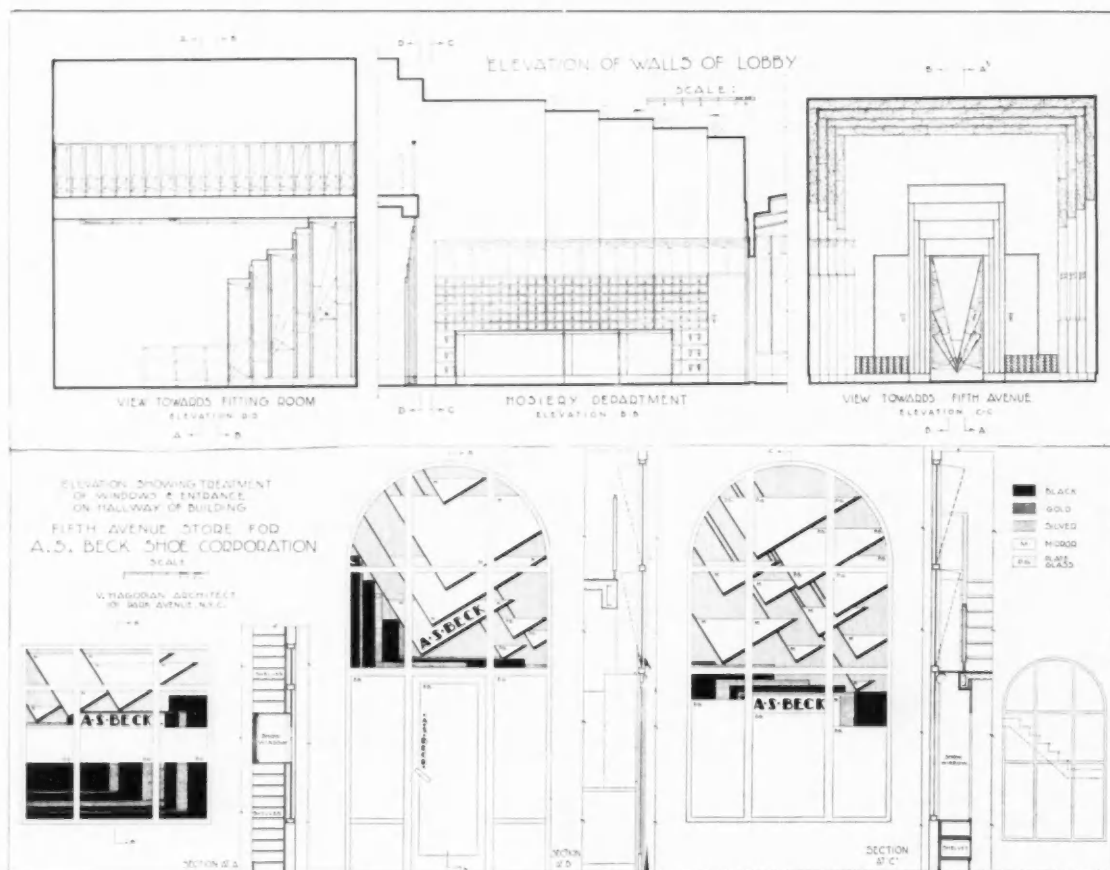
have preferred to sink a strip lighting system into a furred ceiling, following the design of the circulation between chairs. However, the low height of the ceilings did not permit any additional furring out, and this left exposed the existing beams, haphazardly placed. To minimize these beams in the design, a system of tubular lighting, carried diagonally with the circulation and placed level with the bottom of the beams, was devised. The diagonal placing of the tubes assists in guiding the shoppers to the seats and gives the store a much larger appearance.

A grey harewood finish for the show windows and store fixtures was first considered, the architect feeling that this wood would set off to advantage any display of merchan-

dise. But fearing the color might not be flattering to women's complexions, he selected instead a natural finish of zebra wood for the exterior and harewood for the interior, with a sparing use here and there of amaranth.

The ceilings and walls are of plaster, aluminum-leaved.

The balcony grille and the screen by the hosiery counter are also *reprises* of the general design. According to the practice of the shoe trade, the hosiery display has been placed near the entrance so that the shopper, on leaving the store after buying her shoes, may be attracted to make another purchase. The cashier's desk likewise has been located near the exits for the convenience of the customer.





*Photo. Amcmya*

OUTER VESTIBULE  
A. S. BECK SHOE STORE  
V. HAGOPIAN, ARCHITECT



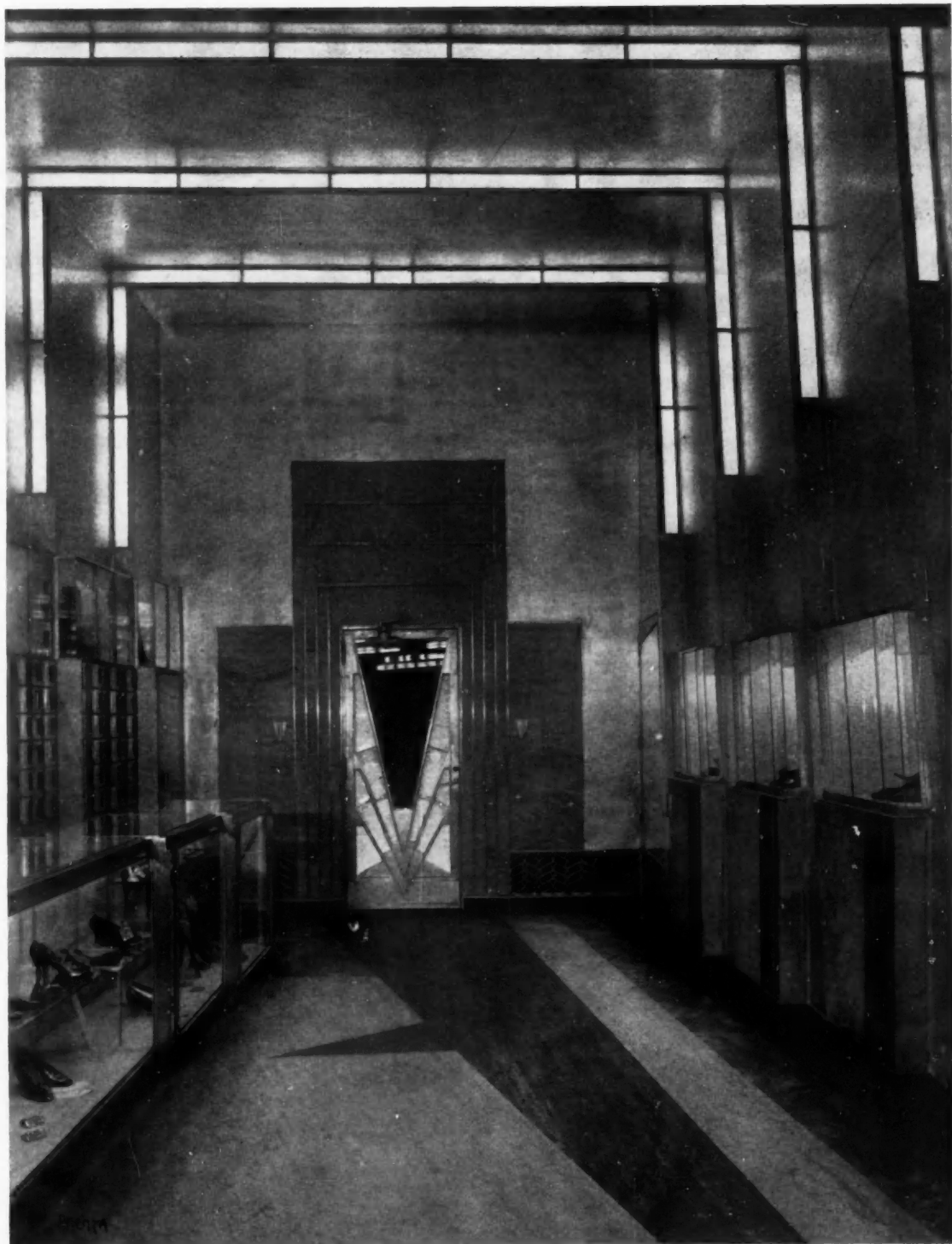


Photo. Amemya

INNER VESTIBULE  
A. S. BECK SHOE STORE  
V. HAGOPIAN, ARCHITECT



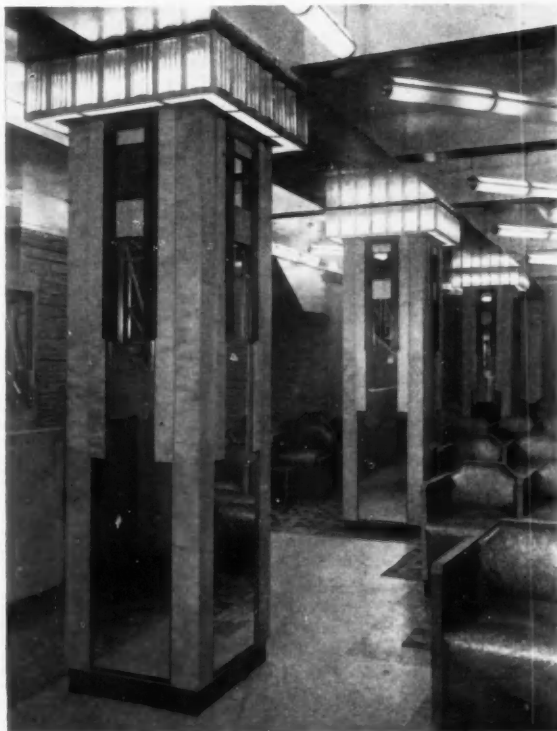
Photo. Ameyra

DETAIL OF RADIATOR GRILLE  
A. S. BECK SHOE STORE  
V. HAGOPIAN, ARCHITECT



*Photo. Amemya*

GENERAL VIEW OF INTERIOR  
A. S. BECK SHOE STORE  
V. HAGOPIAN, ARCHITECT



Photos. Amemya

GENERAL VIEWS OF INTERIOR  
A. S. BECK SHOE STORE  
V. HAGOPIAN, ARCHITECT

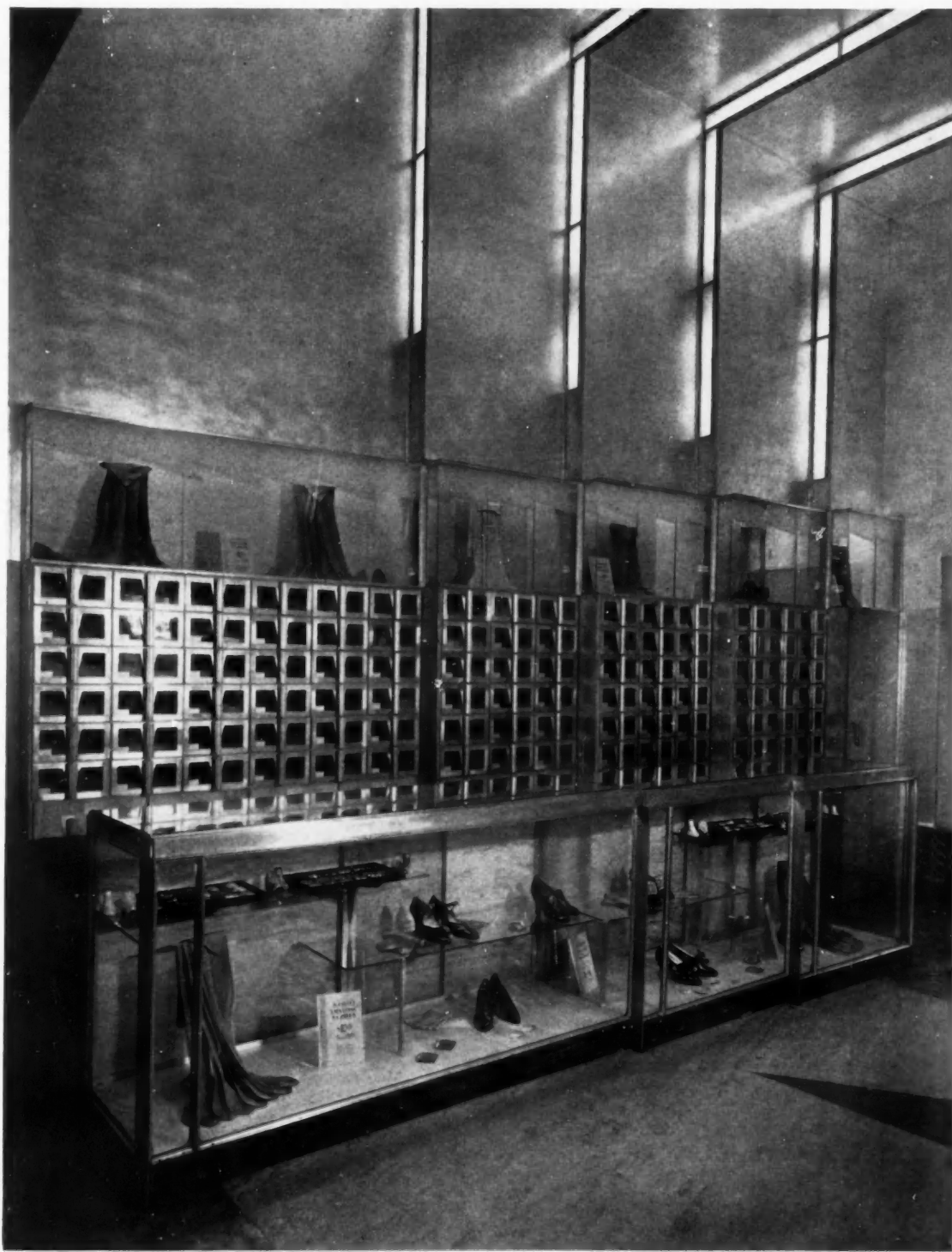


Photo. Amemya

HOSIERY DEPARTMENT  
A. S. BECK SHOE STORE  
V. HAGOPIAN, ARCHITECT

## A METHOD OF DRAWING IN SEPIA WASH

By

GURDON HOWE

THE TECHNIQUE used in the drawings shown on the following pages is taken partly from the drawings of the old masters such as Tintoretto, Titian, Piranesi and, particularly, Claude Lorraine, and partly from the methods of modern water-color technique. The drawings are done with a brush, using three shades of sepia ink—light, medium and dark—and touched up slightly with a pen.

First, an outline sketch in charcoal is made of a subject that is fairly equally divided into planes of light and shadow. Then with the medium tint all the parts that are in shadow are blocked in, the paper being held on a vertical surface (on an easel) so that the ink runs down the paper in streaks giving accidental effects that add interest to the drawing. This is helped by using a paper with a shiny surface so that the wash runs along the surface and dries on it instead of settling flatly into it. While this first wash is still drying, a second wash of the same medium value is added in the foreground and in places where a darker accent is needed, and this second wash is allowed to settle into the first.

When this has dried, the next step is to sketch in the sky and those parts of the drawing which require to be slightly darkened, and planes such as grass or trees that are dark in value, the general aim being to leave the center of the picture light so that the eye will be attracted toward it, and to darken the edges and foreground.

Finally with the dark value and a finely pointed brush the dark shadows and the lines are drawn in, an endeavor being made to keep the lines free, broken and sketchy in quality. No use is made of a ruler or mechanical instrument of any sort which might destroy the vigor and movement of a drawing. Measuring is done entirely by the eye.

When the drawing has reached this state, it is taken home and finished in the studio. Figures, done from life in sketch-books, are put in to give the drawing scale and vitality. Also, an effort is made to catch in the movement of the figures something of the

movement of the architecture, so that one will repeat and emphasize the other. Then when the drawing is completed it is touched up with a pen, though only in the foreground or where an accent is necessary (the paper being held flat, of course). As it is difficult

to keep a pen line from being rigid and monotonous, this should be done cautiously.

A sharp-pointed Japanese brush should be used, such as one can obtain from any art-supply store, and a cream-colored shiny paper, but one can use a mat paper quite well (in fact the old masters invariably did so; they also worked more with the pen than with the brush). So much then for the technique. As in all the arts, the technique itself is fairly simple; what is important is the use to which it is put, and that remains for the individual to work out for himself.



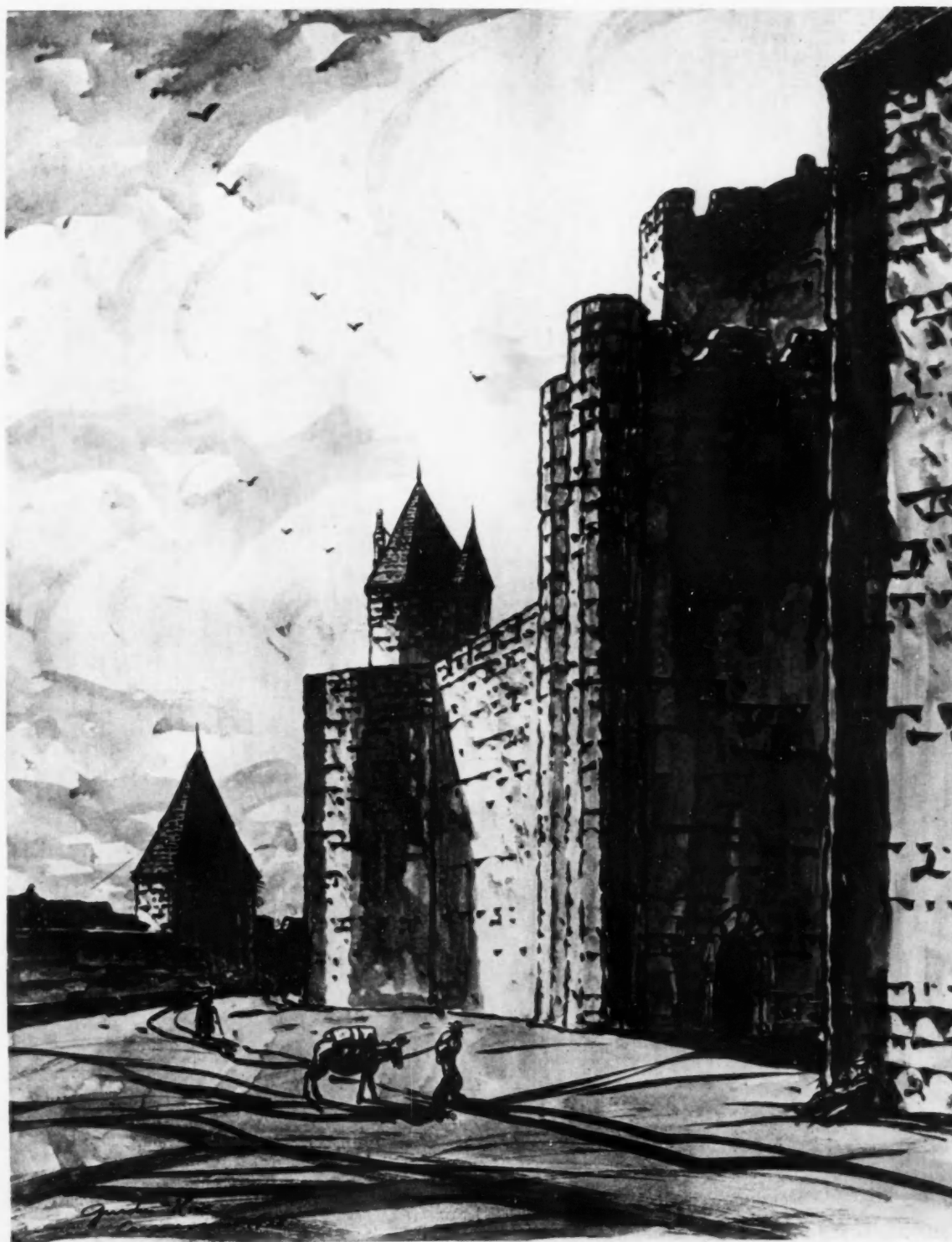


Detail from Drawing of the Alcazar at Seville









Carcassonne







Paestum



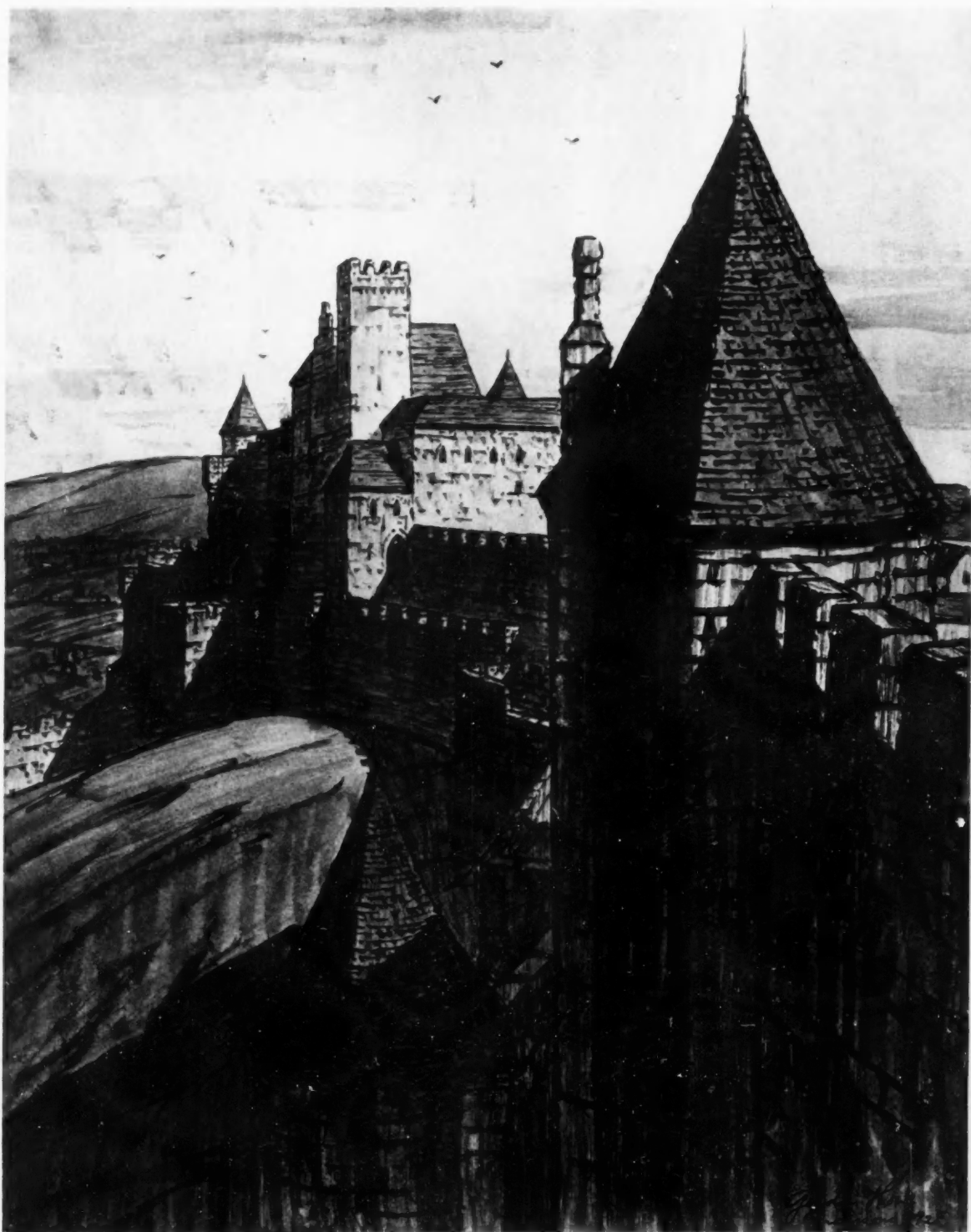




Carcassonne







Carcassonne









Venice





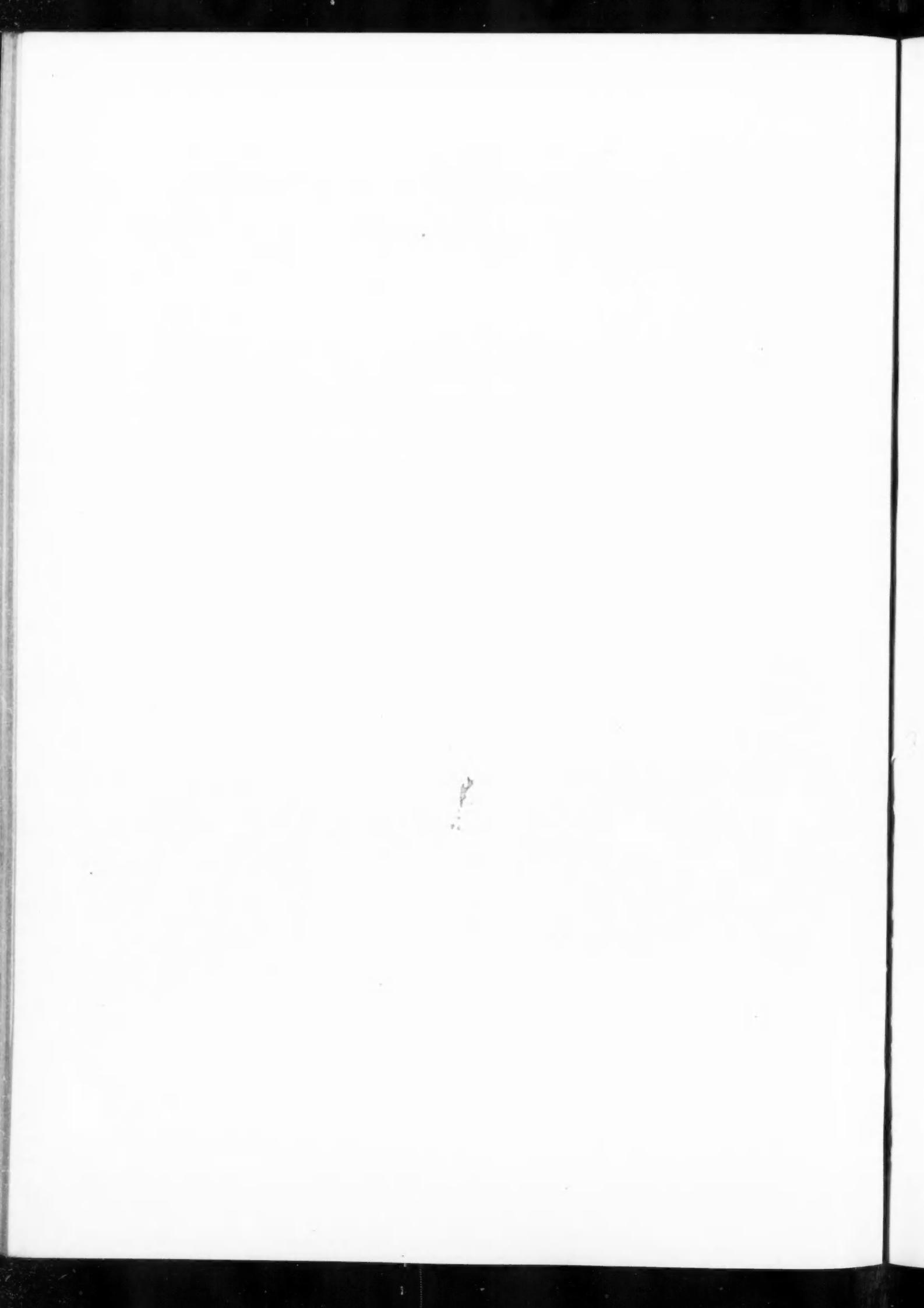
PORTFOLIO  
OF  
CURRENT ARCHITECTURE



*Photo. The Mott Studios*

Detail—Fred M. Dean Tile Shop, Hollywood, California  
MARSHAL P. WILKINSON, ARCHITECT







*Photo. The Mott Studios*

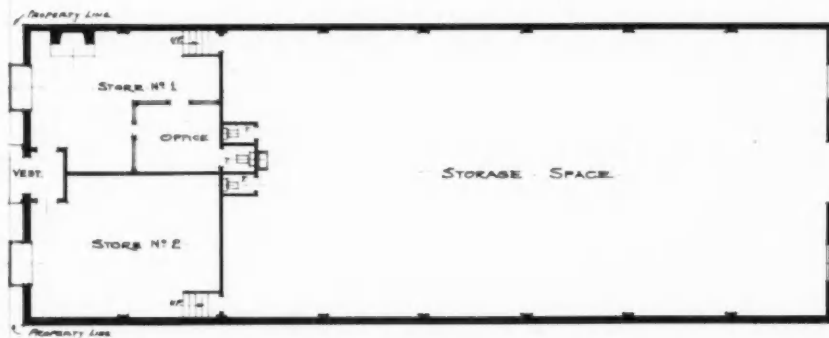
Detail—Fred M. Dean Tile Shop, Hollywood, California  
MARSHAL P. WILKINSON, ARCHITECT





Photo. The Matt Studios

Stairway



FLOOR PLAN

SCALE OF FEET  
1 2 3 4 5

Fred M. Dean Tile Shop in Hollywood, California  
MARSHAL P. WILKINSON, ARCHITECT

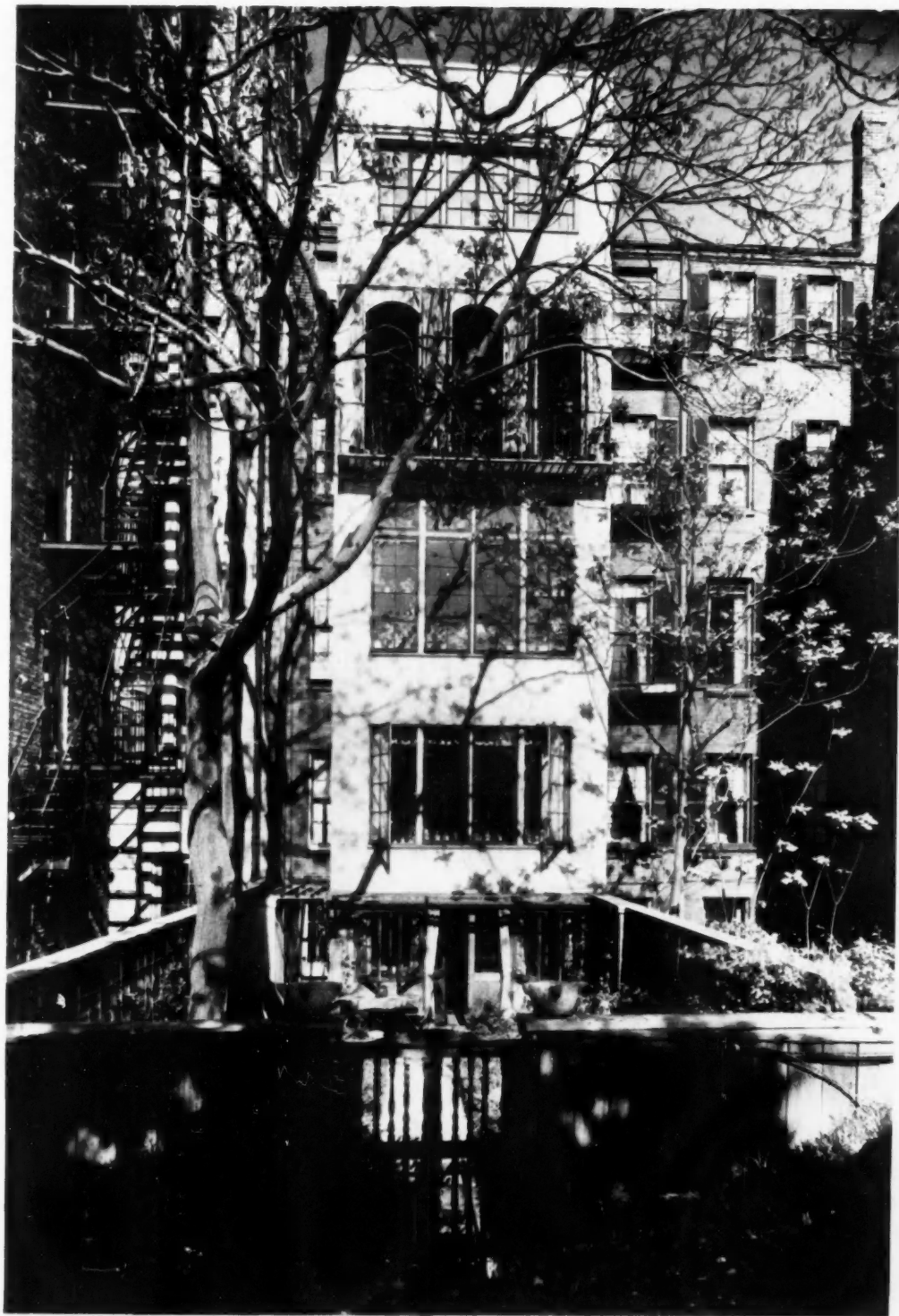




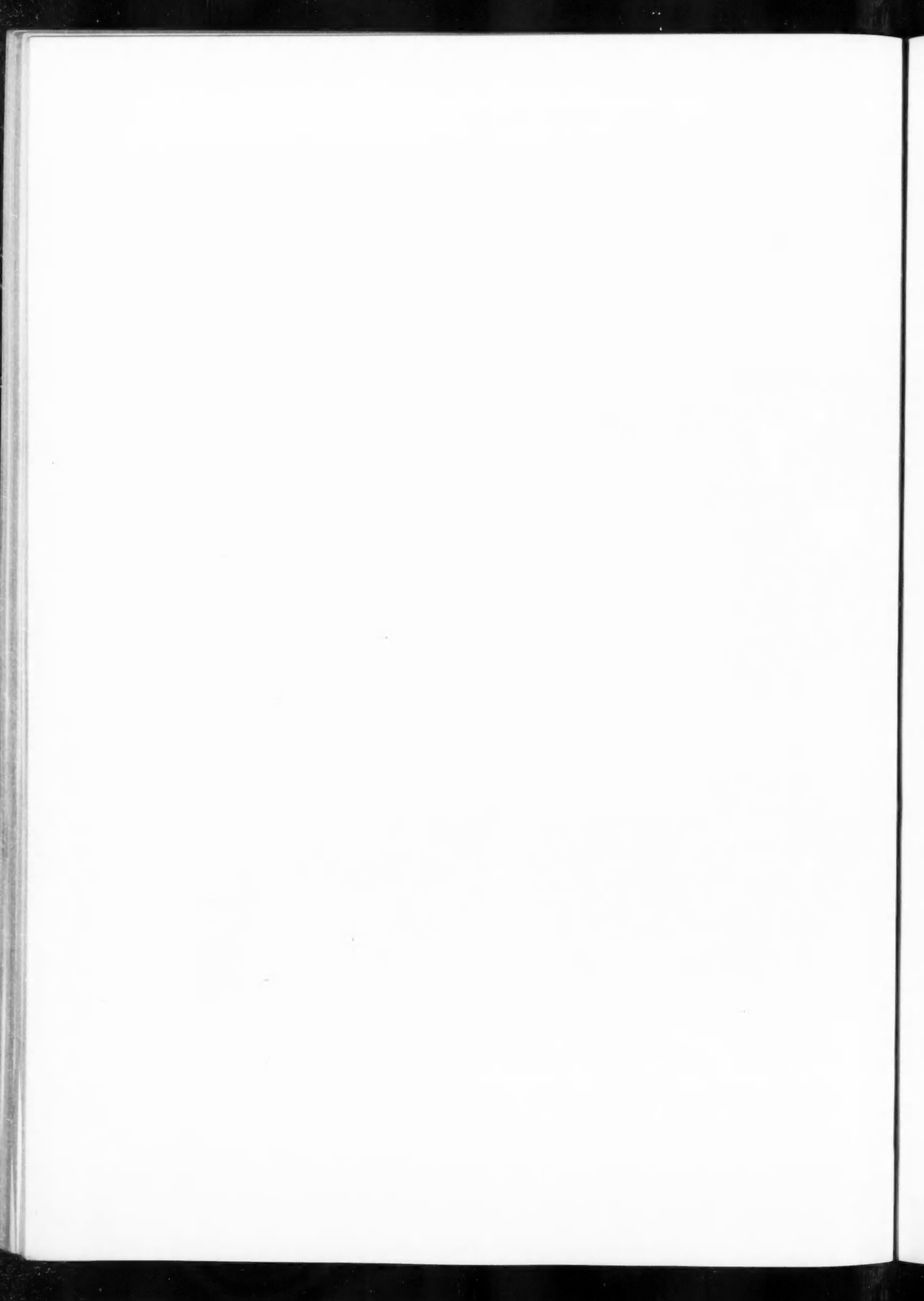


Front Elevation  
House of Eleanor Raymond, Boston  
FROST & RAYMOND, ARCHITECTS





Rear Elevation  
House of Eleanor Raymond, Boston  
FROST & RAYMOND, ARCHITECTS





Garden of Eleanor Raymond, Boston  
FROST & RAYMOND, ARCHITECTS





Garden of Eleanor Raymond, Boston  
FROST & RAYMOND, ARCHITECTS



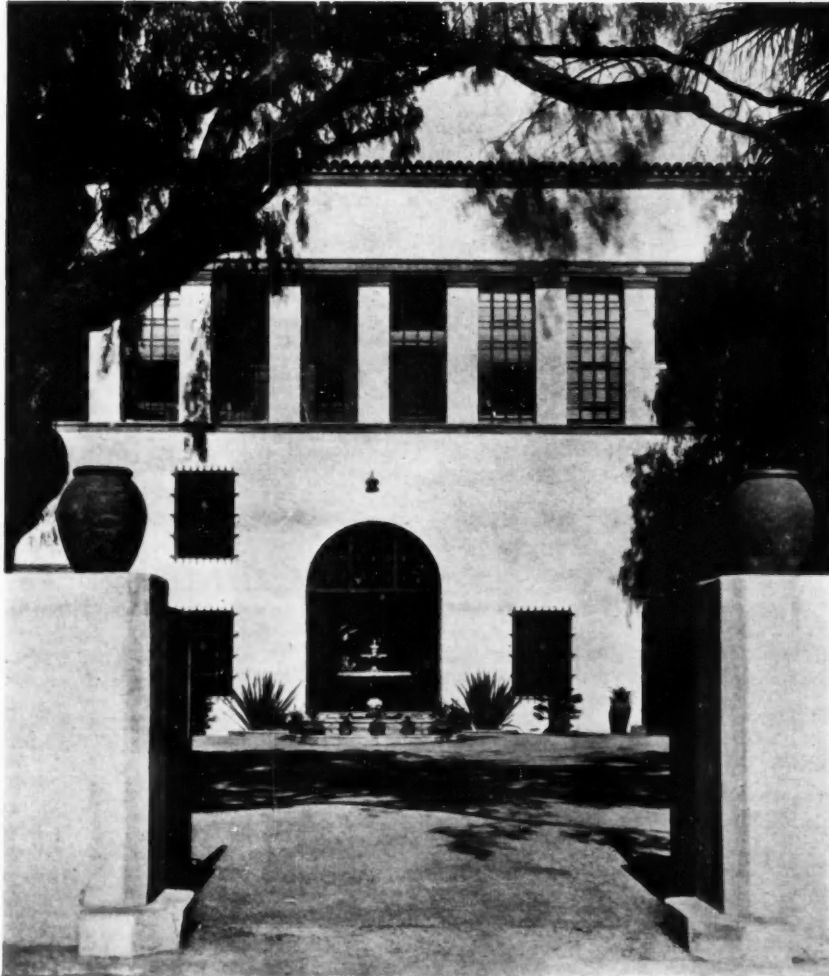




Garden of Eleanor Raymond, Boston  
FROST & RAYMOND, ARCHITECTS



TECHNICAL NEWS  
AND  
RESEARCH



*Photo. Miles Berné*

REAR PARKING AREA  
STORE OF MULLEN & BLUETT, PASADENA, CALIFORNIA  
MORGAN, WALLS & CLEMENTS, ARCHITECTS

*Featuring*  
STORE BUILDINGS

Previous studies of Building Types include: Swimming Pools, Storage Garages, Apartment Houses, Airports.

Future issues will include analyses of the following: Kitchen Planning (Hotel, Club and Restaurant) and Soundproofing the Hospital.

# STORE BUILDINGS

Compiled by the Editorial Staff of The Architectural Record, with collaboration from Frank Gaertner of the Firm of Starrett and Van Vleck, Architects; K. C. Welch, Vice-President in charge of Designing, Grand Rapids Store Equipment Corp.; C. A. Wheeler of C. A. Wheeler, Inc., Store Designers; William Foulks, Assistant Chief Engineer, Curtis Lighting, Inc.; Anthony L. McCabe, Chief Engineer, Erikson Electric Co.; and others.

*The store building should be considered by the architect as primarily a problem in merchandising. The building designed for the sale of hardware, dress goods or perfumery requires in each case a special study and an individual treatment. Although not in the curriculum of the architect's training he should understand the buying habits of the public, the purchasing powers of a community and principles of showcase and window display. It is safe to say that it is the architect more than the owner who should determine the financial success of a new store building. While an imposing front is a desirable feature contributing to the architectural effect, it must be borne in mind that a store is fundamentally a device for selling goods.*

## I. ECONOMIC FACTORS IN PLANNING

The planning of a store building should take into account three fundamental questions: (1) the location of the store; (2) the character of the goods to be sold; (3) the class of trade catered to.

### A. LOCATION.

The architect should aid the owner in considering the possibilities of a selected site. Alternate sites should also be examined in order to determine the desirability of a change in location.

It must be remembered that there is always a 100 per cent location for each type of retailing but that height of rental for such a site may make a 70 per cent location more profitable and advantageous.

**SHOPPING DISTRICTS.** It was once an accepted principle that a new store, such as for jewelry or furniture trade, should be in a situation away from rivals but with advantages of traffic. Today, on account of the existence of definite districts for shopping, it is considered an advantage to locate near stores of similar character. This is because stores of a similar character attract a uniform type of trade. The element of competition also tends to improve salesmanship and to encourage buying. There is also a convenience to the shopper by grouping. "It is a well recognized attribute of 'shopping' that the customer desires to compare values. Hence the great advantage of grouping several stores of one type in the same vicinity or in the same building. Opportunity to shop is particularly important for the woman customer; not so much so for the man, who is likely to buy at the most convenient place."\*

The logical site "is that one which offers the best opportunity to sell goods where people naturally come to trade, either because of convenience or because of habit. If the best site is not obtainable or

\*Merchants' Manual, McGraw-Hill, p. 14.

carries an exorbitantly high rental, and therefore an inferior site is chosen, success depends largely upon due recognition of the economic disadvantages resulting from the location and the cost of special attractions necessary to overcome them."† Each problem of location requires separate study in the light of its particular circumstances, the character of the goods, the nature of the neighborhood and other existing conditions.

**NEW SHOPPING DISTRICTS.** The far sighted architect who devotes intelligent study to the movements of crowds, their habits and to the growth of the city, may aid in creating a new shopping district. These may parallel older business lanes or lead from them at right angles. Undesirable districts are often improved by concentrated effort on the part of property owners and architect. New buildings of the right character in an old district contribute to such a change but the altered character is dependent upon the possibilities for attracting new customers of the desired sort.

It has been recently observed that new shopping districts have been created by automobile show-rooms. "These usually extend somewhat away from the main shopping district along an important avenue of traffic, but in the beginning away from the highest rent district. As soon as a half dozen or more large, progressive automobile concerns are definitely located, a bank is apt to locate in the near vicinity."‡

**ANALYSIS OF TRAFFIC.** Most merchants recognize traffic as a factor of major importance and this can be determined by an actual count of the passers-by. "Other things being equal, the location passed by the greatest number of people is the most valuable for retail store purposes. But other things are not equal, and for this reason some analysis of the passing traffic with regard to the types of goods purveyed is

†Retail Store Problems. U. S. Dept. of Commerce, p. 23

‡Merchants' Manual, McGraw-Hill, p. 15.

essential. The actual volume of traffic may be analyzed by the hours of the day. Large crowds of working people hurrying to and from factories at times of opening and closing are not good customers for some types of goods. The hours at which traffic is heaviest are important as indicating the purpose on which it is bent. On certain days of the week the traffic is heavier than on others, naturally, of course, on Saturdays. Again passers-by may be classified according to sex, women being more important to department stores and men to cigar stores.

"The number of people who come out to shop and to buy is the real factor of importance in the total that pass a location. The count of traffic may be of particular usefulness in making a choice between two sites, when the passers-by are known to be of the same general type. Such a count should, however, be made under similar conditions, that is, as to hours of the day and the day of the week."

**CORNER LOCATION.** The corner location has a natural advantage because of the ready access from two streets, it has an increased number of passers-by, it has better interior light and more commanding show windows. It has been estimated that corner locations are approximately 30 per cent more valuable than locations within a block.

The corner location, according to Loring M. Hewen, president of the Hewen Realty Company of New York City, may lose its natural advantages in crowded areas. "Congestion," he says, "has reached such a point at intersecting corners in certain areas of Manhattan that it may inhibit rather than induce trade, whereas stores adjacent thereto or deeper in the block often find such locations more advantageous."

**SPECIAL LOCATIONS.** Drug stores and cigar stores must be located "directly in the traffic stream." "Stores dealing in men's wear are usually on one side of the street, while stores dealing in women's wear are on the other. In general, the latter type of store is on the side of the street which is shady in the afternoon because women prefer the shady side and because it is much easier to display colored fabrics, etc., where the sunshine does not strike. Plate glass becomes a mirror in the direct rays of the sun and window reflections are the bane of many a retailer's existence.

"For the location of a store dealing in women's wear, therefore, the west and south sides are more shady and in higher demand, other things being equal."\*

A survey of store locations in the Grand Central zone in New York City, prepared by the Hewen Realty Company, shows that there are 734 stores in the district, classified as follows: 116 devoted to women's wear; others are: restaurants, 93; men's wear, 83; drug stores, 33; branch banks, 29; miscellaneous stores, 380. The great majority of stores are of the branch or chain variety.

laneous stores, 380. The great majority of stores are of the branch or chain variety.

#### B. CHARACTER OF GOODS TO BE SOLD.

Dr. Melvin T. Copeland states in a recent article<sup>†</sup> that from the standpoint of consumers' buying habits merchandise sold in retail stores can be divided roughly into three classes: (1) convenience goods, (2) shopping goods, (3) specialty goods.

"**CONVENIENCE GOODS** are defined as those customarily purchased at easily accessible stores. The customer is familiar with these articles; they are of small unit price and are frequently purchased. The small unit price does not warrant the payment of a street car fare to make a special trip for the articles, nor does the purchaser feel justified in going far out of his way to obtain the goods. It is for such reasons that stores carrying these articles *should be located at points easily accessible* to the customer. The neighborhood store or the corner cigar store are applications of such principles of location. The effect of the inaccessibility of such a store may, however, be offset to a certain degree by delivery, provided it is prompt and efficient and does not increase the price of the goods sold.

"**SHOPPING GOODS** are defined as those for which the consumer desires to compare prices, quality, and style at the time of purchase. Ordinarily the shopper makes a special trip for the desired articles and wants to make comparisons in several stores.

"Hence it can be seen that, in general, the shopping store should be centrally located in the retail district. Furthermore, a grouping of shopping stores in a certain area often serves to facilitate the desire on the part of the shopper to make comparisons. This is a partial explanation of the assembling of women's stores on one side of the street. Another reason for the central location is that these stores must carry a large stock of merchandise and make only comparatively infrequent sales to one shopper. Therefore they must be so situated that they can draw from a wide area.

"**SPECIALTY GOODS** are those which have some particular attraction for the customer, other than price, which induces him to put forth special effort to visit the store in which they are sold and to make the purchase without shopping. In purchasing specialty goods, the consumer determines in advance the nature of the goods to be bought and the store in which the purchase is to be made, provided a satisfactory selection of merchandise can be effected in that store."<sup>‡</sup>

#### C. CLASS OF TRADE CATERED TO.

Stores are generally created in three classes, such as high class, medium and mass trade. Some stores attempt to combine two or all of these classes. The

<sup>†</sup>Harvard Business Review, vol. 1, pp. 282-289.

<sup>‡</sup>Retail Store Problems, U. S. Dept. of Commerce, p. 22.

\*The Merchants' Manual, McGraw-Hill, p. 17.

character of the trade will influence arrangement, and accommodations. Certain stores catering to the luxury class provide private auto entrances for their customers while for the medium and mass trade it is necessary that there exist proper transportation facilities to the store. Special features and conveniences intended to attract trade of differing kinds are listed under "Convenience Rooms," see page 602.

## II. DESIGN FACTORS IN STORE PLANNING

### THE DEPARTMENT STORE

The average architect builds many types of buildings and usually rounds out his career by being commissioned to build one or sometimes more Department Store buildings.

It is safe to state that the demands of a department

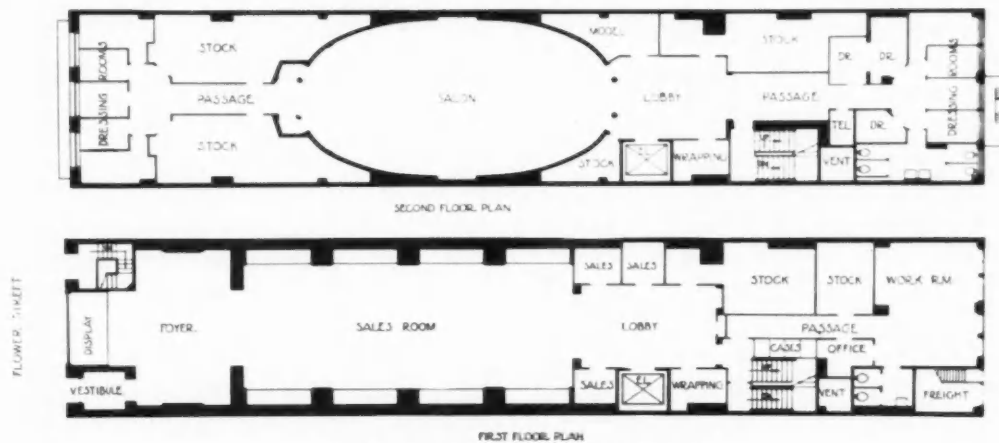
store building are more varied and intricate in their ramifications than any other type of store structure. Too many architects consider a department store building as just a "dressed up warehouse" and are satisfied with a good looking street elevation and sometimes an embellished first floor interior, and then for the balance of the building leave the various floor interiors as just four walls and some columns; whereas in many stores there is more volume of business done on some of the upper floors than on the first floor. Therefore, to have a well balanced interior on all selling floors, mature thought must be given to the exposed interior building surfaces so that the finished structure presents a proper selling home for the merchandise which is to be housed, displayed, and sold.

Mr. Frank Gaertner, chief designer for Starrett and Van Vleck, observes that "the old-fashioned theory of a store building being nothing more than a loft building is an exploded myth in that the special

features and the amount of mechanical work required for the operation of such a plant is more complicated than a modern hotel."

I. WINDOW DISPLAY. The first floor plan is determined by consideration of the display window arrangement, the proper circulation for the customers and the space required for the fixtures. The space taken up by the display windows is determined by the number and type of display windows used. As far as the number of windows required, this is dependent largely upon the number of different lines or types of merchandise carried by the store, by the location of the store and by the frontage it has on the street.

As a rule, in the departmentized store, there should be one lineal foot of street or arcade window display for every four to six hundred net square feet



RANSOHOFF'S, LOS ANGELES

MYRON HUNT AND H. G. CHAMBERS, ARCHITECTS

of selling area, or approximately one lineal foot to every eight to twelve hundred square feet. Of course, there are a great many large department stores with a limited ground area, selling on as many as ten to twelve floors in height, whose ratio of area to show windows will be considerably greater. However, it is desirable, by the use of an arcade front, at some times, to get at least six hundred square feet of selling area to one lineal foot of window if it is possible to do so.

The depth of the windows, other than very shallow pier displays, ranges from as small as two feet, on very unimportant side street windows, to ten or even twelve feet for important corner windows, depending upon the width of the window and the merchandise to be displayed. As a general rule, from six to eight feet is the ideal depth for department stores. For the independent specialty shop a window depth of from three to five feet is customary.

The development of the window background is a

matter of choice, the present trend being toward the greater use of wood, using more of the very fine and rare veneers that are being brought out in the present modernistic displays.

Of course, masonry backgrounds are always effective such as imitation and genuine limestone and Caen stone. The design of the backgrounds should be so developed that at any time the window draper is free to cover the rear wall with draperies for any special purpose. This is usually accomplished by special detail hardware through which curtain poles can be set up.

As regards the width of display windows, the tendency today, particularly in specialty shops, is to have rather small individual unit displays. Possibly the windows will not be over five or six feet in width and accordingly can be made shallower, possibly four feet in depth. However, this type of window is not desirable for department stores carrying household goods and furniture, as a greater depth is needed, and as the depth increases the width should be increased accordingly. Fourteen feet of clear glass with a depth of seven to eight feet makes an ideal type of window for all purposes.

**2. ENTRANCE TREATMENT.** A great deal of attention should be paid to the location of entrances and as a general rule it is found better to feature the display windows rather than the entrances. For example, a display window

on a corner, particularly when it forms a 45-degree angle with a frontage of ten to fifteen feet, is very valuable, as it can be seen sometimes as much as a block away when approaching the store. This is far better, for example, than having the entrances

on the corner, because a great many customers are attracted into the store by means of the displays and they will always find the entrance. The splayed corner also often has decided advantages in improving the

circulation on the sidewalk, as it is usually congested at the intersection of two streets.

However, it is desirable to feature the entrances, wherever located, by giving them a different architectural treatment from the windows. In locating entrances it is well to limit their number on account of the control of the store from an interior viewpoint and to avoid lost display space. As a rule, one entrance to every eighty to one hundred feet frontage is ample.

Having determined the ideal scheme and the area to be consumed by the display windows, we can now arrive at a plan for the interior of the main floor.

**3. ARCHITECTURAL TREATMENT OF INTERIOR.** The treatment of the first floor interior, of course, has a great effect upon the customer and should be such as to create the impression of a shop that is easy to shop in. To this end architectural effects, mural decorations, color, together with the proper kind of lighting, are very essential.

**4. FUNDAMENTALS OF PLANNING.** There are two fundamentals in department store building planning that are paramount: Customer Circulation, Merchandise Housing and Display.

#### CUSTOMER CIRCULATION

Regarding circulation, it is important that the direct traffic counts be made at the various corners of the street, noting the direction from which the preponderance of people are coming and dividing the



STREET FAÇADE  
RANSOHOFF'S, LOS ANGELES  
MYRON HUNT AND H. G. CHAMBERS, ARCHITECTS



SALESROOM SALON, RANSOHOFF'S, LOS ANGELES  
MYRON HUNT AND H. G. CHAMBERS, ARCHITECTS





FOYER, RANSOHOFF'S, LOS ANGELES  
MYRON HUNT AND H. G. CHAMBERS, ARCHITECTS

traffic into male and female. If a store building exists on the site particular note should be given as to the number of people going in and out of the store at the various entrances, at the stair exits and at the elevators. Such a count should be made preferably in the spring or in the fall. Peak conditions such as prevail around the Christmas holidays are not to be given much weight as they are only of short duration. This survey should aid in determining entrance locations.

The best way to approach the study of plan is first to consider the traffic lanes that the customers will naturally take and determine their width and utilize the remaining space for fixtures. In the average departmentized store from thirty per cent to as high as sixty per cent of the people that enter the store will go to an upper floor. Accordingly, it is simple to plan the main traffic aisles which will naturally be between the entrances and the interfloor transportation whether it be elevators or escalators.

In placing the interfloor transportation, it is well not to make it too convenient to any entrance, as a great deal of the merchandise sold on the first floor is dependent upon the traffic contact for its success. On the other hand, the interfloor transportation does not want to be made too inaccessible or too difficult to reach from any entrance. The scheme of concentrating interfloor transportation at one point or one location in the store is very desirable from a standpoint of economical use as well as efficient control.

It is necessary in locating the elevators to take into consideration, to some extent, the scheme of the upper floors, and it is well to remember in this connection, that it is better to have the elevators located at as central a point as possible; that is, not to have any merchandise at too great a distance from the elevators, as every section in the store is more or less dependent for its complete success upon being easily accessible.

From the first floor standpoint, it is also well to have some system of staggering the entrances as compared with the location of the elevators, so that instead of customers going in one defined path from the entrance to the elevator, they have their choice of taking several. This tends to better distribute the traffic throughout the first floor and relieve congestion at any one point. Also, it is better to place the main aisles at right angles to the fixture islands (east and west, figure I) because in this scheme the customer comes in contact with many more sections and interferes less with the actual selling than when the main traffic lanes are parallel with the islands.

#### MERCHANDISE HOUSING AND DISPLAY

As a rule, the so-called small wares or accessories are placed on the first floor of the average store because of the greater productivity per square foot and

the usual "pick-up" or suggestive selling value of such merchandise, as well as the greater activity in such commodities. The fixtures for housing and selling such merchandise, as a rule, consist of a back fixture having shelves, drawers or bins for stock and a counter or show case in front of it to show the merchandise on.

The accompanying sketch, figure I, shows a typical scheme of first floor fixtures. Back fixtures take up the space B, and the show cases and counters, the space C. The clerk only has access to the stock-carrying back fixture and works entirely in the aisle designated at D, the customer being confined to the aisle A. The back fixture varies in depth, depending upon the merchandise carried, from 18" to 33", the tendency being to use, where possible, a shallower fixture.

The aisle between the back fixture and the counter, (space C) should be a minimum of 22" and a maximum of 27", depending upon (1) whether drawers or shelving is used, (2) the number of clerks in a given section, and (3) the merchandise carried.

The depth of the counter, dimension C, as a rule varies from 18" to 30", but 24" is the usual size. The deeper counters are occasionally used in piece goods. The height of the counter will vary from 34" (if customers are to be seated) up to a maximum height of 40"; 38" being the average height. There are certain sections, however, which require a special type of equipment; for example, the glove department where the clerk has to fit the glove on the customer's hand.

The back fixture, when placed against the wall, is usually carried to a height of from seven feet to as high as ten or twelve feet; the upper part being used purely for display features. When placed in the center of the floor it is usually kept below five feet in height to permit of visibility over the whole floor. In the center islands, two such back fixtures are placed back to back, which with their counters form an island, of a type we will call X (figure I). The overall width of such an island (dimension E) will vary from a minimum of ten feet to a maximum of thirteen feet, the wall fixtures overall being half of this dimension in depth.

This method of selling small ware merchandise can be varied by selling from tables or from islands composed of counters or show cases only, (type Y, figure I) eliminating the back fixture entirely. In this method the forward stock has to be carried entirely in the base of the counter or table. This, of course, limits this type of fixture to use of those sections that can operate with a minimum of stock space, such as jewelry, certain kinds of leather goods and the so-called special or bargain square merchandise. The width of such islands is determined by the depth of two counters plus the clerk's aisle space between them. It varies from five feet to six feet,

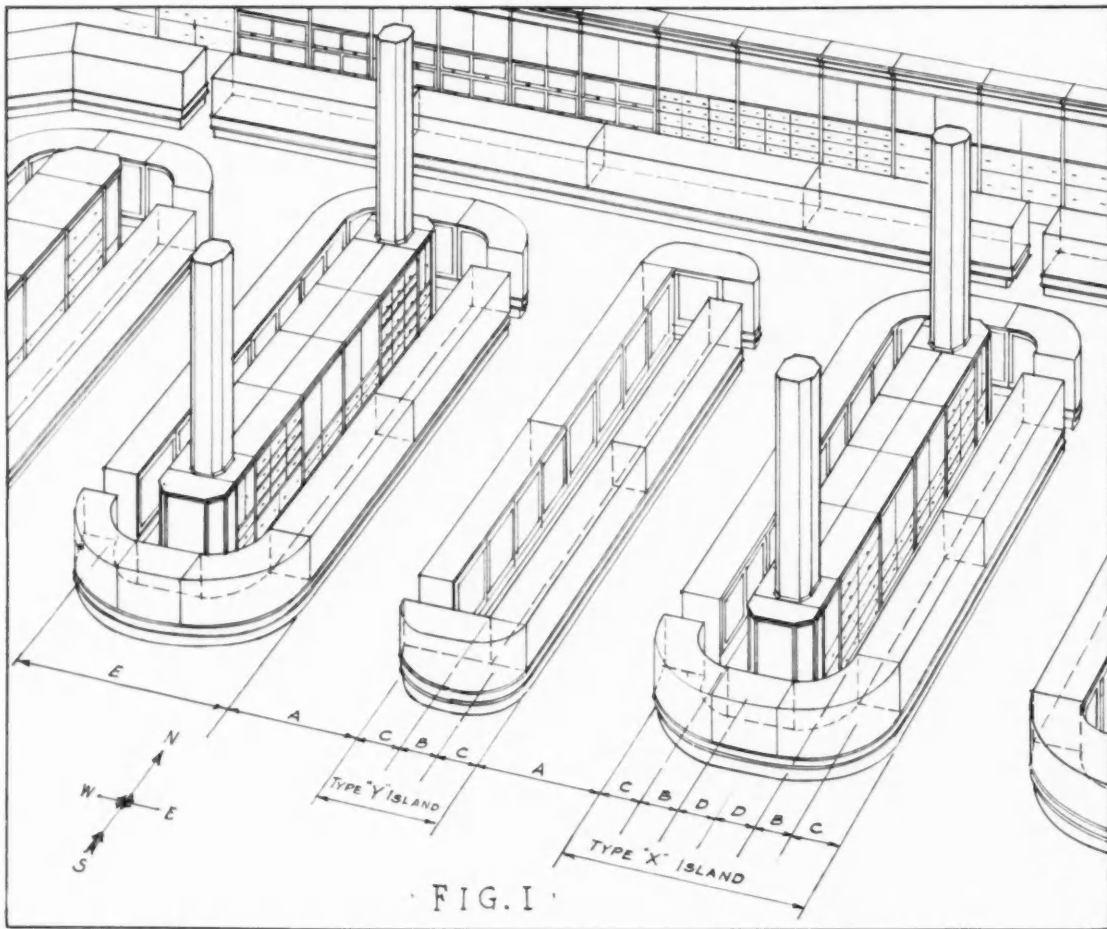
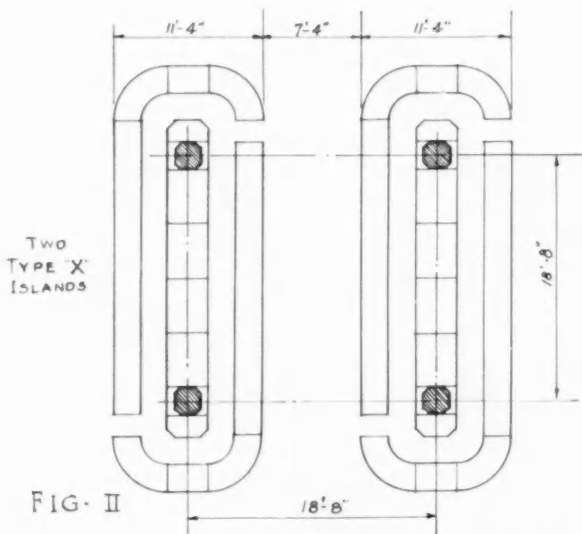


FIG. I

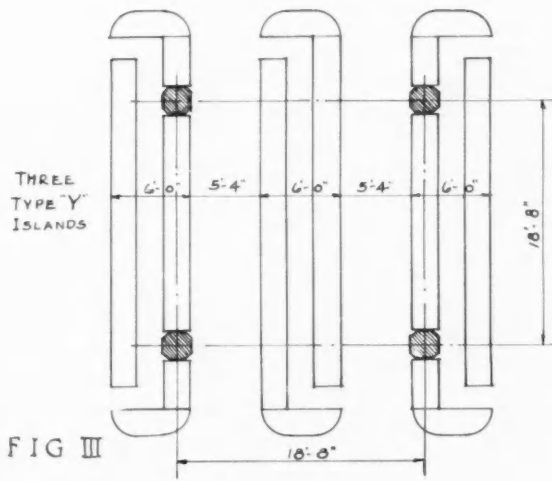
Grand Rapids Store Equipment Corp.

TYPICAL SCHEME OF FIRST FLOOR FIXTURES FOR A DEPARTMENT STORE



TWO  
TYPE 'X'  
ISLANDS

FIG. II



THREE  
TYPE 'Y'  
ISLANDS

FIG. III

PLAN OF FIXTURES WITH RELATION TO COLUMN SPACING

three inches, overall, depending upon the merchandise carried and the space available.

Determining the aisle space for the customer depends, as mentioned before, entirely upon the traffic the aisle will have to handle. A good rule is to figure that the customer standing at the counter will take up approximately 20" on each side, and the space remaining will be the circulation or traffic space to be used in passing from one section to another. This remaining space should be in multiples of 22" to 24", the latter figure being more desirable, if available, due to the fact that in a store a great many of the customers are carrying packages and bundles. Accordingly, the ideal customer's aisle space from counter to counter, (dimension A, figure I) should be a minimum of 4' 6" (for very unimportant side aisles leading to that section only) 5' 4", 7' 4", 9' 4" up to a possible maximum of 12' for a very important main aisle. As a rule, it is well to round off the corners of the showcases and counters in a center island as it increases the customer's area at the intersection of two aisles, which is important from a possible congestion standpoint and decreases the actual lineal feet of selling space but little. It is well also to have a ten to twelve foot space directly inside the main door and in front of the elevators as these are the two congestion points.

Having planned the size of fixtures to be used and the desirable width of aisle space for customers, it is always well to fit the columns into the center fixtures namely in the spaces B, thereby determining the column spacing.

Unfortunately, retail business runs in peaks, not only hourly peaks but decided daily peaks and decided seasonal peaks. The extent of these peaks is determined only by a careful analysis of the particular type of store in question. It is necessary when determining aisle space, as well as interfloor transportation, to provide for handling comfortably a certain percentage of these peak loads.

The amount of business that any individual section can do is limited to the amount of selling space which the section has, providing enough forward stock can be carried in the department to efficiently operate it. Accordingly, the more selling space we can get in a given area, the more efficient the store will be. A great many times it is not necessary to have a back fixture for carrying the stock as it can be carried entirely under or on the counter. When merchandise can be so handled it is better to have the type of island designated as Y on the preceding page, eliminating the back carrying fixture entirely. Sometimes it is advantageous to provide a column spacing for the X type island, and then when desirable to place three Y type islands in the same area occupied by two X type. (See figure III). This, while it decreases the forward stock space, increases the

lineal feet of counter space by at least twenty-five per cent and in the same area provides forty-five per cent more customer's aisle space area (dimension B) with the same total area space occupied by the sections.

Department stores, due to the tremendous seasonal peaks, as well as the changes in popularity of various commodities from season to season, require a very flexible arrangement, as well as a very flexible type of equipment. Accordingly, it is well to plan the bays square, if possible, with the exception of the main traffic aisles and the outside bays, when they include display windows, both of which should have a wider span.

**SALES SECTIONS.** The larger sales sections, such as piece goods, small houseware sections (using generally a great many tables), ready-to-wear sections requiring open floor space, stock rooms or hanging cabinets, and fitting rooms or sales rooms, etc., as a rule are more easily adapted to any column spacing. Accordingly, it is best to determine the column spacing as discussed above, by the ideal arrangement for the small ware sections on the main floor. In modern store planning today, it is very desirable to tie in the fixture equipment with the building itself, so that it apparently becomes a part of it. Planning to put the columns in the center fixtures is a decided aid to this principle, but it can be carried further; and one great help is to design an exterior which corresponds with the interior column arrangement, so that in planning axes on the upper floor, or by dividing the floor off into sections or shops, a wall or fixture line lining up with the columns will intersect a pier on the exterior, as well as having a window centering on the axis of any bay.

As far as the actual location of merchandise in the store is concerned, it is always well to place the merchandise that has the greatest activity on the lower floors, so that the traffic tapers off as the height of the store increases. This insures a more efficient interfloor transportation system, as well as providing a greater convenience for the greatest number of people.

**DISTRIBUTION OF DEPARTMENTS.** Generally speaking the following departments are best developed if distributed as follows:

First floor—Leather goods, men's furnishings, stationery, umbrellas, books, perfumery, gloves, shoes, notions, jewelry, yard goods, etc.

Second floor—Ladies' ready-to-wear and dresses.

Third floor—Ladies' intimate wearing apparel, corsets, hats.

Fourth floor—Junior and misses apparel.

Fifth floor—Men's clothing.

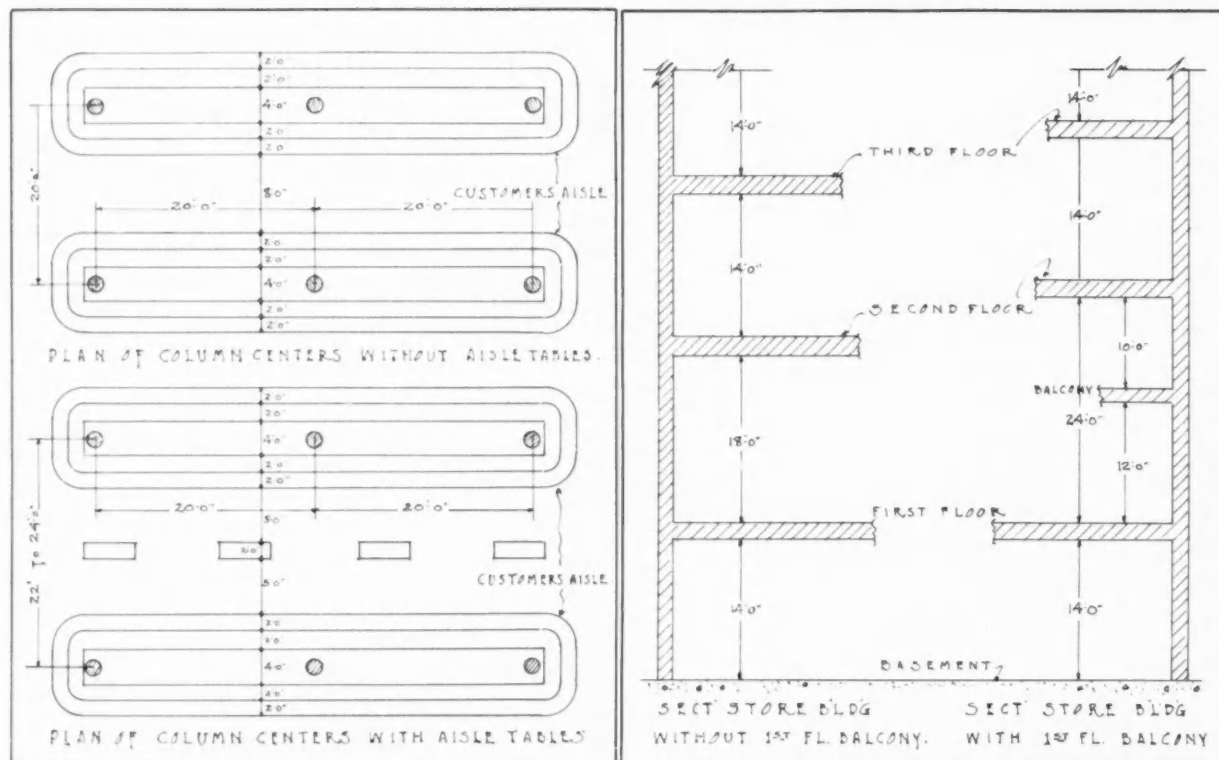
Sixth floor and up—Trunks, musical instruments, art goods, upholstery, draperies, toys, sporting goods, furniture and rugs.

The basement is either equipped as a complete general store carrying merchandise from the main store at a lower price, or is devoted entirely to household furnishings, garden implements, crockery and toys.

It is only a rare exception when too much merchandise is on display, and, therefore, every opportunity for the display of merchandise should be taken. It is hardly necessary to state that the merchant will take every advantage of merchandise display in his selection of store fixtures, but any blank wall surfaces, no matter how small, can have merchandise displays introduced by the architect and

does it continually keep before the clerks the merchandise that they have to sell, but the customers can locate the section at a glance; and it is surprising how few women customers notice signs, even when they are well illuminated.

As a rule, in a store with a single group of elevators and two or more entrances of approximately equal value, the best location from a traffic standpoint is often near the elevators, rather than near any one entrance. Accordingly, this becomes the best location for the highly "pick-up" type of merchandise, or in other words, the merchandise that is a luxury rather than a necessity. Take for example, in



C. A. Wheeler, Inc.

Column and Counter Arrangement with Indication of Approved Sizes and Spacing

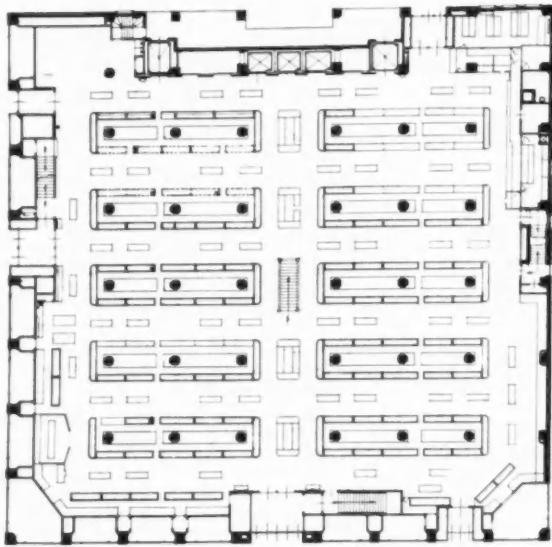
Vertical Section through Typical Department Store Building with Indication of Approved Ceiling Heights, with and without Balcony

these are valuable to the merchant and can be made decorative.

Any large expanse of blank wall surfaces constitutes a break in the continuity of merchandise display, and where these occur, the architect should detail his construction of such surfaces so that display recesses are provided. Even displays that may be as shallow as six inches or eight inches are usable and should be provided for.

It is also the tendency today, except in the more exclusive, high-average-sale store, to display as much of the forward stock as is possible. Not only

a men's furnishing and clothing store, comparatively few men ever enter a men's store to purchase neckwear. They will go to the store to purchase some necessity, such as clothing, underwear, etc., but they will see some neckwear that appeals to them and purchase it, having had no idea that they would do so upon entering the store. In merchandise appealing to women, the degree to which this is true for any given commodity is dependent largely upon the nature of the merchant's business and can be approximated only by a careful study of the store. However, costume jewelry,



MAIN THROUGHFARE  
FIRST FLOOR PLAN  
GEO. INNES CO. DEPARTMENT STORE  
WICHITA, KANSAS

as a rule, is the outstanding example of a luxury.

In regard to the detail of the fixtures, due to the fact that a great many physical changes necessarily take place over a period of years, it is well to have the fixtures as flexible, as interchangeable, and as thoroughly standardized as possible. A great many times changes should be made in a store and the cost of changing the equipment prohibits the possibility of moving it, whereas, if the fixtures are made very flexible, and are easily moved about, great benefit in actual profit to the merchant can be derived therefrom.

**WOOD FOR FIXTURES.** In regard to the woods to be used, it is the best principle in designing the interior of stores, that the treatment of the equipment should be entirely subjugated to the merchandise. It should become a frame and a proper background to enhance the merchandise, and not, in any way, to detract from it. Accordingly, the use of woods too startling, either in color or texture, or the use of too ornamental a design is to be avoided if the proper environment can be created with simpler materials than the merchandise itself. It is also desirable, in this connection, to use neutral and harmonious color schemes, that will not conflict with the great variety of merchandise sold today. At one time there was a decided vogue for tuma or a decidedly red mahogany. As a basic principle for merchandise background this is wrong, and the tendency today is toward the lighter shades of walnut or mahogany finish and other neutral colors, without too ornamental a grain.

### III. STRUCTURAL AND OPERATION FACTORS

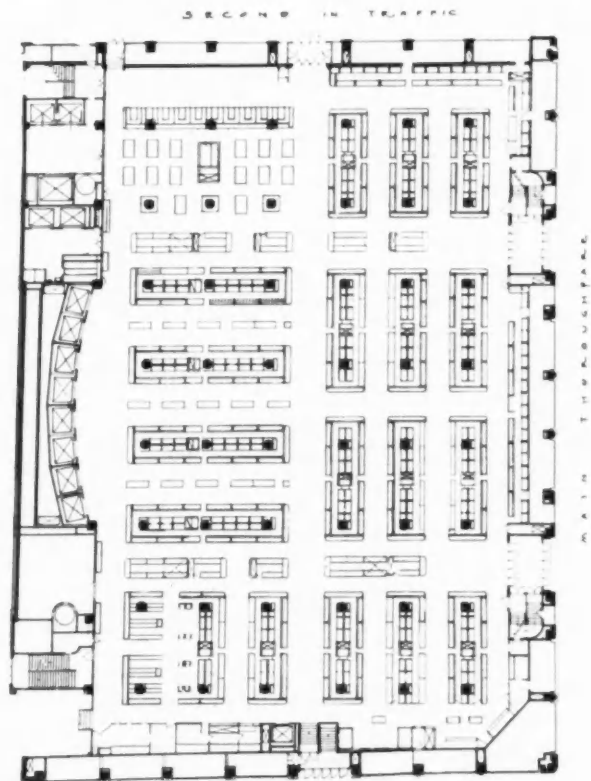
#### CEILING HEIGHTS.

The ceiling heights for department store buildings are not sufficiently studied and numerous failures are in evidence throughout the field. Of course, some of these can be explained by the fact that new buildings are just additions to existing stores and that the old building ceiling heights and floor levels had to be maintained, but there are many glaring examples where new store buildings of large areas are ruined, so far as story heights are concerned, by having them too low. Naturally, the story heights are governed somewhat in proportion to the area of the building, but for a general rule, the heights given below with slight modifications will prove satisfactory.

Basement 11 to 14 ft. clear.

First floor 18 to 20 ft. clear; in the case where mezzanines are installed 24 ft. in the clear.

Typical selling floors 12 to 14 ft. clear, and upper floors such as are used for stock, offices, and employees' facilities 11 to 12 ft. clear.



Third in Traffic  
FIRST FLOOR PLAN  
DAVESON, PAXTON AND STOKES DEPARTMENT  
STORE, ATLANTA, GA.

Counters are arranged at right angles with main entrance aisles

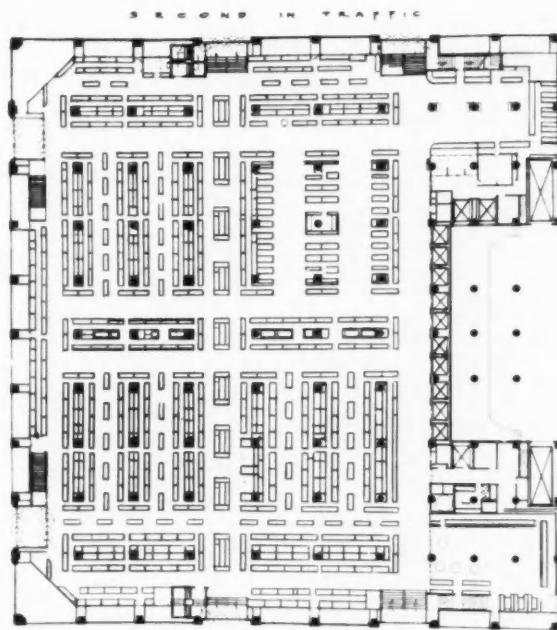
**FLOOR TREATMENT.** The surfacing of floors varies with localities, but in general the following are more acceptable:

Basement—terrazzo;

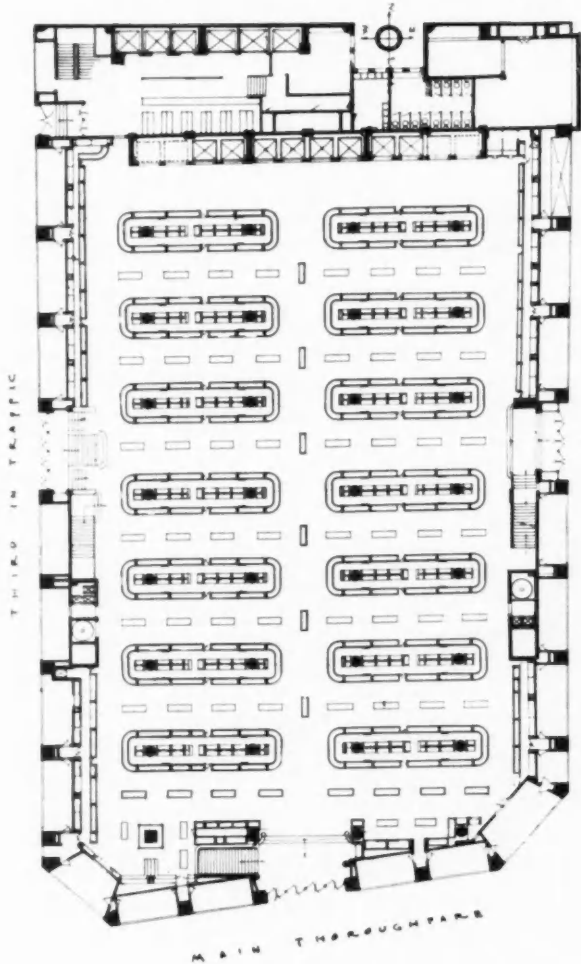
First floor—marble or travertine;

Upper floors—cement and covered with linoleum or carpeted. The upper floors where used for wearing apparel should be carpeted, which is beneficial from an acoustical standpoint as well as one of atmosphere. When fixtures are placed on a type of flooring which requires washing, all of the bases should be of a material to withstand this treatment.

**PASSENGER ELEVATORS.** The location of the passenger elevators in any department store building is of vital importance. They, with safety, can be placed at a point quite remote from the street entrances and in this way customers are forced to circulate through the various items of merchandise displayed, and this is successfully done in many stores without any com-



FIRST FLOOR PLAN  
FREDERICK AND NELSON DEPARTMENT STORE  
SEATTLE, WASH.



FIRST FLOOR PLAN  
DAVID JONES LTD. STORE BUILDING  
SYDNEY, N. S. W.

plaint from the customers that the elevators are located too far away from the street entrances. When a store is built this way, necessarily the building has served its purpose by providing the magnets for the "customer circulation." The planning and location of merchandise lines is a subject the building architect should designate to be handled by specialists in that particular line of endeavor.

The first floor plans, shown on this and on preceding pages, are evidences of the above practice, and in each instance, have proven a most practical solution for the "customer circulation" problem.

Other than on the first floor, the passenger elevators become the front door on each selling floor. Here again, the merchandise plan requires that departments with the greatest selling power be located at strategic points so as to lure customers to all parts of the selling area.

**ESCALATORS.** Many department store businesses have a tremendous number of customers to convey vertically, and, of course, there are peak loads, when the passenger elevator installation will not care for this traffic and escalators are the ultimate solution.

In this regard it might be well to point out that opinions regarding the handling of traffic have changed considerably in the last ten years in that the escalator was formerly considered an eyesore; today it is considered a necessity and is being installed as a practical means of transportation, the average escalator handling about ten times as many persons

per hour as one first-class elevator. In installing escalator equipment, however, it is important that "Down" escalators be installed with the "Up" escalator, for after all, the escalator equipment would not be of any great value unless the public were brought down again without having to resort to the elevators, as otherwise the elevator capacity would have to be increased, in which event there would be no purpose in having the escalators.

**MERCHANDISE RECEIPT.** The receipt of incoming merchandise must be cared for by adequate receiving platform space of dimensions in proportion to the store's business, also proper and adequate freight elevator facilities should be provided.

**MOVEMENT OF MERCHANDISE.** The merchandise as a general rule is brought in by means of express wagons, trucks, messenger boys, and is checked at receiving entrance, placed on the elevator and lifted to the stock room, which is usually at the top of the building, where it is marked and placed in stock. From this point it is sent to the various selling departments on call either by being sent through spiral chutes or by means of dumbwaiters, and then sold over the counter. After leaving the sales girl it is wrapped and thrown in the delivery belt of the spiral, and transported by means of gravity to the belt conveyor which carries it to the delivery room; there it is picked up by a sorter who throws it on the various belts affecting the different delivery routes where it is picked up by sheet-writers who make out the necessary slips for entering it on the drivers' books. The sheet-writer in turn throws the packages on the sorter's table who sorts them into the various drivers' compartments where they are picked up and delivered to their various destinations. Very often packages are held for future delivery in which event they are placed in the "Hold Room." Also a number of packages are delivered C. O. D. and Parcel Post in which case the package is sent to a responsible department.

**MERCHANDISE DELIVERY.** The accumulation of outgoing merchandise from upper floors can be conveyed to the basement or sub-basement delivery room via spiral conveyors and freight elevators, and horizontal belt conveyors can collect basement and first floor packages, depositing all of this outgoing merchandise in the merchandise assembling room in the delivery department. Where possible, facilities for handling incoming and outgoing merchandise should be separated.

**GARAGE FACILITIES.** Proper provision should be made for the loading of delivery autos at the store, or in a remote delivery center. If the store building is located in a congested area and numerous delivery loads are necessary, a remote delivery system is advised, at which point all garage activities are conducted. Conditions sometimes exist where it is pos-

sible to house delivery autos within the store building; then, of course, all garage activities are conducted within the store where fire prevention bureaus for certain localities will allow this to be done. "The idea has been advanced that every building should provide its own occupants with parking space, just as is now done with respect to heat, light, elevator service, drinking water, etc. If this principle is accepted, it follows that parking facilities should be provided by the merchant for both his employees and his customers, and that the same service should be given by office buildings (see *Garage* article, *Architectural Record*, Feb. 1929) as well as all other buildings located in congested neighborhoods."\*

In the middle and far West the garage for free parking as a part of the department or other store building has been growing in favor and in some towns is deemed a necessity.

One merchant referring to his garage in connection with his store as an unquestionable success pointed to the fact that "the garage during its first year parked more than 26,000 cars and during the second year, 43,000 cars—a sixty-five per cent increase during the second year of its operation. In one of the smaller cities where a store has an agreement with a public garage and allows four-hour free parking for a two dollar purchase, it was found that within a period of less than two months after inaugurating the service the average number of persons using the service daily was thirty-three."†

**PAPER AND TRASH CHUTES.** Proper paper and trash chutes should be provided with adequate rooms for accumulation at the lowest level, provision being made for salvaging paper by shredding and baling, also the burning of all trash.

**AIR CONDITIONING.** Air conditioning in department stores is most important, especially in basements and first floors, also on upper floors, if the client can afford this luxury. Heating, wherever possible, should be thermostatically controlled.

**REFRIGERATION.** As a matter of precaution, it is always a good plan to install all of the refrigeration on the roof of the building, so that in the event of a breakage the fumes from the system will dissipate immediately to the outside air; and such piping as is carried down through the building for ice water and refrigeration of soda fountain, etc., should be adequately protected and enclosed.

**CASHIER'S BOOTH.** The cashier's booth and wrapper are usually placed in the selling unit. Sometimes the wrapper is placed alongside of the spiral chutes and as soon as parcel is wrapped it is shot through to the delivery department.

**ACCOUNTS DEPARTMENT.** The Accounts department is usually located in the main office which takes care

\*Retail Store Problems, U. S. Dept. of Commerce, p. 133.

†Retail Store Problems, U. S. Dept. of Commerce, p. 131.





Photo. Sigurd Fischer

BUSINESS BUILDING FOR JAY THORPE, INC.  
NEW YORK CITY  
BUCHMAN & KAHN, ARCHITECTS

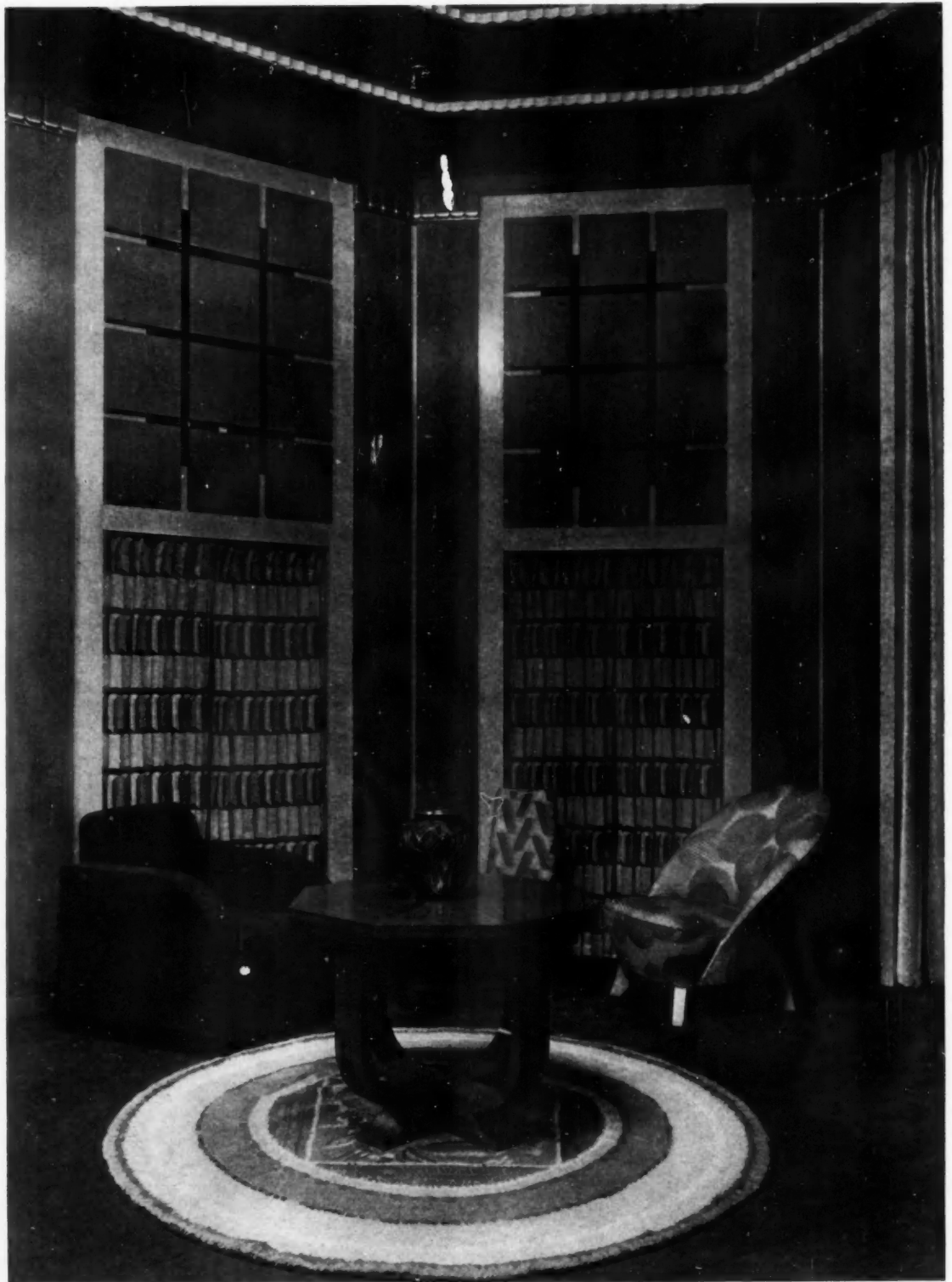


Photo. S. H. Gottscho

CORNER OF MISSES' DEPARTMENT  
JAY THORPE, INC.  
BUCHMAN & KAHN, ARCHITECTS



Photo. S. H. Gottscho

VISTA FROM ELEVATOR  
JAY THORPE, INC.  
BUCHMAN & KAHN, ARCHITECTS



ENTRANCE TO DRESSING ROOMS



Photos. S. H. Gottscho

GENERAL VIEW OF COAT SALES SALON  
JAY THORPE, INC.  
BUCHMAN & KAHN, ARCHITECTS

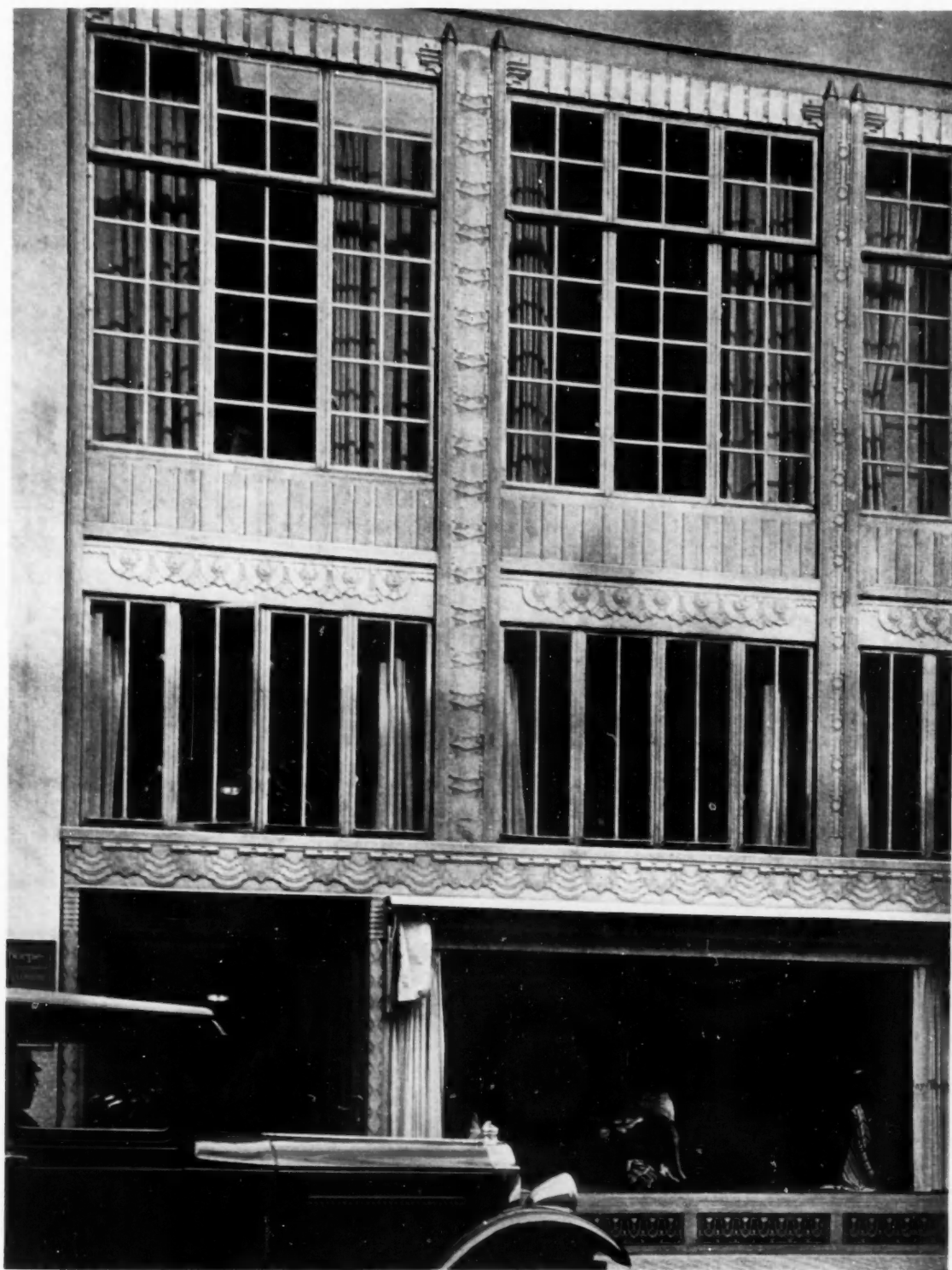


Photo. Sigurd Fischer

DETAIL OF STORE FRONT  
JAY THORPE, INC.  
BUCHMAN & KAHN, ARCHITECTS

of complaints, general authorizing, auditing, etc.

**SHIPPING DEPARTMENT.** Shipping department usually locates in the basement. This is important, as all of the merchandise that is sold on the first floor is delivered by means of chutes under the counters and directly to belts on the basement ceiling which carry it to the delivery room. These belts in turn unload directly on to the belts that come from the spiral conveyors so that all merchandise enters at one point in the delivery room from which it is routed to the various drivers' compartments.

**REST ROOMS AND TOILETS.** The locations of toilet rooms and rest rooms vary in most stores, but generally speaking the toilet rooms for employees are provided on each floor with one general rest room on the roof. The customers' toilet and rest room is usually placed on the 4th or 5th floor so as to induce the customer to go to the upper part of the building which is the least active.

The employees' toilets are usually placed in back of the utilities where the noise and confusion can be kept away from the selling floors, whereas the customers' toilets are usually placed as far away from the elevators as possible so as to induce the customer to walk the entire length of the floor.

The number of fixtures to be provided for employees can be determined on the basis of allowing one water-closet for every fifteen persons.

Employees' locker rooms are usually placed in the basement of the building, and it is a general practice to have all employees enter at one entrance, go in basement, check their clothing, pass through recording room to the elevators and then to their respective departments. Leaving here at night they come down the elevators, through the record rooms and check out at the pass desk where any packages they may be carrying can be examined.

**CONVENIENCE ROOMS.** Specialized conveniences for customers are chiefly centered around the rest rooms and include telephones and telegraph, theatre ticket agency, railroad and bus ticket agency, bootblack, manicure, barber shop, post office, information service, etc.

For men, a lounge or smoking room, library and miniature golf course may be provided.

Some of these service sections can be made tremendous traffic pullers, and it is always well to place them so that the traffic that does go through them passes by suggestive selling or "pick-up" type of merchandise. It is always well not to place some of these popular service features too high in the store as it tends to greatly reduce the efficiency of the elevators, if a great many more people are carried to an upper floor than to the lower floors. It is not unusual to have over ten per cent of the women entering go to the rest or writing room.

**LUNCH ROOMS.** The general practice regarding

lunch rooms, soda fountains and restaurant is to provide for a soda grill in basement where a quick lunch may be had at small expense and where a great part of the traffic can be brought so as to increase the volume of business in this part of the building.

For the sake of convenience a soda fountain is sometimes placed on the ground floor, although the space here is too valuable for such activity as the rent charged to this department is greatly in excess of what it would earn.

**RESTAURANT.** The restaurant is usually placed on the top floor of the building; first, for light and ventilation, and secondly, on account of the kitchen requirements. On account of the odors that are created by the kitchen, it is always advisable to have it placed in the top of the building where the odors may dissipate to the outside air, at the same time being less noisy and more convenient to the employees' cafeteria, the grill of which is largely served by the same kitchen.

In recent years the architects, Starrett and Van Vleck, have been instrumental in having most of their stores provide various employees' activities on the roof, thereby increasing the efficiency and bettering the morale of the help. In this connection a hospital with a doctor's office, ward room, bath and dental clinic should be provided, together with separate rest and quiet rooms, smoking rooms for men and women, library, cafeteria, sun parlor, gymnasium and roof garden.

It is also desirable that a certain amount of roof space be set aside for a nursery and play room for the children of customers, making provisions for sand piles, slides, swings, merry-go-round, and in the case of a few stores in the West, a track for pony riding was provided.

**FIRE PROTECTION.** The design of the store building should comply in all respects with the requirements of the National Board of Fire Underwriters' Code and must of necessity, on account of insurance, include adequate sprinkler and stand-pipe protection, together with the necessary fire fighting equipment. There should also be sand, buckets, fire extinguishers, axes and the like placed in the stair halls with the standpipe in a suitable cabinet.

The construction of the building itself should be as nearly 100 per cent perfect as possible in order to lower insurance premiums and at the same time safeguard the structure.

The possibilities of destructive fires in buildings of this kind are very remote and occur only in such places as the rubbish and paper chutes where in fact it is pretty well confined on account of being lined with heavy gauge steel and double fire doors.

The chief hazard in a conflagration of any kind is smoke and every possible precaution should be taken to confine it to any one respective area or floor. People



Photo. Willard D. Morgan

**PALM DRIVE-IN MARKET, LOS ANGELES**  
J. BYRON SEVERANCE, DESIGNER



Photo. Willard D. Morgan

**MESA VERNON DRIVE-IN MARKET, LOS ANGELES**  
GEORGE J. ADAMS, ARCHITECT



Photo. Miles Berné

## EL ADOBE MARKET, LOS ANGELES

ARTHUR KELLY, ARCHITECT, JOE ESTEP, ASSOCIATE

will not run away from fire so readily as from smoke, and as smoke creates panic, adequate stairways of ample width should be provided.

In this regard all shafts should be enclosed with 8 inches of brick or 6 inches hollow tile. No more than two elevators should be permitted in one shaft. Pipe shafts should be separated from wire shafts and they in turn separated from any other utility shafts.

Extended reference is made to the Underwriters' Code because in a number of the smaller out-of-town municipalities no building code exists and this Code sets up a pretty good standard. Of course steel should be adequately protected.

All regulations should be observed regarding the fireproofing of exterior windows and the extent of fire areas and the installation of fire doors.

The opening up of more than two floors by means of communicating stairways should be held to a



GROUND FLOOR PLAN  
EL ADOBE MARKET, LOS ANGELES  
ARTHUR KELLY, ARCHITECT, JOE ESTEP, ASSOCIATE

minimum and should only be permitted between first floor and basement.

HEIGHT. There is no set limit to the height of department stores and we need only to point to the J. L. Hudson store in Detroit, which is 17 stories high, or Marshall Field's store which is 15 stories high, or Lord and Taylor's which is 12 stories high.





Photo, Miles Berne

## VIEW OF EL ADOBE MARKET, LOS ANGELES

ARTHUR KELLY, ARCHITECT, JOE ESTEP, ASSOCIATE

## COST DATA

**STORE BUILDING COSTS.** The cost of store buildings necessarily varies with location, character of construction and interior finish.

A first class building of fireproof construction varies from 50 to 70 cents per cubic foot.

**FIXTURE COSTS.** In regard to the cost of fixtures, this varies considerably depending upon the type of equipment used. For purposes of a rough preliminary estimate the cost per net square foot of selling area is given in the following table. This has been divided into various classifications. The first floor figures include the average run of small wares equipment usually found on the main floor of a department store or specialty shop. The upper floor figures are an average for typical upper floor requiring fixtures and would not include furniture or household goods requiring little equipment.

The table is further sub-divided into (1) low, which includes few show cases, practically no plate glass, a great many tables, and the most inexpensive



SECOND FLOOR PLAN  
EL ADOBE MARKET, LOS ANGELES  
ARTHUR KELLY, ARCHITECT, JOE ESTEP, ASSOCIATE

shelving, suitable only for the cheapest type of store, in the smaller town; (2) average, which would cover the fairly well equipped store in the larger city, using walnut or mahogany facing, plate glass show cases, and suitable illuminated displays, with fixtures including drawer and bin sections for carrying the merchandise in the proper manner; (3) the high figure would cover the high grade specialty shop re-

quiring an unusual treatment with considerable special order work and some ornamentation:

Cost per square foot  
net selling area

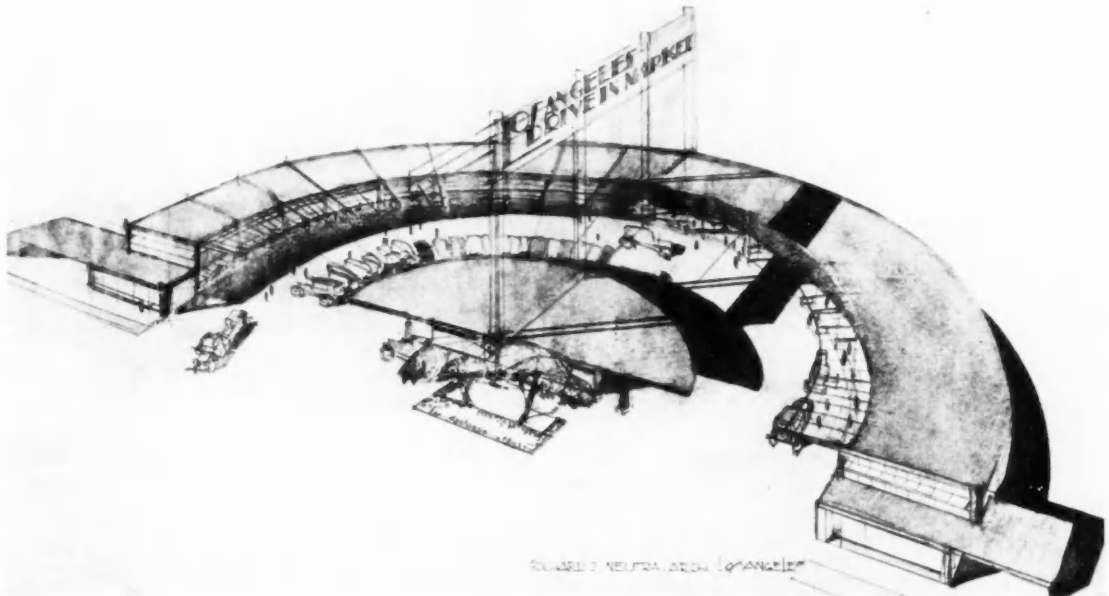
Low Average High

Typical first floor equipment \$1.30 \$6.00 \$12.00

Typical upper floor equipment 1.35 4.50 9.00

In the above, net area does not include windows,

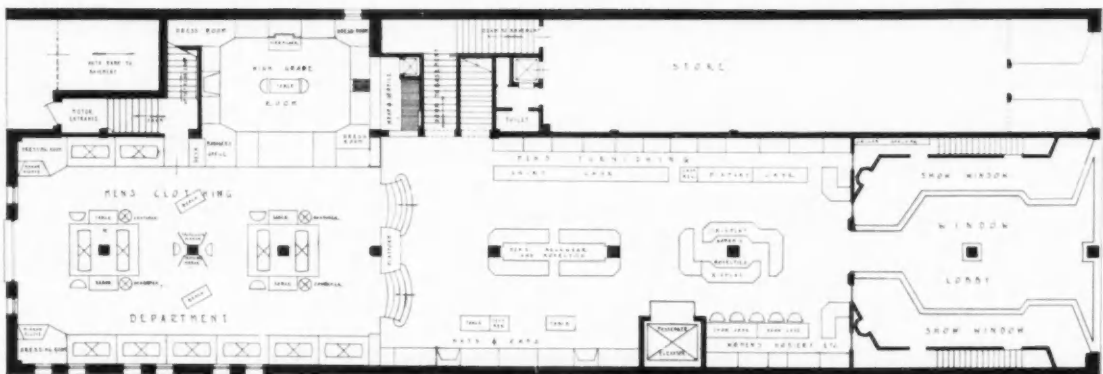
thickness of walls, stairways, elevators or a space in front of them, etc. As a rule, the net area of an average first floor will be 70 per cent of the gross area, and an upper floor 80 per cent of the gross area. These figures should be used in a purely preliminary manner due to the great variance, depending upon the type specified, and other conditions that enter into fixture requirements.



PROPOSED DRIVE-IN MARKET, LOS ANGELES

RICHARD J. NEUTRA, ARCHITECT

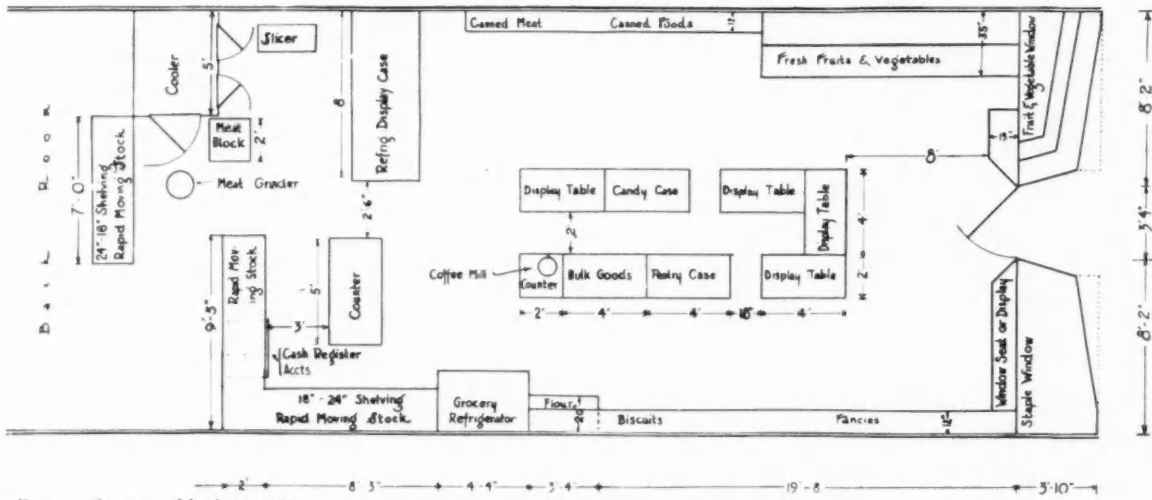
Stores in outer semicircle; awnings are of glass; the central unit contains filling station and rest rooms



PLAN OF ROOS BROTHERS' STORE, HOLLYWOOD, CAL.

Auto entrance at rear with car storage in basement

DESIGNED BY GRAND RAPIDS STORE EQUIPMENT CORPORATION



Domestic Commerce, March 11, 1929

PLAN OF MODEL GROCERY STORE

This store, designed to take care of a typical grocery and meat business of from \$20,000 to \$75,000 volume, is 20 ft. wide and 45 ft. deep, and so arranged that every item stocked is on display. An attempt was made to combine the best features of the self-serve and service grocery store, giving economy of operation and permitting women customers to exercise their shopping instinct.

There are but two short counters in the store, placed at the rear to draw the shopper to the back of the store. The side shelving is left open to give access to the merchandise, making it possible for customers to serve themselves if desired, thus reducing the merchant's sales ex-

pense. The merchandise island in the center of the store, made up of 4 ft. show cases and display tables, gives the store two aisles. Customers will in most cases enter by one and leave by the other aisle and thus be exposed to 75 per cent of the stock.

The cost of fixtures, including shelving, counters, tables, and refrigerators in the model grocery store, ranges from \$1,500 to \$2,600, depending upon the selection. Accessory equipment such as scales, cash registers, and meat slicers, costs from \$1,200 to \$2,800. The total cost of equipment and fixtures, including the meat department, will run from \$2,700 to \$5,500.



Photo. Rowe & Aldrich, Inc.

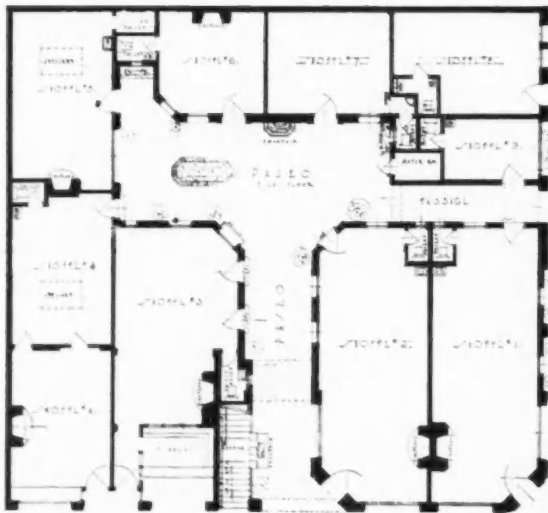
SHOE STORE FOR THE THOMAS G. PLANT CORPORATION, ROCHESTER, N. Y.

STRICKLAND, BLODGET & LAW, ARCHITECTS



Photo. Lewis Josselyn

EL PASEO  
A SHOP BUILDING FOR L. C. MERRELL, CARMEL, CALIF.  
BLAINE & OLSON, ARCHITECTS



Plan of a Shop Building for L. C. Merrell, Carmel, Calif.,  
Showing Maximum Utilization of Site



Photo. Lewis Josselyn

ENTRANCE DETAIL—EL PASEO  
A SHOP BUILDING FOR L. C. MERRELL, CARMEL  
BLAINE & OLSON, ARCHITECTS

THE ILLUMINATION OF STORE WINDOWS AND SHOW CASES

The primary consideration in lighting a show window is to use the correct amount of light, so distributed as to illuminate the display in the most effective manner. To accomplish this, specify the proper reflector and lamp, spaced to provide the right distribution and intensity, and located so that the light is thrown on the display in a natural manner.

To light the window in the natural way, install the reflectors near the window glass and on all sides from which the display can be viewed, mounting them on or recessing them in the ceiling. The artificial lighting will then come from the same general direction as daylight and line of vision, and overhanging shadows will be reduced.

Where it is not possible to recess the reflectors, a valance should conceal the equipment, to "dress up" the appearance of the window.

REFLECTOR SPACING AND LAMP SIZE. The number of reflectors to use is influenced by a number of conditions, such as the brightness of neighboring windows

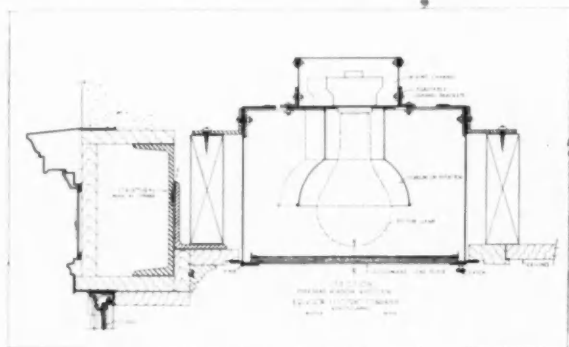


FIG. I

the intensity of the street illumination, kind of goods on display, color and nature of background in window, and largely the extent of the realization on the part of those planning the illumination of the advertising and selling value of bright windows.

In average installations, the spacing, or distance from center to center of the reflectors, is from 12 to 24 inches.

In general the following spacing is suggested:

- Large cities, business district . . . 12"
- Large cities, suburban district . . . 12" to 18"
- Small cities . . . . . 12" to 18"
- Towns . . . . . 15" to 24"

In figure I is shown a cross section detail of one of the most recent types of overhead lighting equipment. The continuous housing containing the reflector and lens equipment is built to order to meet both the lighting and structural conditions of each installation. The prismatic lens glass used in the

bottom affords highly efficient light utilization and prevents glare when used in corner, island and angle type windows. The flush construction, eliminating the use of a valance to conceal the equipment, is of particular advantage.

For super-lighting, that is, high intensity lighting, 500 or 300-watt lamps should be used. Under ordinary conditions, large windows should be lighted with 200-watt lamps. In small windows, 150-watt lamps may be installed.

A general rule for the selection of the proper reflector design is to use semi-concentrating type reflectors in windows where the depth is not greater than one-half the height and to specify distributing type units for deep windows. The height of the background and display must also be considered. Where it is desired to recess reflectors in deep windows, the ceiling near the glass should be at the same angle as the mouth of the reflector.

FLOODLIGHTS AND FOOTLIGHTS. The use of floodlights in show window lighting produces spectacular effects by emphasizing certain objects in contrast with their surroundings. The show window floodlight with "center spot beam" has become increasingly popular since its introduction into the lighting field, and it is now considered a standard article of equipment for all show windows.

Disappearing or portable footlights overcome shadows in the lower part of the window and show the display to good advantage. They are not suitable for open back or island windows but are particularly effective for lighting displays of small objects located on or near the floor of the window.

COLOR LIGHTING. Certain types of displays are very effectively shown under colored light. When it is used with discretion, color lighting will produce results with greater attractive power than white light can possibly have. Provision should be made

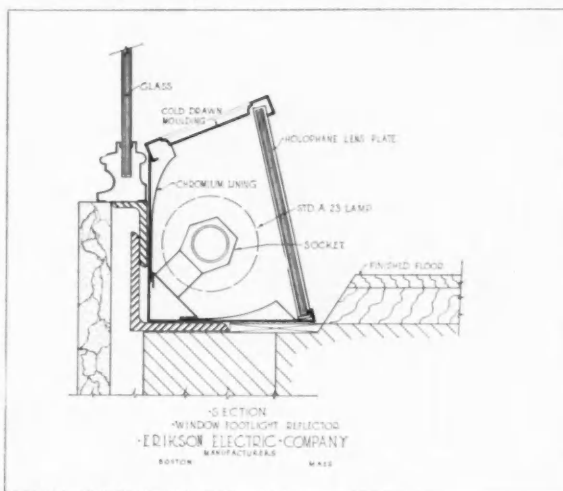
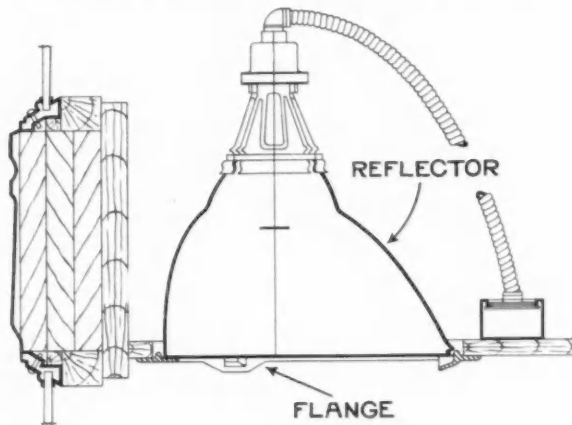


FIG. II

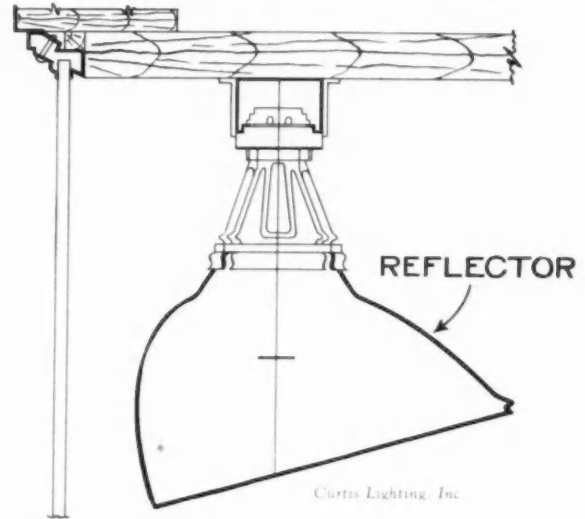
for the use of color equipment with the window reflectors when desired, and all window footlights should have a complete set of color screens.

**OVERCOMING THE DAYLIGHT REFLECTIONS.** One of the merchant's most serious difficulties in making his window displays effective during the daytime is the presence of annoying reflections from the plate glass due to the fact that objects outside of the window

are illuminated to a higher intensity than the display, which causes their images back of the plate glass to be more noticeable than the articles in the window. There is no reasonable method for overcoming these reflections entirely but by increasing the amount of light in the window they can be reduced to such an extent that they are not troublesome. To do this, high intensity illumination or superlighting is necessary. The reflectors are often installed on two circuits, so that higher intensities can be had during the daytime than at night. In many instances superlighting of several hundred foot



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**SHOW CASE LIGHTING.** For floor cases, a continuous reflector of small cross section employing 25-watt tubular lamps on 15 inch to 18 inch centers gives the most satisfactory results. This type of reflector is designed to entirely conceal the lamp, both from the customer and clerk, is inconspicuous and does not obstruct the view of the merchandise. For wall cases, a continuous reflector of larger cross section using from 25 to 100-watt lamps on 15 inch to 18 inch centers is necessary.



## NOTES AND COMMENTS

### THE SIXTY-SECOND CONVENTION OF THE AMERICAN INSTITUTE OF ARCHITECTS

A CONVENTION of the American Institute of Architects is a stimulating event, in proportion, probably, to the closeness of one's contact with Institute affairs. A casual acquaintance with such a meeting, with its many and varied activities, might well leave one not a little confused. A fairly clear memory of previous conventions at once permits comparison and a perception of the trend of Institute activities. To those with such a memory the Sixty-second Convention marks not only real progress but, in an important phase of Institute endeavor, outstanding accomplishment.

Recent conventions have, rather than heretofore, accented some one particular subject as the theme of the occasion. The previous two conventions emphasized collaboration in the arts and brought an interesting flavor to their proceedings by the presence and contributions of representatives of landscape architecture, painting, sculpture and the crafts. The march of events made it peculiarly appropriate that the theme of the convention just terminated should be "The Development of the National Capital."

For years the Institute has labored with the problems of its committee on public works. At times it seemed as if members of congress and government officers looked with suspicion upon the claims of the profession to any abilities of value to the government's building program. Perhaps the war time gave examples of service that tended to allay this suspicion. Perhaps steady contact, over a period of years, gradually brought conviction of the profession's capacity as well as desire for service in the public interest.

One thing at least the events of the convention made manifest and that is the presence in our government today of a group of men having a vision of the needs and architectural possibilities of the capital city as broad and clear as their power to bring great things to pass.

At the opening session Mr. M. Medary, for the committee on public works, and Mr. H. W. Peaslee, for the committee on the national capital, showed what had been accomplished through the adoption of splendidly conceived plans for the development of a great building programme, as well as current dangers in the development of private works that must be controlled for the general interest of the city as a whole.

Col. U. S. Grant III, executive officer of the various commissions controlling the planning of the capital city, outlined the progress of studies that will provide for the orderly development of the L'Enfant

plan, its streets, parks and playgrounds, to meet all future needs now conceivable.

On Thursday evening, at the opening of an exhibition illustrating the plans of the treasury department for the executive group of buildings, in the triangle area between Pennsylvania Avenue and the Mall, President Hoover pledged himself to the development of "a capital city which by its dignity and architectural inspiration shall stimulate pride in our country and encourage that elevation of thought and character which comes from great architecture."

Emotionally, perhaps, this principal theme of the convention was epitomized in the brief ceremony at the Corcoran Gallery on Tuesday evening when Secretary Mellon presented to Mr. Medary the gold medal of the Institute. As Mr. Hewlett said in closing his citation, these two Pennsylvanians have done more than any other two men of our times for the proper development of the national capital. The recognition of this fact was completed subsequently when Secretary Mellon was elected an honorary member of the Institute. The similar election of Senator Reed Smoot and Col. U. S. Grant III recorded the appreciation of the Institute of Senator Smoot's vision and broad-mindedness and Col. Grant's steadfast allegiance to the wise developments of the L'Enfant plan.

With such evidence of government appreciation of those principles for which the Institute has consistently stood, the profession may look back on its long travail with satisfaction, and to the future with confidence and enthusiasm.

Many other items on the convention programme, important in themselves in one way or another, pale into insignificance beside the outstanding importance of its principal theme.

Necessary routine procedures were of course carried through, and with a dispatch evidencing confidence in the board of directors. The increasingly important and complicated financial interests of the Institute were exhaustively analyzed in a most able treasurer's report. Many committee reports were commented on briefly by the board and its recommendations adopted by the convention.

The plans of the committee in charge of the new administration building were endorsed and the financial programme, already well under way, so unequivocally approved that members of the Institute may soon look forward to assembling in their own convention hall adjacent to the Octagon.

Important advances in the program of the committee on public information were recorded. The committee has developed a circular of information which should greatly assist the chapters in their contacts

with the local press. Much of the present failure in this effort is lack of understanding of the technique of another profession. The architect's customary annoyance at indications of a popular ignorance of his own professional methods and ideals should incite him to a keener appreciation of the technical problems as well as the high aims of the trained publicist. The latter needs and desires the coöperation of the profession in developing popular appreciation of the architect and his place in the community. This coöperation too often is offered in disregard of the rules of procedure that control the medium through which this public information must be disseminated. More intelligent coöperation by the profession will develop out of the work of the committee.

The convention went on record in appreciation of the establishment of a new department by the *Herald Tribune* of New York, known as "The American Home and its Setting," a weekly page of illustrations and text relating to architecture, a page carrying no advertising and edited by an architect under the direction of the Institute committee on public information. We may hope for more examples of this type of publicity of the architectural problems of our modern communities.

One of the soul satisfying moments of the convention occurred during the discussion of this subject when the headline artist came in for castigation and the Institute's publicist was asked if something couldn't be done about the misleading captions so frequently seen, which, like the flowers that bloom in the spring, *tra la*, have so frequently nothing to do with the case that follows in *pica type*. Mr. Grady replied that no control appeared possible and that headlines must simply be considered as one of the hazards of life and accepted as such. This disposes of a matter that has often vexed the mind of the writer of this review. He will now acquire a more philosophic calm in the face of future examples and live in the hope that a divine providence will somehow arrange a punishment that will adequately fit the crime of the headline artist. Perhaps if he were doomed to a future in which he would be perpetually misunderstood that would be hell enough.

An address of unusual character for an Institute convention, as well as of unusual fitness for this particular convention, was that on "Long Range Planning of Public Works" by Mr. William T. Foster, co-author with Mr. Waddill Catchings of that thought provoking book, "The Road to Plenty." Although dealing for nearly three-quarters of an hour with a discussion of economics, Mr. Foster's address held the close attention of his audience and the session was closed by the president, as the lunch hour arrived, with several men on their feet seeking to continue the open discussion of the problem that

is peculiarly significant at this time, in view of the vast programme of construction and reclamation on which the government is now embarked.

Surely it is nothing more than good housekeeping in its construction programme, for the government to look ahead and adapt its undertakings to the surrounding conditions of private business as they develop from time to time. It is only natural that this policy, new as it is in government procedure, should appeal to the mind of President Hoover. There is reason to believe that it is finding a favorable reception in the minds of many members of congress and a practical application of it may with reason be looked for. In this coöperating, actions of the states and municipalities are essential and herein lies further opportunity for chapter activity.

It is impossible, within a reasonable compass, to refer to all the activities of the convention. Merely to name a few will indicate their wide scope. The Structural Service Department and the Producers Council stand for a broad spirit of coöperation between architect and material producers in this important and rapidly developing field. Industrial Relations merely suggests the work of the building congress movement with its craftsmanship awards and other important coöperative undertakings. Allied Arts, continuing its work of recent years, no less important because it takes a secondary place at this convention. Honor awards, involving a broad plan for the recognition of meritorious work in all fields of design which can only stimulate further effort towards fine work.

Competitions, registration laws, school buildings, ethics, contracts, revisions of by-laws—what memories of past discussions these awake in an old-timer. All of these, however, were but minor items at the sessions just past, though the board's report presaged a greater accent on constitution and by-laws at the next convention.

The Committee on Education, however, seems permanently to have lost any place among minor activities of the Institute and furnished the one impression that competed in any substantial degree with the interest evoked by the principal convention theme.

The writer of this review recalls the activities of the committee when he was gaining some of his earliest experiences as an Institute committeeman as one of its members almost twenty-five years ago. It was then, for the first time, initiating definite contact with the architectural schools and the evening classes in the clubs. Its invitation to the heads of the schools to attend a convention conference resulted in the creation of the Association of Collegiate Schools of Architecture, since grown in numbers and importance as a coördinating force among the schools.



Since that time what a truly splendid record of progress marks the history of this committee. From consideration of the education of the architect, it has most effectively passed to the problem of the education of the public in the appreciation of architecture and the Allied Arts. First came the publication of a book on the subject, conceived and written by and for the committee. Later the Waid Education Fund permitted regular contact with the smaller colleges through lectures by Mr. C. Howard Walker and others.

Recently through the assistance of the Carnegie Corporation it has been possible to give intensive summer courses in the appreciation of the arts to a selected group of teachers in the smaller colleges, sending them back with not only knowledge, but also the equipment of lantern slides with which to teach.

The committee, in coöperation with the American Library Association, is about to issue a bulletin outlining a selected list of books on architecture for the aid of architects and draughtsmen, steps are also being taken to see that these books are available in the libraries for those who seek them.

The committee also touches upon the need of adult education for the architect himself, to keep him mentally alert and growing in spite of the routine pressure of office practice. On this general topic the

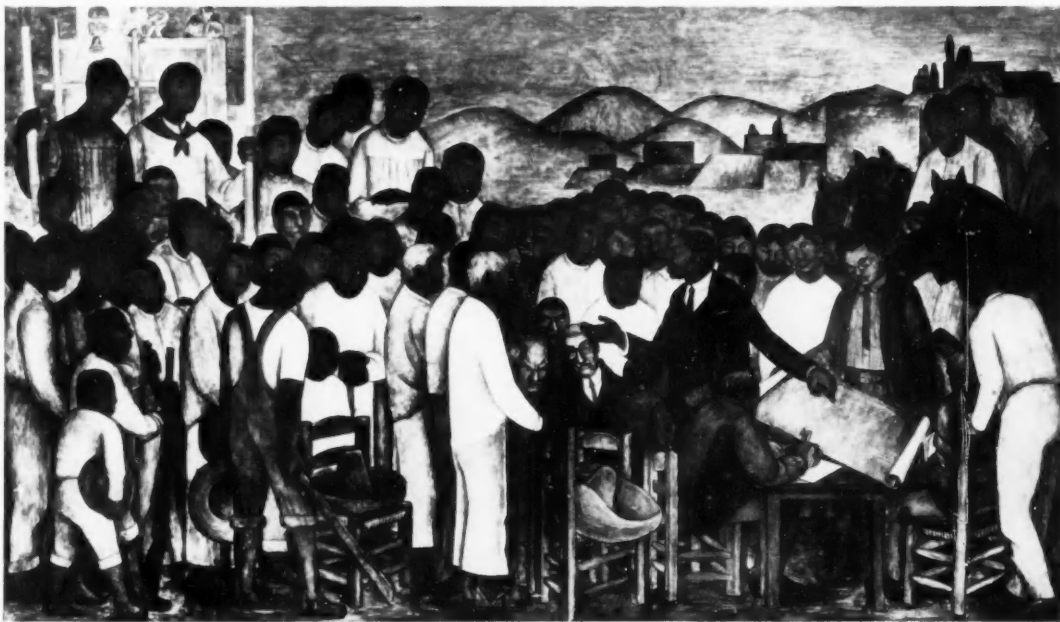
evening session was addressed by Mr. Frederick P. Keppel, president of the Carnegie Corporation, which has generously aided the committee's work.

This evening session brought before the Institute Mr. Marcel Chappey, recently awarded the French travelling fellowship of the Institute as well as an English architect now visiting this country for the study of our commercial architecture.

The evening closed with the award of the fine arts medal to Diego Rivera of Mexico City for distinction as a decorative painter; and the award of the craftsmanship medal to Cheney Brothers for beauty of design and texture in modern machine woven silks. The response of Mr. Cheney and the presence of his colleague of fifty years, Mr. Budd, stirred, I am sure, the minds of many of those present to an appreciation of what is perhaps the underlying significance of every recent Institute convention, the very great and constantly growing power for good of the architectural profession, through the broadly conceived and efficiently administered activities of the Institute.

WILLIAM STANLEY PARKER

The convention adjourned to New York City on Friday, April 26, where the Architectural and Allied Arts Exhibit at the Grand Central Palace was viewed, followed by a dinner at the Roosevelt Hotel. This part of the convention programme is discussed under Notes in Brief in this issue.



Courtesy J. Monroe Hewlett

### MURAL BY DIEGO RIVERA

IN THE NEW PALACE OF EDUCATION, MEXICO CITY  
Artist Awarded Fine Arts Medal of The American Institute of Architects

# THE ARCHITECT'S LIBRARY

## BOOK REVIEWS

### GARDEN CITY HOUSES

*Garden City Houses and Domestic Interior Details.* The Architectural Press, London. Fourth Ed. Revised and Enlarged.

THIS is a quarto of a hundred and eleven pages, almost entirely plates, and meant for the use of architects, not of the general public. Section I is an introduction consisting of typical specifications for a Garden City house with comments by the writer, Mr. T. Millwood Wilson, on the points arising. Section II contains the plates of exteriors and the floor plans. Section III is devoted to interior details, mainly in scale drawing.

A Garden City house is in general a small house planned in connection with other houses not only for the sake of their harmony with each other, but with the idea of somehow getting cheapness without being cheap.

The Garden City movement which perhaps had its source in William Morris—is the endeavor of architects, and others who have felt the pressure of the situation, to find some mitigation of it. At least, if it has not attacked the suburban slum, it has aimed at a suburbanism somewhat further out in the country, at communities with community life, to escape from contractor blocks and "semi-detached" villas. The old villages have charm, the modern suburbs have not. Evidently charm is not altogether a matter of cost. The movement exists in this country, but perhaps not so definitely as in England. The question which this volume endeavors to meet is, how can small houses be built cheaply and yet be built honestly, and also be aesthetically good.

"The art of writing specifications for a small house," says Mr. Wilson, "chiefly consists in knowing what to omit without detracting from its value." By building several houses at a time it is possible to standardize materials and without any harmful standardization of design. A small house requires as much care for the structure and quality of materials as a larger one. Mr. Wilson's details, as well as the details of the drawings, are probably not all of them fitted to American conditions. The items of expense would differ very widely, and in different proportions. Many of the examples could not be built here and be called inexpensive in the ordinary sense of the word.

ARTHUR W. COLTON

### MILOUTINE BORISSAVLIEVITCH:

*Les Théories de l'Architecture.* Paris, Payot, 1926.

THE aesthetics of architecture have been more neglected than those of any other art. It would seem that M. Borissavlievitch, whose present study

has been preceded by a series of articles and brief essays and will be completed by several more volumes, is determined to increase this literature—at least in bulk. In the present work he devotes himself to a destructive criticism of the most far reaching order in which his predecessors with few exceptions are divested in most cases of all their theories. This criticism is for the most part justified and long. Monotonous as his book is, it has at least the value of displaying how little, the writers of the past—architects like Vitruvius or Alberti, or philosophers like Kant, Schopenhauer and Hegel, have had to say of permanent value. Occasionally he epitomizes his comment in brief sentences worthy of quotation. For example, "No form without content, no content without form"; or, "aesthetically architecture is the art of time" (because it is not perceived as a whole but part by part consecutively); or, with regard to mathematical formulas for beauty in architecture, "The single role of mathematics in the study of aesthetic phenomena is the objective or numerical statement of subjective phenomena." Occasionally also he repeats excellent quotations from other writers, as this from Jean Epstein in *L'Esprit Nouveau*: "The aesthetic emotion is a nervous reaction which becomes fatigued like other reflexes. One cannot reproduce it indefinitely with the same intensity, with the same excitement. Habit wears it out and eventually extinguishes it."

Regrettably M. Borissavlievitch's own theories as they appear aside from these occasional statements are on the whole behavioristic—to use his own words, physiological, and are thus open to all the objections which may be brought against any such purely "scientific" explanation of human interests. His theory of empathy which alone he deigns to borrow from the line of nineteenth century German philosophers is very much reduced in bearing and loses the enrichment of a non-physiological superstructure. His theory of optico-physiological perspective, valuable as a possible explanation of Greek "refinements," is hardly a valid treatment of the entire question of proportions since on the one hand it can be held to hold for only certain points at which an observer may stand before a building and on the other it leaves memory and knowledge quite out of account.

It is to be hoped that M. Borissavlievitch may in his announced constructive work have more of value to offer—at least in the way of "observation" which almost alone he finds of interest in the books of his predecessors.

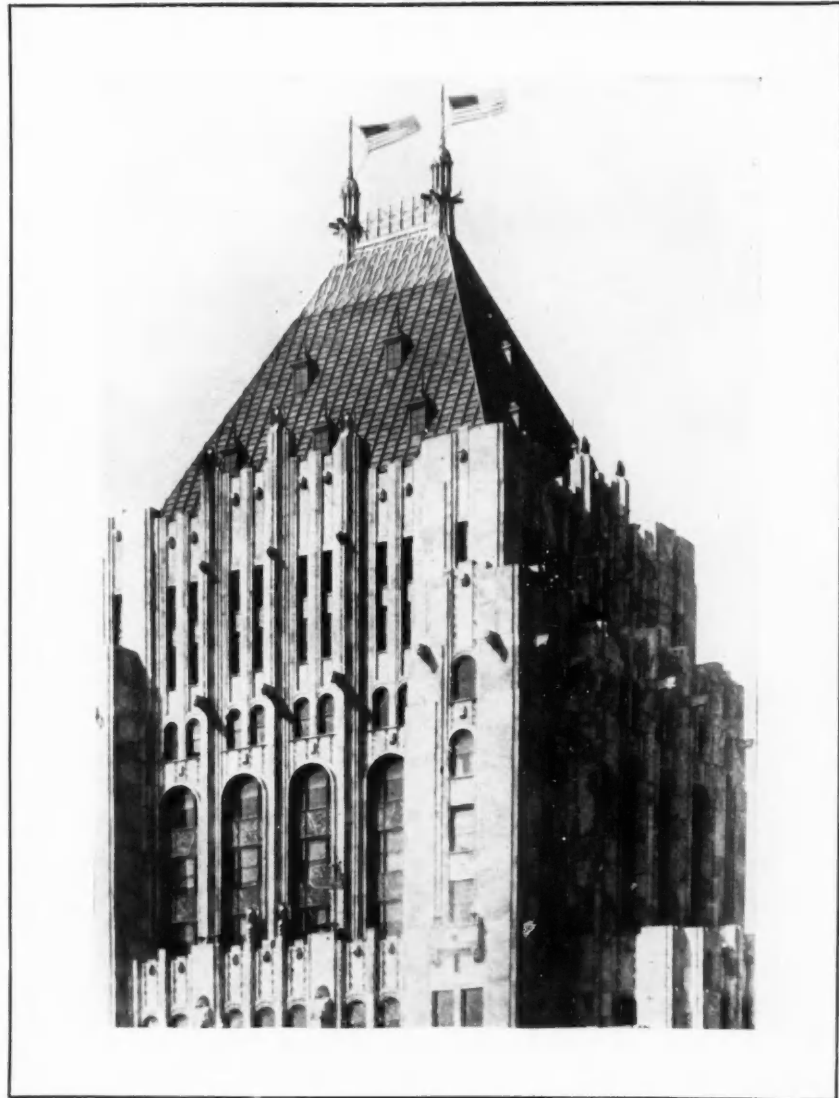
HENRY-RUSSELL HITCHCOCK, JR.

# FEDERAL SEABOARD TERRA COTTA

*The*  
**FISHER**  
**Building**

Albert Kahn  
*Architect*

H. G. Christman - Burke Co.  
*Builders*



**T**HE roof of the prize winning Fisher Building is entirely of Federal Seaboard Terra Cotta in very large units. The color is multichrome green—the ribs of nugget gold.

## FEDERAL SEABOARD TERRA COTTA CORPORATION

*Offices:*

10 E. 40th St., N. Y. C.



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*Factories:* Perth Amboy, N. J. — Woodbridge, N. J. — South Amboy, N. J.

## NOTES IN BRIEF

### THE DEPARTMENT OF COMMERCE AND THE ARCHITECT

USEFUL MATERIAL FOR THE PROFESSION ISSUED THROUGH  
THE DIVISION OF BUILDING AND HOUSING

In May, 1921, Mr. Hoover, then Secretary of Commerce, appointed the Building Code Committee, whose function was to draw up recommended minimum requirements for building codes. This committee was composed of two architects and five engineers, nationally prominent in their professions. It set to work collecting basic information and analyzing it in order that such recommendations as were issued might be based upon thoroughly scientific grounds. Because of the lack of housing accommodations at the time of its appointment and the high costs of construction which prevailed, Mr. Hoover made a special request that the committee concentrate its attention at first on small dwelling construction. This was done and a report entitled "Recommended Minimum Requirements for Small Dwelling Construction" was issued.

In the course of the work the subject of plumbing came to the fore and it was decided to entrust this question to a special sub-committee composed of sanitary engineers, master plumbers and others specially qualified. The report of this sub-committee, entitled "Recommended Minimum Requirements for Plumbing in Dwellings and Similar Buildings" was based upon a combination of laboratory research at the Bureau of Standards, the practical experience of the members of the Committee, and a referendum upon vital matters conducted among plumbing experts throughout the country. The main committee continued its work and issued a report on "Recommended Minimum Requirements for Masonry Wall Construction." Then followed "Minimum Live Loads Allowable for Use in Design of Buildings," and "Recommended Building Code Requirements for Working Stresses in Building Materials." Just recently a tentative report entitled "Recommended Minimum Requirements for Fire Resistance in Buildings" has appeared and constructive criticism has been invited in advance of printing.

The Committee's reports are in three parts: the first is introductory, the second contains the actual recom-

mended requirements, and the third takes the form of an appendix in which the basic information that has been utilized is described and explanations are given as to the conclusions reached. These appendices also contain general observations on good building construction, and diagrams and pictures illustrate certain points made.

As has been indicated above, the procedure of the committee in preparing its recommendations takes three phases; the first involves the collection of all the available material on the subject under consideration and a thorough study of it; the second involves the issuing of a tentative report in which the committee's preliminary conclusions based on its research and the experience of its members are utilized; the third consists of a careful consideration of the comments upon the criticisms received and the issuing of a final printed report, the provisions of which have been checked in the light of such criticisms.

The fact that the Committee's recommendations have been widely used, both in state and local building and plumbing codes, indicates that there was a real need for the creation of such a body. No single community could afford to undertake the research and other work that is involved in the preparation of these recommendations but by concentrating all such work at one central point and maintaining close cooperation with the Bureau of Standards, which has conducted many tests at the request of the Committee where there was insufficient data.

Two other lines of activity of the Division of Building and Housing are also of direct interest to architects.

In its efforts to promote stability in the construction industry, the Division collects and makes available to business groups, the basic statistics relating to building activity and production, consumption, and stocks of building materials on hand. Periodically it publishes reviews of construction activity, and collects (in conjunction with the Census Bureau), retail prices of building materials as paid by contractors in about fifty cities each month. Special reports on these are made from time to time.

The Division also cooperates with the Survey of Current Business in the Bureau of the Census in presenting monthly statistics relating to construction and building materials. It answers many inquiries from private



RECEPTION ROOM OF RUSSELL & ERWIN MANUFACTURING COMPANY, NEW YORK CITY

*Andersen Frames are  
detailed and constructed  
to Merit Architects  
Critical  
Approval*



*Lee-Plaza Apartment Hotel, Detroit, Mich.  
Owner, Ralph T. Lee*

**SUPERIORITY**  
GUARANTEED  
by the trade mark

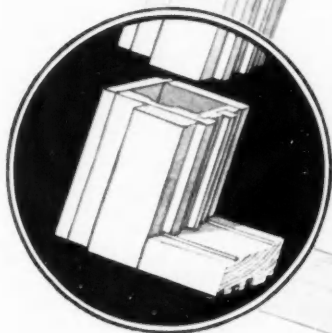
Genuine  
White Pine  
Sills and Casings

1 White Pine for PERMANENCE  
2 Styles and Sizes for BEAUTY  
3 Weather tight for HOME COMFORT  
4 Available at dealers for CONVENIENCE  
5 Standardized Quantity Production for ECONOMY

To start with, only the best and most suitable materials are used for each part of Andersen Frames. The selection of materials is based on specifications of the most exacting architects and builders.

The designs of Andersen Frames are being improved constantly to keep in step with modern ideas of good design and sound construction. Each proposed improvement is submitted to our consultant architects, as well as to reputable builders for their criticism or approval.

These frames are detailed and constructed to meet architects' requirements. That is why these stock frames are being hailed by architects the country over as a solution of their frame problems. Save yourself endless trouble and know what you are getting—instruct your draftsmen and specification writers to follow Andersen details and specifications. See Sweet's Catalog, pages B1413 to B1435.



*Why....*

**ARCHITECTS SPECIFY  
Andersen FRAMES**

- |  |   |
|--|---|
| (1) Detailed and constructed to merit architects' critical approval.   | (6) The only standardized frame adequately designed for side blind-stop extensions, permitting the use of narrow outside casings. |
| (2) Genuine, clear White Pine sills and casings.                       | (7) Nationally distributed.   |
| (3) Exclusive, patented weather-tight features.                        | (8) Dependable because guaranteed by a reliable manufacturer.   |
| (4) Perfect mill workmanship—absolute accuracy and uniformity.         | (9) Equipped exclusively with the new patented, noiseless, friction-reducing Andersen pulleys.                                    |
| (5) A window or door frame type and size for every architectural need. |   |

See  
SWEET'S  
Catalog  
Page  
B-1413

**Andersen FRAME CORPORATION., Bayport, Minn.**

companies interested in construction, cost accountants, and trade associations, and puts them in touch with the statistics from non-governmental as well as governmental sources.

In cooperation with a committee of the President's Conference on Unemployment, the Division in 1923 and 1924 made an extensive survey of seasonal operation in the construction industries. It was shown that the building season could be lengthened out into the spring and fall months, and further that construction in winter was both feasible and economical. Custom rather than climate appeared to be the reason for prevailing conditions. Subsequent studies by the Division indicate that more and more construction is taking place in the winter months, with consequent steadier employment for building trades workers. Customs which tend to throw the greater part of construction into certain months, such as the existence of a fixed leasing date, are being vigorously attacked in many cities.

City planning and zoning have commanded more interest in recent years because of the greatly augmented building programme, the larger proportion of apartment houses, and the growing problem of street traffic congestion. These subjects are of particular interest to architects in that their application makes possible a better setting for buildings, and encourages greater permanence in structure.

The Advisory Committee on City Planning and Zoning, has issued four publications on zoning and city planning:

"A Zoning Primer," which has been characterized as the most influential single publication in the field;

"A Standard State Zoning Enabling Act" which has been followed in legislation adopted in at least thirty States;

"A City Planning Primer" and "A Standard City Planning Enabling Act," which has served already as the basis for city planning laws adopted in a number of states.

The Division has made a number of careful surveys of zoning progress and city planning activity in the United States, and handles a large number of inquiries from civic bodies and municipal officials interested in these subjects.



#### SIMPLIFIED PRACTICE

"The Division of Simplified Practice of the Department of Commerce has prepared a list of over a hundred simplified practice recommendations, now effected and accepted by Industry and endorsed by the Department of Commerce. This list contains many projects which should prove of interest to architects. Some of these projects include solid section steel windows, hollow metal doors, kalamein doors, hollow building tile, builders' hardware, sheet steel, eaves trough and conductor pipe, concrete building units, steel lockers, wrought iron and wrought steel pipe, white glazed tile and unglazed ceramic mosaic, etc. There are many others.

"They have received 13,096 acceptances from individual firms and 1,094 acceptances from trade associations. They have issued the statement that the application of the recommendations covered by all simplified practice recommendations is saving Industry over three hundred million dollars annually.

"This list can be obtained, free of charge, by writing to the Division of Simplified Practice, Room 316, Department of Commerce Building, Washington, D. C."



#### INSTITUTE CONVENTION

*(Continued from page 613)*

The convention which opened on April 23 in Washington was adjourned to New York to permit members of the Institute to attend the Architectural and Allied Arts Exposition in Grand Central Palace. At the Friday evening dinner at the Roosevelt Hotel announcement was made of three new fellowships "for distinguished achievement in the field of architecture" as follows: Edward H. Bennett of Chicago, Bayard S. Cairns of Memphis, Tennessee, and Emery Hall of Chicago.

Sir Reginald Blomfield of the Royal Institute of British Architects was the guest of honor. Robert D. Kohn, president of the New York Building Congress and William Adams Delano, president of the New York Chapter of the Institute, spoke at this dinner.



#### BETTER HOMES COMPETITION

Closing date of the 1929 National Better Homes Architectural Competition has been advanced to midnight, June 30. This extension of time is desirable, according to a statement just received from Home Owners Institute, for several reasons. First, it will give far western architects and draftsmen ample time to develop their designs after receiving the necessary reference literature, which they must request by mail. Without the two-week extension and with two weeks required for transcontinental mail, Pacific Coast contestants would have been handicapped unfairly.

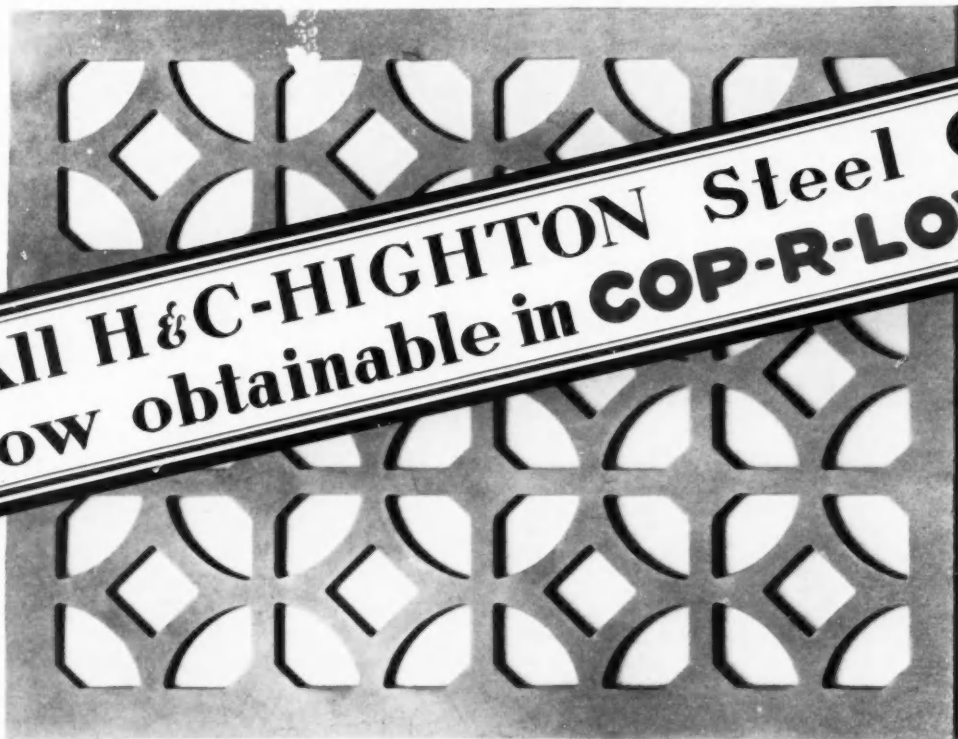
Second, the matter of appointing juries of award in each of the regions makes the extension desirable, as some men, absent on business, cannot be reached at once. Third, as a result of advancing the date of closing, it has been possible to add another region, bringing the total to thirteen zones and increasing the prize money to a total of \$29,000.

#### CALENDAR OF EVENTS

##### GENERAL ANNOUNCEMENTS

June 13-15	International Hospital Congress. Exhibit of plans and models of modern American hospitals. Atlantic City.
June 19-23	International Management Institute. Paris.
Sept. 12-19	International Housing and Town Planning Congress. Rome.
October 29- November 7	World Engineering Congress. Tokio, Japan.
Nov. 7-22	Excursion and inspection tours in connection with the World Engineering Congress.
Nov. 18	Lehigh Airports Competition. Closes November 18, 1929.

**All H&C-HIGHTON Steel Grilles  
now obtainable in COP-R-LOY Steel**



H & C-Highton No. 579

## H&C-HIGHTON Grilles have *THREE* Advantages . . .

Write for new catalogue of Highton grilles and registers and Hart & Cooley grilles and registers, including many designs never previously shown. It will be off the press very shortly. Both firms, now operating in association, are represented in Sweet's Architectural Catalogues.

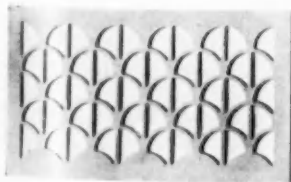
*FIRST*—that owing to the association between Wm. Highton & Sons and the Hart & Cooley Mfg. Co., it is now possible for architects to secure from us *any* type of steel, cast iron, cast bronze or wrought bronze grille—formerly specialized lines procurable only from two or more manufacturers. *Second*, that any of our STEEL Grilles are now procurable in COP-R-LOY Steel, which resists rust and corrosion indefinitely and is distinguished for its ability to take and retain coatings of all kinds. *Thirdly*—all our grilles are examples of the combination of fine materials, good design and first-class workmanship, providing the architect with a standard of excellence that guarantees satisfaction.

**WM. HIGHTON & SONS**  
*Division of Hart & Cooley Mfg. Co.*  
Nashua, New Hampshire

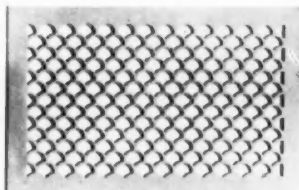
BOSTON, 75 Portland Street  
NEW YORK, 101 Park Avenue

Branch Offices

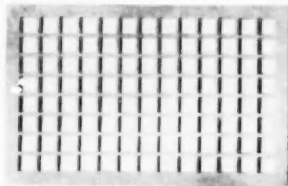
PHILADELPHIA, 1600 Arch Street  
CHICAGO, 61 W. Kinzie Street



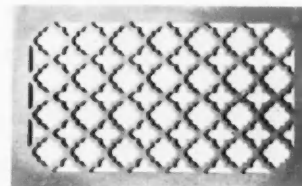
No. 587



No. 578A



No. 575



No. 582

## NEWS OF THE FIELD

GENFIRE STEEL COMPANY of Youngstown, Ohio, announces the opening of a new branch office at 439 Penobscot Building, Detroit, Mich. M. G. Dodson, formerly in charge of divisional sales at the Youngstown office, will be in charge. A. A. Fraser, formerly manager of the Dallas branch office, has been transferred to the San Francisco office. H. G. Coffman, formerly a salesman in the Syracuse branch office, has been made manager of the Dallas office.

THE CENTRAL ALLOY STEEL CORPORATION announces the appointment of S. H. Truitt as district sales manager of the Philadelphia district, to succeed C. C. Willits. Mr. Truitt formerly was assistant sales manager at Philadelphia, and has been connected with the company for some years.

DETROIT STEEL PRODUCTS COMPANY of Detroit, Mich., announce the development of a new type of steel window called a "Screen Casement," embodying the following advantages: screen and casement procurable from one manufacturer; locking handle attached to frame of window instead of to swing leaf; thumb screw sill operator that works through the screen, in order that the latter need not be moved in any way; unnecessary to lean out window even when screen is removed; screen designed to cover only actual ventilation opening instead of entire window; non-warping, metal-to-metal contact between flat screen frame and flat window frame; standard size screens eliminating marking or numbering when removed for winter; casements and screens need not be shipped or even purchased at the same time.

MR. G. L. CUNNINGHAM, general manager of the Concrete Form-Hold Corporation of Culver City, has announced the merger of the local company with the American Form-Hold Corporation of Delaware. While the officers and sales organization will remain the same, the business of the company will be administered by the new corporation from now on. "This change in our business inaugurates a much more active sales and advertising campaign throughout the country," said Mr. Cunningham. "We will not only manufacture our patented form-hold device, but expect to add other devices of importance to the building trades."

FLORIDENE STONE, a natural travertine, was given its first public showing as a feature of the exhibit of the Johns-Manville Corporation at the Architects' and Allied Arts Exhibition in Grand Central Palace, New York City, recently. One of the walls and a section of the floor of the Johns-Manville booth were constructed of this material. The stone, quarried on the west coast of Florida, varies in color from a soft buff to a warm gray tint. It is of homogeneous, uniform structure, with scarcely any grain or lamination to limit cutting or setting. The original estimate of the quantity of available Floridene stone was set in excess of sixty million cubic feet, but recent core drillings have proved it practical to mine to four times the depth used as the basis of this estimate, according to a statement of the company. The Johns-Manville Corporation has secured exclusive distribution rights of this stone.

ANNOUNCEMENT is made of the organization of The Reliance Bronze and Steel Corporation, with offices at Dobbin and Banker Streets & Norman Ave., Brooklyn, N. Y. The Corporation manufactures ornamental bronze, hollow steel and metal covered products, and comes into existence through a consolidation of The Reliance Fireproof Door Co. of Brooklyn, N. Y., The United Pressed Steel Products Corporation of College Point, L. I., and the Knoburn Products Corporation of Hoboken, N. J.

THE AMERICAN RADIATOR COMPANY announces a new valve—the Arco Packless No. 901 hot water valve. It combines, the manufacturers say, the Arco Packless principle with the swinging plate and equalizing features—all in one valve and at no additional cost. The equalizing feature, it is stated, makes possible a finely adjusted water job, easier to install and superior to the usual system that depends only upon various pipe sizes to control water circulation.

MR. H. L. ROTHSCHILD announces that the name of The Andersen Lumber Co. of Bayport, Minnesota, incorporated in this style 25 years ago, has been changed to "Andersen Frame Corporation." The change has been made to indicate the company's activities in the manufacture of white pine window and door frames. There has been, Mr. Rothschild says, no change in the management, stockholding or policy of the company.

THE S. T. JOHNSON COMPANY announces the establishment of an oil heating engineering service bureau for the purpose of assisting architects, heating engineers and contractors in the solution of their more difficult oil heating problems. Information may be secured on the cost of installation and operation of oil burning equipment, oil pumping and preheating equipment. Data regarding approved and recommended vent or flue construction, wiring diagrams and blue prints of typical installations may also be obtained. Complete information concerning problems may be sent to the Engineering Service Bureau of the company, 940-950 Arlington Avenue, Oakland, Calif.

THE JOSAM MANUFACTURING COMPANY, Michigan City, Indiana, and Cleveland, Ohio, announces the formation of the Josam-Graver Incinerator Division, to manufacture and market a gas-fired, kitchen floor fed, portable garbage incinerator. The Josam Co. state that there is a steadily increasing demand for this product, which is now considered a necessity in the modern home. The Josam-Graver Incinerator requires no extra flue, or additional brick work, and can be installed either before or after completion of the home. Blue prints and descriptive literature (of A. I. A. filing size) may be had upon request to the Josam Manufacturing Company, 4900 Euclid Building, Cleveland, Ohio. Mr. Edwin H. Graver, an engineer with ten years' experience in this field, will have complete charge of this new division with headquarters at Cleveland, under the direction of the Josam executives. Any communications regarding this Incinerator should be sent to him in care of the Josam-Graver Division of the Josam Manufacturing Company, Main Sales Office, Cleveland, Ohio.





## WHEN THE TIME COMES TO UNMASK

**M**ASQUERADING under the general characteristics that have made "Tapestry" famous, many brick are offered for securing "Tapestry" effects. But how few can meet the standards set by the real "Tapestry". Color that runs as uniform in a hundred thousand brick as in a dozen samples. Experienced and painstaking selection of brick to give you the *exact* range you want. Service that is adequate and thorough—delivery that never holds up the swift completion of a project demanded by modern building requirements.

Brick that has passed as "practically the same thing" in a sample panel may disappoint in the building. If you want to be *sure* of "Tapestry" effects, use the genuine "Tapestry" Brick, made *only* by Fiske.

FISKE & COMPANY, *Inc.*, 17 West 46th Street, New York City—18 Newbury Street, Boston. Plants at Milton, Ridgway, and Darlington (Beaver County), Pennsylvania.

*Tapestry*

REG. U. S. PAT. OFF.



There is only one "Tapestry" Brick. Fiske makes it. Look for the trademark.

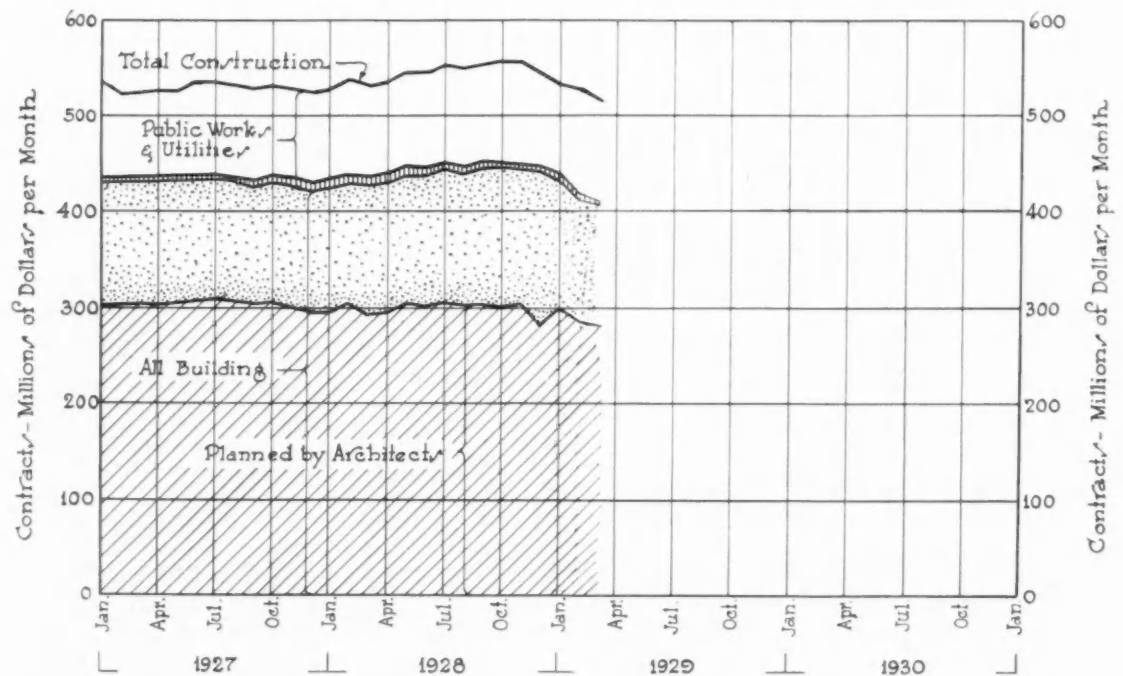
# A F I S K E B R I C K

# CONSTRUCTION STATISTICS

From the records of F. W. DODGE CORPORATION, Statistical Division. The figures cover the 37 states east of the Rocky Mountains and represent about 91 per cent. of the country's construction volume.

## First Quarter, 1929

Classification	TOTAL CONTRACTS		WORK PLANNED BY ARCHITECTS		
	Number of Projects	Valuation	Number of Projects	Valuation	Per cent. of Total
Commercial Buildings	5,474	\$244,226,900	2,327	\$184,251,100	75%
Industrial Buildings	1,620	175,038,300	566	43,710,500	25%
Educational Buildings	583	77,847,800	501	75,794,000	97%
Hospitals & Institutions	210	22,588,100	151	19,231,400	85%
Public Buildings	234	24,317,400	132	22,567,600	93%
Religious & Memorial Buildings	378	17,418,800	244	15,014,100	86%
Social & Recreational Projects	478	34,301,600	285	27,337,200	80%
Residential Buildings	24,367	464,727,200	6,507	283,915,100	61%
<b>Total Building</b>	<b>33,344</b>	<b>\$1,060,466,100</b>	<b>10,713</b>	<b>\$671,821,000</b>	<b>63%</b>
Public Works & Utilities	2,540	195,623,200	74	6,860,000	4%
<b>Total Construction</b>	<b>35,884</b>	<b>\$1,256,089,300</b>	<b>10,787</b>	<b>\$678,681,000</b>	<b>54%</b>
<b>Total Construction, first quarter, 1928</b>	<b>44,092</b>	<b>\$1,485,067,000</b>	<b>13,565</b>	<b>\$874,016,900</b>	<b>59%</b>



General Trend of Building and Engineering Construction

## **Lightweight slabs** *... adaptable to* **any roof design**

The superior qualities of Pyrobar Short Span Roof Tile strongly recommend it to architects. They find it adaptable to any roof design, whether flat or pitched, of large or small area.

The speed and ease with which these lightweight slabs may be cut to fit around dormers, skylights, hips and valleys is a decided advantage. In addition, they provide a firm nailing deck for ornamental and metal roof coverings. They may be erected in any weather.

Because Pyrobar Roof Tile is an effective insulator, it provides substantial savings in fuel and heating equipment installation. It also helps maintain a low summer temperature. Having a smooth, white under surface, it affords excellent light reflection.

Pyrobar Roof Tile is fireproof. It is made of Structolite, a dense structural gypsum, reinforced with electrically welded, galvanized, steel mats.

Pyrobar Roof Tile is low in cost, especially when used in combination with USG Bulb Tee sub-purlins.

An engineering and construction service is available to assist architects in designs and estimates. No obligation.

**UNITED STATES GYPSUM COMPANY**

Department 43-J

General Offices: 300 W. Adams St., Chicago, Ill.

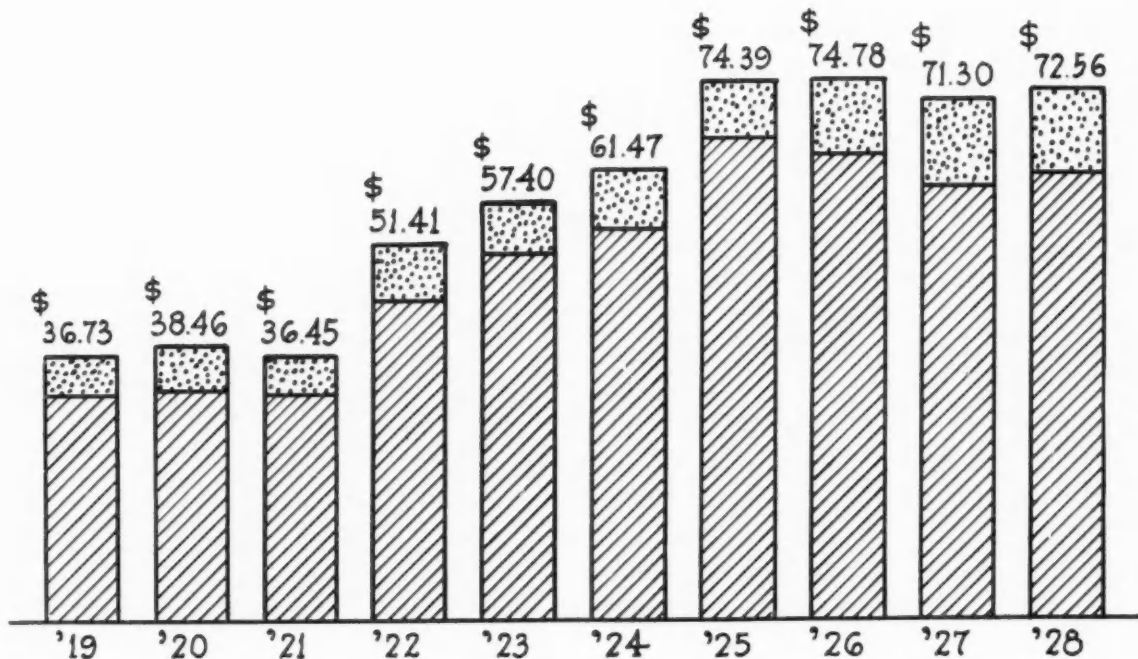
Canadian Gypsum Company, Limited, Hillyard St., Hamilton, Ont.  
Sole Canadian Distributor



# **PYROBAR**

## **SHORT SPAN ROOF TILE**

## The Long-Time Growth of Construction in the United States



### PER CAPITA CONSTRUCTION EXPENDITURES

(as estimated by the Statistical Division of F. W. DODGE CORPORATION)

Building . . . . .	\$30.91	\$31.54	\$30.83	\$44.75	\$50.27	\$53.92	\$65.77	\$64.28	\$59.86	\$60.60
Engineering ..	5.82	6.92	5.62	6.66	7.13	7.55	8.62	10.50	11.44	11.96
TOTAL . . . . .	\$36.73	\$38.46	\$36.45	\$51.41	\$57.40	\$61.47	\$74.39	\$74.78	\$71.30	\$72.56

This chart brings out in strong relief the rapid growth of construction expenditures from 1921 to 1925 and the stable period from 1925 to date.

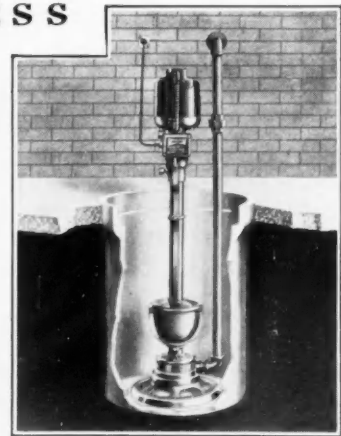
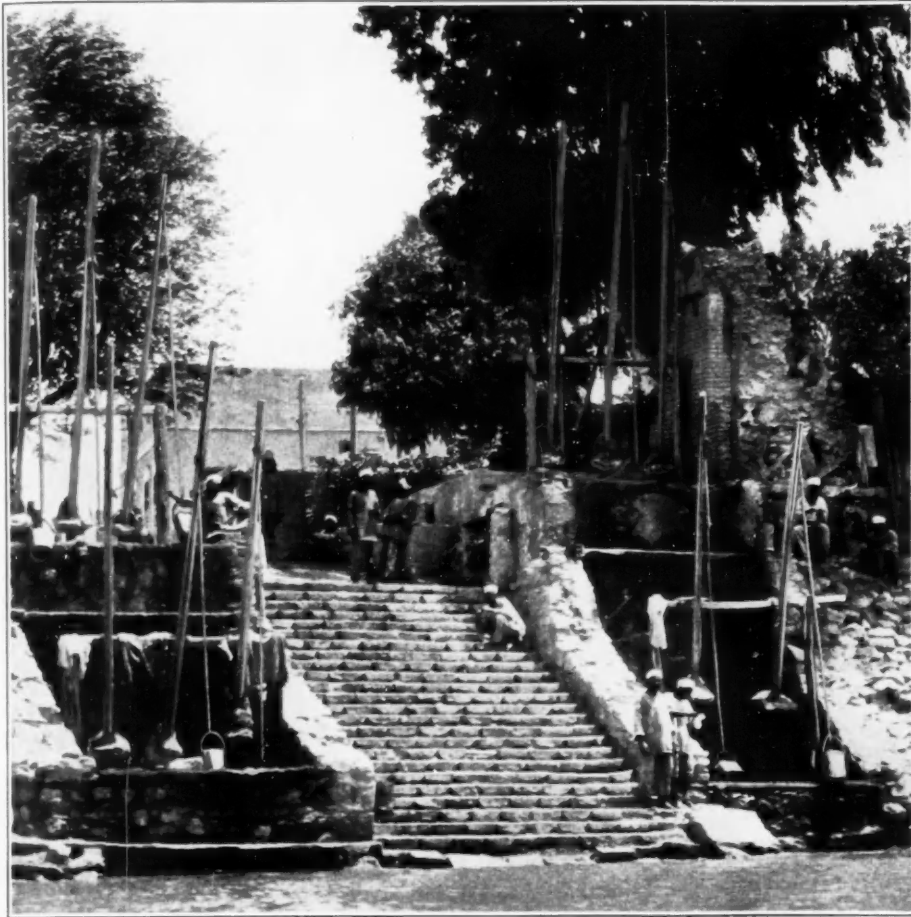
The rapid growth from 1921 to 1925 was due in part to unusual construction demand caused by the building shortage of the war years; it was due in greater measure to expanding wealth and advancing living standards of the American people. Besides construction expansion, this period was characterized by rapid expansion of the automotive industry, the electrical industry and many departments of credit and finance.

Even if per capita expenditures should remain the same for some time to come, construction volume would have to increase to take care of the demands of increasing population. Further expansion of industry and wealth would tend to advance living standards and increase per capita construction expenditures.

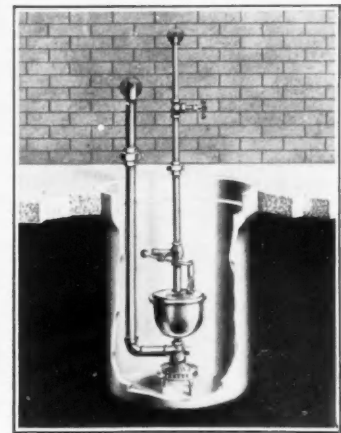
At the present time, the biggest demand for increased construction is in large-scale building and engineering projects that facilitate traffic, safety and the conveniences of community life, together with electric-power developments.

This table is reprinted from F. W. Dodge Corporation's Construction Market Data Sheet No. 1-b, which contains numerous other construction market statistics together with an authoritative statement on the prospect for construction in 1929. A copy may be had on request. Statistical Division, F. W. DODGE CORPORATION, 119 West 40th Street, New York, N. Y.

## CONTRASTS IN INDUSTRIAL PROGRESS



*Many architects specify these Penberthy Pumps for draining seepage water from basements, elevator pits, piping tunnels, etc.*



## Lifting water from the River of the Pharaohs

ALONG the Nile they call these Shadufs, and they use them for elevating water into the irrigation ditches. At this particular point the Shadufs have to be operated in two stages even though the "operating head" is not more than 15 feet.

Could elevating water be made more difficult than this? One small, compact Penberthy Pump (either an Automatic Electric or Automatic Water Operated unit) could displace this whole installation of Shadufs and still be idle most of the time.

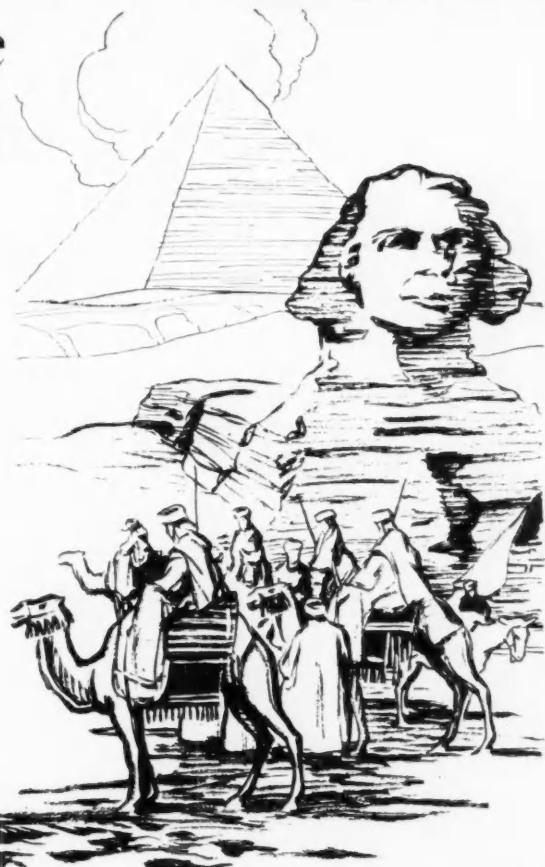
One of the salient advantages of these Penberthy Pumps lies in the fact that they can remain idle indefinitely without their efficiency or smoothness of operation being affected. Corrosion is powerless to deteriorate Penberthy Pumps because they are copper and bronze throughout.

### PENBERTHY INJECTOR CO

ESTABLISHED  
IN 1886

DETROIT

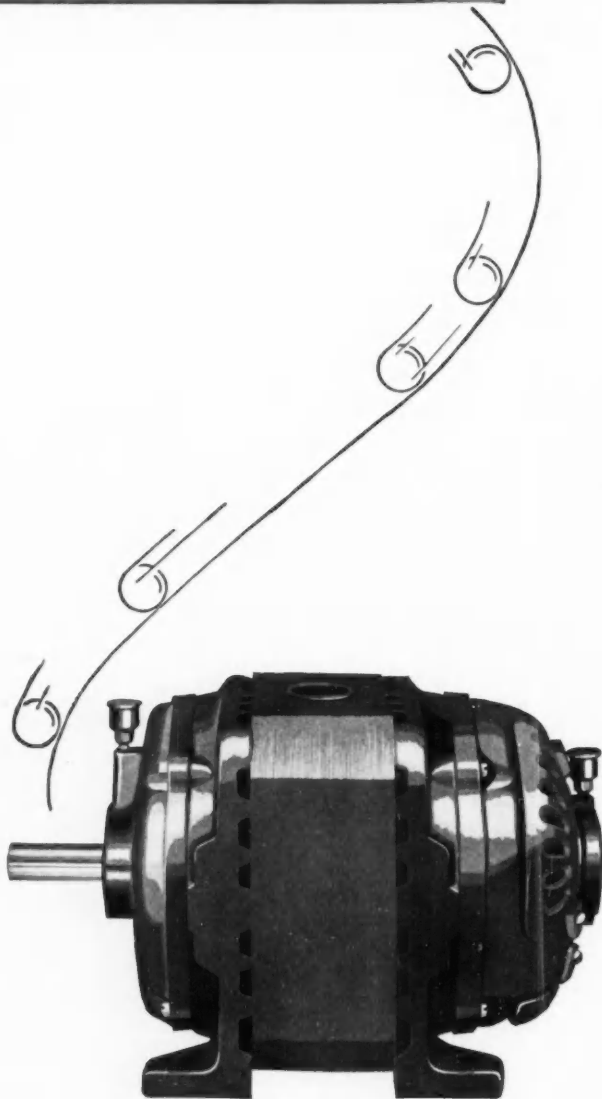
CANADIAN PLANT  
WINDSOR, ONT.



# They Pay More

Machine manufacturers pay a little more for Baldor Motors so that you won't experience motor troubles with their machines. Consider this when they say, "Baldor equipped". A motor whose first cost is low but whose energy requirement is high, is not a cheap motor. Baldor non oil leaking, resilient mounted, ball bearing motors are the most economical and satisfactory motors made. Write for easy-to-read

bulletins. The Baldor Electric Company, 4364 Duncan Ave., St. Louis, Missouri.



## RECENT TRADE PUBLICATIONS

ISSUED BY MANUFACTURERS OF CONSTRUCTION MATERIALS AND EQUIPMENT

[These may be secured by architects on request direct from the firms that issue them, free of charge unless otherwise noted.]

### GLASS

"Glass by Mississippi." A. I. A. File No. 26a-3-5-6. Illumination in modern industrial buildings. List of Mississippi Glass Products, giving thicknesses, sizes, weights, etc. Wire Glass. In fire protection. Factrolite as an aid to industry. Elimination of glare, etc. Aurora glass, polished or plain. Light transmission and distribution. Figured glass. Syenite, Apex, Maze, etc. Actual installations. Mississippi Glass Company, 220 Fifth Avenue, New York City. 9 x 11 3/4 in. 63 pp. Ill.

### INTERIOR TELEPHONE SYSTEMS

"The Tele-Chec System." Bulletin 1019. Various uses. Theatre seating. Public garages. Parcel checking. Equipment. Detail drawings. Automatic Electric Inc., Chicago, Ill. 8 1/2 x 11 in. 15 pp. Ill.

### BATHROOMS

"Bathrooms for out-of-the-ordinary homes." The Moorish bath. The Mandarin bath. A bath in the Roman Imperial manner. The Castillian bath. An Empire bathroom. Bath inspired by the Bath Maria Luisa in the Pitti Palace. A Modern bathroom. Crane Company, 836 S. Michigan Avenue, Chicago, Ill. 8 1/2 x 11 in. 13 pp. Ill.

### ELECTRIFICATION

A. I. A. 31 C. Wiring the Home for Comfort and Convenience. 3d ed. Plans. Detail drawings of first, second, third and basement floors. Specifications. 7 3/4 x 10 5/8 in. 8 pp.

### DRINKING FOUNTAINS

"Batchelder Drinking Fountains, A Catalog of Designs in Tile and Terra Cotta." Color in patina glaze and mottled finish. Adaptability to various types bubbler and faucet attachments. Detail drawings. The Batchelder-Wilson Company, 2633 Artesian Street, Los Angeles, Calif. 8 3/4 x 11 1/2 in. 20 pp. Ill.

### PLUGS, RECEPTACLES

"Arktite Circuit Breaking Plugs and Receptacles." Bulletin 2121. Simplicity of construction. Grounding. Extension cable connectors. Identification of terminals, etc. Tables of equipment, plugs, etc. Tables of various types. Engineering data. Detail drawings. 8 3/8 x 10 3/8 in. 36 pp. Ill. Also, "Vaporproof Industrial Fixtures." Bulletin 2129. V series with reflector. Crouse-Hinds Company, Syracuse, N. Y. 8 3/8 x 10 1/2 in. 8 pp. Ill.

### PLASTER

"Architectural and Decorative Ornaments." Complete collection of plates illustrating plaster decoration. Distinguished ceiling treatments; Adam ceilings, sixteenth and seventeenth century, geometric. Cornices and ceiling ornaments. Mouldings; rope mouldings and beads, Dado and Frieze mouldings. Friezes; Italian, Georgian, Gothic, Adam. Pilaster caps; Italian, Colonial, Greek, etc. Column caps and columns. Various styles of brackets. Corbels, grotesques and masks. Figure panels. Detail drawings. Jacobson & Co., 241 East 44th Street, New York City. 9 3/8 x 12 1/4 in. 254 pp.

(Continued on page 176)

# The Invisible Superintendent at the Mortar Box Assures

## Plastic Mortar

UNLESS the architect specifies a plastic mortar, the contractor is unable to do quick, neat, economical brickwork.

One part BRIXMENT, three parts sand—no lime, no portland—make a mortar as strong as the brick itself and *unusually* easy to spread. Moreover, when the bricklayer throws up a head-joint, the mortar sticks to the brick so that he rarely has to stoop to the board for more mortar. This unusual plasticity is due to three things: The high magnesia content of the rock from which BRIXMENT is made; the extreme fineness to which it is ground; a small amount of mineral oil added during manufacture. BRIXMENT contains no lime and none is used in the mix. Louisville Cement Company, Incorporated, Louisville, Kentucky.

District Sales Offices: 1610 Builders Bldg., Chicago; 301 Rose Bldg., Cleveland; 602 Murphy Bldg., Detroit; 101 Park Ave., New York

# BRIXMENT

for Mortar and Stucco

The plasticity of BRIXMENT is especially valuable in laying up soldier courses and arches and in setting tile and blocks, because of the long cross-joint used in such work.





Standard Building & Loan Company, Mt. Pleasant, Cincinnati, Ohio  
Wilbur N. Firth, Architect

Exterior walls are exclusively Briar Hill Stone. The beautiful, warm natural colors of this stone radiate an atmosphere of friendliness and good-will that is indispensable to banking institutions.

## *This IS THE AGE OF COLOR* - use Stone for Permanency and Economy

In passing, each generation leaves behind it eloquent evidence of its craftsmanship in enduring stone.

This Age of Color shall soon pass into the keeping of posterity. Unborn hosts shall in turn direct their eyes backward through the mists of time to read the story of today, as told in the surviving stone architecture. It is then that the natural color of Briar Hill Stone shall record present world history, for the radiant Golden Tones of color, which characterize this stone, are as abiding as nature itself.

Briar Hill Ashlar is now economically available everywhere. It is practical for moderate cost buildings, as well as for mammoth structures. Modern quarrying and production methods now enable us to supply this exquisite Golden Tone Ashlar—split-faced, sand or shot-sawed face—in convenient random lengths at a remarkably low cost.

Send us your blue-prints for estimates, which will be furnished without obligation to you. With them, we will send a reproduction of Golden Tone Ashlar showing its beautiful natural colors. Ask for Bulletin BHA-1.

### The BRIAR HILL STONE COMPANY GLENMONT, OHIO

SEE OUR CATALOG IN SWEET'S



#### RECENT TRADE PUBLICATIONS—(Continued)

##### GAS HEAT, APPLIANCES, ETC.

A. I. A. File Nos. 29-F-4, 29-D-2, 29-F, 35-D-31, 35-J-41. Research Bulletin No. 4 of The Producers' Council. House heating by gas. Detail drawings. Gas fired steam radiators. Data for estimating hot water requirements. Gas piping and flues. Chimney sizes. Data on clothes dryers. Data on incinerators. A. I. A. File Nos. 29-F-4, 32-C-3, 32-C-31, 29-F-3, 29-F. Research Bulletin No. 5. Gas heaters. Gas refrigerators. Data on domestic gas ranges. Igniter for wood burning fireplaces. Detail drawings. Testing services. American Gas Association, 420 Lexington Avenue, New York City. 8½ x 11 in.

##### HEAT INSULATION VALUE OF ROOFS

"Heat Insulation Value of Gypsteel." By Prof. Charles L. Norton of Massachusetts Institute of Technology. Materials examined. Results. Tables. Condensation chart. Structural Gypsum Corporation, Linden, N. J. 8½ x 11 in. 5 pp.

##### INSULATION

Catalog No. A26. Complete treatise on insulation products for all hot and cold surfaces including equipment carrying high temperature prevalent. Reason for heat insulation and why Ehret's Magnesia coverings should be used. Flow chart illustrating manufacture. Different types of insulation. Full description and particulars. Charts, tables of weights, price lists. Data and general specifications. List of users. Ehret Magnesia Manufacturing Co., Valley Forge, Pa. 8¼ x 10½ in. 80 pp. Ill.

##### PARTITIONS, STEEL

"Dahlstrom Standard Steel Partitions." A. I. A. File No. 28a3. Advantages including flexibility, adaptability, inter-building transportation, maintenance and upkeep. Structural features. Wiring facilities. Rigidity, durability and fire retardant. Installations. Detail drawings. Dahlstrom Metallic Door Company, Jamestown, N. Y. 8½ x 11 in. 24 pp. Ill.

##### LIBRARY EQUIPMENT

"Globe-Wernicke Library Equipment." A. I. A. 35 B. Catalogue No. L. E. 28. Typical installations. Floor plans. Equipment description, size, etc. Specifications. The Globe-Wernicke Co., Cincinnati, Ohio. 9½ x 11½ in. Ill.

##### FLOOR AND ROOF CONSTRUCTION

"The Improved, Fire-safe Floor and Roof Construction." A. I. A. File No. 13. Kalmantruss rigid bridging. Kalmanlath. Joists. Accessories. Advantages of improved bridging. Specification. Kalman Steel Co., Chicago, Ill. 8½ x 11 in. 7 pp. Ill.

##### CAMES, LEAD

"Old Style & Steelheart Lead Cames." A. I. A. File No. 26a71. Various types. Advantages. Face widths. National Lead Company, 111 Broadway, New York City. 8½ x 11 in. Ill.

##### STORE FRONTS, BRONZE

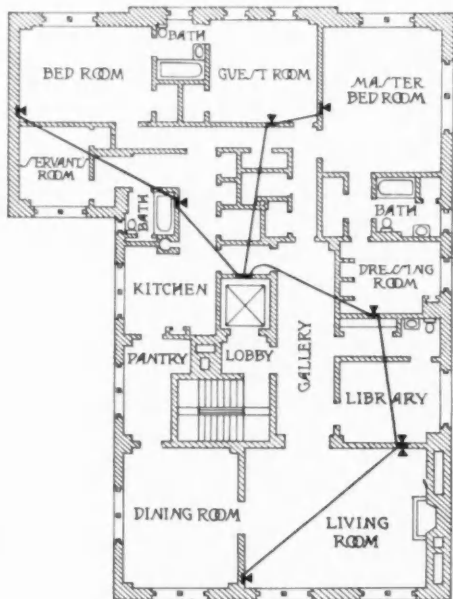
"Newmanco Bronze Store Fronts." A. I. A. File No. 26 B1. Outstanding features. Reasons for specification of Newmanco. 10 sheets of full size details. The Newman Manufacturing Co., Cleveay & N. & W. Tracks, Cincinnati, Ohio. 9½ x 12 in.

(Continued on page 178)



★ ★

# Complete Telephone Convenience . . . for Every type of Building



■ Terminal Cabinet   ■ Telephone Outlet   — Conduit

*Telephones wherever they are needed . . . planned in advance . . . for efficiency, better appearance, and flexibility of service*

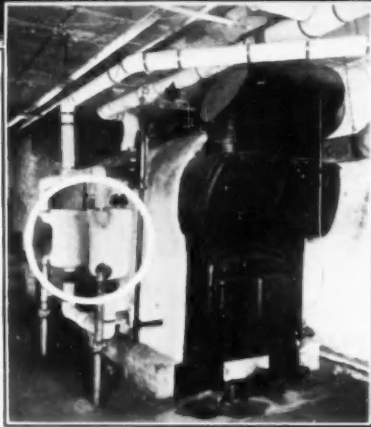
PLANNING in advance for telephone convenience is important for every type of building . . . apartments, residences, factories, office structures.

For complete telephone convenience, telephone outlets should be sufficient in number, and so located as to bring the greatest comfort and ease in the use of the service.

Architects, especially, recognize the improvements that come from planning for telephone arrangements *in advance*. Better appearance. Protection for wires and apparatus. Service more easily matched to the immediate and ultimate requirements of users.

The Bell System is distributing two booklets containing general information and technical data, to guide architects and others in planning for those telephone arrangements which will give greatest convenience and satisfaction. In addition, your local Bell company is always glad to help you "custom fit" telephone facilities to individual building projects. If you have not received these booklets, or wish further information of any kind, telephone the nearest Business Office today.





Summer and winter, two No. 36 Excelso Water Heaters supply 61 families at 600 E. 21st St., Brooklyn, N. Y.

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*Absolutely pure stainless water guaranteed by circulation entirely thru copper coil (removable) with patented ground joint brass connections, exclusive with Excelso.*

[ A.I.A. File No. 29-d—write for catalog picturing fourteen typical and tested installations. ]

## Excelso Products Corporation

DIVISION OF AMERICAN RADIATOR COMPANY

67 Clyde Ave. Buffalo, N. Y.

*Sold and Installed by Plumbing and Heating Contractors Everywhere*

# EXCELSON WATER HEATERS

SIZES FOR ONE FAMILY OR ONE HUNDRED FAMILIES

## RECENT TRADE PUBLICATIONS—(Continued)

### REFRIGERATION

Catalog No. 201. Brunswick Refrigeration ammonia system. Direct expansion and brine circulating method. Automatic control. Refrigerating capacity. General construction and full information and particulars of the Brunswick Compressor. Brunswick-Kroeschell Co., New Brunswick, N. J. 8½ x 11 in. 24 pp. Ill.

### VENTILATING AND COOLING SYSTEMS

Theatre Catalog No. 27. Arctic Nu-Air ventilating and cooling systems. Details of construction and operation. Installation charts and requirements. Particulars of sizes, capacities, weights, etc. Details of various types of installation. Typical installations and commendatory letters. Arctic Nu-Air Corporation, 512-514 South Fourth St., Minneapolis, Minn. 8½ x 11¼ in. 24 pp. Ill.

### BATHROOM ACCESSORIES

Catalog No. 11. Bathroom color suggestions using colored bathroom fixtures. The "Parfait" design with Roman Gold finish. Concealed plate method of fastening accessories. Installation of fixtures. Constructional features, roughing in and methods of installation of electrically welded steel medicine cabinets. Types of mirrors, lighting fixtures, medicine cabinets, shelves, etc. Prices, sizes, standard heights, cabinets, and bathroom accessories. Typical installations. Hoegger, Inc., 347 Palisade Ave., Jersey City, N. J. 8½ x 11 in. 56 pp. Ill.

### HEATERS, GAS

"Gas Heaters." Reznor Orthoray Burner. Various types. Construction features and design. Fireplace liner, wall heater, etc. Table of gas consumption. Reznor Manufacturing Company, Mercer, Pa. 9¾ x 4¾ in. 31 pp. Ill.

### RADIATORS

"The New '144'." Full surface radiation. Advantages. Radiating surface tables. Princess wall radiators. The H. B. Smith Co., Westfield, Mass. 4½ x 7½ in. 23 pp. Ill.

### WINDOWS

Advantages of the "Ideal" steel basement windows. Particulars of construction, stock sizes, etc. Western Architectural Iron Co., 233 West Schiller Street, Chicago, Ill. 8½ x 11 in. 4 pp. folder. Ill.

### METAL LATH, TRIM, ETC.

"Truscon Metal Lath Data Book." A. I. A. File No. 20. Bulletin No. 415. Advantages of metal lath. Accessories. Properties and construction. Tables. Metal trim and plastering accessories. Advantages and construction. Specifications for metal lath construction. Detail drawings. Truscon Steel Company, Youngstown, Ohio. 4½ x 7¼ in. 92 pp. Ill.

### EQUIPMENT, ELECTRICAL

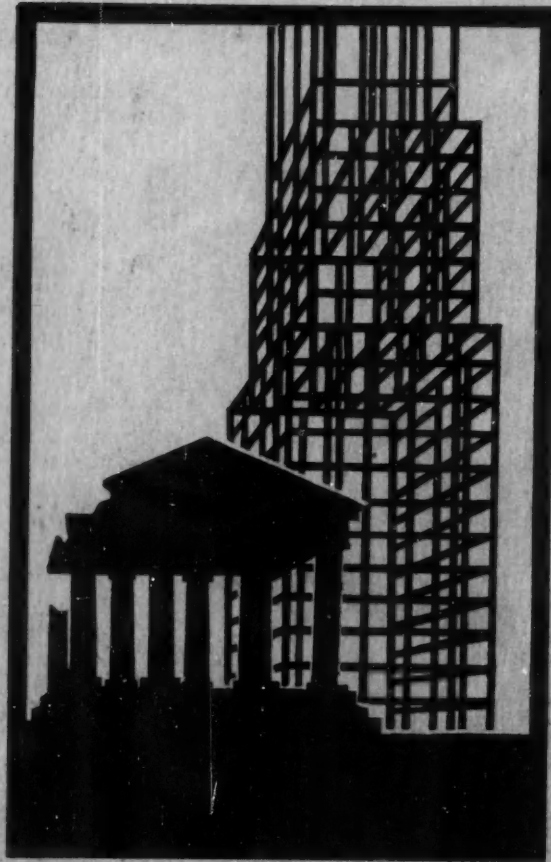
"Building in the Electrical Age." Modern type. Innovations. Electrical time saving devices. Elevators, switchboards, ventilators, kitchen equipment, etc. Theatrical lighting. Electric apparatus in the hospital. Special church lighting. Electrically driven presses, conveyors, and illumination for modern press room. Actual installations. Westinghouse Electric and Manufacturing Company, East Pittsburgh, Pa. 8½ x 10½ in. 36 pp. Ill.

Architectural  
Library

7

JUN 17 1929

# THE ARCHITECTURAL RECORD



JUNE  
1929

BERN  
HARD

*Introducing a*  
***New* TYPE**  
**OFFICE BUILDING WINDOW**

*The Lower Sash Is the Means of Control and Operation*

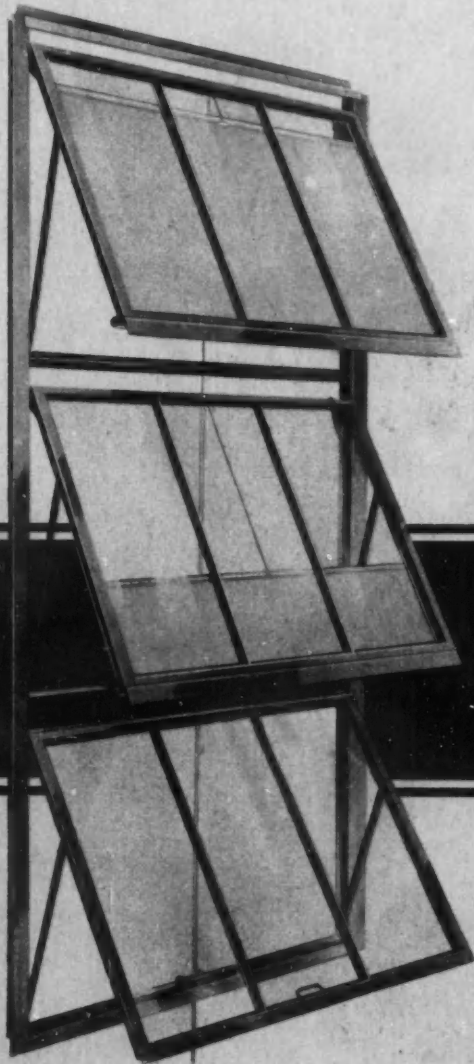
The new Truscon Donovan Awning Type Steel Window is the most advanced method of daylighting offices, schools, hospitals and institutional buildings. Diffused lighting without sun glare and ample fresh air without draughts are provided.

These windows operate easily; the lower sash controls movement of the upper ones—no window poles required. Shades attached to the sash act as awnings for the window.

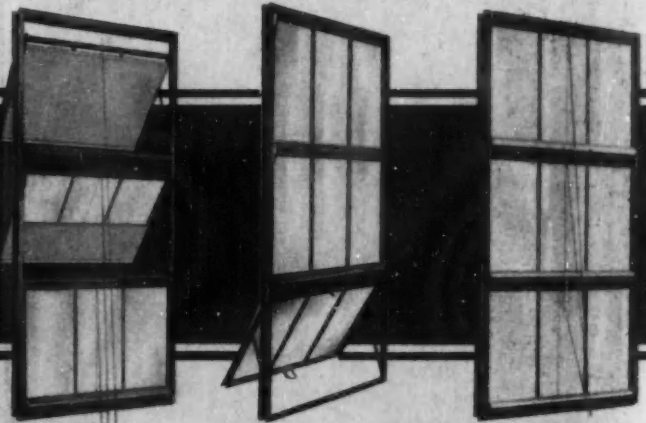
Truscon Donovan Windows are of high quality construction throughout and are furnished in various standard sizes in units two or three sash high. Owing to efficient manufacture, they are offered at a price which makes them practical for all buildings.

*Complete information, literature and quotations will be furnished on request.*

**TRUSCON STEEL COMPANY, YOUNGSTOWN, OHIO**  
**STEEL WINDOW DIVISION**  
 Trussed Concrete Steel Company of Canada, Limited, Walkerville, Ont.  
 Offices in Principal Cities of the United States and the Dominion of Canada



All three sash open. Note individual shades on each sash acting as awnings when fully drawn.



Upper two sash open—bottom sash closed.

Bottom sash open—upper sash closed.

All three sash closed and weathertight.

**MODEL 29**  
**TRUSCON**  
**DONOVAN AWNING TYPE**  
**STEEL WINDOWS**

# What Bankers think of Indiana Limestone

*as evidenced  
by recent bank  
buildings*

## A Few Recent Bank Buildings of Indiana Limestone

### CHICAGO

THE FOREMAN NATIONAL BANK      HYDE PARK-KENWOOD NATIONAL BANK

### NEW YORK

CENTRAL SAVINGS BANK      HARRIMAN BUILDING  
EQUITABLE TRUST COMPANY      BANK OF AMERICA  
COMMERCIAL EXCHANGE      BROWN BROS. & Co.  
CHASE NATIONAL BANK      NATIONAL CITY BANK,  
NATIONAL CITY COMPANY      Broadway and Canal Street  
BUILDING, 52 Wall Street      Branch

### PHILADELPHIA

FIDELITY-PHILADELPHIA TRUST Co. BLDG.

### PROVIDENCE, R. I.

INDUSTRIAL TRUST Co. BLDG.

*Faced entirely with Gray Indiana Limestone. Certain interiors  
of this building are also of Indiana Limestone*

**I**N the banking world, as in the business world in general, there is now a keen appreciation of the sound investment merit and profit advantages that accrue when this beautiful, light-colored natural stone is used. Indiana Limestone buildings rent easily to desirable tenants; their exterior upkeep cost is the lowest of any. From the investment standpoint they rank high.

Do as other leading architects are doing: advise your clients to put their money into construction that will be more profitable because lastingly beautiful—Indiana Limestone.

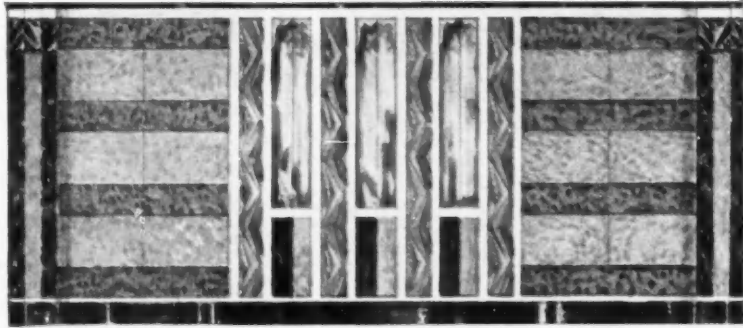


Industrial Trust Co. Bldg., Providence, R. I.  
Walker & Gillette, Architects      Starrett Brothers, Inc., Builders

## INDIANA LIMESTONE COMPANY

General Offices: Bedford, Indiana

Executive Offices: Tribune Tower, Chicago



Vitrolite is widely used for effective restaurant interiors. Wall treatment above is from the Forum Cafeteria at St. Louis; the third of the Forum units to adopt Vitrolite.

## Chosen for Changeless Beauty



Vitrolite, with its texture effects, color range, shape variations and decorative patterns, is an important resource to the architect and designer. It is a scientific product—modern in every sense—made in fire-polished slabs of various sizes and thicknesses. Tight joints give an all-over wall surface absolutely impervious to moisture or odors—that requires no care beyond wiping with a damp cloth.

Vitrolite is the modern material for bathroom and kitchen walls, for toilet partitions and wainscoting, for corridors, for hospital

operating rooms, for soda fountains, for barber shop and restaurant walls, for table and furniture tops and a host of other applications.

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The Vitrolite Service Department is at your disposal for making suggestions, color sketches, etc. Write for complete information.

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An example of the way American Walnut gives distinction to a store interior. The Alfred Dunhill Pipe Shop, New York. Alfred Schoen, Architect.

**For the Elegance that means Quality to Customers**  
**AMERICAN WALNUT**

Two obligations fall upon the designer of store interiors: first, he must attain a distinctiveness of appearance that invites the confidence of customers; and second, a durability of finish that assures continued beauty without continued expense.

American Walnut meets the demand for both. Its association with elegance is deep-seated in the minds of most Americans. Its pleasing diversity of figure affords endless opportunity for the development of interesting wall patterns. Its color is an ideal blend of warmth and dignity, rich yet

not obtrusive. And its physical characteristics have proved, through generations of hard use, its resistance to the ravages of wear.

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Our own booklet on "American Walnut for Panels and Interior Trim" contains many valuable suggestions. A copy is yours for the asking.

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## STRUCTURAL STEEL CREATED THE SKYSCRAPER

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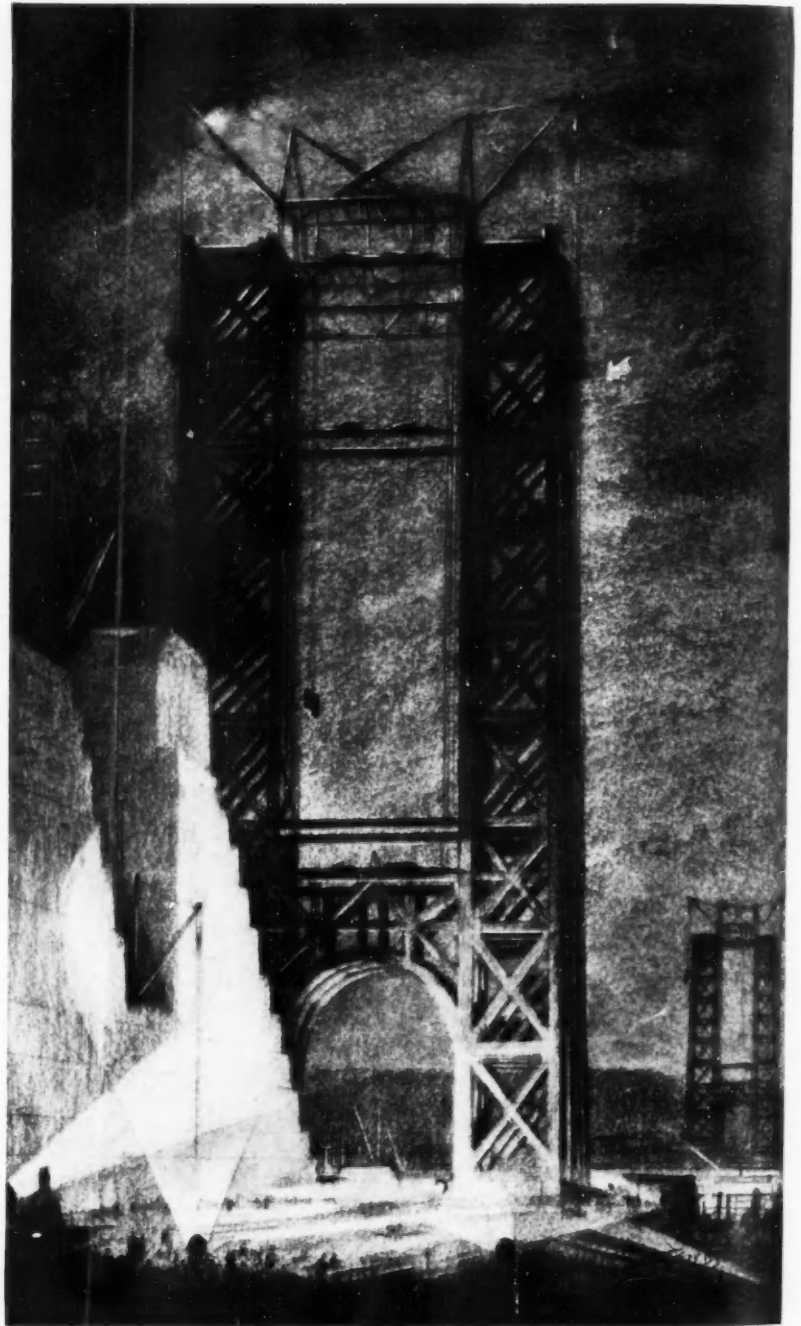
### TO LEAP A FLOOD AND TIE THE SHORES

HIGHWAYS of metal . . . bridges of steel—more immense . . . more defiant of the impossible do they become every year. Steel has strength, safety, security . . . and time cannot destroy them. Steel lends courage to design, inspiration to imagination.

A steel bridge not only offers greater artistic possibilities but provides the kind of structure that can always be kept secure . . . modernized, reinforced, altered—even removed with speed and economy.

Steel has such ready adaptability, such preparedness for its duty, that a steel bridge can be erected faster, with less handling of material, with less regard for weather than is required when any other material is used. Steel's quick suitability, its efficient fitness, recommend it for economy. Its versatility makes steel the first consideration where beauty is a factor.

A Technical Service Bureau is at the disposal of architects, engineers, owners and others who have need of any information which can be supplied through the American Institute of Steel Construction, Inc.



*A reproduction of this rendering by Hugh Ferriss, suitable for framing, will be mailed free of cost to any architect*

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## AMERICAN INSTITUTE OF STEEL CONSTRUCTION, INC.

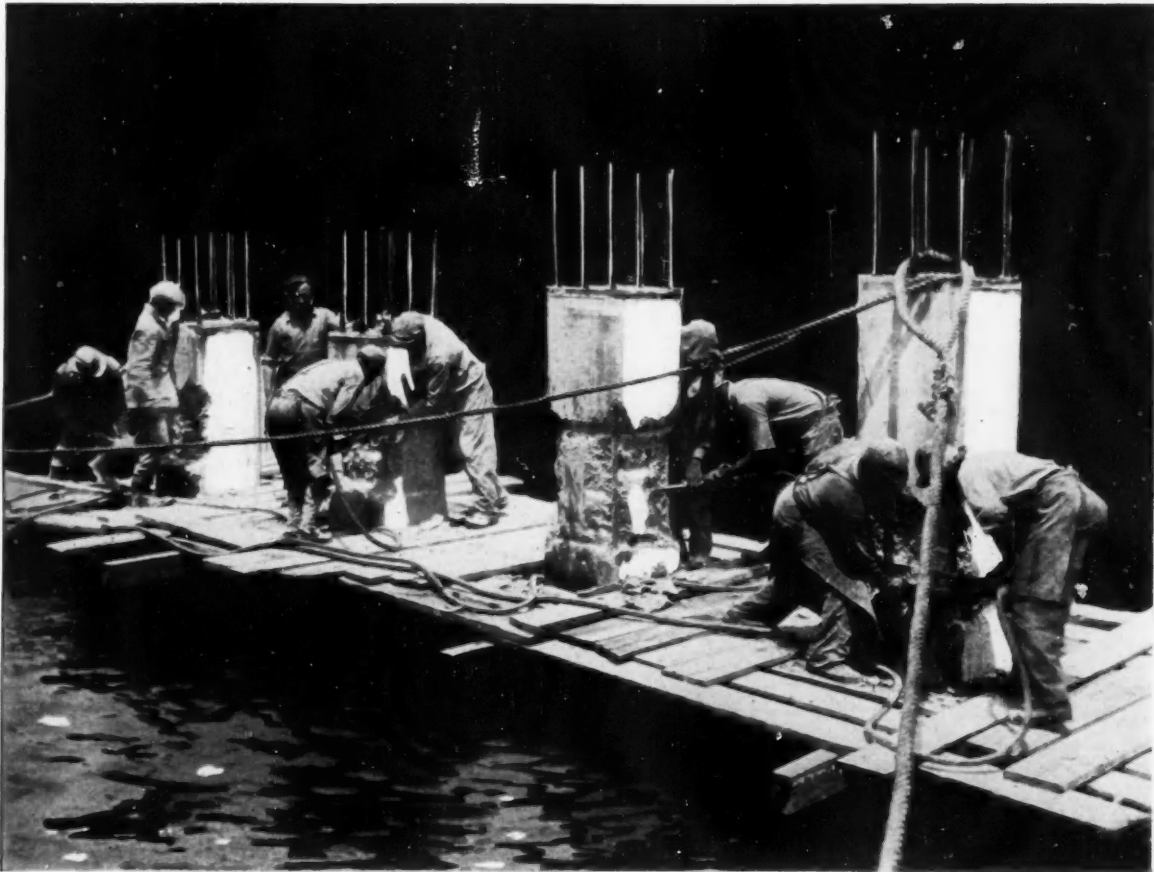
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The co-operative non-profit service organization of the structural steel industry of the United States and Canada. Correspondence is invited. 200 Madison Avenue, New York City. District offices in New York, Worcester, Philadelphia, Birmingham, Cleveland, Chicago, Milwaukee, St. Louis, Topeka, Dallas and San Francisco. The Institute publishes twelve booklets,

**STEEL**  
**INSURES STRENGTH**  
**AND SECURITY**

one on practically every type of steel structure, and provides also in one volume, "The Standard Specification for Structural Steel for Buildings," "The Standard Specification for Fire-proofing Structural Steel Buildings," and "The Code of Standard Practice." Any or all of these may be had without charge, simply by addressing the Institute at any of its offices.





Cutting off precast concrete piles at the James River Bridge—  
Newport News, Va.

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SPECIAL  
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**Big Work in a Big Way**  
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CAST IN PLACE PILES  
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**THE MERCHANDISE**

# Concrete Rib Floor



*Note the clean-cut, good-looking joints when Meyer Steelforms are used. Meyer Steelforms are installed and removed by a trained organization. A nominal rental charge based on continued re-use of the sturdy steel forms covers installation and removal.*



## Colossus of Market

Already Chicago's river front presents a spectacle that is typical of this city's giant advance in commerce and industry. And now comes the "colossus of market places"—the Merchandise Mart—shortly to dominate its skyline.

When completed, the Merchandise Mart will be the largest building in the world. Significant, therefore, is the fact that the floors in this huge

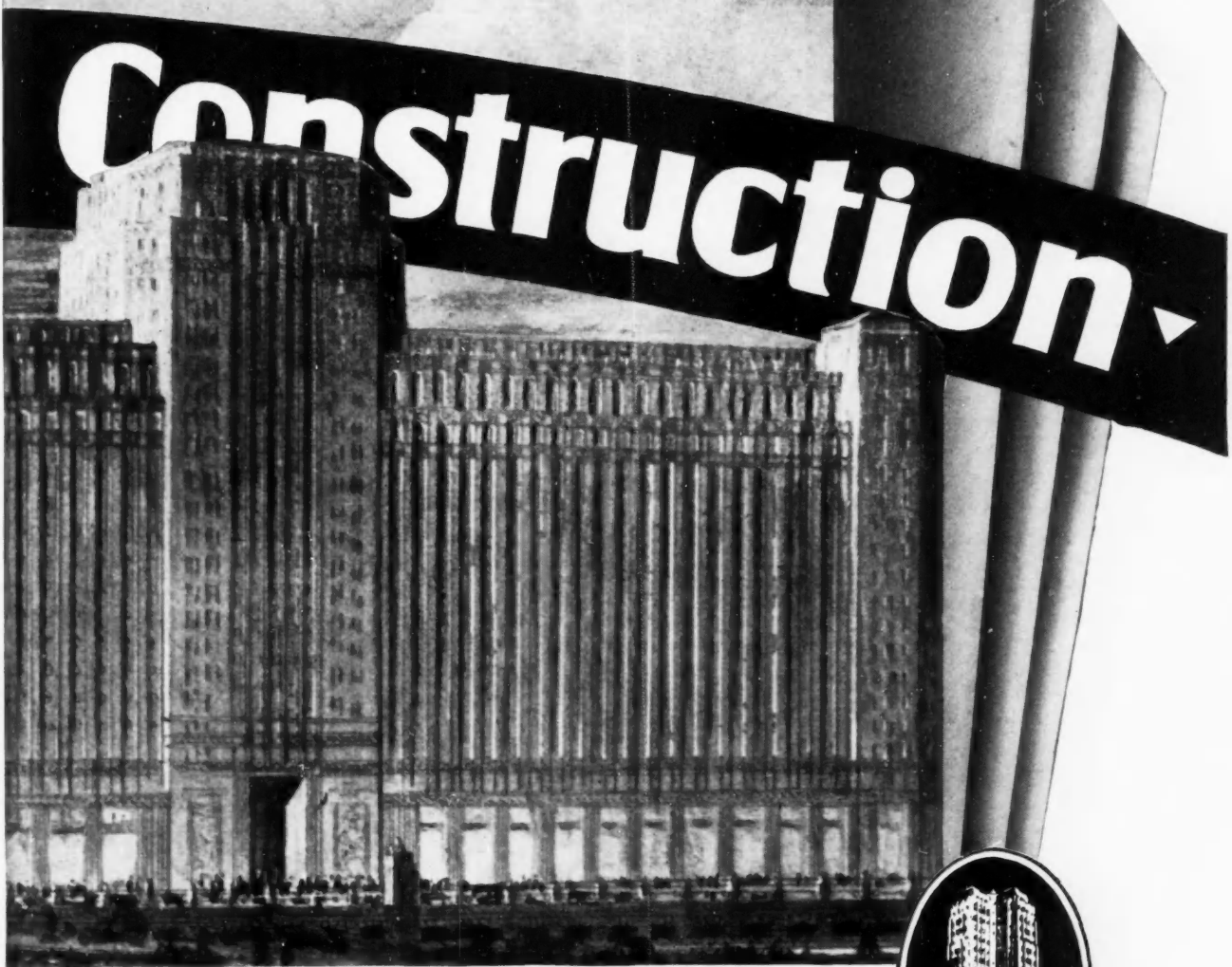
structure are of concrete rib floor construction. *And that approximately 50 acres of floor area having open and suspended ceilings will be constructed with Meyer Steelforms!*

Here is tribute indeed to the economy and dependability of Meyer Steelforms and service. Meyer Steelforms are installed by an organization especially trained to render the greatest possible co-operation to archi-

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## Steelforms

THE STANDARD

FOR CONCRETE RIB FLOOR CONSTRUCTION

The Architectural Record, June, 1929

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**M**ORE Tidewater Red Cypress is being used today than ever before in the 300-year history of this durable lumber.

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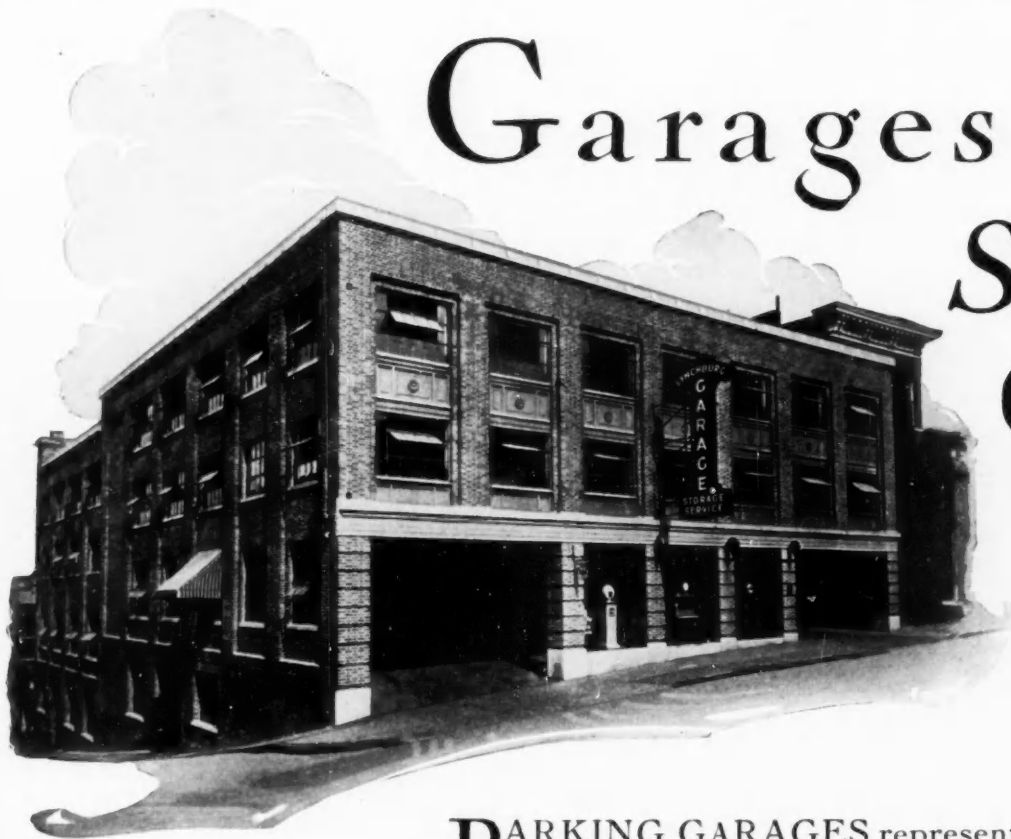
Technical data will be supplied gladly by the Southern Cypress Manufacturers' Association, Jacksonville, Florida.

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**TIDEWATER RED CYPRESS**

*"The Wood Eternal"*

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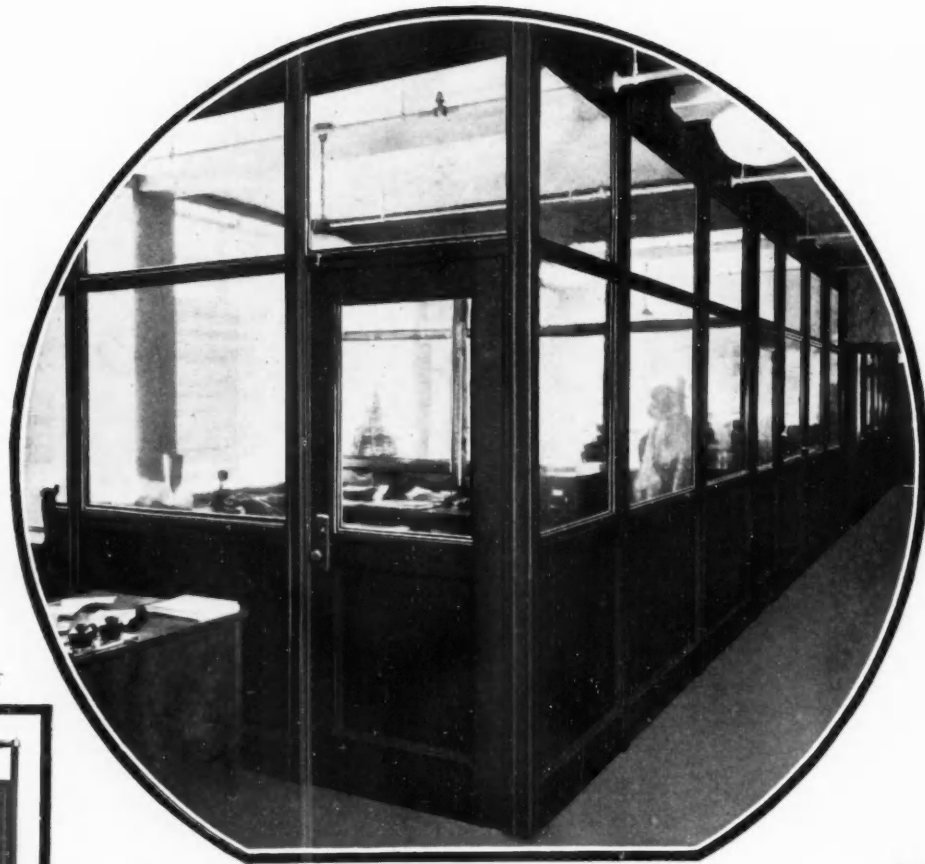
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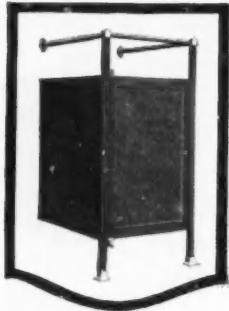
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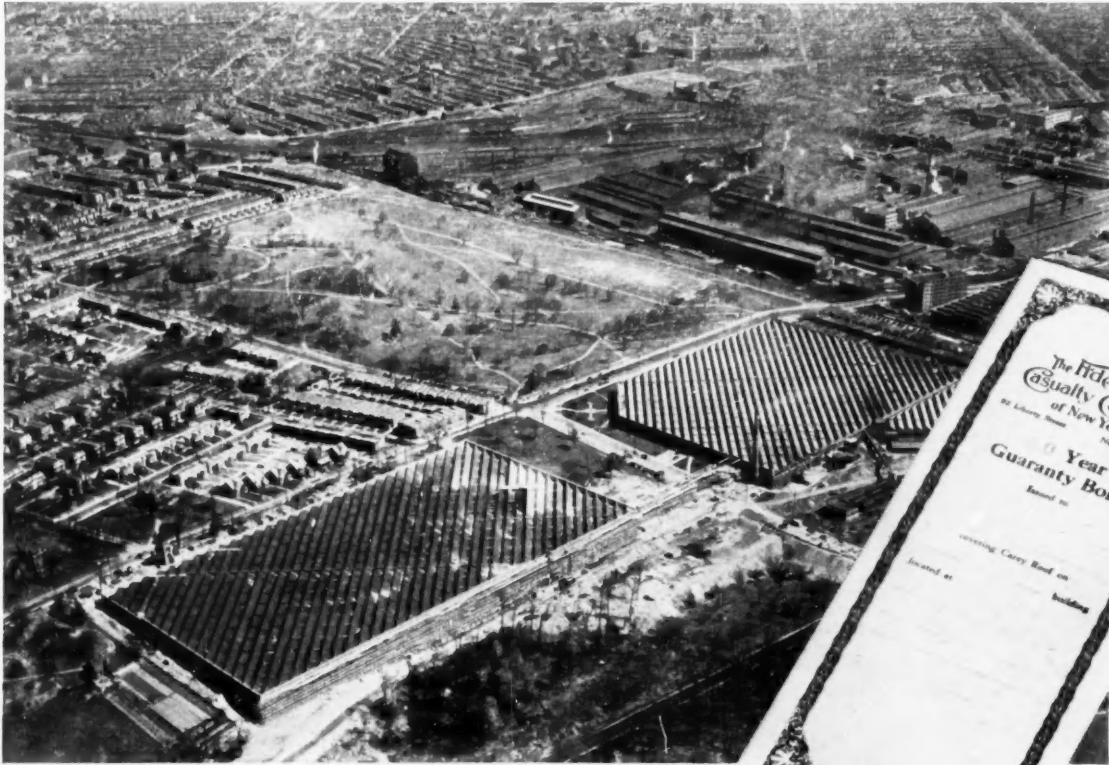
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in principal cities

*Sanymetal*  
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OFFICE & TOILET  
PARTITIONS





The new building (in foreground) of the Atwater-Kent Company, at Philadelphia, has a "Gold Bonded" Carey Built-up White Top Roof—selected largely because of the complete satisfaction given by the Carey roof on the original Atwater-Kent factory.

The Ballinger Company, Architects, Philadelphia, Pa.  
The William Steele & Sons Company, Contractors, Philadelphia, Pa.

# Announcing Carey GOLD BONDED Roofs

**A**RCHITECTS know that every Carey Built-up Roof has in it those plus qualities of good workmanship and good materials that bring many extra years of repair-free protection.

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**UNIVERSITY of CHICAGO CHAPEL**

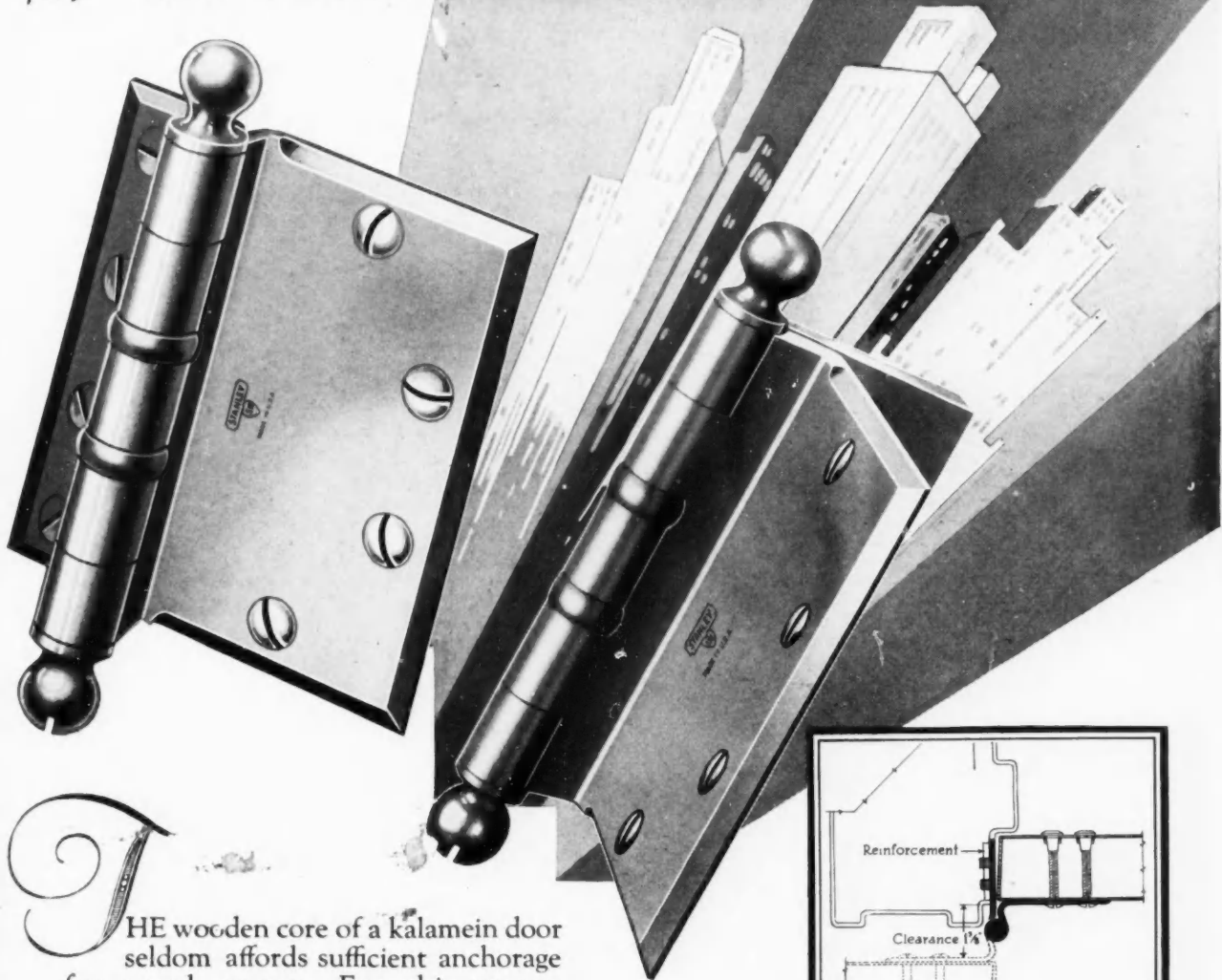
Showing Organ Screen and Choir Stalls from the Workrooms of the AMERICAN SEATING COMPANY

*Bertram Grosvenor Goodhue and Bertram Grosvenor Goodhue Associates, Architects*





# For KALAMEIN DOORS



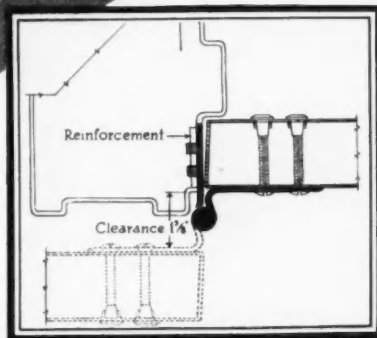
**T**HE wooden core of a kalamein door seldom affords sufficient anchorage for wood screws. For this reason either Half Surface or Full Surface Ball Bearing Butts should always be used.

Butts should be applied with through bolts and grommet nuts which draw the metal tightly over the wooden core and prevent buckling of the metal.

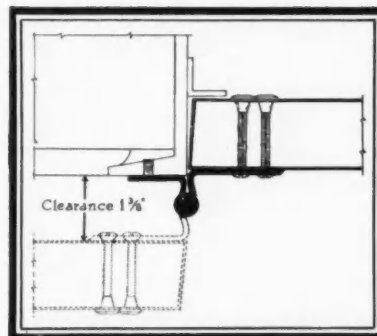
For Kalamein Doors with Pressed Steel Jambs, use Stanley **Half Surface** Template Ball Bearing Butts.

For Kalamein Doors with Channel Iron Jambs, use Stanley **Full Surface** Template Ball Bearing Butts.

THE STANLEY WORKS  
New Britain, Conn.

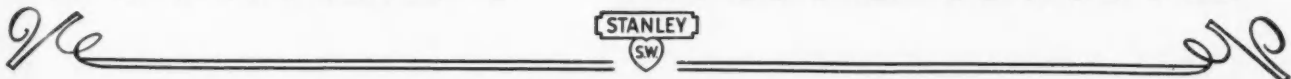


Half Surface Application



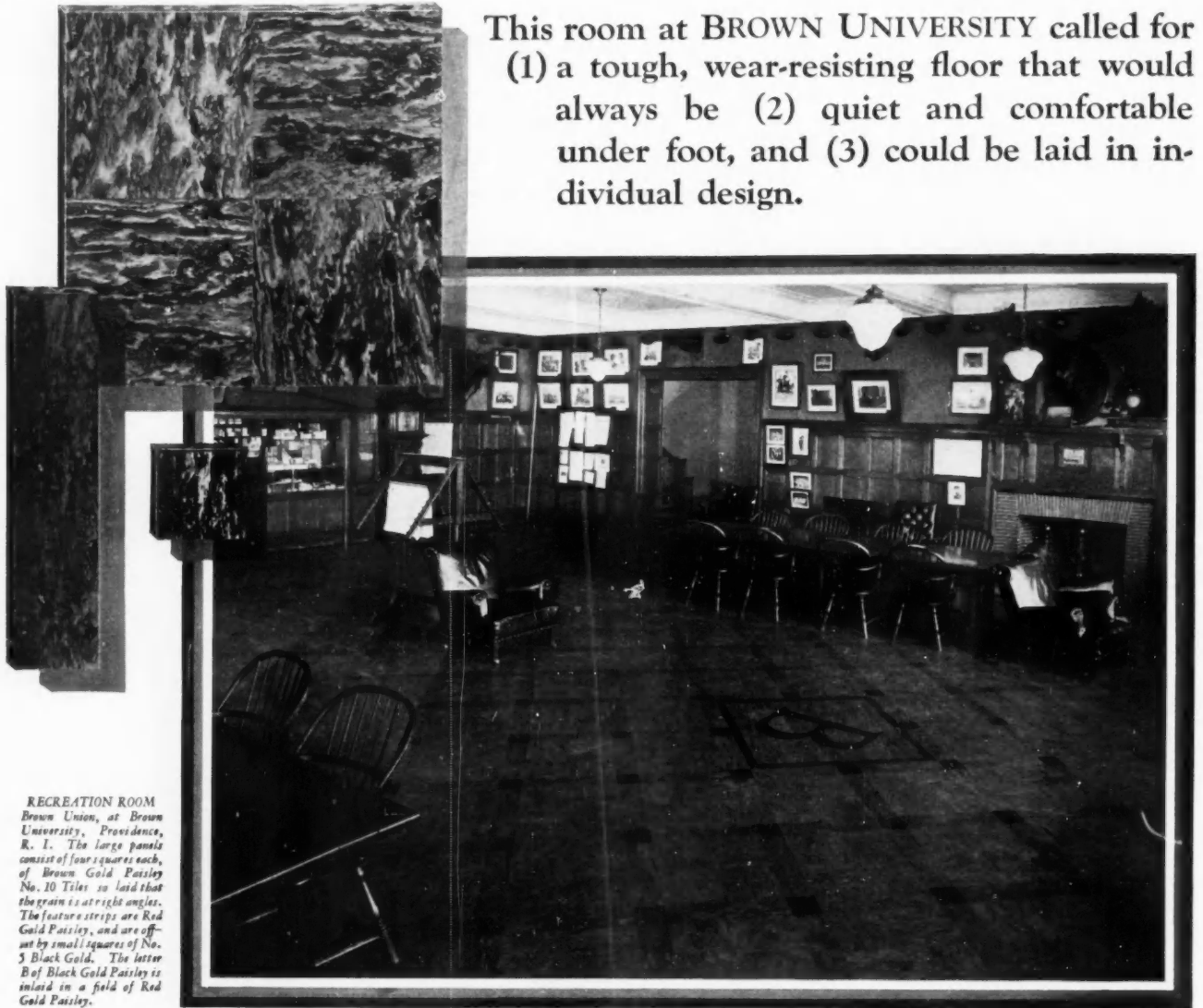
Full Surface Application

## STANLEY HARDWARE



for the FLOOR — what are the Service Requirements?

This room at BROWN UNIVERSITY called for (1) a tough, wear-resisting floor that would always be (2) quiet and comfortable under foot, and (3) could be laid in individual design.



RECREATION ROOM  
Brown Union, at Brown University, Providence, R. I. The large panels consist of four squares each, of Brown Gold Paisley No. 10 Tiles so laid that the grain is at right angles. The feature strips are Red Gold Paisley, and are offset by small squares of No. 5 Black Gold. The letter B of Black Gold Paisley is inlaid in a field of Red Gold Paisley.

## Stedman Fibre Reinforced Rubber Tile

You can plan your floors to make full use of the architectural motif, with absolute assurance that you are also providing for every service need—when you work with Stedman Fibre Reinforced Rubber Tile.

Its durability, lasting resilience, and characteristic beauty are *all matters of structure*. The material is rubber, but scientifically compounded (reinforced) with cotton fibre. Do not confuse this with *fabric*: the *fibre* is introduced as millions of minute filaments, each practically invisible. They permeate and bind the compound, prevent spreading,

and give it toughness and density without impairing its definite resilience. Its surface is smooth and impervious; its color and grain are permanent, and of unusual beauty.

Plan with Stedman. We design, plan, manufacture and lay our floors, relieving you of all detail. Let us send you our new catalog in color.

STEDMAN PRODUCTS COMPANY  
SOUTH BRAINTREE, MASSACHUSETTS

**STEDMAN RUBBER TILE**

Invisible Fibre Reinforcement gives lasting Wear  
and **Beauty**

# Masterbuilt Floors

HARDENED DUST-PROOF CONCRETE

# Plus OMICRON

CONCRETE FLOORS are subjected to two kinds of wear—abrasion and disintegration. Abrasive wear is best minimized by Master Builders Metallic Hardner. Disintegration, however, is caused by solutions deposited upon concrete surfaces by precipitation and traffic. The attack of these mild chemical solutions, so insidious and commonplace as to pass unnoticed, is none the less real. Through their action the concrete is gradually weakened and prepared for disintegration. In the case of floors, abrasion caused by the wear and tear of traffic produces the final and visible step in the breaking down of this weakened mass. ¶ Nine years ago the chemists and engineers of the Master Builders Research Staff set themselves the task of finding the “something hidden” which would check this disintegration. Month after month, year after year, they labored with test tube and test blocks seeking for a something which, perhaps, did not exist. At times they felt that success was very close at hand, only to come against dead ends and blank walls which meant that months of wearying effort had proved futile. ¶ Then came a new clue. ¶ A new avenue of possibility was explored. A new ingredient was evolved, it was tried, and—the long sought results were achieved. This new ingredient, this discovery of Master Builders Research Laboratory was christened Omicron. ~ ~ ~ ~ ~

## THE EXPLORER

*"Something hidden.  
Go and find it.  
Go and look behind  
the Ranges.  
Something lost behind  
the Ranges.  
Lost and waiting  
for you. Go!"*

RUDYARD KIPLING



# Masterbuilt Floors

HARDENED DUST-PROOF CONCRETE

## METALICRON FLOORS

### CHECK DISINTEGRATION *-as well as Abrasive Wear*

COMBINED with Master Builders concrete hardeners, Omicron fostered a new family of products—the first of which is Metalicron. [★]

Metalicron [Master Builders Metallic Hardner Plus Omicron] comes forward out of a background of nearly twenty years of successful service. During this period Master Builders Metallic Hardner has given building owners protection against abrasive wear. Scores of early installations have stood the test of wear under severe traffic conditions for

almost two decades. Today, with the addition of Omicron as a new ingredient, Metalicron is destined to provide an even greater degree of permanence in industrial floors.



*The floors in many plants and warehouses are continually covered with substances that cause and accelerate disintegration of the concrete. The condition pictured here is commonly observed.*

#### *Corrosion Ever Present Checked by Omicron*

The effect upon concrete of the salt thrown upon icy sidewalks is well known; the short life of concrete drain tile in alkali soils needs no mention; the effect of sea water and the pitting of concrete near equipment containing even mildly corrosive liquids are equally obvious. These injurious factors are not restricted to special isolated conditions but, in one form or another, are present and active on practically all concrete surfaces, attacking the soluble particles that remain in the set concrete.

\* [Other members of the family are Colormix, which produces colored, wearproof concrete, and Master Mix, the integral hardner so widely used in commercial building construction.]

# METAL

# Masterbuilt Floors

HARDENED DUST-PROOF CONCRETE

Omicron, now a constituent of the new Metallic Hardner, Metalicron, checks such disintegration by reducing the ratio of these soluble particles, converting them from liabilities to strength-giving factors in the structure. Mild acids and alkalis, which from one source or another come in contact with most floors, particularly in industry, now find this point of attack fortified.

So, not only is abrasive wear checked, but disintegration, that insidious and ever present enemy of concrete floors, is given no chance to weaken the structure and make it more susceptible to abrasive wear.



*Abrasive wear from heavy equipment or loaded trucks is at best a severe test. Failure starts at spots where oil drippings have been absorbed and the concrete weakened by the consequent disintegration.*

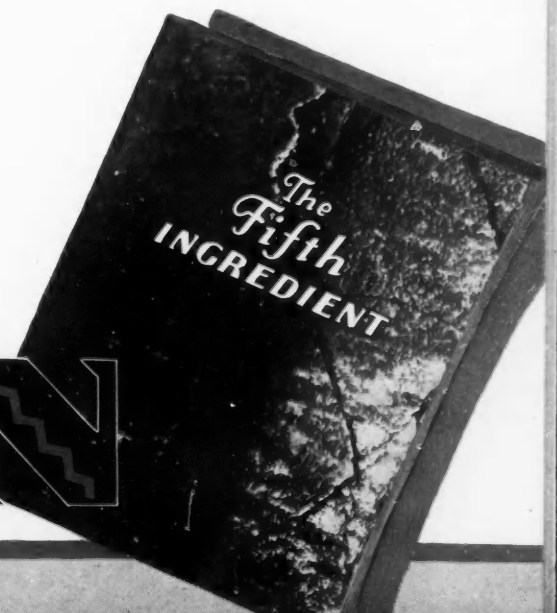
## *And in addition—Greater Strength*

Combining the proved capacity of Master Builders Metallic Hardner to resist abrasive wear, with the proved capacity of Omicron to check corrosive disintegration, Metalicron also greatly increases the tensile and compressive strength of the concrete.

Exhaustive tests of compressive strength of Metalicron concrete compared with ordinary concrete show an increase of over 31%. Tensile tests indicate an increase of over 42%. Metalicron concrete, after 21 days in a mild sulphuric acid solution, showed a tensile strength of 780 pounds per square inch, ordinary concrete but 400 pounds. After 21 days in sulphate solutions, the tensile strength of Metalicron concrete tested 990 pounds, ordinary concrete 350 pounds. These are the facts — indisputable evidence of new high levels in concrete floor construction, far-reaching in importance to architects, engineers and building owners.

Thus Omicron has, practically overnight, antiquated all outstanding specifications for hardened concrete. It has brought new high standards of serviceability and permanence to industrial floors.

*The whole story of protection from abrasive wear and from the disintegration to which all concrete is subjected, is told in a 28 page book: "The Fifth Ingredient." Send for a copy.*



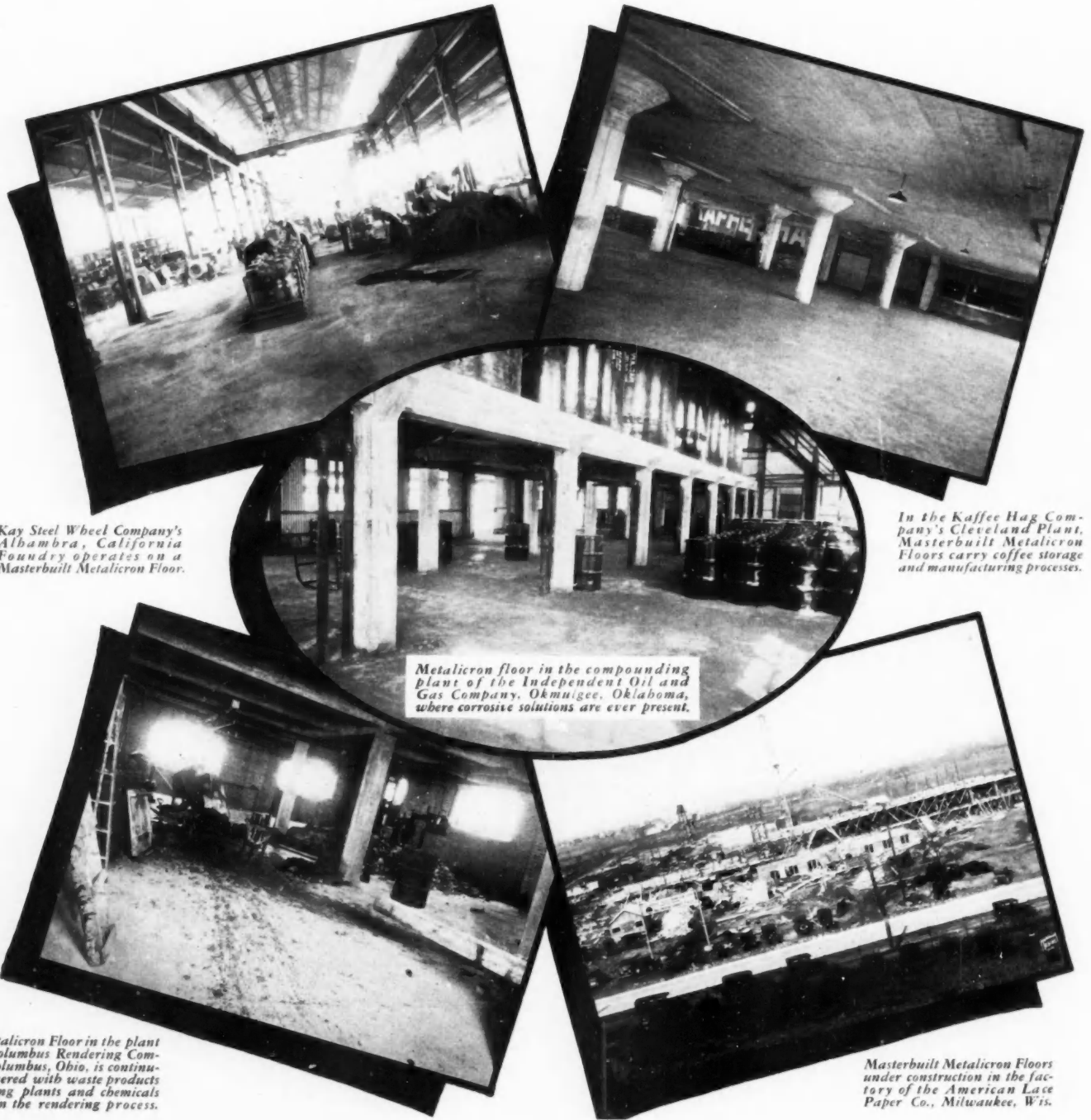
# OMICRON

# Masterbuilt Floors

HARDENED DUST-PROOF CONCRETE

## Installations of Metalicron Concrete Floors

With Omicron as the fifth ingredient in the concrete, these floors are protected from corrosive as well as abrasive wear



*Kay Steel Wheel Company's Albambra, California Foundry operates on a Masterbuilt Metalicron Floor.*

*In the Kaffee Hag Company's Cleveland Plant, Masterbuilt Metalicron Floors carry coffee storage and manufacturing processes.*

*Metalicron floor in the compounding plant of the Independent Oil and Gas Company, Okmulgee, Oklahoma, where corrosive solutions are ever present.*

*This Metalicron Floor in the plant of the Columbus Rendering Company, Columbus, Ohio, is continuously covered with waste products of packing plants and chemicals present in the rendering process.*

*Masterbuilt Metalicron Floors under construction in the factory of the American Luce Paper Co., Milwaukee, Wis.*



**THE MASTER BUILDERS COMPANY**

*Cleveland, Ohio*

*Manufacturers of Metalicron, Colormix, Mastermix, Dycrome, Stainproof, Saniseal*

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*because these modern accessories give the utmost in refined comfort, beauty and durability. Complete range of styles and prices shown in the new Hand Book "O" —free to the profession*

THOUSANDS of up-to-date bathrooms and lavatories—afloat and ashore—are made attractive and convenient by the use of the Brasscrafters accessories. Indented in the metal of each distinctive product, the Brasscrafters trade mark has circled the globe on ocean-going liners; it has plied the Great Lakes—it is a symbol of quality on accessories installed throughout the entire land.

### The Architect Must Give the Answer

A perfect understanding by architects of the full scope of the Brasscrafters line of accessories can have but one effect—increased creature comfort as well as harmony and beauty in bathrooms and lavatories. Year by year the proper architectural treatment of bathrooms as a whole is receiving more and more consideration. Important details like accessories are increasingly becoming part of the specifications. In this "age of quality" architects are being consulted about harmonious and permanent fittings. Formerly this was left to haphazard selection after the general contractors had left the job.

Soon you will be asked about the new items in the Brasscrafters catalog, for thousands of builders and home owners will be supplied with the Brasscrafters literature which describes for users the latest developments in the planning of effective bathrooms and lavatories. The thousands of inquiries that reach us from all parts of the United States will be referred back to the consulting architect for a detailed application of the data given. By knowing and recommending the Brasscrafters line, architects will safeguard the satisfaction of every person who consults them on the subject of bathroom and lavatory accessories.

### Investigate Before Specifying

Every dollar that is spent in building is either a good or a bad investment—the architect owes it to the best interests he represents to investigate every manufacturer's claims con-

cerning quality, adaptability to a specific service, responsibility and . . . finally, price.

It is the architect's right to demand facts and figures, not only as to the sizes, shapes and prices of the accessories themselves, but also as to their performance in actual use. Superficial information is not the kind on which to plan successful buildings, and unless each and every item is investigated before specifying, investment dollars are not producing proper results.

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#### ASHORE

**RESIDENCES**  
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**APARTMENT HOUSES**  
900 North Michigan Ave. Apartments—Chicago, Ill.

**BANKS**  
Hibernia Bank Building—New Orleans, La.

**CLUB HOUSES**  
Women's City Club—San Francisco, Calif.

**DORMITORIES**  
Harvard College Dormitories, Cambridge, Mass.

**HOSPITALS**  
Walter Reed Hospital—Washington, D. C.

**OFFICE BUILDINGS**  
Penobscot Building—Detroit, Mich.

**Y. W. C. A. BUILDINGS**  
Harriet Hammond McCormick Memorial—Chicago, Ill.

**THEATRES**  
Keith-Albee Theatre—Cleveland, Ohio.

**CAPITOL BUILDINGS**  
Washington State Capitol—Olympia, Wash.

**HISTORICAL BUILDINGS**  
Independence Hall—Philadelphia, Pa.

**HOTELS**  
Chateau Lake Louise—Lake Louise, Alta. (Canada).

**SCHOOLS**  
Brasscrafters' equipment approved for all schools built by the Board of Education—Cleveland, Ohio.

**RAILROAD TERMINALS**  
New North Station, Boston, Mass.

#### ASEA

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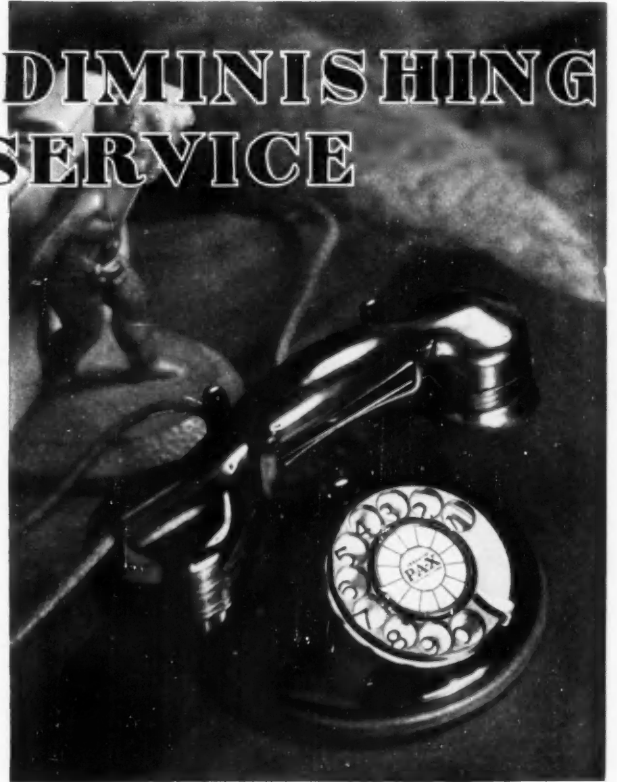
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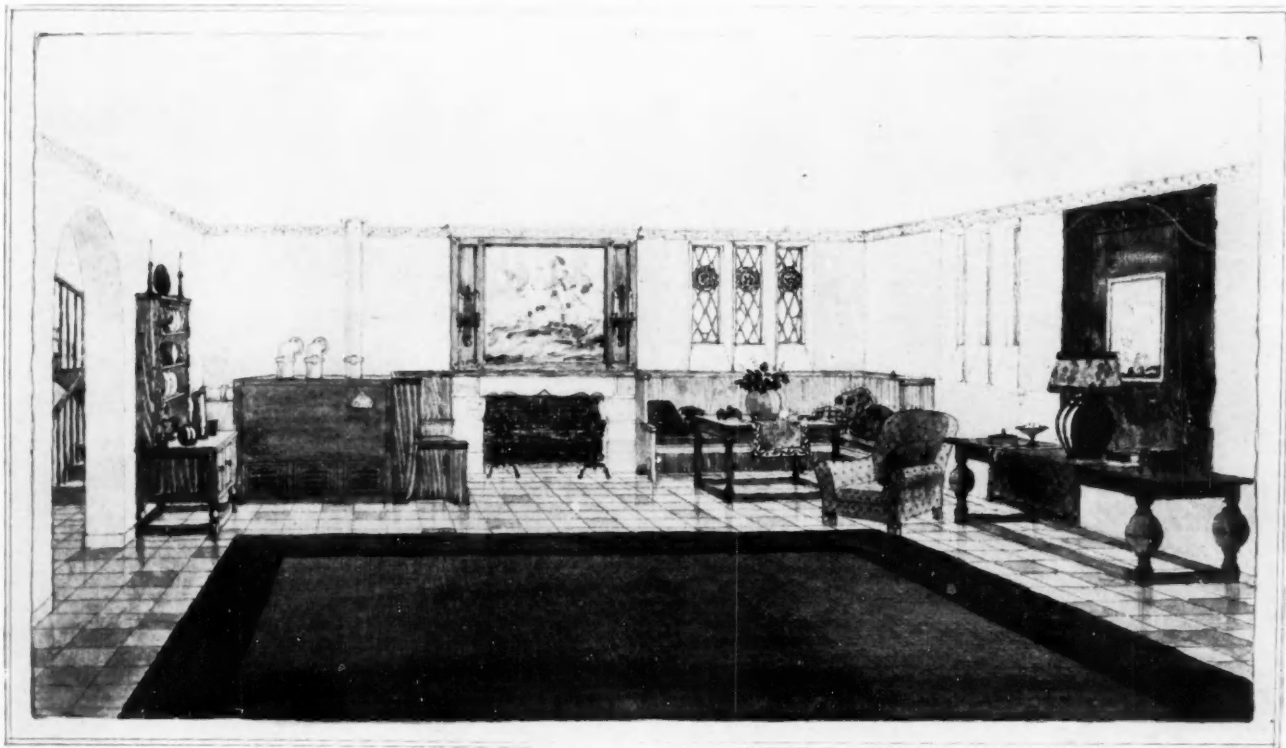
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—“As clean in the basement as it is in the picture,” a Bryant Gas Boiler or Furnace saves decorations and furnishings from depreciation upstairs and down and harmonizes with any setting.

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■ BHMC

The Architectural Record, June, 1929

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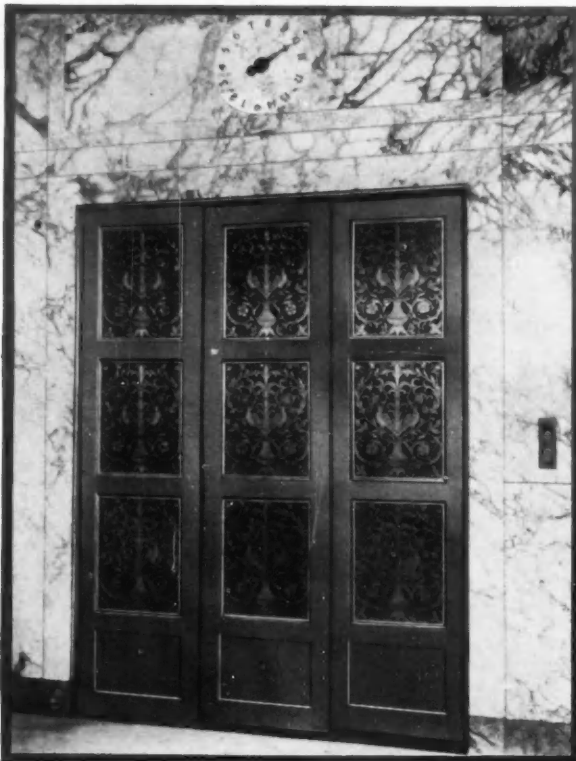
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Trimmer-Nydele Co., Contractors  
100,000 sq. ft.—9" and 11 1/4" blocks

Each block a complete square unit of three or more oak flooring strips, 13-16" thick, splined together. Laid in EVERBOND, a plastic cement, directly over concrete, without nails. The blocks are \*CELLized to reduce the tendency to change in size, and to protect against insect attacks and decay. Comfortable under foot; sound-deadening. Write for specification data and full information.



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30,000 sq. ft.—6 1/2" and 9" blocks



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\*CELLized blocks laid in these buildings by Kaucher Engineering Co., 612 N. Mich. Ave.



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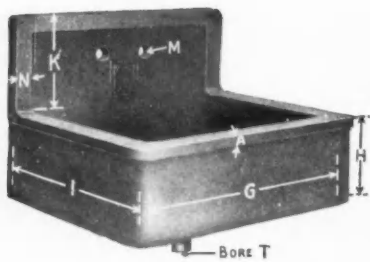


Figure 237  
ACID PROOF LABORATORY SINK  
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NEW YORK UNIVERSITY  
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Durham, N. C.

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PRINCETON UNIVERSITY  
Chemistry Building  
Princeton, N. J.

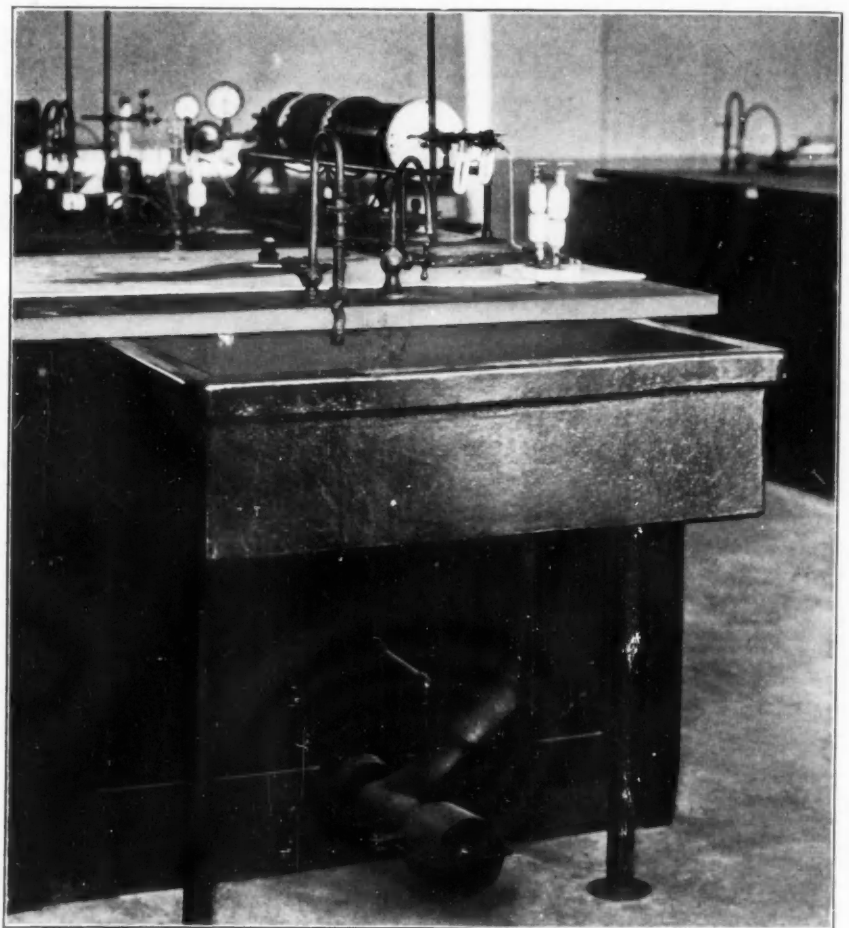
WASHINGTON UNIVERSITY  
Biology Building  
St. Louis, Mo.

\*LAFAYETTE COLLEGE  
Mining Engineering Hall  
Easton, Pa.

\*JOHNS HOPKINS UNIVERSITY  
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\*BATTELLE MEMORIAL  
Chemistry Laboratory  
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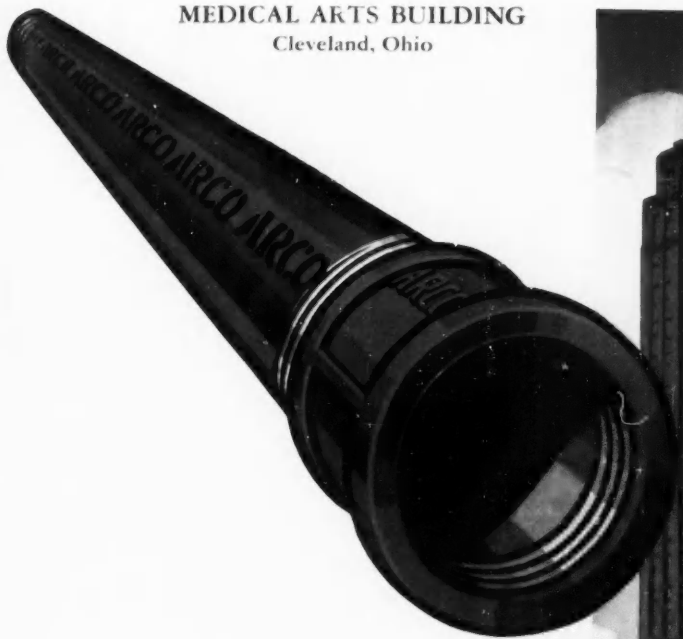
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(Signed) A. R. BRUEGGEMAN, President  
A. R. BRUEGGEMAN COMPANY

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NORMAN CASEMENTS  
UNIVERSAL CASEMENTS



UNIVERSAL CASEMENTS

Harriman National Bank Building, New York, N. Y.  
George A. and H. Boehm, Architects

# CRITTALL CASEMENTS

*The Architectural Record, June, 1929*





MEMORIAL UNION BUILDING, MADISON, WIS.  
 (University of Wisconsin)  
 Arthur Peabody, State Architect  
 F. L. Perrault & Co., Painting Contractor

## PRATT & LAMBERT VARNISH PRODUCTS



**E**RECTED and dedicated to the memory of the men and women of the University of Wisconsin who have served in our country's wars, the Memorial Union Building, at Madison, perpetuates patriotic sentiment as well as promotes knowledge.

The preservation of the beautiful interior of this structure is accomplished in part through the application of surface-saving, time-defying varnish products, particularly "38" Preservative Varnish, which was used on the trim. Time will but mellow "38" Preservative Varnish in the years to come.

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Architects, decorators and home owners are familiar with the outstanding excellence of Pratt & Lambert Varnish Products which dates back to 1849.

*Technical aid on finishing problems is freely given without obligation by the Pratt & Lambert Architectural Service Department. Telephone or write the nearest office.*

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Save the surface and you save all that's behind it.



## WIDE USE OF ARCO PRODUCTS IS GROWING WITH BUFFALO

A great city and a great manufacturer are achieving leadership together. Architects of Buffalo who appreciate genuine service and freedom from details of specification, are turning to Arco products, in greater and greater numbers.

Arco offers the facilities of a complete and progressive architectural department that is capable of rendering valuable assistance in many ways. And, backed by nearly a half-century of experience, there are almost 7,000 Arco paints, varnishes, enamels, lacquers and paint products among which you are certain to find exactly the right product for every requirement.

An Arco architectural representative is always at your command.

**THE ARCO COMPANY, CLEVELAND, OHIO**  
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# ARCO

PAINTS · VARNISHES · ENAMELS · LACQUERS



Residence of Frank H. Knighton, Russell Gardens, Great Neck, Long Island. Mann & McNeille, Architects. Rolscreens in frame construction, wood trim.



New Apartment of True English Charm, 1430 Lake Shore Drive, Chicago. Robert S. De Golyer & Company, Architects. Rolscreens installed.

Building progress dictates  
*Rolscreens*  
TRADE MARK



*The modernized window screens*

**R**OLSCREENS offer the correct, modern screens for windows of all types. Their desirability is unquestioned. The ease of operation, the facility with which they are installed in any window trim and the Rolscreen guarantee make Rolscreens an important and dependable home feature.

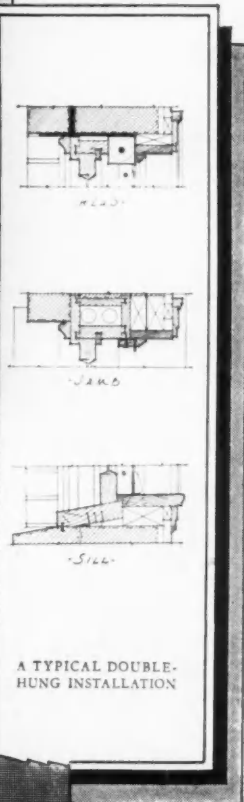
Wherever there is a Rolscreen installation you will find the owners greatly pleased. The passing of the old fashioned screen, with its seasonal nuisance of taking down and rehanging, marks a definite architectural advancement.

Beautiful window effects are preserved and a permanent convenience achieved when the architect's specifications say, "Rolscreens for all windows."

*Rolscreens roll up and down.*

*Eliminate the spring rehanging and fall storing of window screens.*

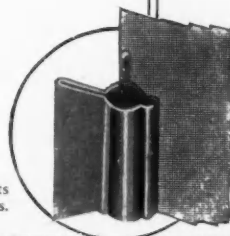
*For all types of windows.*



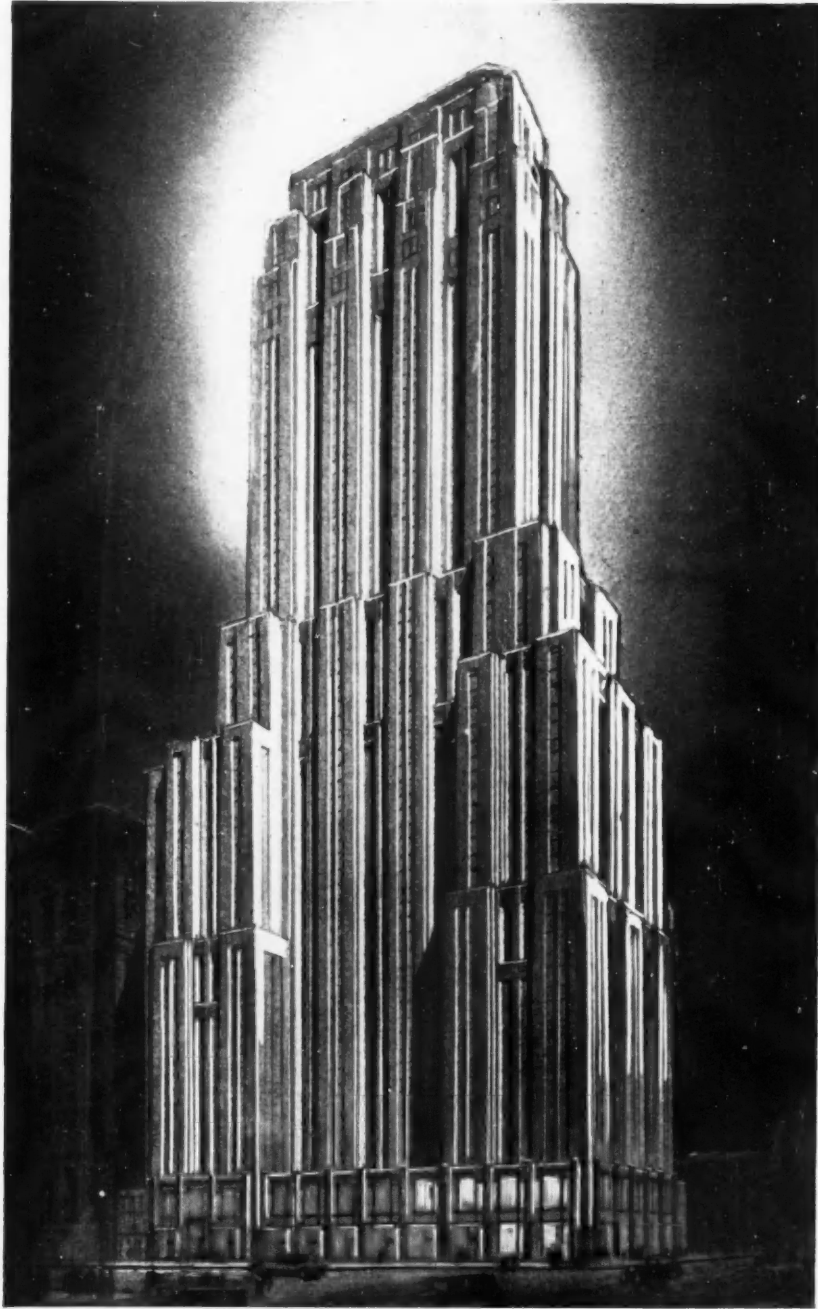
**ROLSCREEN COMPANY**  
 260 Main Street • Pella, Iowa



*A section through guide showing lug in selvage of screen wire which prevents screen from sagging. A "non-sagging" feature found only in Rolscreens.*



*A noteworthy Carnegie Beam job*



THE PALMOLIVE BUILDING - CHICAGO

Holabird & Root, Architects

American Bridge Company, Fabricators

The Lundoff-Bicknell Company, General Contractors

**CARNEGIE STEEL COMPANY**

CARNEGIE BUILDING - PITTSBURGH, PA.

*Subsidiary of United States Steel Corporation*

1975

# After Protection—What?

Since there is no question as to the enduring protection afforded by a Sheldon Slate Roof, let us consider how remarkably versatile this natural product is, how it fills such essentials as—

## Color

Unlimited combinations and effects may be obtained from Sheldon's Greens, Greys, Blacks, Bronzes, Purples—and even Reds.

## Types

Sizes providing a limited or wide range of widths and lengths: in Waveline effect or with special treatment of the exposed portions, producing exclusive, out-of-the-ordinary effects.

## Texture

A wide variety at your command, due to thicknesses from 2" down to  $\frac{3}{16}$ " and by natural characteristics, augmented by the hand-work of skilled artisans, producing every degree of roughness or smoothness of surface.

Frankly, it would take a mathematician to calculate the possible varieties in a Sheldon slate roof. For *your* purpose it's enough to know that no matter what the building or its setting, there's a Sheldon slate roof to suit it *exactly*.

For a glimpse of the possibilities, see four Sheldon Slate Roofs in colors, also Sheldon's Waveline Roof, on pages A-493, 495 and 496 of Sweet's. And then realize how anxious we are to have you make use of us.

## F. C. SHELDON SLATE Co.

General Offices, Granville, N.Y.

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Detroit, Mich.  
1115 Francis Palms Bldg.

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101 Park Ave., Room 514  
Atlanta, Ga.  
311 Bona Allen Bldg.

Cincinnati, Ohio  
35 Poinciana Apt.  
Seattle, Wash.  
1170 West Idaho St.



Stair landing at Union Theological Seminary, New York, N. Y. Allen N. Collins, Boston, Architect.

## CONSIDER THE WINDOW SILLS AND STOOLS

While the soft blue-gray of Alberene Stone commends its use for baseboards, while the qualities of the quarry-selected hard stone give it advantages for stair treads and landing tiles, there remains another advantage—weather resistance—which adds to the recommendation of its use for window sills and stools.

Indoors or out, exposure to alternate extremes of heat and cold, moisture and dryness, leave no trace of depreciation on Alberene Stone.

The workability of this soapstone, the economy of relatively thin slabs, its unique color value, all combine to make it a material of ever-widening utility.

*You will be interested in the examples of typical work pictured in the Company's new brochure "Architectural Alberene."*

### ALBERENE STONE COMPANY

153 WEST 23RD STREET, NEW YORK

Boston Pittsburgh Chicago Newark Philadelphia Cleveland Richmond

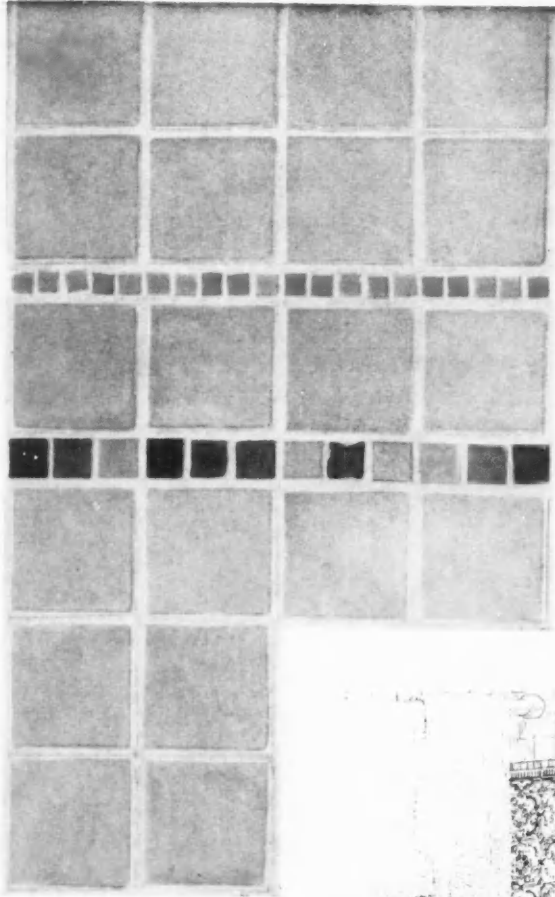
Quarries and Mills at Schuyler, Va.

# ALBERENE STONE

A NATURAL STONE OF DIVERSIFIED ARCHITECTURAL UTILITY

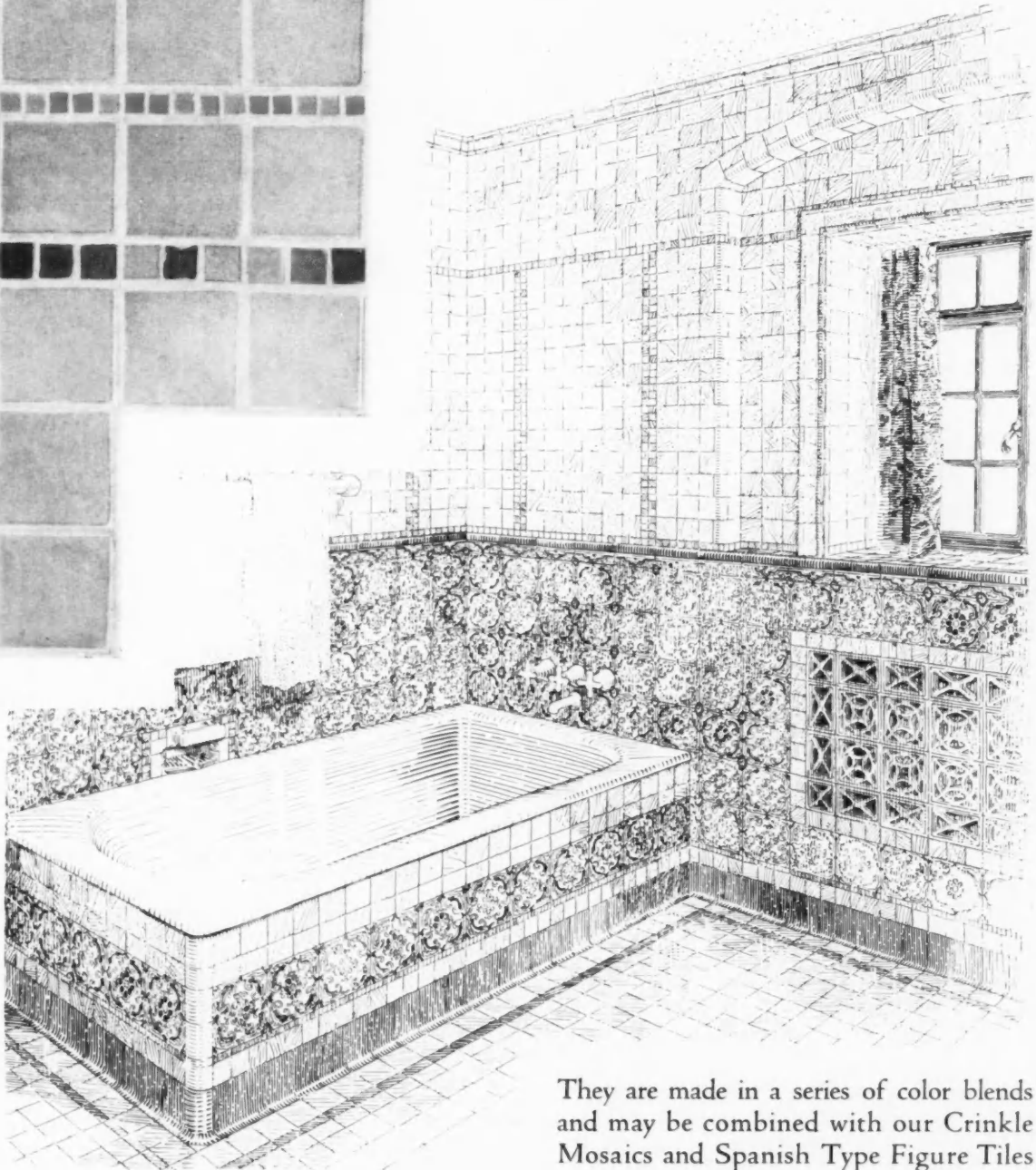
# **BATCHELDER TILES**

MADE IN U.S.A.



## **PATINA GLAZES**

THEY STRIKE AN ALTOGETHER NEW AND  
DISTINCTIVE NOTE IN BATHROOM WORK



They are made in a series of color blends  
and may be combined with our Crinkle  
Mosaics and Spanish Type Figure Tiles

A TYPICAL BATHROOM DESIGN IN PATINA GLAZES

## **BATCHELDER-WILSON COMPANY**

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2633 ARTESIAN ST.

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38 SO. DEARBORN ST.

NEW YORK  
101 PARK AVE.

# Beresford Apartment (NEW YORK)

*will be  
equipped with*

## RCA CENTRALIZED RADIO

**E**VERY suite in the Beresford Apartment, now under construction in Central Park West, New York, will have a radio outlet connected with an RCA Centralized Radio system.

The antenna problem will be solved for both tenants and owners. Three aerials on the roof will serve 182 apartments, and give each tenant the opportunity of "plugging in" his favorite receiver (of any type) as though he had his own individual aerial. Radio reception by this simplified RCA system is very much better than with a multiplicity of antennae.

RCA Centralized Radio is being adopted by hotel and apartment house builders as necessary equipment in modern residence construction. It is available in two principal forms:

**1** A single antenna connected with a distribution system to radio receivers in rooms throughout the building. As many as 80 radio sets of different makes can be independently operated from this common antenna, by plugging into wall outlets—and far more satisfactorily than by the use of individual antennae. Additional central antennae may be installed, if required, for additional groups of 80 receivers.

**2** Centralized radio receiving equipment to distribute broadcast programs to as many as 3000 rooms throughout a building. Equipment may be installed to transmit a single program, or to make available the choice of programs from two, three or four broadcasting stations.



The first method is ideally adapted for apartment houses, dormitories, office buildings, etc., where tenants desire to have their own receiving sets. It does away with the unsightly multiplicity of individual aerials, and the inconvenience of connecting them with distant rooms.



*Beresford Apartment, 219 Central Park West, N.Y.  
Emory Roth, Architect*

The second method is particularly designed for hotels, hospitals, sanitariums, schools, passenger ships, etc., where transient occupants of rooms may enjoy radio programs from loudspeakers or headsets, all operated from a central receiving instrument.

Descriptive pamphlets of these two systems, and of the special apparatus designed for them, are available for architects, builders and building owners.

The Engineering Products Division, Radio-victor Corporation of America, at any District Office named below, will answer inquiries, and prepare plans and estimates for installations of any size.

### ENGINEERING PRODUCTS DIVISION RADIO-VICTOR CORPORATION OF AMERICA

261 FIFTH AVENUE, NEW YORK CITY

Chicago, Illinois  
100 West Monroe Street

Atlanta, Georgia  
101 Marietta Street

Dallas, Texas  
Santa Fe Bldg.

San Francisco, California  
235 Montgomery Street



# American Steel & Wire Company



Architects—Warren & Wetmore, New York.  
 Structural Engineer—H. G. Balcom, New York.  
 General Contractors—James Stewart & Co.,  
 New York.  
 Fireproofing Contractors—J. Kresse Company,  
 New York.

## New York Central Railroad Building at the Gate Way of America

SPOT lighted not only by size, but by sheer beauty of proportions, the New York Central building will stand out among the sky shouldering giants of Mid-Manhattan.

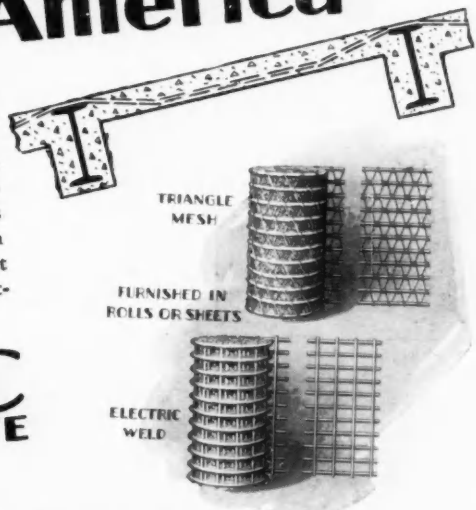
In erecting this building the New York Central Railroad Company planned not only a worthy setting for the headquarters of its great transportation system, but the construction of

the most modern type of office building for high class tenant occupancy.

Cinder Concrete floor arches reinforced with American Steel & Wire Company's Wire Fabric is the construction of the floor system in this mammoth building. Tests have shown that this is the strongest and most economical method of floor construction ever devised.

### WIRE FABRIC

THE STEEL BACKBONE OF CONCRETE



## American Steel & Wire Company

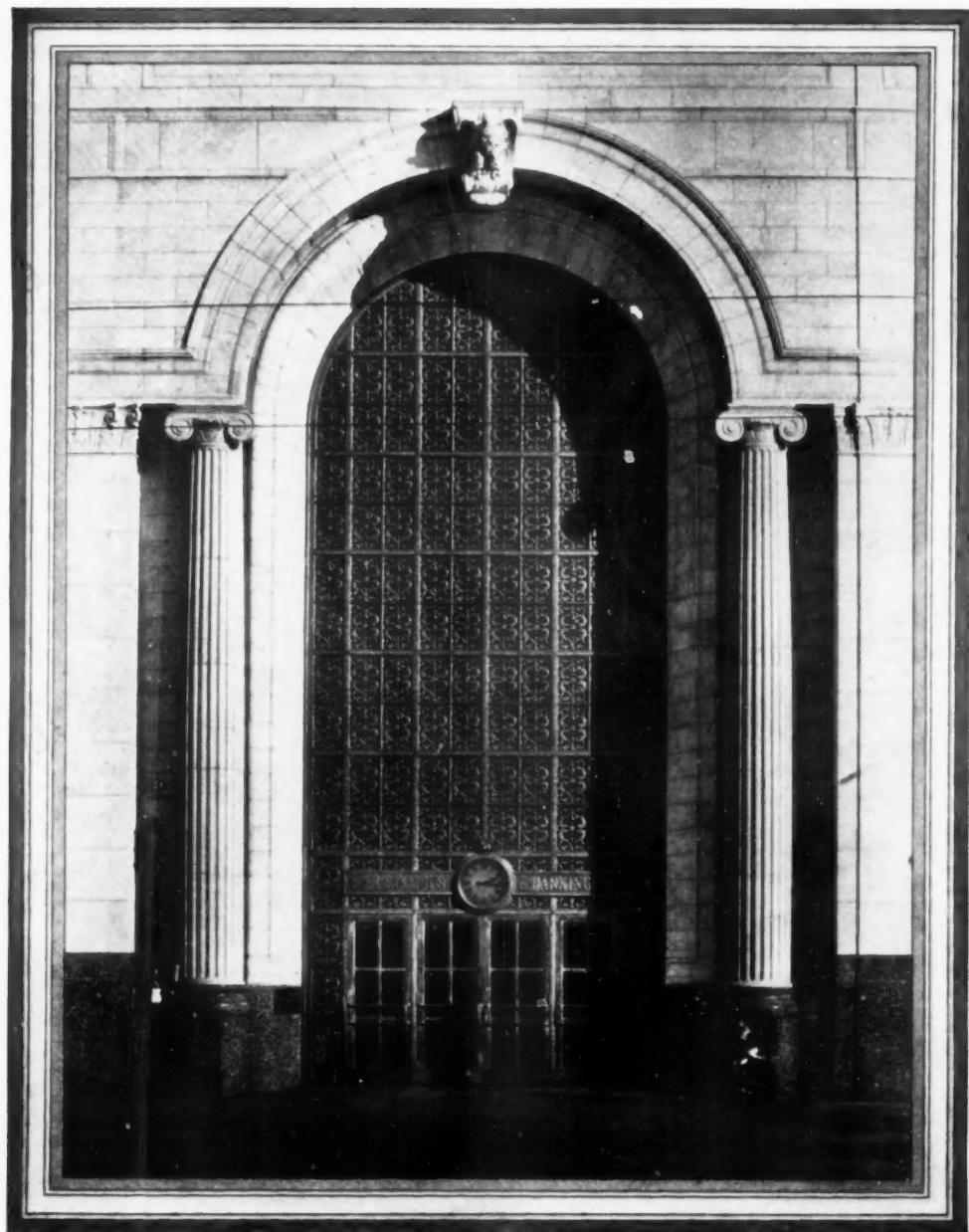
Subsidiary of United States Steel Corporation

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ENTRANCE, AMERICAN TRUST & BANKING CO. BUILDING, CHATTANOOGA, TENN.  
K. M. Vitzthum & Co., Archts., Bearden & Crutchfield, Asso. Archts.

For beauty and durability, Georgia Marble is proving its worth. Our quarries and finishing plants are in operation twelve months in the year. Pink, grey, white and special colors can be obtained in large quantities at any time.

THE GEORGIA MARBLE COMPANY · TATE · GEORGIA

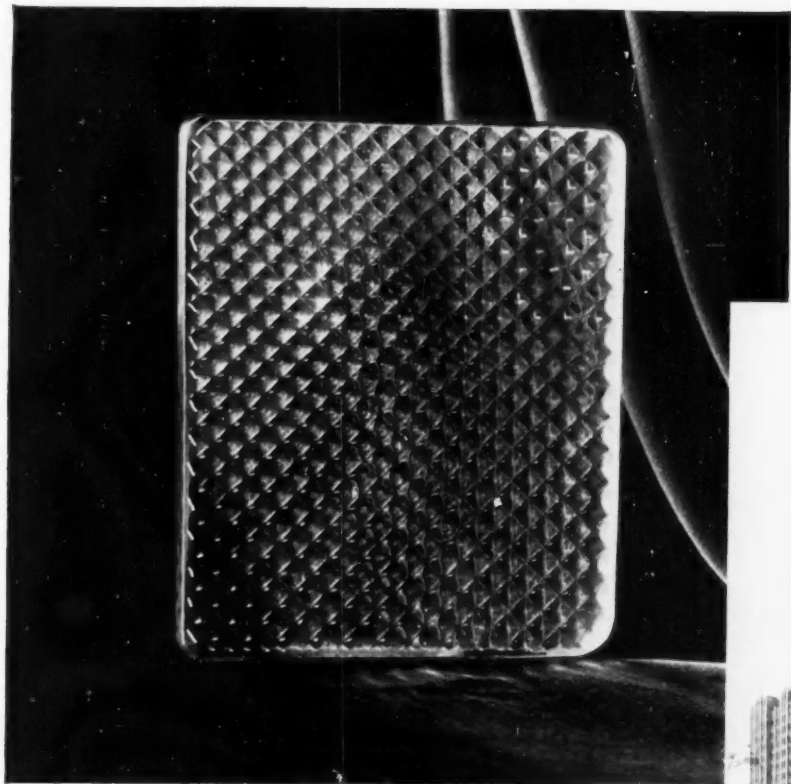
1328 Broadway  
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814 Bona Allen Bldg.  
ATLANTA

648 Builders' Bldg.  
CHICAGO

622 Construction Industries Bldg.  
DALLAS

1200 Keith Bldg.  
CLEVELAND



THE Fisher Building, Detroit, shown below, for which the architect, Albert Kahn, was awarded the silver medal in architecture for 1929 by the Architectural League of New York.



# AURORA...

in the Fisher Building

AURORA was the natural choice for partition glass in this beautiful building. The beauty and effectiveness of its simple prismatic design make Aurora the logical choice of architects and engineers in ever increasing numbers. Aurora is manufactured in two qualities, both having the same excellent illumination value—*plain* for use where economy is essential, *polished* for use where quality is the main consideration. Glass distributors everywhere carry Aurora and all other Mississippi products. Make quality certain by specifying "Mississippi".

*Samples upon Request*

# MISSISSIPPI GLASS COMPANY

220 FIFTH AVENUE . . . NEW YORK



**ELEVATORS**



**GRANT BUILDING, PITTSBURGH**

*H. HORNPOSTEL, Architect*

*THOMPSON-STARRETT CO., Contractors*

## Finest Type of Elevators Obtainable

The Westinghouse high speed elevators in the Grant Building will be modern for many years. The cars are automatically controlled under the supervision of operators.

Westinghouse Electric Elevator perfection makes possible highest speed and accurate landings with noticeable comfort, —smooth acceleration and deceleration.

# Westinghouse Electric Elevator Company

# For Better Display Windows— Choose DESCO STORE FRONTS

*For full architectural details see Sweet's catalog. Write us for complete working data and price list. Remember, too, wherever you are there is a distributor near you. We also carry a complete line of "Desco" construction material in our New York City warehouse.*

Architects and building owners realize more and more how much Desco Store Fronts add to the desirability of a store. These Store Fronts help materially in producing the fine display windows so essential to modern merchandising. And the wide variety in which they are offered—copper (plain or embossed), bronze and other non-ferrous metals—permit their use for practically any architectural style. Their flexibility, too, protects the glass against heavy wind pressure. All concerned will be better satisfied if you choose Desco.

## DETROIT SHOW CASE CO.

1670 W. Fort Street • Detroit, Michigan

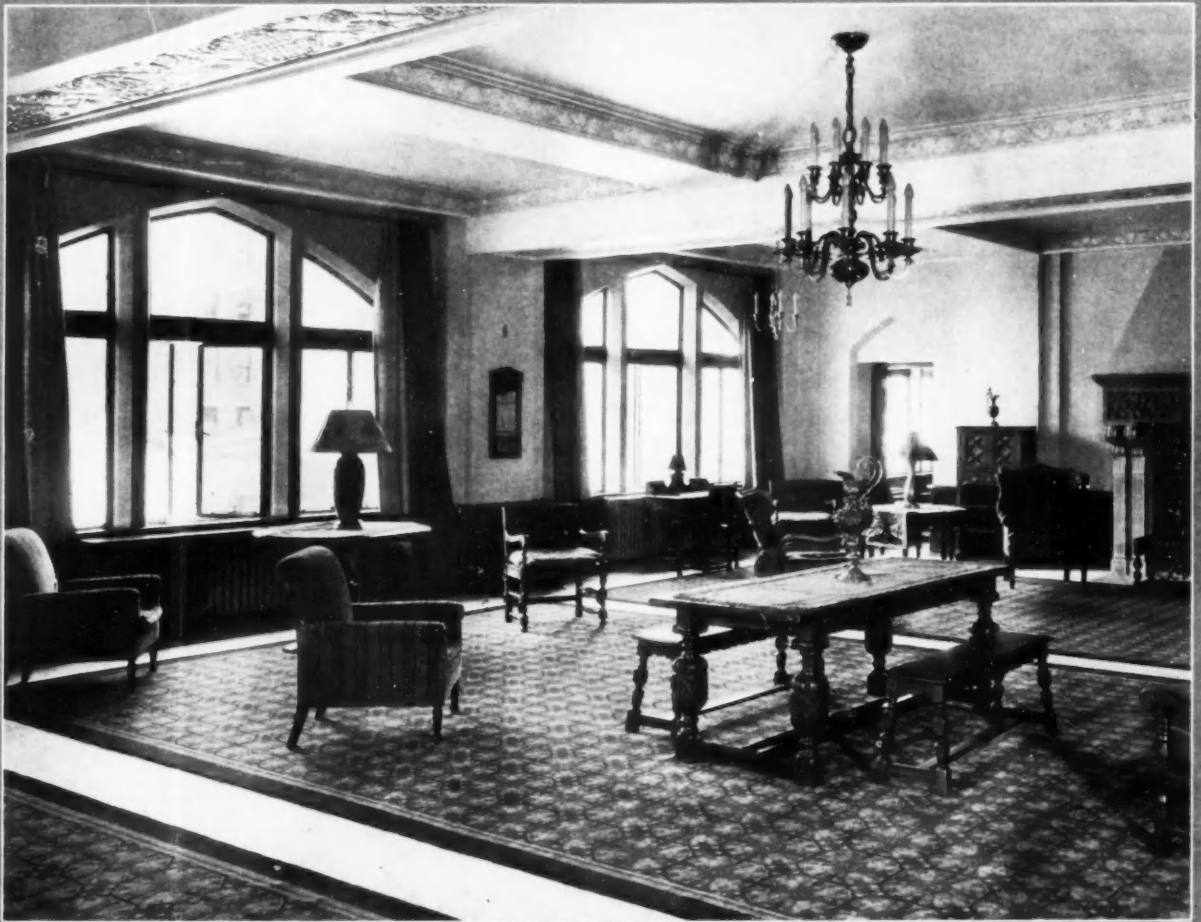
Desco Store Fronts furnished for Copp the Shoe Man's Arcade, Vancouver, British Columbia

New York City Warehouse—344-346 East 32nd Street  
Pacific Coast Office—520 Skinner Bldg., Seattle, Wash.



# **Desco** METAL STORE FRONTS

## LUPTON STEEL WINDOWS... A MEDIUM AS FLEXIBLE AS A PRELIMINARY SKETCH



*Lounge of the new Y. W. C. A. building at Cincinnati. Light, airy, cheerful. Rendigs, Panzer & Martin, Architects. F. B. & A. Ware, Associate Architects.*

FOR relieving masses of masonry with interesting window-treatments, architects find Lupton Steel Windows almost as plastic as sculptor's clay. They have many distinct types of windows to work with. Each has a definite use in hotels, apartments, hospitals, fine office buildings, distinctive shops and stores.

Each of these types of Lupton window is made in a variety of *standard* sizes—with corresponding price-economies. The architect can individualize his window-plans and still keep costs in line with a moderate building-budget.

As the architect can specify these standardized

windows months ahead of the building, shades, screens, and awnings can be ordered in quantity lots, and a material saving can be effected.

The complete story of Lupton Steel Windows is right on your desk now. Pick up your 1929 edition of *Sweet's*. Turn to page A1192 and leaf over the Lupton presentation . . . 63 pages of facts that will help you save money on your jobs, and give you a flexible medium for building beauty into every one of them. When you use Lupton Steel Windows, you offer your clients a quality product which is nationally known. David Lupton's Sons Co., 2209 East Allegheny Avenue, Philadelphia, Pa.

**LUPTON**  
WHERE STEEL IS FUSED WITH SINCERITY



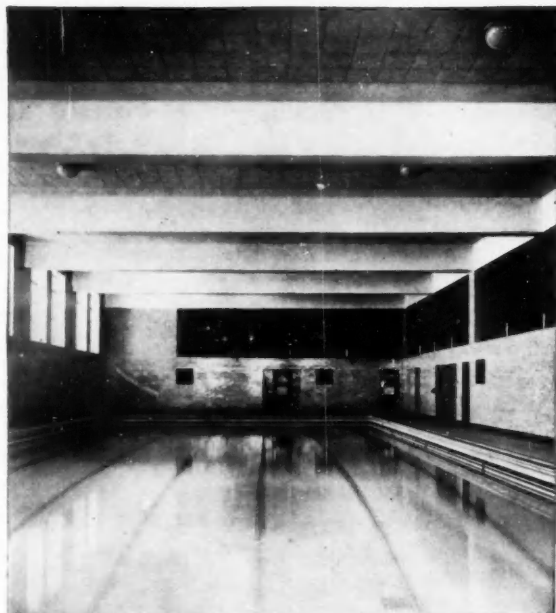
# THE JOHNS-MANVILLE CORPORATION ANNOUNCES *the acquisition of* SANACOUSTIC TILE

*(A Development of C. F. Burgess Laboratories, Inc.)*

*This interesting sound-absorbing interior finish becomes an important part of the line of the pioneer of Architectural Acoustics*

THE merits of Sanacoustic Tile are already known to the Architectural profession.

By adding this splendid acoustical material to its line, Johns-Manville follows its fixed policy of leadership in the field of Architectural Acoustics.



*Boy's natatorium, Oak Park High School, Oak Park, Ill.  
Childs & Smith, Architects, Chicago, Ill.  
Aluminum Sanacoustic Tile upon all ceiling panels.*

Johns-Manville Sanacoustic Tile has a high co-efficient of sound-absorption at a low cost per unit of absorption. With Johns-Manville Banroc Wool, a fibrous mineral, as the sound absorbing element, it is permanent; its sound-absorbing qualities *remain* permanent; it is an excellent light reflector, it has an easily cleaned, sanitary surface, and it may be installed in old or new buildings in an economical manner. In new work it provides a complete substitute for metal lath and plaster on furred ceilings.

Johns-Manville Acoustical Engineers are always at the service of architects without obligation. These men welcome opportunities to discuss any problem involving the acoustics of room interiors.

## Johns-Manville

SOUND CONTROL AND  
ACOUSTICAL TREATMENT

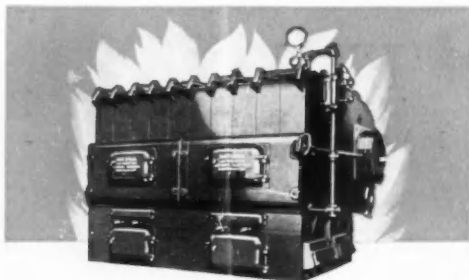


# THERE'S A NATIONAL FOR EVERY

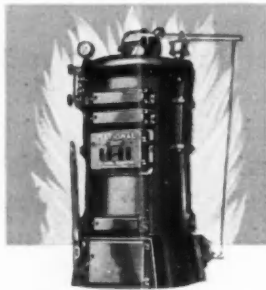


**National Jacketed Boiler  
No. 4 Series**

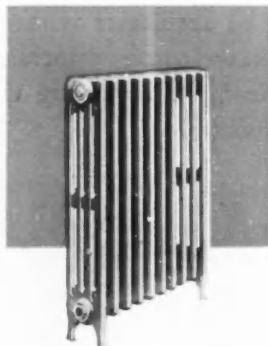
Brings a new conception of what a boiler can offer in outstanding attractiveness, full-saving efficiency, and upstanding service: a striking and colorful jacket, and contrasting trim.



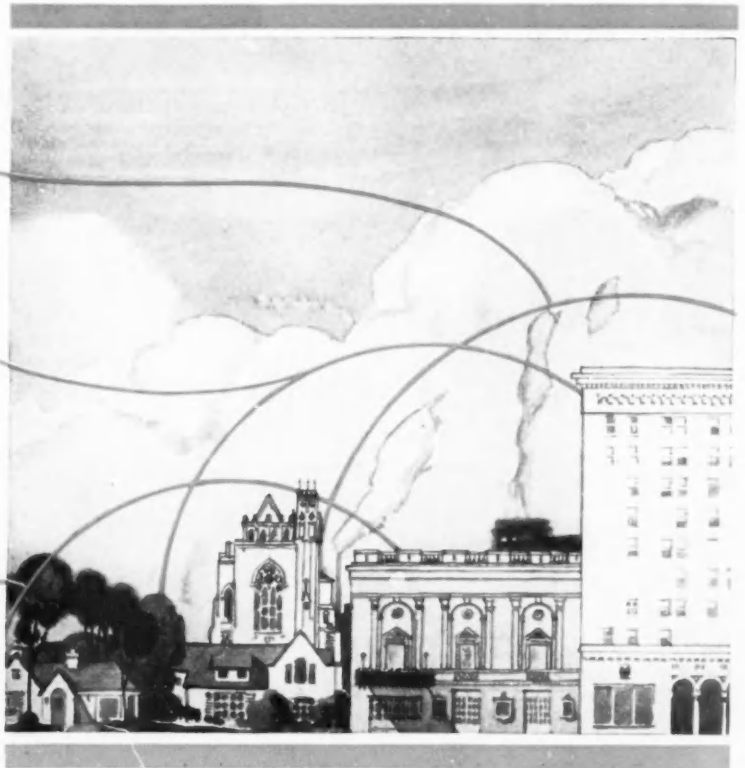
**National Low Water Line Boiler**  
Where lack of head room is the problem, this boiler is always the best, often the only, solution; highly efficient.



**National Round Boiler**  
In residential and small building heating, its staggered fire travel leads straight to efficiency, economy, and complete and permanent user satisfaction.



**Aero Radiation**  
Aero Radiators pioneered the way to new heating efficiency, were the first to supply beauty for every setting and utility for every heating purpose.



*For all Structures*

*For all Conditions*

For large homes or small ones, for theatres, churches, or schools, for apartments or office buildings—for every structure, everywhere, there's a National *Made-to-Measure* Heating System that can be expertly installed, efficiently and economically operated.

The systems embody outstanding equipment which enjoys unusual prestige won in years of demonstrated dependability. Aero Radiators, that pioneered the way to new heating efficiency and beauty, and National Bonded Boilers, renowned for honest ratings and dependable performance, have long been synonymous with complete heating satisfaction.

Perhaps the problem is the lack of boiler head room so frequently encountered in theatre buildings, and in structures in tide-water country; or perhaps it is a combustion problem in some locality with a rigid smoke-ordinance.

In either case, there's a National Bonded Boiler to solve it efficiently and completely. Perhaps the problem is the selection of radiation to harmonize with certain finishes or furnishings. There's an Aero Radiator that will fit in perfectly. Whatever the requirements, National *Made-to-Measure* Heating Systems will meet them completely, efficiently, and with permanent dependability.

## NATIONAL *Made-to-Measure* HEATING SYSTEMS



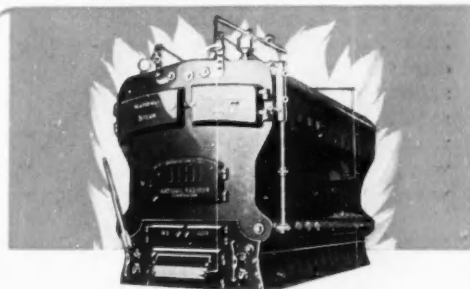
# HEATING SYSTEM

## *Building Need*



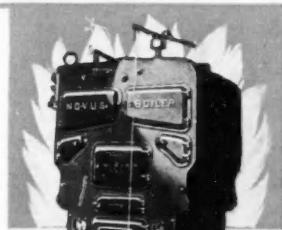
**National Jacketed Gas Boiler  
No. 1**

Cleanliness, convenience, accurate maintenance of any desired degree of warmth—are the contributions of this strikingly attractive, highly efficient boiler.



**National Super-Smokeless  
Boiler**

Specifically designed for the efficient and smokeless combustion of all grades of fuel. Distinguished for its swirling scarlet flame, and balanced secondary air supply.



**National Novus Boilers**

These businesslike, dependable, effective boilers have for 18 years been demonstrating their worth in all types of applications, all over the country.

### *For all Types of Fuel*

National Boilers are Bonded to deliver their published ratings, and are designed to perform efficiently with leading types of fuels, such as all domestic sizes of anthracite, bituminous coal, oil, gas and coke. They can be converted on the ground to meet the individual characteristics of the fuel selected. The engineering design of the grate surfaces, air spaces, sizes and shapes of combustion chambers, design of fire travels, waterways, and the systems of air intake and damper control combine to set up a balanced condition resulting in economical combustion and satisfactory heating performance.

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The National Protective Payment Plan permits the installation of a National *Made-to-Measure* Heating System on a low down payment, the balance being retired in easy monthly installments. A fire, disability, and death insurance clause protects the purchaser during the period of payment.

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All heating needs can now be filled from a single source of supply, backed by a responsibility that does not quibble or compromise, that positively assures satisfaction to the user. Fill out the coupon, and receive full information.

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RADIATOR  
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National Boilers are backed by a bond, issued by a great surety company, which guarantees performance, assures satisfaction.

National Radiator Corporation,  
55 West 42d Street, New York, N. Y.

Please send me full information concerning National *Made-to-Measure* Heating Systems, and the services behind them.

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# WORLD'S LARGEST SINGLE SPAN ROOF

*Decked With GYPSTEEL Pre-Cast Gypsum Slabs*

THE entire roof of the Atlantic City Convention Hall, is decked with Gypsteel Pre-Cast Long Span Gypsum Slabs. The auditorium roof, alone, has an area of 170,000 square feet. It is about 500 feet long, and has a clear span of 350 feet.

Lockwood, Green & Co., the engineers, used the Gypsteel System on this roof because they had used it before and knew its qualifications. They knew it was fireproof. They knew its light weight meant economies in steel. They knew that no scaffolding or false work would be required. They knew that there would be practically no heat loss in winter—that the saving in heating cost, over other roofs, would amount to from \$1.50 to \$3.50, for each 100 square



*Method of tying Gypsteel Roof Slabs to give roof definite, computable, structural strength*

feet of roof. They knew that there would be no maintenance or up-keep costs.

There were no delays in the Gypsteel installation over this vast area of roof. The roof progressed as rapidly as the steel was in place. Work went on regardless of temperature, as Gypsteel roofs can be laid in any weather in which men can work.

Additional information on the Gypsteel Pre-Cast Roof and information on the Gypsteel Pre-Cast Gypsum Floor System and Gypsteel Partition Tile, will be found on Page A-178 of Sweet's Catalogue. Our complete Catalogue with designing details, will be sent on request.



The Convention Hall at Atlantic City has a roof area of 220,000 square feet. The roof deck is of Gypsteel Pre-Cast Gypsum Slabs. Lockwood, Green & Co., Engineers

# GYPSTEEL



Laying a Gypsteel slab



Tying the reinforcement



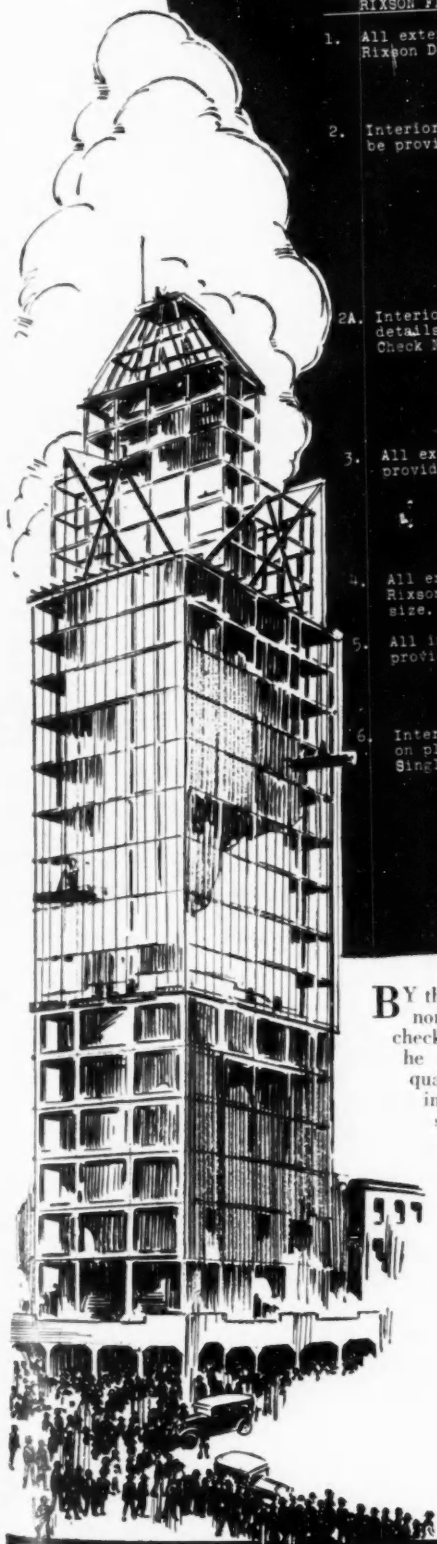
Grouting the joints between slabs

General Offices:  
Linden, N. J.

STRUCTURAL GYPSUM CORPORATION

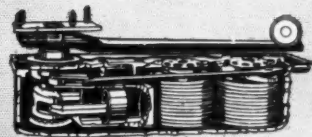
Sales Offices in  
Principal Cities

# They're Paying for Rixson Hardware- Are You Specifying It?



## SPECIFICATION BUILDERS HARDWARE RIXSON FLOOR CHECKS

1. All exterior and double acting doors shall be provided with Rixson Double Acting Floor Check -  
 No. 30 for doors not over 2'10" wide  
 No. 40 " " " " 3'6" wide
2. Interior double acting doors unless otherwise mentioned shall be provided with Rixson Double Acting Floor Check -  
 No. 10 for doors not over 2'8" wide  
 No. 15 " " " " 3'0" wide  
 (where hold-open feature is wanted)  
 No. 12 for doors not over 2'8" wide  
 No. 16 " " " " 3'0" wide  
 (where doors are not wanted with hold-open feature)
- 2A. Interior double acting doors as called for on plans and in details shall be provided with Rixson Double Acting Floor Check No. 30.  
 (This specification for interior doors subject to severe use or of such size that Nos. 10-12, 15-16 would not be suitable.)
3. All exterior and vestibule single acting doors shall be provided with Rixson Single Acting Floor Check -  
 No. 20 or 21 as called for in details for doors not over 2'8" wide  
 No. 25 or 26 as called for in details for doors not over 3'6" wide
4. All exterior and vestibule doors shall be provided with Rixson Door Stay No. 38 in bronze metal of correct size.
5. All interior single acting self-closing doors shall be provided with Rixson Single Acting Floor Check -  
 No. 18 or 18½ (as required by detail) for ordinary doors not over 3'0" wide
6. Interior single acting self-closing doors as called for on plans and in details shall be provided with Rixson Single Acting Floor Check -  
 No. 20 or 21  
 (This specification for doors over 3'0" wide or subject to severe use where Nos. 18 or 18½ would not be suitable.)



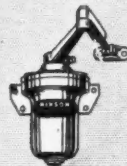
No. 30 and 40 Double Acting Floor Check



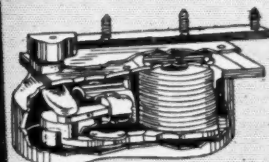
No. 34 Casement Operator



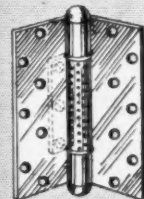
Adjustable Ball Hinge



Single Acting Door Check



Single Acting Floor Check



No. 85 Friction Hinge



Olive Knuckle Hinge

BY the time the owner of a building equipped with nondescript hardware begins to replace a floor check here, a door holder there and hinges all 'round, he is in the position of having paid for Rixson quality *without ever having had it*. The architect is in a position to safeguard him against this. Such specifications as that above are so frequent on outstanding buildings that you may safely adopt them as standard. If Rixson Hardware were "high priced" you might hesitate. But the Rixson line, quality for quality, is right in line.

# RIXSON

## Builders' Hardware



Detailed information is already in your office.

THE OSCAR C. RIXSON Co., 4450 Carroll Avenue, Chicago, Ill.  
 New York Office: 101 Park Avenue, New York City

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# Sand Blast *proves* Liquid Granite *harder than glass*



"Save the surface and  
you save it!"

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When you specify Liquid Granite for floors or woodwork you give your client more in wear and service than he expects. Protect what you have built into any structure. Use a varnish that measures up to the standards you set throughout a building. Liquid Granite costs no more than less durable finishes. The architectural department will give you all the facts—write for them.

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*The Earl C. Anthony Bldg., Station KFI, Los Angeles, John Parkinson and Donald Parkinson, Architects. The Berg Heating and Ventilating Company, heating engineers.*

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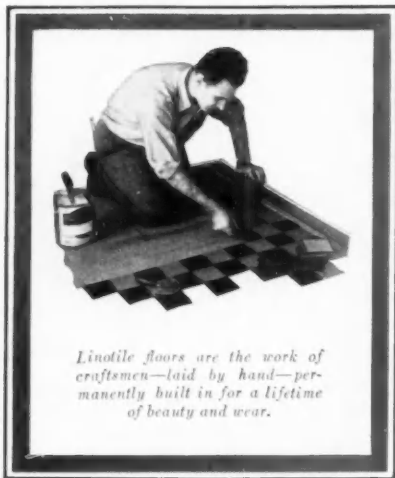
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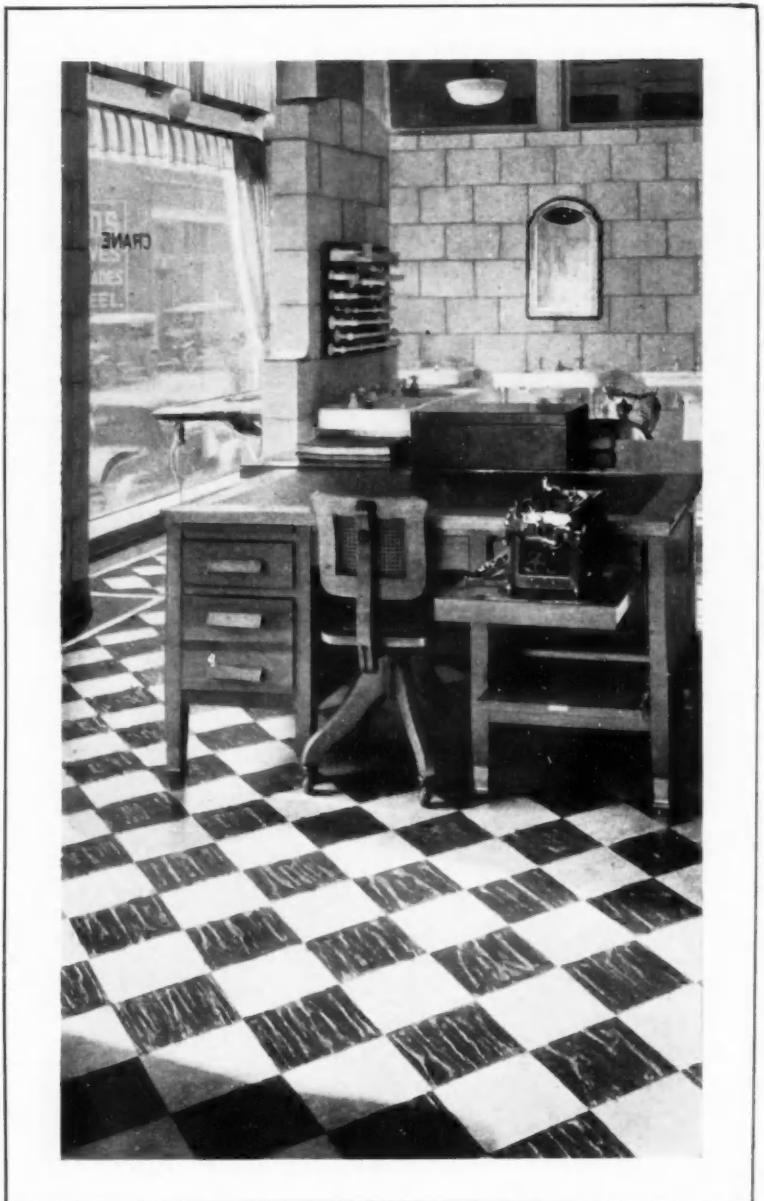
and help your sales  
to  
business clients

**W**ELL displayed is half sold, whether sales are made over a counter or across a desk. And when you show business clients plans for a setting that is created to help sales, you will be more than half way toward making a sale for yourself.

Business settings, like all room settings, must be based upon effective floors. Choose a floor that has the snap, the zest, the eye appeal,

and the rest follows, surely, quickly, and easily.

For the above setting, a display room of the Crane Company, nationally known manufacturers of plumbing equipment, the architect created an interesting floor of Armstrong's Linotile, combining Tourmaline (No. 100) and Oyster (No. 111). Had the setting been a beauty parlor, a bank, or an office, a floor equally in keeping could have been created. For



*Sales room of the Crane Company, Memphis, Tenn. Notice how the floor of Armstrong's Linotile gives the whole interior a clean cut business-like effect.*

with a hand-laid Linotile Floor, the architect may let his imagination work with all the combinations of thirty different colors in a score of sizes. Any interior effect may be created—any color scheme easily matched.

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LINOTILE      CORK TILE



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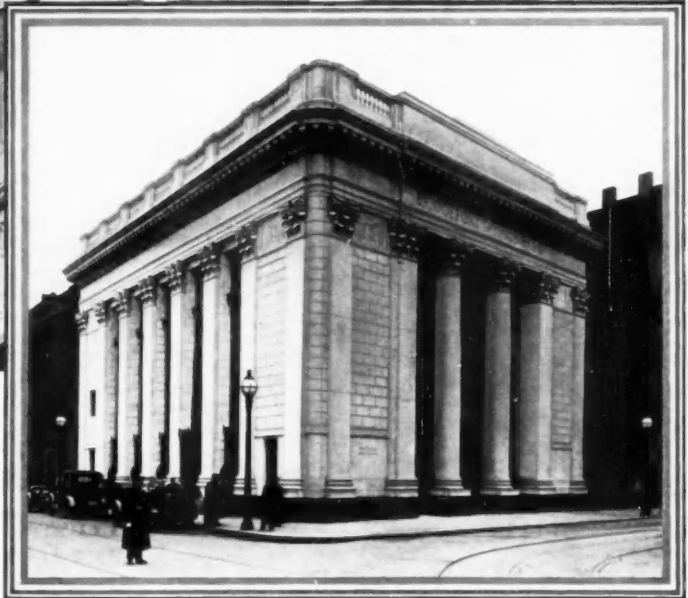
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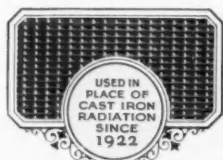
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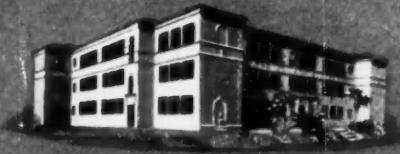
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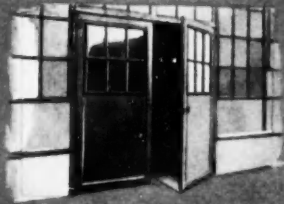


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CASEMENTS

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STOCK TYPE



SLIDE DOORS



LOADING TYPE

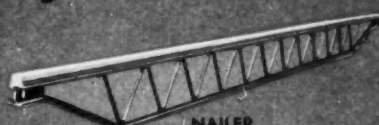
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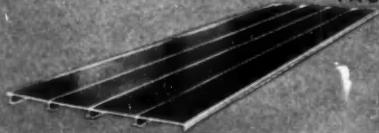
P-G (PLATE GIRDER)



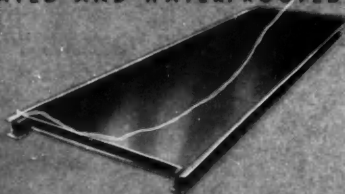
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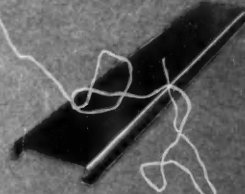
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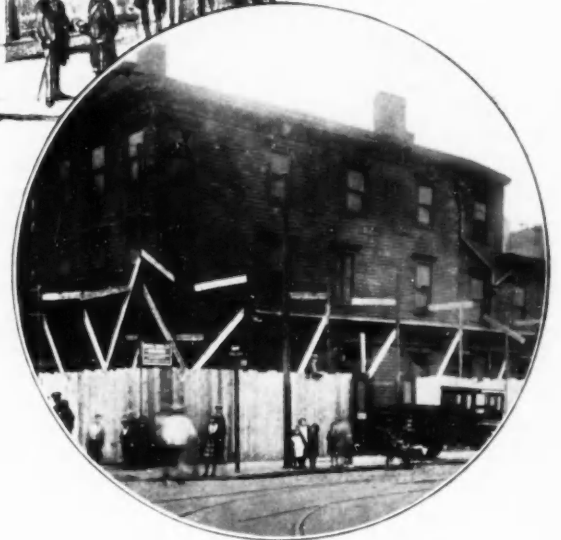
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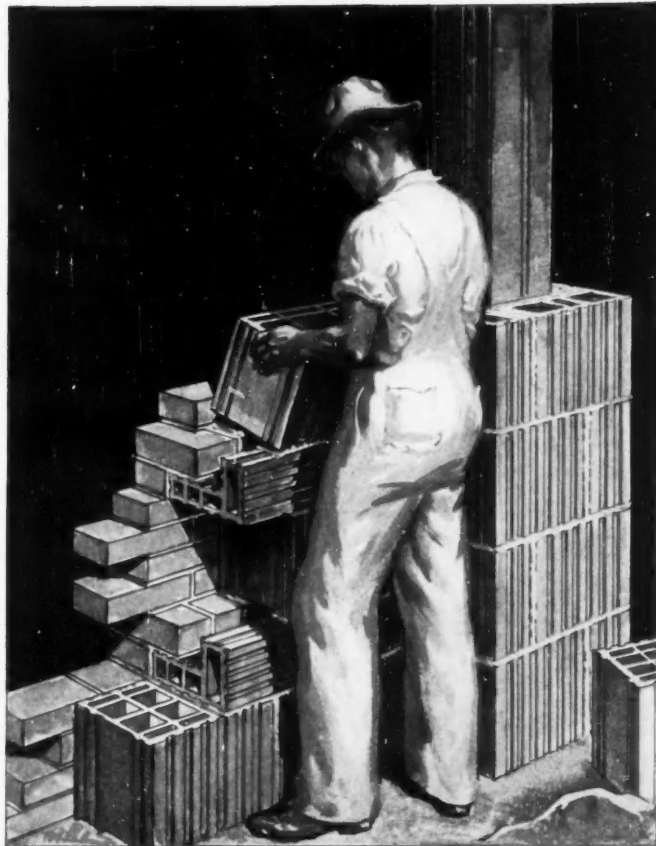
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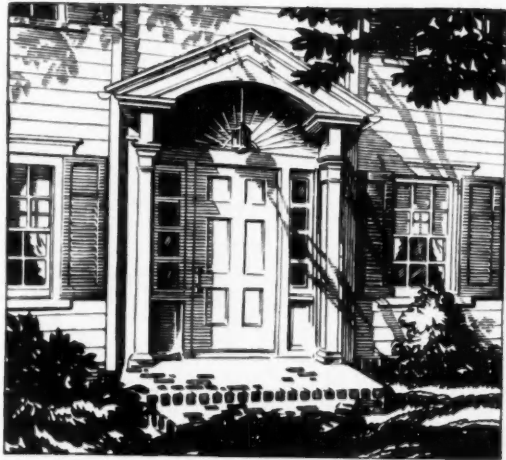
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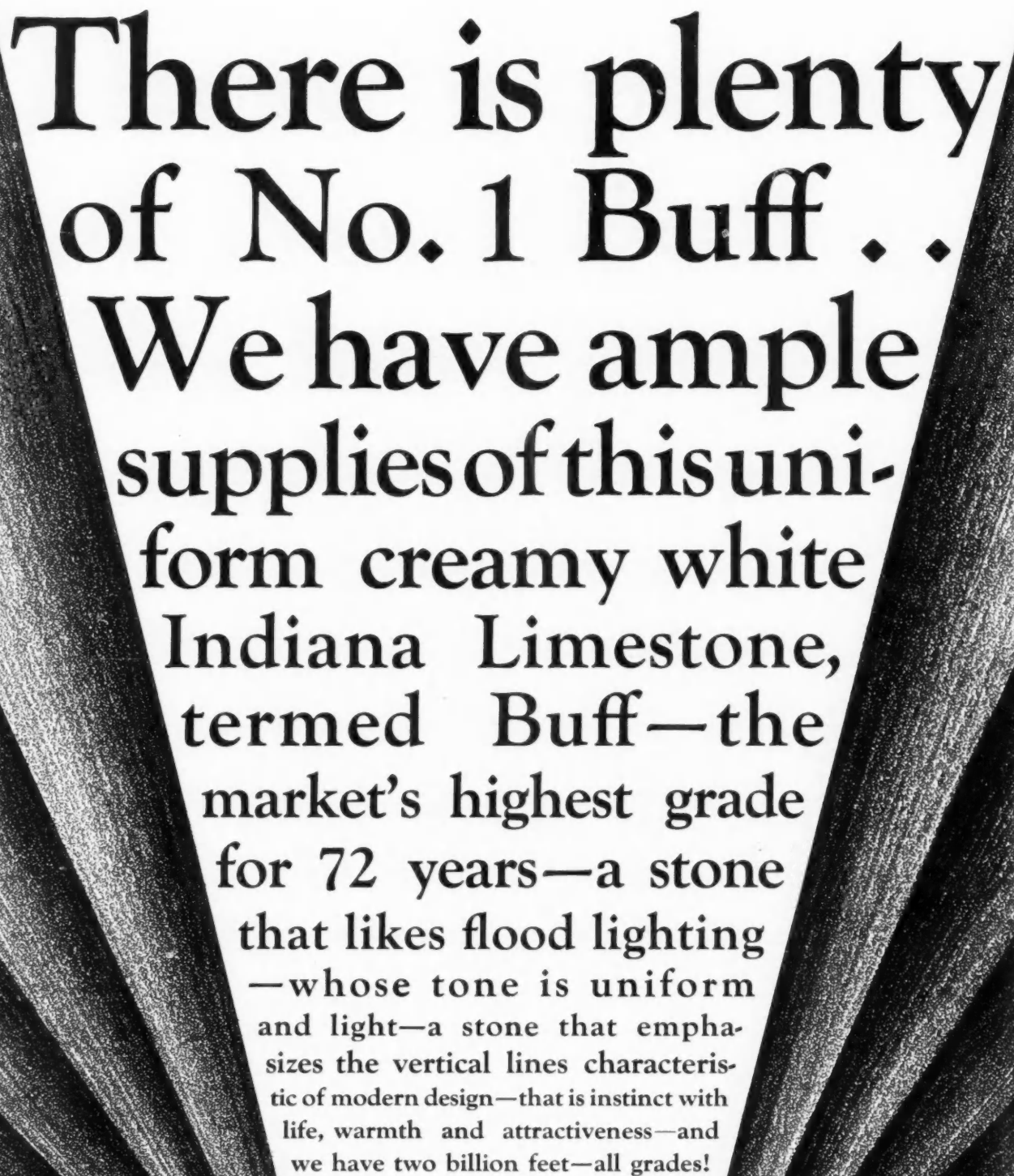


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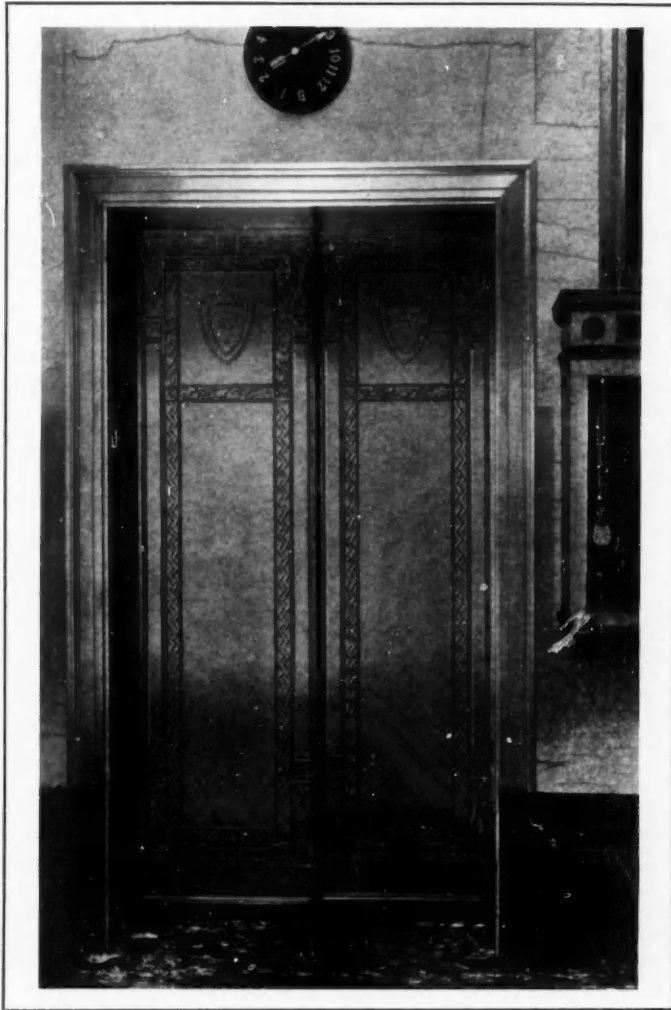
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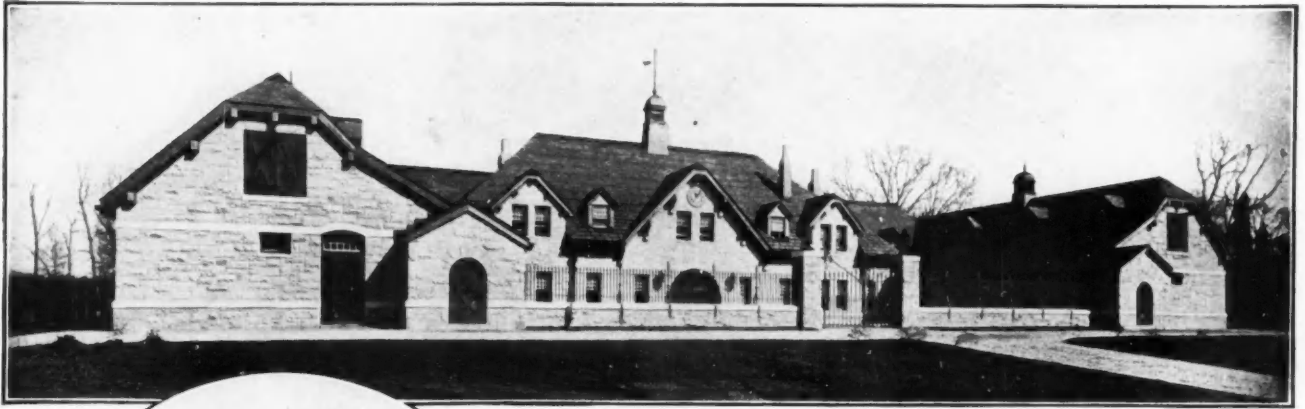
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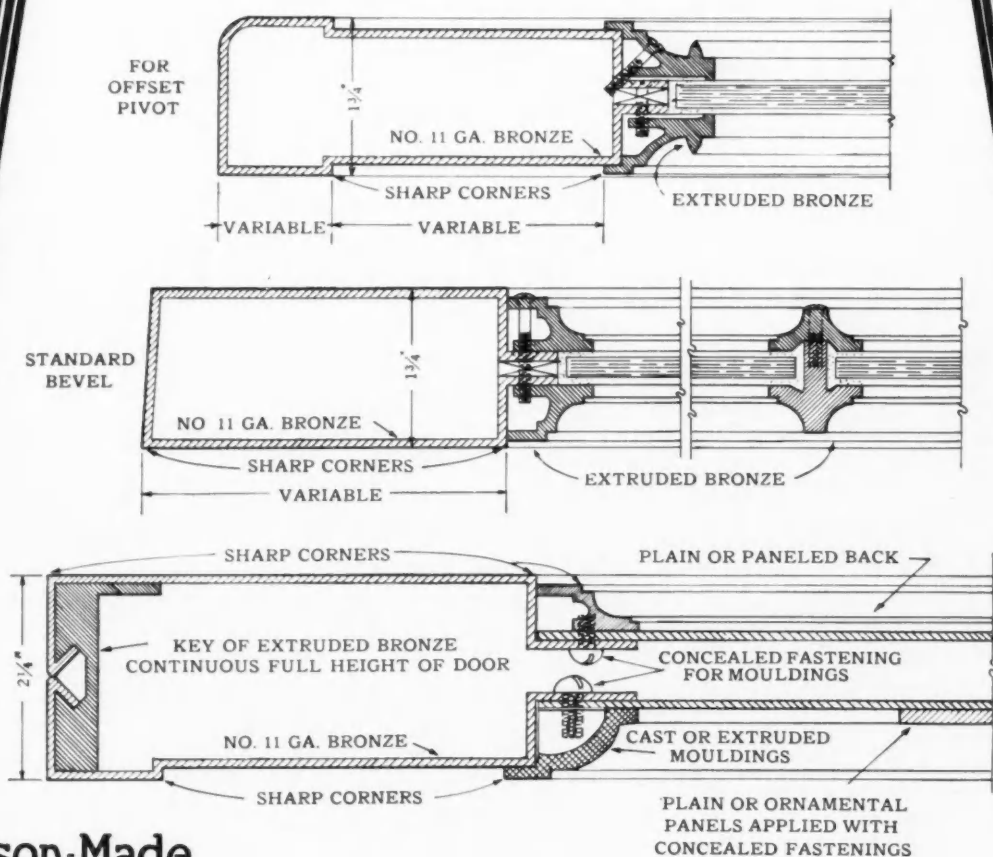
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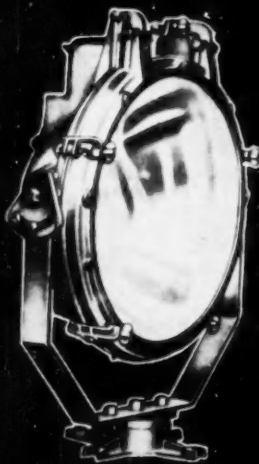
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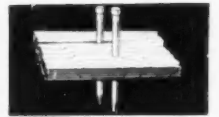


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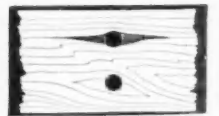


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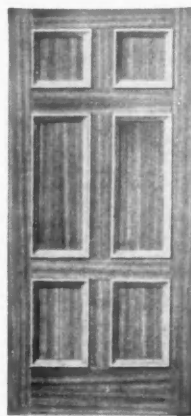
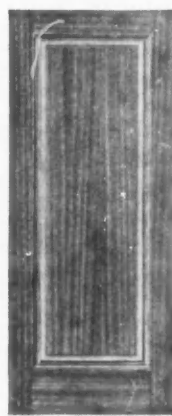
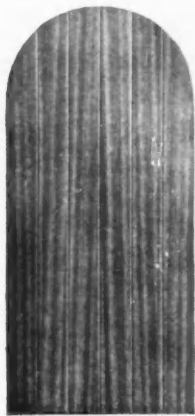
The triangular end cuts the wood fibers, punching a hole ahead of the nail body. There is no splitting as with diamond pointed nail, which wedges the fibers apart.



The hole punched is smaller than the nail body, giving the wood a tight grip *all around* the nail. This increases the holding power tremendously.







*Graceful, slender mahogany ribbons distinguish the grain of beautiful Philippine Laminex*

# Of "the wood of Tomorrow" ...these enthusiastically received new doors

## 146 DESIGNS NOW BEING JUDGED!

The Door of Tomorrow and award winners in our recent contest will be announced to you early in the Fall. 146 designs were submitted by architects from all over the United States. This expression of interest in the future designs of Philippine Laminex doors is exceedingly gratifying to us. Together with you who participated in the competition, we await impatiently the selection of the winners.

**B**EAUTIFUL Philippine Laminex—"the wood of tomorrow" you've heard it called. Everywhere enthusiastic architects are adopting it for trim and doors in new construction. Quickly it is winning favor from coast to coast.

A lovely, slender ribbon grain, like that in the most costly mahogany, this wood in hardwood doors is relatively inexpensive. Little wonder Philippine Laminex doors are proving so sensationally popular.

You can secure Philippine Laminex doors in many lovely designs that fully capitalize the natural beauty of the wood. Belle Porte, slab, panel, French, there are dozens of interesting stock designs.

Many leading millwork dealers in your city can show you such Philippine Laminex doors and Philippine Laminex carton trim to match. It may prove very worth your while to inspect them before you plan another job.



*Swollen doors, warped doors—to prevent their annoyance to clients, architects for years have been specifying trouble-proof Laminex Fir doors. Now Philippine Laminex doors are available, with a new note of beauty, and with the identical guarantee not to shrink or swell or warp!*

Just off the press is a catalog on Philippine Laminex doors, illustrating in actual colors the wide variety of new designs available. We shall be happy to send you a copy; simply mail us the coupon below.

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largest door manufacturers in the world. Creators of the famous Laminex doors of Fir and Laminex products of Philippine Hardwood.

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Please send me the newly-printed catalog of Philippine Laminex door designs now available.

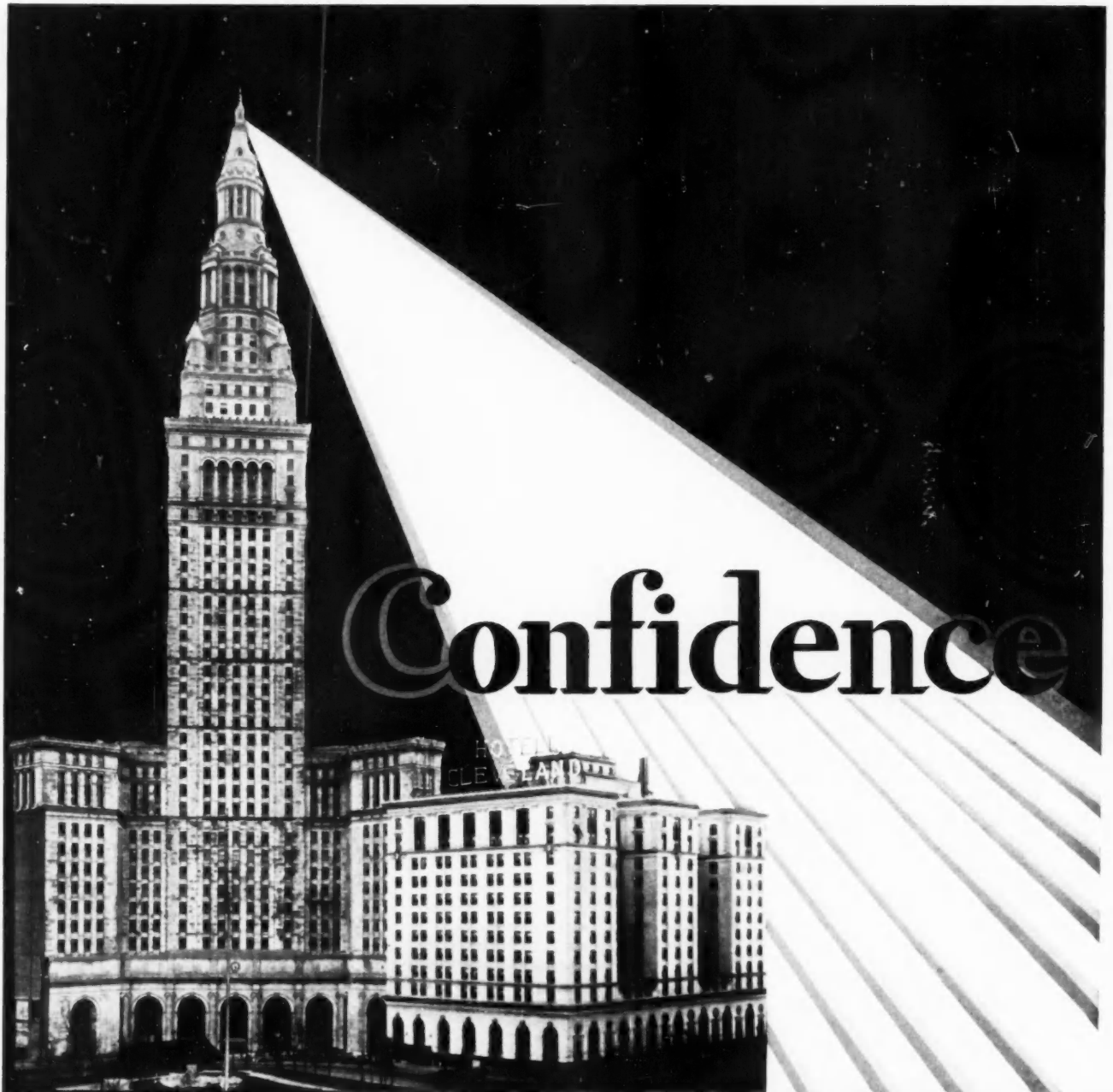
NAME.....

FIRM.....

ADDRESS.....

CITY.....

STATE.....



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UNION TERMINAL TOWER BUILDING  
CLEVELAND, OHIO.

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*Base*—6" x 6", No. 560 black. Field of Wainscot—4 $\frac{1}{4}$ " x 4 $\frac{1}{4}$ " white body, satin mat, color No. 579 green.

*Electric Light Fixtures*—Made of earthenware, same as tile, color No. 564 tan.

*Cap*—6" x 2" pattern No. 4-F, color No. 579 green. Strip below Cap—6" x 1", color No. 579 green.

*Accessories*—Color No. 564 tan.

*Decorative Strip*—Design No. G-014, color No. 636. Strip above Base—6" x 1", color No. 579 green; 6" x 1 $\frac{1}{2}$ ", color No. 560 black.

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NEW JERSEY

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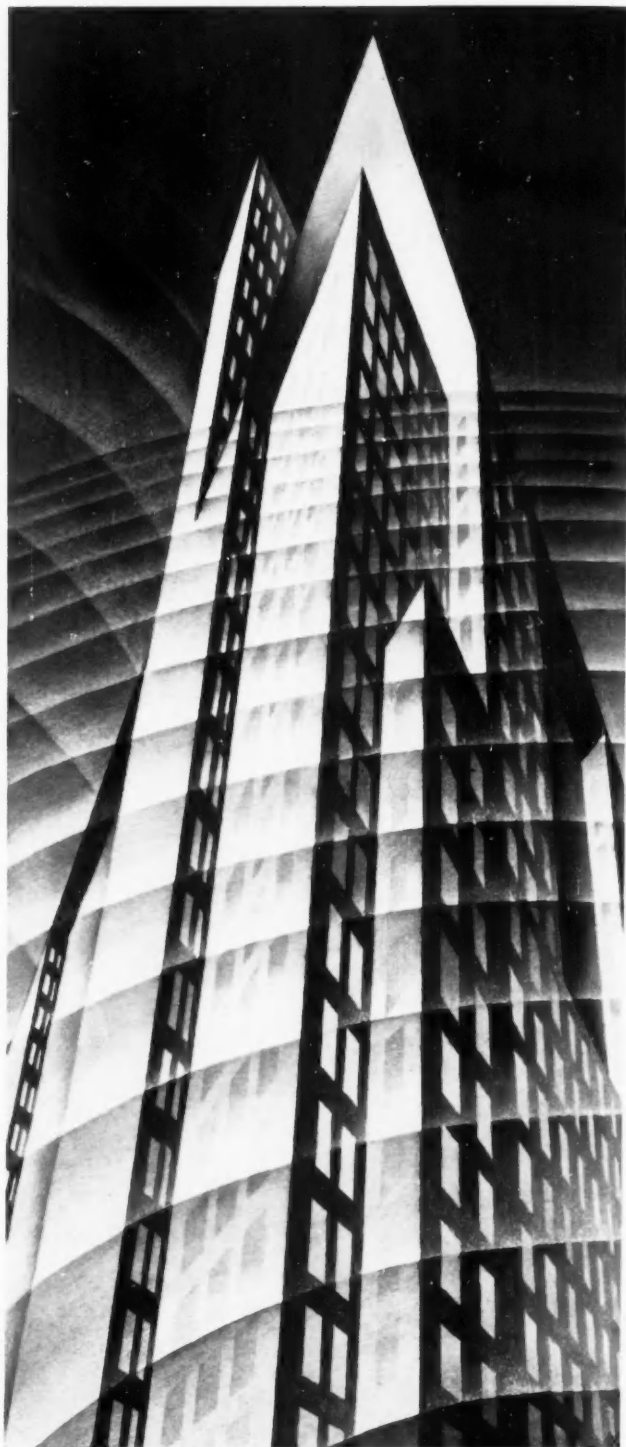
Yet we need quiet, that we may live and rest in peace.

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*The United States Gypsum Company offers a complete sound service, which includes noise absorption and auditorium correction, as well as sound insulation.*

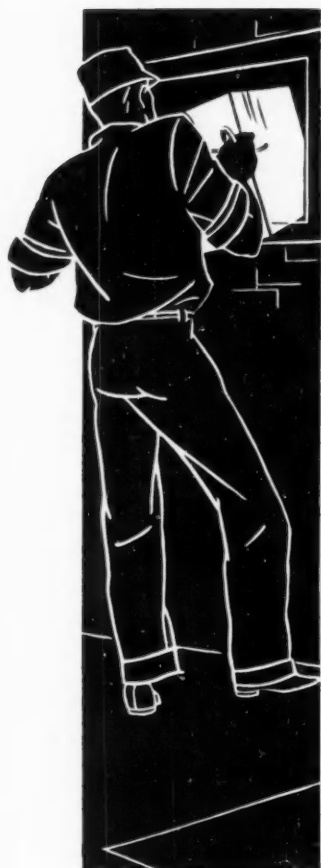


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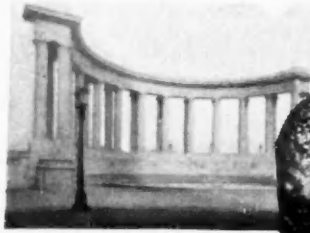
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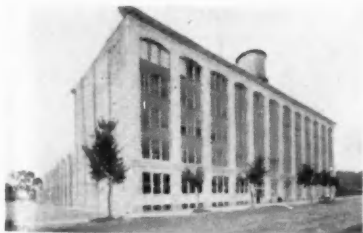
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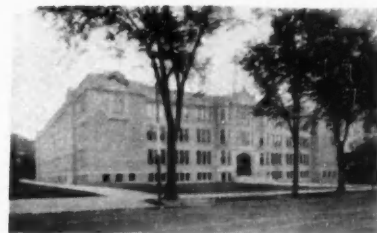
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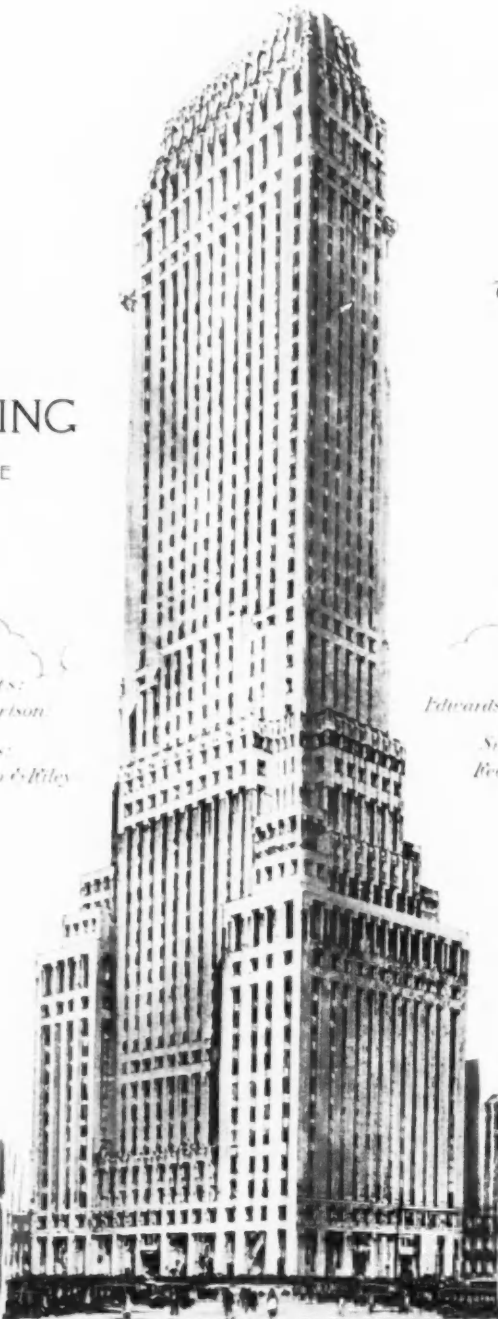
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Sloan & Robertson

*Engineers:*  
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*Chanin Construction Company*  
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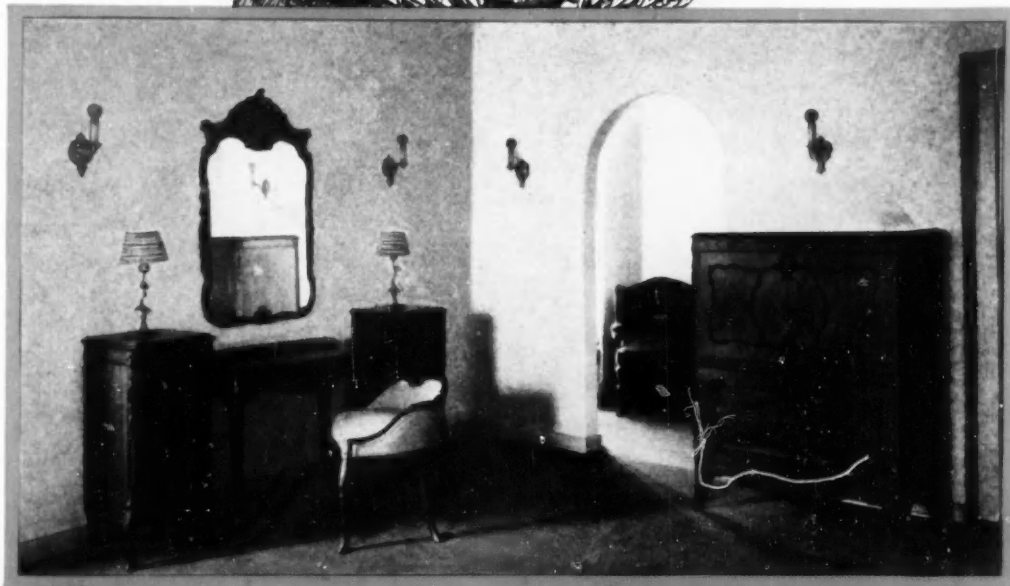
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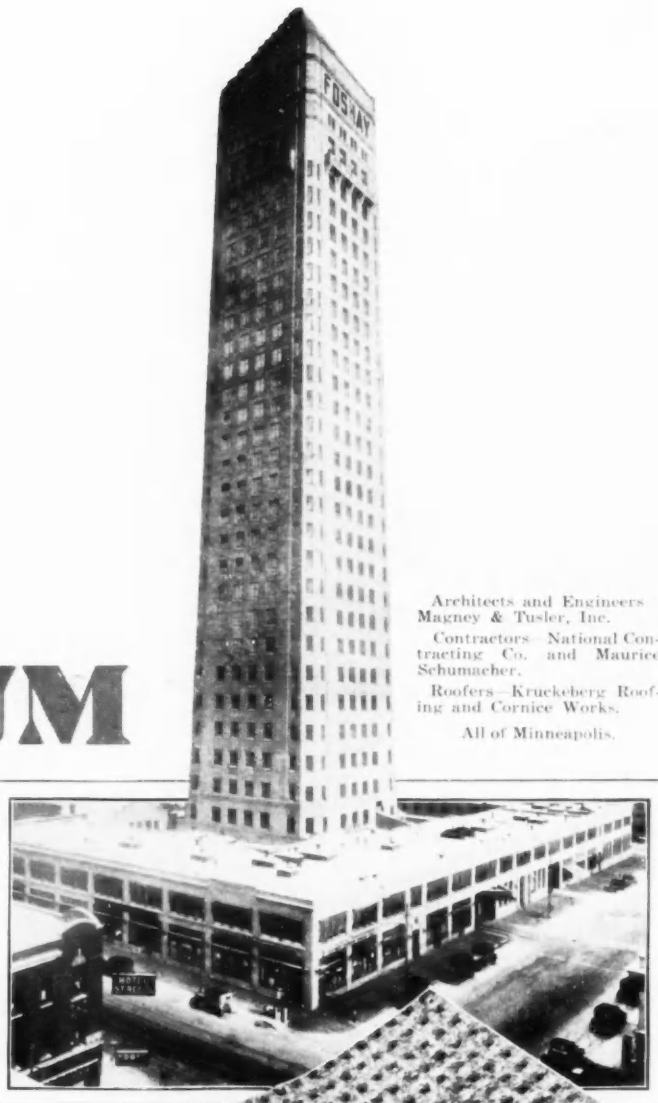
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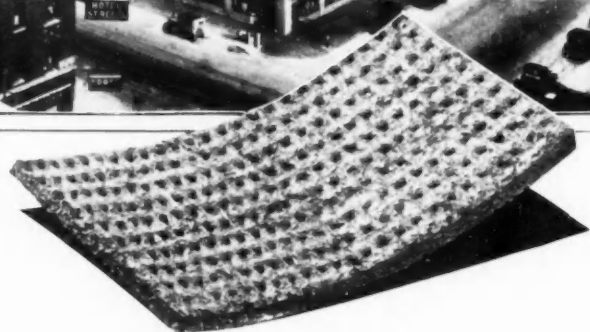
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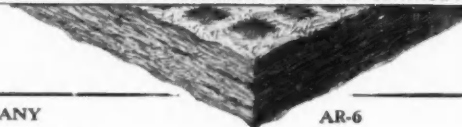


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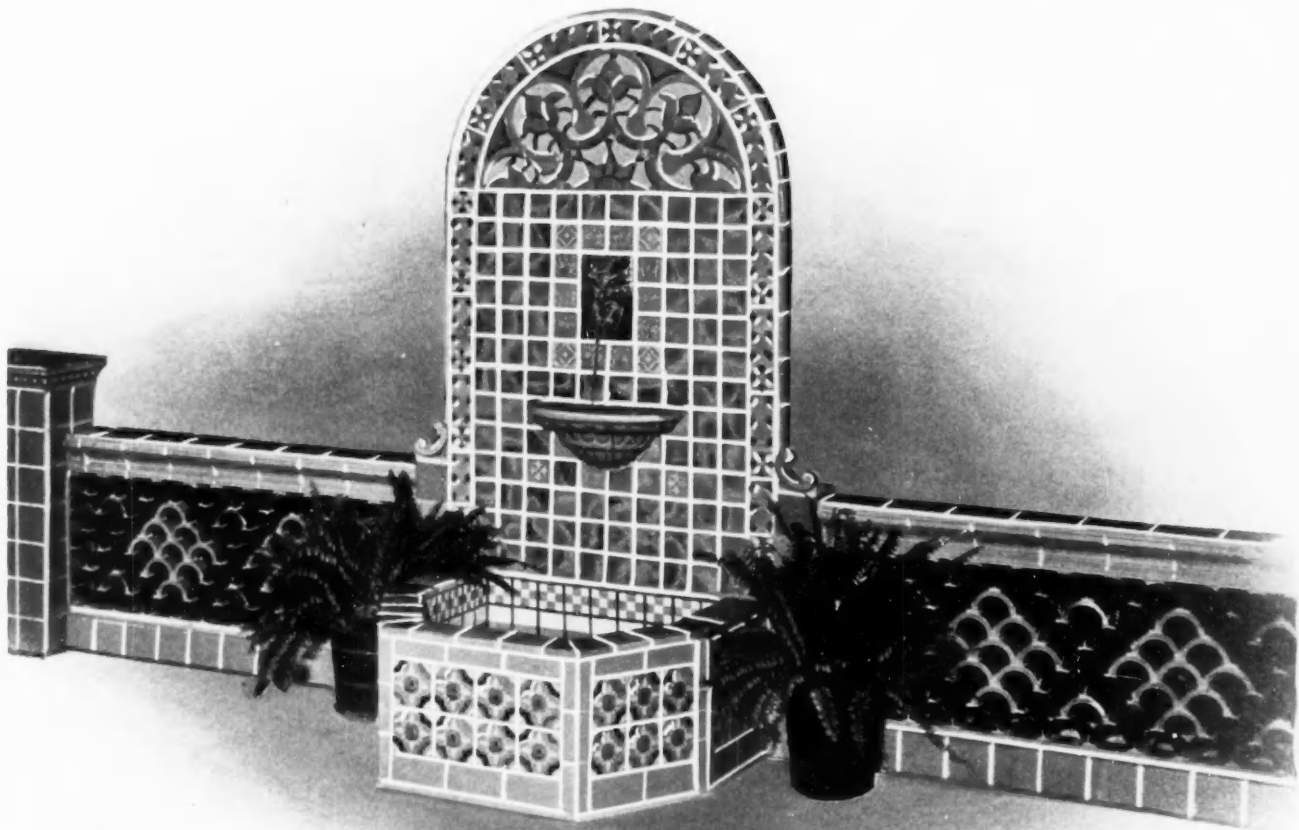


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AR-6



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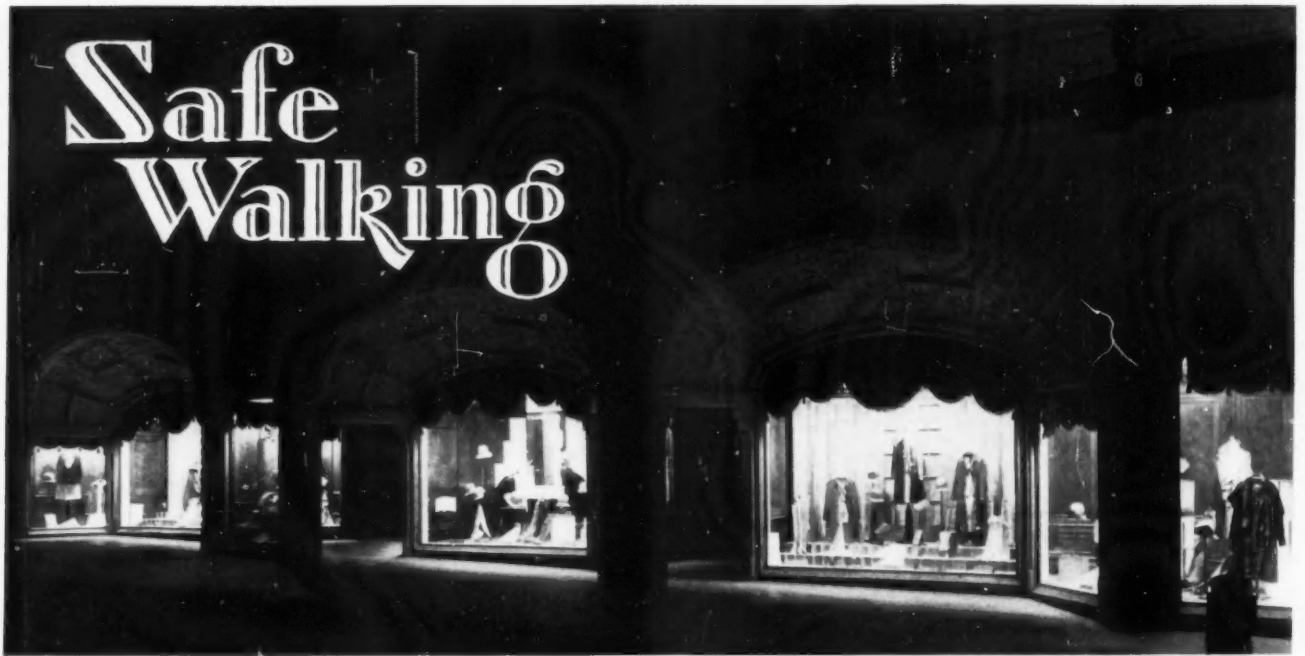
TILES AND ACCESSORIES

SWITCH PLATES

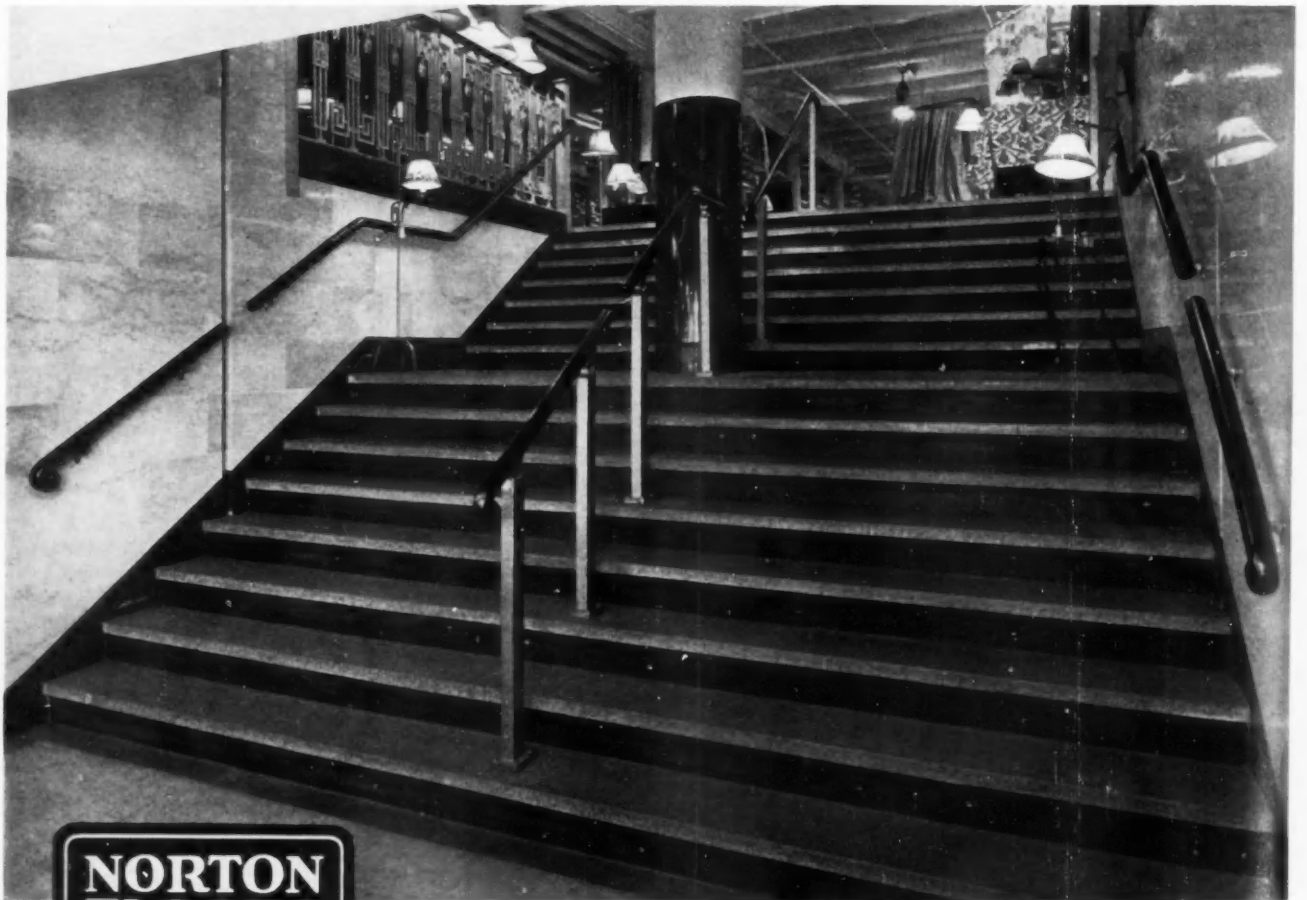
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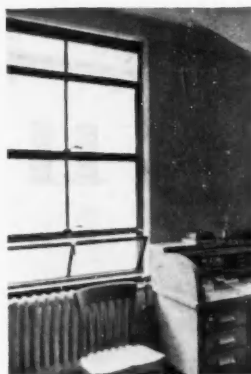


Board of Water Commissioners Building, Detroit, Michigan  
 Architect: Louis Kamper, Inc. Contractor: A. W. Kutsche Co.

**I**N the center of Detroit's business district, the Detroit Water Board Building rises 22 stories high, daylighted throughout with the new Fenestra Office Windows.

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**T**hrough the office of Louis Kamper, Fenestra Steel Windows have been used in the Board of Water Commissioners Building, Detroit



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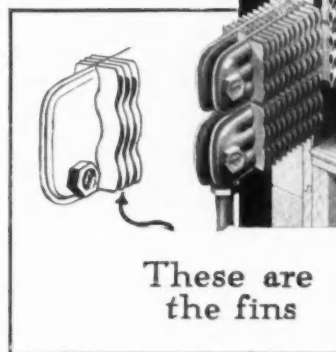
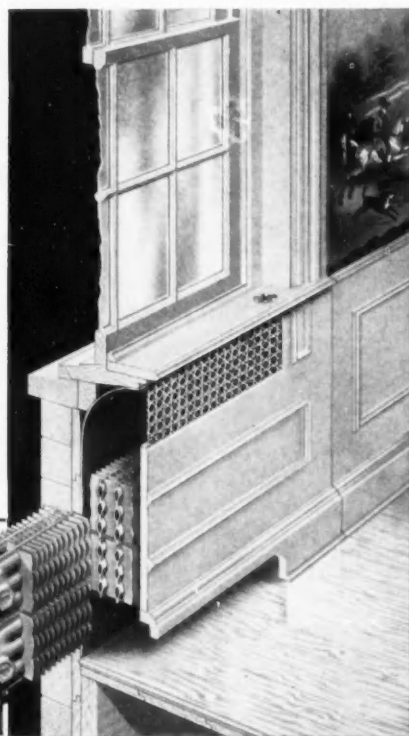
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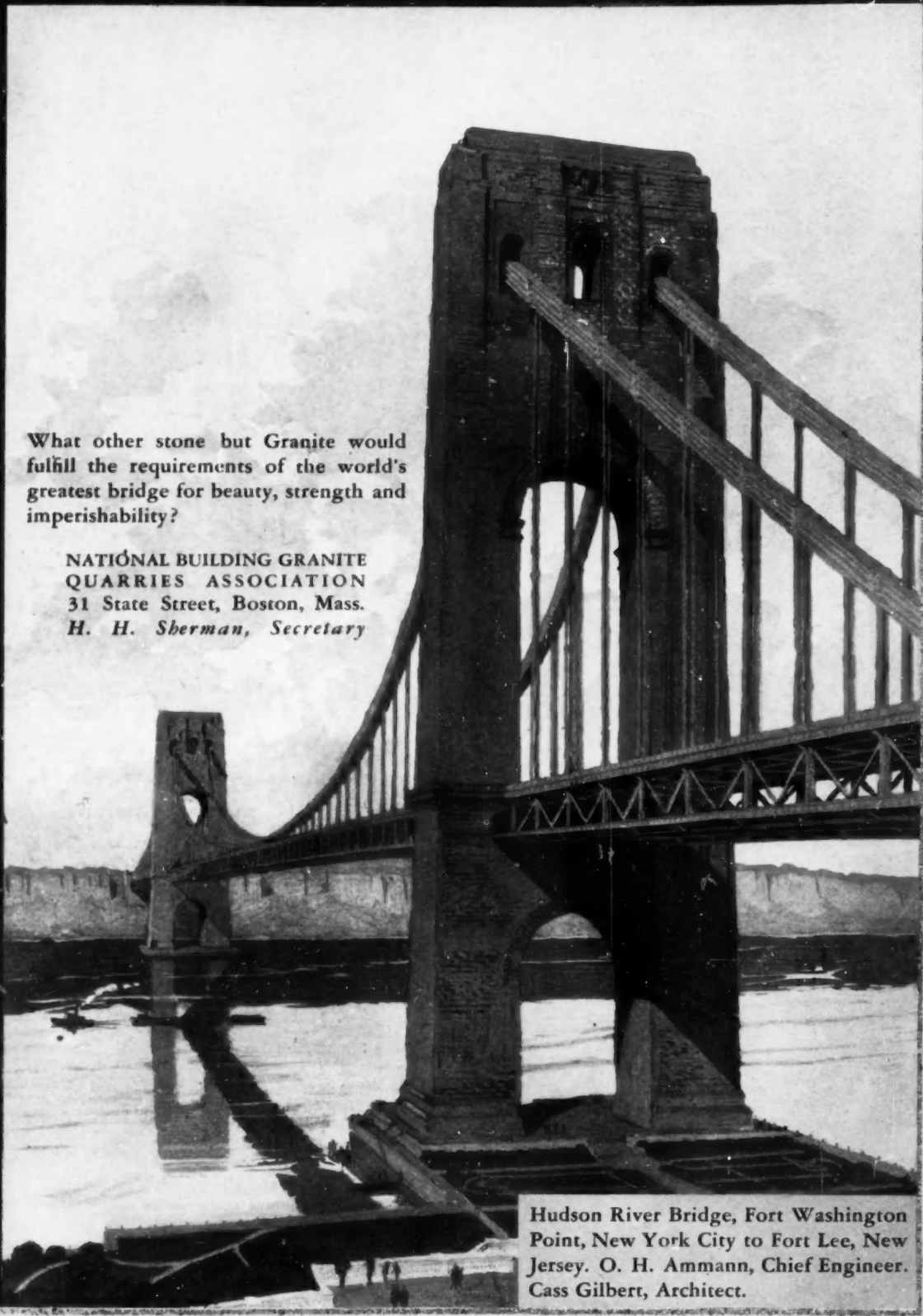
Our booklet, "Proof of the Pudding," is ready to be mailed to you. It shows many interesting ways of installing these radiators out-of-sight and out-of-the-way. Please send us your name so that we may send it to you.

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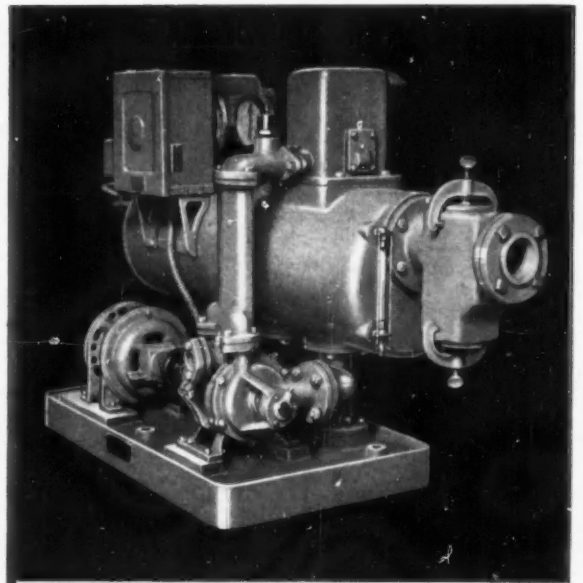
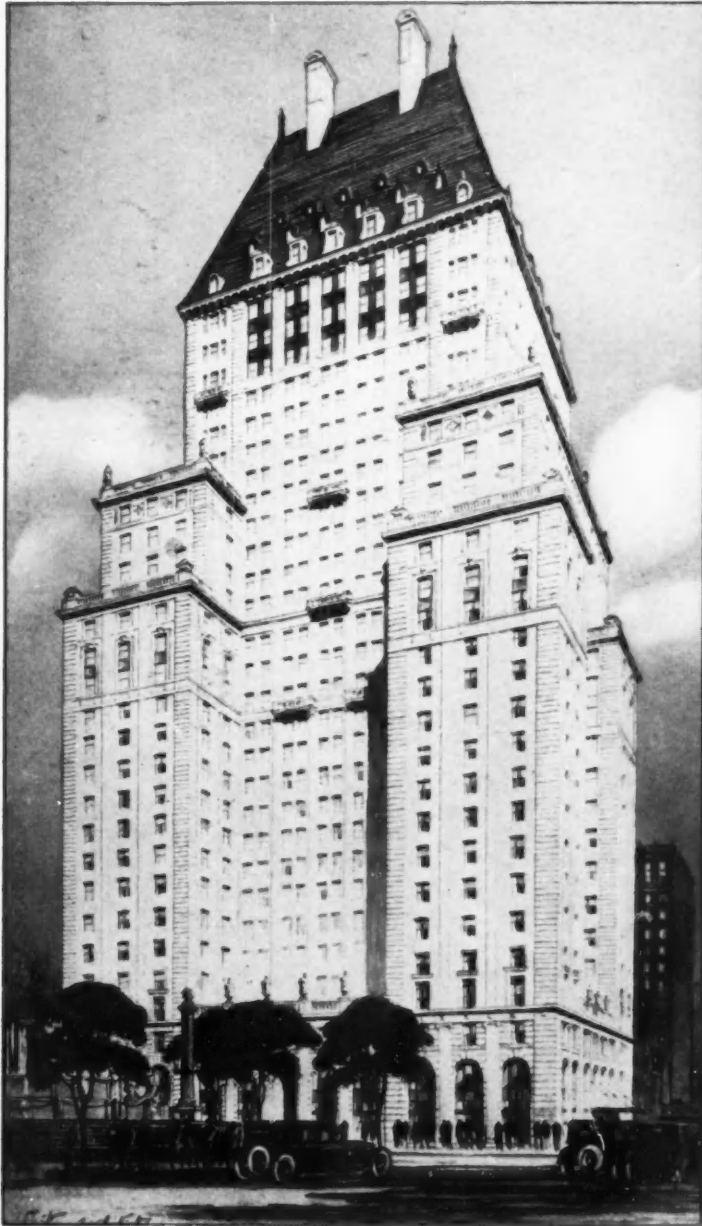
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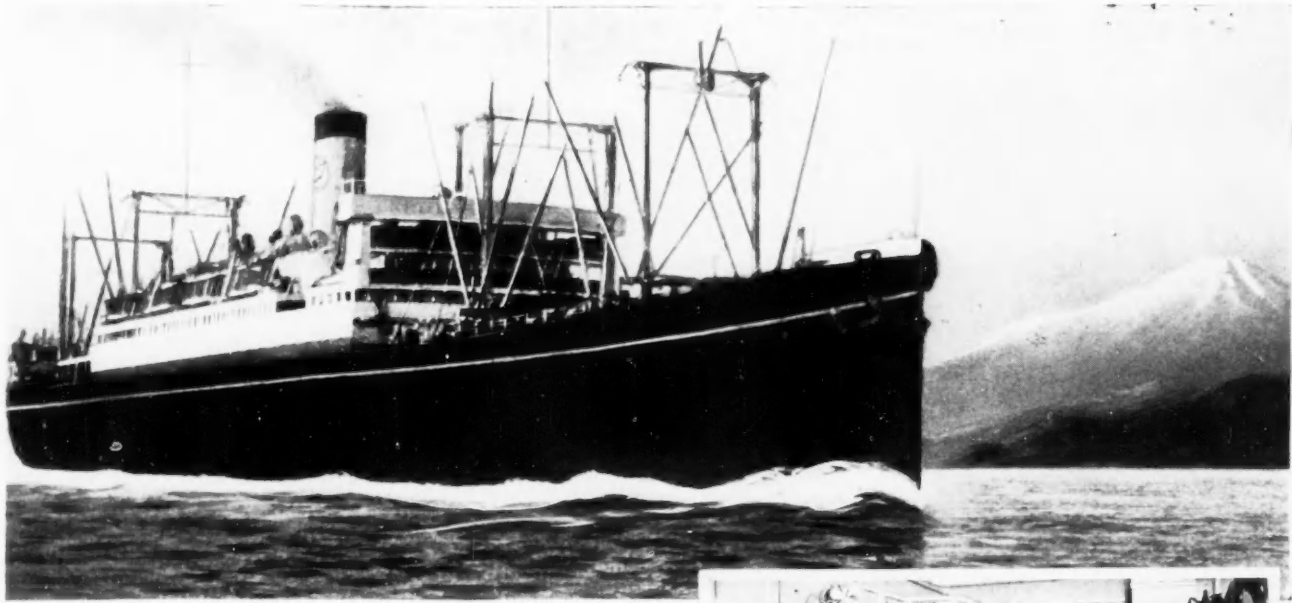


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comes foremost*

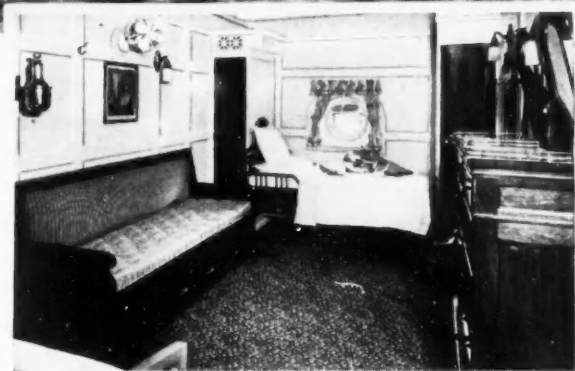
Contributing to the comfort of suites and guest chambers in the luxuriously appointed Savoy Plaza Hotel, where careful thought is given to the most minute details of service, are two Jennings Vacuum Heating Pumps. Keeping the heating system clear of air and condensation, these pumps assure an instant flow of steam to every radiator whenever heat is needed.



***Jennings Pumps***  
THE NASH ENGINEERING CO. 13 WILSON ROAD, SOUTH NORWALK, CONN.



S.S. "President McKinley" of the American Mail fleet. At right: Luxurious stateroom aboard a President liner, typical of the handsome Barreled-Sunlight-painted interiors on all American Mail vessels.



## "Round the World" with the American Mail Line

**S**ELDOM does an interior finish meet conditions more severe than imposed by service on the American Mail steamers.

Ploughing the temperate waters of the North Pacific . . . Cruising through long lazy months in the intense heat of the Tropics—Barreled Sunlight on walls and woodwork of these "Round the World" steamers stands up perfectly in the face of all climatic changes—all variations in temperature.

On voyage after voyage, through month after month of the most exacting service, the surface of Barreled Sunlight remains unchanged, its pure white or handsome tints still richly lustrous, its satin-smooth

finish unmarred by flaking or scaling.

A rich enamel finish with a depth peculiar to itself . . . flawlessly smooth, non-porous . . . stubbornly dirt-resistant . . . washable as tile . . . Barreled Sunlight meets the requirements of the American Mail Line so perfectly that they use it exclusively on every vessel in their huge fleet.

See our complete catalog in Sweet's Architectural or Engineering Catalog. Note coupon below.

In Full Gloss, Semi-Gloss and Flat. Drums and cans. For priming, use Barreled Sunlight Undercoat.

U. S. Gutta Percha Paint Co., 22 F Dudley Street, Providence, R. I. Branches: New York—Chicago—San Francisco. Distributors in all principal cities.



### Easily Tinted

Any desired shade is obtained by simply mixing ordinary colors in oil with Barreled Sunlight white, or by using the handy tubes of Barreled Sunlight Tinting Colors, now available in two sizes.

Quantities of five gallons or over are tinted to order at the factory without extra charge.

# Barreled Sunlight

Reg. U. S. Pat. Off.

U. S. GUTTA  
PERCHA PAINT CO.  
22 F Dudley Street,  
Providence, R. I.

Please send me your booklet, "Information for Architects," and a panel painted with Barreled Sunlight. I am interested in the finish checked here:

Gloss ( ) Semi-Gloss ( ) Flat ( )

Name .....

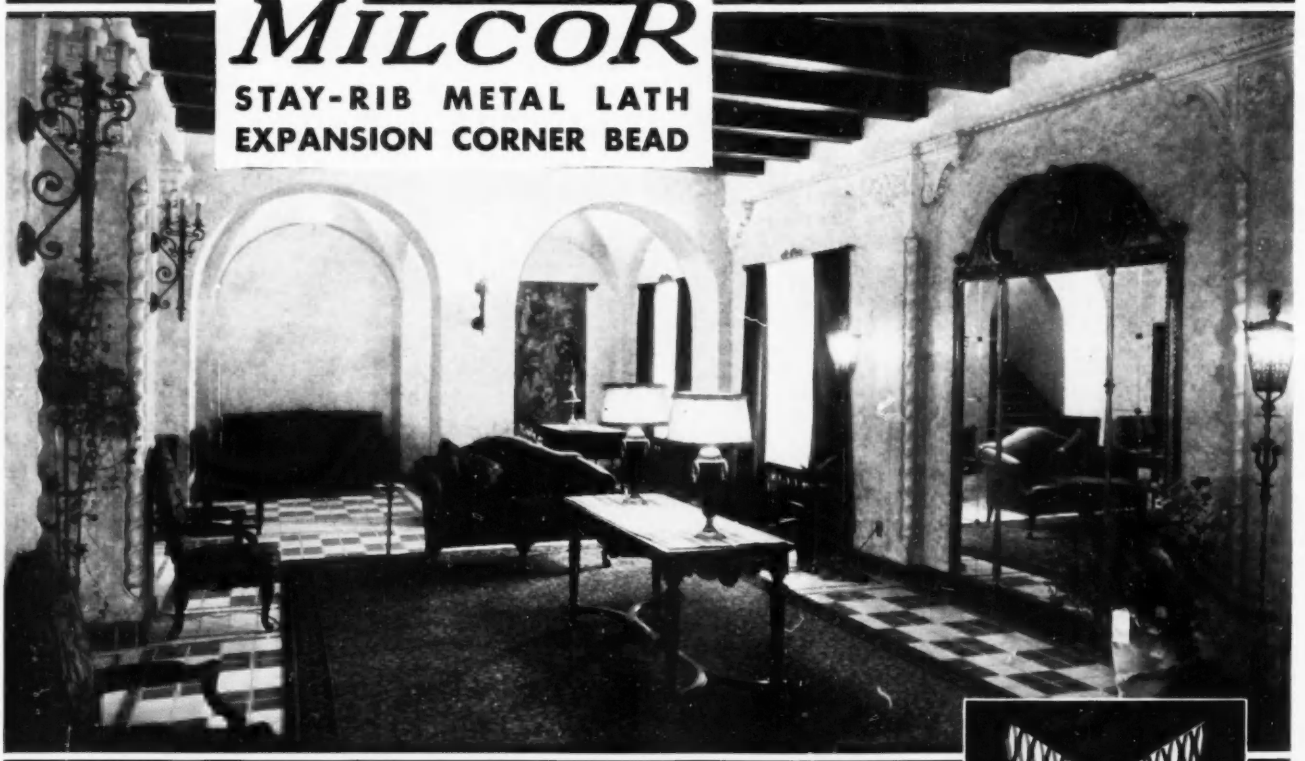
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Make permanent beauty  
part of your specifications . . .

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STAY-RIB METAL LATH  
EXPANSION CORNER BEAD



THE many structural advantages of *Milcor* Products achieve permanent beauty in home construction. In its design *Milcor* Stay-Rib Metal Lath is unique in its unusual rigidity and strength. It provides fire safety and assures maximum protection against cracking. The expanded metal wings which distinguish *Milcor* Expansion Corner Bead and Casing from all other similar products, allows the keying of the plaster right to the actual corner—eliminating the danger of the plaster checking off or cracking . . . Complete details and recommended specifications are contained in the "*Milcor* Manual". We will gladly send you a copy for your file.

**MILWAUKEE CORRUGATING COMPANY**

1407 Burnham Street, Milwaukee, Wisconsin

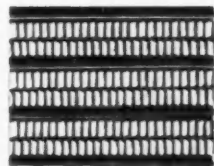
Branches: Chicago, Ill., Kansas City, Mo., La Crosse, Wis.

Sales Offices: Boston, Mass., Detroit, Mich., Atlanta, Ga.

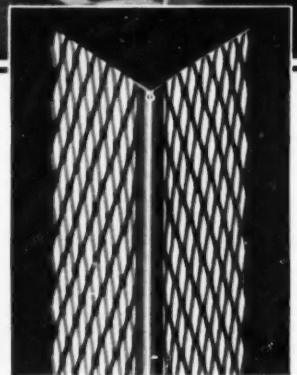
Little Rock, Ark., Minneapolis, Minn.

Eastern Plant: The Eller Manufacturing Co., Canton, Ohio.

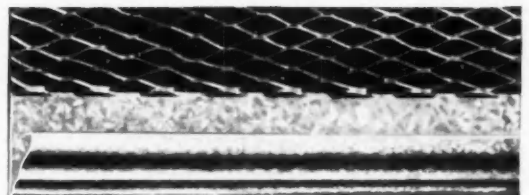
Specifications for every home, large or small, should include these three *Milcor* products . . . Expansion Corner Bead for arches and corners . . . Stay-Rib Metal Lath for better plastering . . . and Expansion Metal Casing for windows and doors. Write for more information.



STAY-RIB METAL LATH



EXPANSION CORNER BEAD



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**MILCOR PRODUCTS**  
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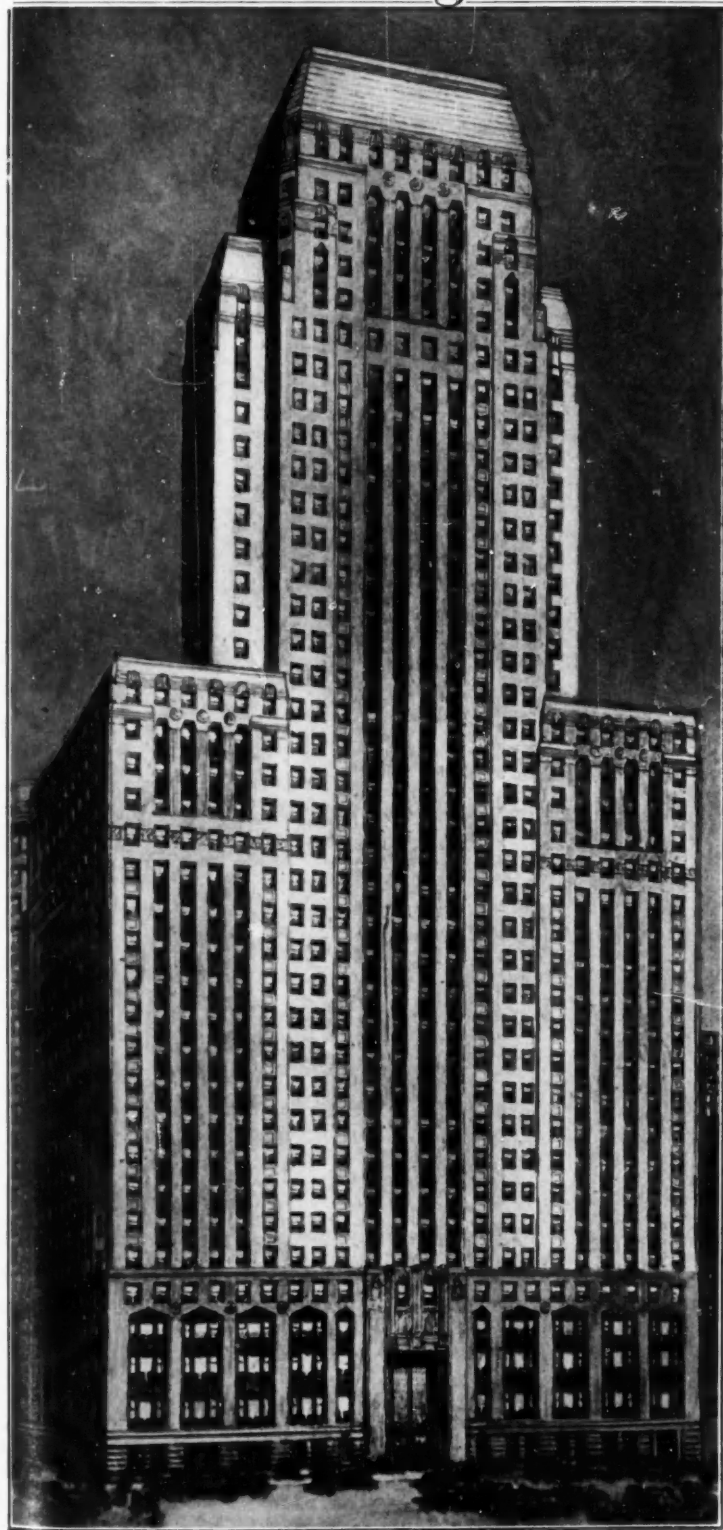
## Good Buildings Deserve Good Hardware



Banks need the  
feeling of security  
that goes with  
Corbin

A FEELING of security fairly emanates from a good bank building. It is not by chance because bankers realize the dollars-and-cents value of a good impression. Every detail of construction and material is scrutinized—particularly the locks. For locks mean security.

In the new Foreman National Bank Building, Chicago, Good Hardware—Corbin is a permanent always-on-guard exemplification of security. Corbin Unit Locks, with master cylinders, guard the doors. Corbin door checks close the doors—silently and surely. Here, where security is paramount, Good Hardware—Corbin is a vigilant protector.



Foreman National Bank Building, Chicago

Architects—Graham, Anderson, Probst & White

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P. & F. CORBIN SINCE 1840 NEW BRITAIN CONNECTICUT  
The American Hardware Corp., Successor  
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**S**AY good-bye to Reading 5-Point Pipe when it is installed—you'll probably never see it again during your life or the life of the building!

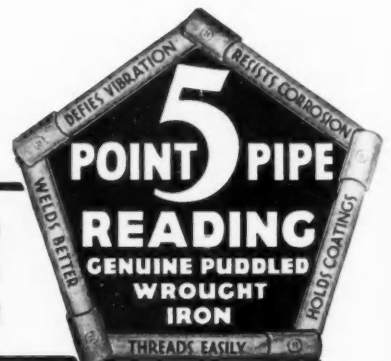
Once in, Reading 5-Point Pipe is in to stay. This pipe is made of Genuine Puddled Wrought Iron, and Genuine Puddled Wrought Iron has proved, time after time, that it will last for generations! Filaments of rust-defying silicious slag are distributed uniformly throughout the structure of the metal by the puddling process. And Reading 5-Point Pipe makes leak-proof joints because it threads so sharply and easily.

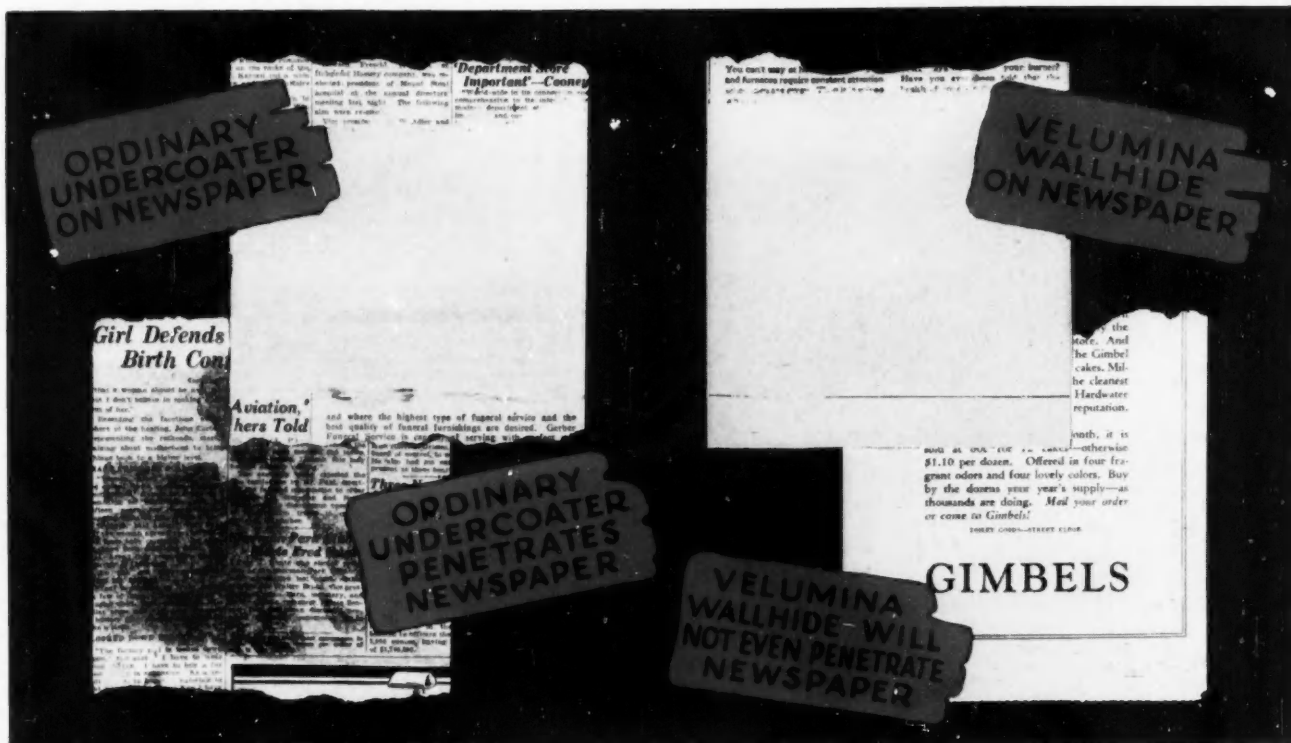
At a moderate price, Reading 5-Point Pipe gives proved protection. The name "Reading" is your guarantee.

READING IRON COMPANY, Reading, Pennsylvania

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**GENUINE PUDDLED WROUGHT IRON**  
**READING PIPE**  
 DIAMETERS RANGING FROM 1/8 TO 20 INCHES





## Seals and "holds out"

SO tremendously tenaciously adhesive that a strip of tin coated with it can be bent and rebent without fracturing or flaking the film. Yet —

### Velumina Wallhide

holds itself out so perfectly that it will not even penetrate through ordinary porous newspaper!

Think of what a saving in material this means on porous walls.

No other product so securely seals against suction spot — lime — alkali — and moisture troubles. *It's the great spot-stopper!*

*New undercoater for plaster walls! Use under any flat wall paint!*

*Great time saver! Overnight drying the maximum, but, according to character of finishing material can often be re-coated in four to six hours!*

Specify it! Because no other material gives such sure insurance against suction spot, lime, alkali and moisture troubles—no other will insure such excellent high standard results in two coat work or offer the time saving possibilities in getting jobs done! Specification writers write for Booklet!

# PITTSBURGH PLATE GLASS CO.

Paint, Varnish and Lacquer Factories, Milwaukee, Wis.

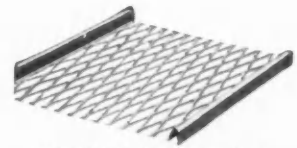
Newark, N. J., Portland, Ore., Los Angeles, Cal.

PITTSBURGH  
Best Products  
Glass, Paint, Varnish, Lacquer  
Brushes



# What About the Core?

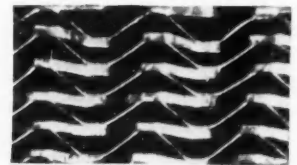
To be good and sound, for long keeping, an apple must have a healthy core. The buildings of tomorrow demand this same qualification — and the metal lath you specify for wall, ceiling and concrete floor construction must be of the highest grade. Kalman offers you an unusually high-quality line of metal lath to choose from. Specifying any one of them will give you the permanency that is demanded in improved, fire-safe construction.



*3/8" Rib Kalmanlath*



*Troff Kalmanlath*



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KALMAN STEEL COMPANY

# KALMAN STEEL

**MODERN FIRE-SAFE  
BUILDING PRODUCTS**

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# The Steuben Club



Baron Friedrich  
Wilhelm von Steuben

...Chicago's beautiful tribute - to a  
German friend of American liberty



THE STEUBEN CLUB  
CHICAGO, ILL.

Architects -  
K. M. Vittum &  
Company, Inc.

Contractors -  
Paschen Brothers

Russwin Dealers -  
Cobb, Whyte &  
Lacmner



**R**ISING majestically to a height of forty-eight stories, the new home of The Steuben Club stands on the site of the historic old Briggs House, famous as the Chicago dwelling place of many notables, including Abraham Lincoln who lived there while conducting his campaign for the Presidency.

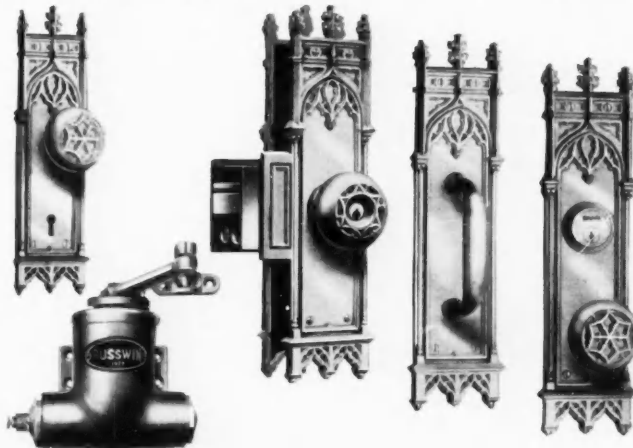
The Steuben Club, founded by Americans of German descent as a testimonial to the illustrious deeds of their forefathers, was named for Baron von Steuben, who won fame in the American Revolution. Von Steuben came to this country in 1777 and volunteered his services to General Washington at Valley Forge. In recognition of his genius as an organizer of

troops and as the author of the first manual of arms used by the United States Army, von Steuben was made Instructor General of the Continental Army with the rank of Major General.

The Steuben Building is one of the largest and most beautiful of its type in the world. The architecture is Modified Gothic, accentuated by a high receding tower with turret-like buttresses at the 27th, 34th, 38th and 43rd floors.

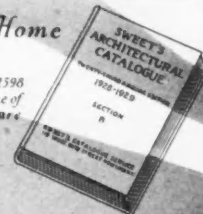
As is true of so many distinctive buildings - large and small - Russwin Hardware equipment was chosen because of its well-known reputation for quality, beauty of design and trouble-free service.

## A FEW RUSSWIN CREATIONS



for the Bungalow ... the Pretentious Home  
... the Monumental Structure ..

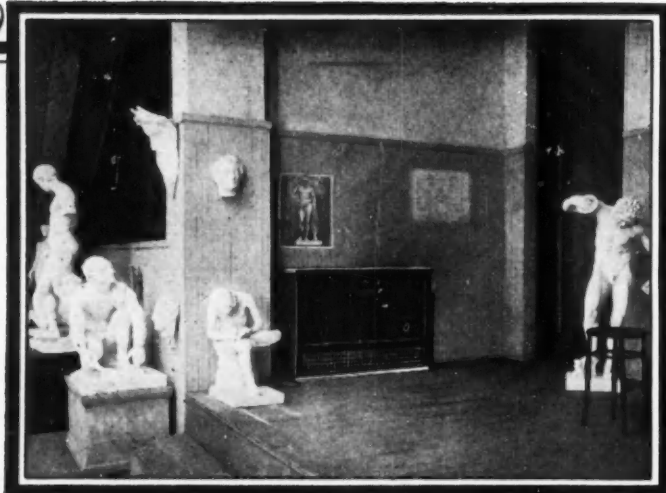
See pages 2519-2598  
for a catalogue of  
Russwin Hardware



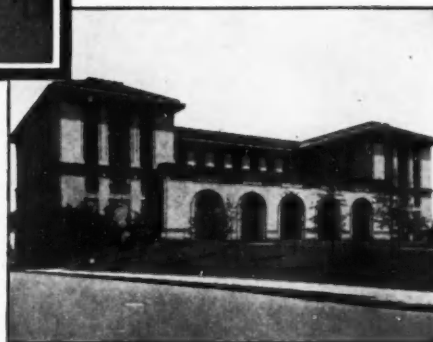
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SINCE 1839  
**RUSSWIN**  
RUSSELL & ERWIN  
DISTINCTIVE  
HARDWARE

Hardware that lasts -  
Base Metals of Bronze or Brass

RUSSELL & ERWIN MFG. CO., NEW BRITAIN, CONN.  
The American Hardware Corporation, Successor  
NEW YORK CHICAGO LONDON



Carnegie Institute. Fine Arts Building, Schenley Park, Pittsburgh, Pa.



## Rapid heating was necessary in Carnegie Institute

CLASS rooms and lecture rooms are not constantly in use. In many instances, classes meet only in the evening . . . then the rooms must be quickly and uniformly heated.

Apparatus capable of rapidly heating is very desirable in many types of buildings. Sturtevant Unit Heater-Ventilators were specified for the Carnegie Institute because—used as recirculating heaters—they provide approximately ten times the amount of heat that direct radiators, of the cast iron type, could furnish.

Sturtevant Unit Heater-Ventilators are also widely used in lobbies—which are always more or less drafty—because of this very important ability to rapidly and uniformly heat by air recirculation.

Their most popular function, however, is that of providing *controlled, draft-free, outdoor air, filtered clean . . . at precise temperatures . . .* regardless of weather condition

or wind direction. Sturtevant Unit Heater-Ventilators assure *air comfort always!*

Sturtevant Unit Heater-Ventilators require no expensive duct work . . . they are compact, handsome in appearance and SILENT! They provide the engineer and architect with a flexible system of heating and ventilation easily adapted to almost every type of building and to almost every special requirement.

Pictures of installations in schools, clubs, churches, public buildings, offices, show-rooms, shops and residences are shown in our new 40-page Data-Catalog. You will find it helpful and suggestive—it will be a pleasure to mail you a copy—no obligation whatsoever!

### B. F. STURTEVANT COMPANY

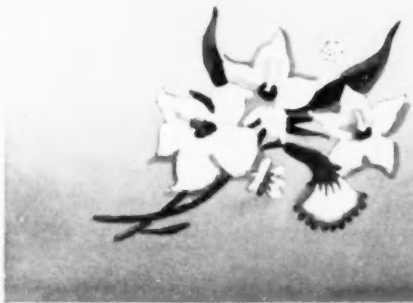
Plants and Offices at: Berkeley, Cal., Camden, N. J., Framingham, Mass., Galt, Ontario, Hyde Park, Mass., Sturtevant, Wis. Canadian Representative: Kipp Kelly, Ltd., Winnipeg, Canada, also Branches in Principal Cities and Agents in Foreign Countries.



# Sturtevant

REG. U.S. PAT. OFF.

## The Silent Unit Heater-Ventilator



# Pleasant memories

**A** PATIENT whose life has been saved at a hospital goes home . . . and grumbles about the food that was served him. Another forgets the fine care she received . . . remembers only the disturbing clatter of footsteps down the corridor which kept her awake at night—or the depressing bleakness of her room. The great work that the hospital is accomplishing is overlooked . . . the drive to build the new wing receives only niggardly support from the public.

Now let us narrow this discussion down to *hospital decoration*—a subject which the average hospital executive dismisses as of slight importance. No one, of course, advocates taking money away from the patients and squandering it on “elaborate” interiors. To be really helpful, a suggestion must be simple and economical.

Suppose that we have a bare minimum to spend on a private room. What is the most that we can do with it? Well, for one thing, colored paint costs no more than white. We can paint the ceiling and walls in some pleasant, restful tint. Finally, instead of installing a lifeless, colorless floor, we can—without being extravagant—put in a floor of two-tone *Sealex Jaspe Linoleum* (brown, as illustrated on this page, for example). Wall, ceiling and floor will blend into a pleasant color harmony—and the whole room will be cheerful and inviting.

Now suppose that we have a minimum to spend on the hospital's main entrance hall. We certainly want the entrance of the



building to breathe cheerfulness and hope — *not* dark, dingy gloominess. What is the most we can accomplish? Finish the walls with an inexpensive “stippled” or “grained” treatment. Then, at small cost, we can install one of the more decorative resilient floors. Sheets of heavy cork-composition are cut into tiles of any desired shape or size. Various colors are combined in hundreds of different designs, with or without borders. On the next page you see a miniature color chart, illustrating only a few of the colors available.

In both the private room and entrance hall, the inexpensive cork-composition floor stands out as a positive decorative unit. It lessens the need for the “fixings” which are usually barred from a hospital interior for sanitary reasons.

Looked at from the practical side, *Sealex Linoleum* and *Sealex Treadlite Tile* floors

(Continued on next page)



# FLOORS

*that leave pleasant memories*

(Continued from preceding page)

have everything to recommend them for hospital use. They are quiet underfoot, resiliently comfortable, famously durable. The newly invented *Sealex Process* renders them immaculately sanitary and easy to clean.

When you want floors of this type, you'll find Bonded Floors Company a pleasant organization to do business with. Designing floors is only one side of the complete Bonded Floors service. We will give you expert assistance on every phase of your hospital-floors problem—will put you in touch with an experienced, dependable distributor of Bonded Floors who knows how to install *Sealex Linoleum* and *Sealex Treadlite Tiles* correctly.

We have specially selected and trained our authorized distributors, with the sole idea of delivering satisfactory floors. Our Guaranty Bond against repair expense is tangible evidence of our confidence in *Sealex* floor materials and in the workmanship of our authorized distributors.

Write us for any information you may require in connection with resilient floors—for buildings old or new. Absolutely no obligation on your part, of course.

## BONDED FLOORS COMPANY INC.

Division of Congoleum-Nairn Inc.

General Office: Kearny, N. J.

Authorized distributors in principal cities

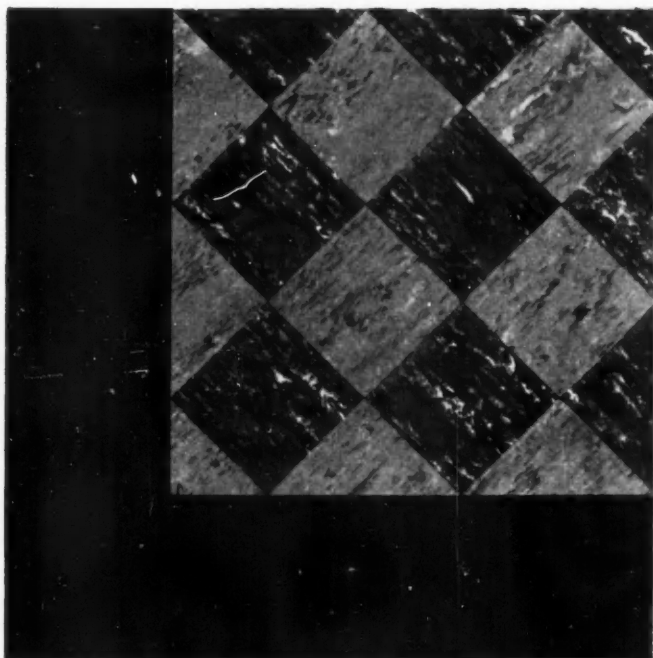
AT RIGHT:

**S**EALLEX Jaspé Linoleum, Green. This soft, two-toned effect is also obtainable in green, brown, dark gray and light gray.



AT LEFT:

**T**ERRA COTTA, obtainable in several grades of *Sealex Battleship Linoleum* and also in *Sealex Treadlite Tiles*. Many other solid colors are available.



This illustration shows how various colors may be assembled to order. *Sealex* Marbleized Tiles of Turquoise Blue and Platinum Gray are used here, with a solid black border. A wide variety of other colors is available.

# BONDED FLOORS

Resilient Floors  
Backed by a  Guaranty Bond

*"Facts You Should Know about Resilient Floors in Hospitals." A booklet on hospital floor problems. May we send you a copy?*

# TERRA COTTA

*Helps Make*

## SUCCESSFUL STRUCTURES

SUCCESSFUL STRUCTURES owe much to permanently attractive exteriors.

TERRA COTTA, alone among architectural materials offers

Color in an almost unlimited palette, for polychromy; for accenting particular detail or for use in broad mass effects, covering all or part of the structure;

Character, thru the variety of surface textures which can be had with no other product;

Interest, because Terra Cotta can be obtained unglazed or with dull matt finishes as well as with the bright glazes, and

Economy in first and ultimate cost, permitting unusual freedom in the use of ornament and decoration.

We have published a number of brochures, each showing the use of Terra Cotta in some particular type of structure, which we will be glad to send upon request.

**NATIONAL TERRA COTTA SOCIETY**

230 PARK AVENUE

NEW YORK, N. Y.

*(On behalf of the Terra Cotta Manufacturers throughout the United States)*

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*for Quiet Zones*

Many Architects and Engineers prefer Imperial Motors because they possess certain definite qualities. Imperial Motors are QUIET running and are built to give years of satisfactory service. That is why they are found in many of our largest and finest buildings. Architects who KNOW put them there.



Squirrel Cage Motor

Especially built for Ventilating Systems, Pumps, Elevators, Hoists, Conveyors, Machinery, etc.

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## HOW TO SPECIFY

"Special importance will be attached to the noiseless operation of all motors. Motors shall be tested for magnetic hum. When connected and erected in the manner approved by the manufacturer, these units shall cause no noise or vibration perceptible in any portion of the building outside the room in which they are placed. In the event of any motors causing objectionable noise, the contractor shall remove such machines and replace them with others that do not cause objectionable noise. The Architect shall decide whether the noise is objectionable or not."

THE IMPERIAL ELECTRIC CO.

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1889

Akron,



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*Branches in Principal Cities*

**Use IMPERIAL QUIET MOTORS for QUIET ZONES**



The distinctive Kohler enameled iron Belmore lavatory gracefully complements the Viceroy recess bath

## The importance of COLORED FIXTURES in the bathroom

**C**OLORED fixtures are daily assuming greater importance in the building scheme. And it is safe to assume that their importance will continue to grow.

At the present moment it is strikingly apparent that the beautiful Kohler colored fixtures have

much more than their beauty to recommend them. They have a newness which is of great value to the client who is building to sell or rent.

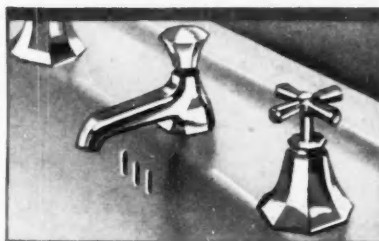
Instances are multiplying to show how Kohler colored fixtures attract buyers or tenants. Builders

of apartments and hotels are gaining marked advantage by installing these fixtures. Architects, accordingly, are examining with increasing interest the possibilities of this ware.

The Kohler colors are delicate, restrained, lending themselves to the creation of tasteful effects of enduring charm. Their variety permits the development of a practically limitless range of attractive color schemes — and affords a most stimulating opportunity to the architect.

We especially invite you to examine Kohler colored fixtures at a Kohler display room. And we shall be glad to send you the new book described in the coupon.

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Shipping Point, Sheboygan, Wis.  
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The completing touch—Kohler "Octachrome" fittings in chromium plate

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LOOK FOR THE KOHLER TRADE MARK ON EACH FIXTURE

The Architectural Record, June, 1929

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Kohler Co., Kohler, Wis., for

A helpful book for the architect. Illustrated in color. Shows bathrooms, kitchens, laundries; color schemes; floor plans; prices.

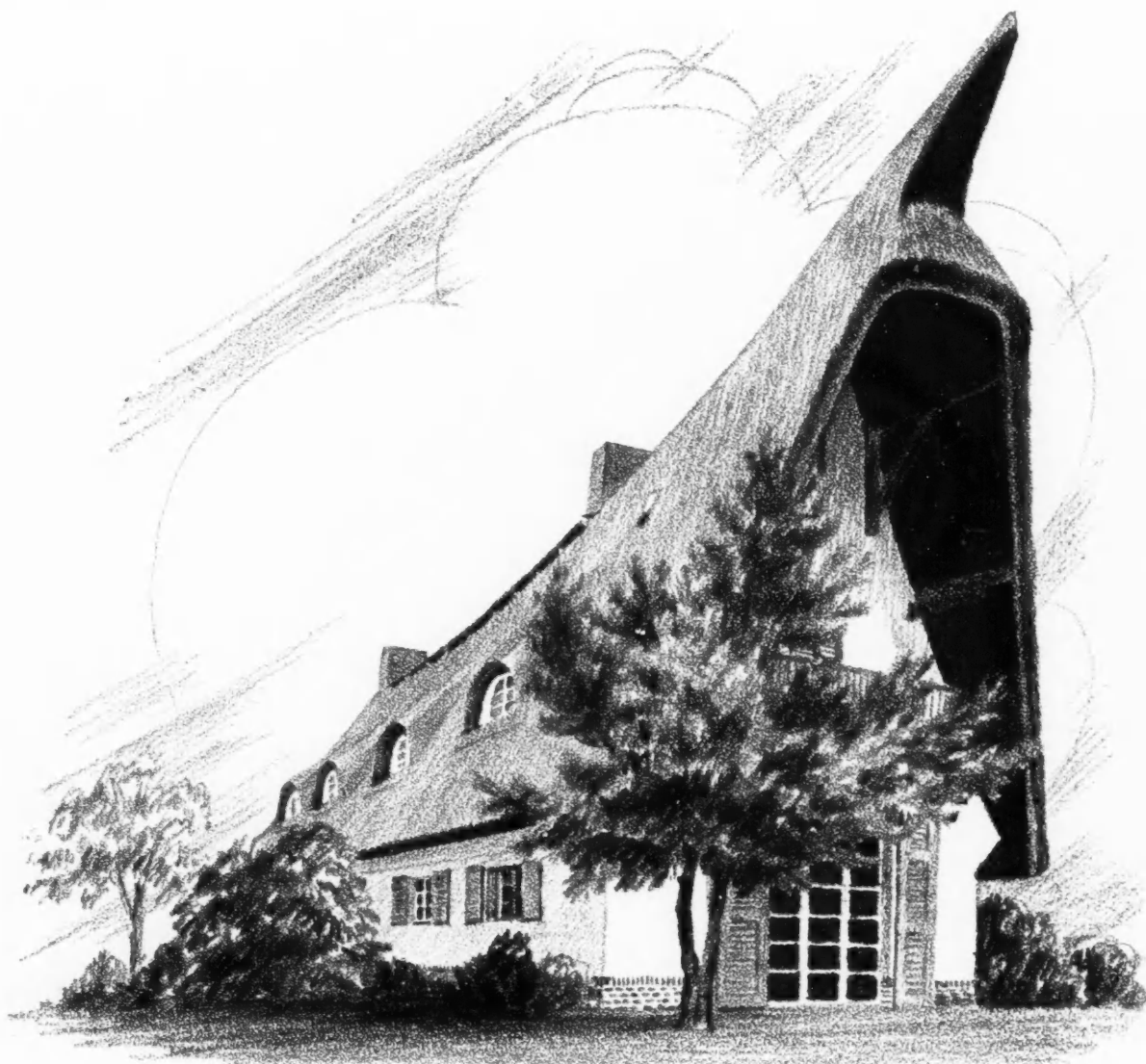
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Street.....

City.....State.....

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AR 6-29



## Like the prow of a viking ship-

### No. 3 of a series

—showing fine examples of European architecture. Above is the Krauskopf country residence at Saarow on the Scharmützelsee, designed by the Berlin architect, Harry Rosenthal. The finish is white stucco and the roof in the old-world thatch effect. Designed for an artist, it suggests the bold, sweeping lines of a Norseman's ship of war.

LIKE THE PROW of a viking ship, sweeping ever forward towards new fields to conquer, modern business aims higher and yet higher towards better and more perfected service. The business of gathering and issuing DODGE REPORTS is constantly disclosing to us ways and means of doing *more*—for the clients we serve and for the architects the detailed news of whose projects we disseminate every working day in the year.

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*A dramatic use of Ceramic Tiles in the lobby of the Avalon Theatre, Chicago. Ceramic mosaic and faience tiles were used to create the strikingly effective floor. John Ebersson, Architect.*

**F**ORMING the floor of this magnificent Moorish interior, Ceramic Tiles—*real tiles*—once more demonstrate their remarkable adaptability to *all* types of interiors.

So widely varied are Ceramic Tiles in color and in pattern . . . so high are they in quality . . . that invariably they prove to be ideally suitable for interpreting a wall or floor design, whether the design is intended for a struc-

ture of simple or palatial character.

Remarkable for the many uses to which they can be put, and for the atmosphere of dignity and beauty that they create, Ceramic Tiles are equally to be desired for their permanence. These tiles insure beauty that *endures!*

Let Ceramic Tiles, with their distinctive charm, interpret more designs for *you*. You and your clients will be more than gratified with the results.



*YOU DERIVE* the greatest benefit from Ceramic Tiles when the tiles are set by experts. Their skilled workmanship is instantly apparent. Select your tiling contractor on the quality of his work.

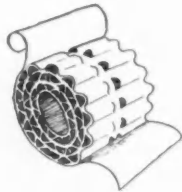
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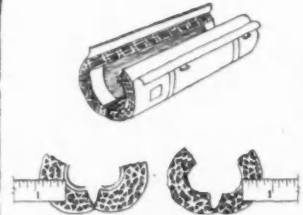
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CROSS CORRUGATED  
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STRENGTH & EFFICIENCY  
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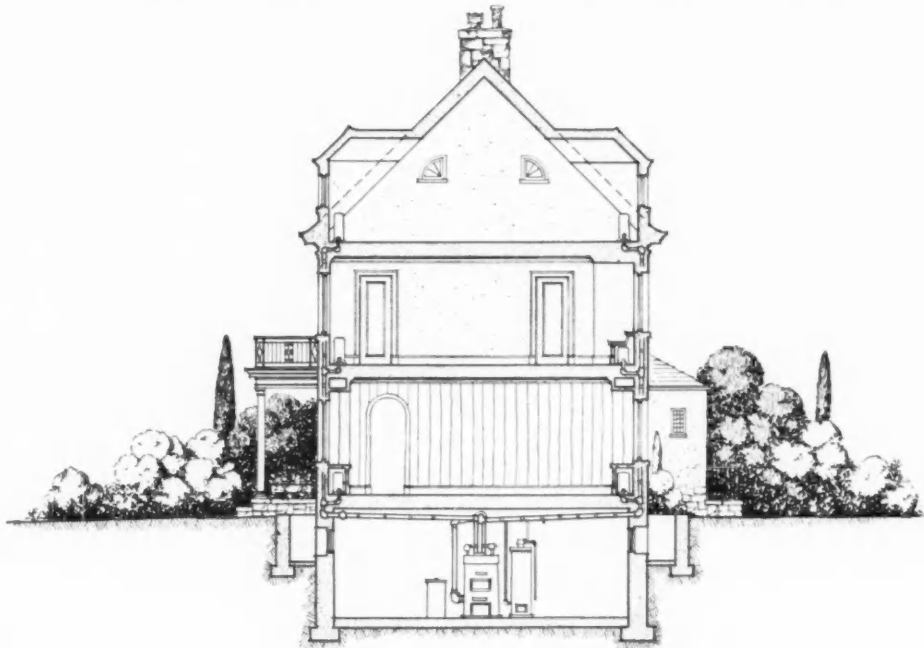


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## Yorkshire Shingle

*Details of* MRS. PETER VAN VLEET  
*Residence* Memphis, Tennessee  
*Architects* GEORGE MAHAN, Jr., and  
 EVERETT WOODS, Assoc.  
 Memphis, Tennessee

The Yorkshire Shingle is 6"x15"x1/2"  
 ... a slab shingle with incidental  
 hand-battered butts and antiquated  
 surface treatment ... not too playful  
 or exaggerated as to become  
 stagey and unnatural.

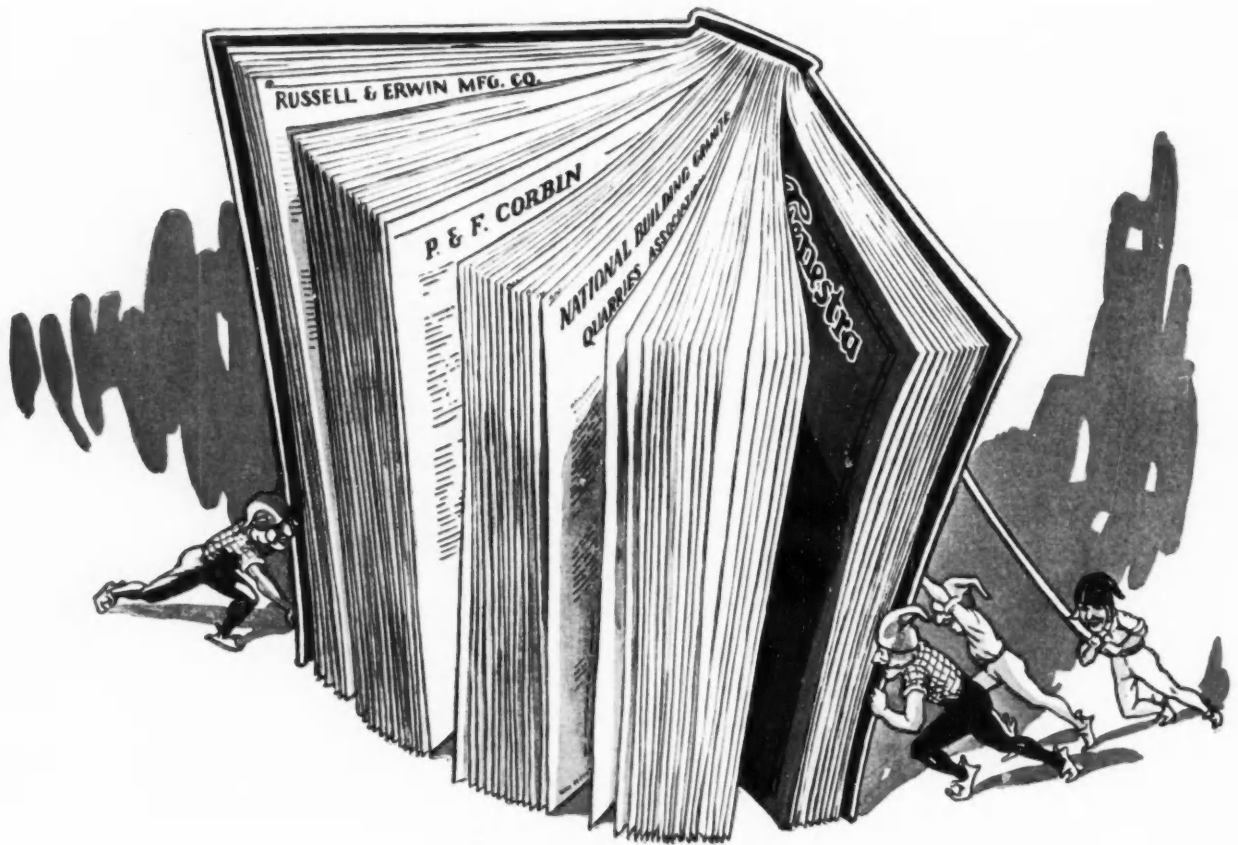
After most careful study of available  
 materials for all details of this resi-  
 dence, the architects selected York-  
 shire Shingle as being the most fitting  
 covering for the roof; perfectly ac-  
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 radiated by the whole exterior.

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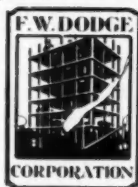
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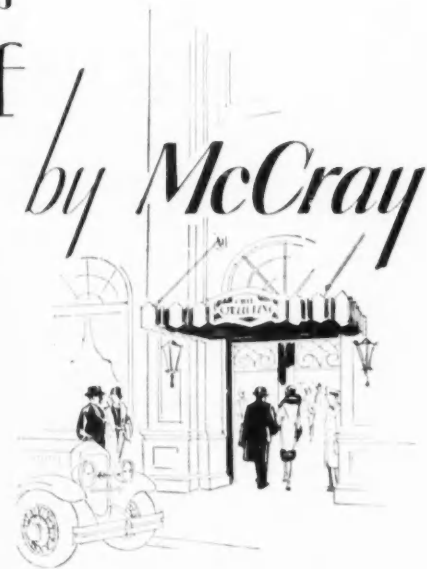
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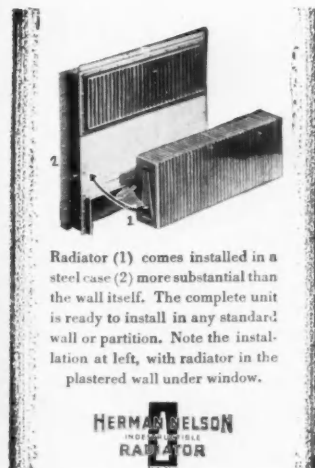
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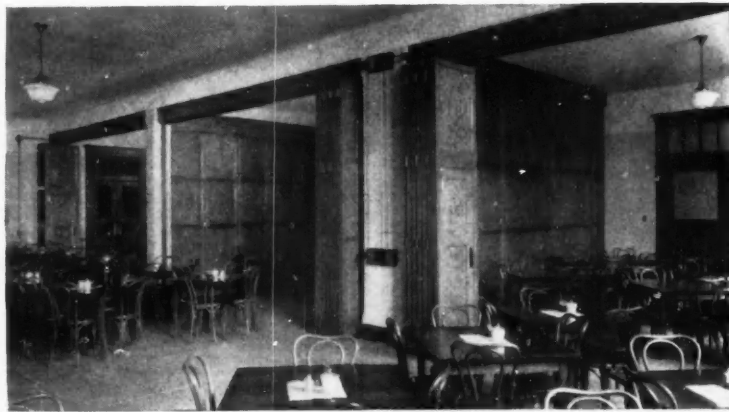
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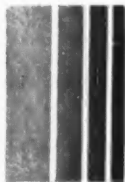
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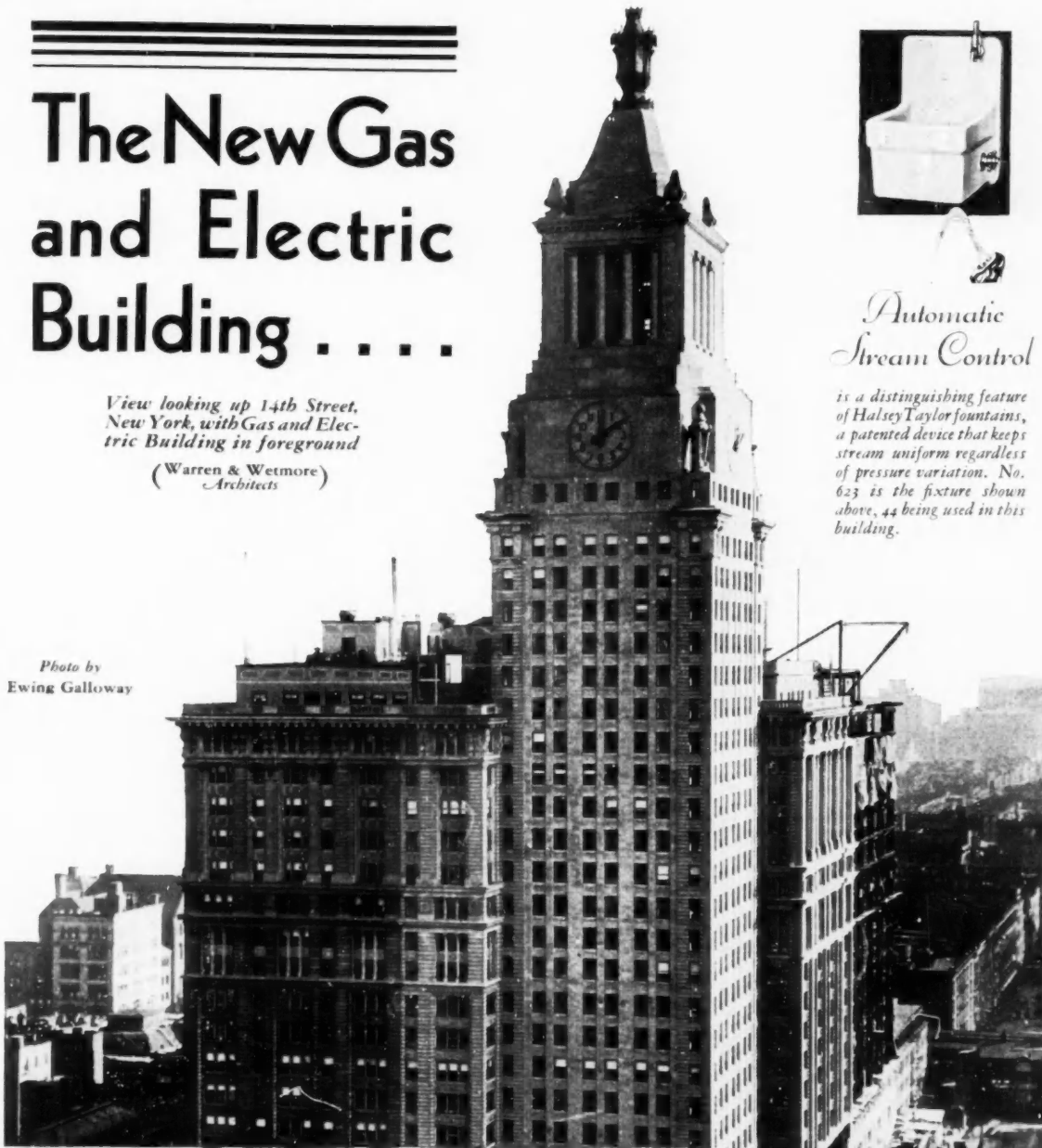
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*View looking up 14th Street,  
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*Architects*

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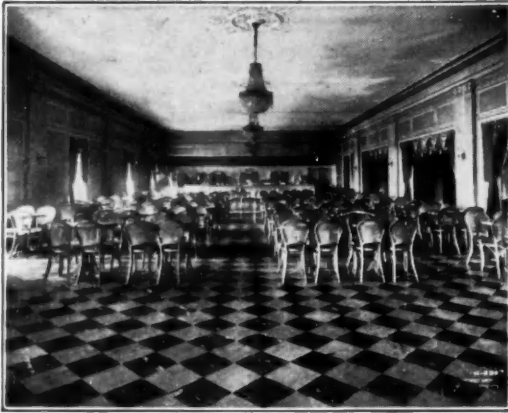
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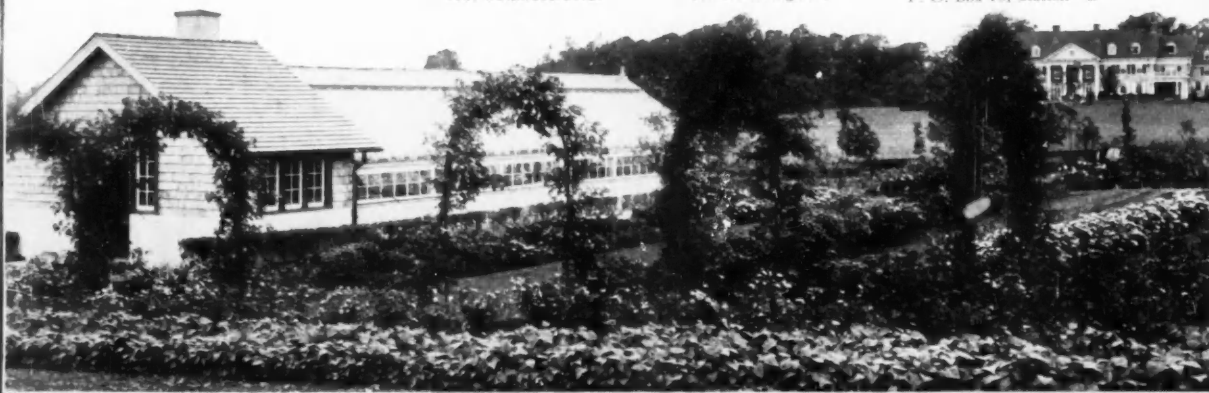
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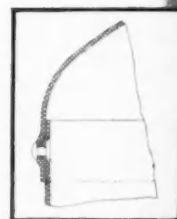
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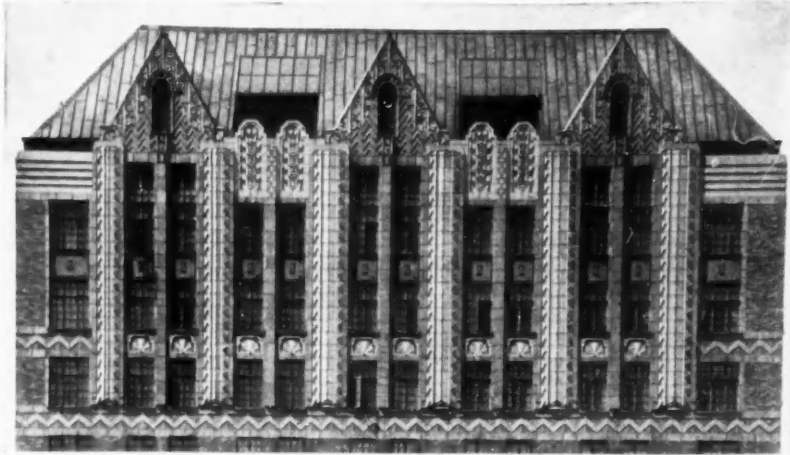
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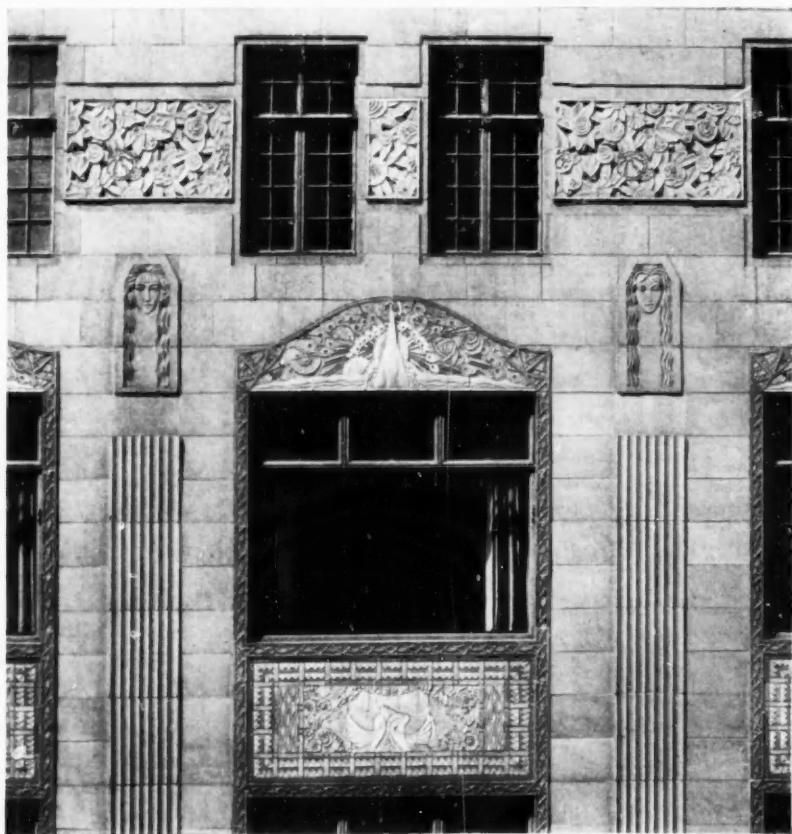
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*See Sweet's, A 4*

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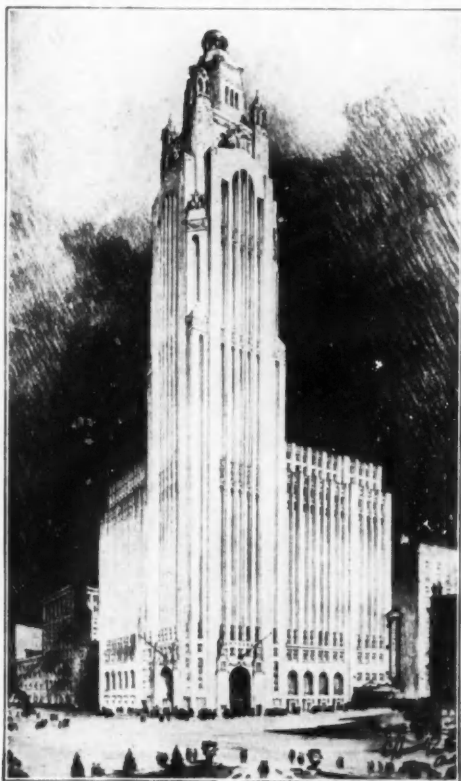
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An Ⓐ man will be glad to help you with estimates or details without cost. Send for the new Ⓐ catalog just out.

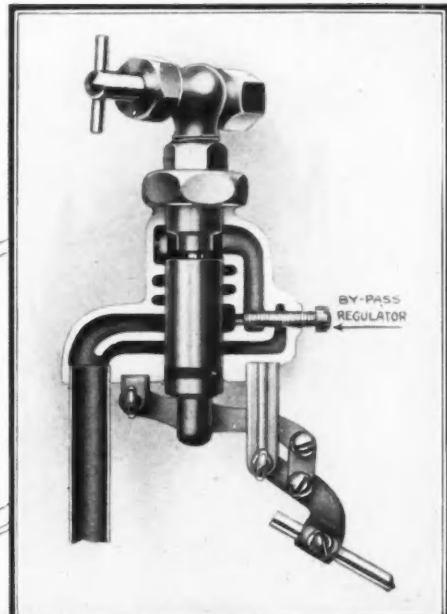
## Frank Adam ELECTRIC COMPANY ST. LOUIS

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## Regular Equipment!

CURTIN ballcocks are manufactured from cast bronze—all seats and plungers are chromium plated—hush and refill tubes Chase seamless drawn copper.

In addition the Curtin ballcocks operate quietly due to the patented rotary control of water. No other ballcocks are like Curtin.

By-pass regulator assures full volume of water at any pressure.

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Specify  
**CURTIN**  
BACK SUPPLY BALLCOCK



## SARGENT HARDWARE IN THE MAYO CLINIC

\*\*\* scientifically chosen for  
its smoother operation and  
greater distinction

THE Mayo Clinic stands as a monument to the skill of present-day architects and engineers. No expense or effort has been spared to make it representative of the very finest in modern design and construction. Every item has been selected with this end in view. Here for its beauty, its perfect operation, and for its permanence, Sargent Hardware has been installed.

Each piece of Sargent Hardware is machined with the utmost precision. Such



The Mayo Clinic, Rochester, Minnesota, Ellerbe & Company, architects, is equipped throughout with Sargent Hardware. The design illustrated at the left was made especially for this building.

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equipment, of solid brass or bronze, gives smooth and satisfying service for the life of the building. All over the country, in office buildings, hotels, apartment houses, schools, hospitals, public buildings, and residences, Sargent Hardware is constantly meeting the most severe tests of beauty and utility. Sargent & Company, New Haven, Connecticut; 94 Centre Street, New York City; 150 North Wacker Drive (at Randolph), Chicago.

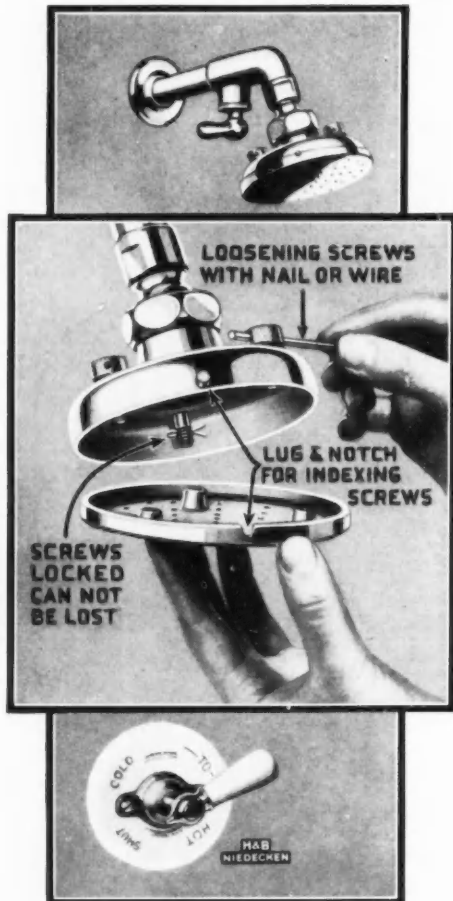
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**SARGENT**  
LOCKS & HARDWARE

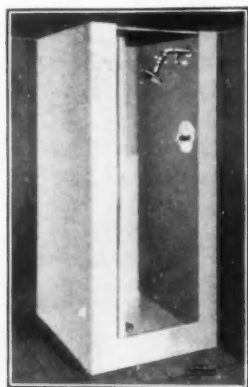
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Are Equipped With  
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The face of the Shower Head is easily removed for cleaning

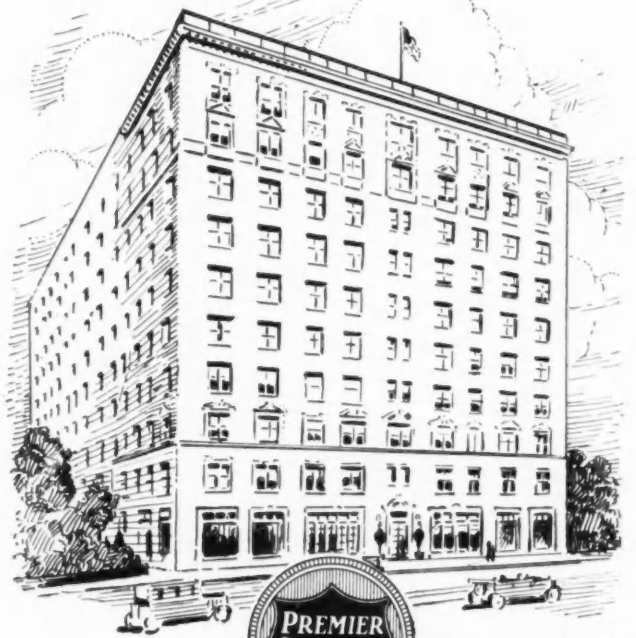


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A Leak Proof Fixture which can be installed even in a Bed Room.

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THE Marmaduke Apartments offer an added attraction to tenants because of Premier Conveniences. The 124 apartments in this new building have the Premier installations illustrated below.

Premier sectional kitchen cabinets can be assembled in hundreds of different arrangements. All Premier products (in various sizes) are just as easy to install in old homes or apartments as in new ones. They are sold only by dealers and distributed by jobbers in more than 100 principal cities.



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Please send illustrated booklet of Premier Built-Ins:

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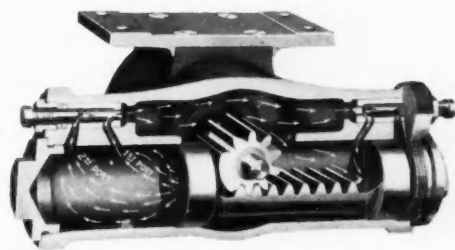
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The fact that so many of the country's representative schools, hospitals, buildings and homes are equipped with

## NORTON DOOR CLOSERS

shows that architects regard the door closer of sufficient importance to be considered alone. Such consideration leads to specifying Norton. Its superiorities are self-evident.



*See full data in Sweet's, pages B. 2408-2412 or send for catalog.*

**NORTON DOOR CLOSER CO.**

*Division of The Yale & Towne Manufacturing Co.*

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SPECIFY CRANE VALVES AND FITTINGS**

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# CRANE

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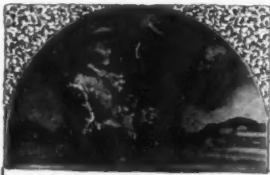
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**THEY GIVE QUALITY BEHIND THE WALLS AS CRANE  
FIXTURES GIVE BEAUTY IN THE OPEN**

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ESTABLISHED 1875



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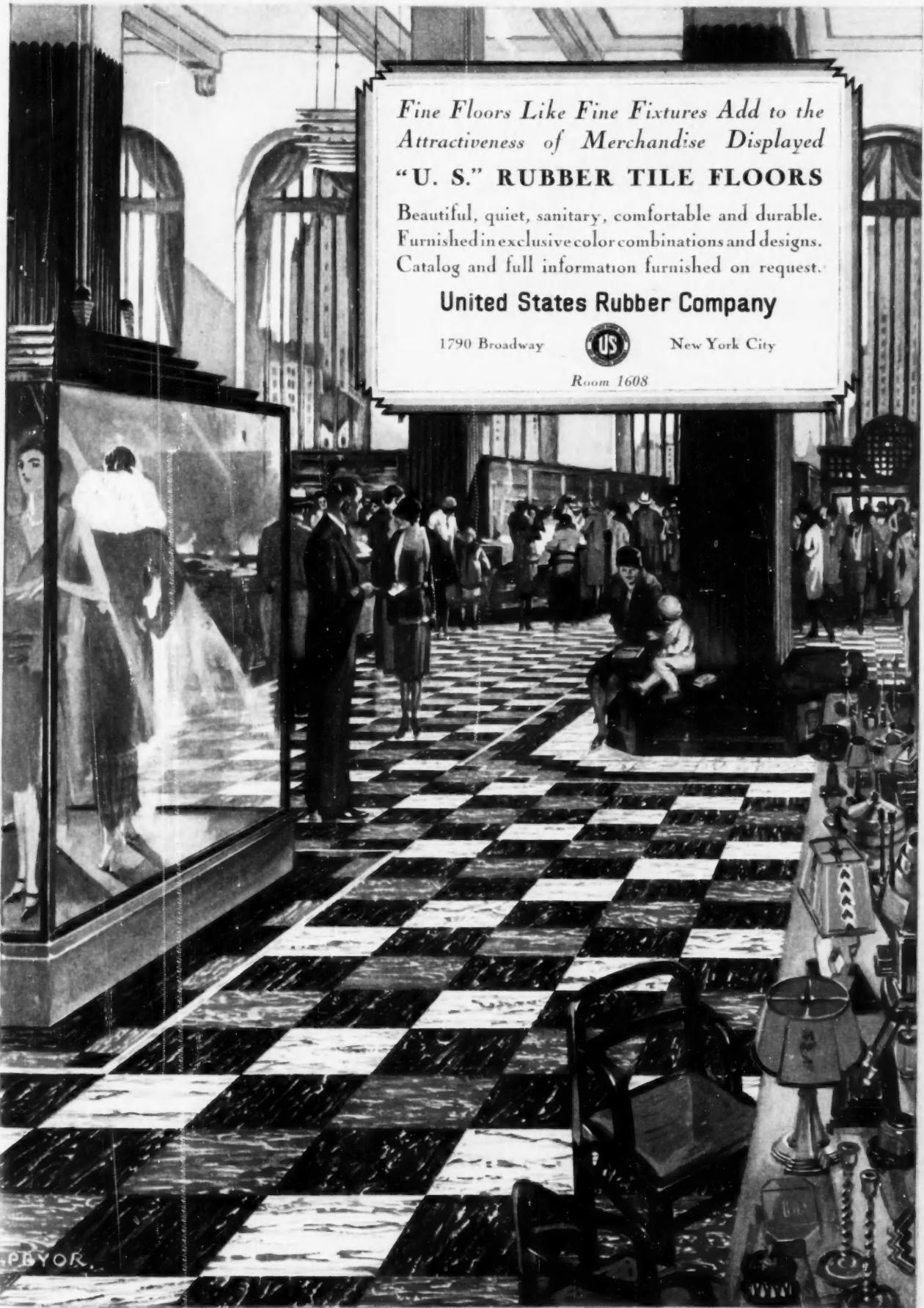
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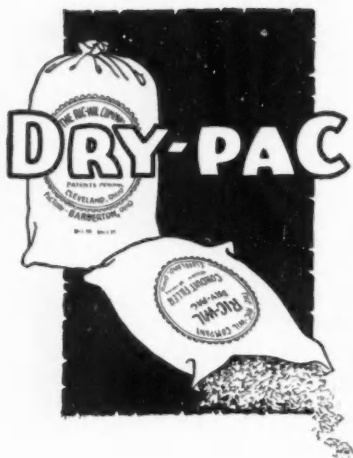
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New York City

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SINCE moisture makes insulating materials worse than useless, the most serious problem of the architect planning underground steam lines has in the past been to make the conduit water-tight.

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Time, moisture nor temperature affect Dry-paC. And its efficiency is extraordinary. Tests of completed Ric-wiL installations are showing 92% to 94% efficiencies.

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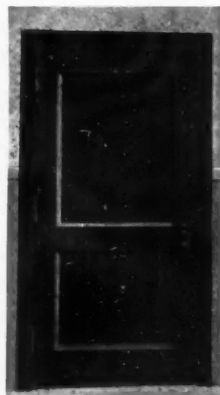
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Baked Enamel Finishes (when desired) that are even more attractive than natural wood.

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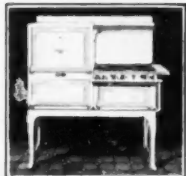
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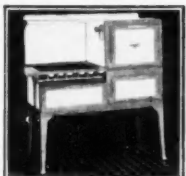
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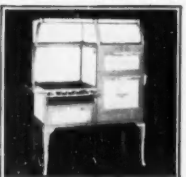
**DANGLER**  
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The bride finds it easy, the experienced housewife easier, to cook with a Red Wheel Gas Range. All-enamel finishes are attractive, durable and easy to keep clean. Capacious ovens and efficient broilers produce food that is deliciously cooked, thereby making tenants more contented.

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IT IS NOT A  
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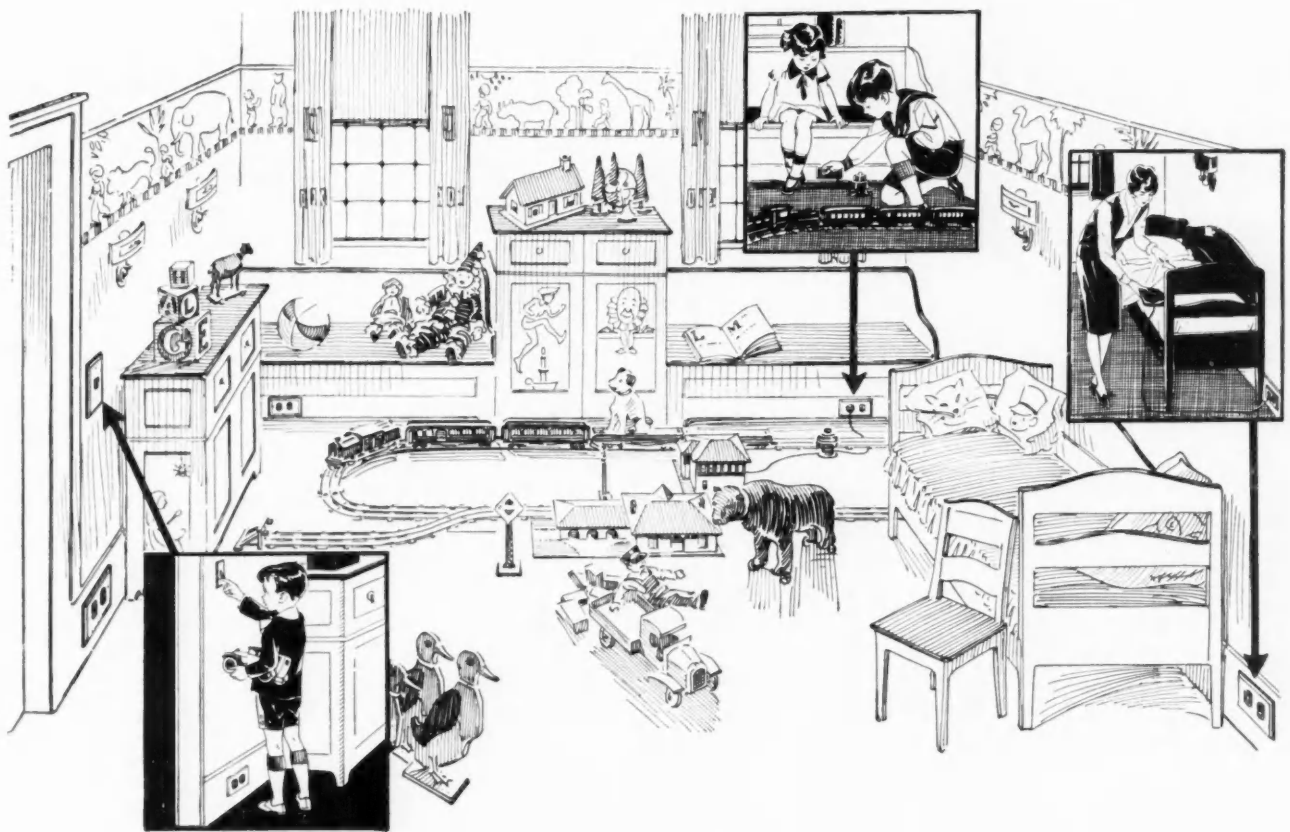
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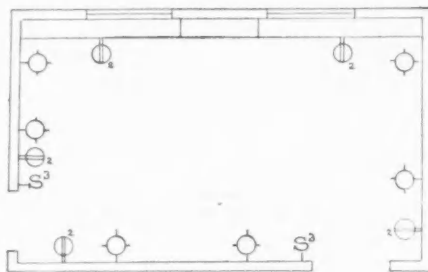


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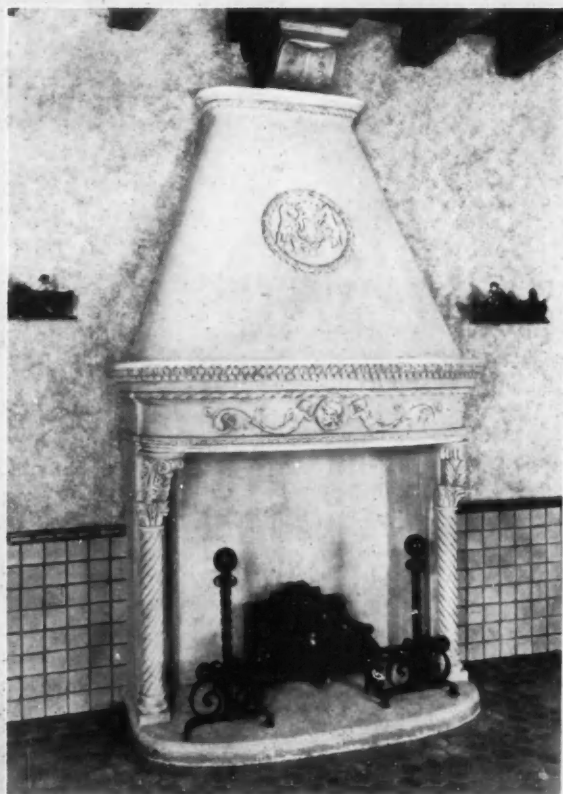
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Client and architect reach a definite understanding with "American Greenhouses" open on the table.

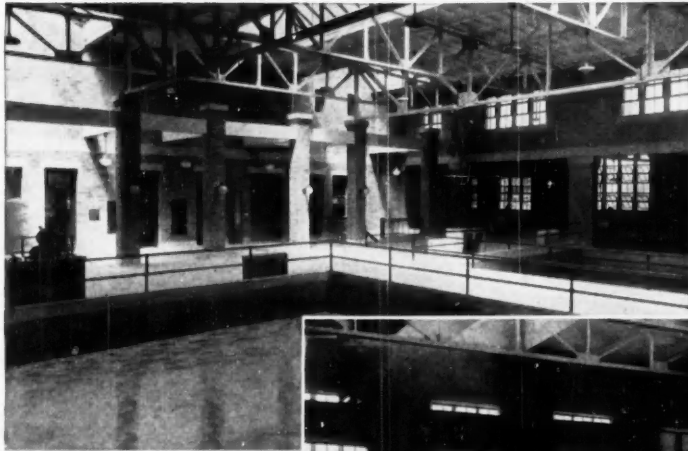
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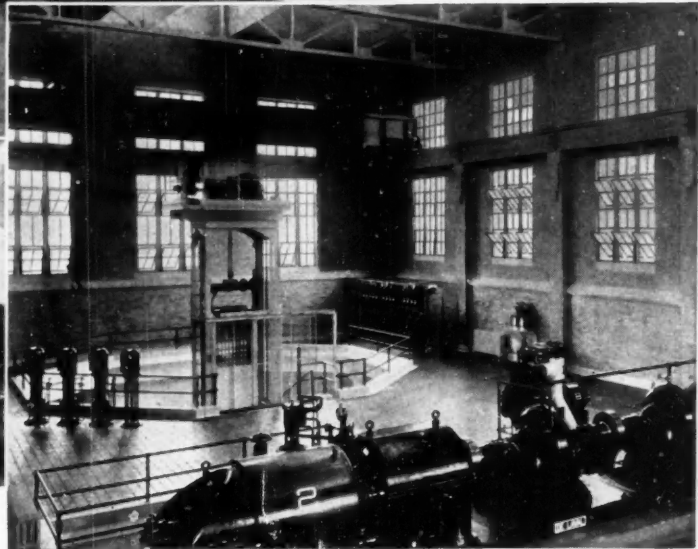
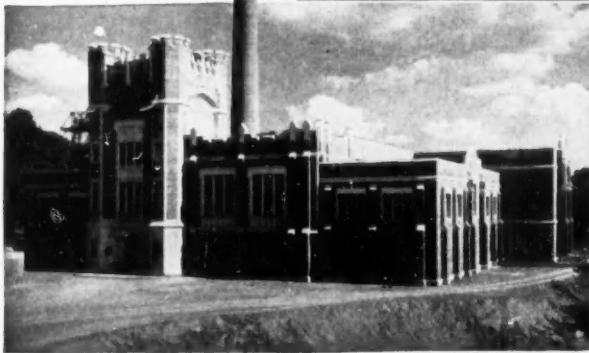
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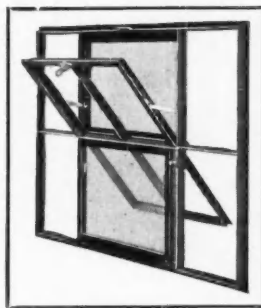
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Spanish Metal Tile

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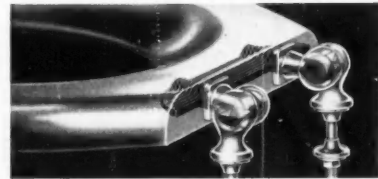
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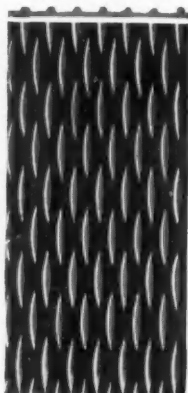
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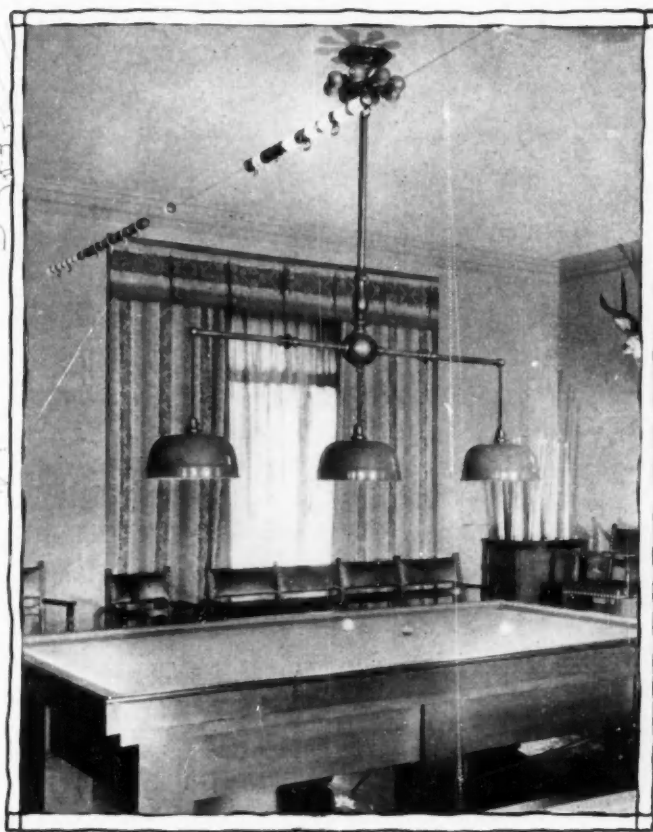
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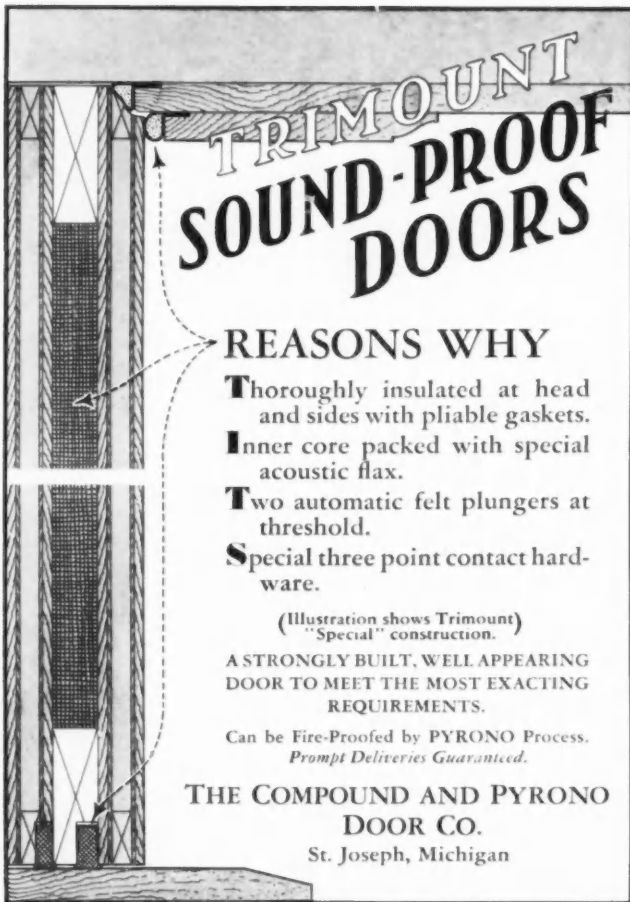
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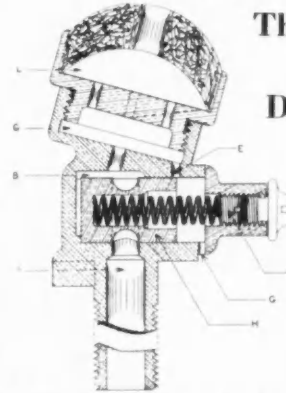
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This record, reproduced in facsimile, shows a reduction in the steam consumption of 756,490 pounds, a saving for the period of \$559.80, or 37.92% decrease. The report regarding this reduced steam consumption is made by the Rochester Gas and Electric Corporation, from whom the steam was bought, and is therefore of special interest.

### Facts Concerning the Temple Building

The Temple Building is located at North and Franklin Streets, Rochester. It contains a total cubage of 2,589,400 cu. ft. and a total radiation of 27,703 sq. ft. The building was erected in 1925 from plans drawn by Gordon & Kaelber and Carl R. Traver, (associated architects). The original vacuum return line system was installed by Bareham & McFarland, Heating Contractors, and was changed over by them to a Dunham Differential System during the latter part of 1928.

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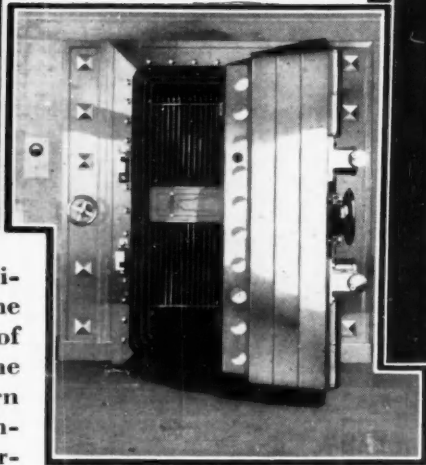
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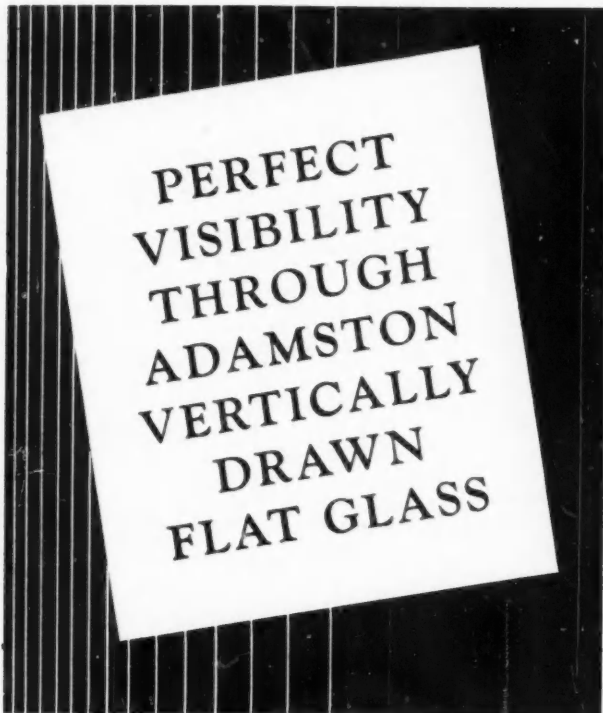
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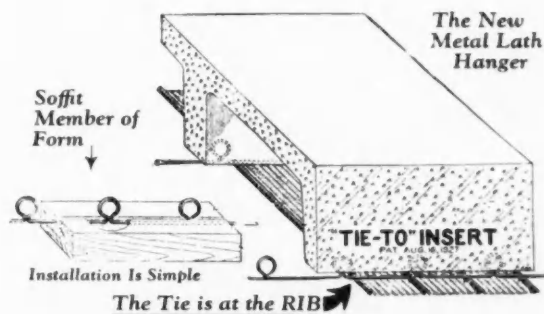
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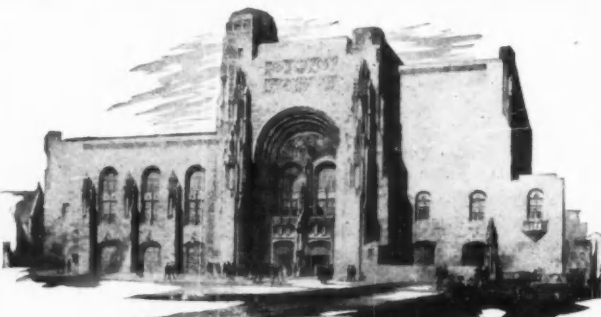
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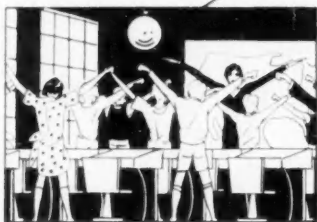
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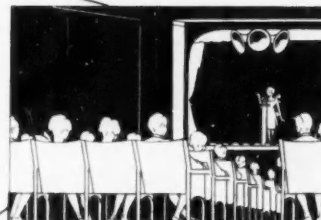
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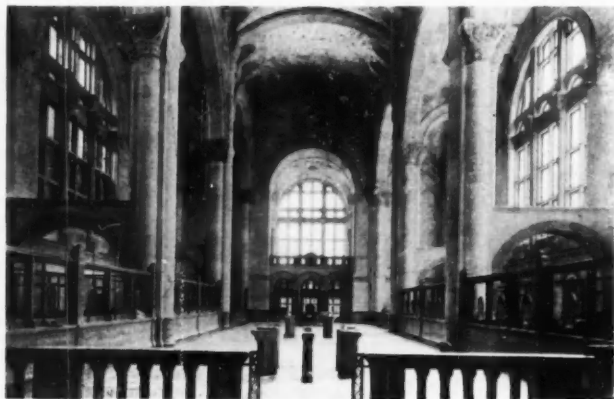
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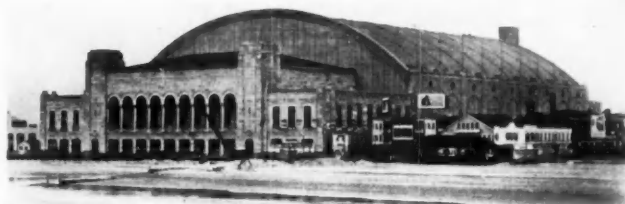


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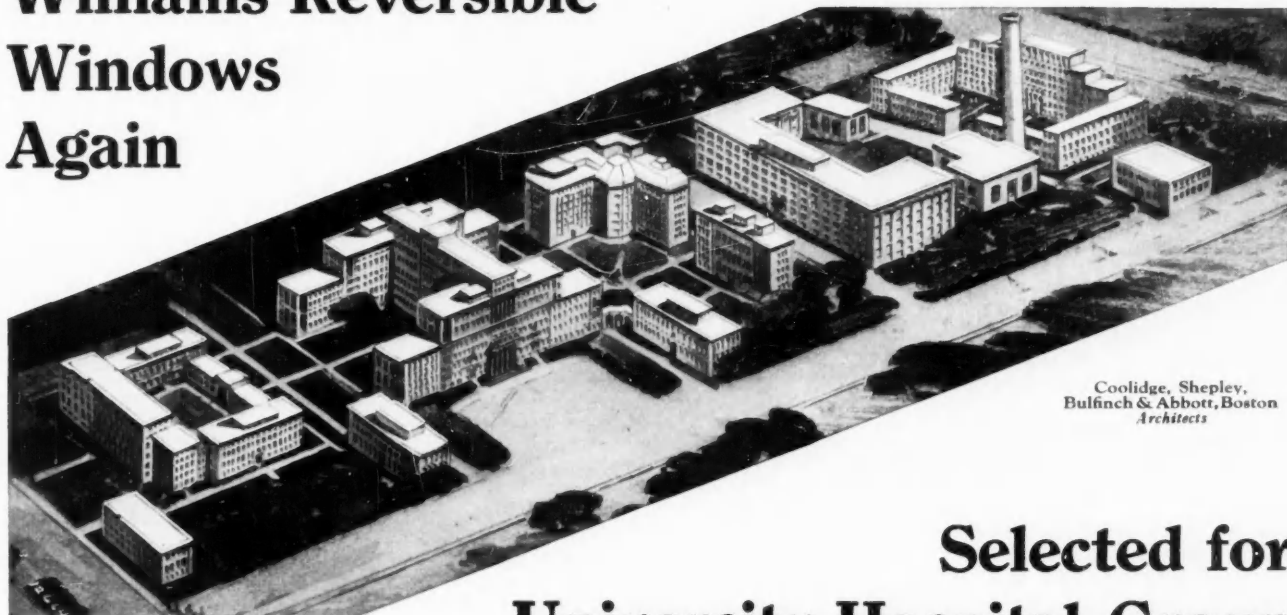
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## NON-SLIP ALUNDUM TREADS

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# Williams Reversible Windows Again



Coolidge, Shepley,  
Bulfinch & Abbott, Boston  
Architects

## Selected for University Hospital Group

**A**FTER satisfactory use in three existing buildings of the University Hospital Group, Cleveland, Ohio, Williams Reversible Window Equipment has been chosen for nearly 2000 windows in three additional buildings. These are the Lakeside Hospital Building, the Private Pavilion and the Nurses Dormitory.

The adoption of Williams Reversible Window Equipment was made after careful consideration by the architects, Coolidge, Shepley, Bulfinch & Abbott of Boston, the consultant, Dr. Winfred E. Smith, who is Superintendent of Johns Hopkins Hospital, Baltimore, Dr. K. H. Van Norman, the Superintendent of the present Lakeside Hospital, his assistant, Dr. Eugene Walker, and by Dr. R. H. Bishop, Chairman of the Planning Committee and Mr. Myron Potter, Executive Secretary of the Building Committee.

These men investigated the durability of the equipment in buildings where it has

been used for from 4 to 15 years and made a careful study of the saving in window cleaning costs.

It was determined that Williams Reversible Window Equipment would pay for itself in about 3 years through the saving made possible in window cleaning.

Williams Reversible Window Equipment may be completely reversed so that both sides of the glass are washed from the inside. This is not only faster than outside cleaning and less disturbing to occupants, but the work may be done by staff help, who do not require the premium wage paid to cleaners who must work on high outside sills.

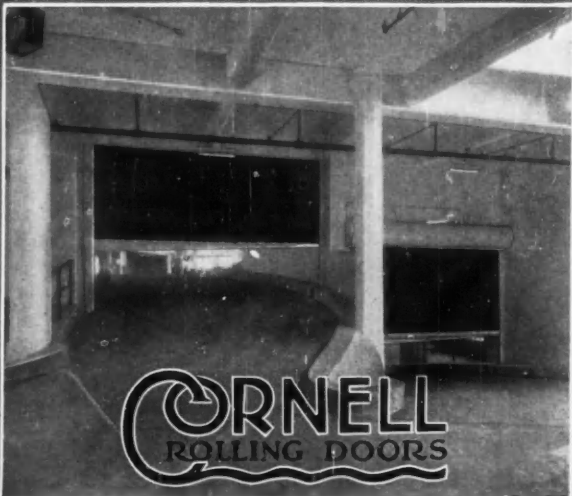
Williams Reversible Windows are kept closed while being cleaned, but for ideal deflected ventilation, either or both upper and lower sash may be tilted to any angle.

These considerations have led to the selection of this equipment in many of the largest hospitals in the country.

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WINDOW EQUIPMENT**  
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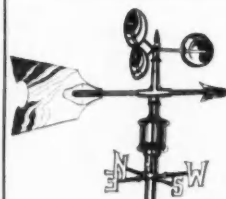
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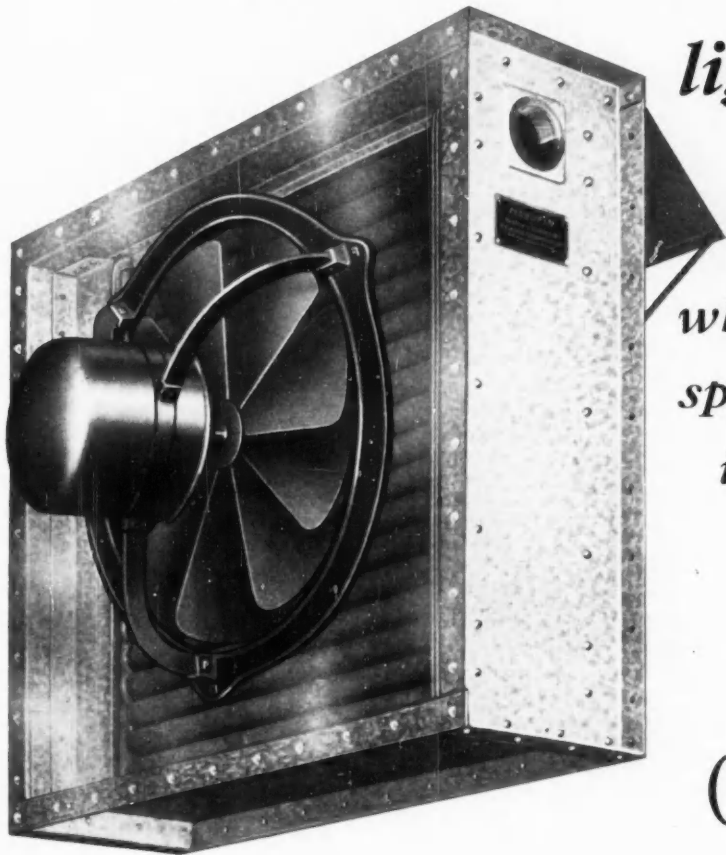
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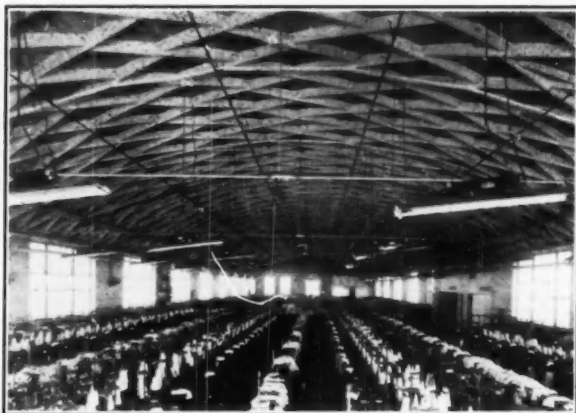
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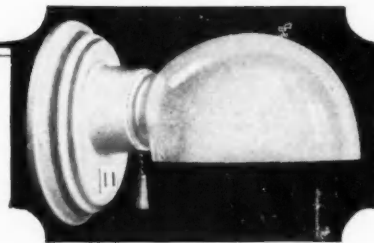
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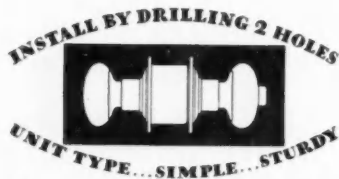
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*Alphabetical Index to Advertisers, Page 198*

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Asbestos Shingle Slate & Sheathing Co.

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See Venetian Blinds

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Thatcher Co., The

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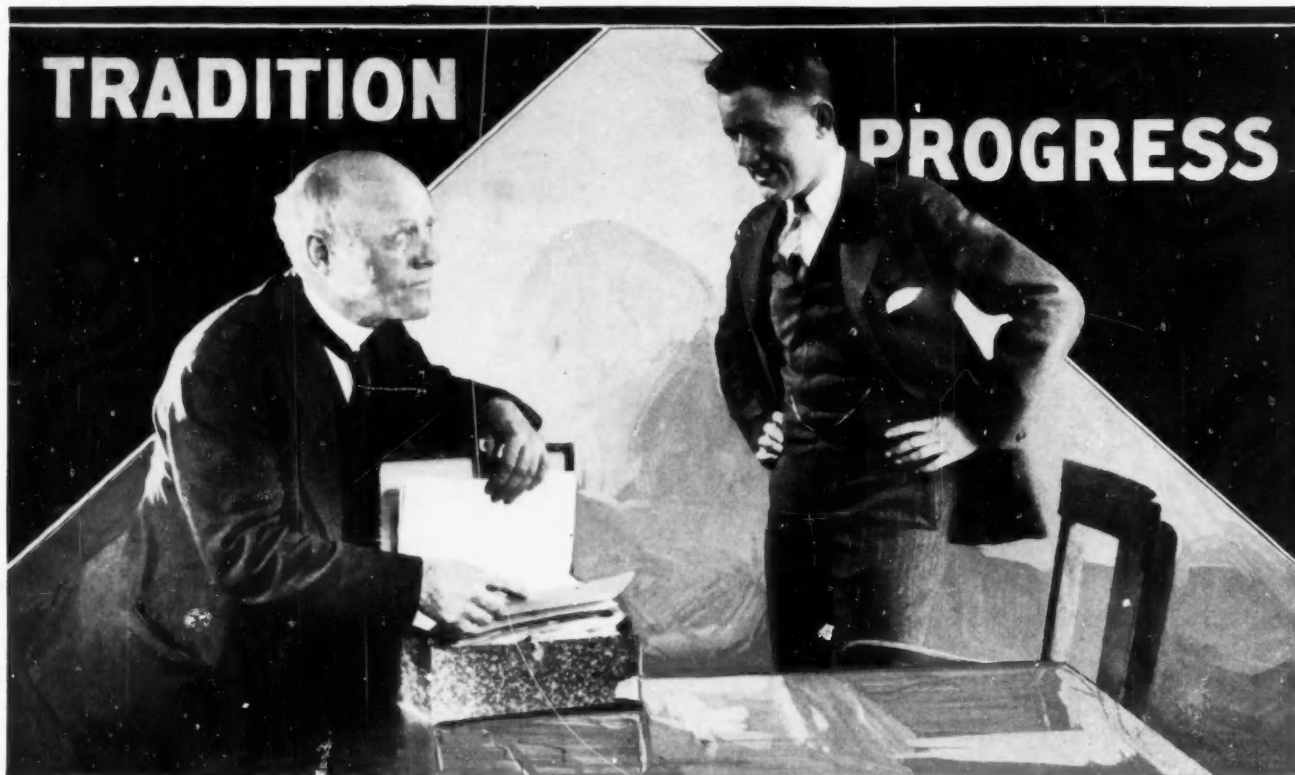
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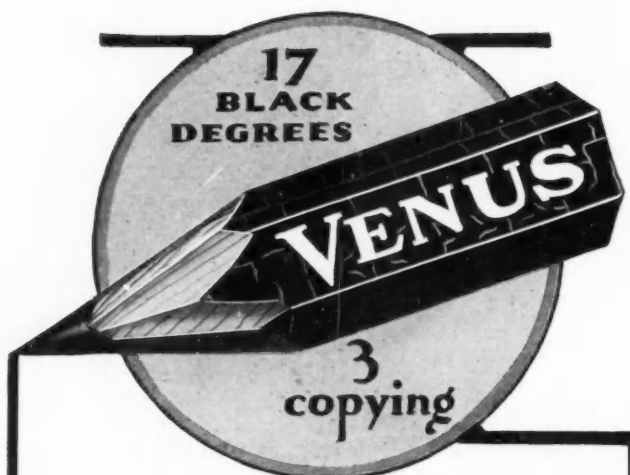
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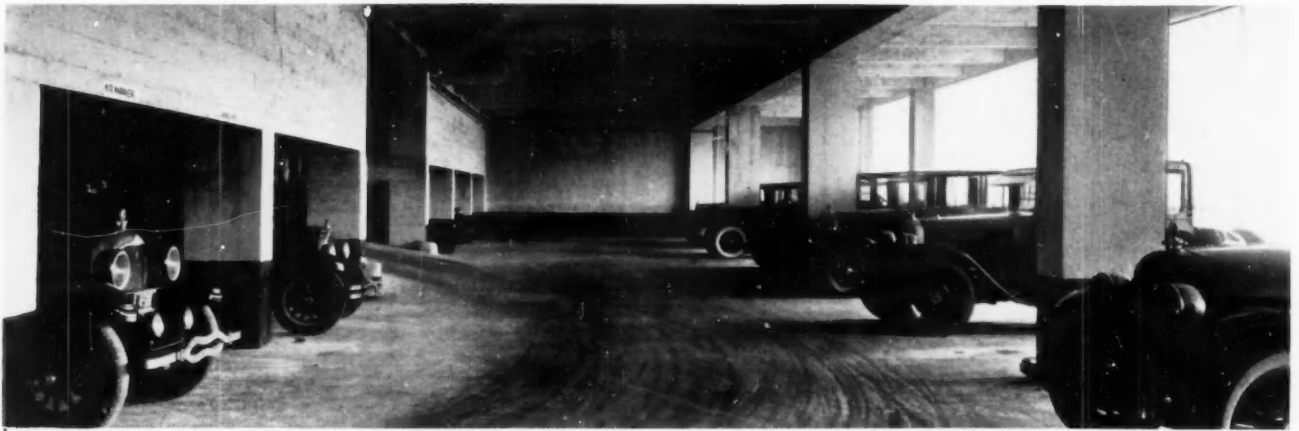
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Perfected Ramp System allows continuous one way travel both in and out between first and top floors. For example, travel is permitted from first to eleventh floor with only five complete turns.

Further information will be gladly given by

A. W. SMITH, President

### Z CORPORATION

30 North Michigan Avenue, Chicago

#### Fireproofing

See "Concrete Construction," "Covering, Pipe and Boiler," "Fireproof Doors, Shutters and Windows," "Lath-Metal," Tile.

**Floor Clips**—Kalman Steel Company

#### Floor Covering

Bird & Son, Inc.  
Bonded Floors Co.  
Wright Rubber Products Co.

#### Floor Hardeners

Master Builders Co.  
Sonneborn, L., Sons, Incorporated  
Truscon Laboratories

**Floor Plate Steel**—Carnegie Steel Co.

**Floor Plates**—Wood, Alan Steel Co.

#### Flooring

Armstrong Cork Co. (Flooring Division)  
Bonded Floors Company  
Bruce, E. L., Co.  
Cellized Oak Flooring, Inc.  
Master Builders Co.  
Norton Company  
Oak Flooring Mfrs. Assoc. of U. S.  
Structural Gypsum Corp.  
United States Gypsum Co.  
United States Rubber Co.  
Wright Rubber Products Co.  
Zenitherm Company, Inc.

#### Flooring—Composition

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Zenitherm Company, Inc.

#### Flooring—Engineers and Contractors

Bonded Floors Co.

#### Floors—Fireproof

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U. S. Gypsum Co.

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Rundle-Spence Mfg. Co.  
Taylor, Halsey W.

**Furniture**—American Seating Co.

**Garage Engineers**—Ramp Buildings Corp.

**Garage Hardware**—Corbin, P. & F.

**Garden Furniture and Ornaments**

Hartmann-Sanders Company

#### Gas Boilers

American Gas Products Co.  
American Radiator Co.  
Bryant Heater & Mfg. Co.

**Gas Ranges**—American Stove Company

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Adamston Flat Glass Co.

**Glass Wire**—See Wire Glass

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Woodbury Granite Co., Inc.

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American Greenhouse Mfg. Co.  
King Construction Co.

#### Grilles

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Wickwire-Spencer Steel Co.

**Gypsum Plaster**—See Plaster, Gypsum

#### Gypsum Slabs

Structural Gypsum Corp.

#### Hanger—Metal Lath for Concrete

Tie-To Insert Co.

#### Hardware—Corbin, P. & F.

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Rixson, Oscar C., Company  
Russell & Erwin Mfg. Co.  
Sargent & Company  
Schlage Lock Co.  
Soss Manufacturing Company  
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#### Heat Insulation

Johns-Manville Corporation  
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# INTERNATIONAL CASEMENTS



Pyne Hall  
Princeton University

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Architects

**I**NTERNATIONAL Metal Casements with leaded glass are an effective detail in a number of the dormitories erected on the Princeton Campus during the past decade. They are particularly harmonious to the style of architecture adopted for the University's program of new building.

*Also Manufacturers of International Austral Windows*

**INTERNATIONAL CASEMENT CO. INC.**

JAMESTOWN, NEW YORK

AGENTS IN PRINCIPAL CITIES

IN CANADA: ARCHITECTURAL BRONZE & IRON WORKS, TORONTO, ONT.



The illustration shows the Van Cleve Hotel at Dayton, Ohio—(Hillsmith & Co., engineers and contractors)—in which RACKLE ARTSTONE was used to extraordinarily good effect for the trim and lower courses. The color was a special black and white mix, and the ashlar was cast with a tooled surface. As evidence of the care with which this job was handled, all the lower work was crated before shipment.

Our catalogue is in Sweet's—pages A348-349

THE GEORGE RACKLE & SONS COMPANY  
CLEVELAND, OHIO

Established 1870



# RACKLE ARTSTONE



**Heat Regulator Oven**—American Stove Company

**Heating Apparatus**

- Aerofin Corporation
- American Blower Co.
- American Gas Products Corp.
- American Radiator Company
- Bryant Heater & Mfg. Co.
- Buffalo Forge Co.
- Dunham, C. A., Company
- Heatilator Company
- Modine Manufacturing Co.
- Nash Engineering Company
- National Radiator Corp.
- Nelson, Herman, Corp.
- Peerless Unit Ventilation Co., Inc.
- Pierce, Butler & Pierce Mfg. Co.
- Smith, H. B., Company
- B. F. Sturtevant Co.
- Williams Oil-O-Matic Heating Corp.

**Hinges—Gravity**

- Sanymetal Products Co.

**Hinges—Invisible**

- Soss Manufacturing Company

**Hoists—Ashes, Etc.**

- Sedgwick Machine Works

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**Incinerators**—Home Incinerator Co.

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- MacAndrews & Forbes Co.
- U. S. Mineral Wool Co.

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- Holtzer-Cabot Electric Co.
- Time Systems Company

**Kitchen Cabinets**—Premier Standardized Woodwork

**Lath—Metal**—American Steel & Wire Co.

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- Genfire Steel Co.
- Kalman Steel Company
- Milwaukee Corrugating Co.
- Truscon Steel Company

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- Lamneck Co., The W. E.

**Lawn Sprinkling Systems**

- Thompson Manufacturing Co.

**Lighting Control—Theatre**

- Adam, Frank, Electric Co.

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- Duplex-A-Lite Division of The Miller Co.
- Franklin Pottery
- Graybar Electric Co.
- Kayline Co.
- Pearlman, Victor S., & Co.
- Smyser-Royer Company
- Westinghouse Electric & Mfg. Co.

**Lime**—Kelley Island Lime & Transport Co.

- Ohio Hydrate & Supply Co.

**Limestone**—Indiana Limestone Company

**Linoleum**

- Armstrong Cork Company, Custom Floors Dept.
- Bonded Floors Co.

**Locks**—Corbin, P. & F.

- Diebold Safe & Lock Co.
- Russell & Erwin Mfg. Co.
- Sargent & Company
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**Lumber**—See Woods

**Mail Chutes**—Cutler Mail Chute Co.

**Mantels—Artificial Stone**

- Jacobson Mantel & Ornament Co.

**Mantels—Wood**

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**Marble**—Georgia Marble Company

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# Remember now the years that are to come . . .

Build your fireplaces in such a way that they will really satisfy—forever. This is not a matter of spending more money, but merely of using a modern idea

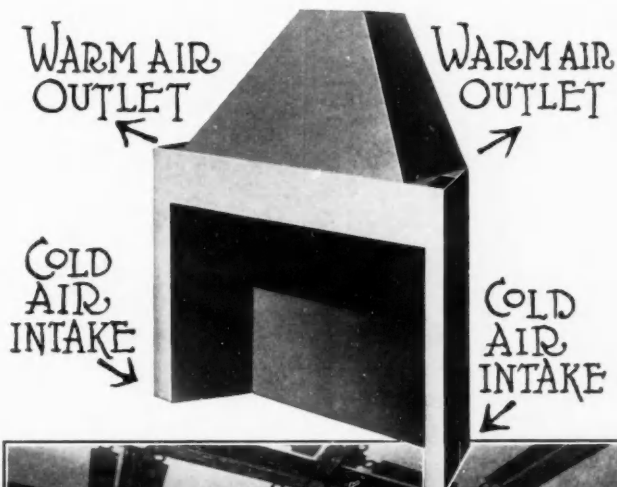
THE art of building smokeless, cheery, warming fireplaces has been vastly simplified and completely perfected, by the "Heatilator."

We positively guarantee that any fireplace built with a Heatilator will burn without smoke and give double or treble heat from the same fuel. Otherwise we will not only refund the purchase price but pay a bonus of \$20, which should more than cover the cost of removal and return.

We have sold thousands of Heatilators upon this basis, without a single return. This is conclusive evidence that the Heatilator completely solves the fireplace problem.

The Heatilator is simply a heavy, double-walled form around which the fireplace masonry is laid. The double-walls form a heating chamber which draws in cold air from off the floor, heats it and sends it out into the room. In ordinary fireplaces this heat all goes to waste. But it equals that of a spacious warm-air register—enough to heat one or more rooms—and often makes furnace fires unnecessary though otherwise needed.

A Heatilator fireplace may be of any design, and look like any other fireplace except for the cold air intake and warm air outlet grilles. These grilles may be made a decorative feature or they may be placed out of sight. But it cannot smoke, because it is properly and scientifically designed. The Heatilator is a complete unit up to the chimney flue—including damper, fire-box and smoke chamber. Savings in labor, material and fuel more than cover the cost. Many architects are specifying the Heatilator, having carefully investigated previous installations.



A Heatilator fireplace in the home of Mrs. T. A. Middleton, Pleasantville, N. J., Seward G. Dobbins, Architect. Here the grilles are in the sides of the mantel and cannot be seen from the front. Photo © Fred Hess & Son.

If you use the Heatilator, fireplace satisfaction will be assured. Otherwise there is serious risk of disappointment. Let us send you a Heatilator for inspection, without obligation, or arrange for you to see it at your local dealer's. Coupon will bring complete information.

## Heatilator Fireplace Unit

HEATILATOR COMPANY  
651 Glen Ave., Colvin Station  
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Without charge or obligation, please send Plan Sheets of modern fireplaces and complete information.  Would like to see a Heatilator.

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There is a  
**HIGGINS' PASTE**  
for EVERY Drafting and  
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With today's increasing volume of drafting and rendering, we believe that some doubt may exist as to the best adhesive to use for a given purpose.

Let your requirements dictate the type to use—then select one of the three Higgins' Pastes listed below, for, as a group, they constitute a complete triumvirate to care for all of your adhesive needs.

**FOR FASTENING HEAVY PAPER TO THE DRAWING BOARD AND OTHER USES REQUIRING AN ADHESIVE QUICK TO ADHERE AND DRY**



—Higgins' Drawing Board and Library Paste is especially manufactured. It is a "set" paste, containing no free liquid and may be spread with the fingers or a brush. Holds tightly stretched paper smooth and flat, without wrinkling or discoloration. Unexcelled—particularly made—for sticking paper to wood, cloth or leather.

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—Higgins' Photo Mounter (White Paste) serves best. Made according to a new formula developed in March 1929, it possesses a smooth, short grain and unlike other pastes is non-gelatinous, insuring smooth spreading and freedom from lumps. Guaranteed against wrinkling, warping, "striking through" or discoloring the most delicate tissue or the finest mounting. May be worked up with the brush or thinned by the addition of water.

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—Higgins' Office Paste, softly fluent in consistency and midway between a fluid mucilage and a "set" paste, will serve. Of great adhesive tenacity, it spreads quickly and smoothly, and dries rapidly, but is not warranted against discoloring tinted papers or wrinkling thin papers.

Your regular supply dealer has all three—to satisfy ALL of your adhesive requirements, you should have a bottle of each.

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# "What is the Weight," of that ROOF?



## A Question Involving Structural Design ... and an Important Factor in Economical Construction

The weight of the roof on your building may not seem to be of much importance at first glance, but let us analyze it further. Q In view of the fact that a building must be designed to support whatever load the roof represents, it is obvious, especially in most industrial buildings, that the weight of the roof is an important factor . . . and, that through the use of light weight roof construction, appreciable economies may be effected throughout the entire supporting structure. It is important

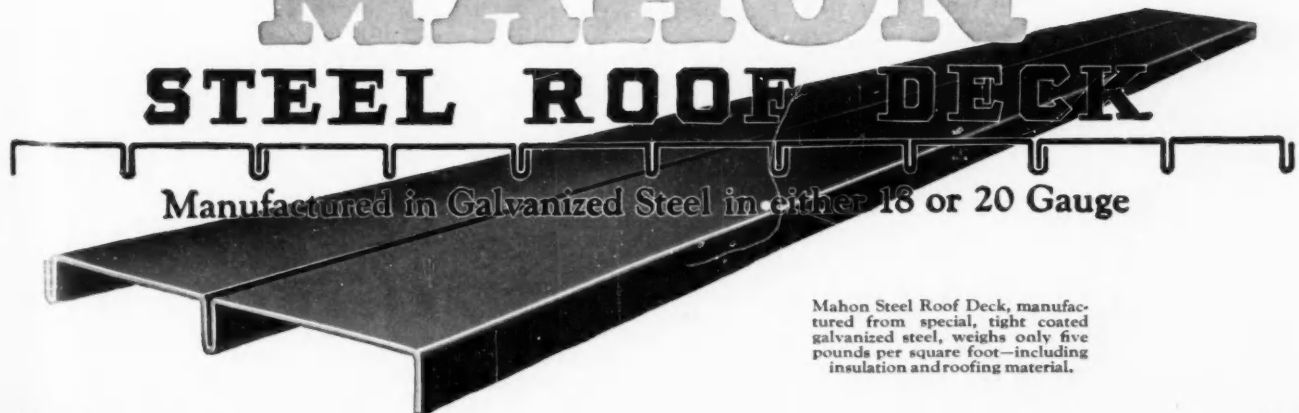
also that the roof be firesafe and permanent . . . for these are primary considerations, in the selection of any roof. Q Firesafety, permanence and light weight, with the subsequent advantages of the latter, all incorporated in the Mahon Steel Roof Deck, can be obtained in no other type of roof construction. Q Let us show you comparative figures on the economy of Mahon Steel Roof Deck . . . write today for complete catalog and our folder "Facts and Figures."

THE R. C. MAHON COMPANY  
DETROIT, MICHIGAN

Branch offices in New York, Chicago and Pittsburgh—Representatives in all principal cities

# MAHON STEEL ROOF DECK

Manufactured in Galvanized Steel in either 18 or 20 Gauge



Mahon Steel Roof Deck, manufactured from special, tight coated galvanized steel, weighs only five pounds per square foot—including insulation and roofing material.




## A HOUSE AS STAUNCH AS AN OLD-TIME GALLEON

THE strong simplicity of oak gives this interior much of its fascination. Note the huge oak beam that forms the mantel, and the splendid sweep of the richly grained floor.

Oak flooring, durable, adaptable, expressive of character and strength, lends dignity to every type of home, great or small. Oak floors set the seal of value on a house. They are recognized symbols of good design and sound construction. Yet their cost is only a trifle more than that of softwood floors, and considerably less than that of many other flooring materials.

Let us send you examples of some of the more unusual oak floors that have recently been laid, or aid you with technical advice on any flooring problem. OAK FLOORING MFRS. ASSOC. OF THE UNITED STATES, 1239 Builders' Building, Chicago.

 Oak Flooring advertising will be carried on during 1929 on an increased scale. Look for the advertisements in "House and Garden," "House Beautiful," "Good Housekeeping," "Better Homes and Gardens" and "The Literary Digest."



- Railings—Sanymetal Products Company
- Ramps—Ramp Buildings Corp.  
Z Corporation
- Ranges—American Stove Co.
- Receivador—Receivador Sales Co.
- Refrigeration  
National Association of Ice Industries
- Refrigerators  
General Refrigeration Co.  
McCray Refrigerator Sales Co.
- Roof Insulator  
Armstrong Cork & Insulation Co.
- Roof Sumps—Mahon, R. C., Company
- Roofing—American Sheet & Tin Plate Co.  
Barber Asphalt Co.  
Bird & Son, Inc.  
Carey, Philip, Company  
Hood, B. Millin, Brick Co.  
Wheeling Corrugating Co.  
Wheeling Metal & Mfg. Co.
- Roofing Slates  
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Owens, Owen W., Sons, Inc.  
Rising & Nelson Slate Co.  
Sheldon, F. C., Slate Company
- Roofing—Tin  
American Sheet & Tin Plate Co.  
Taylor, N. & G., Company
- Roofs—Arch  
Lamella Roof Syndicate, Inc.
- Roofs—Fireproof  
U. S. Gypsum Co.
- Rust-Proofing  
Parker Rust-Proof Co.
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- Safety Tread—Del Turco, L., & Bros., Inc.  
Norton Company
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- Sash Chain—American Chain Co., Inc.  
Detroit Steel Products Co.  
Smith & Egge Mfg. Co.
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Samson Cordage Works  
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- Sash—Steel  
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Truscon Steel Company
- Screens—Rolling  
Chamberlin Metal Weather Strip Co.  
Disappearing Screen & Shade Co., The  
Rolscreen Company
- Screens—Window  
Higgin Mfg. Co.
- Sculpture—Caproni, P. P., and Brother
- Seating—American Seating Co.
- Sheet Metal—American Sheet & Tin Plate Co.
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Johns-Manville Corporation  
Weatherbest Stained Shingle Co.  
Wheeling Corrugating Co.
- Showers—Hoffmann & Billings Mfg. Co.
- Signal Systems  
Holtzer-Cabot Electric Co.  
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- Slate Blackboards  
Knickerbocker Slate Corp.
- Slate—Roofing  
Knickerbocker Slate Corp.  
O'Brien Bros. Slate Co., Inc.  
Owens, Owen W., Sons, Inc.  
Rising & Nelson Slate Co.  
Sheldon, F. C., Slate Co.
- Slate—Structural  
Knickerbocker Slate Corp.
- Smoke Screens—Sanymetal Products Co.
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Soil Pipe Association
- Sound Deadening Materials  
U. S. Mineral Wool Co.



# Dallas Architect

## Insulates with Two Inches of Corkboard for Year Round Comfort . . .

WHEN Mr. H. B. Thompson, architect, Dallas, Texas, planned his own home, he determined to build a house that could be kept comfortable winter and summer by providing *ample* protection against an outside temperature range of 90 degrees. He used two inches of Armstrong's Corkboard Insulation on the walls and second floor ceiling with such excellent results that, a year later, he made the following report:

"After investigating thoroughly the various insulating materials on the market, I decided to use cork for the insulation of my residence. I have been highly pleased with the results obtained in the wide range of temperature, from ten to one hundred degrees above zero. During the hottest weather, the house was at all times cool and comfortable, and the upstairs rooms practically as cool as the downstairs rooms.

"A comparison of fuel bills with houses of the same cubical contents shows a saving of from forty to fifty per cent in fuel bills, which has convinced me that while the initial cost may be higher, the saving in fuel alone will more than pay for the difference in cost, to say nothing of the added comfort."



*Armstrong's Corkboard Insulation on the second floor of Mr. H. B. Thompson's residence at Dallas, Texas. The plaster is being applied directly on the cork, without lath.*

The full value of insulation, from both the comfort and the investment standpoints, is realized only when *ample thickness* is used. Two inches of Armstrong's Corkboard for the roof and at least one and a half inches for the walls is the most economical insulation in returns per dollar of cost. Armstrong Cork & Insulation Company, 901 Concord Street, Lancaster, Pa.; McGill Bldg., Montreal; 11 Brant St., Toronto, 2.

## Armstrong's Corkboard Insulation

*A Heatproof Lining for Walls and Roof*



Outer vestibule of the recently completed A. S. Beck Shoe Store on Fifth Avenue, New York. General Contractors for the entire store, Wildman & Newman. Architect and designer, Vahan Hagopian. Photo by Amemya.

## This example of our work ♦ ♦ ♦ ♦

Is a measure of our capabilities. We pride ourselves that we are able to interpret and execute faithfully the ideas and designs of the architect.

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Vermont Marble Co.

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Knight, Maurice A.

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Detroit Show Case Co.

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Tanks—Copper—Badger, E. B., & Sons Co.

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Terra Cotta

Federal Seaboard Terra Cotta Corp.

National Terra Cotta Society

Northwestern Terra Cotta Co.

Thermostat

Johnson Service Co.

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National Fireproofing Co.

Structural Clay Tile Assoc.

Tile—Roofing

Hood, B. Mifflin, Brick Co.

Ludowici-Celadon Co.

Stedman Products Co.

Tile—Rubber

Stedman Products Co.

United States Rubber Co.

Wright Rubber Products Co.

Tiles—Shingles

Hood, B. Mifflin, Brick Co.

Toncan Metal—Central Alloy Steel Corp.

Traps—Steam and Radiator—Dunham, C. A., Co.



Interesting slate roof of soft shades in graduated lengths with decreasing exposures and intermixed thicknesses, executed by O'Brien Brothers Slate Company, Inc. Roger Bullard, architect.

## O'BRIEN BROTHERS SLATE COMPANY, INC.

*Established 1901*

Offices: Granville, N. Y.

Quarries: Vermont

Architects' Service Department  
Architects' Building, 101 Park Ave., New York  
Telephone Ashland 3651

# BIRD'S "AIR CELL" INSULATING BOARD



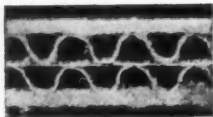
*Bars out Cold —  
Stops Heat —  
Deadens Sound —*

**B**IRD'S INSULATING BOARD — The new air cell insulating product — built on an old principle adapted to modern requirements.

Air confined in small spaces — "dead air" — forms a barrier against the extreme heat of summer, the cold blasts of winter, and nerve wracking sound. Bird's Insulating Board is so constructed that it is filled with innumerable "dead air" spaces. It absolutely assures the utmost in protection.

Bird's Insulating Lath in interior work not only makes an ideal base for gypsum plaster but also acts as an insulator.

Bird's Insulating Board is conveniently packed 32" x 96" for use as an insulator, and the Lath 24" x 32" for use as a plaster base.



*Showing the cellular construction of Bird's Insulating Board. The cells are filled with "dead air."*

## BIRD & SON, inc.

Established 1795  
EAST WALPOLE, MASS.

Chicago Office and Plant:  
1472 West 76 Street  
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Building Products, Ltd.  
Bird & Son Division  
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### Manufacturers of

NEPONSET TWIN SHINGLES  
PAROID ROOFING  
Bird's Asphalt Shingles  
Bird's Custom Made Shingles  
Bird's Design Roofing  
Bird's Neponset Black Building Paper  
Bird's Insulating Board

- Tree Surgeons—Davey Tree Expert Co.
- Trees, Shrubs, Etc.  
Andorra Nurseries
- Unit Heaters and Ventilators  
Aerofin Corporation  
American Blower Co.  
Buffalo Forge Co.  
Modine Mfg. Co.  
Nelson, Herman, Corp.  
Peerless Unit Ventilation Co., Inc.
- Valves  
American Radiator Company  
Crane Co.
- Valves—Water Mixing  
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- Varnish—Arco Company  
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Pratt & Lambert Co.  
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Highton, Wm., & Sons, Division of Hart & Cooley Mfg. Co.
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Aiolite Company  
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Truscon Laboratories
- Wall Covering  
United States Gypsum Co.  
Wiggins, H. B., Sons Company  
Zenitherm Company, Inc.
- Wall Coping  
Clay Products Association
- Wardrobes  
Evans, W. L.
- Water Heaters  
Excelso Products Corp.
- Waterproof Materials  
Bird & Son, Inc.  
Cabot, Samuel, Inc.  
Genfire Steel Company  
Master Builders Co.  
Sonneborn, L., Sons, Incorporated  
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Andersen Frame Corp.
- Window Fixtures  
Andersen Frame Corp.  
Williams Pivot Sash Co.
- Windows  
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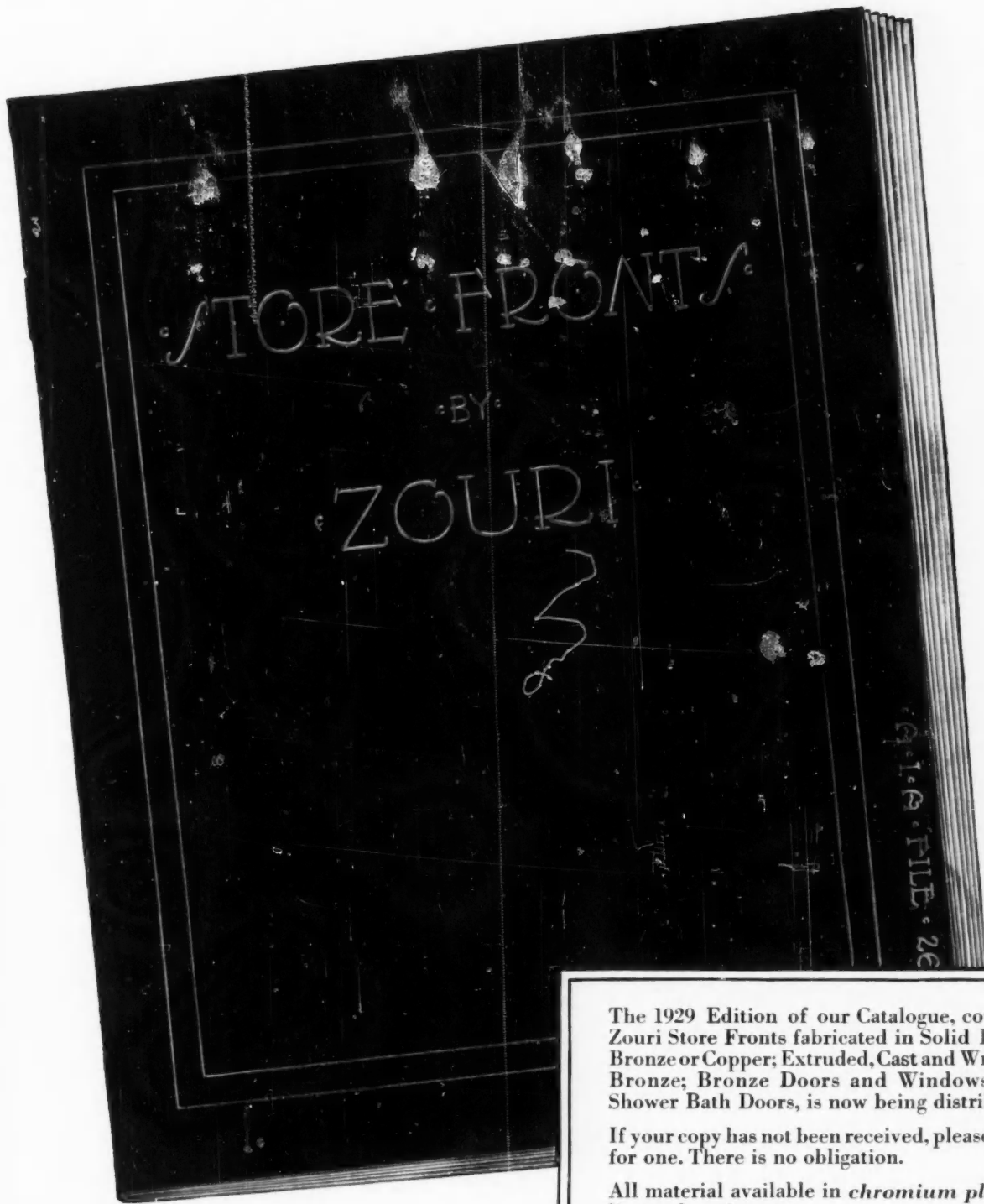
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# INDEX TO ADVERTISEMENTS

Classified Directory of Advertisers, Pages 180-196 Inclusive

Catalogues of concerns marked (S) will be found in the 23rd Edition of Sweet's Architectural Catalogue.

(S) Abingdon Sanitary Mfg. Co. .... 160	(S) Federal Seaboard Terra Cotta Corp. 163	(S) Oak Flooring Mfrs. Assoc. of U. S. 192
(S) Adam, Frank, Electric Co. .... 130	(S) Fiat Metal Mfg. Co. .... 152	(S) O'Brien Bros. Slate Co. .... 195
(S) Adamston Flat Glass Co. .... 154	(S) Fiske, J. W., Iron Works. .... 66	(S) Ohio Hydrate & Supply Co. .... 53
(S) Aerofin Corporation. .... 161	(S) Fiske & Co., Inc. .... 169	Owens Sons, Owen W., Inc. .... 113
(S) Aiolite Co., The. .... 152	(S) Flax-li-num Insulating Co. .... 82	Parker Rust Proof Co. .... 110
(S) Alberene Stone Company. .... 36	(S) Franklin Pottery (Inc.) .... 83	Pearlman, Victor S., & Co. .... 116
American Bridge Co. .... 120	(S) General Electric Co. .... 141	(S) Peelle Company, The. .... 137
(S) American Chain Co., Inc. .... 111	(S) Genfire Steel Company. .... 3rd Cover	(S) Peerless Unit Ventilation Co., Inc. 150
American Greenhouse Mfg. Co. .... 142	(S) Georgia Marble Co., The. .... 40	(S) Penberthy Injector Co. .... 173
American Institute of Steel Construction, Inc. .... 6	(S) Georgian Mantel Co. .... 154	Pfaltz & Bauer, Inc. .... 158
American Lead Pencil Co. .... 160, 184	(S) Graybar Electric Co. .... 157	(S) Pittsburgh Plate Glass Co. .... 95
(S) American Radiator Co. .... 29	(S) Guastavino, R., Co. .... 78	(S) Pratt & Lambert, Inc. .... 31
American Seating Co. .... 14	(S) Guth, Edwin F., Co. .... 162	Premier Standardized Woodwork. 132
American Sheet & Tin Plate Co. .... 140	(S) Hamlin, Irving. .... 156	Price Stone Cement Co., Inc. .... 158
(S) American Steel & Wire Co. .... 39	(S) Hart & Cooley Mfg. Co. .... 167	(S) Rackle, Geo., & Sons Co., The. .... 188
(S) American Stove Co. .... 139	(S) Hart & Hegeman Mfg. Co. .... 80	Radio-Victor Corporation of America. 38
(S) American Telephone & Telegraph Co. 177	(S) Hartmann-Sanders Co. .... 90	(S) Ramp Buildings Corp. .... 7
American Walnut Mfrs. Assoc. .... 5	(S) Hauserman, E. F., Co. .... 25	(S) Raymond Concrete Pipe Co. .... 7
(S) Andersen Frame Corp. .... 165	(S) Heatilator Co. .... 189	(S) Reading Iron Co. .... 94
Andorra Nurseries, Inc. .... 158	(S) Higgin Manufacturing Co. .... 122	(S) Receivador Sales Co. .... 150
Architects' Announcements. .... 89	Higgins, Chas. M., & Co. .... 190	Recent Trade Publications. .... 174
Architectural Record. .... 112, 154	(S) Highton, Wm., & Sons, Div. of Hart & Cooley Mfg. Co. .... 167	(S) Richmond Fireproof Door Co. .... 138
Architectural Tile Co. .... 73	(S) Hoffmann & Billings Mfg. Co. .... 132	(S) Rie-wil Co. .... 136
(S) Arco Company, The. .... 32	Holtzer Cabot Elec. Co., The. .... 134	(S) Rising & Nelson Slate Co. .... 129
(S) Arkansas Oak Flooring Co. .... 27	(S) Hood, B. Mifflin, Co. .... 107	(S) Rixson, Oscar C., Company. .... 49
(S) Armstrong Cork Co. .... 52	(S) Hunt, Robert W., Company. .... 126	(S) Rolscreen Company. .... 33
Custom Floors Dept. ....	(S) Hyde-Murphy Co. .... 156	(S) Rome Brass Radiator Corp. .... 86
(S) Armstrong Cork & Insulation Co. .... 193	Imperial Electric Company. .... 102	Rundle-Spence Mfg. Co. .... 122
(S) Asbestos Shingle, Slate & Sheathing Co. .... 162	(S) Indiana Limestone Company. .... 3	(S) Russell & Erwin Mfg. Co. .... 97
(S) Associated Tile Manufacturers. .... 105	(S) International Casement Co., Inc. .... 187	(S) Samson Cordage Works. .... 150
(S) Automatic Electric, Inc. .... 22	(S) Jacobson Mantel & Ornament Co. .... 142	(S) Sanymetal Products Co. .... 12
(S) Badger, E. B., & Sons Co. .... 124	(S) Johns-Manville Corporation. .... 45, 106	Sargent & Co. .... 131
Baldor Electric Co. .... 174	(S) Kalman Steel Co. .... 96	Schlage Lock Co. .... 180
Barber Asphalt Co. .... 60	(S) Kawneer Company. .... 77	(S) Sedgewick Machine Works. .... 162
(S) Batchelder-Wilson Co. .... 37	(S) Kayline Co., The. .... 144	(S) Sheldon, F. C., Slate Co. .... 35
(S) Bayley, William, Company. .... 143	(S) Kelley Island Lime & Transport Co. 81	(S) Sonneborn, L., Sons, Inc. .... 197
(S) Berry Brothers, Inc. .... 50	(S) Kerner Incinerator Co. .... 56	(S) Soss Mfg. Co. .... 144
(S) Bird & Son, Inc. .... 196	(S) King Construction Co. .... 124	Southern Cypress Mfrs. Assoc. .... 10
(S) Bonded Floors Co. .... 99-100	(S) Knickerbocker Slate Corp. .... 156	(S) Stanley Works. .... 15
(S) Brasscrafters. .... 21	(S) Knight, Maurice A. .... 28	(S) Stedman Products Company. .... 16
(S) Briar Hill Stone Co. .... 176	Kohler Co. .... 193	Stone & Webster, Inc. .... 24
(S) Bridgeport Brass Co. .... 72	(S) Lamella Roof Syndicate, Inc. .... 162	Stronach Nail Company. .... 70
(S) Bruce, E. L., Co. .... 27	(S) Leonard Rooke Co. .... 148	Structural Clay Tile Assoc. .... 64-65
(S) Brunswick-Balke-Collender Co. .... 146	(S) Lincoln Electric Co. .... 181	(S) Structural Gypsum Corp. .... 48
Bryant Heater & Mfg. Co. .... 23	(S) Long-Bell Lumber Co. .... 27	(S) Sturtevant, B. F., Co. .... 98
(S) Buffalo Forge Co. .... 127	Lord, Chas. E. .... 160	Sweet's Architectural Catalogues. 108-109
Building Statistics. .... 170	(S) Ludowici-Celadon Co. .... 119	(S) Taylor, Halsey W., Co. .... 121
(S) Burlington Venetian Blind Co. .... 116	(S) Louisville Cement Co. .... 175	Taylor, N. & G., Company. .... 146
(S) Cabot, Samuel, Inc. .... 182	(S) Lupton's, David, Sons Co. .... 44	(S) Tennessee Oak Flooring Co. .... 27
(S) Caldwell Mfg. Co. .... 154	(S) MacAndrews & Forbes Co. .... 185	(S) Thorp Fire Proof Door Co. .... 63
(S) Carey, Philip, Co. .... 13	(S) MacArthur Concrete Pipe Corp. .... 79	(S) Tie-To Insert Co. .... 155
Carnegie Steel Co. .... 34	(S) McCray Refrigerator Sales Corp. .... 114	(S) Time Systems Co. .... 152
(S) Cellized Oak Flooring Co. .... 27	(S) Mahon, R. C., Company. .... 148, 191	(S) Truscon Laboratories. .... 2
(S) Central Alloy Steel Corp. .... 51	(S) Master Builders Co. .... 17, 18, 19, 20	(S) Truscon Steel Co. .... 2nd Cover, 37
(S) Century Brass Works, Inc. .... 148	(S) Medusa Portland Cement Co. .... 200	(S) Tyler Company. .... 4th Cover
(S) Circle "A" Products Corp. .... 120	(S) Milwaukee Corrugating Co. .... 92	(S) United Metal Products Co. .... 128
(S) Clay Products Association. .... 138	(S) Mississippi Wire Glass Co. .... 41	(S) U. S. Gutta Percha Paint Co. .... 91
(S) Compound & Pyrono Door Co. .... 148	Modine Mfg. Co. .... 55	(S) U. S. Gypsum Co. .... 74, 171
(S) Concrete Engineering Co. .... 8-9	(S) Nash Engineering Co. .... 88	(S) U. S. Mineral Wool Co. .... 159
Construction Statistics. .... 172	(S) Nashville Hardwood Flooring Co. .... 27	(S) U. S. Rubber Co. .... 135
(S) Corbin, P. & F. .... 93	National Assn. Ice Industries. .... 75	(S) Vermont Marble Co. .... 54
(S) Cornell Iron Works, Inc. .... 160	(S) National Bldg. Granite Quarries Assoc. 87	Victor Oolitic Stone Co. .... 62
(S) Crane Co. .... 134	(S) National Fireproofing Co. .... 59	(S) Vitrolite Co. .... 4
(S) Crittall Casement Window Co. .... 30	National Lumber Mfrs. Association. 61	(S) Vonnegut Hardware Co. .... 179
Crouse-Hinds Company. .... 69	National Radiator Corp. .... 46-47	(S) Weatherbest Stained Shingle Co. .... 140
(S) Curtin, A. F., Valve Co. .... 130	(S) National Terra Cotta Society. .... 101	(S) Westinghouse Electric Elevator Co. 42
(S) Cutler Mail Chute Co. .... 152	National Tube Co. .... 183	(S) Wheeler, Osgood Co. .... 71
(S) Dahlstrom Metallic Door Co. .... 26	(S) Nelson, The Herman, Corp. .... 117-118	(S) Wheeling Corrugating Co. .... 145
Davey Tree Expert Co., Inc. .... 76	News of the Field. .... 168	(S) Wickwire Spencer Steel Co. .... 144
(S) Del Turco & Bros., L., Inc. .... 158	Notes in Brief. .... 164-166	(S) Wiggins, H. B., Sons Co. .... 147
(S) Detroit Show Case Co. .... 43	(S) Northwestern Terra Cotta Co. .... 125	Wildman & Newman. .... 194
(S) Detroit Steel Products Co. .... 85	(S) Norton Company. .... 84	(S) Williams Oil-O-Matic Heating Corp. 153
(S) Diebold Safe & Lock Co. .... 151	(S) Norton Door Closer Co. .... 133	(S) Williams Pivot Sash Co. .... 159
(S) Disappearing Screen & Shade Co. .... 146	(S) Oak Flooring Mfrs. Assoc. of U. S. 192	(S) Wilson, J. G., Corp. .... 68
Dodge, F. W., Corp. .... 104	(S) O'Brien Bros. Slate Co. .... 195	(S) Wood, Alan, Steel Co. .... 146
(S) DuBois Fence & Garden Co., Inc. .... 156	(S) Ohio Hydrate & Supply Co. .... 53	(S) Woodbridge Ornamental Iron Co. .... 126
(S) Dunham, C. A., Co. .... 149	Owens Sons, Owen W., Inc. .... 113	(S) Wright Rubber Products Co. .... 123
(S) duPont, E. I. de Nemours & Co., Inc. 115	Parker Rust Proof Co. .... 110	Z. Corporation. .... 186
(S) Ellison Bronze Co., Inc. .... 67	Pearlman, Victor S., & Co. .... 116	(S) Zenitherm Company, Inc. .... 58
(S) Eustis, J. P., Mfg. Co. .... 21	(S) Peelle Company, The. .... 137	(S) Zouri Drawn Metals Co. .... 199
(S) Evans, W. L. .... 128	(S) Peerless Unit Ventilation Co., Inc. 150	
(S) Excelso Products Corp. .... 178	(S) Penberthy Injector Co. .... 173	



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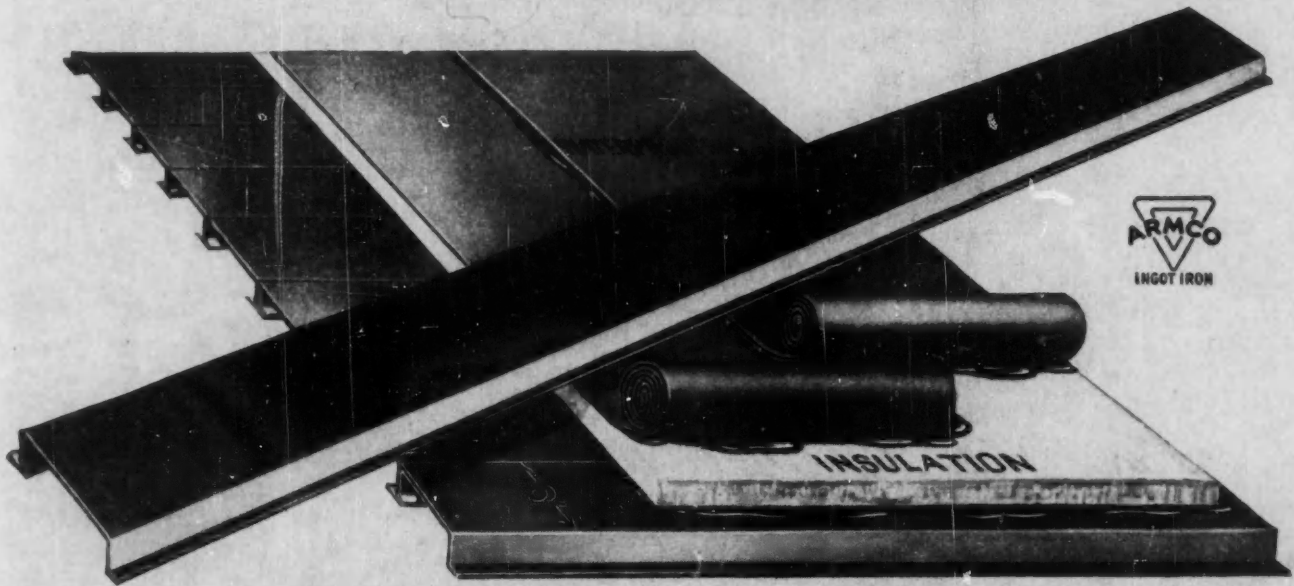
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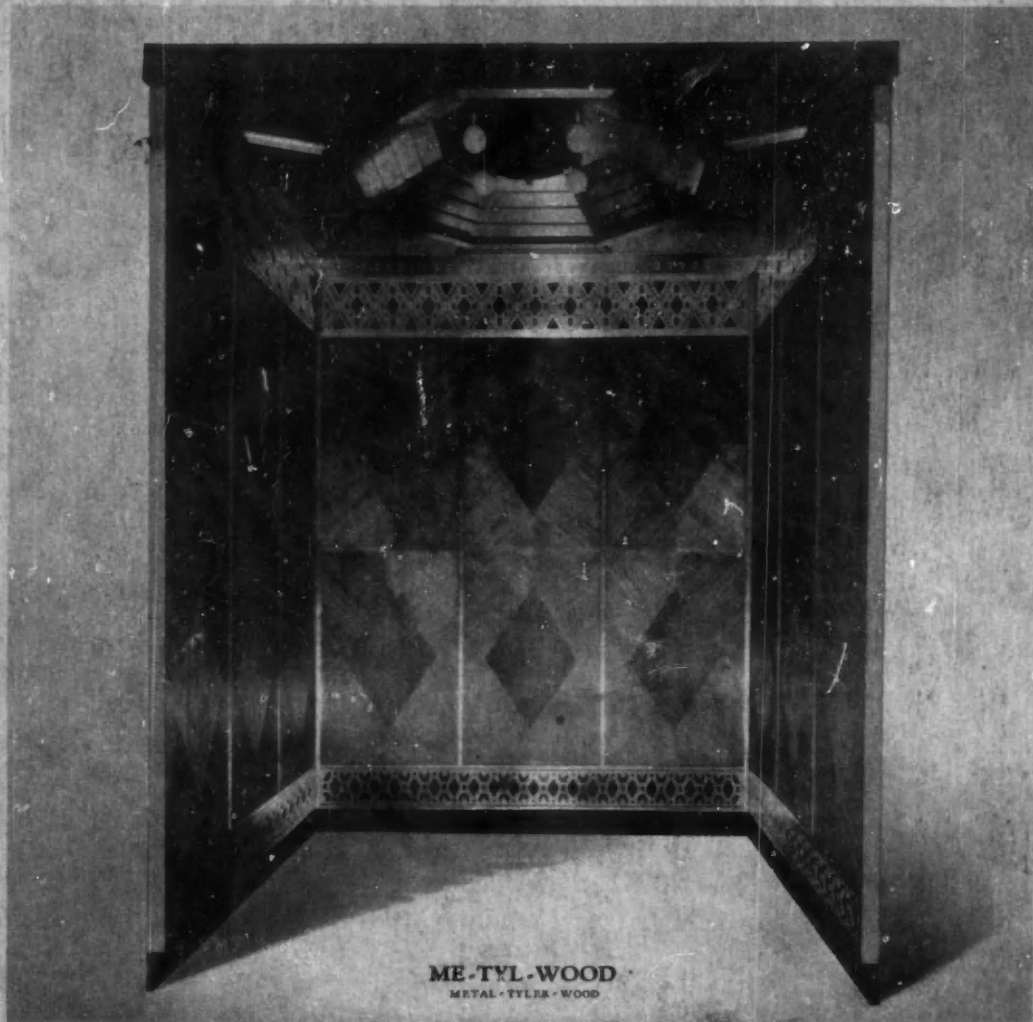
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