THE ARCHITECTURAL FORUM

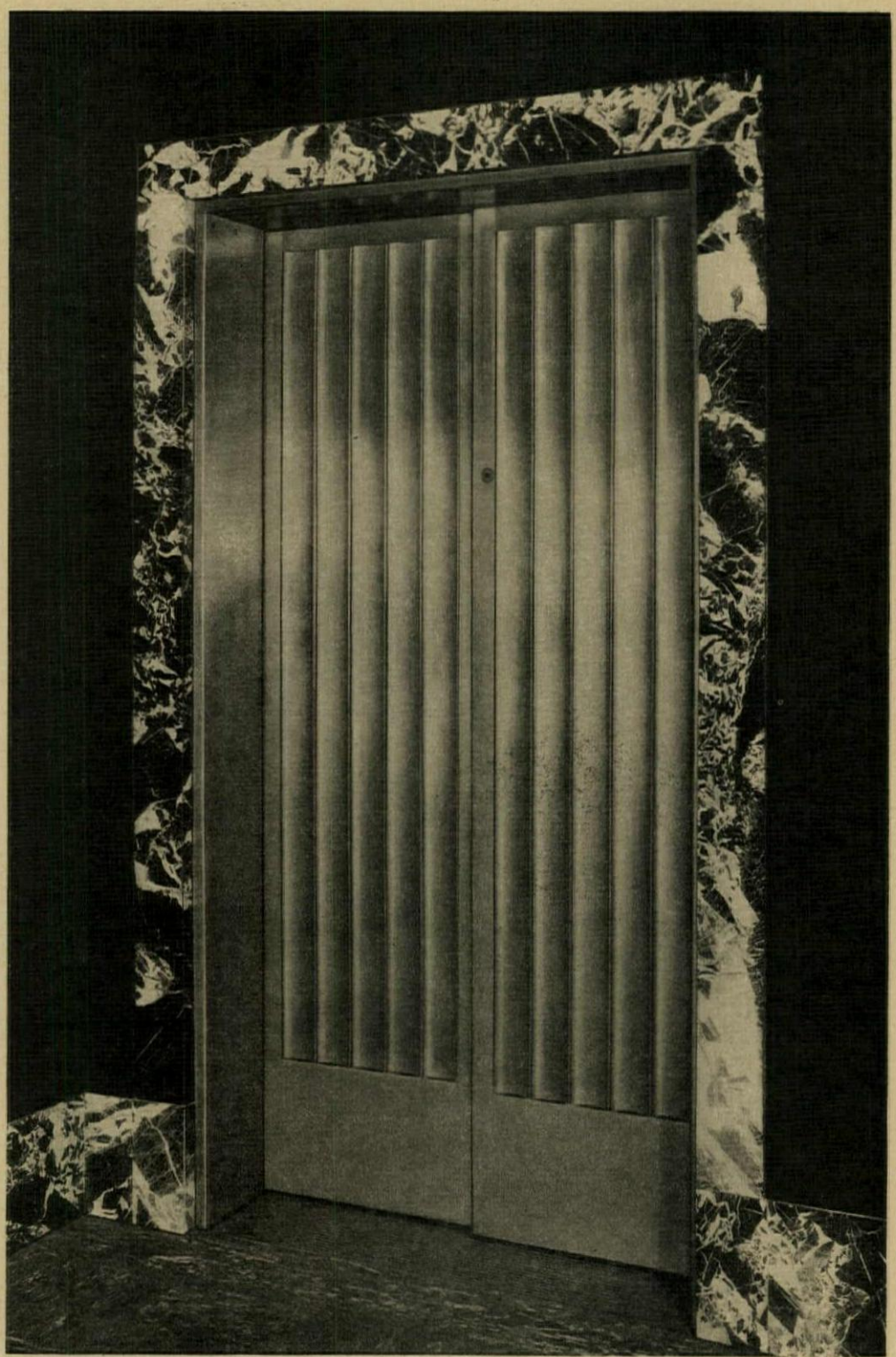
IN TWO PARTS

PART ONE
ARCHITECTURAL DESIGN

SEPTEMBER

1929

INDUSTRIAL BUILDING REFERENCE NUMBER
PRICE $3.00



TYLER ELEVATOR ENTRANCE
THE BUTTERICK BUILDING, NEW YORK
RUSSELL G. CORRY, *Architect*
WALTER M. CORRY, *Associate*

ELEVATOR CARS

TYLER

THE TYLER COMPANY, Cleveland, Ohio

ELEVATOR ENTRANCES

THE ARCHITECTURAL FORUM

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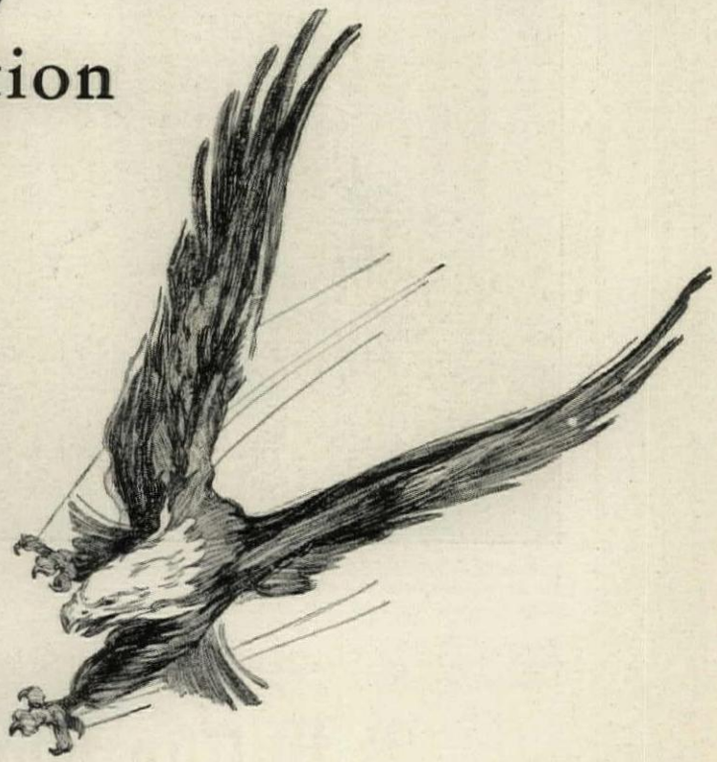
VOLUME LI
Number 3

Specify LEAD

for paint satisfaction



When lead paint goes on a wall, it goes on to stay, to give lasting satisfaction.

For exterior use, lead paint stands all kinds of wear and weather. It is tough and elastic. For interior use it produces beautiful, lasting finishes, either plain or modern plastic treatment.

Specify Eagle Pure White Lead.

Reg. U. S. Pat. Off.

EAGLE White Lead

made by The Eagle-Picher Lead Company, 134 North La Salle Street, Chicago. Producers of lead, zinc and allied products.

R. J. Reynolds Tobacco Co. Building, Winston-Salem, N. C. Shreve & Lamb, Architects
James Baird Co., Builder. Built of Indiana Limestone

Profitable Because Lastingly Beautiful

THERE is no trend more noticeable today in modern commercial building than the trend toward the use of an all-stone facing of Indiana Limestone. Knowing that the public, whose verdict is of the utmost importance to the owner, has put the seal of its approval upon Indiana Limestone building exteriors, the experienced architect selects this beautiful natural stone for all of his more important projects.

Buildings faced with Indiana Limestone pay steady dividends by continuously full occupancy, low upkeep cost, and all-round investment value. Surveys made in leading cities show the percentage of continuously occupied space to be higher in Indiana Limestone structures than in other types of buildings. The attractiveness and recognized desirability of their substantial looking beautiful stone exteriors must be given some of the credit for this remarkable situation! Why not specify Indiana Limestone for the new buildings which you are planning?

INDIANA LIMESTONE COMPANY

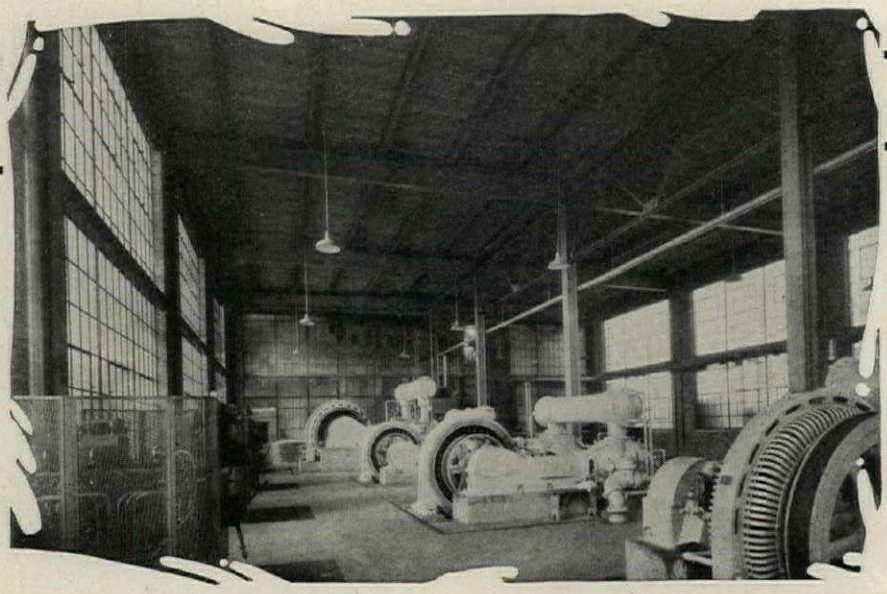
General Offices: BEDFORD, INDIANA *Executive Offices:* TRIBUNE TOWER, CHICAGO

WEIGHT

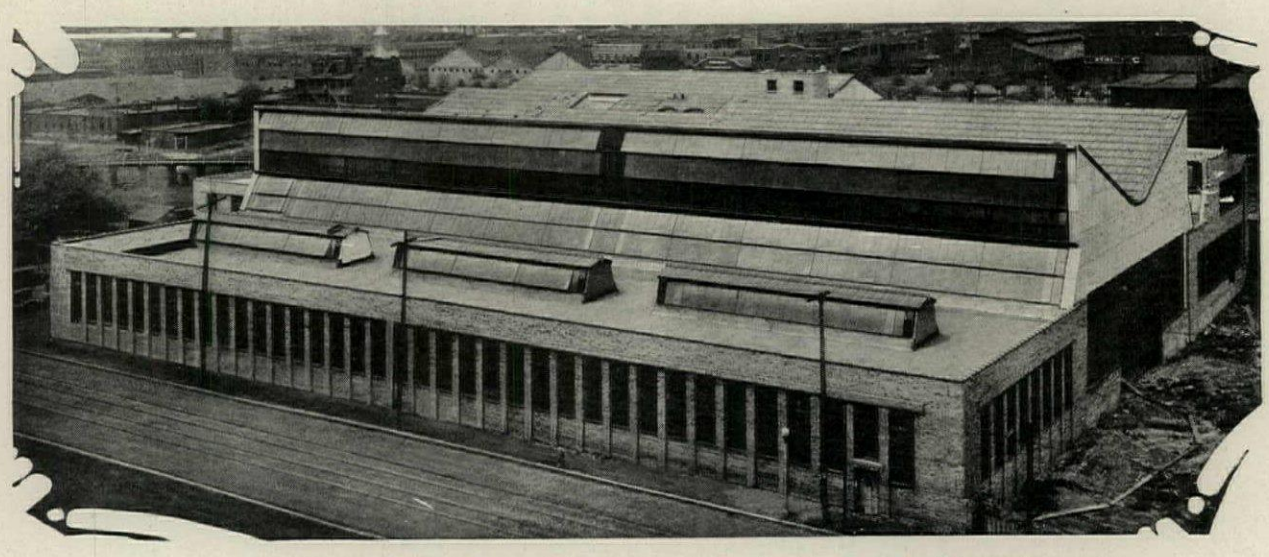
10

POUNDS
PER SQ. FT.
in spans to 6′ 8″—

(Slabs for longer spans also available)



Interior of building for Chrysler Motors at Detroit. The expensive machinery shown must have the safest kind of roof protection—such as the Featherweight Concrete slabs on this building afford. Incidentally Federal has furnished over a million square feet of roof for Chrysler—one building alone being almost a half-mile long!



One of the buildings of the Century Electric Co., St. Louis, Mo., roofed with Featherweight Concrete Insulating Slabs. This combination of light weight and insulating qualities is ideal for all industrial buildings.

Featherweight Concrete
INSULATING ROOF SLABS

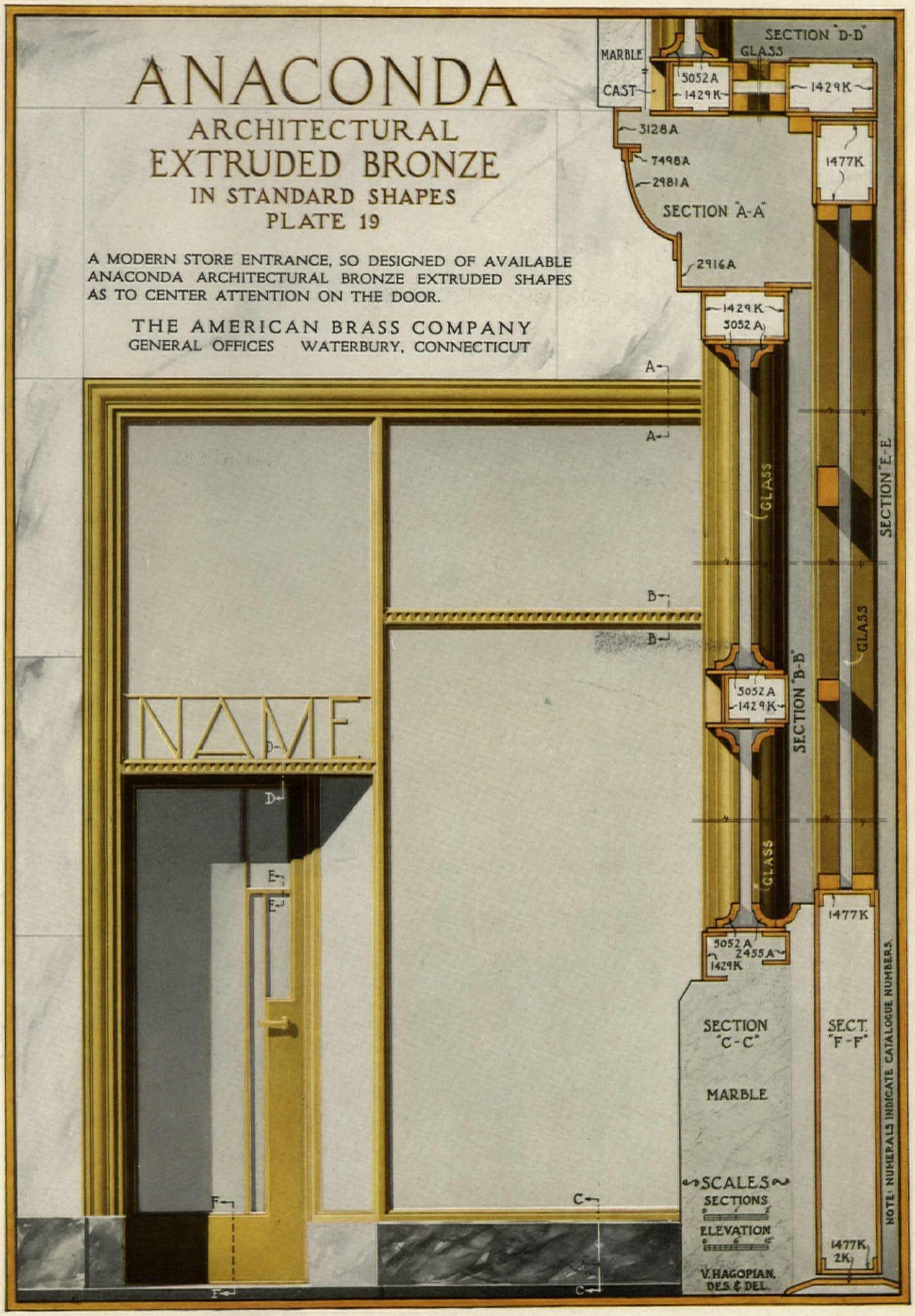
ANACONDA

ARCHITECTURAL EXTRUDED BRONZE IN STANDARD SHAPES

PLATE 19

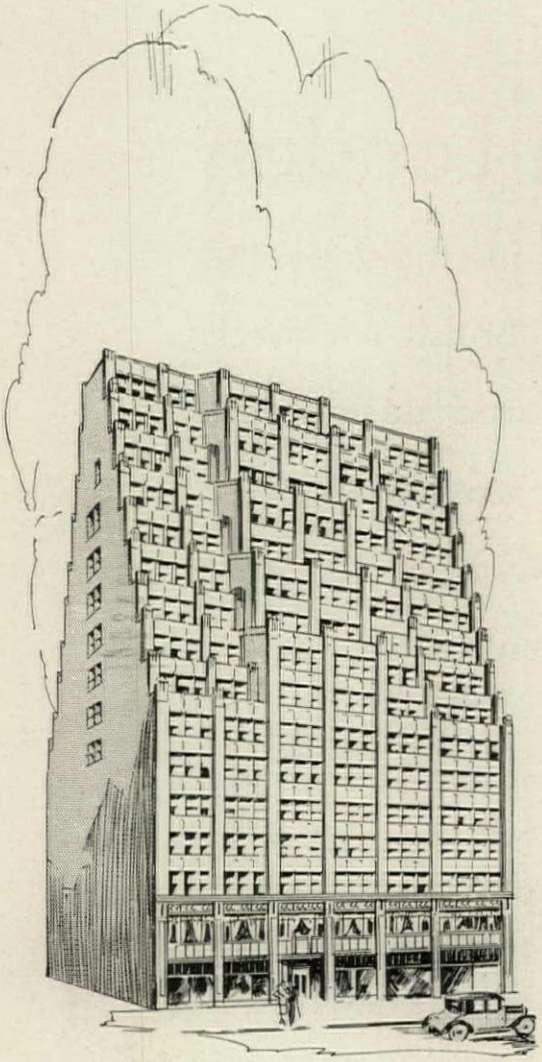
A MODERN STORE ENTRANCE, SO DESIGNED OF AVAILABLE ANACONDA ARCHITECTURAL BRONZE EXTRUDED SHAPES AS TO CENTER ATTENTION ON THE DOOR.

THE AMERICAN BRASS COMPANY
GENERAL OFFICES WATERBURY, CONNECTICUT



Complete sets of these plates may be had for the asking

The Very Latest in Store Fronts for Industrial and All Other Buildings



Printarts Building, 228 East 45th St., New York City, an example of the new type commercial building where store front architecture must be in keeping with the character of the entire design. Davis Solid *Bronze construction lends dignity and richness to these fronts. Architect: Henry I. Oser; Erected by Magoba Construction Co.*

International Harvester Co., St. Cloud, Minn., an industrial building with many large display windows safely set in Brasco construction

THE "new day" in store front architecture finds in Brasco a complete and varied assortment of artistic treatments ready for its individual needs.

Initiative in design—advanced methods of manufacture—have produced new and striking effects in *solid* white metal, art bronze, standard copper and bronze and *solid* architectural bronze.

Each of these is available as a complete, unified store front construction, with all members and accessories designed for each other and adapted to the modern layouts of industrial and commercial buildings, hotels, apartments, department stores and individual shops.

All information — full-sized details and actual samples of all constructions—will be gladly sent on request.

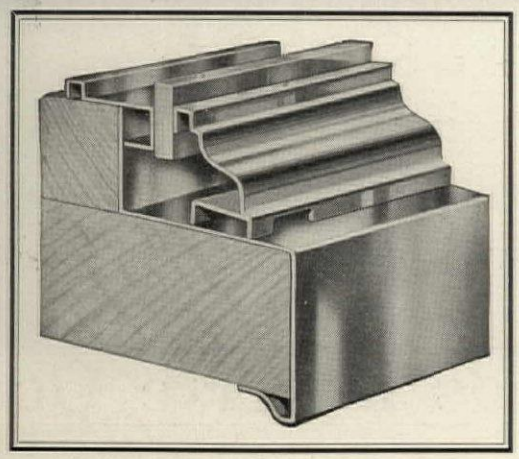
BRASCO MANUFACTURING CO.

5031 WABASH AVENUE, CHICAGO

28-14 WILBUR AVE., LONG ISLAND CITY COMMONWEALTH BUILDING, PHILADELPHIA

Brasco

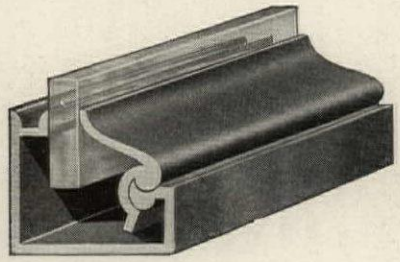
PERMAWITE



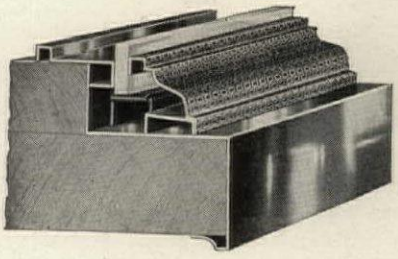
PERMAWITE

Here we have the answer to present-day demand for a brilliant, all-white, *solid* metal store front. PermaWite is an exclusive Brasco product of chromium-lustre metal, noted for its remarkable resistance to weather. A new and superior construction at a cost actually lower than plated metal.

DAVIS
SOLID BRONZE

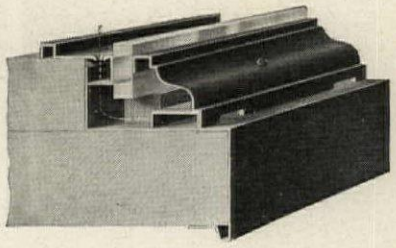


The finest construction available today, possessing a permanent rich beauty and dignity. The patented Davis fulcrum principle with its positive but indirect screw pressure assures utmost safety to the largest plates. All glass is set from the outside without need for putty or plastic cement. *"For better buildings."*



ART BRONZE

Embodying handsome patterned effects deeply wrought in the metal itself. An excellent construction for the modern shop, at moderate cost.



COPPER OR BRONZE

Built as are other Brasco constructions, on time-proven principles of heavy-gauged strength, modern beauty, glass safety, ease of installation, adequate ventilation and drainage.

Store Fronts

From a frontier town to one of America's most beautiful cities . .

Tulsa—profiting by the mistakes and experience of older cities—builds wisely, builds beautifully; erects *good* buildings and equips them with *good* hardware that they may look well and serve long.

Good Buildings Deserve Good Hardware

CORBIN

PHILTOWER OFFICE BUILDING
(*top, right illustration*)
Tulsa, Okla.
Architects—Keene and Simpson, Kansas City
Contractor—Long Construction Co., Kansas City
Corbin Unit Locks and Door Checks throughout

EXCHANGE NA'TL BANK BLDG.
(*center illustration*)
Tulsa, Okla.
Architects—Weary and Alford Co., Chicago
Contractors—Siesel Construction Co., Chicago
W. H. Hoster Construction Co., Tulsa

BOSTON AVE. M. E. SOUTH CHURCH
Tulsa, Okla.
Designed by Miss Adah Robinson of Tulsa
Architects—Rush-Endicott-Rush, Tulsa
Contractor—W. S. Bellows, Oklahoma City

These fine buildings in Tulsa are all equipped with Good Hardware—Corbin

McBirney Building
National Bank Commerce
Kennedy Building
Cosden Building
Shrine Temple
Masonic Temple
Wright Building
Daniel Building
Tulsa Building & Loan Building
Central High School
Hunt Building
Commercial Building
Tulsa World
Orpheum Theatre
Rialto Theatre
St. Johns Hospital

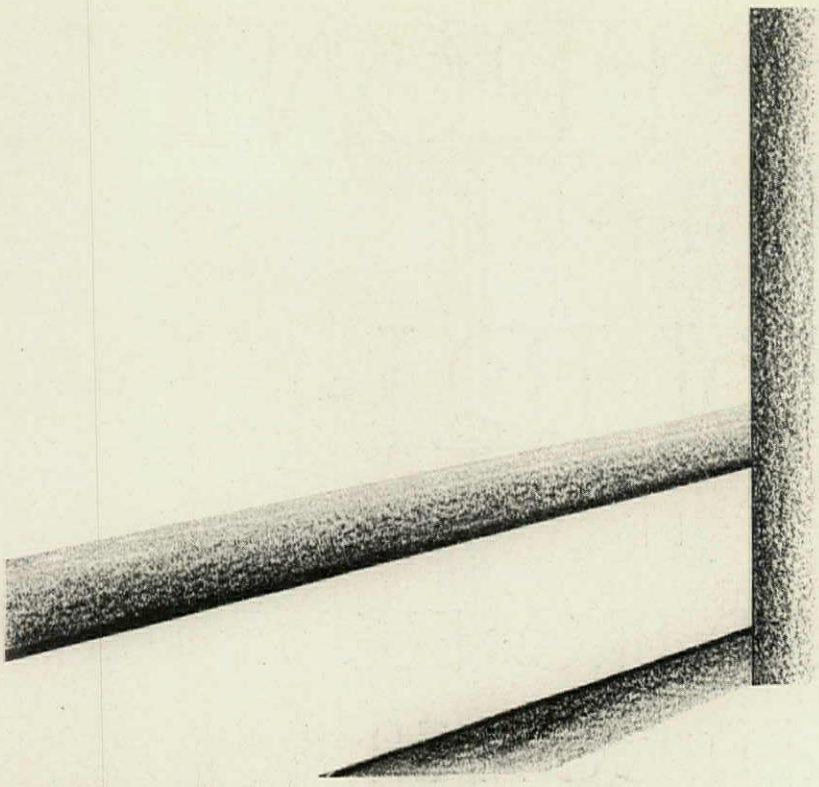
A NEW city to be planned—and abundant wealth to build it! Haven't you sometimes wished for such an opportunity? This is what has happened out in Tulsa. The new found wealth in oil has built towering office buildings—created beautiful churches, homes, schools, theatres, banks—all new, all *good*.

Tulsa has grown with speed. But Tulsa has built with care. Past mistakes of other cities, past failures of materials, and equipment were studied and remembered. New itself, Tulsa avoided the untried, the unproved, the cheap, the makeshift. *Good* was what they wanted and *good* is what they got.

For instance, the hardware in nearly every important Tulsa building is Good Hardware–Corbin. The new looked to the old for the quality that only experience could give—and found in Good Hardware–Corbin not only quality materials and workmanship but also the desired authenticity of design, variety of patterns and completeness of items.

P. & F. CORBIN SINCE 1849 NEW BRITAIN CONNECTICUT
The American Hardware Corporation, Successor
New York Chicago Philadelphia

SEE OUR CATALOGUE IN SWEETS



COMPETITION

Closes November 18, 1929

$10,000 in prizes

Fourteen prizes will be awarded to the winning designs

First Prize	$5,000
Second Prize	2,500
Third Prize	1,000
Fourth Prize	500
Ten Honorable Mentions, *each*	100

Help guide and guard

A national emergency served by the Lehigh

AERONAUTICAL experts voice insistent warnings of the danger of too precipitate airport building. Great Britain's most important air terminal, Croyden, constructed at a cost of $600,000 was scrapped about two years ago, and rebuilt at an expense of more than $1,000,000. Le Bourget, the airport of Paris, is about to go through a similar reconstruction.

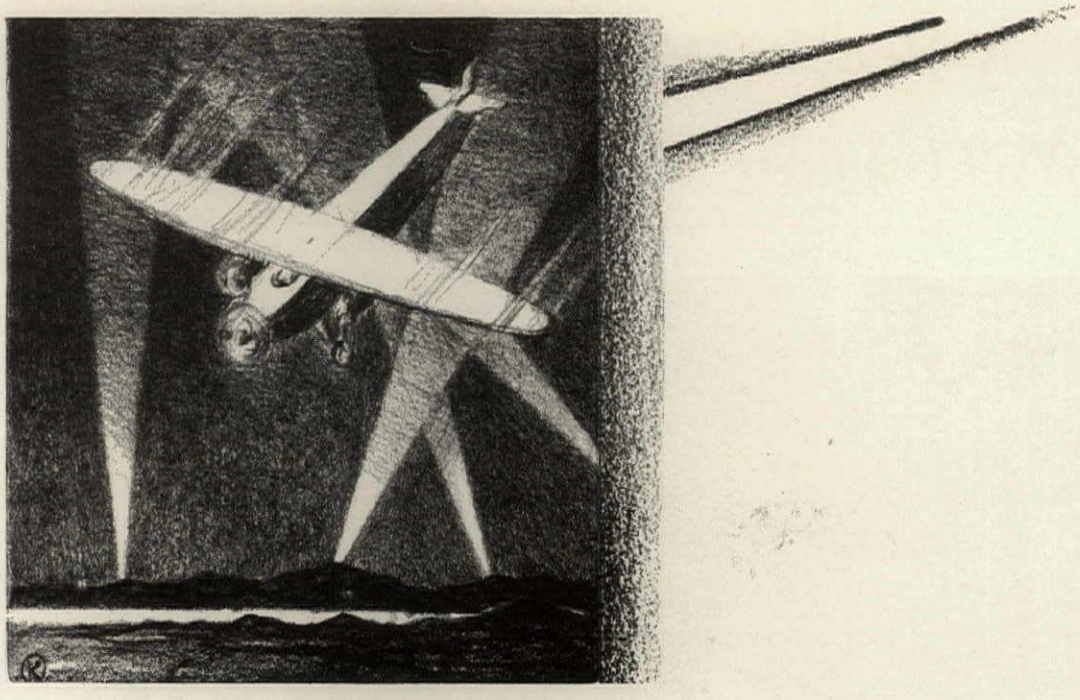
Only through the collaboration of architects, engineers, city planners, and aeronautical experts will the cities of the United States avoid similar costly errors. With thousands of new airports being planned for construction in the next few years, responsibility for guiding this expansion aright rests squarely upon the nation's professional authorities.

To help meet this national emergency, the Lehigh Portland Cement Company announced in April a $10,000 prize competition for the design of a modern airport. This competition, which closes November 18, 1929, is arousing widespread public interest and has enlisted the enthusiastic support of nationally known authorities in aviation.

The terms of the competition have been carefully formulated by a committee of over twenty-five experts of outstanding prominence. Architects and engineers, preferably working in collaboration with each other and with city planners, are invited to participate. Competition programs have been widely mailed. If you have not received your copy to date, write or wire the Lehigh Portland Cement Company.

The requirements of the competition are simple, each entry consisting of two sheets each containing two principal drawings, rendered in black and white in any medium. These four major elements are: a small-scale plot plan of ground area; block plans of the structures needed to house the present and future facilities of a complete airport; an airplane perspective, showing principal structures in relation to flying area and to the traffic arteries serving the port; and an elevation and detail of the major structures at larger scale.

All structural features shall be indicated as constructed of Portland Cement products wherever practicable. Further specifications, including size of ground area and type of accommodations—which are to be designed for airplane rather than lighter-than-air traffic—are listed in the Competition Program.



airport expansion

Portland Cement Company Airport Competition

Immediately upon the completion of the competition the Jury of Awards, consisting of the chairmen of the four sections of the Program Committee and other members selected by them, will judge each entry for excellence of design, practicability from an engineering and aeronautical standpoint, and ingenuity in developing both the structures themselves and their disposition with respect to the landing area best to handle the air traffic of today and the immediate future.

All entries remain the property of the competitors and will be returned at least within one year after the completion of the contest. Winning designs and those receiving honorable mention will be widely published for the guidance of national and local organizations interested in airport development.

PROGRAM COMMITTEE

Harvey Wiley Corbett, F. A. I. A., *General Chairman*
Francis Keally, A. I. A., *Professional Adviser*
C. Stanley Taylor, of Taylor, Rogers & Bliss, Inc., *Manager*

The Program Committee, which also serves as an advisory body during the period of the competition, is divided into four sections—Architecture, Engineering, Civics and City Planning, and Aeronautics, and includes the following men of outstanding prominence:

Architectural Section

Harvey Wiley Corbett, F. A. I. A. and F. R. I. B. A., Chairman
Prof. Wm. A. Boring, F. A. I. A., Dean of the School of Architecture, Columbia University
Raymond M. Hood, A.I.A., A.D.P.I.G.
Parker Morse Hooper, A. I. A., Editor, *The Architectural Forum*
Francis Keally, A. I. A., Professional Adviser

Engineering Section

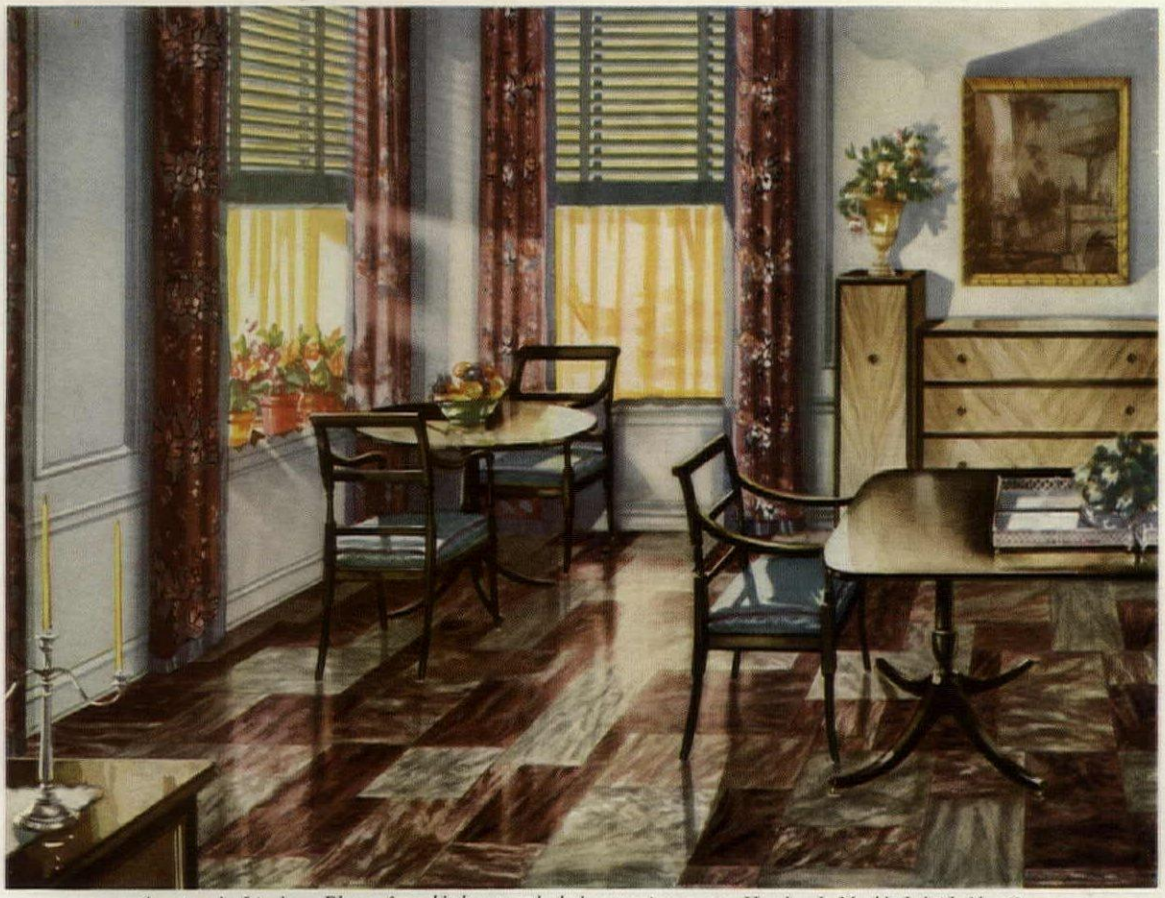
Morris Knowles, C. E., Chairman
Colonel Willard Chevalier, C. E., Publishing Director, *Engineering News-Record*
Gavin Hadden, C. E.
Harold M. Lewis, Executive Engineer, Regional Plan of New York and its Environs
Francis Lee Stuart, Consulting Engineer

Civics and City Planning Section

George B. Ford, A. I. A., Chairman; Technical Advisory Corporation, Planning Consultants; Airfield Planner to the War Department
Harold S. Buttenheim, Editor, *The American City*
E. P. Goodrich, Consulting Engineer, City Planning Consultant
Hon. Frederick C. McLaughlin, Mayor, City of White Plains, N. Y. President, N. Y. State Conference of Mayors. President, Westchester County Federation of Planning Boards

Aeronautics Section

Dr. George W. Lewis, Chairman. Director of Research, National Advisory Committee for Aeronautics
Porter Adams, Chairman of Executive Committee and past President, National Aeronautic Association
Major John Berry, Manager, Cleveland Municipal Airport
Colonel Harry H. Blee, Chief of the Division of Airports and Aeronautic Information, Department of Commerce
L. K. Bell, Secretary, Aeronautical Chamber of Commerce
Colonel Paul A. Henderson, Vice-President, Transcontinental Air Transport, Inc., Vice-President, National Air Transport, Inc.
Charles S. Jones, President, Curtiss Flying Service
Major Ernest Jones, Aeronautic Expert, Editor Official Bulletin Aeronautics Section, Department of Commerce
Harry Schwarzchild, Publ'r, *Airports*



Armstrong's Linoleum Floors of marble beauty only look expensive—a new Handmade Marble Inlaid, No. 62.

How do you "KEY" *your* Room Plan?

There's an "easiest" way to win interior unity....begin at the floor with Armstrong's Linoleum

Could just an old-fashioned floor give beauty and unity to this delightful dining-room? How well the illustration proves that all the brilliance and distinction of the modern linoleum floor is needed to weld painted panelled walls, Venetian blinds, Duncan Phyfe tables, and a modernistic service buffet into one eye-appealing harmony of color and design.

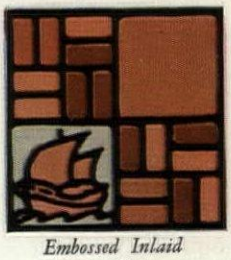
Rooms like this illustrate why architects and decorators select Armstrong's Linoleum for fine interiors. They know that they can "key" room plans properly. Whether the room is simple or extremely modernistic, there is the exact Armstrong Floor to suit its moods and whims.

Besides, these floors are practical. They are warm, resilient, permanent, and economical. Let us send you colorplates and samples of Armstrong's Linoleum. Then you can see some of the patterns suitable for both large and small rooms.

Armstrong Cork Company, Floor Division, Lancaster, Pa.

Look for the CIRCLE A trade-mark on the burlap back

Handmade Marble Inlaid No. 90.



Embossed Inlaid No. 6006.

Armstrong's Linoleum Floors

for every room in the house

PLAIN--INLAID--EMBOSSED--JASPÉ--ARABESQ--PRINTED *and* ARMSTRONG'S QUAKER RUGS

THE eternal fitness of things is apparent in the use of Russwin Hardware to harmonize with the Mediterranean architecture of this beautiful home.

Then, too, Russwin's well-earned reputation for durability and trouble-free service has been an outstanding factor in its application to some of the most notable buildings in America.

Residence of Mr. Harry Green, Portland, Oregon
Architect—Mr. Herman Brookman
Contractors—Lorenz Brothers
Russwin Dealers—Builders' Hardware & Supply Co.

See pages 2519-2598 *for a catalogue of Russwin Hardware*

R&E SINCE 1839
RUSSWIN
RUSSELL & ERWIN
DISTINCTIVE HARDWARE

Hardware that lasts—base metals of bronze or brass

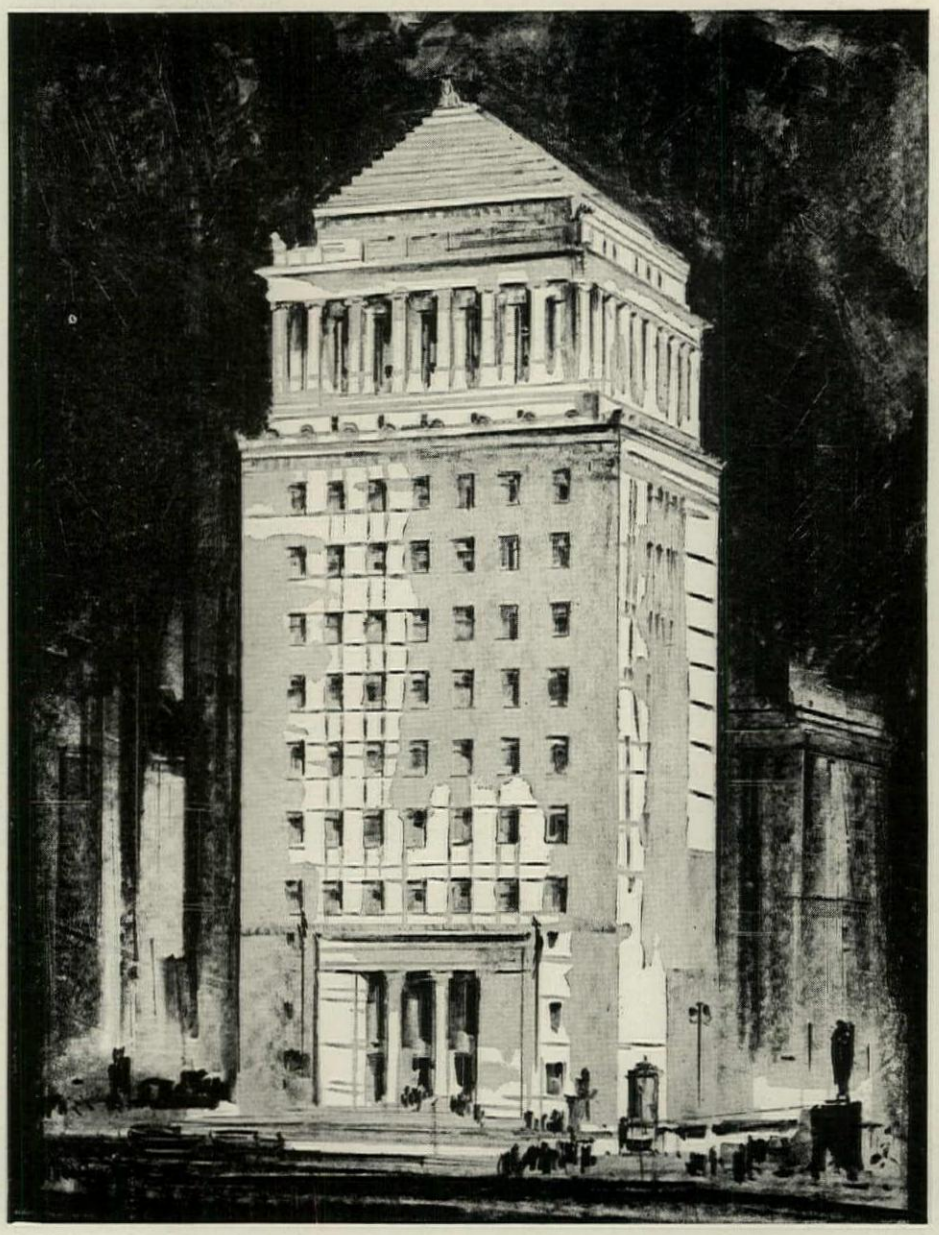
Russell & Erwin Manufacturing Company

The American Hardware Corporation, Successor

New Britain, Connecticut

New York Chicago London

HARTFORD NATIONAL BANK AND TRUST COMPANY
VIEW OF BANKING ROOM IN NEW HOME
DENNISON AND HIRONS, ARCHITECTS
STONE & WEBSTER
ENGINEERING CORPORATION
BUILDERS



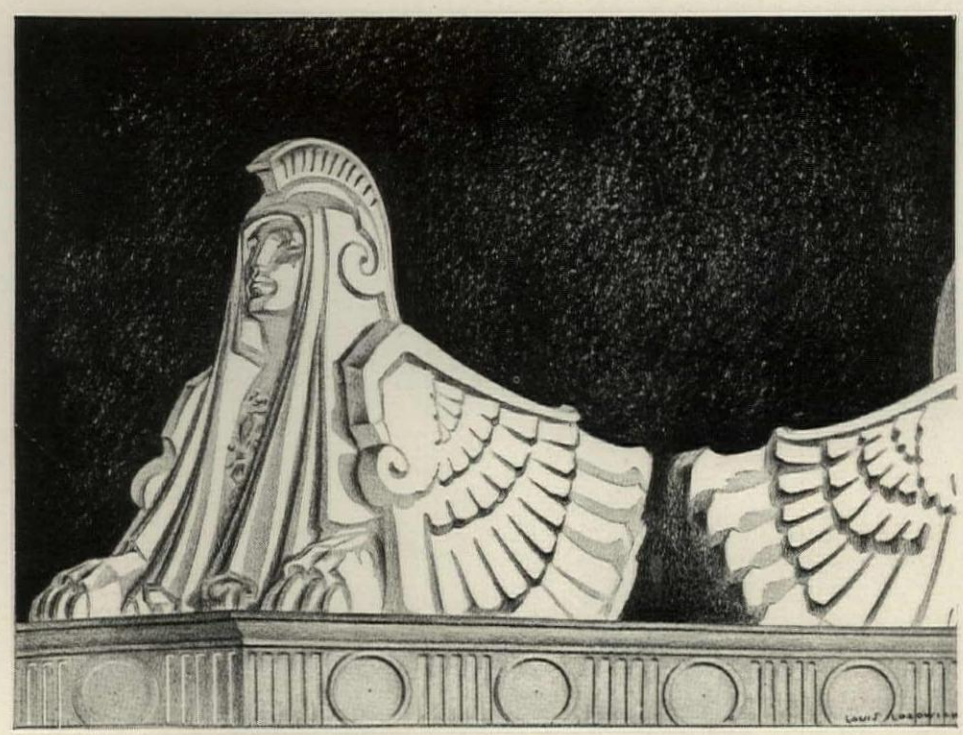
The new Civil Court House at St. Louis, Mo., erected under the direction of The Plaza Commission, Inc.

THE steps of the pyramid which forms the roof of the building shown above are covered with sheet Aluminum.

A cast Aluminum fascia rises above them and on this rests two cast Aluminum sphinxes.

A close-up perspective of this fascia, with its ornamental cap sheaf, is shown on the opposite page.

ARCHITECTURAL ALUMINUM



A close-up perspective of the fascia and the ancient sphinxes that crown the pyramid of the St. Louis Civil Court House, shown on opposite page.

ALCOA

THIS Aluminum covered pyramid with its ornamental Aluminum castings, is but another example of how artistry, durability and maintenance economy follow the use of Aluminum in the architectural field.

The Aluminum alloy employed is very workable, blends beautifully with a wide variety of decorative schemes and provides unusual lightness and strength.

It is non-corrosive and will never require painting. This is at once an important saving in permanent upkeep and an assurance that design detail will never be obscured.

A wide range of practical uses for Aluminum are discussed and visualized in a booklet, Architectural Aluminum. May we send you a copy?

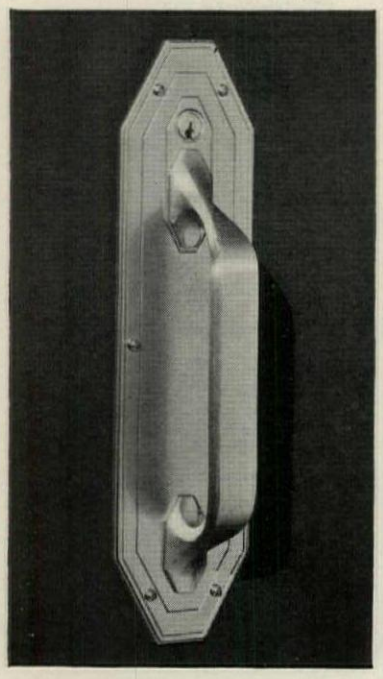
ALUMINUM COMPANY OF AMERICA
24993 Oliver Bldg., Pittsburgh, Pa.
Offices in 19 Principal American Cities

[*Structural details and specifications of metal work described here will be found on page 124.*]

ARCHITECTURAL ALUMINUM

The Union Trust Building, Detroit; Smith, Hinchman & Grylls; Donaldson & Meier, Architects

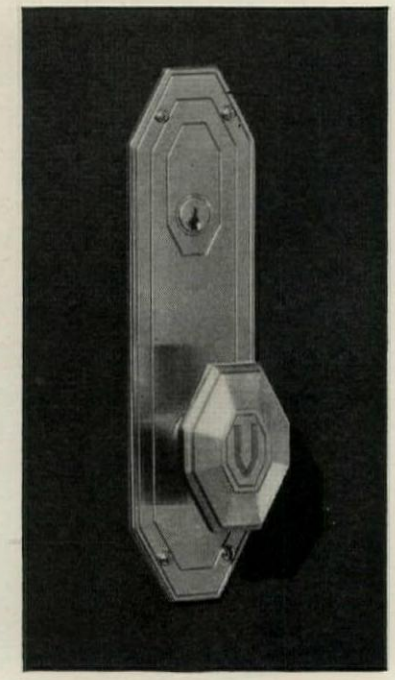
SARGENT CRAFTSMANSHIP



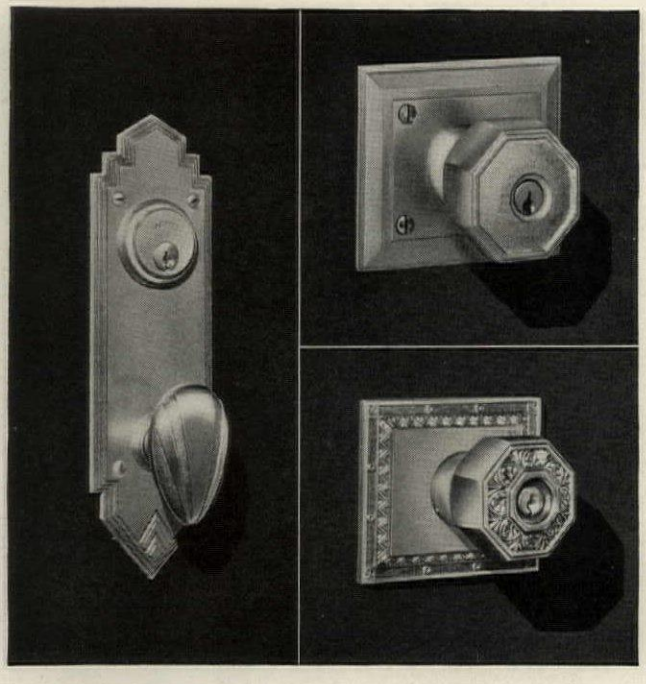
In co-operation with leading architects Sargent produces hardware designs characteristic of today's major building operations

SARGENT HARDWARE adds distinction to every building in which it is installed. Many of the most notable of recently completed commercial structures are thus equipped, either in specially constructed, proprietary designs, or in appropriate standard designs.

Door Handle, at left, and Door Knob with Escutcheon, at right, created in a proprietary design to meet the exacting needs of the Union Trust Building.



Door Knob No. 1822ME
Escutcheon 7876ME



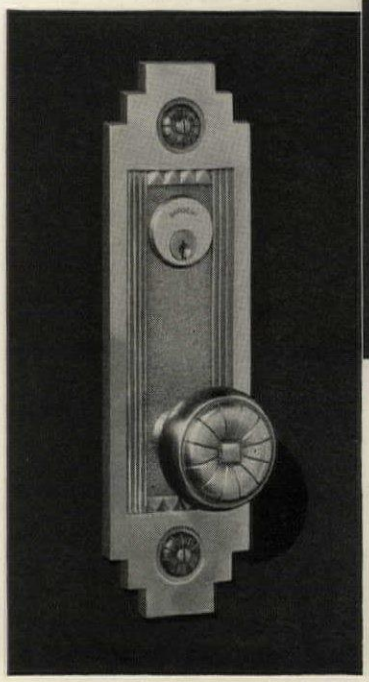
Union Lockset — Knob No. 9805½ MP, *without demountable feature; No.* 19805½ MP, *with demountable knob and exchangeable cylinder.*

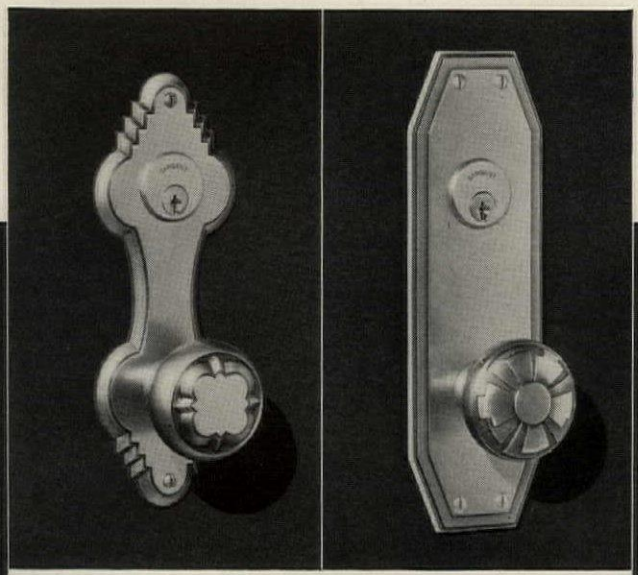
Union Lockset — Knob No. 9805½MT, *without demountable feature; No.* 19805½MT, *with demountable knob and exchangeable cylinder.*

SOME of the newest Sargent offerings are illustrated on this page. They express the modern trend in building decoration. White bronze with a silvery tone. The cool sheen of chromium plating. The rich beauty of antique bronze. Each piece maintains the Sargent traditions of fine machining and durability. Each is an example of the highest form of hardware craftsmanship.

Sargent Hardware specified for any building is an assurance of added beauty, greater durability, and smoother operation of its parts. This selection of new designs will interest you. We would be glad to send a booklet illustrating them. Sargent & Company, New Haven, Connecticut; 94 Centre Street, New York City; 150 North Wacker Drive (at Randolph), Chicago, Illinois.

Door Knob No. 1822MD
Escutcheon 7876MD

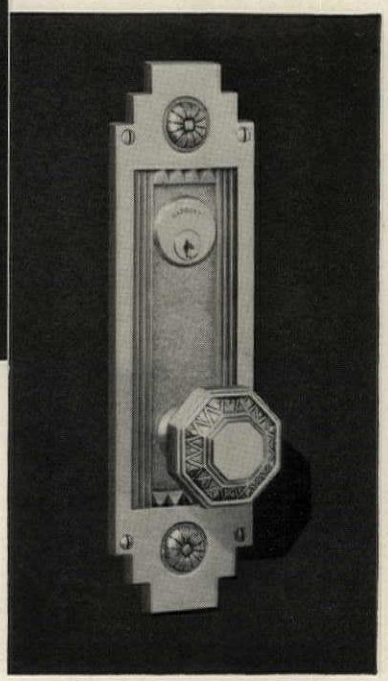




Door Knob No. 1822MS
Escutcheon 7876MS

Door Knob No. 1822MH
Escutcheon 7876MH

Door Knob No. 1882MD
Escutcheon 7876MD



SARGENT

LOCKS AND HARDWARE

BOOK DEPARTMENT

MINOR ARCHITECTURE OF SUFFOLK

A REVIEW BY
ROBERT STUYVESANT HOOKER

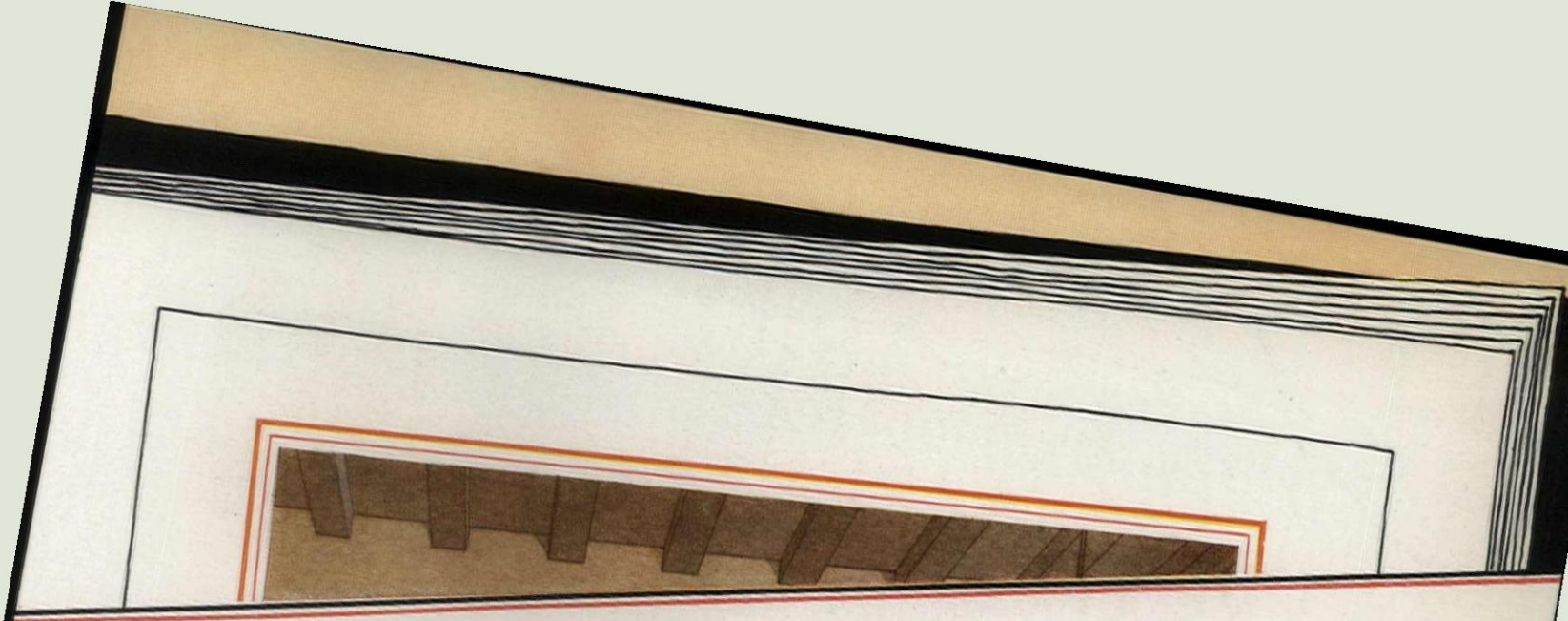
OF all England no district is richer in historic tradition, natural scenic beauty, and good architectural precedent than Suffolk. Since the time that William the Conqueror became king and divided Suffolk into 629 manors and apportioned them among his followers, Suffolk has been the scene of great political and industrial activity. It has suffered at the hands of intriguing barons and has been the home of many of the great public characters of English history, and of countless home-loving country squires, farmers and peasants whose homes ranged from the simplest cottage to the most imposing of castles, many of which are still existing.

The Norman conquerors upon coming into possession of the land immediately started building themselves great castles including those at Bungay, Clare, Eye, Framlingham and Haughley. At the same time an astounding number of monastic buildings were being erected in the district, including Gilbert Blount's priory at Ixworth in 1100; Ralph Fitz Brian's priory at Great Bricett in 1110; the monastery of Hubert de Montchensey at Edwardstone in 1114; the convent at Redlingfield in 1120, and many other such buildings. But there was much internal strife between the barons and kings, and the people were mistreated and plundered so that the period was productive of great fortress-like castles which were the prey of all invaders and therefore were thrown down and destroyed in so many instances that today we scarcely have an idea of what they were like. On the other hand, the poverty stricken condition of the population did not lend itself to the development of an important growth of domestic architecture. Domestic building flourished at a later date, after Suffolk had become commercially prominent, largely through the introduction of the woolen industry in 1336. This industry, introduced by the Flemings and vigorously followed by the natives, was in a great measure responsible for the exceptional prosperity enjoyed by Suffolk over a long period of time. Although comparatively few Flemish people settled in Suffolk, there is a marked Flemish influence in the architecture of the period. The prosperous people built themselves comfortable cottages, and the squires and merchants erected great halls and country estates which include some of the best examples of English architecture. Of these great halls and manor houses many remain today as homes of the wealthy; others have fallen from their lofty estate and serve as farmhouses,

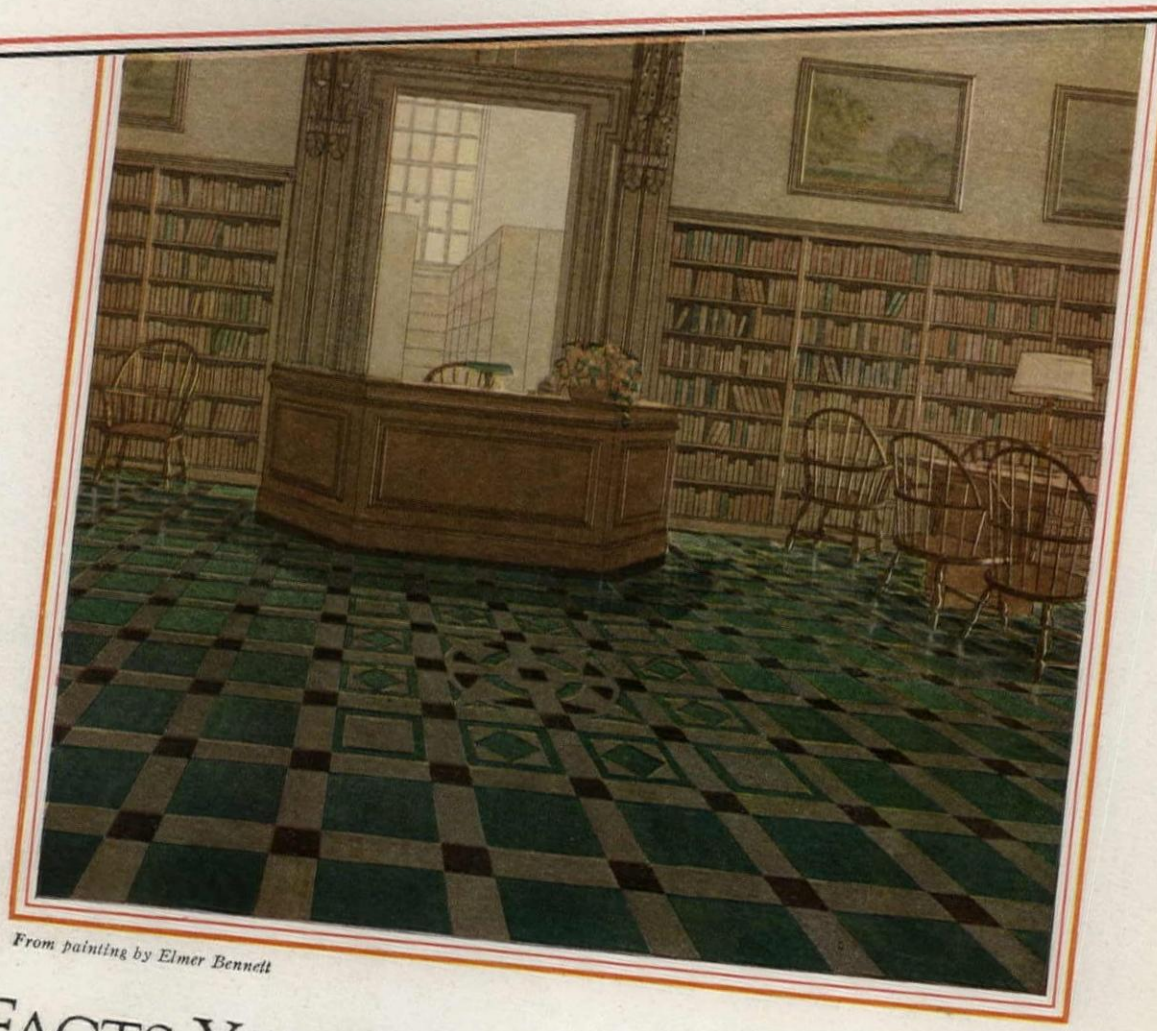
while still others have fallen to ruin and have disappeared. The cottages themselves have also suffered the ravages resulting from the march of progress, and as is the case in America, fine old structures are ruthlessly torn down to make room for ugly buildings of a more up-to-date type. In a great majority of cases the charm of English cottage and farmhouse architecture lies in its severe simplicity, the work of construction having been done in most instances by local craftsmen using local, or easily transported materials, such as brick and timber, which resulted in the interesting and ever popular half-timbered type of building so characteristic of English architecture. The half-timber work found in Suffolk is perhaps more pleasing than that of any other district of England in that it seems to possess a solid, honest quality often lacking in the houses of other districts. Another feature of the Suffolk buildings is the great variety in the color of the brick which, though not always pleasing, in a great majority of cases lends added charm to the work. It is in this brick work that the Dutch, Flemish and Huguenot influence is most strongly felt, and there are many buildings in Suffolk with very decidedly foreign lines which serve to heighten the variety and interest of the general architectural effect.

As is to be expected in a country so rich in architectural precedent, eagerly sought by the modern architects of two continents as inspiration for their own designs, the English countryside and cities have been combed and recombed, and photographed and sketched from every angle. There is a tendency, however, for the busy architect or student who has limited time for travel and wishes to cover during that period the greatest possible extent of territory, to keep to the beaten paths and easily accessible landmarks. Indeed for one to cover in anything like a complete manner the whole of the English countryside, it might well be necessary to spend a lifetime. It is in the cities and more frequented places that the greatest destruction due to modernization has taken place. However there are still numerous forgotten little villages hidden away along the byways and among the fields where the hand of progress has rested lightly, and where one may still find "Old England" unspoiled. Such a search, however, requires infinite patience and unlimited time not in the realm of possibility for most of us, so that we must be content with collections of illustrations and descriptions by those who have had the opportunity of making a special study and investigation of the subject, and already several such works have appeared.

Such a collection on the subject of English architecture is being prepared to cover the entire field in as complete a manner as possible, presenting photographically the domestic architecture of old England in two main divisions,—one on the major architecture, including castles and mansions, and the other devoted to minor architecture such as manor houses, cottages and farm houses. The material will be grouped as far as is possible by counties, depending on the amount of material available as to whether one or more counties shall be dealt with in one volume. In the case of Suffolk it was found that there existed such a wealth of material that in the preparation of the volume entitled, "The Minor Architecture of Suffolk" it was possible to include only a part of the illustrations available. This of course permits of a greater selectivity, so that only the best of a



QUALIFIED architects have prepared a booklet for us, entitled: "Facts . . . About Resilient Floors in Libraries." It represents an independent and accurate survey of recent developments in the resilient-flooring field—and applies the findings to the problem of library planning and construction, in a graphic and helpful fashion. For your copy, write: Congoleum-Nairn Inc., Kearny, N. J.



From painting by Elmer Bennett

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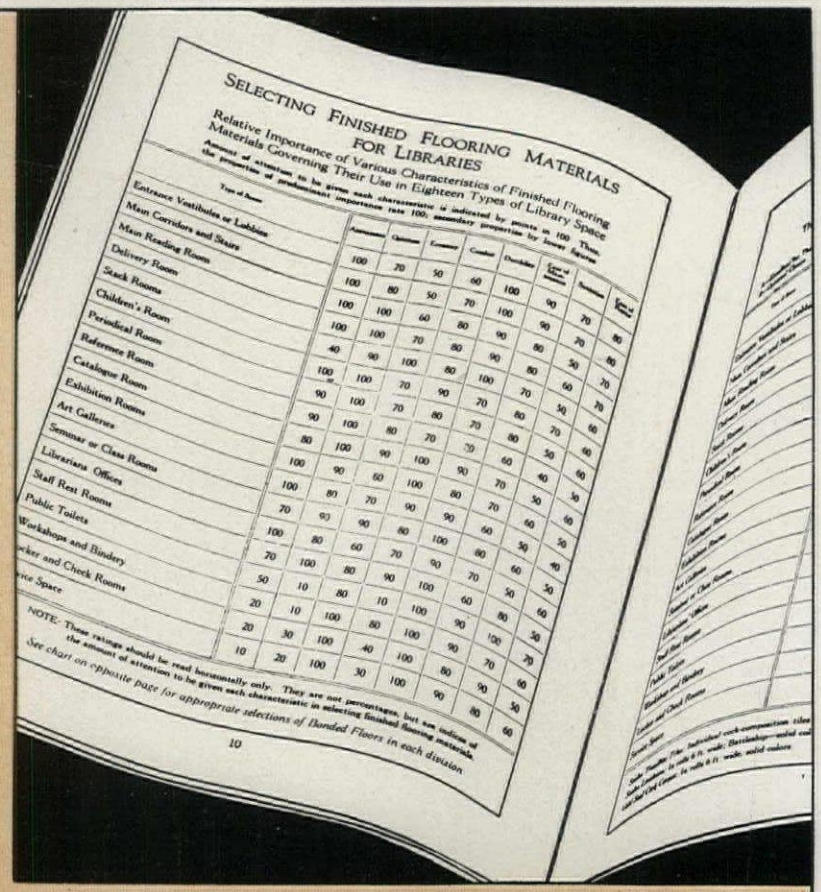

One of the convenient tables in our booklet on library floors. This booklet, written by architects, analyzes and compares the merits of various resilient flooring materials for library use. The booklet is free on request.

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(see preceding page)

large number of examples appear in its pages. The work is edited by Dexter Morand and is made up almost entirely of full-page plate illustrations in collotype from original photographs made especially for this volume. The introductory text matter gives a brief description and discussion of the architectural character of the Suffolk countryside and the conditions under which its development took place. There is also a short monograph on the manner of seeking out secluded places and locating the best examples of work typical of the old English styles. The historical notes are quite complete and have been carefully compiled by investigation of a great quantity of source material. They deal with all the events of English history occurring in Suffolk from the time of William the Conqueror down to the reign of Queen Mary. These events are presented in such a way that their bearing on the architectural development of the country is made evident, and the reader is given a historical background against which to view the architectural subjects which follow.

As is always the case in a work of this character, it is the plates in which architects are principally interested, and in this instance they are well worth careful study. A brief description of a few chosen at random will perhaps help in giving an idea as to the nature of the subjects shown. At Aldeburgh, Moot Hall is an unusual combination of half-timber, stucco and brick. The beauty of the general proportions is perhaps marred by the towering chimney with its two octagonal pots. However, the detail of this chimney is so interesting that as a source for precedent it offers great possibilities. At Bildeston a small cottage with its entry opening directly onto the street presents an interesting arrangement of windows, and the overhanging second story with timber brackets relieving the blankness of the white stucco facade affords many suggestions. Two other roadside cottages of Bildeston, with shop windows on the first floor and projecting upper stories, are also shown. A half-timbered cottage at Chelsworth is placed end-on to the street and flanked by a low brick wall with white picketed gate. The heavy thatched roof adds a touch of ruggedness. At East Bergholt, the Bell Cage is notable chiefly for the shape of its roof which suggests an interesting way of terminating a long, narrow cottage roof. Three photographs taken at Flatford showing the Valley Farm, Constable's Mill, and a heavily thatched cottage by the side of the stream are more interesting for the scenic beauty of the settings than as architectural material. The treatment of the brick filling in the half-timber of one side of the Fox and Goose Inn at Fressingfield presents an interesting variety of patterns, and the general proportions of the structure are very satisfying. Hadleigh with its interesting Guild Hall and many cozy little shops offers a wealth of material, and the several illustrations here shown are well chosen for the purposes of the architect. From Hintlesham we have a snug little white walled cottage nestling behind its hedges and white picket fence, and a larger half-timber building of the manor house type. Ipswich was at one period among the most prosperous cities of England, and "Ye Olde Neptune Inne" and numerous other shops and buildings offer a wealth of detail and interesting material. The author of this work refers to Kersey as "as charming and unspoilt a village as exists in England, without visiting which no architectural pilgrimage in

Suffolk would be complete." Indeed the scenes here shown would make excellent stage settings for a Shakespearean drama. Some primitive wood carving over a shop front at Halesworth furnishes the subject for excellent detail, and a massive wrought iron studded door from Kersey is a marvel in sturdiness. The Lavenham Guild Hall is unusually interesting and rich in detail, though the half-timber work would very likely become extremely monotonous were it not for the numerous leaded glass windows and the carved detail of the beam at the projection of the upper story. The corner posts of the building are also richly carved, and a close-up view presents the detail quite distinctly. The Wood Hall and other buildings at Lavenham are rich in half-timber work and interesting arrangement of parts. Although the front facade of the Bull Inn seems a slightly jarring note among so much architectural perfection, its courtyard is charming and reminiscent of other days. One of the most pleasing bits of domestic architecture is shown from Monks Eleigh. This is a severely simple little cottage with thatched roof and plaster walls. Much of the credit for the effect of this illustration may be due to the setting, but the general effect is extremely beautiful and satisfying. The shops and cottages of Woodbridge contain a great deal of good half-timber arrangement and are characterized by the informal spacing and placing of windows and doors, which is responsible for much of the charm in old English architecture.

MINOR ARCHITECTURE OF SUFFOLK. Series One. By Dexter Morand. Text and 48 Plates, 9 x 12½ ins. Price 17 s 6 d. John Tiranti & Co., 13 Maple Street, Tottenham Court Road, London. (Orders to be sent directly to publisher.)

STRENGTH OF MATERIALS. By Jasper Owen Draffin. 275 pp., 6 x 9 ins. Price $3. John Wiley & Sons, Inc., 440 Fourth Avenue, New York.

THE author of this valuable work is Assistant Professor of Theoretical and Applied Mechanics at the University of Illinois. "The book was written as a result of an effort to find a suitable text-book on strength of materials for those engineering students, particularly architects, who have not studied the calculus. It embodies the experience of a number of years of teaching such students. A knowledge of algebra, trigonometry, and of theoretical mechanics, indulging centroids and moment of inertia, is presupposed. The topics discussed are those which are commonly taught engineering students in undergraduate courses in strength of materials. A few equations, such as Euler's column formula and the theorem of three moments, are stated and applied but are not derived. Deflection is studied by means of the areas of the shear, moment, and slope diagrams. The area of a plane surface bounded by a curve is computed by elementary calculus, the principles of which are outlined in an appendix. One chapter is devoted to a brief treatment of energy and repeated loads. Reinforced concrete beams are discussed as an example of beam action, and beams are designed and investigated with the derivation or use of many of the usual formulæ.

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THE EDITOR'S FORUM

BRITISH ARCHITECTS VISIT NEW YORK

ALTHOUGH foreign architects frequently visit our shores to more adequately familiarize themselves with what American architects are doing today, the recent visit of a group of leading English architects, members of the Royal Institute of British Architects, was a real compliment to the profession in this country. Although this visit of professional brethren from across the sea was far too brief to show them adequate hospitality or to give them more than an airplane view of the splendid examples of modern and classical architecture completed by us during the past ten years, everything possible was done to entertain these delightful gentlemen from England and to facilitate their progress through our architectural centers. During their brief visit of three days in New York, William A. Delano, President of the New York Chapter of the American Institute of Architects, entertained the visiting British architects at a small and informal luncheon at the Century Club. This sociable and delightful occasion gave an opportunity to a number of New York architects to meet and exchange ideas with this group of interesting and prominent British architects. The group consisted of Percy Thomas, Victor Wilkins, D. M. Laird, S. W. Davis, Laidlaw Smith, H. B. S. Gibbs, J. Gibson, and J. Parnie Dansken, Vice-president of the Faculty of Surveyors of Scotland.

It is sincerely to be wished that such meetings of British and American architects could occur more frequently. They would tend to produce a better understanding and a mutual appreciation and esteem and interchange of ideas between men who practice architecture on the opposite shores of the Atlantic.

A HOSPITAL COMPETITION

ARCHITECTS of New York are invited to enter into competition for the compilation of plans for the construction of a million dollar hospital plant, devoted exclusively to the health and welfare of women of the Bronx. The hospital is to be erected for the Bronx Maternity Hospital, on the site of its present building, 166th Street and the Grand Concourse, it was announced by Dr. Julius Wise, chairman of the building committee and consultant in charge of plans. Details of the desires of the board and advice and suggestions as to procedure will be given architects interested in the contest by Dr. Wise, who maintains offices at 748 Kelley Street, the Bronx.

The building will front 92 feet on the Grand Concourse and about 100 feet on East 166th Street. It will be a ten-story structure, ultra-modern in design and equipment, with a capacity of 250 beds. The design will run chiefly to wards, according to Dr. Wise, in order that facilities may be made available to the public at the lowest cost consistent with good service.

HENRY FORBES BIGELOW—1867-1929

FROM Boston comes the sad news of the death of another prominent architect, Henry Forbes Bigelow, who for many years has been one of the leaders of his profession in New England. He was graduated from St. Mark's School and later from the Architectural School of the Massachusetts Institute of Technology. For many years Mr. Bigelow has been a trustee of the Boston Museum of Fine Arts and, together with his partner, Philip Wadsworth, has built many important city and country houses in his native state, as well as the Hotel Touraine and the National Shawmut Bank in Boston, and the buildings for St. Mark's School. Possessed of a genial personality and a deep interest in his profession, Mr. Bigelow will be greatly missed by his many friends and by his professional associates.

A WAR MEMORIAL COMPETITION

THE War Memorial Committee of Chicago, consisting of W. Rufus Abbott, Sewell L. Avery, Gen. Abel Davis, Gen. Milton J. Foreman, Gen. Roy D. Keehn, Robert P. Lamont, Robert R. McCormick, Julius Rosenwald, Howard P. Savage, James Simpson (ex-officio Chairman of the Chicago Plan Commission), Albert A. Sprague and Walter Strong, desires to announce that a nation-wide competition will be held for the Chicago War Memorial, with attractive prizes and in accordance with the usage of the American Institute of Architects. Programs will be issued September 1 and judgment announced early in December. Under this general invitation programs may be obtained up to October 1 by qualified applicants from Earl H. Reed, Jr., Professional Adviser, 435 North Michigan Avenue, Chicago.

AN ARCHITECTURAL EXHIBITION

THE Philadelphia Chapter of the American Institute of Architects and the T Square Club will hold their 32nd annual architectural exhibition from November 1 to 15 inclusive. The joint exhibition board of the affiliated organization has announced that the exhibition will this year, through the courtesy of John Wanamaker, Philadelphia, be held in the well appointed art galleries of that firm.

A circular of information giving full details is now available which, together with entry slips and labels, may be had upon application to the Executive Secretary, at his office, 112 South 16th St., Philadelphia.

THE
ARCHITECTURAL FORUM

VOLUME LI — SEPTEMBER 1929

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MILTON BENNETT MEDARY
1874-1929

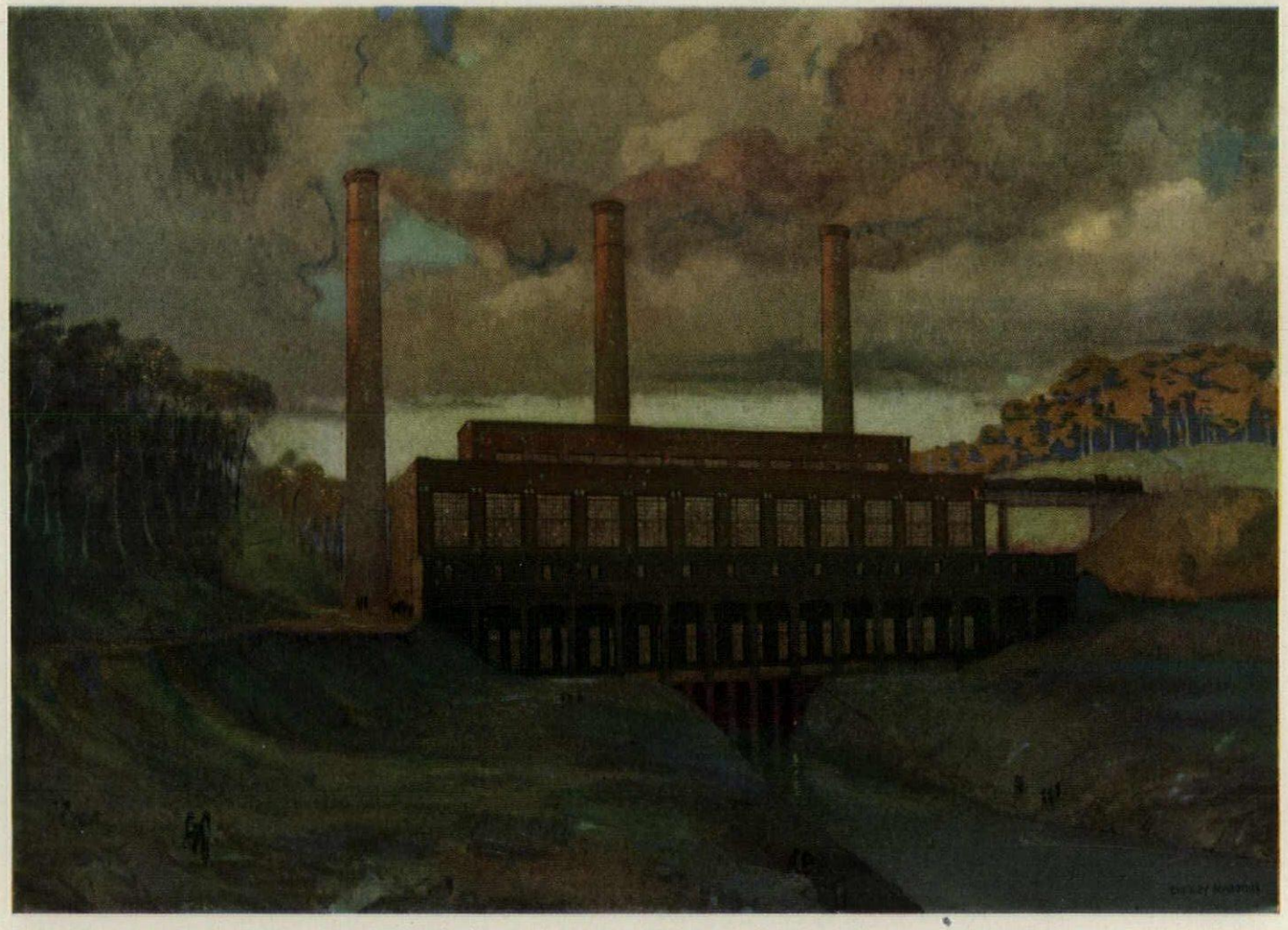
MILTON BENNETT MEDARY

1874—1929

BORN in Philadelphia on February 6, 1874, Milton Bennett Medary upon the completion of his school days entered the University of Pennsylvania, from which he was graduated. Four years later he formed the firm of Field & Medary, in which he was active in the practice of architecture until 1905. Following the dissolution of this firm, Mr. Medary worked alone until the formation, five years later, of the firm of Zantzinger, Borie & Medary, with which he was associated until his death. Mr. Medary was the designer of many important buildings in Philadelphia and in other parts of the country. Among his most recent achievements was the Carillon Tower, which he built for Edward W. Bok in the Bird Sanctuary at Mountain Lake, Fla.; the Pennsylvania Athletic Club; the Valley Forge Chapel; and the Fidelity Mutual Life Insurance Company's building in Philadelphia.

Milton Bennett Medary was for many years a leader in his chosen profession. Among the many honors accorded him were the degree of Doctor of Fine Arts from the University of Pennsylvania in 1927; the Presidency of the American Institute of Architects from May, 1926, to May, 1928; he was a director of the Foundation for Architectural and Landscape Architecture of Lake Forest, Ill., and was appointed a member of the National Commission of Fine Arts by President Harding in 1922, of the National Capital Park and Planning Commission by President Coolidge in 1926, and of the Board of Architectural Consultants of the Treasury Department by Secretary Mellon in 1927. He served as chairman of the Housing Corporation of the Department of Labor, and was appointed to design and construct workmen's villages at Neville Island, Pittsburgh, and Bethlehem, Pa., in 1918. He was consulting architect to Cornell University, Mt. Vernon on the Potomac, and the Roosevelt Memorial Association. While president of the American Institute of Architects, Mr. Medary took a great interest in directing the attention of the Institute to its powers of beneficial action in warning the public of commercial encroachment on places of great natural beauty. In October, 1927, the executive committee of the Institute adopted a resolution condemning establishment of any power development in the gorge of the Potomac River or in the Great Falls district of Washington, because it would destroy one of the beauties of the national capital. Such guarding of natural beauty Mr. Medary held to be a duty imposed on the architects of the entire country. In Philadelphia he was at one time president of the local chapter of the American Institute of Architects, the T Square Club, and of the Architectural Alumni of the University of Pennsylvania. He was a member of many other architectural societies, among which were the Philadelphia Zoölogical Society, and the American Game Protective Association. He was an honorary member of the American Society of Landscape Architects and an honorary corresponding member of the Royal Institute of British Architects.

Not only on account of his great devotion to the interests of the American Institute of Architects, but also because of his untiring work on behalf of the preservation and furtherance of the L'Enfant plan of Washington will Mr. Medary be remembered. In recognition of his untiring labor on behalf of the development of the architectural requirements of the national government in Washington, and on account of his high standing as an architect and as a man endowed with an unusual simplicity of manner, kindliness of personality, generosity of heart and high integrity of character, Milton Bennett Medary was awarded, in April, 1929, the Gold Medal of the American Institute of Architects. This event, which occurred only four short months ago, marked the culmination of a great career. Little did his friends realize that evening in the Corcoran Gallery of Art, when, after the glowing tribute by James Monroe Hewlett, Mr. Medary received from the hand of Secretary Mellon the highest honor which the American Institute of Architects has in its power to present, that this dearly loved, much admired and greatly honored man would so soon be taken from them. It was his good fortune to have lived a splendid life, full of devotion to his chosen profession.



POWER HOUSE, MUSCLE SHOALS, ALA.

EWING & CHAPPELL, ARCHITECTS

From an Oil Sketch by Chesley Bonestell

THE
ARCHITECTURAL
FORUM

VOLUME LI NUMBER THREE

SEPTEMBER 1929

PLANNING OF INDUSTRIAL BUILDINGS

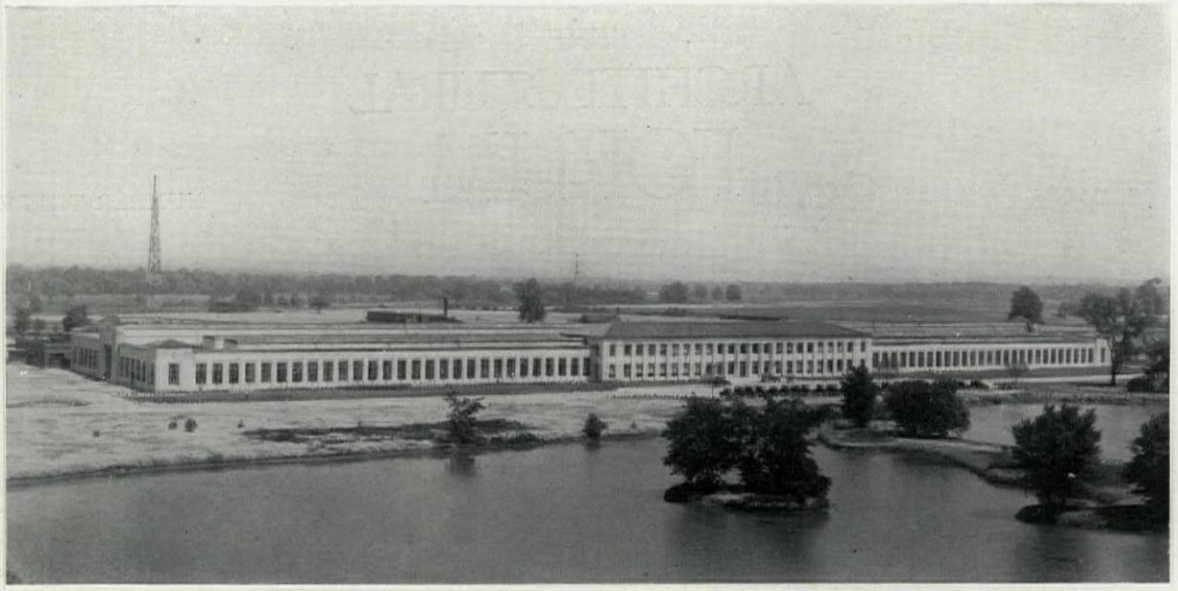
BY
MORITZ KAHN
ALBERT KAHN, INC., ARCHITECTS AND ENGINEERS

IN this age of intensive production, when manufacturers will spare no reasonable expense in the purchase of effective equipment, it is surprising to find so many factory buildings which are improperly designed for economical production. Very often a poorly planned industrial building is the result of a lack of knowledge of the basic principles which govern the design of this type of structure.

The day has passed when a manufacturer can be satisfied with any kind of a building which is constructed merely for the purpose of keeping out the elements; a building poorly lighted and ventilated, with an improper system of heating, with wrong floor heights and column spacings; a building with a jumbled arrangement of entrances, stairs, elevators and internal departments, and with the many objectionable features which result in its being as depressing as it is impractical for production purposes. The enterprising manufacturer of today demands an effectively planned factory building, even as he requires an efficient installation of equipment. Some architects still feel that a snappy looking, symmetrical plan can always be made to fit the functions of a factory building, and that a Beaux-Arts elevation is all-sufficient for a successful scheme, losing sight of the fact that the sole purpose of a factory building is efficiency and economy of production so that the greatest possible yield is returned on the capital outlay.

There is no intention of conveying the impression that a factory building should be devoid of all decorative treatment, and that appearances are of little consequence in so prosaic a place as a factory. There is no reason why these buildings should be ugly. Treated with architectural skill all of them can at least be presentable, and often they can be made extremely imposing. If it can be obtained at little or no extra expense, and it can be, a pleasing elevation to a factory is worth having,—not only for its advertising value to the manufacturer, but also for the effect it has on employes. One of the most important things about an employe is his mental attitude toward his work, and one method of improving this attitude (not the only method, it is true, but nevertheless powerful) is to make his environment agreeable. But the designer of the factory building should continually bear in mind that every manufacturer is interested in dollars and cents first of all, and in appearances only secondly. A good appearance can be obtained without extra expense by the proper use of materials, by the general contour or shape of the building, by the accentuation of structural lines, by the proper proportioning of solids and voids or the massing of the structure. This form of decorative treatment does not increase the cost of the building, whereas an attempt to make an indifferent building presentable by applying ornament with a lavish hand is bound to prove a failure.

Probably the first important point to emphasize in the design of an industrial building is the need of planning it in coöperation with the manufacturer in order that the building may be designed for the specific purpose to which it is to be put. The character of the product and the processes of its manufacture must govern the design and type of the building to be used. Obviously, the manufacture of different kinds of products can be effectively carried on only in different types of buildings, each suited for the particular product to be manufactured. For example, the requirements in the manufacture of food products differ from those of a shoe factory; a motor assembly building will differ from a body construction building; a spring and upset building will differ from a steel rolling mill; and a foundry will be entirely different from a forge shop. While it is possible to manufacture food products and shoes in the same type of building, or to assemble cars



Engineering Laboratory, Ford Motor Company, Dearborn, Mich.
Albert Kahn, Inc., Architects and Engineers

and build bodies in the same type of structure, the adjustment of methods of manufacture to the particular type of building one happens to possess does not tend toward economical production. In other words, the method of production should not be adjusted to the building, but the building should be adapted to the production.

There are some general principles of industrial architecture which apply to all types of factories. To enumerate a few of them, the line of production should be continuous and direct; departments should be so located that material in course of production travels the shortest possible distance; there should be no crossing or confliction in the lines of travel which would result in congestion; departments should be so located that they can easily be re-located or expanded as any change in the manufacturing process or any growth in the industry may require; entrances, stairs and elevators should be located where they will afford the best means of access and where they will least interfere with the process layout; there should be an abundance of natural lighting and good ventilation; internal columns should be as few as possible compatible with economy of construction and should be so located as to permit the placing of equipment, causing the least interference with the flow of production; and floor heights should be adapted to the nature of the product and the methods of its manufacture.

Photos. Thomas Ellison

Forge Shop, Chevrolet Motor Company, Detroit
Albert Kahn, Inc., Architects and Engineers

Photo. Thomas Ellison

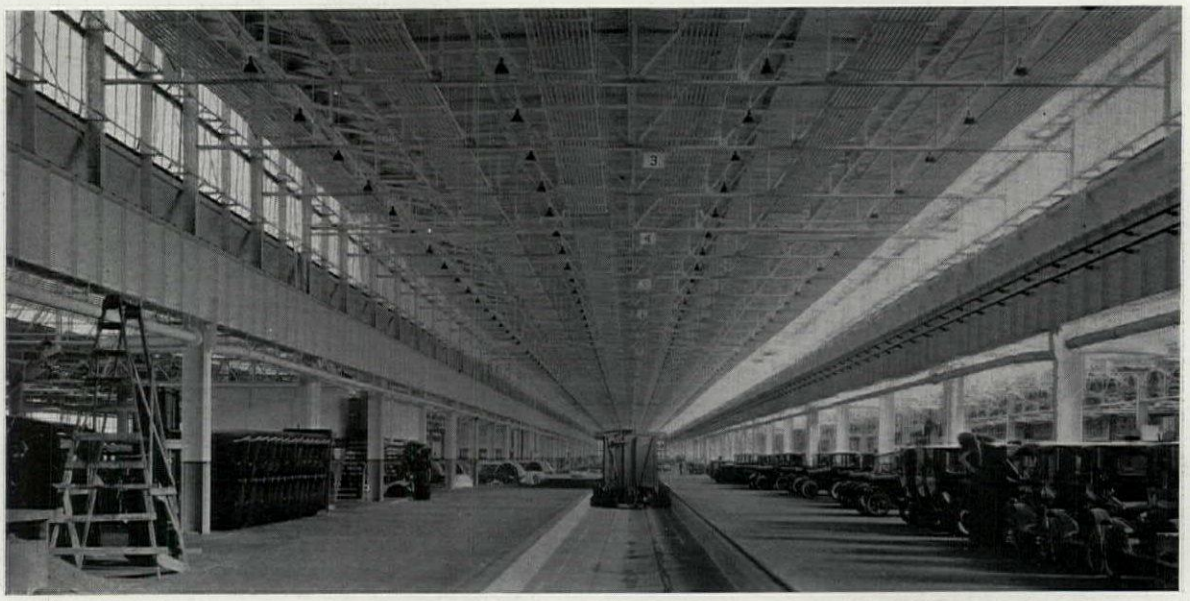
Plant for National Production Company, Detroit
Albert Kahn, Inc., Architects and Engineers

A well designed factory building will have a simplified plan,—in truth, the simpler the better. An intricate, though symmetrically balanced arrangement of departments, an interesting appearing plan might look well on paper from the architect's standpoint, but it will prove impractical from the works manager's point of view. The works manager must be unhampered in the arrangement of the departments and his equipment. For general manufacturing purposes it will suit him better to give him a clear open space which will permit him to arrange his departments as he thinks best, to re-arrange them whenever he finds it necessary on account of changes in methods of production, and to expand them in all directions when the growth of the industry requires. A proper plan of the main building will permit of horizontal expansion in any direction at any future time, and in the case of a multi-story building the foundations and columns can be designed strong enough to support future additional floors, thus allowing for upper expansion as may be necessary. In the general arrangement of a plant care should be exercised in the location of railroad sidings, driveways, power houses and auxiliary buildings, so as not to interfere with any future expansion.

For general manufacturing purposes, a standardized plan of building will prove to be of advantage. This refers particularly to such build-

Photo. Western Photo. Co.

Assembly Plant, Chevrolet Motor Company, Detroit
Albert Kahn, Inc., Architects and Engineers



Interior, Assembly Plant, Ford Motor Company, St. Paul
Albert Kahn, Inc., Architects and Engineers

ings as are used for motor assembly plants, or for the manufacture of bodies, motor parts, machine tools, food products, shoes, clothing and the like. In this type of factory the architect need only familiarize himself with the general method of manufacture, and the building need not be designed for any particular installation of equipment. There are other types of factory buildings, however, such as foundries, forge shops, cement plants, coal distillation plants, glass plants and the like which must be designed to fit particular schemes of equipment installation. In the first mentioned group of factories the building can be planned around the process of manufacture; in the second group the building must be designed around the equipment layout.

Body Building, Studebaker Corporation, South Bend, Ind.
Albert Kahn, Inc., Architects and Engineers

Photo. Thomas Ellison

Interior, Assembly Shop, Dodge Brothers, Inc., Detroit
Albert Kahn, Inc., Architects and Engineers

Before any building of the latter group can be designed, the architect must be in possession of the final equipment layout to make certain that the construction according to his plans will not interfere with the installation of the equipment.

It is difficult in an article of this length to dwell extensively on the structural features of industrial buildings, but here are some principles which should be observed by the designer of the factory. As previously intimated, there should be an abundance of natural lighting and ventilation. Windows should be as expansive as possible with an ample supply of opening ventilators. Daylight and fresh air cost nothing and consequently should be used to the greatest extent. The window or glass area should not be less

Warehouse, Detroit Railway & Harbor Terminals Company, Detroit
Albert Kahn, Inc., Architects and Engineers

Warehouse, Mishawaka Woolen Mills Company, Mishawaka, Ind.
Albert Kahn, Inc., Architects and Engineers

Photo, Manning Bros.
Factory for Mazer-Cressman Cigar Company, Detroit
Albert Kahn, Inc., Architects and Engineers

than 22¼ per cent of the floor area in the case of a multi-story building, and it may run as high as 30 per cent of the floor area in the case of a single-story building. Opening ventilators in side wall sash should not be less than 35 per cent of the total sash area and in monitors not less than 50 per cent of the sash area. The monitors affording roof lighting for single-story buildings should be so spaced as to give the greatest uniformity rather than intensity of lighting. Irregularity of lighting proves detrimental to the worker. The form or shape of the roof construction should be such as to promote natural ventilation which can be made to be as effective as, and always more economical than, forced.

No definite rules can be laid down for the spacing of columns, nor for story heights in the case of multi-story buildings. These conditions are governed by the nature of the product. For example, in the case of a multi-story building used for the manufacture of motor bodies, a clear distance of 22 feet between columns is most suitable, as this allows for two lines of conveyor tracks with just sufficient gangway for the workers. Again, in the case of a single-story building, say for a stove plant, columns spaced 35 feet center to center will prove most effective

Photo. Tebbs & Knell, Inc.

Packard Motor Car Service Building, New York

Albert Kahn, Inc., and Frank S. Parker, Associated, Architects

for economy of construction and working floor space. In general, however, it can be assumed that column spacing for multi-story buildings should fall between 20 and 30 feet center to center, and column spacing for single-story buildings should fall in the range of from 25 feet to 40 feet center to center.

It is likewise difficult to fix story heights of floors in case of multi-story buildings, because this also depends upon circumstances. For the average multi-story factory building a clear story height of 12 feet, 6 inches will prove practical for buildings of up to 100 feet in width, having unobstructed views on both sides to admit daylight. Single-story buildings, in general, should have a clear height of 14 feet to the under side of the roof trusses. This dimension, of course, does not take into consideration clearances for overhead cranes or conveyors which will require special treatment.

The disposition of entrances for stairways should be such as to afford the shortest and best means of access to the working spaces. Locker rooms and toilet rooms in expansive plants should not be concentrated in a few large units, but should be divided into many small units located around the plant so that the distances between

Photo. Manning Bros.

West End Plant, Fisher Body Corporation, Detroit

Albert Kahn, Inc., Architects and Engineers

them are not too great and to avoid excessive loss of time in their use by employes. In a single-story building, spread over a large area, toilet and locker rooms can, with advantage, be located on elevated platforms in the spaces between the roof trusses. This will save floor space and will eliminate interference with production, because the floor underneath can be used for production purposes, tool cribs, wash rooms, etc.

The floor finish of the factory building should be of a kind which is best suited for the particular department in which it is to be used. Where there is no excessive trucking in the transport of the product, or where conveyors are used for this purpose, the ordinary cement finish properly treated and hardened will prove adequate. In some departments, however, a cement finish is not suitable. For instance, in a tool room a wood floor will prove more satisfactory, because of the danger of injuring a tool dropped on a hard surface. In departments or gangways subject to certain types of trucking, a wood floor, either maple or wood block, may be necessary, because the trucking will dust up the surface of an ordinary concrete floor with consequent injury to the bearings of machinery; and, furthermore, the repair of a concrete floor necessitated by the wear of trucking is more difficult than the repair of wood flooring.

Factory buildings, whenever possible, should be constructed of fireproof materials. In the case of a fire, the loss of or injury to the building can be covered by fire insurance, it is true; but the loss due to disorganization or stoppage of output cannot be covered by insurance, and this is often of more importance than the monetary loss involved in the destruction of a building and its contents. Structural steel framing with brick walls and cement tile roofs will prove suitable for single-story buildings. In the case of multi-story factory buildings, reinforced concrete framework with brick enclosing walls will result in economy and will make possible expeditious construction, because the reinforced concrete work can usually be carried out in less time than is required in the preparation of shop drawings for and the fabrication of structural steel.

In such buildings where the use of elevators is necessary, the elevators should be spaced throughout the plant where they will prove of most efficiency and where they will not interfere with the flow of material in course of manufacture. Elevator platforms should be as large as possible, and high speed elevators should be used as extensively as possible. In factory buildings, where elevators are used, the elevators very often prove the "bottle neck," so to speak, of production. The best and speediest of elevators are never too good; any stoppage of elevator service means a stoppage of production, and while on this subject, a word could be said of elevator doors. The use of the best of doors, regardless of cost, is always advisable. As previously said, the manufacturer is always concerned regarding the cost of his building, which he naturally wishes to obtain at the lowest possible price. While factory buildings should be constructed as economically as possible, the economies should result from close study of structural details and the best use of structural materials. The designer should not attempt to produce economies by using cheap elevators and cheap elevator doors. No manufacturer will be thankful to a designer who saves a few thousand dollars on an elevator installation which is continually causing stoppage of output, and consequent continual money loss.

In conclusion it is well to call attention to the fact that an architect who specializes in the design of industrial buildings is not expected to be an expert in process layout. The works manager is best capable of preparing his own process diagram. Being in possession of such a diagram, the architect should confine his efforts to building around that layout a factory which is best suited to the scheme of operation. The specialist designer need possess merely a general knowledge of the principles of manufacture. He should, however, be fairly well acquainted with the nature and possibilities of mechanical equipment, and of the requirements of power and shafting; he should be conversant with floor heights as governed by various processes of manufacture; he should be able to design efficient heating, ventilating and artificial lighting installations and, above all, he should be able to advise upon the most suitable type of structure required for the manufacture of a specific product. It would be expecting too much of any designer to be master of all the principles that enter into the design of industrial buildings, and therefore the architect who wishes to specialize in this field of work is well advised in surrounding himself with a staff of assistants, each of whom will be especially qualified in his particular sphere. With such a staff under his direction and management, the architect will prove of great value to the manufacturer.

So rapidly have the industries of this country grown and developed in the past 70 years that there has been little time or opportunity for the work of the trained architect in the designing of such buildings. Today it is a matter of pride among the industries, great and small, to erect buildings planned for the most efficient installation of machinery and equipment and to design them along carefully studied architectural lines.

THE ARCHITECTURE OF INDUSTRIAL BUILDINGS

BY

ELY JACQUES KAHN

PREACHING the doctrine of modernism has its entertaining reactions. A man believes that he himself sees the light and discovers that the beam he has noticed is merely a reflection of the illumination all about him. The moment has acknowledged the existence of a point of view entirely at variance with that of a generation past, and in the architecture of the industrial building in particular, the result is sweeping. Where domestic work resists, grimly, the elimination of faked "quaintness," and where likewise the monumental building disdainfully avoids variation from precedent, the industrial structure sails merrily into experiment. Here common sense,—the engineering instinct, cost, income,—predominates. Beauty comes as a result of the solution of a problem where use of extraneous material or mere picturesqueness would be absurd.

It is evident that the new design of this type of structure dates from the first use of steel or reinforced lintels where large glass areas were possible. The curious factory structures with heavy brick walls and small windows,—if they still exist,—are merely awaiting the pickaxe of tomorrow's demolition. Light and ventilation are paramount. The engineer smiles and suggests that the more modern conception would be that of purely scientific illumination by electricity; uniform distribution of the color and intensity of light required; ventilation to be effected by change of air at required intervals; the air itself to be regulated in moisture and temperature. Interesting theory, and very often essential in spite of the presence of windows

Photos. Tebbs & Knoll, Inc.

U. S. Appraisers' Stores, New York
Buchman & Kahn, Architects

U. S. Appraisers' Stores, New York
Buchman & Kahn, Architects

which, though in some instances they may be of major importance, in others are permitted purely on sentimental allowance to the traditional instincts of employes who object to being shut off from a glimpse of what is occurring outside.

The industrial building is primarily and definitely a machine for the production of a commodity. The solutions to its problem can vary in material or detail, but, basically, the structure must answer its purpose. The column arrangement must properly fit the lines of machines, the receptacles for merchandise, the handling of goods for packing or shipping. There are, quite obviously, varying types of industrial structures that include the very tall factory buildings of New York, as well as the one-story, roof-lighted shed type of mill that is found outside of the cities and on cheaper land. The tall buildings of the Garment Center in New York, the printing buildings developing in the Varick Street section and likewise in the forties east of Lexington Avenue, represent a characteristically large city type of factory. In New York, in particular, this type of structure has had intense development. Through real estate sales pressure, to a large extent, manufacturers have been brought together. The clothing trades, the silk, wool, leather, toy and furniture industries concentrate in definite districts where it is apparently convenient for the buyer to find

From the Architects' Rendering

Pinaud Building, New York
Buchman & Kahn, Architects

his market and where the subsidiary businesses likewise cluster to avoid unnecessary loss of time in transacting their affairs. With this most persistent grouping there has come the problem of freight traffic,—the actual handling of the enormous quantities of goods of every nature. The clothing district in New York, for example, in turn attracts the various supply houses that handle fabrics,—silk, cotton, wool and rayon.

As the manufacturers find it difficult to conduct production on a large scale in locations where rents are relatively high and shipping conditions unfavorable, many of the large buildings develop into sales offices, finished stock rooms and executive offices, with the actual producing plants outside of the city or in sections of the New York area that are more adaptable. In the very tall New York factory structure, the standard of height has increased in the last ten years in a steadily rising scale. Where 16 floors was normal in 1920, 18 and 20 appeared later, until in this year monsters of 30 and more are commonplace. The results, considering the restrictions of zoning conditions for relatively small lots, develop large units of ground area and improved elevator and freight facilities.

The street traffic situation is one of the factors which will seriously endanger the steady growth of such districts. There is no question but that the manufacturer will presently object

to the inconvenience of losing valuable time by the most absurd street congestion. The building can be as well planned as may be possible with modern facilities of every conceivable type, and yet if the moment the merchandise comes to the street traffic is stopped, the building cannot be successful. The difficulty naturally has to do with an entirely unreasonable city plan,—narrow streets, intense through and cross circulation, and no direct arteries. The solution is yet to be found, though freight tunnels, secondary streets, may be less visionary when the actual demand insists on finding them.

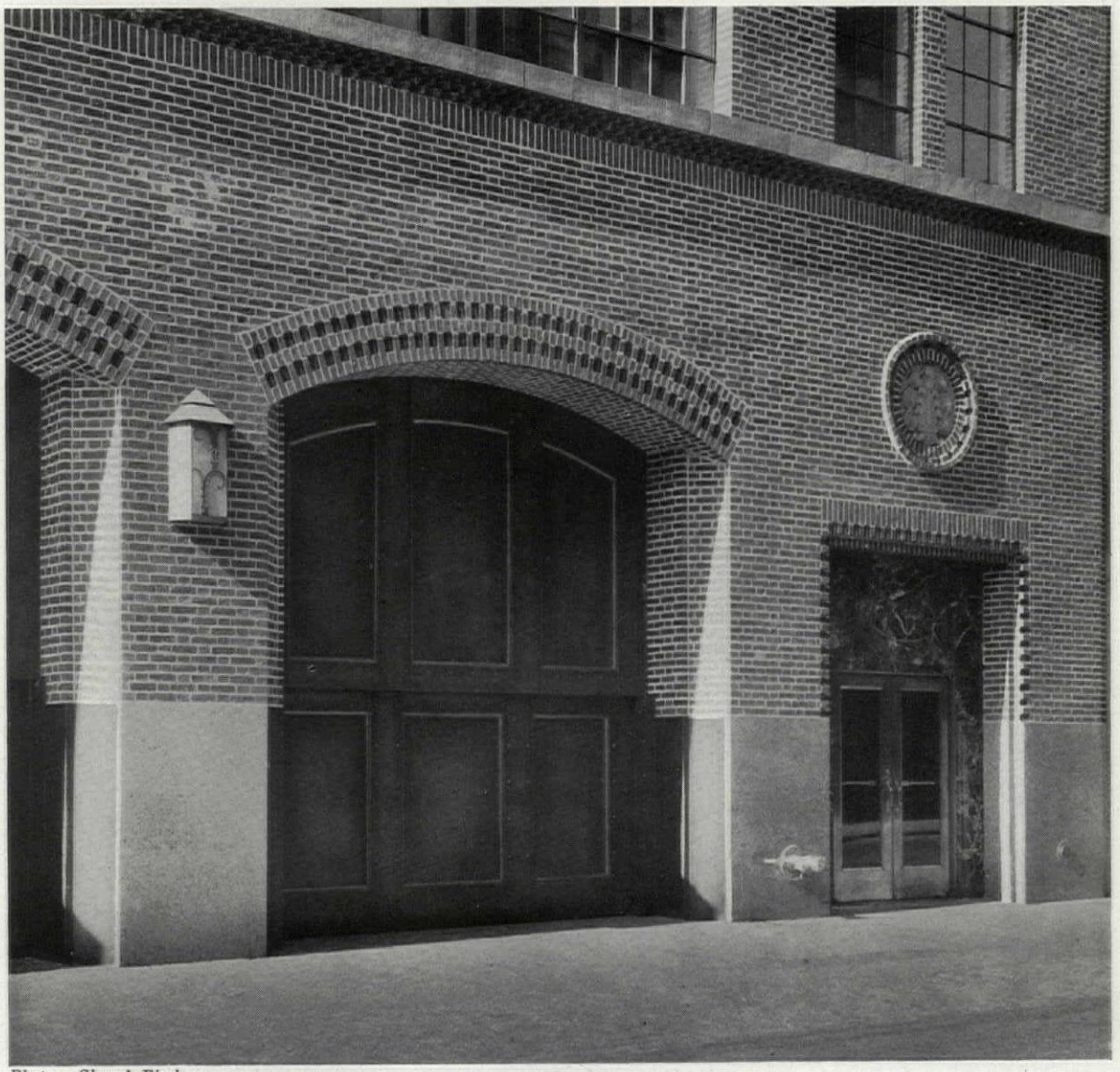
The large buildings are highly specialized in equipment. The elevators and freight halls are designed to accommodate particular industries. Furniture, for example, requires large elevator cars in which bulky pieces can speedily be transferred; the floor loads are light. Millinery buildings require column arrangements adaptable to a number of small machines,—live steam for essential steps of manufacture; high ceilings for freight corridors because of the bulk of the cardboard boxes in which finished product is shipped. In other buildings the finished articles are handled mainly in express package form, so that provision must be made for express collecting and checking, independently of the constant entry of bulky raw material. In the design of these great units, low cost is naturally of major importance. Economy of plan and avoidance of areas that are poorly adapted to the uses intended, are paramount. Windows have to be arranged to provide sufficient light; the mechanical requirements as to live steam, electric power, ventilating shafts, package chutes are of importance. In the factory building, high or low, column spacing seems to be the most important consideration. When the bays become too large, excess cost of columns and steel framing appears. Normal ceiling heights would likewise be affected by inordinately deep girders. In printing buildings the variation in sizes between heavy newspaper presses and the smaller types for normal printing of books and commercial production of every sort, determines the necessary clearance requirements, in walls and floor loads. Vibration under the stress of heavy machinery must be avoided by adequate load capacity and proper reinforcing.

The industrial structures problem demands in the first instance an engineering solution. Areas conveniently disposed; adequate light; proper facilities for the transaction of the business in hand are necessary. There can be no modernity in design that does not begin with such principles, and through such logical steps and the elimination of unnecessary decorative features it is

Interior, U. S. Appraisers' Stores, New York
Buchman & Kahn, Architects

possible that something new may develop. In fact, it is obvious that this must be the case, for every day's problem demands a new solution, whether it be the question of an aëroplane factory, a hangar, or a building for the handling of some new product that requires specific space, height, illumination. The major difficulty of the designer of industrial structures is that he is still conscious of the existence of an æsthetic problem. The untrained person, when he finishes what he considers a satisfactory solution of his practical problem, adds curious inserts of tile, bits of carving, or a mongrel door to satisfy some yearning for decoration. The fact that fine proportion, balance of mass, and agreeable color of material are more important, fails him.

The great hangar at Orlay is a splendid piece of design that needs no ornament to improve it. The great factory buildings of Peter Behrens in Berlin and the buildings at Dessau are equally vigorous and require no apologies for being of this day. The successful industrial establishment exists primarily and lastly to serve a functional purpose. If it succeeds in that it is almost obvious that it will be agreeable to look at for the same reason that the machine itself is attractive,—there is nothing extraneous, and the proportions are normal to a working unit. It is only when the designer begins to inject æsthetics that the danger arises. There is no thought in this of minimizing the importance of the trained designer, but particularly the checking of the enthusiast who will distort a fine mechanism to simulate some classic monument or trifle with the simplicity and clarity of fine mass and proportion, which is almost always a failure.



Photos. Sigurd Fischer

Door Detail, Pinaud Building, New York

Buchman & Kahn, Architects

PINAUD BUILDING, NEW YORK
BUCHMAN & KAHN, ARCHITECTS

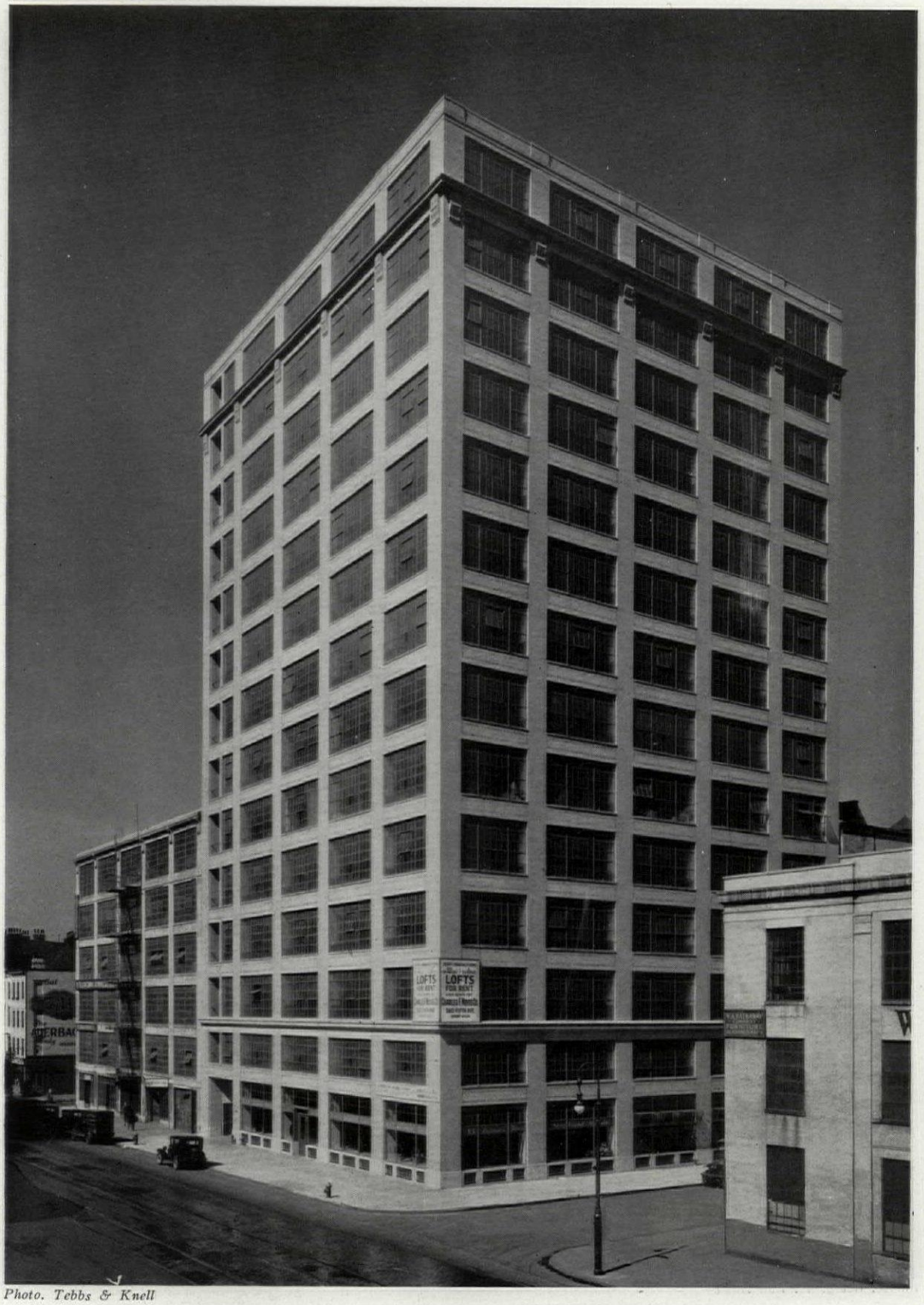
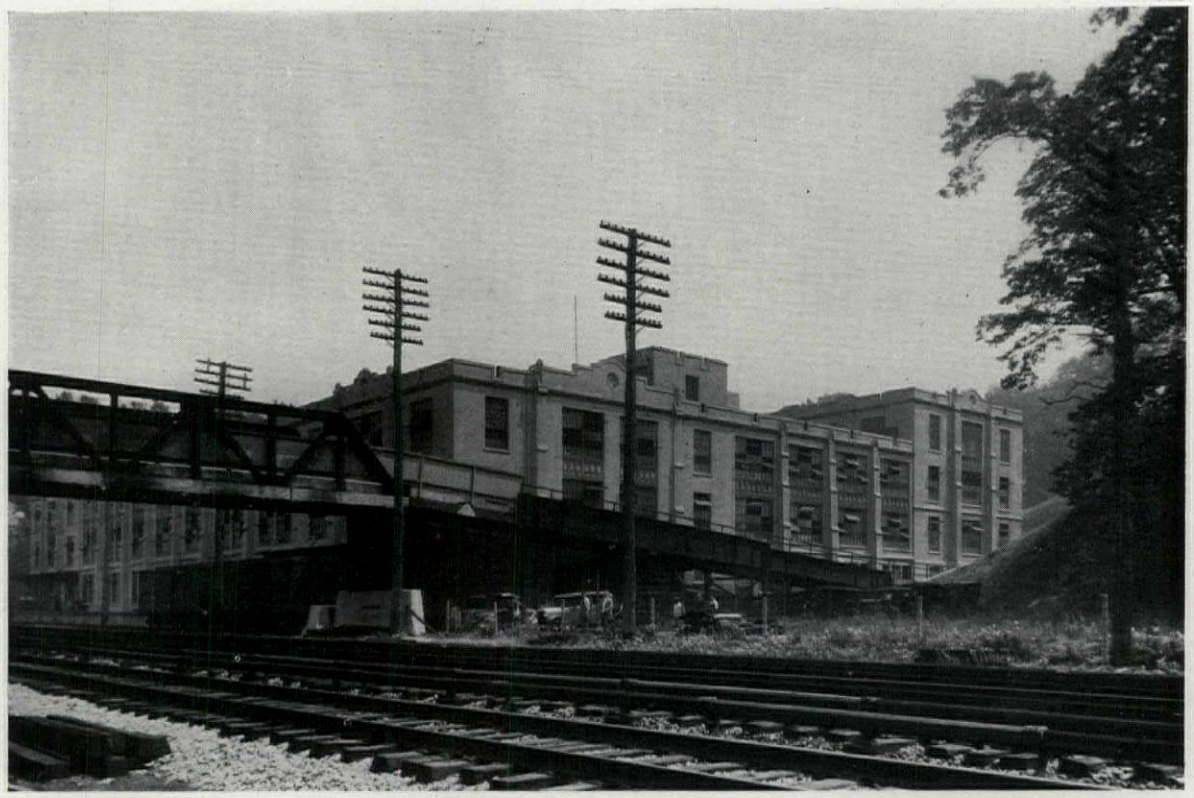
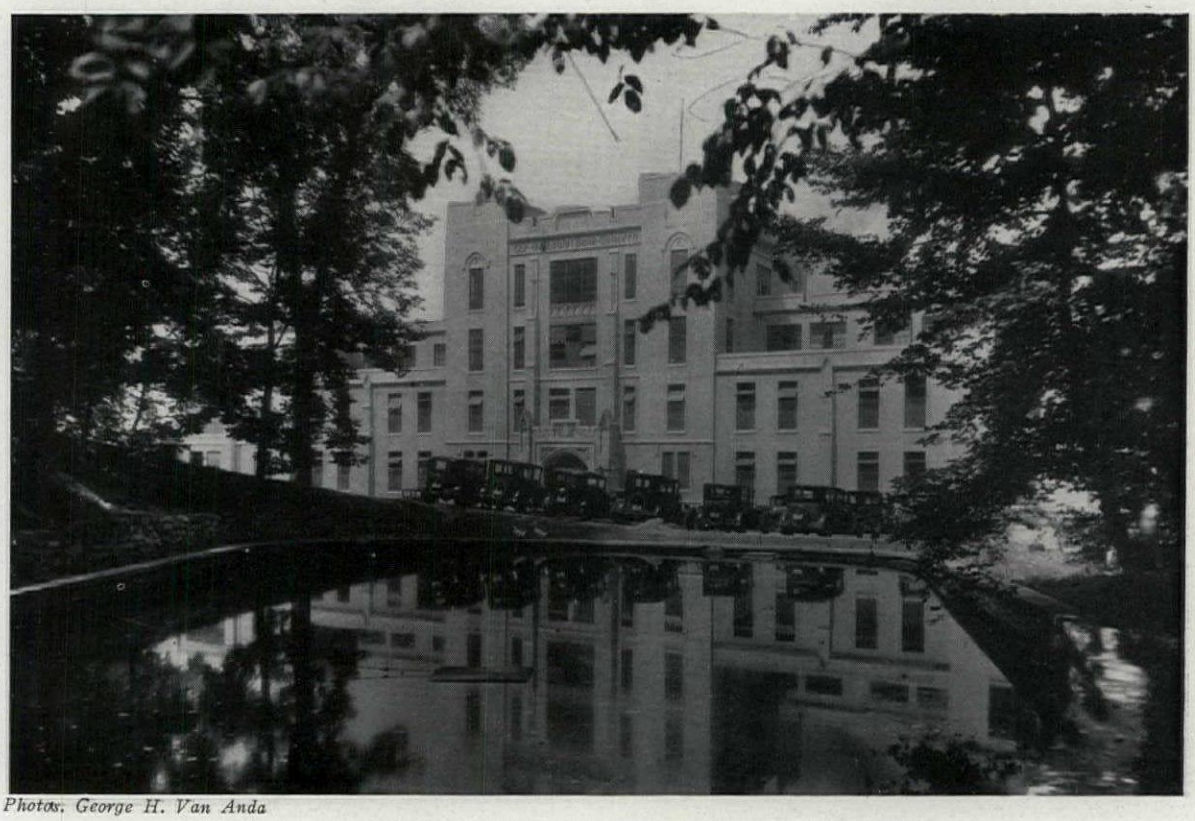


Photo. Tebbs & Knell

LOFT BUILDING, 639 ELEVENTH AVENUE, NEW YORK
ERNEST FLAGG, ARCHITECT





Photos, George H. Van Anda

BUILDING OF METHODIST BOOK CONCERN, DOBBS FERRY, N. Y.

VISSCHER & BURLEY, ARCHITECTS

COE TERMINAL WAREHOUSE, DETROIT
S. SCOTT JOY, ARCHITECT

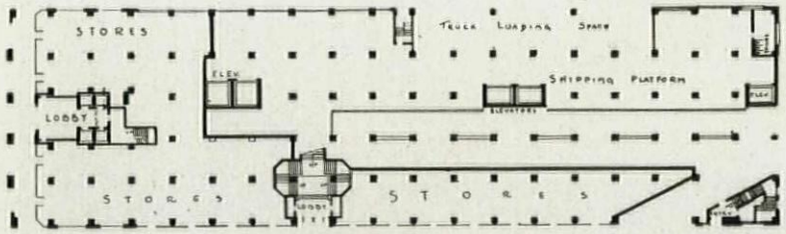
Plan on Back

NORTH STATION INDUSTRIAL BUILDING, BOSTON
S. SCOTT JOY, ARCHITECT

Plan on Back

COST AND CONSTRUCTION DATA

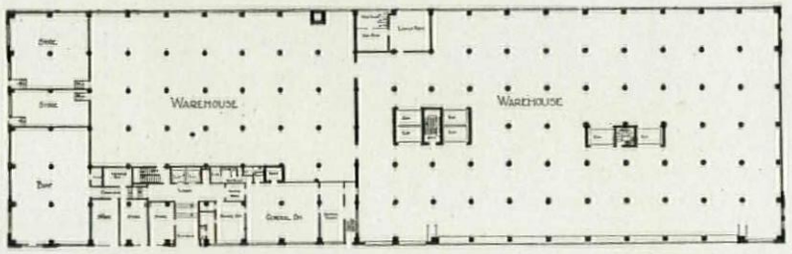
Year of Completion: 1929.
Type of Construction: Flat slab and some steel column cores.
Exterior Materials: Face brick, composite stone and concrete.
Floors: Cement.
Windows: Steel sash.
Heating: Steam metered from distant plant.
Cubic Foot Cost: 25 cents, exclusive of architect's fee.
Total Cost: $1,664,137, exclusive of architect's fee.
Use of Building: Heavy warehouse and loft building.



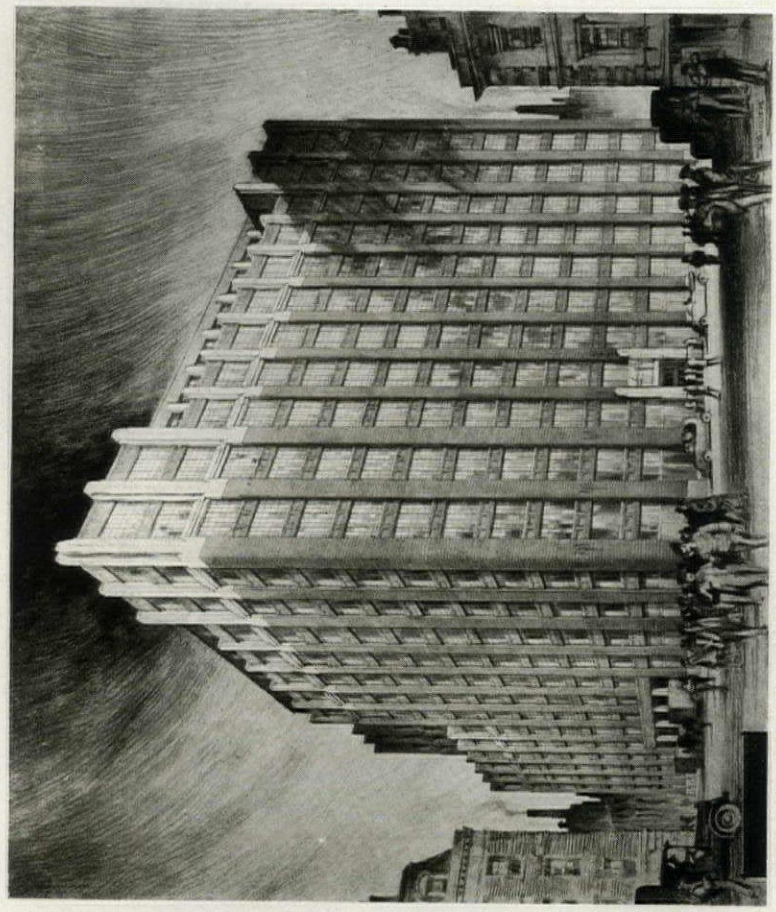
FIRST FLOOR
PLAN. NORTH STATION INDUSTRIAL BUILDING, BOSTON
S. SCOTT JOY, ARCHITECT

COST AND CONSTRUCTION DATA

Year of Completion: 1927.
Type of Construction: Flat slab.
Exterior Materials: Face brick, terra cotta and concrete.
Floors: Cement.
Windows: Steel sash.
Heating: Low pressure steam.
Cubic Foot Cost: 21 cents, exclusive of architect's fee.
Total Cost: $952,067, exclusive of architect's fee.
Use of Building: Heavy warehouse and loft building.



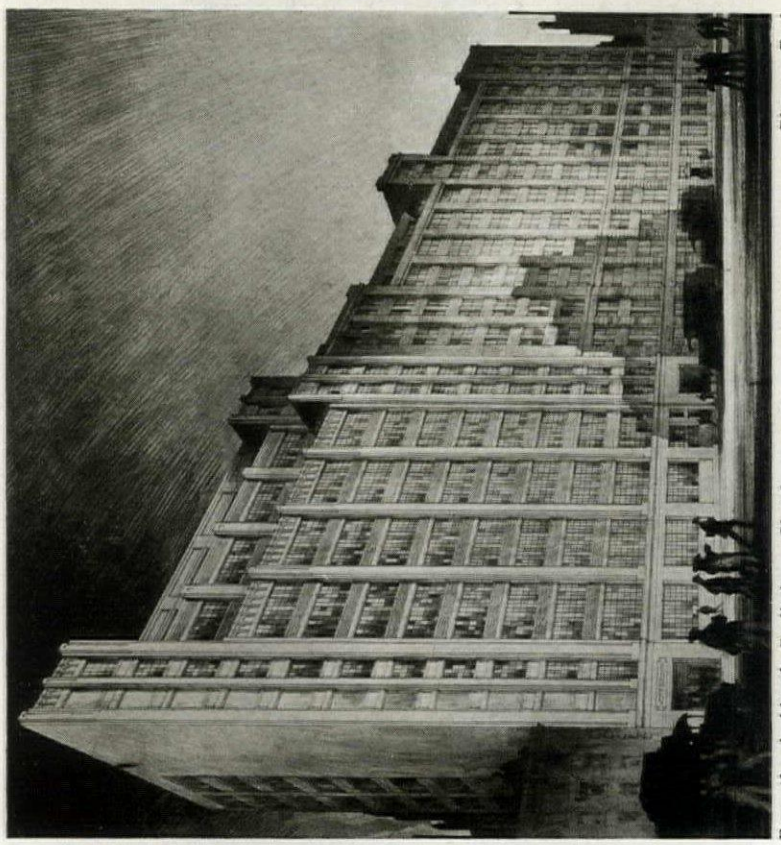
FIRST FLOOR
PLAN. COE TERMINAL WAREHOUSE, DETROIT
S. SCOTT JOY, ARCHITECT



Plan on Back

GRAPHIC ARTS CENTER, NEW YORK

FRANK S. PARKER, ARCHITECT AND ENGINEER



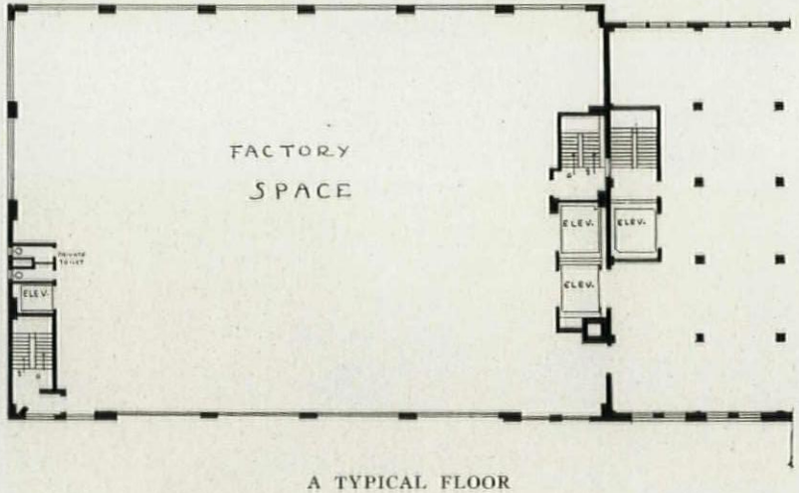
From the Architect's Preliminary Sketches *Plan on Back*

ADDITION TO WOLFF BOOK BINDERY, NEW YORK

FRANK S. PARKER, ARCHITECT AND ENGINEER

COST AND CONSTRUCTION DATA

Year of Completion: 1926.
Type of Construction: Reinforced concrete.
Exterior Materials: Concrete and brick.
Interior Materials: Concrete and brick.
Floors: Concrete.
Windows: Factory type steel sash.
Heating: Vacuum, low pressure.
Cubic Foot Cost: 26 cents.
Total Cost: $502,000, exclusive of land and financing.
Use of Building: Bookbinding, printing and allied trades.

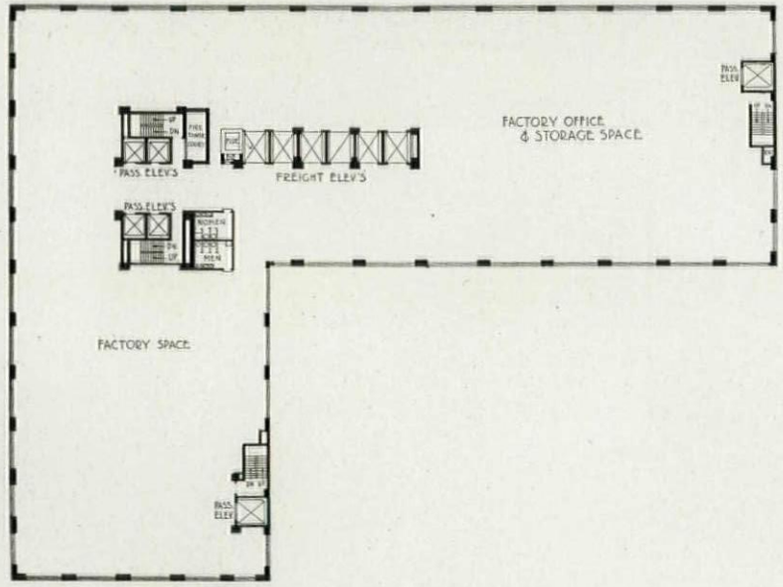


A TYPICAL FLOOR

PLAN. ADDITION TO WOLFF BOOK BINDERY, NEW YORK
FRANK S. PARKER, ARCHITECT AND ENGINEER

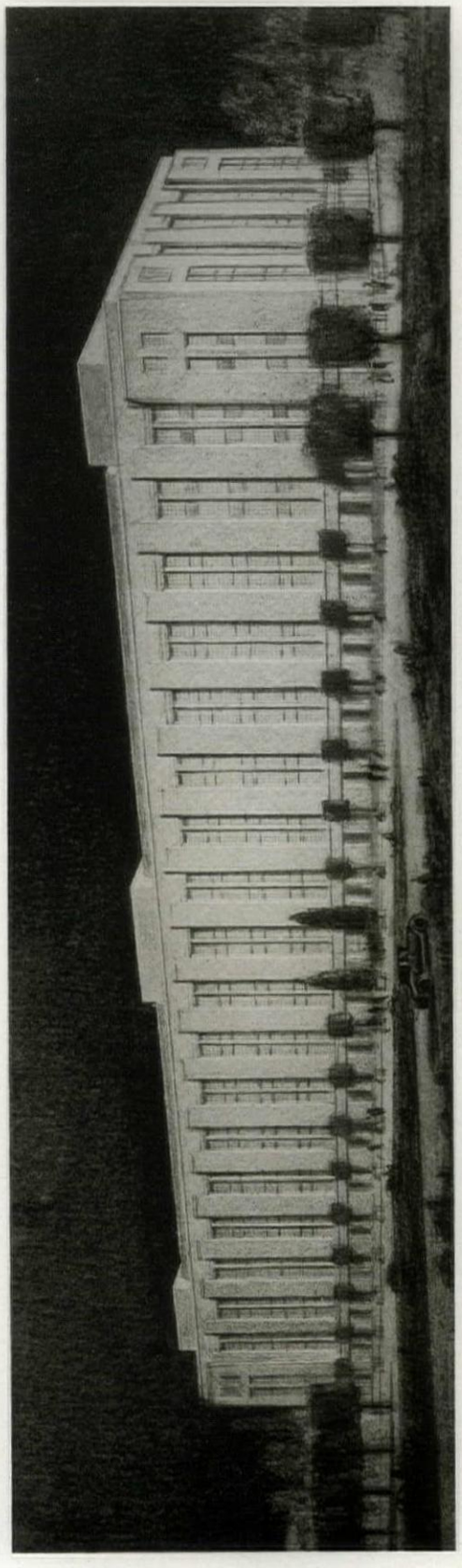
COST AND CONSTRUCTION DATA

Year of Completion: 1927.
Type of Construction: Reinforced concrete.
Exterior Materials: Brick, limestone, granite.
Interior Materials: Concrete, brick, terra cotta.
Floors: Concrete.
Windows: Factory type steel sash.
Heating: Vacuum system, steel boilers, low pressure.
Cubic Foot Cost: 24 cents.
Total Cost: $1,400,000, exclusive of land and financing charges.
Use of Building: Printing and heavy manufacturing.

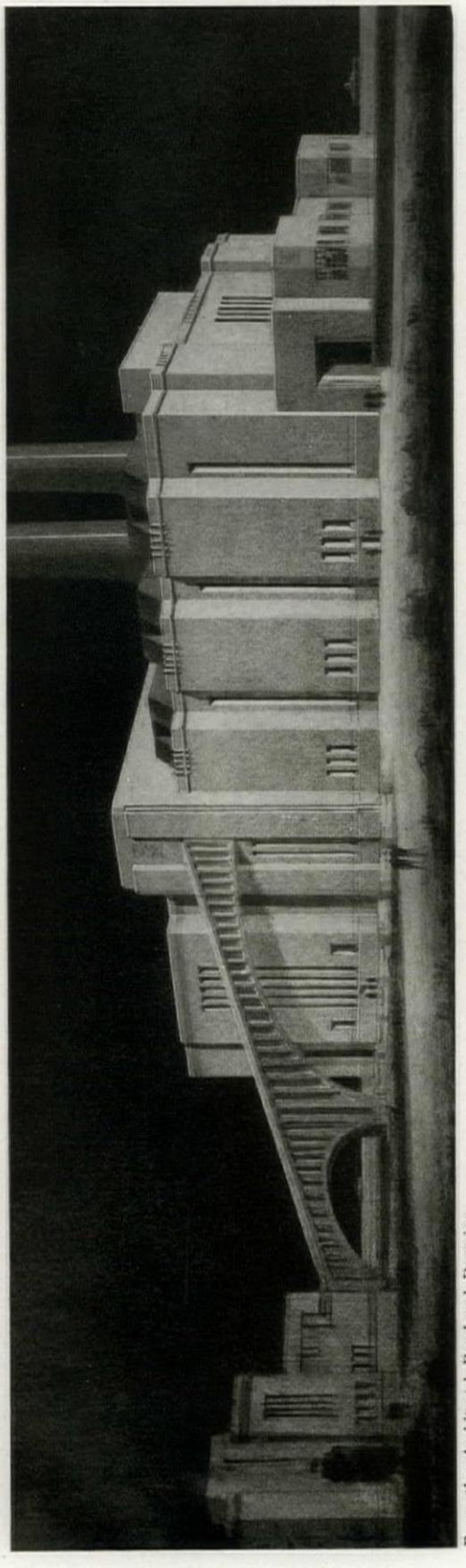


A TYPICAL FLOOR

PLAN. GRAPHIC ARTS CENTER, NEW YORK
FRANK S. PARKER, ARCHITECT AND ENGINEER



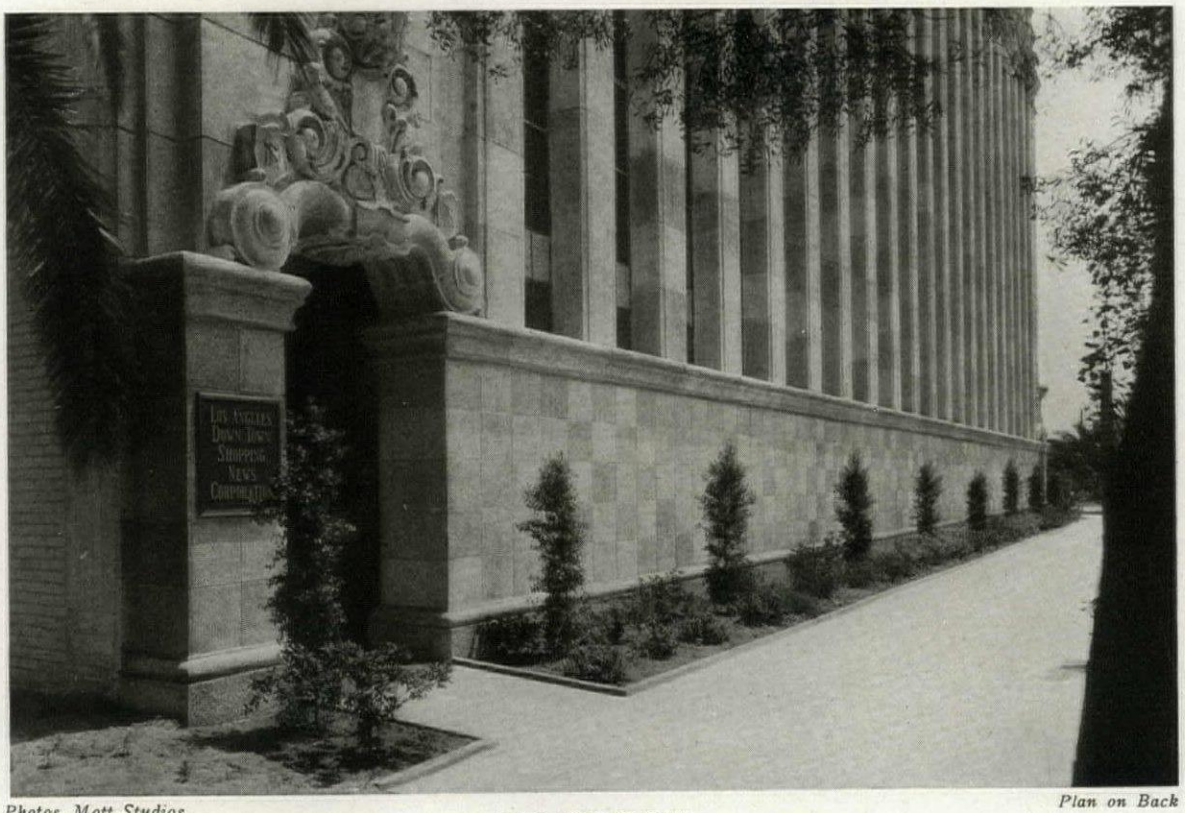
BUILDING FOR THE JEWEL TEA COMPANY, BARRINGTON, ILL.
HOLABIRD & ROOT, ARCHITECTS



POWER HOUSE, MICHIGAN CITY, IND.
HOLABIRD & ROOT, ARCHITECTS

From the Architects' Rendered Drawing

GENERAL VIEW



Photos, Mott Studios

Plan on Back

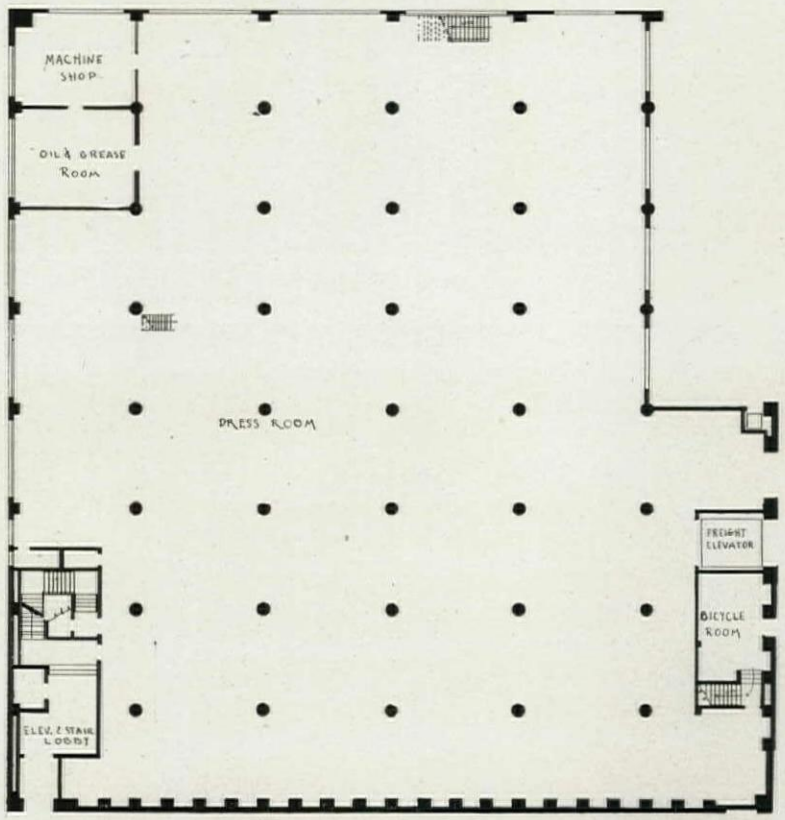
ENTRANCE DETAIL

PRINTING PLANT, LOS ANGELES DOWNTOWN SHOPPING NEWS

MORGAN, WALLS & CLEMENTS, ARCHITECTS

COST AND CONSTRUCTION DATA

Year of Completion: 1928.
Type of Construction: Reinforced concrete.
Exterior Materials: Plaster, cast stone trim.
Windows: Steel sash.
Lighting: Direct, with some special and some indirect.
Heating: Gas steam radiators.
Ventilation: Mechanical exhaust system serving some portions of building.
Cubic Foot Cost: 23 cents.
Total Cost: $323,000.
Use of Building: Newspaper printing plant.



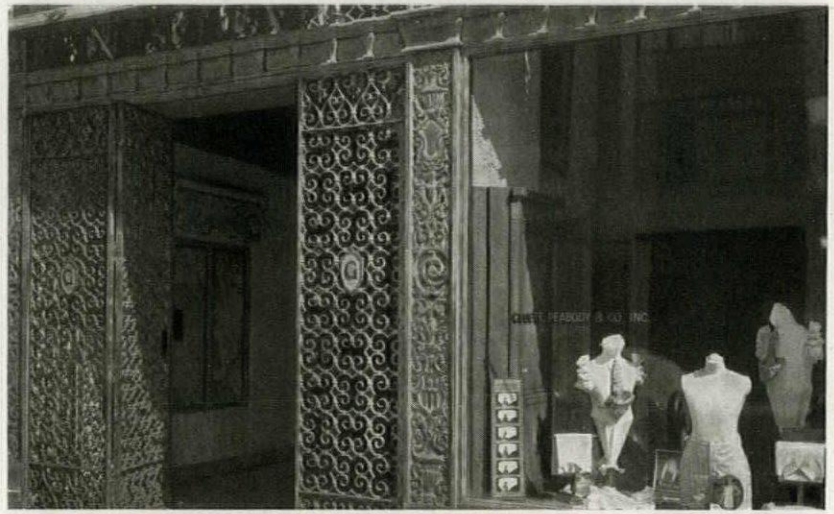
FIRST FLOOR

PLAN. PRINTING PLANT, LOS ANGELES
DOWNTOWN SHOPPING NEWS
MORGAN, WALLS & CLEMENTS, ARCHITECTS

Photos. Mott Studios

GENERAL VIEW

SALES ROOM



MAIN ENTRANCE

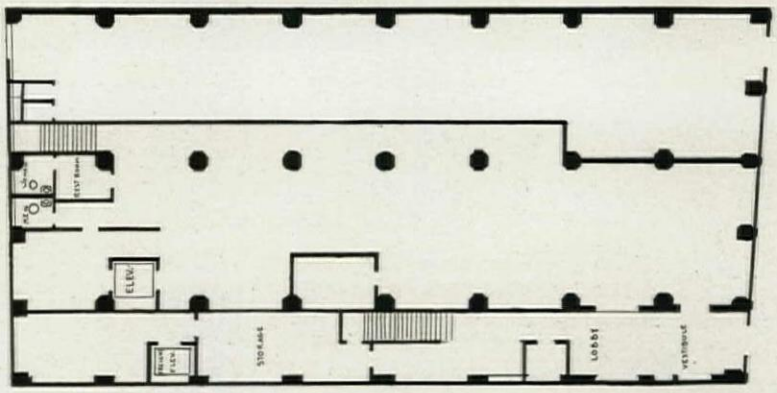
Plan on Back

GRAYCO SHIRT FACTORY, LOS ANGELES

MORGAN, WALLS & CLEMENTS, ARCHITECTS

COST AND CONSTRUCTION DATA

Year of Completion: 1926.
Type of Construction: Reinforced concrete.
Exterior Materials: Plaster, cast stone trim, wrought iron grilles.
Floors: Cement, and rubber tile in shops.
Windows: Steel sash.
Lighting: General illumination.
Heating: Gas steam radiators.
Cubic Foot Cost: 20 cents.
Total Cost: $136,000.
Use of Building: Shirt factory.



MAIN FLOOR

PLAN. GRAYCO SHIRT FACTORY, LOS ANGELES
MORGAN, WALLS & CLEMENTS, ARCHITECTS

FRONT FACADE

Plan on Back

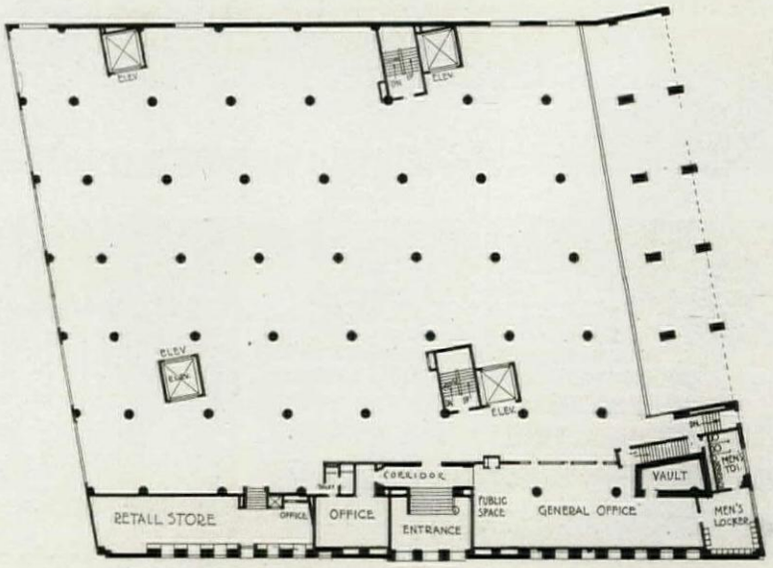
MAIN ENTRANCE

Photos. Mott Studios

W. P. FULLER & CO. WAREHOUSE, LOS ANGELES
MORGAN, WALLS & CLEMENTS, ARCHITECTS

COST AND CONSTRUCTION DATA

Year of Completion: 1925.
Type of Construction: Reinforced concrete.
Exterior Materials: Plaster walls, cast stone and cement tile trim.
Interior Materials: Plaster walls.
Floors: Cement.
Windows: Steel sash.
Lighting: General illumination.
Heating: Gas steam radiators.
Cubic Foot Cost: 20 cents.
Total Cost: $348,000.
Use of Building: Warehouse.



FIRST FLOOR

PLAN. W. P. FULLER & CO. WAREHOUSE, LOS ANGELES
MORGAN, WALLS & CLEMENTS, ARCHITECTS

Plan on Back

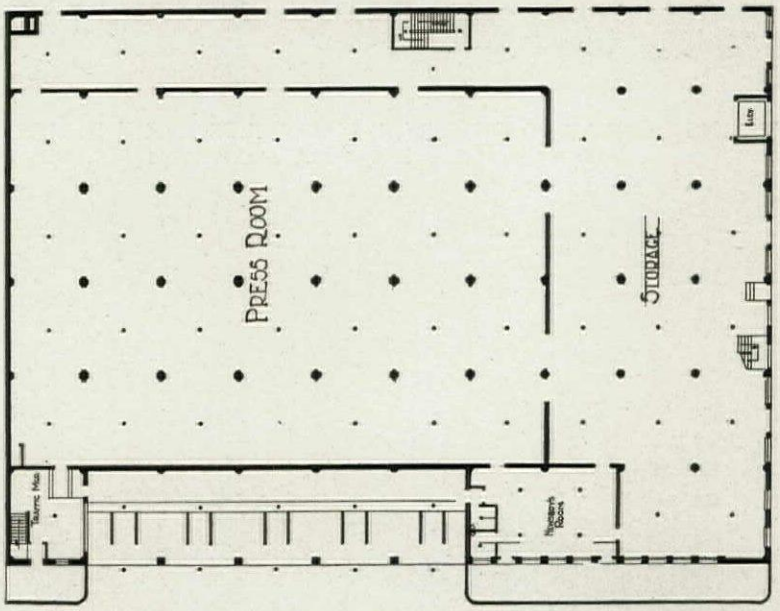
PRINTING PLANT AND OFFICES, LOS ANGELES EVENING HERALD
MORGAN, WALLS & CLEMENTS, ARCHITECTS

Photos. Mott Studios

BUILDING FOR THE HOLLYWOOD PAPER BOX CORP. AND
GENE TILDEN FURNITURE CO., LOS ANGELES
MORGAN, WALLS & CLEMENTS, ARCHITECTS

COST AND CONSTRUCTION DATA

Year of Completion: 1926.
Type of Construction: Reinforced concrete.
Exterior Materials: Plaster; cast stone trim; wrought iron grilles.
Interior Materials: Cast stone; marble; plaster.
Floors: Tile.
Windows: Wood on street front; steel elsewhere.
Lighting: General illumination with special fixtures in offices, public spaces, etc.
Heating: 2-pipe low-pressure steam.
Ventilation: Mechanical.
Cubic Foot Cost: 34 cents.
Total Cost: $768,500.
Use of Building: Newspaper printing plant.



FIRST FLOOR

PLAN. PLANT AND OFFICES, LOS ANGELES EVENING HERALD
MORGAN, WALLS & CLEMENTS, ARCHITECTS

Photo. Mott Studios

SIDE ENTRANCE

BUILDING FOR THE HOLLYWOOD PAPER BOX CORP. AND
GENE TILDEN FURNITURE CO., LOS ANGELES

MORGAN, WALLS & CLEMENTS, ARCHITECTS

COST AND CONSTRUCTION DATA

Year of Completion: 1925.

Type of Construction: First floor concrete; second floor frame.

Exterior Materials: Brick, plaster, cast stone trim.

Windows: Steel sash.

Lighting: General illumination.

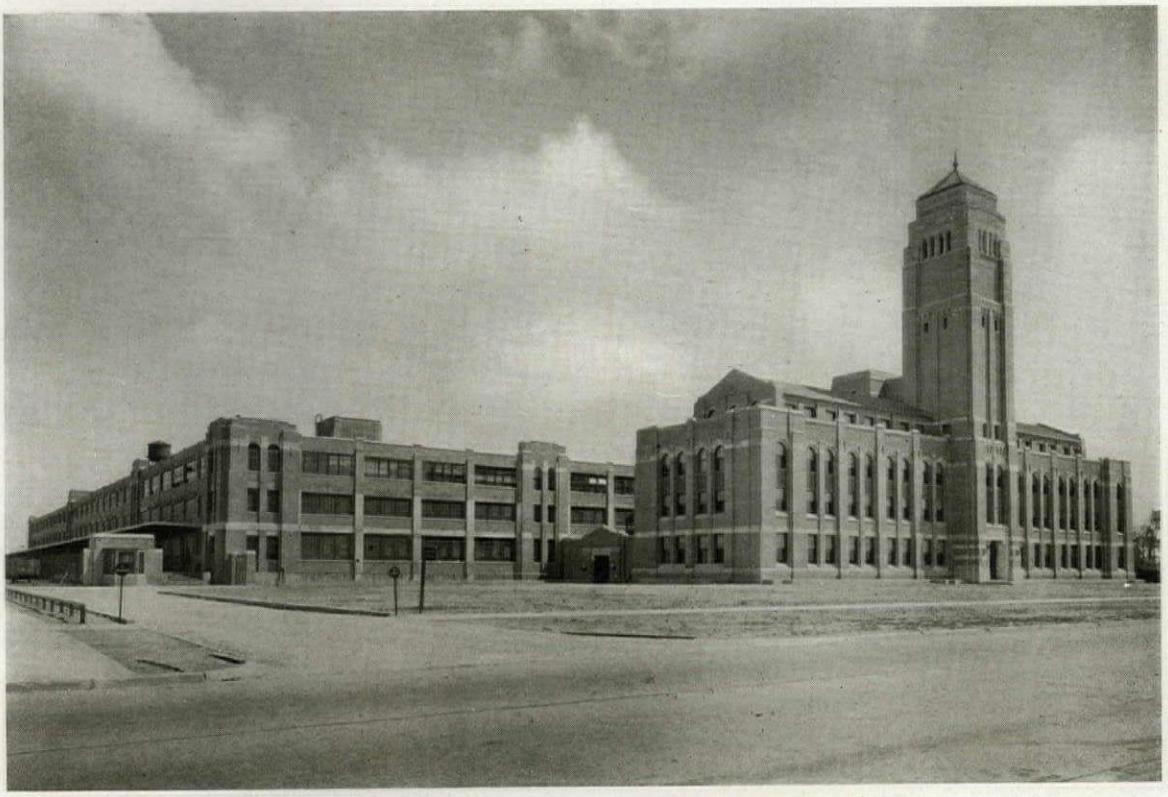
Heating: Gas steam radiators.

Total Cost: $135,360.

Use of Building: Manufacturing.

BUILDING FOR THE HOLLYWOOD PAPER BOX CORP. AND GENE TILDEN FURNITURE CO., LOS ANGELES

MORGAN, WALLS & CLEMENTS, ARCHITECTS



GENERAL VIEW

Photos. Thomas Ellison

FRONT ELEVATION MAIN ENTRANCE

BUILDING FOR THE KELVINATOR CO., DETROIT

SMITH, HINCHMAN & GRYLLS, ARCHITECTS

CONSTRUCTION DATA

Type of Construction: Reinforced concrete.

Exterior Materials: Brick, artificial stone, limestone.

Interior Materials: Brick and exposed concrete; tile walls plastered in office building.

Floors: Cement.

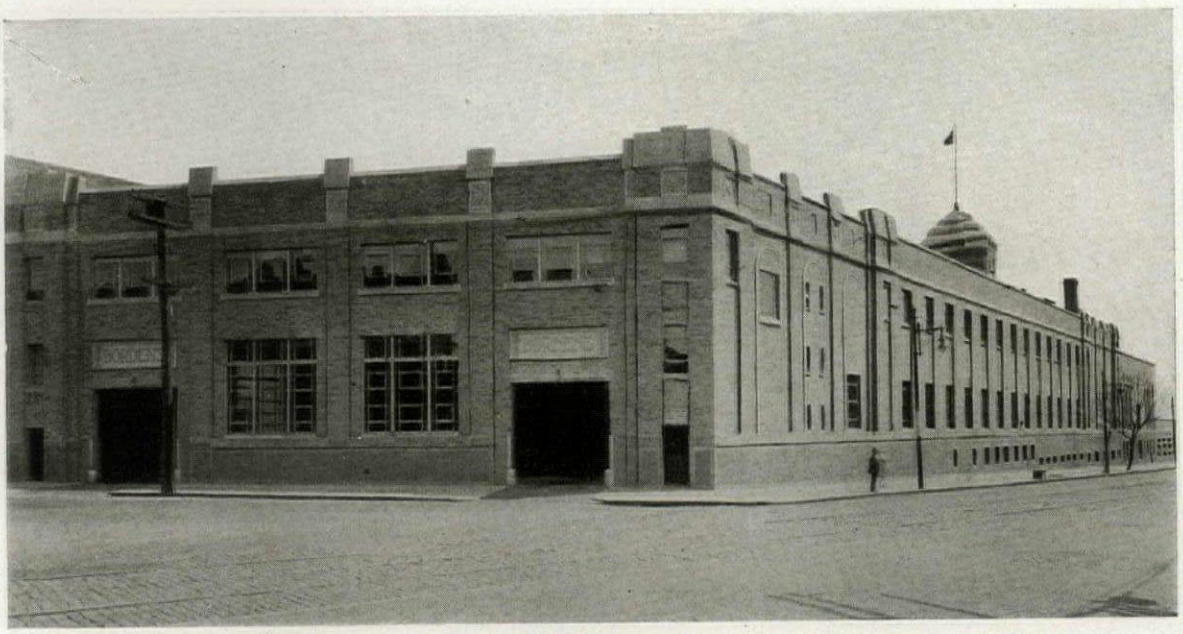
Windows: Steel side wall sash; double-hung steel in office building.

Lighting: Direct.

Heating: Direct radiation.

Use of Building: Office and factory for manufacture of electric refrigerators.

BUILDING FOR THE KELVINATOR CO., DETROIT
SMITH, HINCHMAN & GRYLLS, ARCHITECTS



END ELEVATION

Photos. Wm. F. Cone

Plan on Back

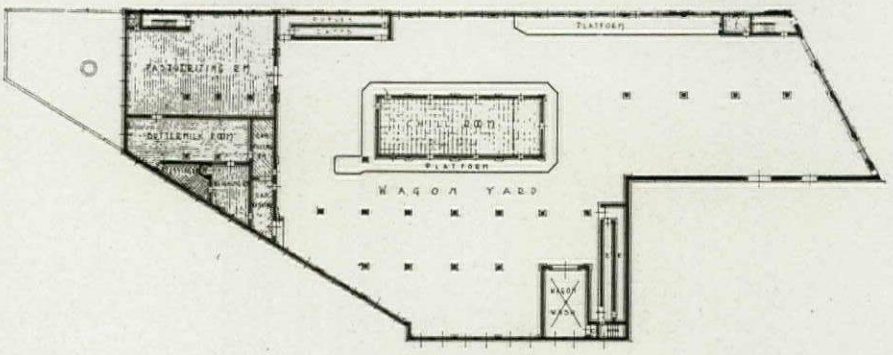
MAIN FACADE

BUILDING FOR THE BORDEN COMPANY, NEWARK

WILLIAM E. LEHMAN, ARCHITECT

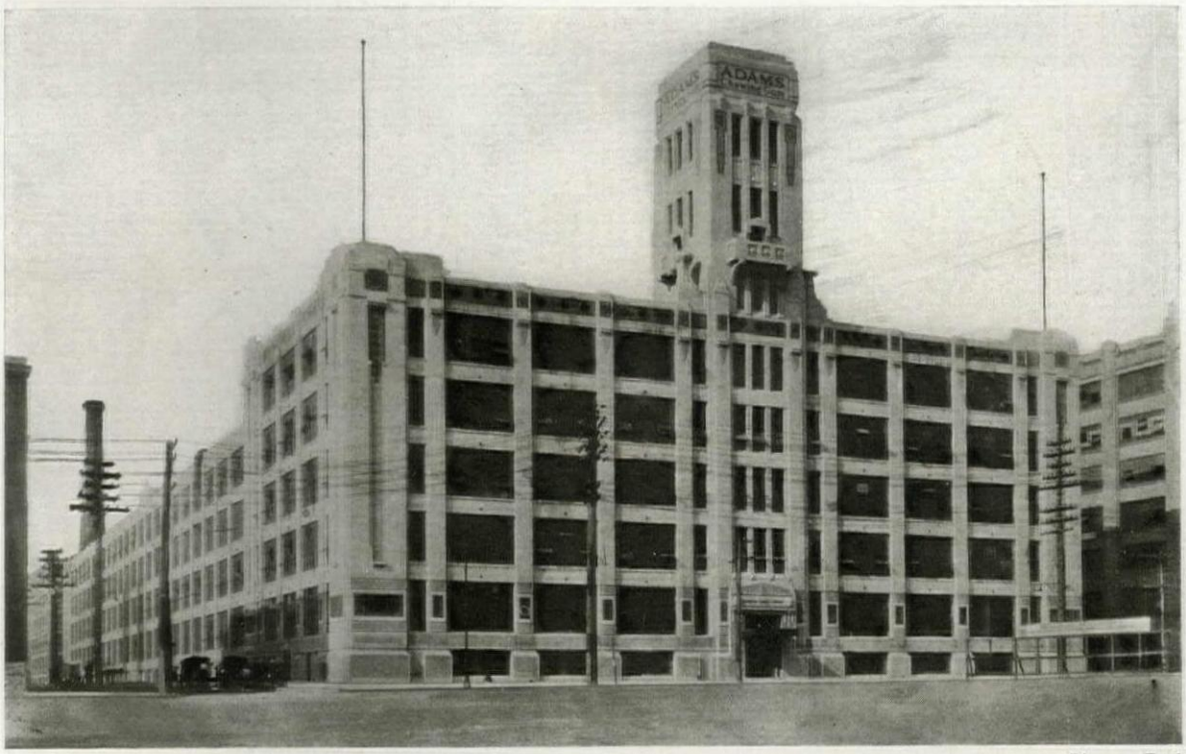
COST AND CONSTRUCTION DATA

Type of Construction: Steel and reinforced concrete.
Exterior Materials: Brick and terra cotta.
Interior Materials: Concrete and terra cotta partitions.
Floors: Concrete and tiled sidewalls.
Windows: Steel.
Lighting: Electricity.
Heating: Steam.
Ventilating: Forced draft.
Use of Building: Milk bottling.



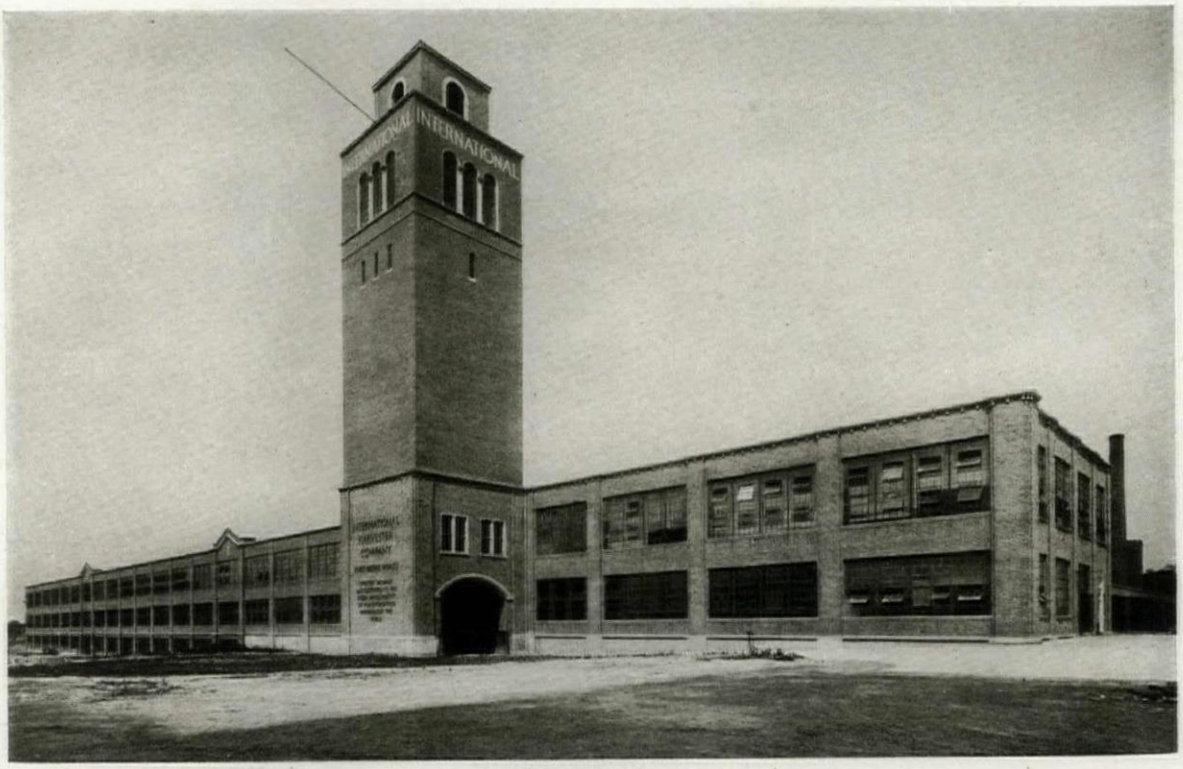
FIRST FLOOR

PLAN. BUILDING FOR THE BORDEN COMPANY, NEWARK
WILLIAM E. LEHMAN, ARCHITECT

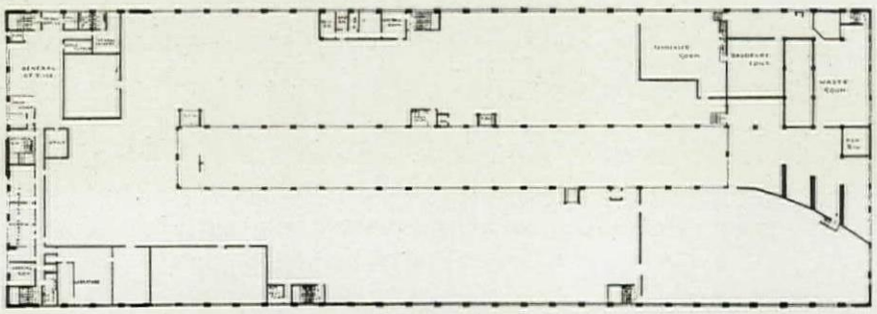


Plan on Back

BUILDING FOR AMERICAN CHICLE COMPANY, LONG ISLAND CITY
THE BALLINGER COMPANY, ARCHITECTS AND ENGINEERS



BUILDING FOR INTERNATIONAL HARVESTER COMPANY, FORT WAYNE
HOLABIRD & ROOT, CONSULTING ARCHITECTS
DESIGN AND CONSTRUCTION BY DAY & ZIMMERMAN,
DIVISION OF UNITED ENGINEERS & CONSTRUCTORS, INC.



FIRST FLOOR

PLAN. BUILDING FOR AMERICAN CHICLE COMPANY, LONG ISLAND CITY
THE BALLINGER COMPANY, ARCHITECTS AND ENGINEERS

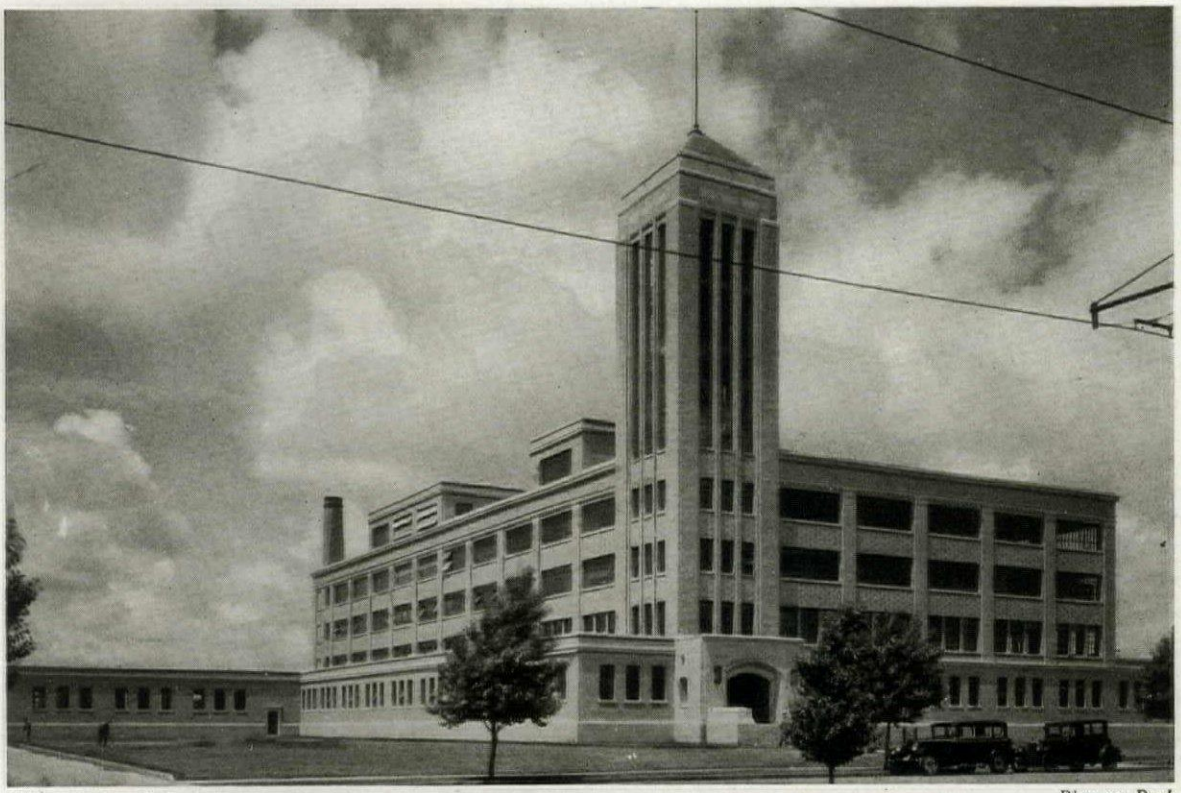


Photo. Norton & Peel *Plan on Back*

BUILDING FOR CREAM OF WHEAT COMPANY, MINNEAPOLIS

WALTER H. WHEELER, ARCHITECT AND ENGINEER

BUILDING FOR MONTGOMERY WARD & CO., ST. PAUL

DESIGNED BY LOCKWOOD GREENE ENGINEERS, INC.

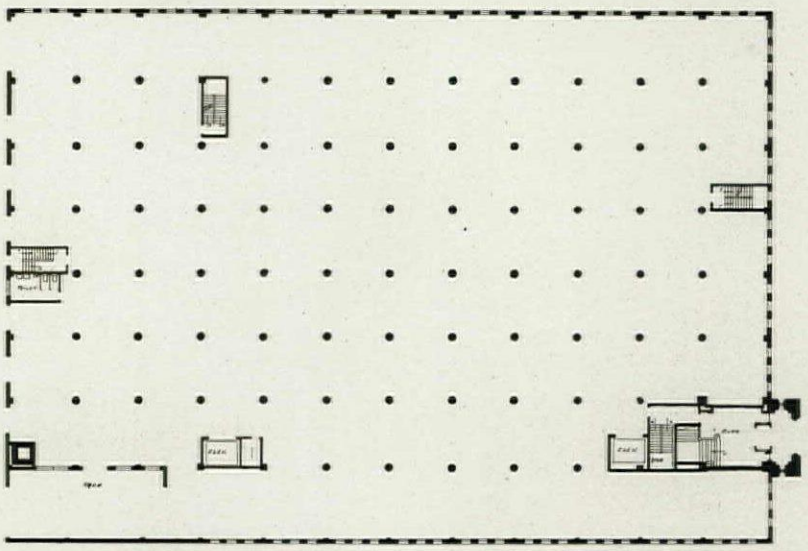
CONSTRUCTION DATA

Type of Construction: Reinforced concrete, stone front.
Exterior Materials: Rear, concrete brick; front, stone.
Interior Materials: Reinforced concrete.
Floors: Concrete.
Windows: Steel.
Lighting: Electricity.
Heating: Radiators.
Use of Building: Warehouse and office building.

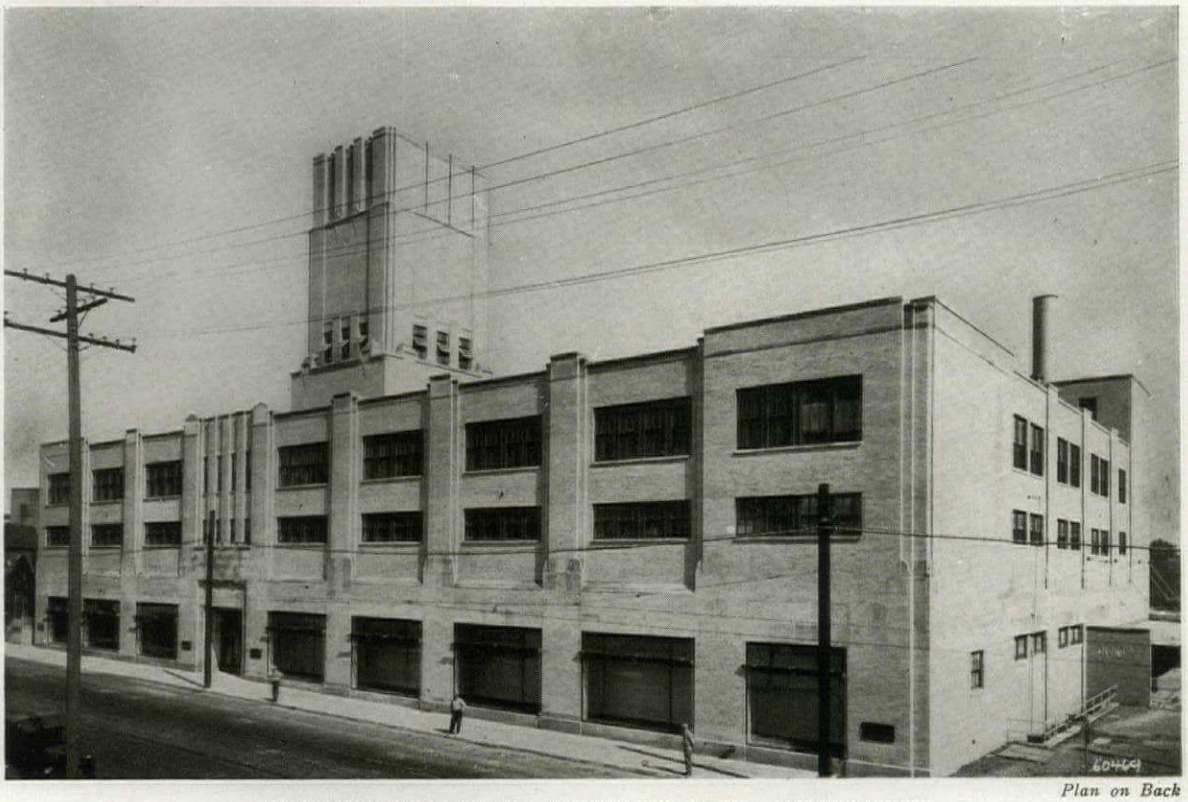
ABOVE. BUILDING FOR MONTGOMERY WARD & CO., ST. PAUL
DESIGNED BY LOCKWOOD GREENE ENGINEERS, INC.

CONSTRUCTION DATA

Type of Construction: Reinforced concrete, flat slab, fireproof.
Exterior Materials: Brick and stone.
Interior Materials: Tile partitions, brick and mahogany.
Floors: Cement finish, linoleum in general office, teak in private offices.
Windows: Steel factory sash and metal, double-hung.
Lighting: Electricity.
Heating: Vacuum, steam.
Ventilating: Indirect system.
Use of Building: Factory building and general office.

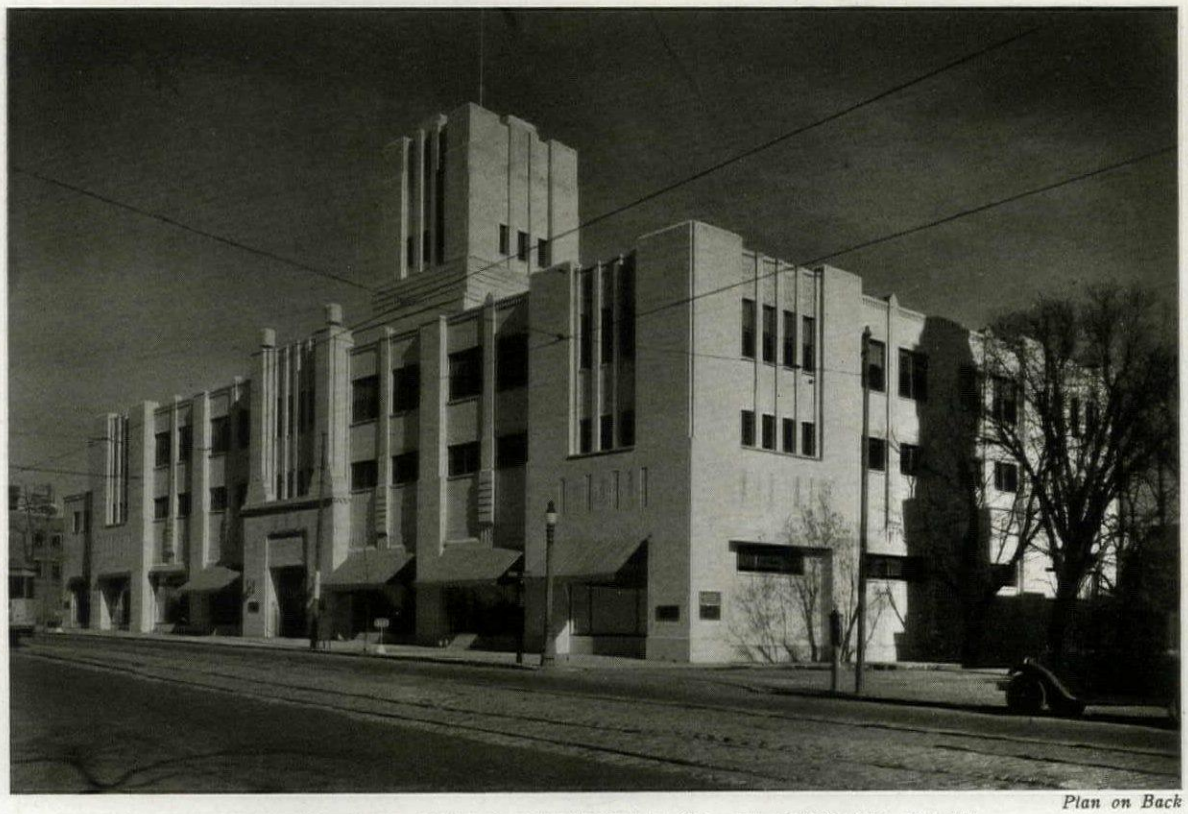


PLAN. BUILDING FOR CREAM OF WHEAT COMPANY, MINNEAPOLIS
WALTER H. WHEELER, ARCHITECT AND ENGINEER



Plan on Back

BUILDING FOR SEARS, ROEBUCK & CO., MILWAUKEE
NIMMONS, CARR & WRIGHT, ARCHITECTS

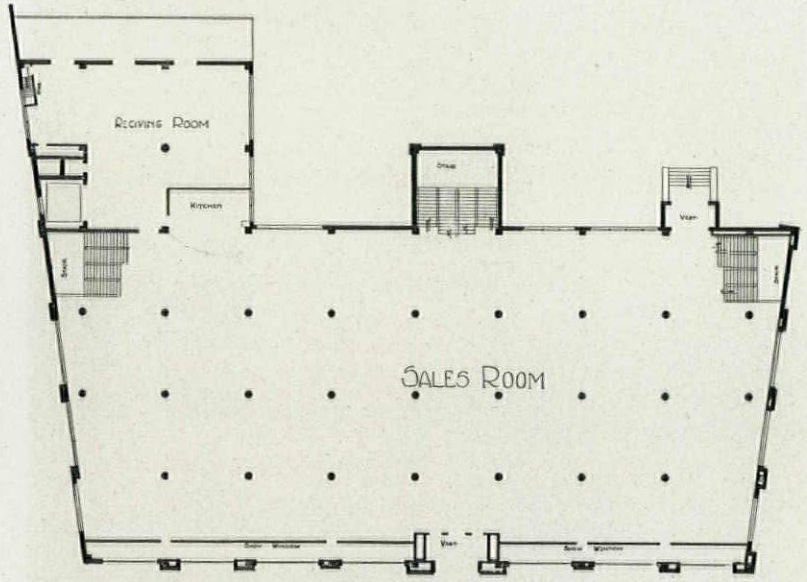


Plan on Back

BUILDING FOR SEARS, ROEBUCK & CO., CAMBRIDGE, MASS.
NIMMONS, CARR & WRIGHT, ARCHITECTS

CONSTRUCTION DATA

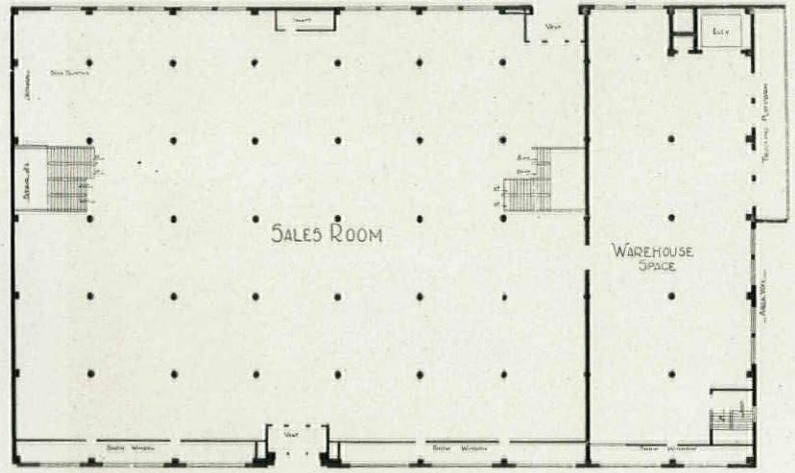
Year of Completion: 1928.
Type of Construction: Reinforced concrete, flat slab construction.
Exterior Materials: Face brick and cut stone.
Interior Materials: First and second floors, plastered walls and ceiling, wood trim, wood and metal doors; third floor, brick walls, concrete ceiling.
Floors: First and second floors, maple; basement and third floor, cement.
Windows: Steel sash.
Lighting: Semi-indirect.
Heating: Vacuum system, direct radiation throughout for heating ventilating system.
Ventilating: Fresh air and extraction.
Use of Building: Mail order store.



FIRST FLOOR
PLAN. BUILDING FOR SEARS, ROEBUCK & CO., CAMBRIDGE, MASS.
NIMMONS, CARR & WRIGHT, ARCHITECTS

CONSTRUCTION DATA

Year of Completion: 1928.
Type of Construction: Reinforced concrete, flat slab construction.
Exterior Materials: Face brick and cut stone.
Interior Materials: First and second floors, plastered walls and ceiling, wood trim, wood and metal doors; third floor, brick walls, concrete ceiling.
Floors: First and second floors, maple; basement and third floor, cement.
Windows: Steel sash.
Lighting: Semi-indirect.
Heating: Vacuum system, direct radiation throughout for heating ventilating system.
Ventilating: Fresh air and extraction.
Use of Building: Mail order store.



FIRST FLOOR
PLAN. BUILDING FOR SEARS, ROEBUCK & CO., MILWAUKEE
NIMMONS, CARR & WRIGHT, ARCHITECTS

Plan on Back

BUILDING FOR SEARS, ROEBUCK & CO., BOSTON
NIMMONS, CARR & WRIGHT, ARCHITECTS

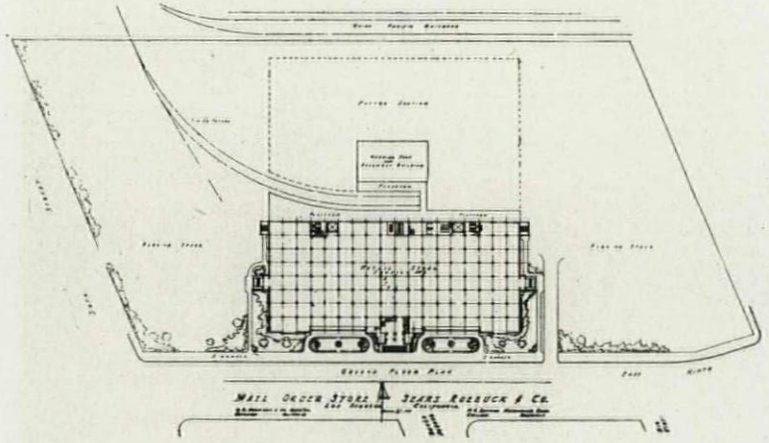
Photo. Dwyer Studio

Plan on Back

BUILDING FOR SEARS, ROEBUCK & CO., LOS ANGELES
NIMMONS, CARR & WRIGHT, ARCHITECTS

CONSTRUCTION DATA

Type of Construction: Reinforced concrete, flat slab construction.
Exterior Materials: Concrete walls, stucco.
Interior Materials: First and second floors, plastered walls and ceiling; rest of building, concrete walls, wood trim, wood and metal doors.
Floors: First and second floors, maple; rest of building, wood blocks; toilet rooms, cement.
Windows: Steel sash.
Lighting: First and second floors, semi-indirect; rest of building, reflectors on drop cords.
Heating: Boiler plant, oil burners, steam- and electric-driven pumps, vacuum system.
Ventilating: Fresh air and extraction.
Use of Building: Mail order store.



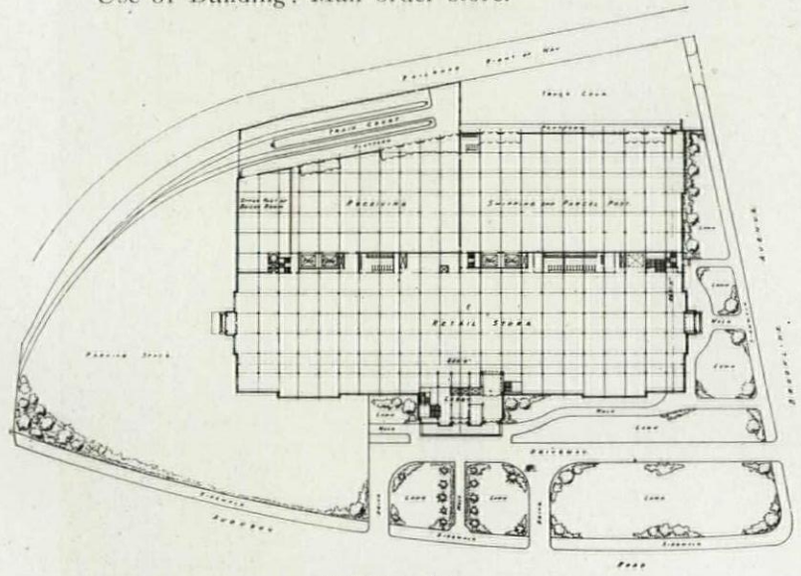
FIRST FLOOR

PLAN. BUILDING FOR SEARS, ROEBUCK & CO., LOS ANGELES

NIMMONS, CARR & WRIGHT, ARCHITECTS

CONSTRUCTION DATA

Type of Construction: Reinforced concrete, flat slab construction.
Exterior Materials: Cut stone and face brick.
Interior Materials: First and second floors and tower, plastered walls and ceiling, wood trim; rest of building, brick walls, concrete ceiling, metal doors.
Floors: First and second floors and tower, maple; rest of building, cement.
Windows: Steel sash.
Lighting: First and second floors, semi-indirect; rest of building, reflectors on drop cords.
Heating: High pressure boilers, oil burning, steam driven pumps, vacuum system.
Ventilating: Fresh air and extraction; air filters in second floor.
Use of Building: Mail order store.



FIRST FLOOR

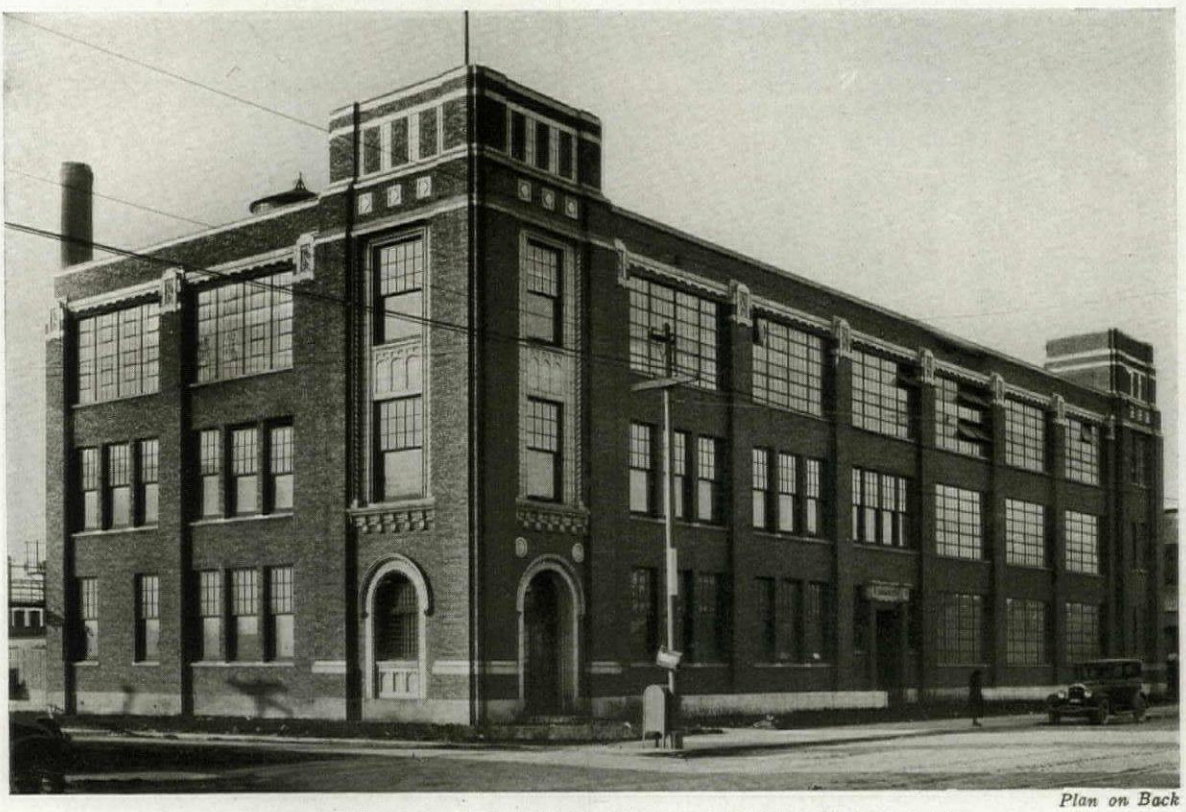
PLAN. BUILDING FOR SEARS, ROEBUCK & CO., BOSTON

NIMMONS, CARR & WRIGHT, ARCHITECTS

Photo. Thomas Ellison *Plan on Back*

BUILDING FOR AMERICAN SEATING COMPANY, GRAND RAPIDS

SMITH, HINCHMAN & GRYLLS, ARCHITECTS



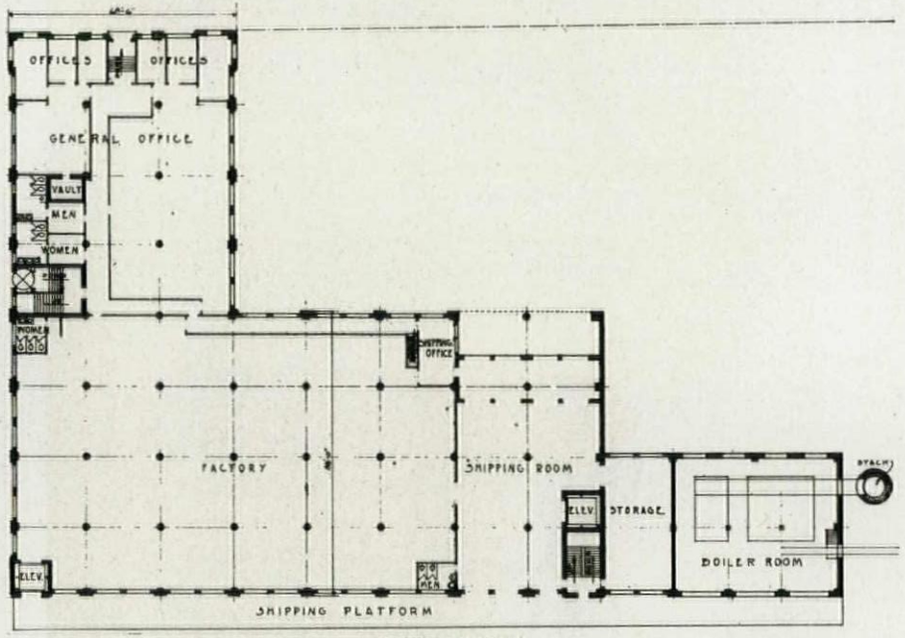
Plan on Back

BUILDING FOR WILLIAMSON CANDY COMPANY, CHICAGO

CHATTEN & HAMMOND, ARCHITECTS

CONSTRUCTION DATA

Year of Completion: 1927.
Type of Construction: Reinforced concrete.
Exterior Materials: Brick and artificial stone.
Interior Materials: Brick and exposed concrete.
Floors: First floor, creosoted wood block; other floors, cement.
Windows: Standard steel side wall sash and reversible sash, depending on location.
Lighting: Direct.
Heating: Shop section of first and second floors, unit heaters; balance direct radiation.
Use of Building: Wood working and finishing plant.



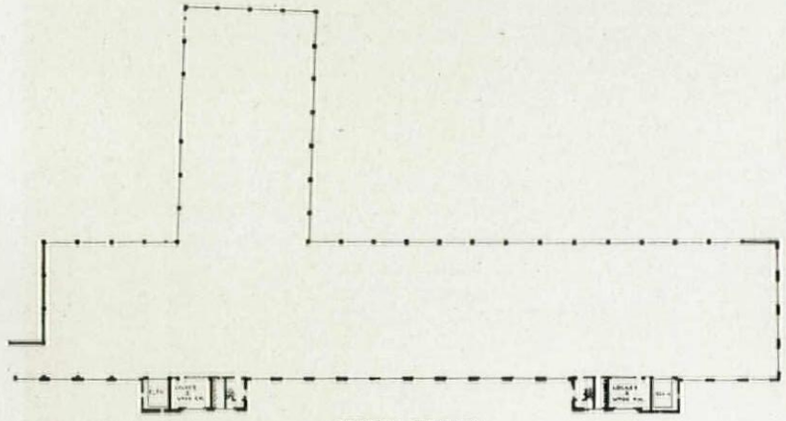
FIRST FLOOR

PLAN. BUILDING FOR WILLIAMSON CANDY CO., CHICAGO

CHATTEN & HAMMOND, ARCHITECTS

COST AND CONSTRUCTION DATA

Year of Completion: 1924.
Type of Construction: Fireproof flat slab.
Exterior Materials: Face brick and terra cotta trim.
Floors: Cement.
Heating: High-pressure steam plant.
Cubic Foot Cost: 36½ cents.
Total Cost: $502,000, not including architects' fee.



FIRST FLOOR

PLAN. BUILDING FOR AMERICAN SEATING CO., GRAND RAPIDS

SMITH, HINCHMAN & GRYLLS, ARCHITECTS

BUILDING FOR W. F. SCHRAFFT & SONS, BOSTON
DESIGNED BY LOCKWOOD GREENE ENGINEERS, INC.

Photo. Manning Bros.

BUILDING FOR U. S. RUBBER CO., MORGAN & WRIGHT DIVISION, DETROIT
DESIGNED BY LOCKWOOD GREENE ENGINEERS, INC.

CONSTRUCTION DATA

Year of Completion: 1925.
Type of Construction: Reinforced concrete.
Exterior Materials: Face brick, limestone, tile.
Interior Materials: Concrete.
Floors: Concrete, wood, tile.
Windows: Steel.
Lighting: Electricity.
Heating: C I Radiator and carrier system.
Ventilating: Carrier system.
Use of Building: Candy factory.

ABOVE. BUILDING FOR W. F. SCHRAFFT & SONS, BOSTON
DESIGNED BY LOCKWOOD GREENE ENGINEERS, INC.

CONSTRUCTION DATA

Year of Completion: 1920.
Type of Construction: Reinforced concrete, brick veneer.
Exterior Materials: Face brick, art stone.
Interior Materials: Reinforced concrete.
Floors: Concrete.
Windows: Steel.
Lighting: Electricity.
Heating: C I Radiator.
Use of Building: Factory and Warehouse.

BUILDING FOR U. S. RUBBER CO.,
MORGAN & WRIGHT DIVISION, DETROIT
DESIGNED BY LOCKWOOD GREENE ENGINEERS, INC.

THE EXTERIORS OF INDUSTRIAL BUILDINGS

BY

J. P. H. PERRY

VICE-PRESIDENT, TURNER CONSTRUCTION COMPANY

INDUSTRIAL buildings in America, so far as their types of construction go, may be divided into three classes,—"mill construction," "structural steel," and "reinforced concrete." Nearly all mill construction buildings have brick walls. Structural steel industrial buildings usually have their exteriors of brick or a combination of brick and some other material such as stone, terra cotta or cast stone, though on the Pacific coast and in the southwest the current practice seems to be to occasionally use reinforced concrete exterior walls instead of brick, and there are other instances in the country where, perhaps to break a bricklayers' strike, concrete has been used for the walls. Reinforced concrete industrial buildings have their exterior walls usually of four types: (a) all concrete, (b) all brick, (c) all terra cotta or stone, (d) a combination of concrete and brick, stone, terra cotta or cast stone.

The architectural treatment of the exteriors of industrial buildings of the mill construction or the structural steel type of construction is generally studied from a point of view not materially dissimilar to that in mind when commercial buildings are being designed. On the other hand, the problem of how to treat the walls of a reinforced concrete factory or warehouse has not yet been solved to a point where there has been any general adoption of a standard method. It was only a little over 30 years ago that the first reinforced concrete industrial building was built in America,—the Pacific Coast Borax Company's four-story factory at Bayonne. Hardly a generation thus has passed since that pioneer structure was erected, and yet today we find reinforced concrete very generally accepted as the leading structural material for industrial buildings. While the merit of reinforced concrete as a structural material is fully admitted, it is a fact that in the minds of many architects the term "concrete building" brings up a picture of concrete exterior walls. In many instances the inappropriateness of such exterior treatment eliminates the concrete type from further consideration, and fireproofed steel is adopted as a structural material, whereas money would have been saved and at least an equally good if not a better building would have been designed had reinforced concrete been used for the skeleton frame, and the problem of how to design the exterior approached in a manner identical to that which would have prevailed had steel or even mill construction been adopted. The architect would often save real money for his client and gain many advantages for his building if he could establish in his mind clearly the absolute interchangeability of the terms "structural steel" and "structural concrete." There are thousands of fine factories and warehouses with brick, terra cotta or cast stone exterior walls whose skeleton frames and interior construction are of reinforced concrete. These buildings are just as truly "concrete buildings" as though they had been given concrete exterior treatment.

It will probably be generally granted that the exteriors of the early all-concrete factories or warehouses were not very pleasing, and no argument would be made with the statement that their concrete walls, so far as appearance goes, have not worn very well. Some of the present unsightliness of the early buildings can be accounted for by faults of design and construction which are now eliminated in well built concrete structures. In very early buildings reinforcing rods were placed too close to the surface, with consequent rusting of the reinforcement followed by spalling of the concrete. Form work has been greatly improved in the last 25 years. Methods of treating concrete surfaces are now not only better understood but more dependable. The early designers using concrete failed to regard the new material as worthy of original treatment. Instead, every effort was used to make concrete resemble stone by using heavy rustication or quoin markings. Some of the modern concrete buildings, such for example as the splendid mail order houses of Sears, Roebuck & Company and structures such as Cass Gilbert's Army Base, point the way to the successful handling of concrete as concrete and concrete alone. The modern set-back architecture and the massing on vertical lines create an opportunity for use of concrete that it never previously enjoyed.

In spite of great improvements in design and construction of concrete exterior walls, the fact cannot be ignored that, in the east and central part of the country at least, the trend of the best architectural practice for industrial buildings is not to use concrete alone for the exterior walls. Most of the better buildings erected during the last six or eight years have been either of all brick or of brick with a combination of cast stone or terra cotta, or of a combination of brick with exposed concrete columns, or of brick with exposed concrete columns and floor beams. To verify this statement, I asked our statistical de-

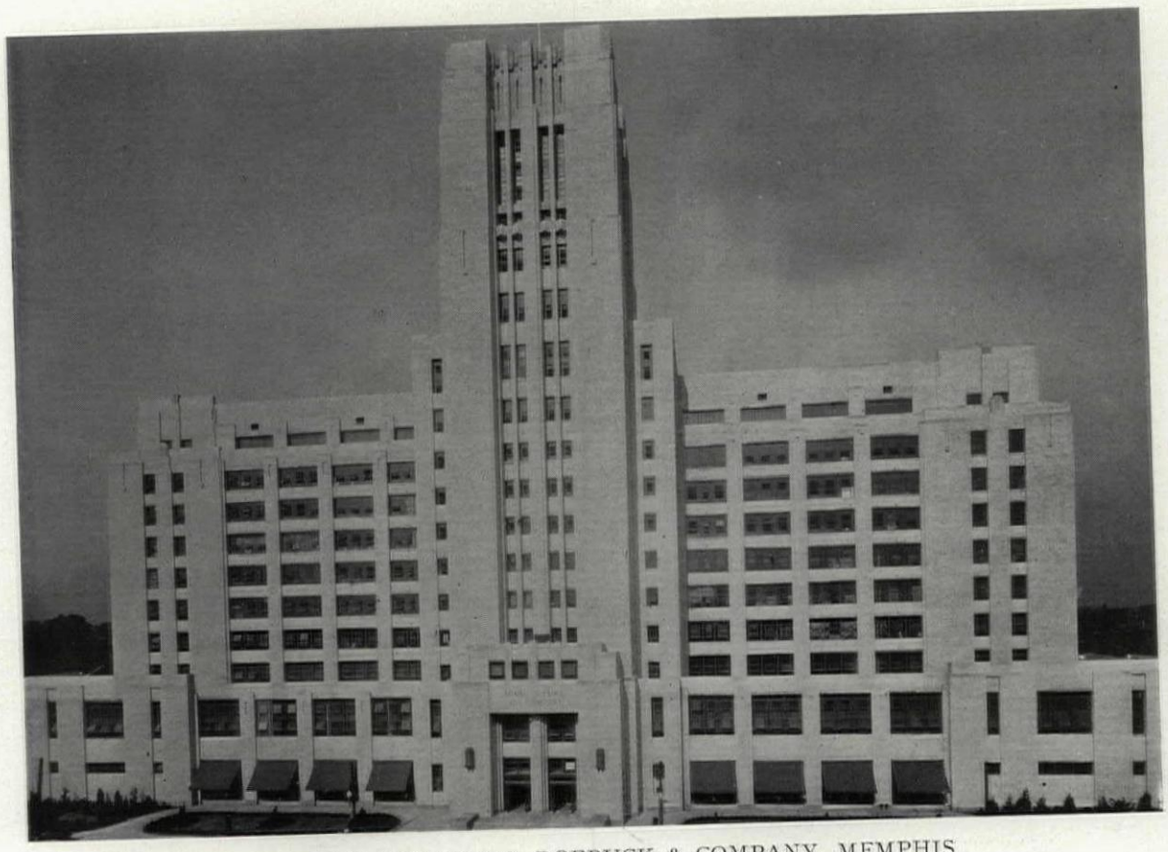
Photo. Philip B. Wallace

BUILDING FOR SEARS, ROEBUCK & COMPANY, PHILADELPHIA
NIMMONS, CARR & WRIGHT, ARCHITECTS

BUILDING FOR SEARS, ROEBUCK & COMPANY, PORTLAND, ORE.
NIMMONS, CARR & WRIGHT, ARCHITECTS

Photo. Nordin Studio

BUILDING FOR SEARS, ROEBUCK & COMPANY, MINNEAPOLIS
NIMMONS, CARR & WRIGHT, ARCHITECTS

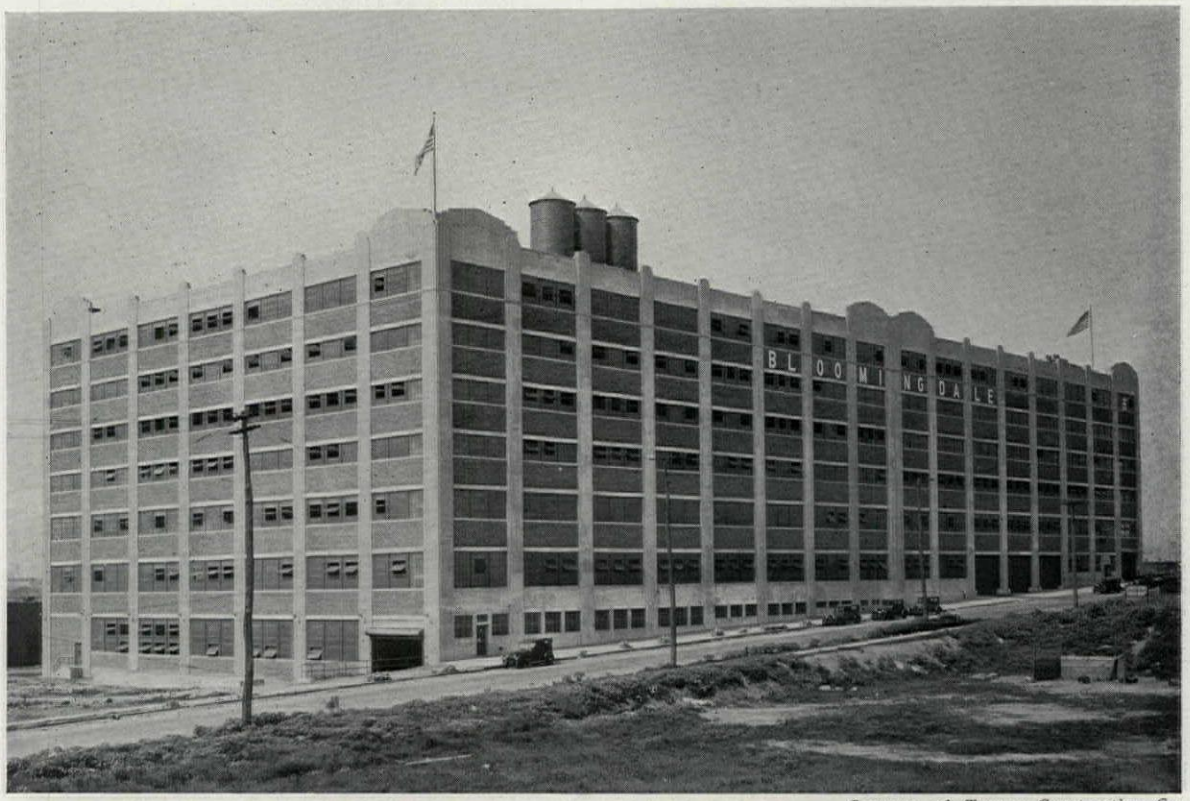


BUILDING FOR SEARS, ROEBUCK & COMPANY, MEMPHIS
NIMMONS, CARR & WRIGHT, ARCHITECTS

Courtesy of Turner Construction Co.

BUILDING FOR AMERICAN CAN COMPANY, BROOKLYN.

CARL PREIS, ARCHITECT



Courtesy of Turner Construction Co.

WAREHOUSE FOR BLOOMINGDALE BROTHERS, LONG ISLAND CITY, N. Y.

ABBOTT, MERKT & COMPANY, ARCHITECTS

Photo. Tebbs & Knell, Inc. *Courtesy of Turner Construction Co.*

BUILDING FOR HEARST PUBLICATIONS, NEW YORK

CHARLES E. BIRGE, ARCHITECT

Courtesy of Turner Construction Co.

BUILDING FOR GENERAL ELECTRIC COMPANY, WEST PHILADELPHIA

HARRIS & RICHARDS, ARCHITECTS

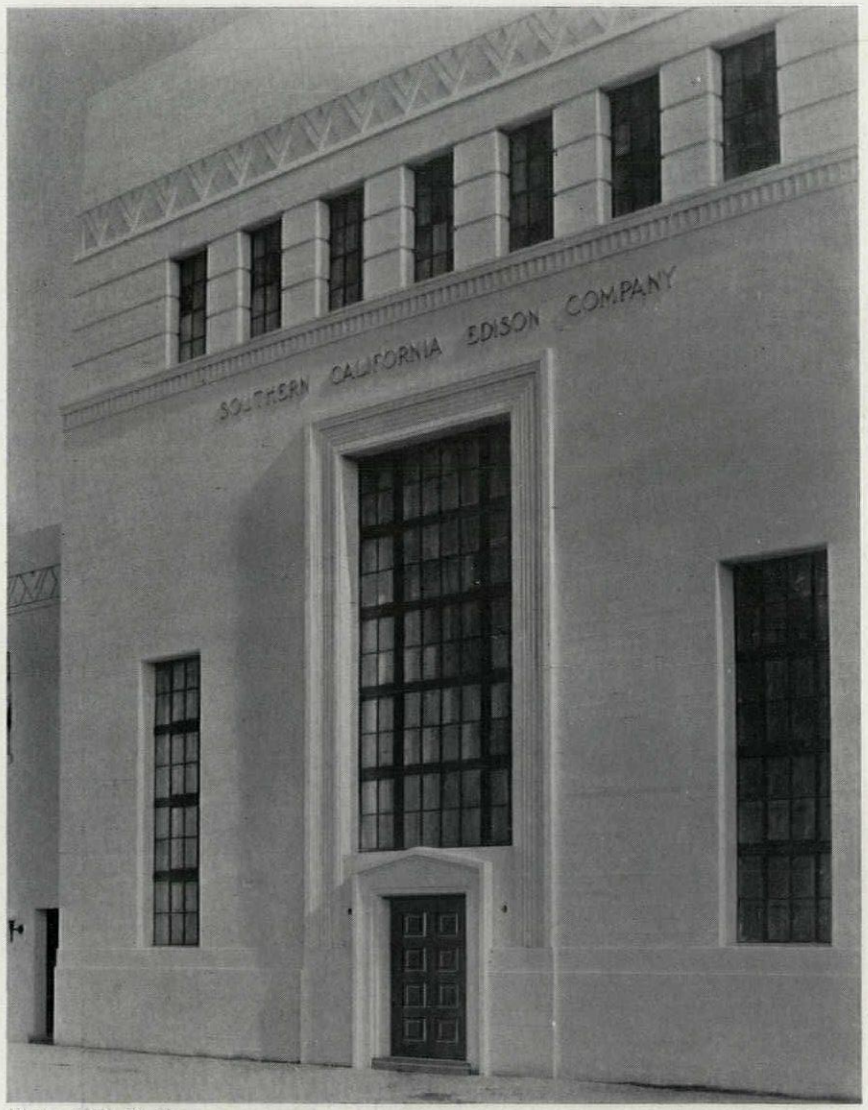


Photo. Mott Studios

SUB-STATION, SOUTHERN CALIFORNIA EDISON COMPANY

HUNT & BURNS, ARCHITECTS

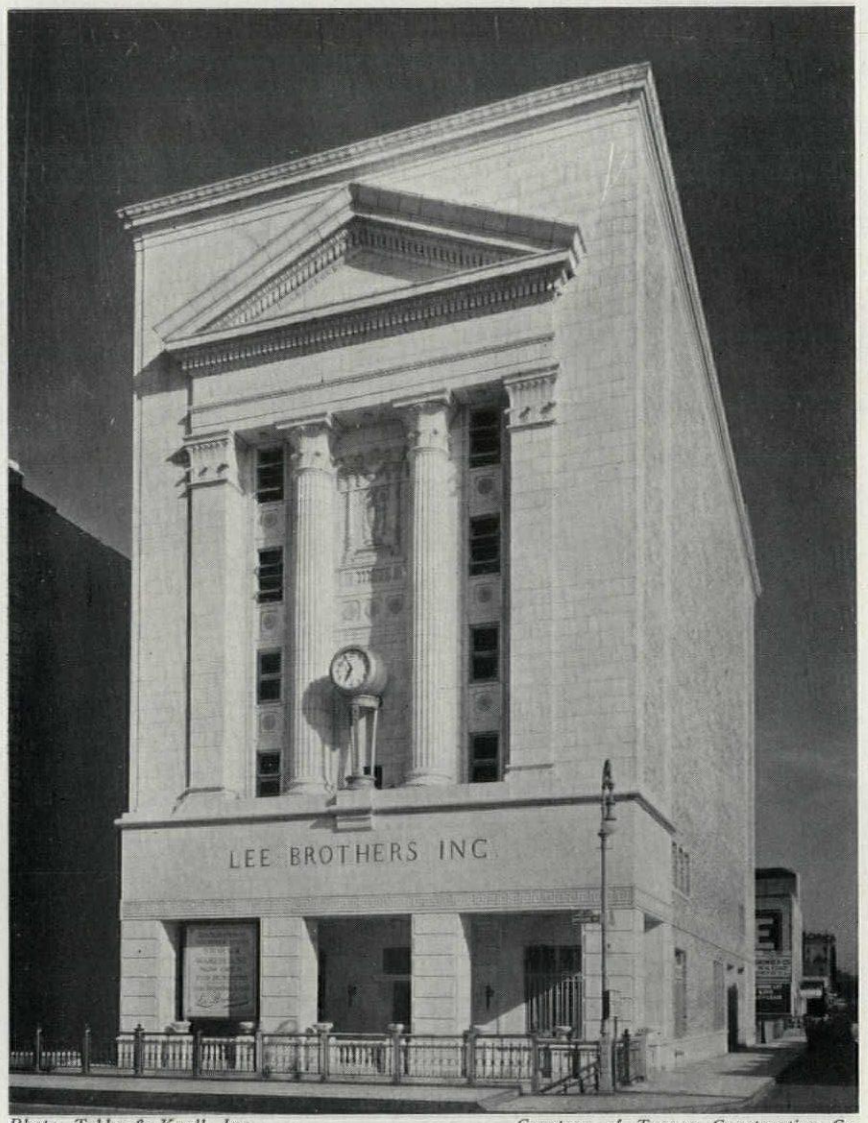


Photo. Tebbs & Knell, Inc. *Courtesy of Turner Construction Co.*

WAREHOUSE FOR LEE BROTHERS, INC., NEW YORK

KINGSLEY SERVICE, INC., ARCHITECTS

Photo. Mott Studios

MAIN ENTRANCE
HOLLYWOOD STORAGE WAREHOUSE, LOS ANGELES
MORGAN, WALLS & CLEMENTS, ARCHITECTS

MAIN ENTRANCE
BUILDING FOR SEARS, ROEBUCK & COMPANY, MINNEAPOLIS
NIMMONS, CARR & WRIGHT, ARCHITECTS

Photo. Mott Studios

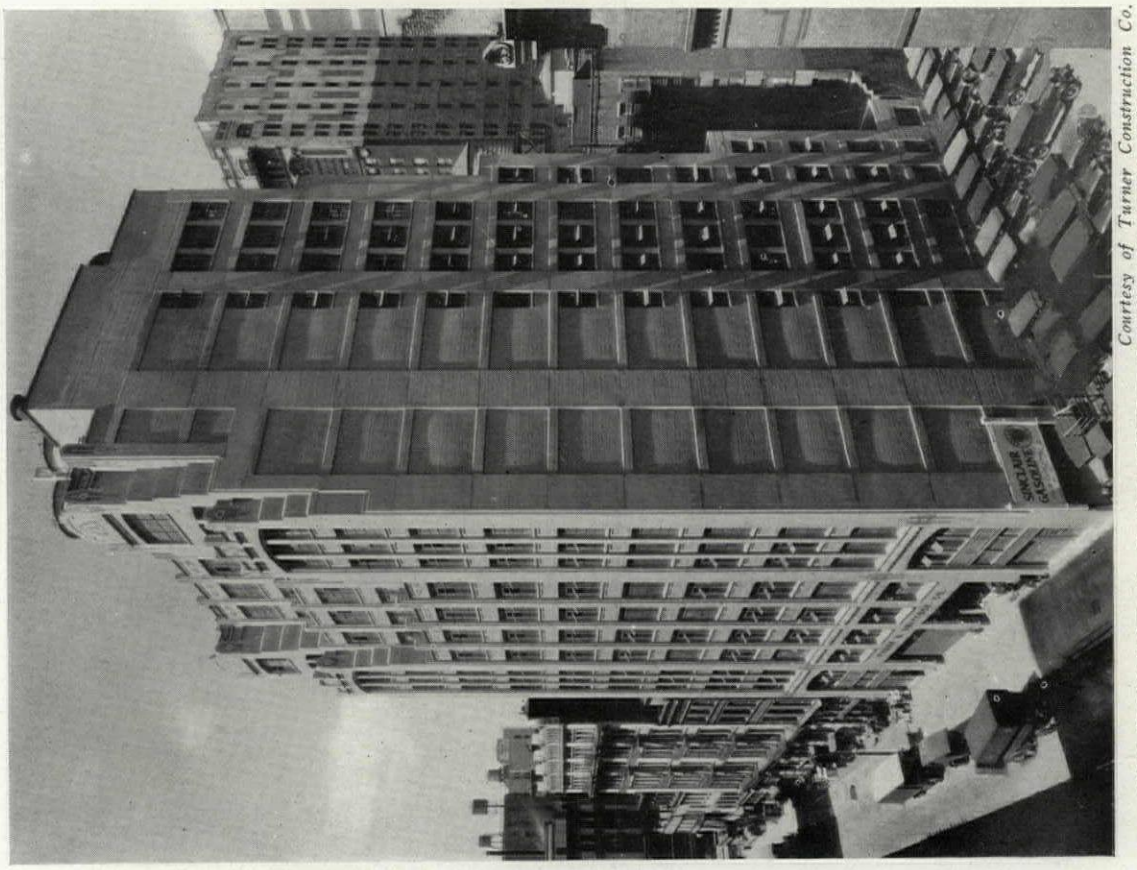
AMERICAN STORAGE WAREHOUSE, LOS ANGELES

ARTHUR E. HARVEY, ARCHITECT

Photo. Mott Studios

HOLLYWOOD STORAGE WAREHOUSE, LOS ANGELES

MORGAN, WALLS & CLEMENTS, ARCHITECTS



Courtesy of Turner Construction Co.

BUILDING FOR F. G. SHATTUCK COMPANY, NEW YORK

RUSSELL G. CORY, ARCHITECT

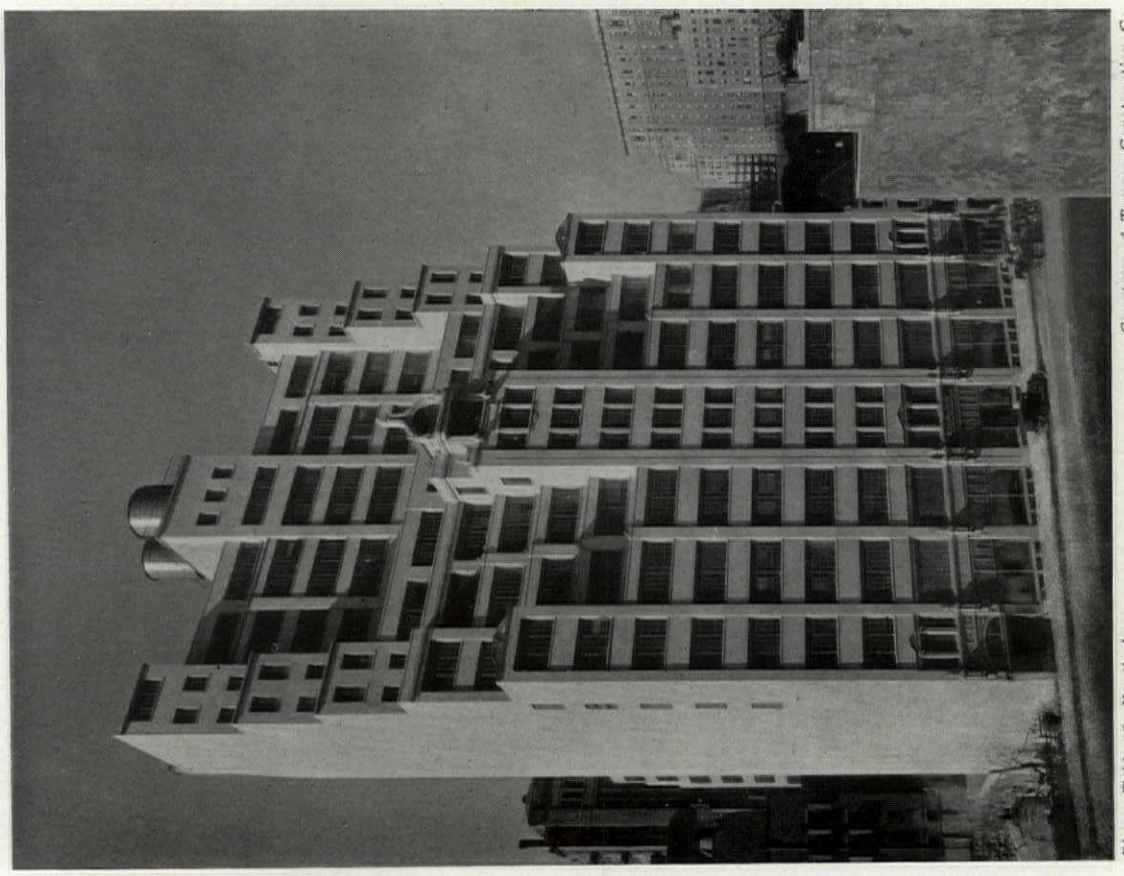


Photo. Tebbs & Knell, Inc. *Courtesy of Turner Construction Co.*

LOFT BUILDING ON EAST FORTY-FIFTH STREET, NEW YORK

OTTO STRACK, ARCHITECT

Photo. Tebbs & Knell, Inc. *Courtesy of Turner Construction Co.*

GREEN TERMINAL BUILDING, NEW YORK

RENWICK, ASPINWALL & GUARD, ARCHITECTS

Courtesy of Turner Construction Co.

BUILDING FOR AMERICAN NEWS COMPANY, NEW YORK

RUSSELL G. CORY, ARCHITECT

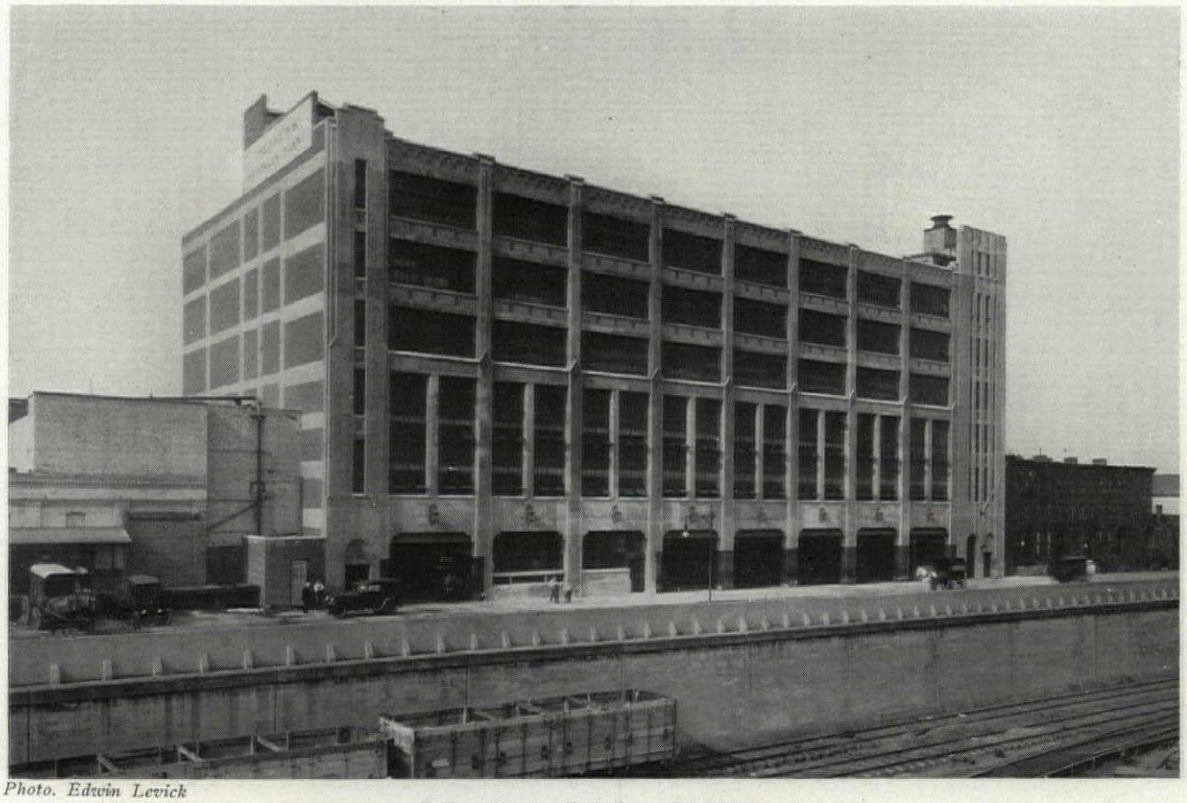


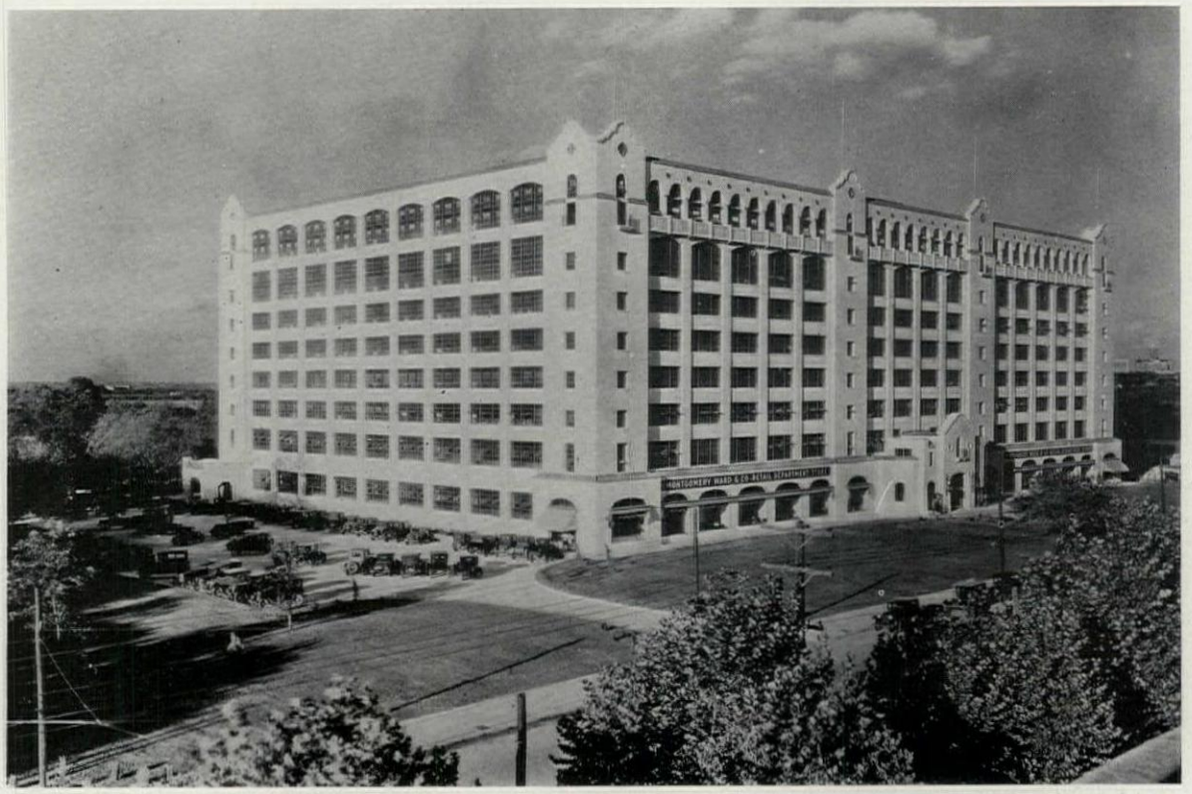
Photo. Edwin Levick

Daily News Building, Brooklyn
Designed by Lockwood Greene Engineers, Inc.

partment to make a study of 1,015 industrial buildings built by our Company during the past 27½ years. During the first 16 years (prior to 1918) 57 per cent of these factories and warehouses had their walls of all concrete. From 1918 to 1923, inclusive, 43 per cent of such buildings had their exteriors of all concrete, and in the six years from 1924 to 1929, inclusive, only 30 per cent of such structures had all-concrete exteriors. A further indication that the all-concrete exterior is not as generally used as it used to be is found by studying the work of such leading industrial architects as Nimmons, Carr & Wright, A. S. Alschuler, and S. Scott Joy in Chicago; Albert Kahn in Detroit; Monks & Johnson in Boston; Lockwood, Greene & Company, Frank S. Parker, Buchman & Kahn, and Russell G. Cory in New York. Such a study will indicate that the majority of their buildings have their exteriors rarely all of concrete. A further indication of this trend is seen in the designs adopted by some of the great industrial concerns of America. Among others there may be mentioned: The General Electric Company; Sears, Roebuck & Company; Western Electric Company; Ford Motor Company; National Biscuit Company; American Telephone & Telegraph Company and its many subsidiaries; Packard Motor Car Company,—in fact the automobile industry in general has swung away from the use of the all-concrete exterior for its great manufacturing plants scattered over the country.

In Chicago, where concrete is used for building construction probably as widely if not more so than in any city in the country, it is very rarely that one sees an all-concrete exterior. The Central Manufacturing District, containing one of the finest groups of industrial buildings in America, has adopted a very pleasing exterior treatment of brick with ornament of terra cotta or stone. Perhaps the only locality where the all-concrete exterior is not declining in popularity is in the southwest, and particularly in California, where buildings with concrete walls are being increasingly built and very satisfactorily so,—as is evidenced by such outstanding structures as Sears, Roebuck & Company's mail order house in Los Angeles; Montgomery Ward & Company's great buildings in Fort Worth and in Oakland; and the Hollywood Terminal and the American Storage Buildings in Los Angeles, illustrated in this issue of THE FORUM.

The fundamental reason for getting away from use of all-concrete exteriors is not hard to find. In general, the primary excuse for using concrete exteriors is economy, plus the readiness with which it lends itself to being moulded in special forms and its inherent expression of sturdy strength for massive design. Industrial America has been growing richer and richer, and the



Warehouse for Montgomery, Ward & Company, Fort Worth, Texas
W. H. McCaully, Architect

American industrial executive has reached the point where he can afford to pay for what he wants. Architects, engineers and contractors have learned that brick, stone and terra cotta or combinations thereof produce a more pleasing appearance and preserve a distinguished character over a period of years much more dependably than any known type of concrete construction has yet done. The same tendency toward securing better looking buildings is seen in commercial structures all over the country,—structures such as hotels, apartment houses, office buildings, schools, bank buildings and the like. When concrete was in its infancy, such commercial structures were built largely of brick, whereas now we see limestone, terra cotta, cast stone, fine face bricks, granite, and even marble being increasingly used.

All the foregoing, however, should not be taken as meaning that the factory or warehouse with the all-concrete exterior or a combination of concrete with some other material has not still and probably always will have a substantial place in industrial building design. There are many notable examples,—some of them illustrated here,—which are extremely pleasing in design and equally satisfactory in construction. There are factories and warehouses of great magnitude built with all-concrete exteriors, such as the huge mail order houses of Montgomery Ward & Company in Albany and Baltimore; the plants of the American Can Company scattered over the country; the amazing number of fine concrete buildings in the Holland Tunnel section of New York, in Jersey City and Newark, and in Long Island City, to say nothing of the great buildings in Texas and up and down the Pacific coast. In the experience of our Company, however, certainly during the past six or eight years, we find that for every factory or warehouse with an all-concrete exterior we get a building where brick spandrel walls are used and the concrete skeleton left exposed. Some notable examples of this method of exterior treatment are the Schrafft candy factory in Charlestown, Mass.; Bloomingdale Brothers' large warehouse in Long Island City; the two 700-foot buildings of the General Electric Company at their new West Philadelphia plant; the tremendous new terminal warehouse of the D. L. & W. Railroad in Hoboken, as well as the buildings of the Great Atlantic & Pacific Tea Company and the splendid development of the American Woolen Company in Shawsheen, Mass.

If an architect selects or his client requests an all-concrete exterior treatment, there are several fairly standardized surface treatments open to his choice such as: (a) Leaving the concrete surface substantially untouched as it comes from the forms except for pointing and the correction

Warehouse for Montgomery, Ward & Company, Baltimore
W. H. McCaully, Architect

of column and beam lines and dressing of fill lines, etc. (b) Rubbing a cement grout on the surface with a float or a carborundum brick. (c) Roughing the surfaces to expose the aggregate, either by tooling or by the use of a proprietary grease painted on the forms. (d) Painting the surfaces with a proprietary coating, either colorless or to similate the color of concrete or with colored pigments to produce any shade of color desired. (e) Stuccoing with either a thin coat or a regular two-coat process. Probably the most generally adopted of these methods are the rubbing in of cement grout with a carborundum brick or the painting of the exterior and, finally, the use of stucco. The majority of the fine concrete buildings in the southwest and in California,—those of most pleasing appearance,—have a thin stucco put on the concrete. Monolithic ornamentation can be added by the use of plaster moulds. A notable example of this method of treatment is shown in the detail of the Hollywood Terminal Building on page 319. The Sears, Roebuck & Company mail order house in Los Angeles is similarly treated. Montgomery Ward & Company's mail order houses in the southwest have their all-concrete exteriors painted.

Recently there has been a distinct step forward in an effort to produce finer concrete exteriors by the lining of the forms with composition or presswood sheets or with heavy linoleum types of paper which have been produced now on a practical basis so that they do not curl when the wet concrete comes against them, are heavy enough to stand the wear and tear of construction, and are also cheap enough to still keep the cost of the concrete well below that of brick. A notable example of the successful use of this method is the new mail order house of Montgomery Ward & Company in Albany.

There is a distinct trend toward the use of colored tile inserts to relieve the monotony of an all - concrete exterior. The American News Building in New York is an example of this treatment, and the Lasher Printing Company's building in Philadelphia with its use of brick ornamentation points the way to an interesting possibility in treating all-concrete exteriors. The splendid building housing the Hearst publications on South Street, New York, designed by Charles E. Birge, is an interesting example of an all-

Photo. Camera Craft Studio

Building for Geo. F. Lasher Printing Company, Philadelphia

Philip S. Tyre, Architect

concrete plain exterior of simple proportions and extremely fine workmanship, producing even, true surfaces with the use of decorative panels on the parapet. The Fuller warehouse in Los Angeles is an extremely interesting example of the all-concrete building. A more conservative treatment has been adopted by the American Can Company in a number of its great plants, as witness the large factory in South Brooklyn. An unusual design was adopted by E. R. Squibb & Son for their factory in Brooklyn. A typical treatment of the concrete loft building is shown in the Green Terminal Building in the Holland Tunnel section of New York. Where large concrete structures have been built in Manhattan, the majority of them have brick exteriors, as witness the Publishers' Building on West 52nd Street, the Cadillac Building on Columbus Avenue at 63rd Street, the huge U. S. Appraisers' Stores by Buchman & Kahn, and the East 45th Street loft building. Another interesting example of all-concrete exterior for industrial buildings is Albert Kahn's new service station of the Packard Company in Manhattan with its terra cotta exterior,—also S. Scott Joy's North Station Industrial Building in Boston. Some of the most interesting industrial buildings with brick exteriors have been produced by Nimmons, Carr & Wright for Sears, Roebuck & Company, including among others the Portland retail store and the mail order houses in Philadelphia, Cambridge, Memphis and Minneapolis. Nearly all the buildings here mentioned are illustrated in this issue of THE FORUM, and as the Chinese saying goes, "a picture is worth a thousand words." Frank S. Parker in New York has designed some very large concrete factory and loft buildings running as high as 22 stories, and in general has used brick for the lower stories and then gone to exposed concrete at the tops of the buildings, his theory being that the detail defects inherent in ordinary concrete exteriors are not visible at that height and that a stone-like appearance is given with real money saving. The great Printing Crafts Building is one example, and the Graphic Arts Center in New York is another.

An architect choosing all concrete for the exterior of his building would do well to consider that he is handling a plastic material different

Photo. Calvin Wheat

Building for Houston Press, Houston, Tex.
Howell & Thomas, Architects

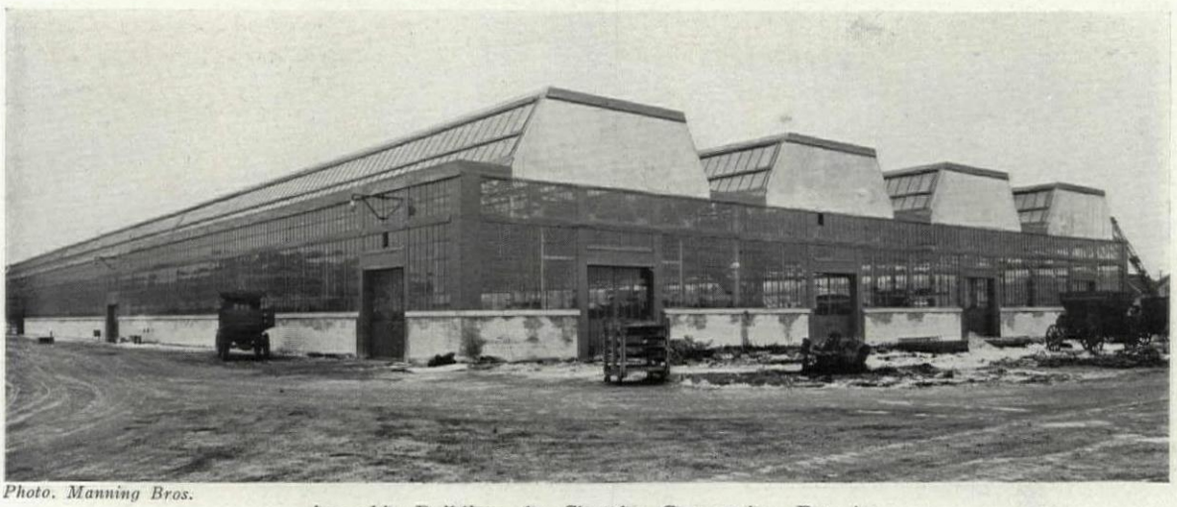


Photo. Manning Bros.

Assembly Building, the Chrysler Corporation, Detroit
Smith, Hinchman & Grylls, Architects

from any other of the past. He may find that the monolithic type is best expressed through a form which is not in complete conformity with any particular classification. Concrete structures should rely for their beauty on their sense of massive strength and immovability. They should be characterized by rectangular lines, large, unbroken wall areas, deep-set windows and massive entrance ways. Frank expression of concrete's qualities of ruggedness and strength is usually the basis of the most successful design. Long vertical lines, massive columns and graceful arches lend themselves most readily to expression in this material.

Anyone reflecting on the designing of exteriors of concrete buildings over the past 25 years cannot but get a thrill, as an American, out of the great improvement which architects have brought about in the treatment of what used to be, as the figure of speech put it, "as ugly as a factory building." Today the factories of America, in the great majority of cases, are "things of beauty."

Photo. The Heller Co.

BUILDING FOR COLONIAL KNITTING MILLS, INC., PHILADELPHIA
THE AUSTIN COMPANY, ARCHITECTS

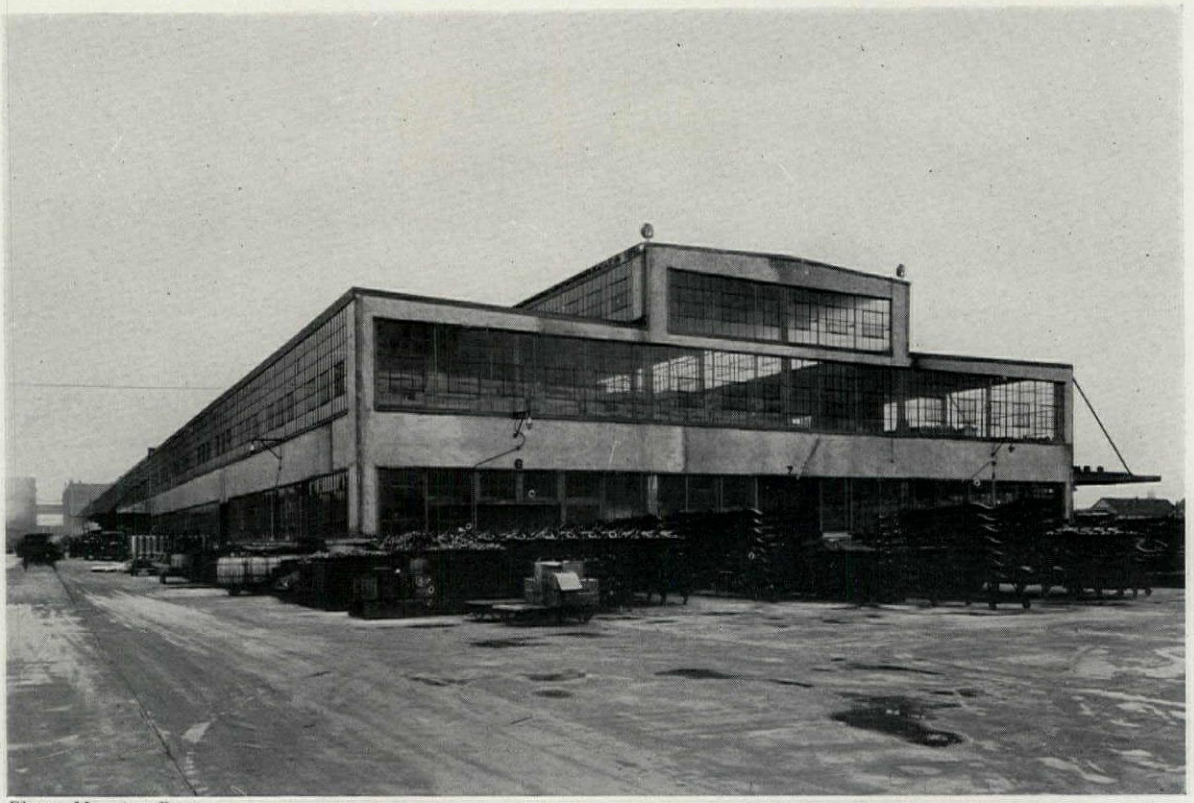


Photo. Manning Bros.

MACHINE SHOP, THE CHRYSLER CORPORATION, DETROIT
SMITH, HINCHMAN & GRYLLS, ARCHITECTS

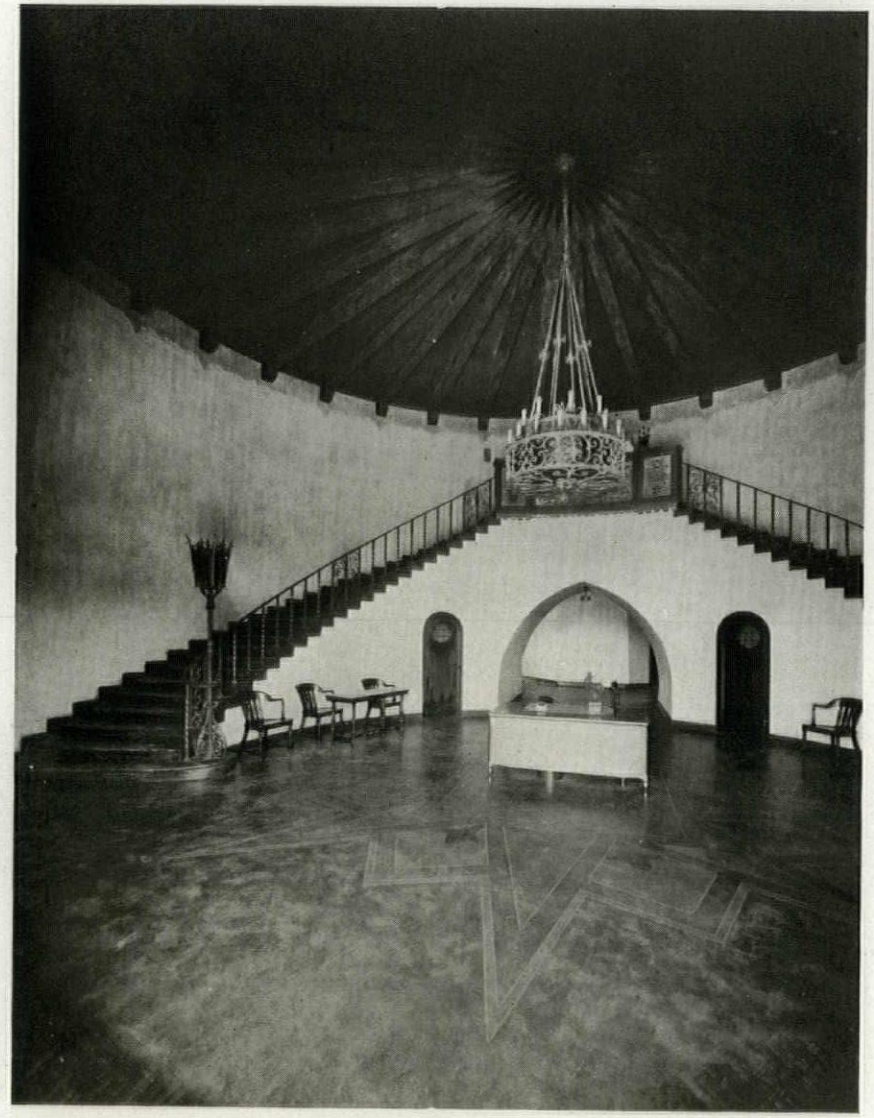
GENERAL VIEW

Photos. Rode-Photo

MAIN ENTRANCE

BUILDING FOR PACIFIC GOODRICH RUBBER COMPANY, LOS ANGELES

CARL JUYLES WEYL, CONSULTING ARCHITECT THE FOUNDATION COMPANY, ENGINEERS



Photos. Stagg

DIRECTORS' ROOM ENTRANCE LOBBY

BUILDING FOR PACIFIC GOODRICH RUBBER COMPANY, LOS ANGELES

CARL JUYLES WEYL, CONSULTING ARCHITECT THE FOUNDATION COMPANY, ENGINEERS

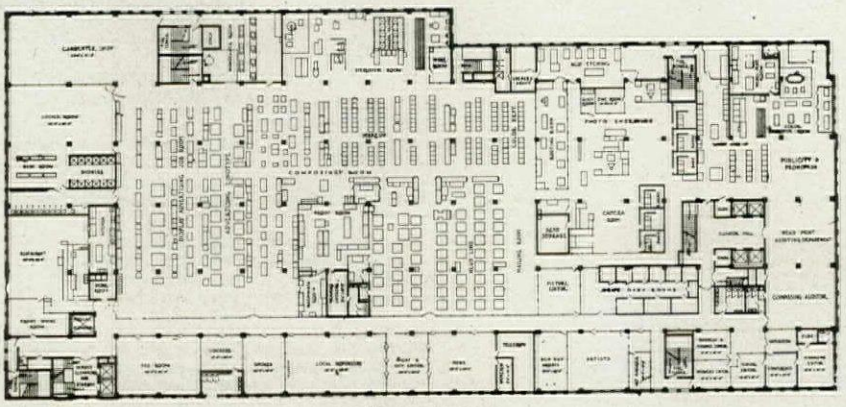
Photos. William M. Rittase *Plans on Back*

TWO VIEWS, ELVERSON BUILDING, OCCUPIED BY THE PHILADELPHIA INQUIRER

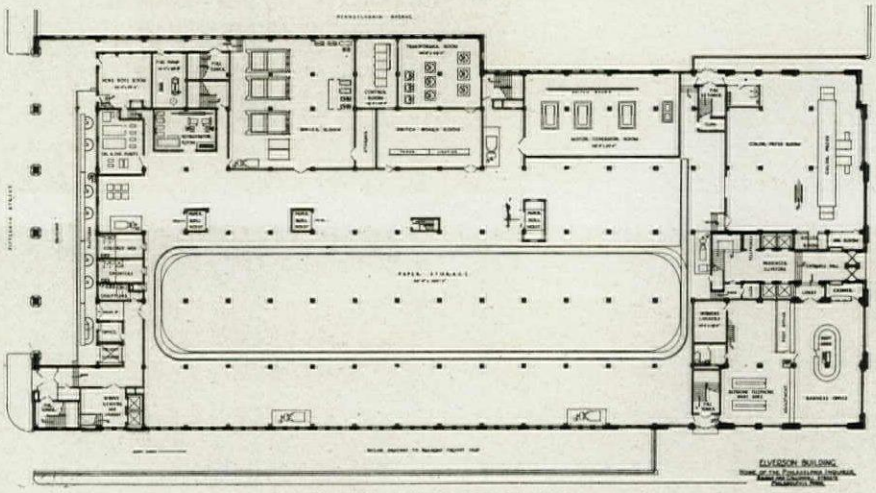
RANKIN, KELLOGG & CRANE, ARCHITECTS

COST AND CONSTRUCTION DATA

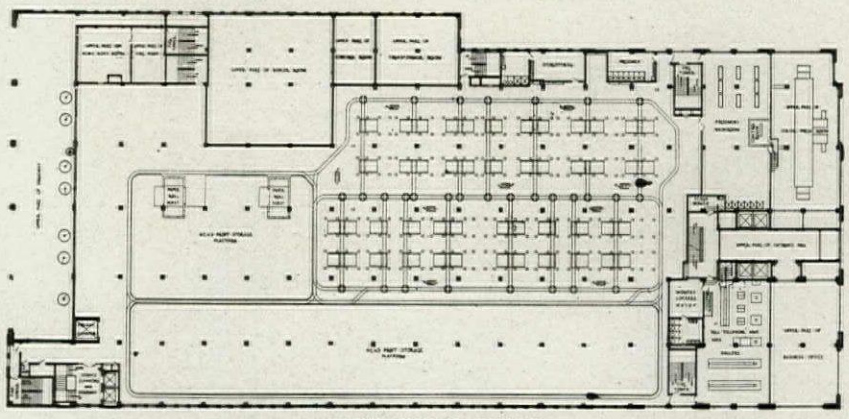
Year of Completion: 1925.
Type of Construction: Steel frame.
Exterior Materials: Brick and terra cotta.
Floors: Concrete slabs.
Lighting: Electricity.
Heating: Steam; oil burners.
Ventilating: Forced for special areas.
Cubic Foot Cost: 46 cents.
Total Cost: $3,412,000.
Use of Building: Newspaper publishing plant.



FOURTH FLOOR



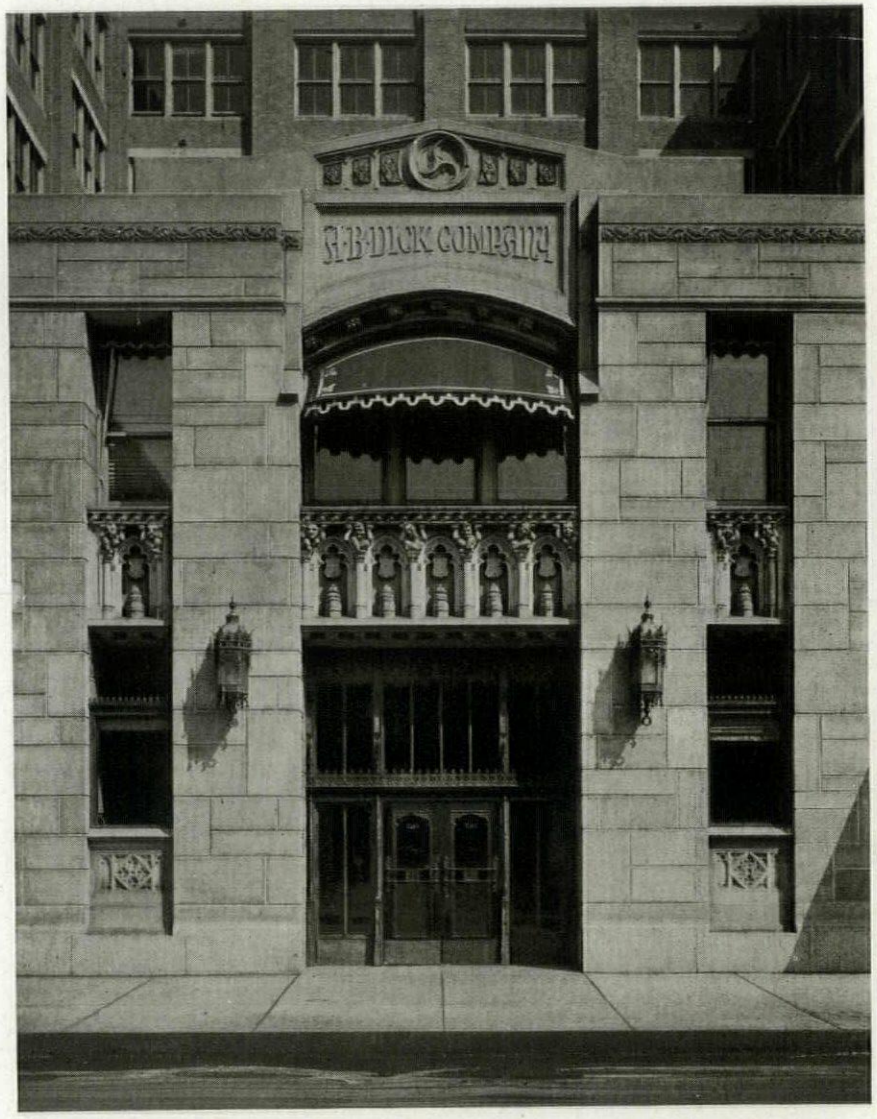
PAPER STORAGE FLOOR



REEL ROOM FLOOR

PLANS. ELVERSON BUILDING, PHILADELPHIA, OCCUPIED BY THE PHILADELPHIA INQUIRER

RANKIN, KELLOGG & CRANE. ARCHITECTS



MAIN ENTRANCE

STREET FACADE

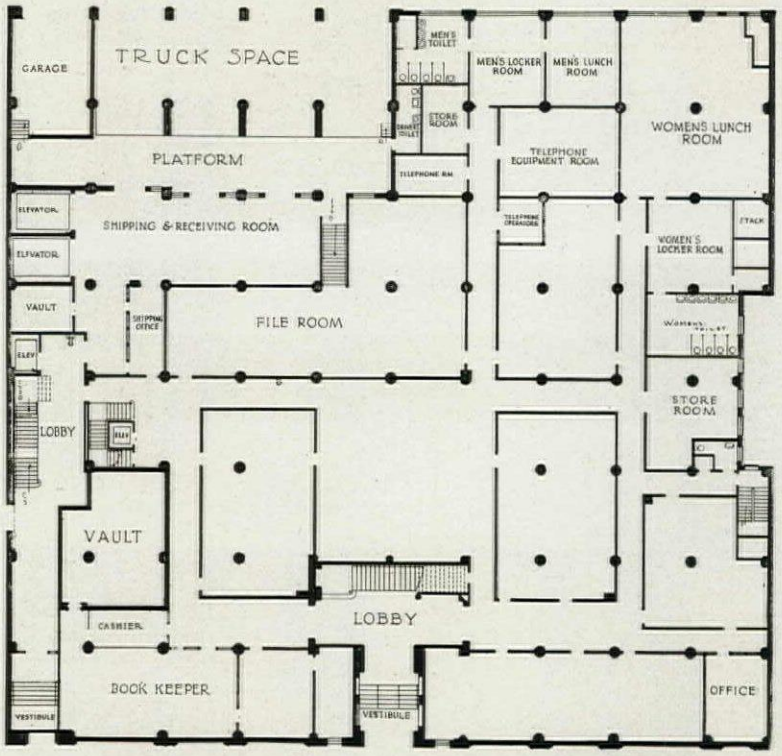
Plan on Back

BUILDING FOR A. B. DICK COMPANY, CHICAGO

ALFRED S. ALSCHULER, ARCHITECT

CONSTRUCTION DATA

Year of Completion: 1926.
Exterior Materials: Limestone and face brick.
Interior Materials: Walnut trim; marble in vestibule.
Floors: Maple, laid over a flat slab of reinforced concrete; offices, rubber tile; entrance lobby, marble.
Windows: Front elevation, wood sash; rear elevation, steel sash.
Lighting: Indirect in offices; typical factory units in work spaces.
Heating: Vacuum type with wall radiation.
Ventilating: Air conditioning apparatus and thermostatic control.
Use of Building: Assembling, storage and shipment of machines, and show rooms and general offices.



FIRST FLOOR

PLAN. BUILDING FOR A. B. DICK COMPANY, CHICAGO
ALFRED S. ALSCHULER, ARCHITECT

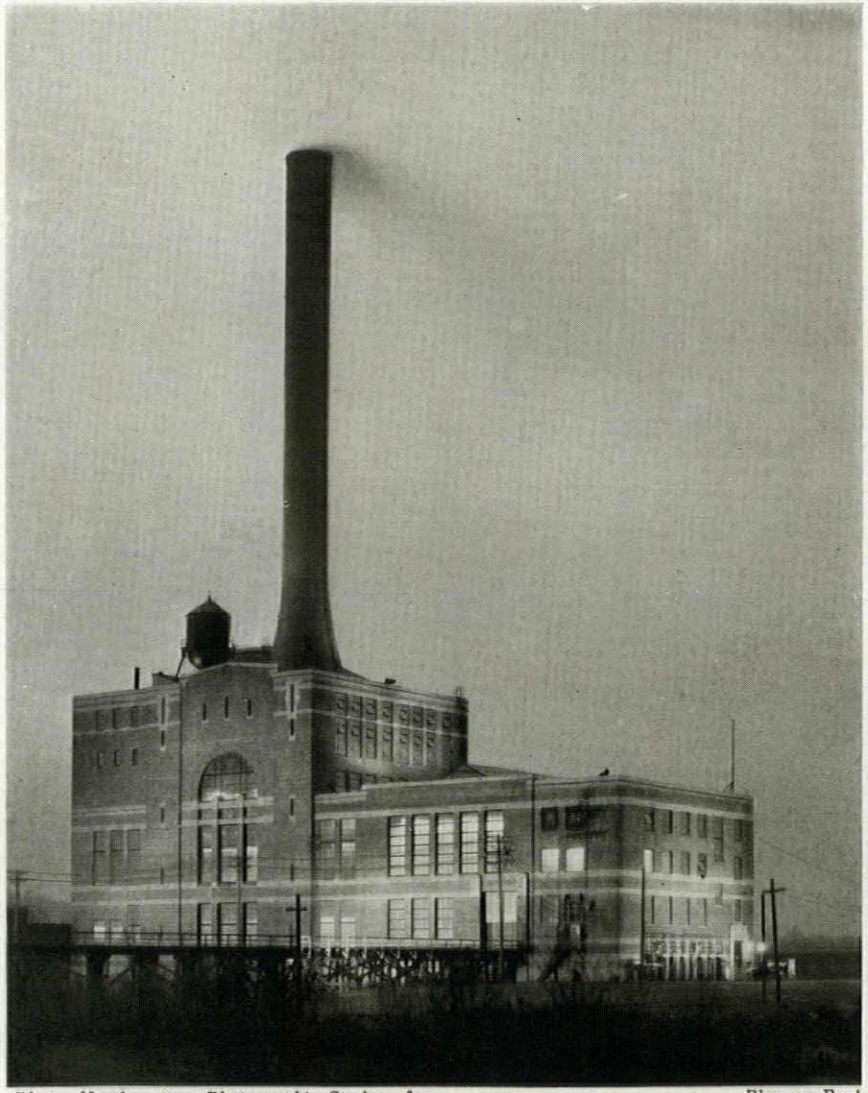


Photo. Northwestern Photographic Studios, Inc. *Plan on Back*

ISLAND STATION POWER PLANT, NORTHERN STATES POWER CO., ST. PAUL

TOLTZ, KING & DAY, ARCHITECTS

POWER PLANT, LIGGETT & MYERS TOBACCO CO., DURHAM, N. C.

DESIGNED BY LOCKWOOD GREENE ENGINEERS, INC.

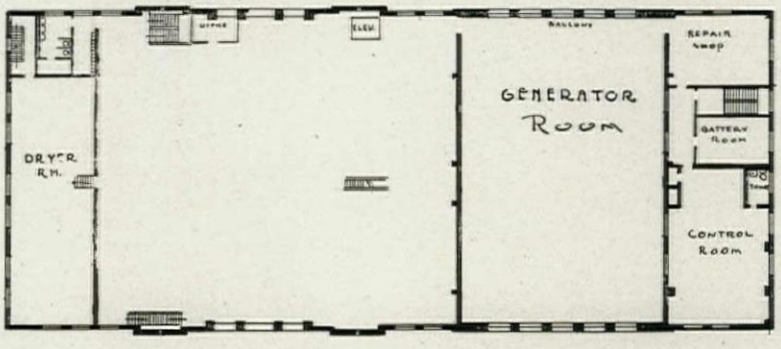
CONSTRUCTION DATA

Type of Construction: Brick and steel.
Exterior Materials: Brick.
Interior Materials: Concrete floor and roof.
Floors: Concrete.
Windows: Steel.
Lighting: Electricity.
Heating: Boiler house.
Use of Building: Power plant.

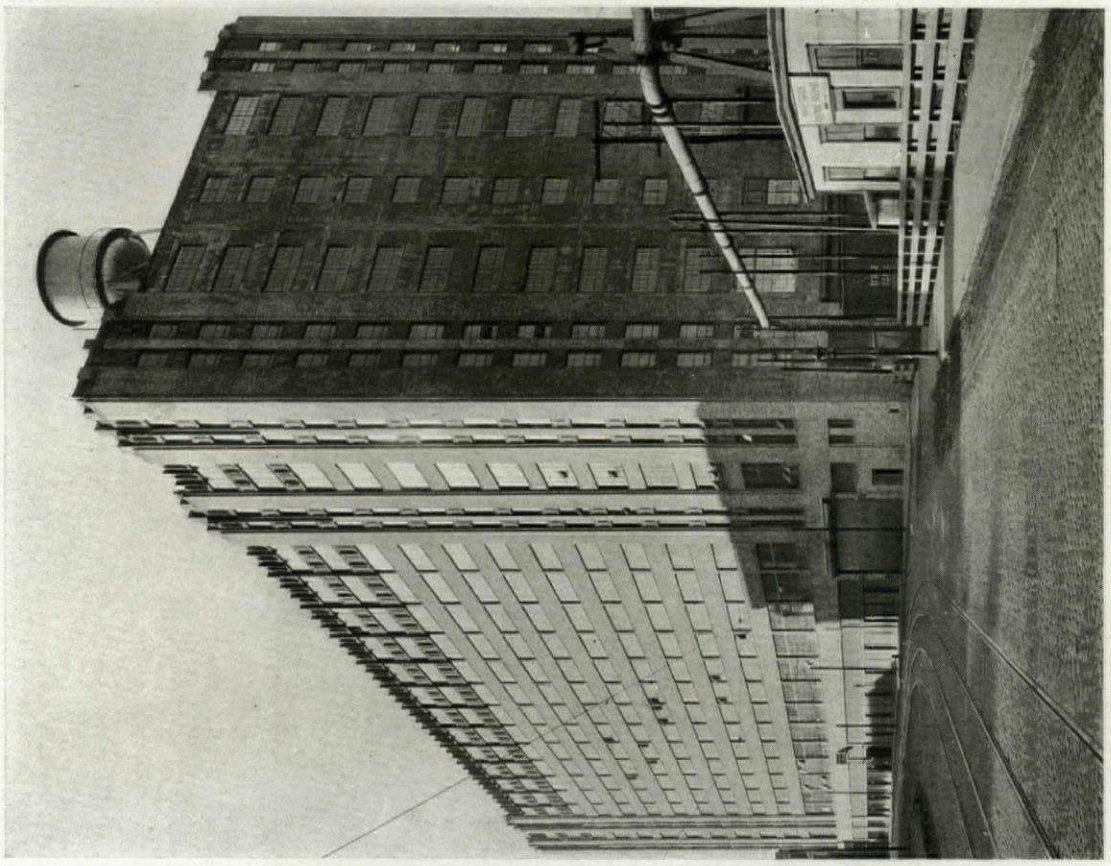
(ABOVE) POWER PLANT, LIGGETT & MYERS TOBACCO CO., DURHAM, N. C.
DESIGNED BY LOCKWOOD GREENE, ENGINEERS, INC.

COST AND CONSTRUCTION DATA

Year of Completion: 1924.
Type of Construction: Reinforced concrete up to boiler room floor level; structural steel frame above.
Exterior Materials: Face brick trimmed with cast concrete.
Interior Materials: Walls enameled brick.
Floors: Quarry tile in turbine room; cement floors in boiler plant.
Windows: Steel sash.
Heating: Steam.
Cubic Foot Cost: Approximately 25 cents.
Total Cost: $600,000.



PLAN, ISLAND STATION POWER PLANT, NORTHERN STATES POWER CO., ST. PAUL
TOLTZ, KING & DAY, ARCHITECTS



NORTH STATION INDUSTRIAL BUILDING, BOSTON
S. SCOTT JOY, ARCHITECT

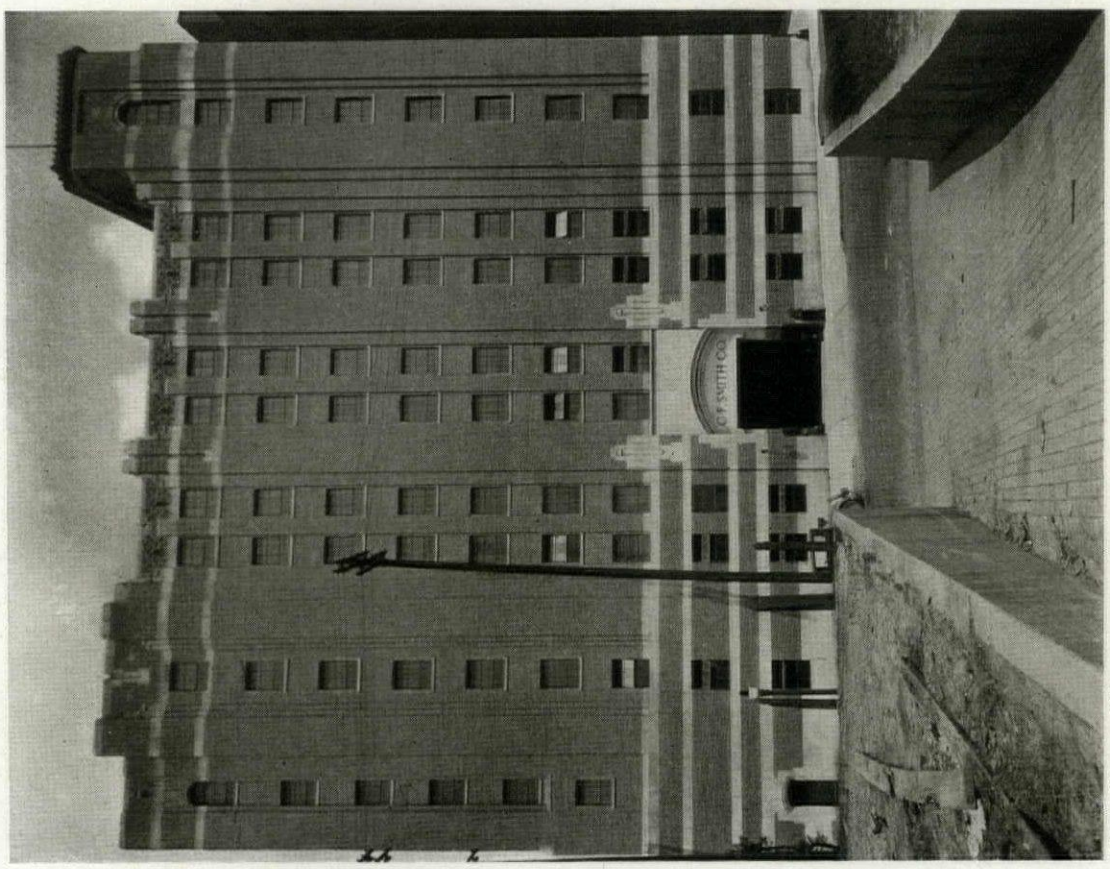


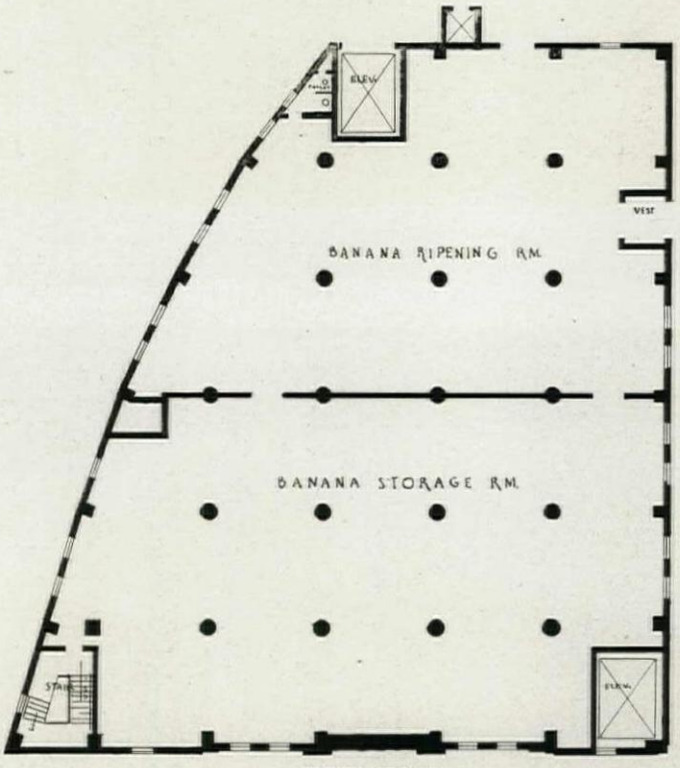
Photo. Thomas Ellison

C. F. SMITH CO. WAREHOUSE, DETROIT
SMITH, HINCHMAN & GRYLLS, ARCHITECTS

Plan on Back

CONSTRUCTION DATA

Type of Construction: Reinforced concrete.
Exterior Materials: Brick with stone trim.
Interior Materials: Brick and concrete.
Floors: Cement.
Windows: Standard steel side wall sash, with reversible type sash on north wall.
Lighting: Direct.
Use of Building: Warehouse for grocery chain stores.



FIRST FLOOR

PLAN. C. F. SMITH COMPANY WAREHOUSE, DETROIT
SMITH, HINCHMAN & GRYLLS, ARCHITECTS

Plan on Back

BUILDING FOR PHILADELPHIA WHOLESALE DRUG CO.
RANKIN & KELLOGG, ARCHITECTS

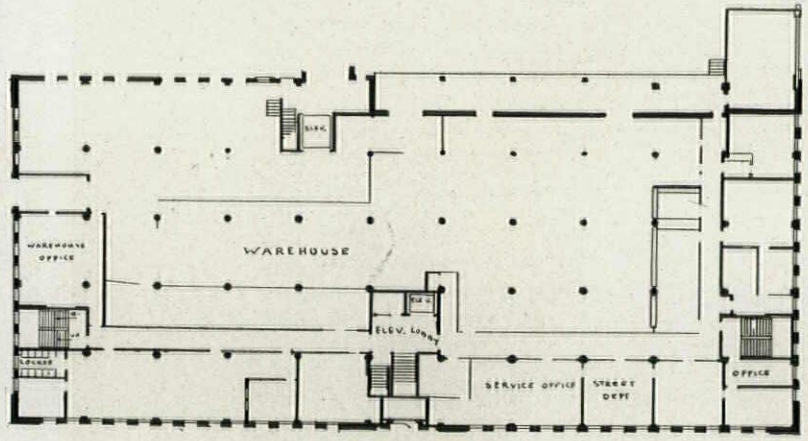
Photo. Northwestern Photographic Studios, Inc.

Plan on Back

SERVICE BUILDING, NORTHERN STATES POWER CO., ST. PAUL
TOLTZ, KING & DAY, ARCHITECTS

COST AND CONSTRUCTION DATA

Year of Completion: 1925.
Type of Construction: Reinforced concrete; frame building.
Exterior Materials: Brick and stone.
Floors: Cement.
Windows: Double-hung steel.
Lighting: Semi and direct throughout office areas; direct factory lighting throughout warehouse areas.
Heating: Steam, vacuum system, including boiler plant
Cubic Foot Cost: 28 cents.
Total Cost: Approximately $320,000.
Use of Building: Service and repair departments for power company and for warehouse for construction materials for city.

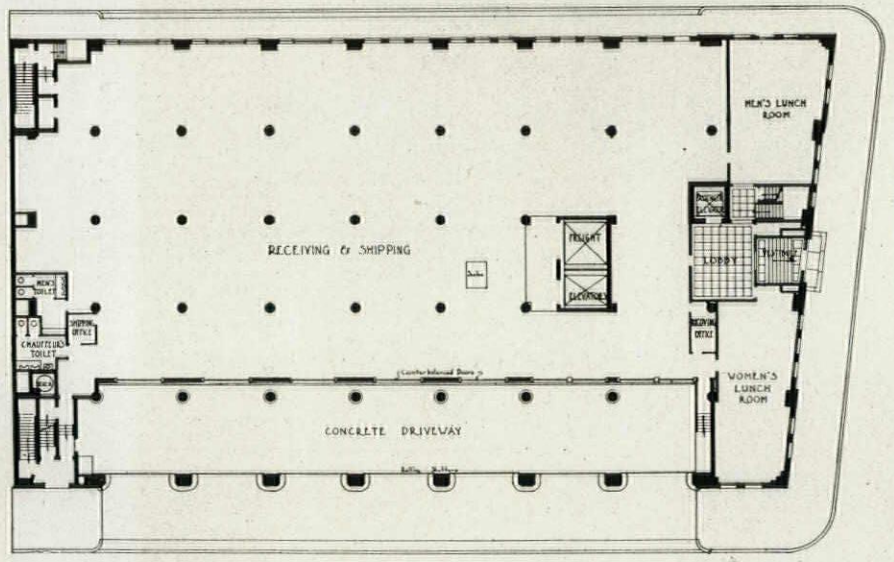


FIRST FLOOR

PLAN. SERVICE BUILDING, NORTHERN STATES POWER CO., ST. PAUL
TOLTZ, KING & DAY, ARCHITECTS

COST AND CONSTRUCTION DATA

Year of Completion: 1928.
Type of Construction: Reinforced concrete; mushroom columns.
Exterior Walls: Brick and stone.
Roof: Built-up.
Floors: Concrete.
Heating: Low-pressure steam.
Cubage of Buildings: 2,450,000.
Cubic Foot Costs: 24 cents.
Total Cost of Building: $588,000.



FIRST FLOOR

PLAN. BUILDING FOR PHILADELPHIA WHOLESALE DRUG COMPANY
RANKIN & KELLOGG, ARCHITECTS

Photo. Alexander E. Piaget *Plan on Back*

BUILDING FOR N. O. NELSON CO., ST. LOUIS
PRESTON J. BRADSHAW, ARCHITECT

Photo. Graham Photo Co.

BUILDING FOR COMMUNITY LAUNDRY, LOS ANGELES
W. J. SAUNDERS, ARCHITECT

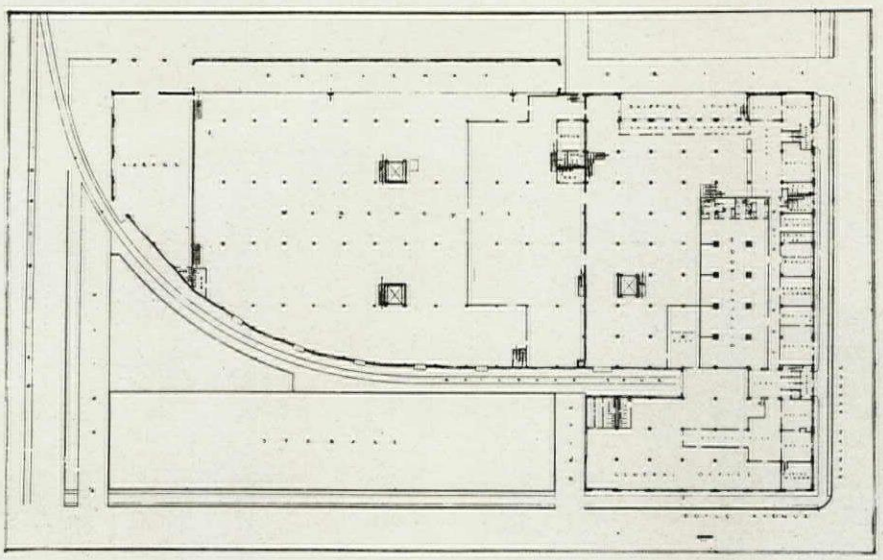
COST AND CONSTRUCTION DATA

Year of Completion: 1929.
Type of Construction: Reinforced concrete.
Exterior Materials: Plaster.
Interior Materials: Plaster.
Floors: Concrete.
Windows: Steel sash.
Lighting: Electricity.
Heating: Steam.
Total Cost: $180,000.

BUILDING FOR COMMUNITY LAUNDRY, LOS ANGELES
W. J. SAUNDERS, ARCHITECT

COST AND CONSTRUCTION DATA

Year of Completion: 1929.
Type of Construction: Fireproof.
Exterior Materials: Brick and terra cotta.
Interior Materials: Plaster, marble and zenitherm.
Floors: Cement and hardwood.
Windows: Wood and steel.
Lighting: Regular and ornamental.
Heating: Steam.
Ventilating: Mechanical.
Cubic Foot Cost: Approximately 21 cents.
Total Cost: Approximately $299,000.
Use of Building: Plumbing supply display, warehouse and general offices.



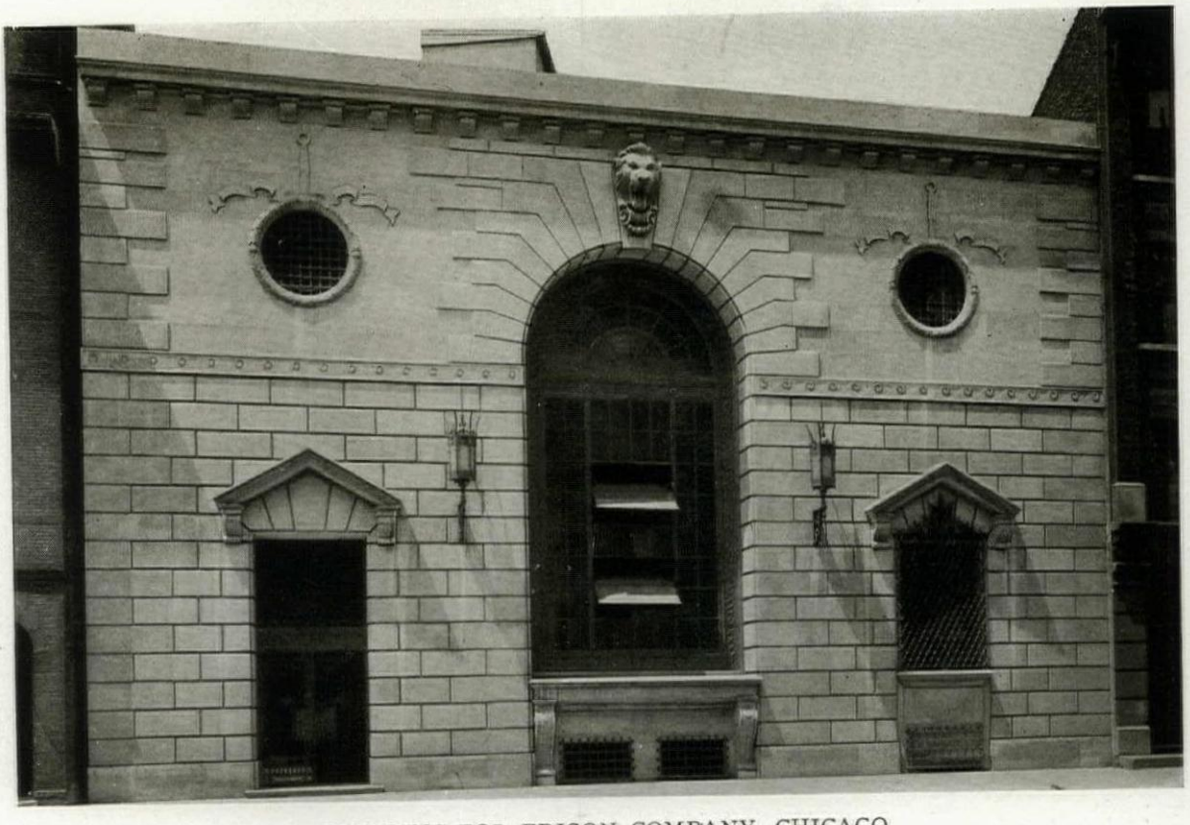
FIRST FLOOR

PLAN. BUILDING FOR N. O. NELSON CO., ST. LOUIS
PRESTON J. BRADSHAW, ARCHITECT

Photo. Alexander E. Piaget *Plan on Back*

PLAZA SUB-STATION, UNION ELECTRIC LIGHT & POWER CO., ST. LOUIS

LA BEAUME & KLEIN, ARCHITECTS

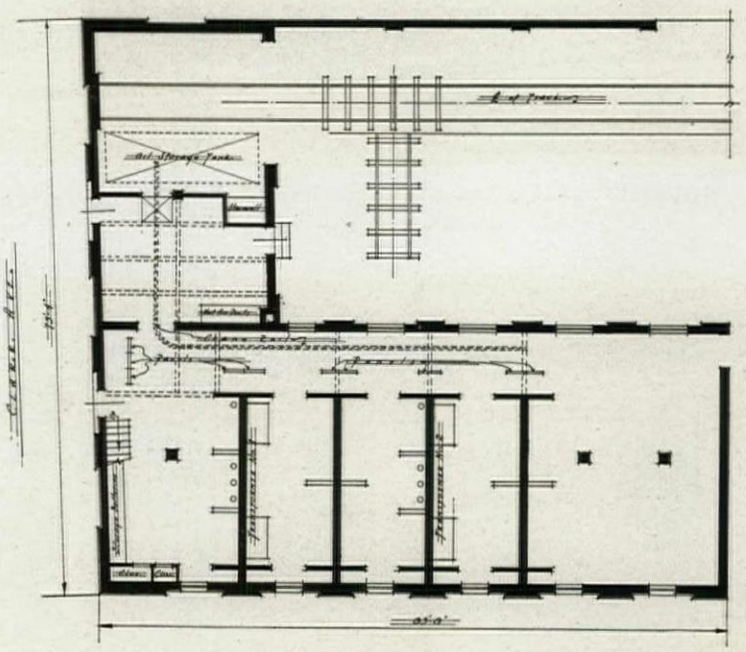


BUILDING FOR EDISON COMPANY, CHICAGO

HOLABIRD & ROOT, ARCHITECTS

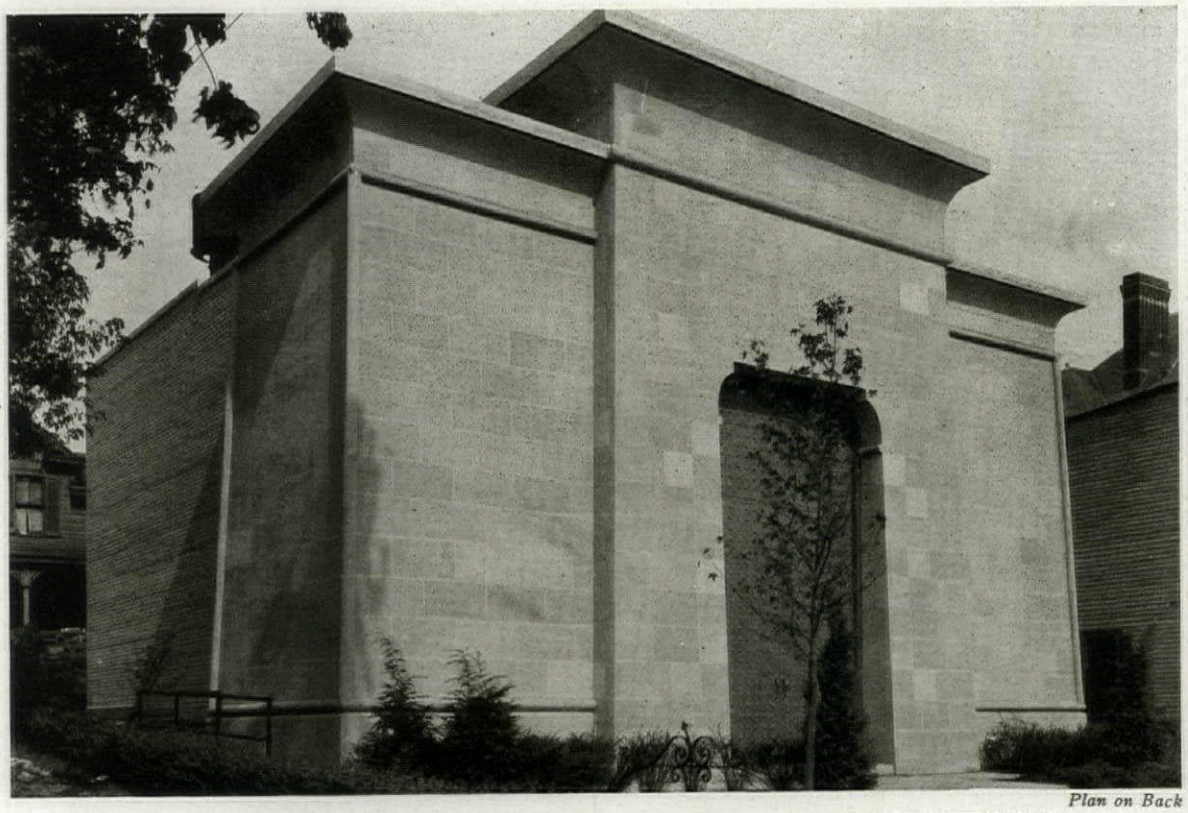
COST AND CONSTRUCTION DATA

Year of Completion: 1928.
Type of Construction: Fireproof brick; reinforced concrete.
Exterior Materials: Stone.
Interior Materials: Brick.
Floors: Concrete.
Windows: Steel.
Ventilating: Louvers.
Cubic Foot Cost: 52 cents.
Total Cost: $75,000, exclusive of equipment.
Use of Building: Transformer sub-station.



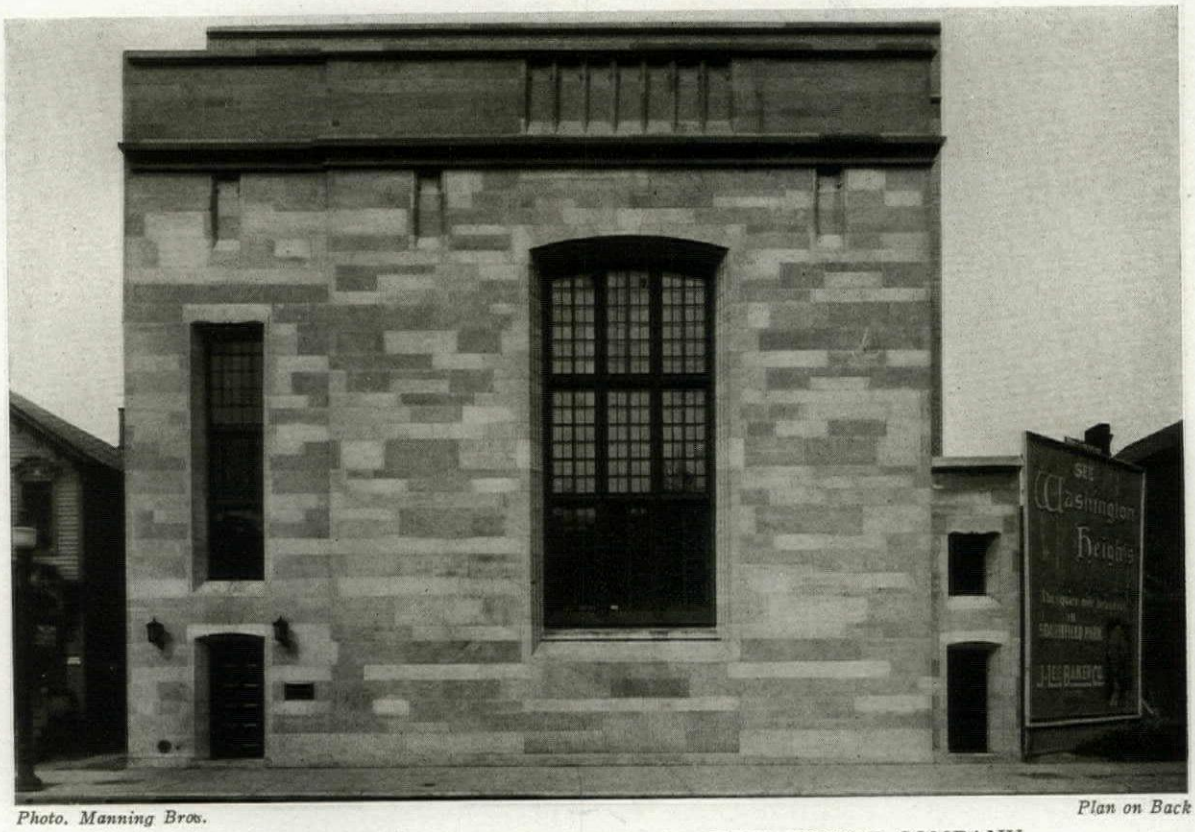
FIRST FLOOR

PLAN. PLAZA SUB-STATION, UNION ELECTRIC LIGHT & POWER CO., ST. LOUIS
LA BEAUME & KLEIN, ARCHITECTS



Plan on Back

DELTA AVENUE STATION, CINCINNATI STREET RAILWAY, CINCINNATI
HAKE & KUCK, ARCHITECTS



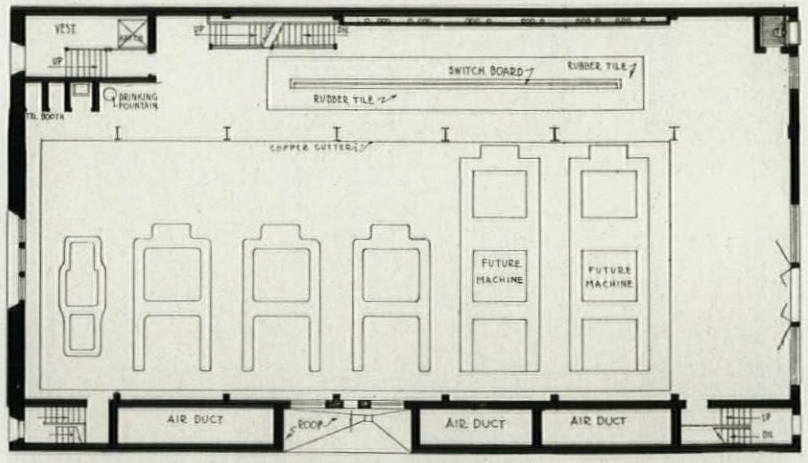
Photo, Manning Bros.

Plan on Back

CHARLOTTE AVENUE SUB-STATION, DETROIT EDISON COMPANY
DESIGNED BY DRAFTING & SURVEYING BUREAU, DETROIT EDISON COMPANY

COST AND CONSTRUCTION DATA

Year of Completion: 1926.
Type of Construction: Fireproof.
Exterior Materials: Face brick and limestone front.
Interior Materials: Pressed brick.
Floors: Main floors, quarry tile on reinforced concrete.
Windows: Steel sash.
Lighting: Direct.
Heating: Steam.
Ventilating: Mechanical.
Cubic Foot Cost: Approximately 50 cents for superstructure.
Total Cost: Approximately $280,000.
Use of Building: Electric sub-station.



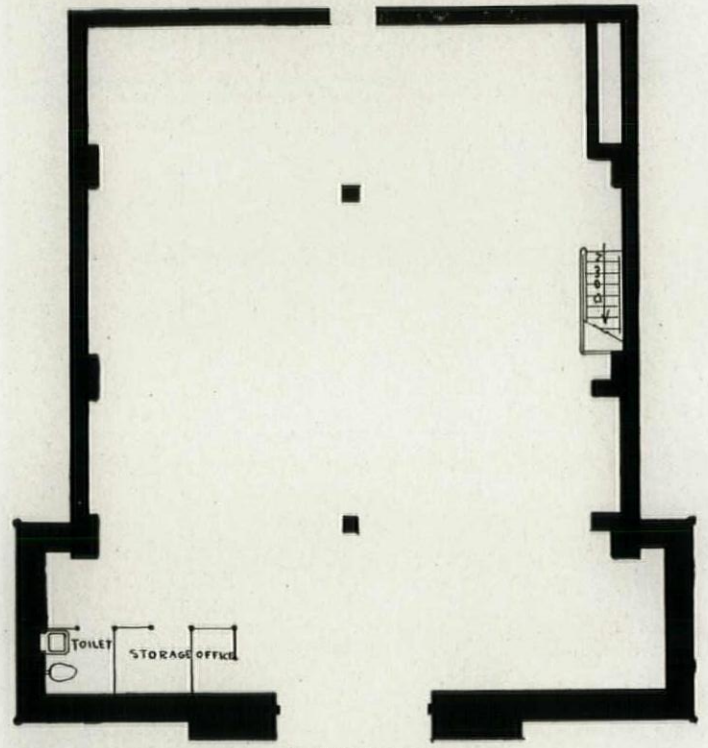
MACHINE ROOM PLAN

PLAN. CHARLOTTE AVENUE SUB-STATION, DETROIT EDISON COMPANY

DESIGNED BY DRAFTING & SURVEYING BUREAU, DETROIT EDISON CO.

COST AND CONSTRUCTION DATA

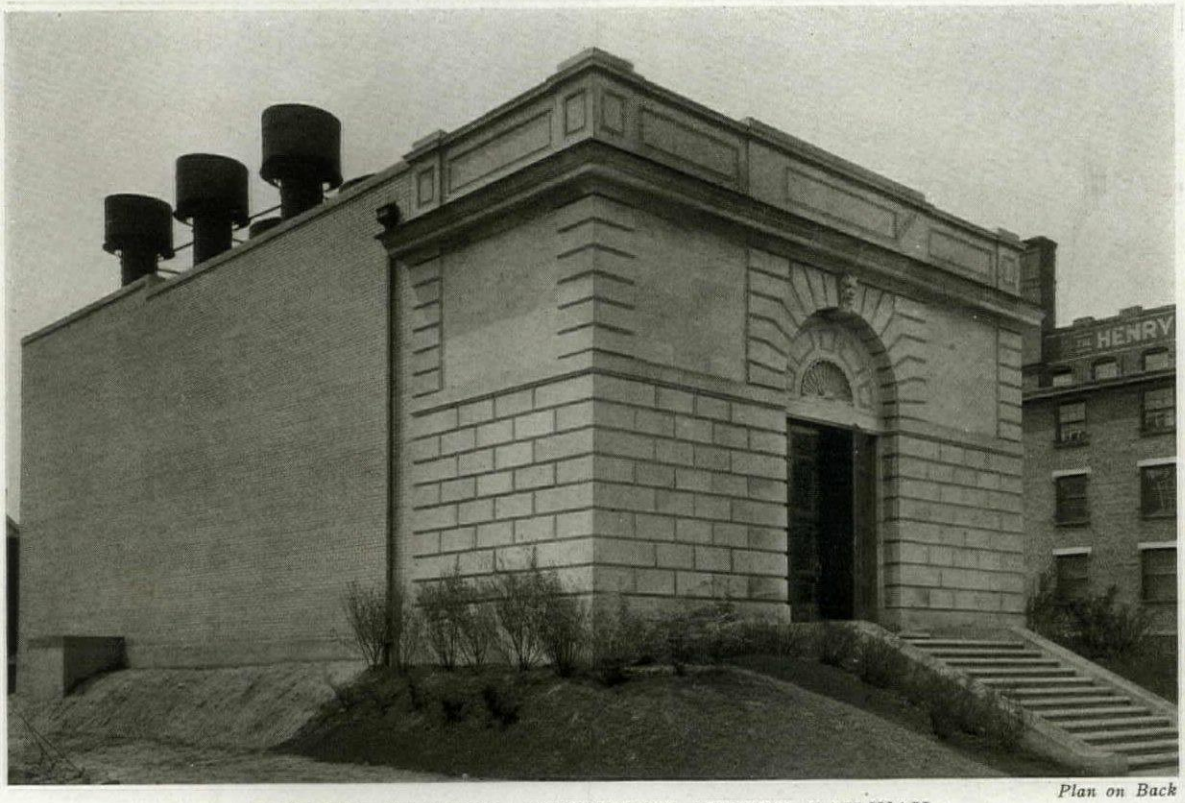
Year of Completion: 1928.
Type of Construction: Reinforced concrete and structural steel.
Exterior Materials: Limestone.
Interior Materials: Face brick wall; exposed concrete ceilings.
Floors: Cement.
Lighting: Electric.
Ventilating: Gravity ventilators.
Cubic Foot Cost: 61 cents.
Total Cost: $35,266.
Use of Building: Transformer sub-station.



FIRST FLOOR

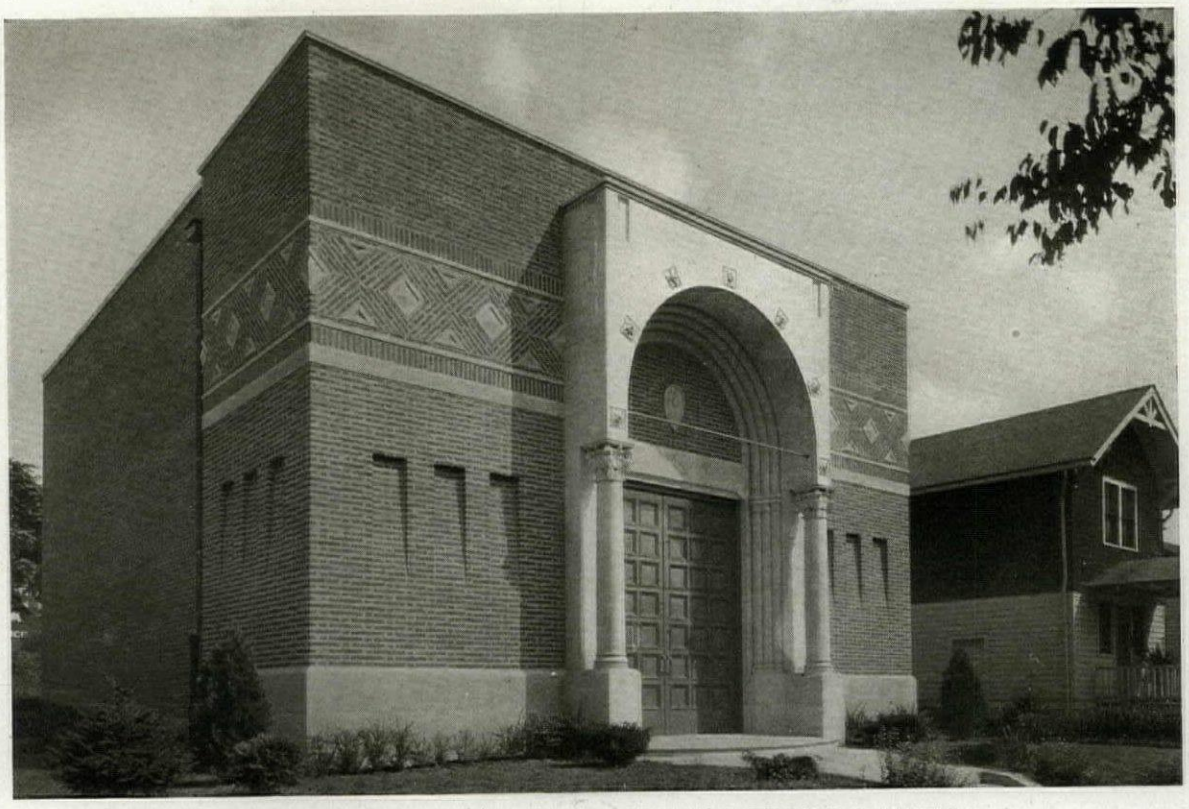
PLAN. DELTA AVENUE STATION, CINCINNATI STREET RAILWAY, CINCINNATI

HAKE & KUCK, ARCHITECTS



Plan on Back

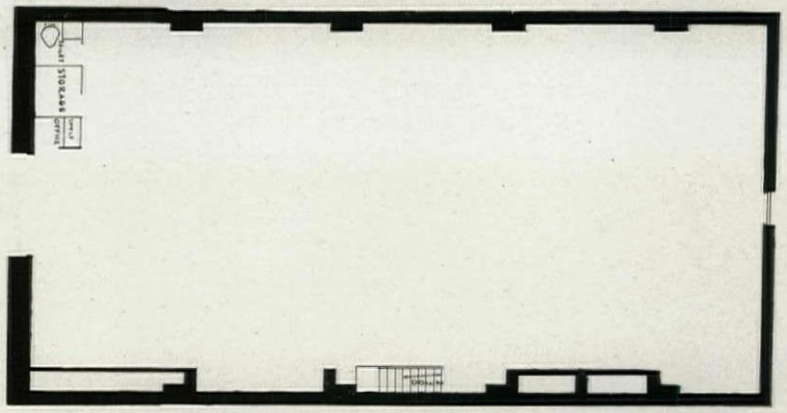
LINCOLN STATION, CINCINNATI STREET RAILWAY
HAKE & KUCK, ARCHITECTS



O'BRIEN STREET STATION, CINCINNATI STREET RAILWAY
HAKE & KUCK, ARCHITECTS

COST AND CONSTRUCTION DATA

Year of Completion: 1928.
Type of Construction: Reinforced concrete and structural steel.
Exterior Materials: Limestone.
Interior Materials: Face brick wall; exposed concrete ceilings.
Floors: Cement.
Lighting: Electricity.
Ventilating: Gravity ventilators.
Cubic Foot Cost: 53 cents.
Total Cost: $48,000.
Use of Building: Transformer sub-station.



FIRST FLOOR

PLAN, LINCOLN STATION, CINCINNATI STREET RAILWAY CO.
HAKE & KUCK, ARCHITECTS

Photo. Mott Studios *Plan on Back*

BUILDING FOR ADOHR CREAMERY CO., LOS ANGELES

MORGAN, WALLS & CLEMENTS, ARCHITECTS

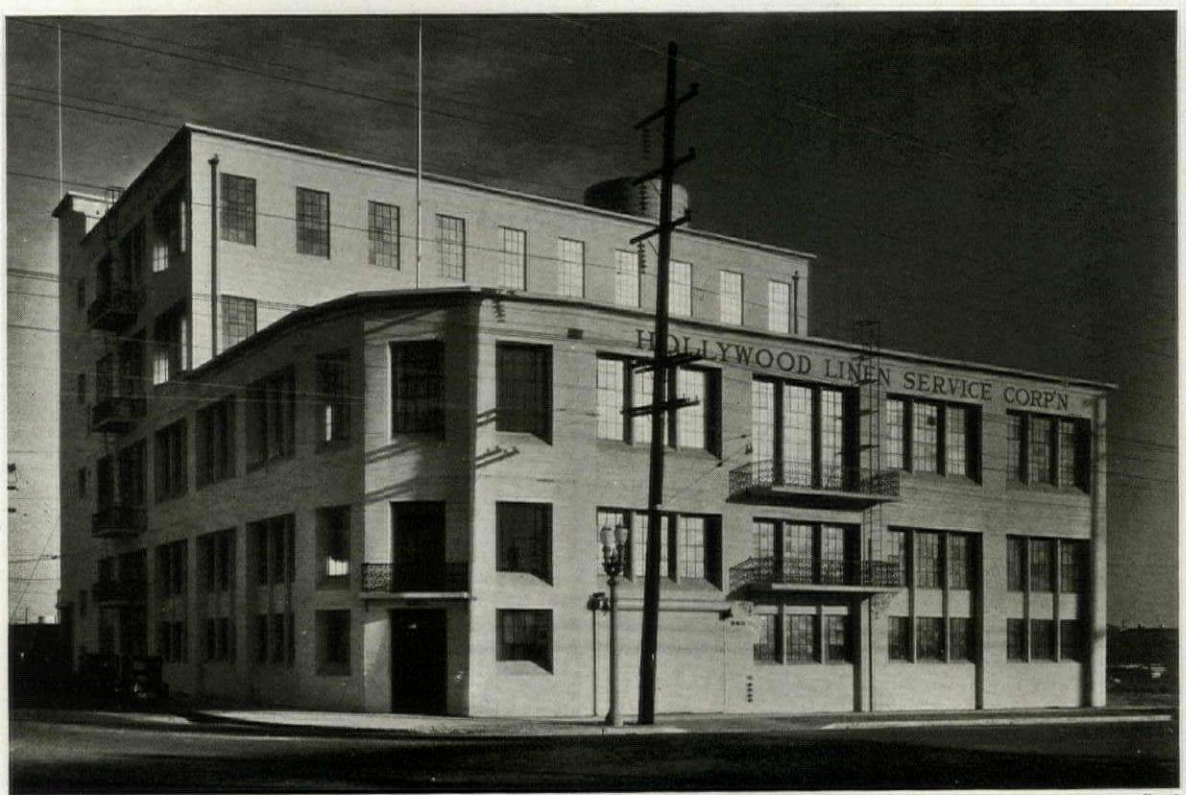


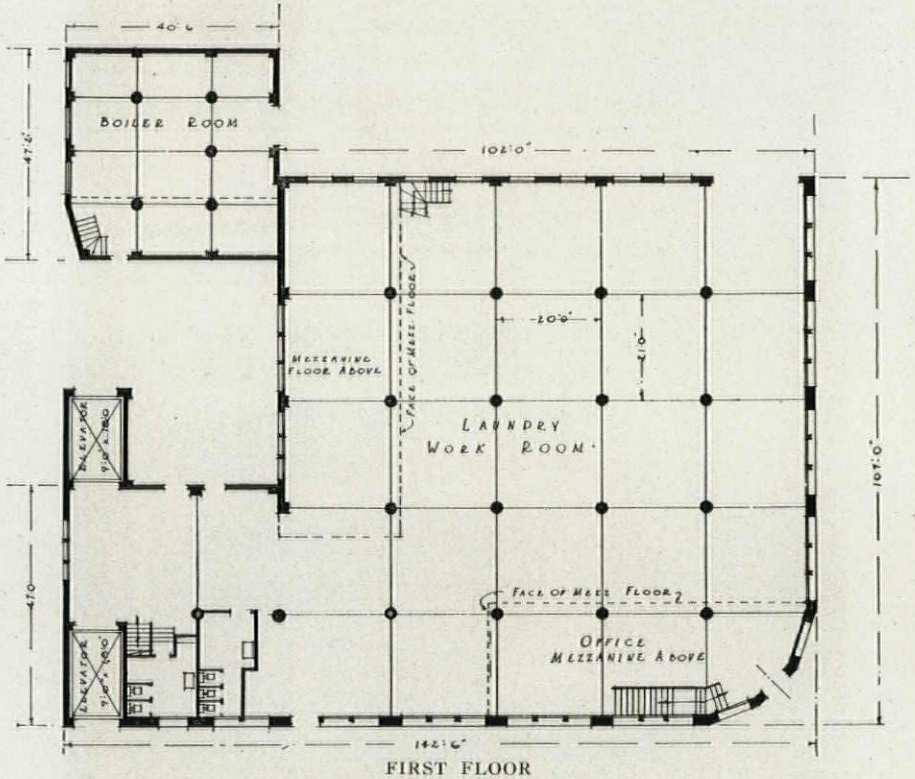
Photo. Graham Photo Co. *Plan on Back*

BUILDING FOR HOLLYWOOD LINEN SERVICE CORP., LOS ANGELES

W. J. SAUNDERS, ARCHITECT

COST AND CONSTRUCTION DATA

Year of Completion: 1929.
Type of Construction: Reinforced concrete.
Exterior Materials: Cement.
Interior Materials: Cement and plaster.
Floors: Flat slab.
Windows: Steel sash.
Lighting: Electric.
Heating: Gas radiators for office spaces.
Total Cost: $100,000.



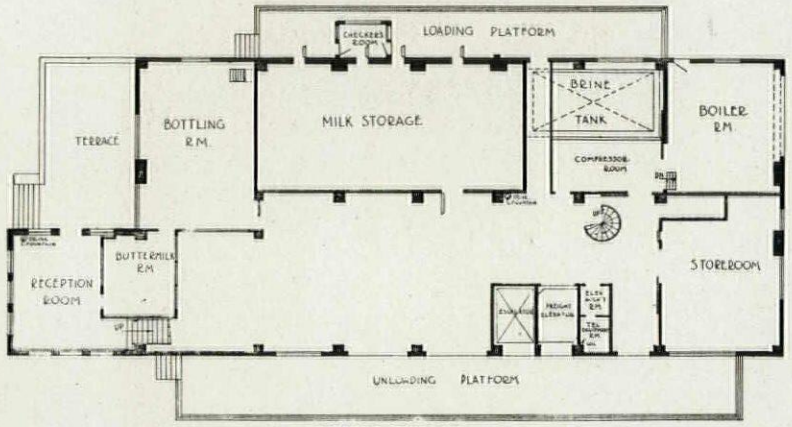
FIRST FLOOR

PLAN. BUILDING FOR HOLLYWOOD LINEN SERVICE CORP., LOS ANGELES

W. J. SAUNDERS, ARCHITECT

COST AND CONSTRUCTION DATA

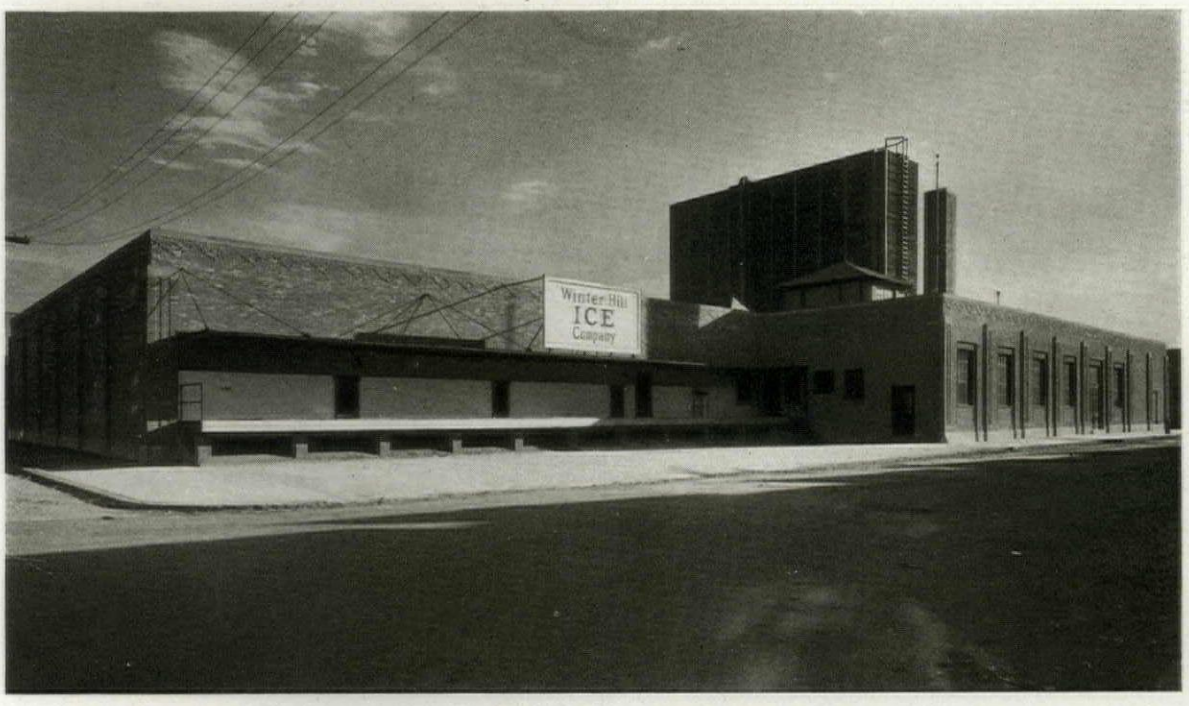
Year of Completion: 1926.
Type of Construction: Reinforced concrete.
Exterior Materials: Plaster, cast stone trim.
Interior Materials: Plaster.
Floors: Cement.
Windows: Steel sash.
Lighting: General illumination.
Heating: Steam.
Total Cost: $115,000.
Use of Building: Milk plant.



FIRST FLOOR

PLAN. BUILDING FOR ADOHR CREAMERY CO., LOS ANGELES

MORGAN, WALLS & CLEMENTS, ARCHITECTS



GENERAL VIEW

Photos. Paul J. Weber

Plan on Back

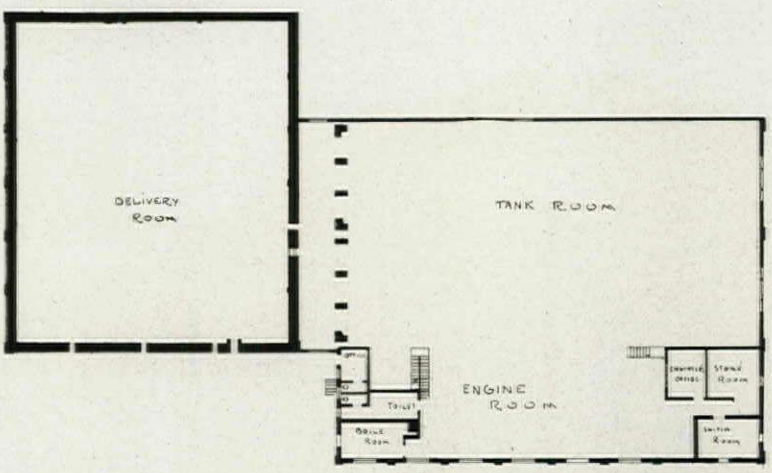
FRONT ELEVATION

BUILDING FOR BOSTON ICE CO., CAMBRIDGE, MASS.

C. LESLIE WEIR, ARCHITECT

COST AND CONSTRUCTION DATA

Year of Completion: 1928.
Type of Construction: Brick; steel frame; wood roof.
Exterior Materials: Brick.
Interior Materials: Face brick.
Floors: Tile.
Windows: Galvanized iron sash.
Lighting: Electricity.
Heating: Steam.
Cubic Foot Cost: 21 cents.
Total Cost: $70,000.
Use of Building: Ice manufacturing plant.



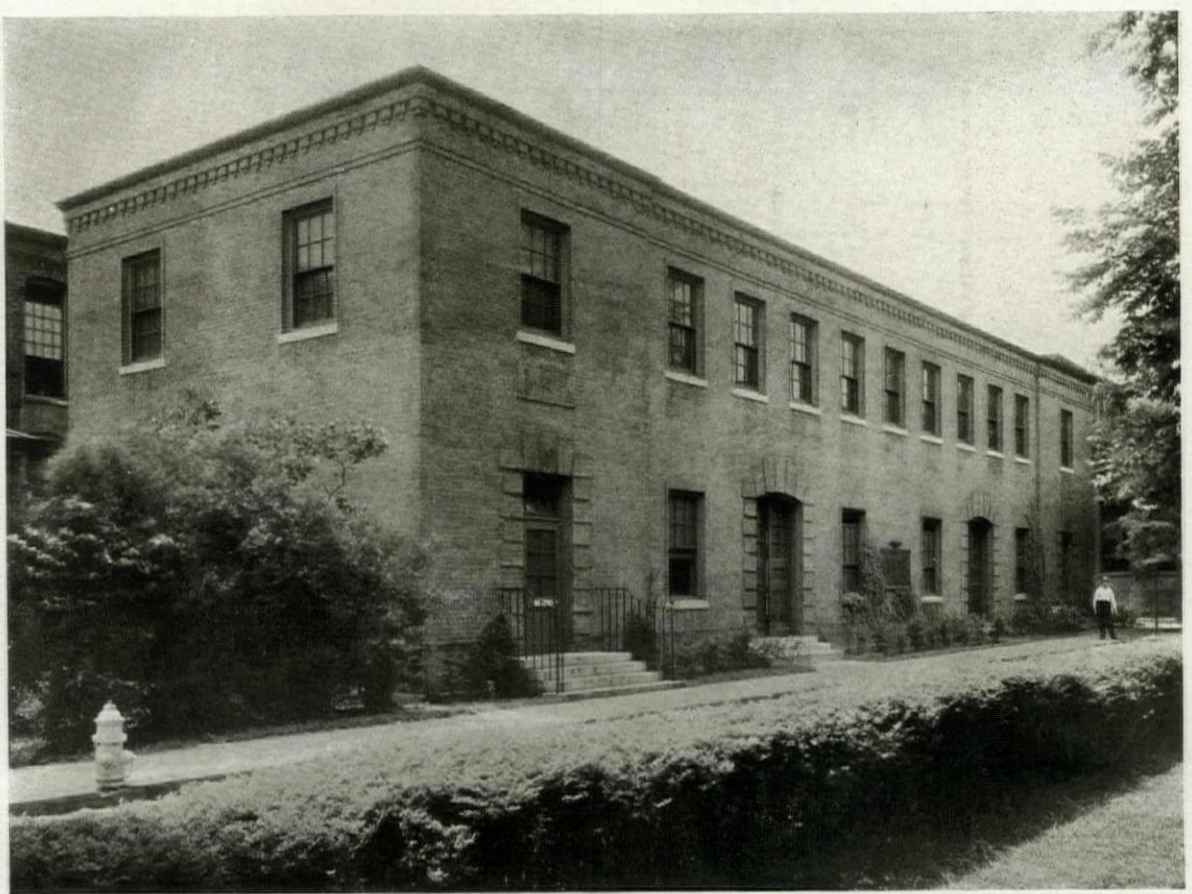
FIRST FLOOR

PLAN. BUILDING FOR BOSTON ICE CO., CAMBRIDGE, MASS.

Photo. Keystone Photo Service

BUILDING FOR THE KITTINGER COMPANY, LOS ANGELES

DESIGNED BY THE KITTINGER COMPANY



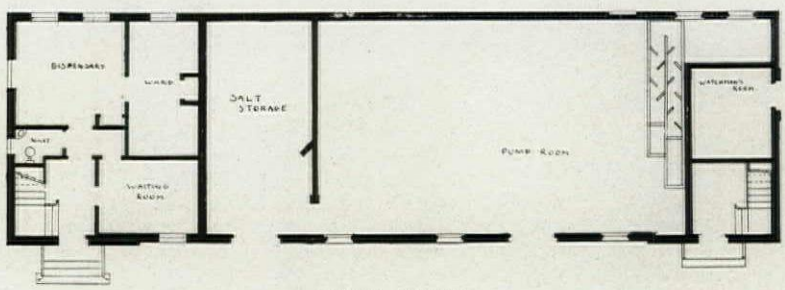
Photos. Paul J. Weber *Plan on Back*

BUILDING FOR M. J. WHITTALL ASSOCIATES, WORCESTER, MASS.

JOSEPH D. LELAND & COMPANY, ARCHITECTS

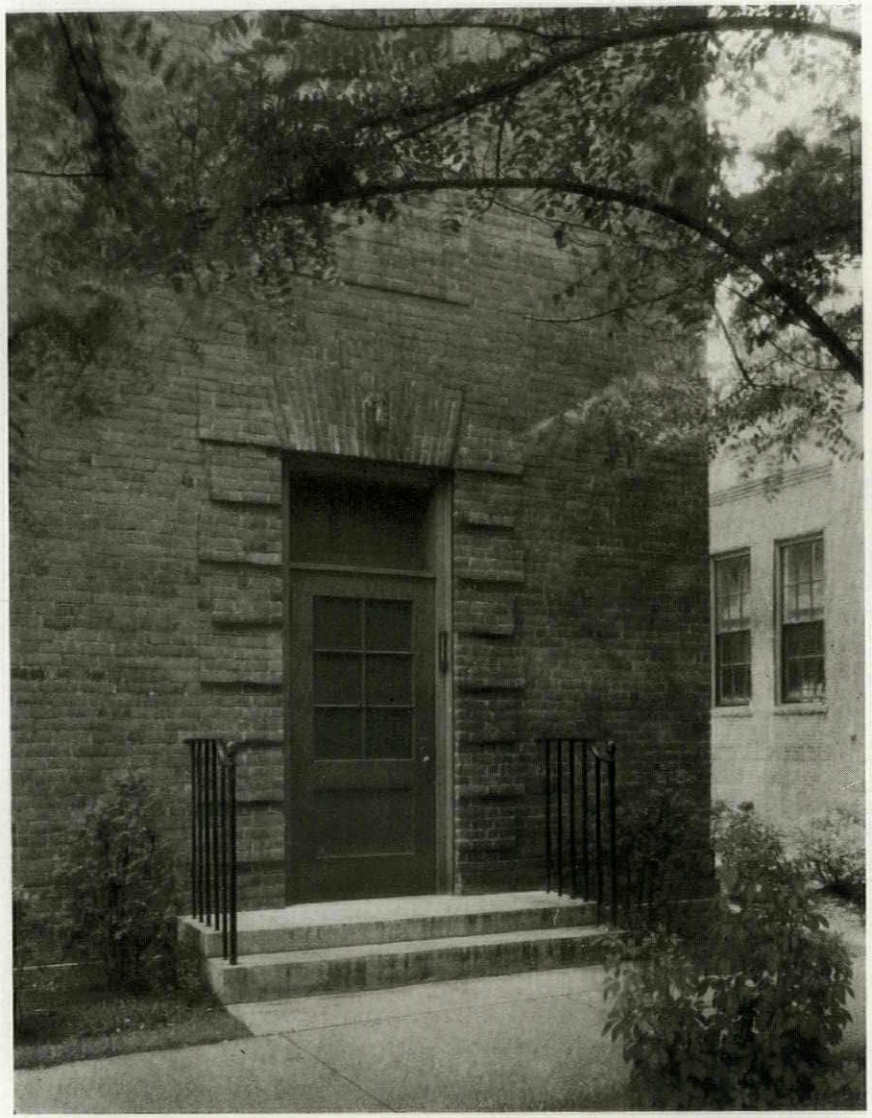
COST AND CONSTRUCTION DATA

Year of Completion: 1927.
Type of Construction: First class, with wood roof.
Exterior Materials: Brick and artificial stone.
Interior Materials: Walls and ceilings of plaster except in water softening room which is unfinished.
Floors: First floor, concrete; second floor, maple; magnesite in dispensary.
Windows: Copper covered.
Lighting: Electricity.
Heating: Steam.
Cubic Foot Cost: 49 cents.
Total Cost: $61,000.
Use of Building: On the first floor a water softening plant and dispensary; second floor, designing room for a rug mill.



FIRST FLOOR

PLAN. BUILDING FOR M. J. WHITTALL ASSOCIATES, WORCESTER, MASS.
JOSEPH D. LELAND & COMPANY, ARCHITECTS



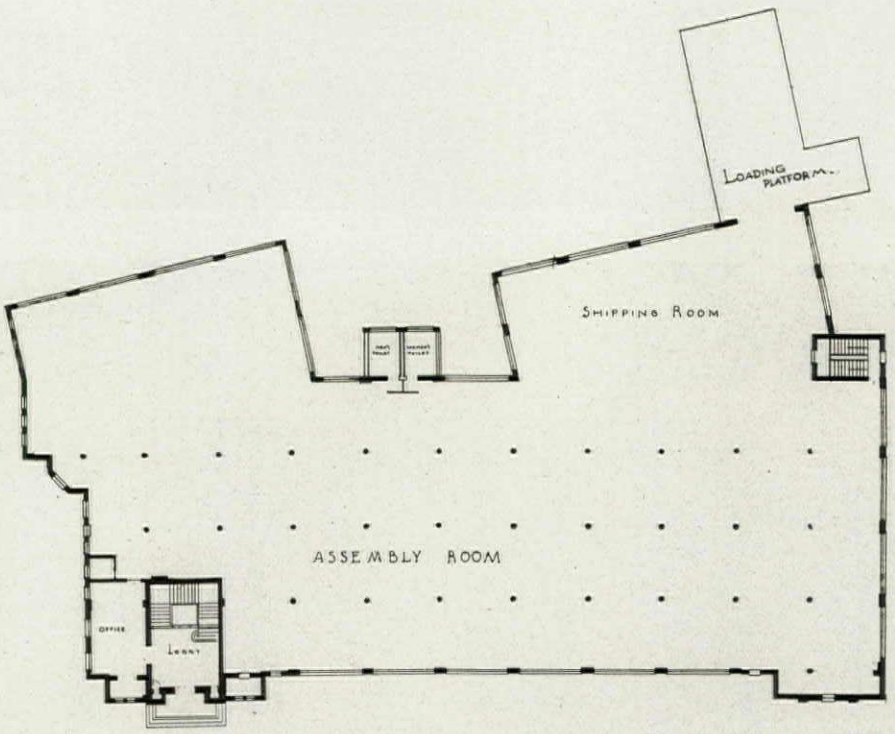
ENTRANCE, BUILDING FOR M. J. WHITTALL ASSOCIATES, WORCESTER, MASS.
JOSEPH D. LELAND & COMPANY, ARCHITECTS

Plan on Back

ENTRANCE, BUILDING FOR THE KITTINGER COMPANY, LOS ANGELES
DESIGNED BY THE KITTINGER COMPANY

COST AND CONSTRUCTION DATA

Year of Completion: 1929.
Type of Construction: Reinforced concrete; flat slab.
Exterior Materials: Concrete.
Interior Materials: Concrete.
Floors: Concrete.
Windows: Steel sash.
Lighting: Direct by drop cords.
Heating: Unit gas heaters.
Cubic Foot Cost: 21 cents.
Total Cost: $100,000.
Use of Building: Manufacturing, storage and show rooms for furniture.



FIRST FLOOR

PLAN. BUILDING FOR THE KITTINGER COMPANY, LOS ANGELES
DESIGNED BY THE KITTINGER COMPANY

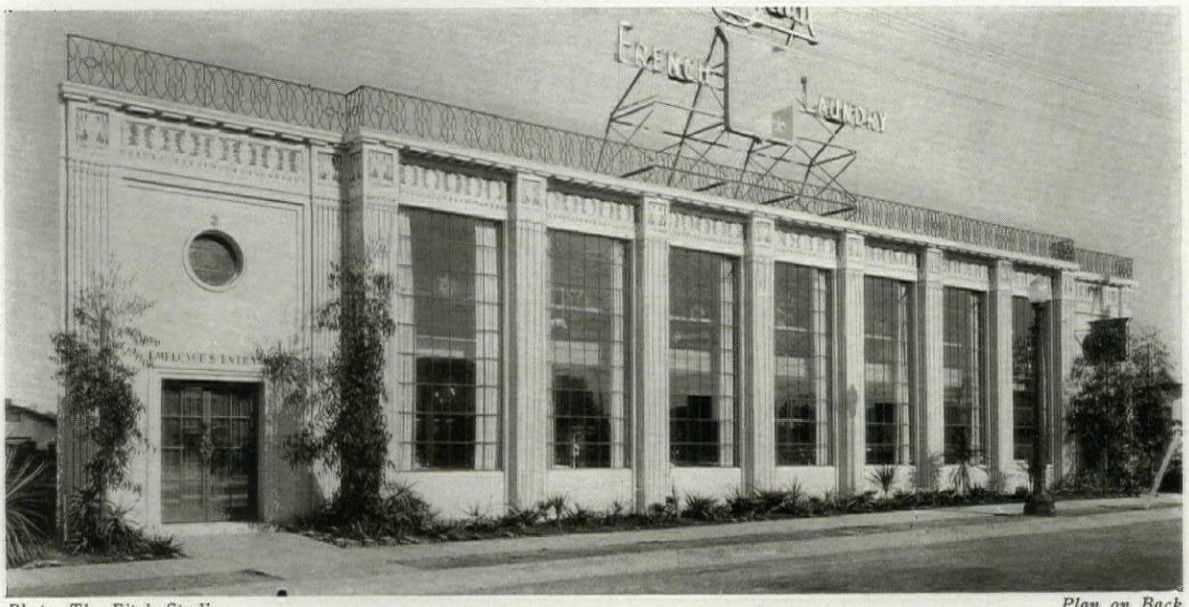


Photo. The Fitch Studio *Plan on Back*

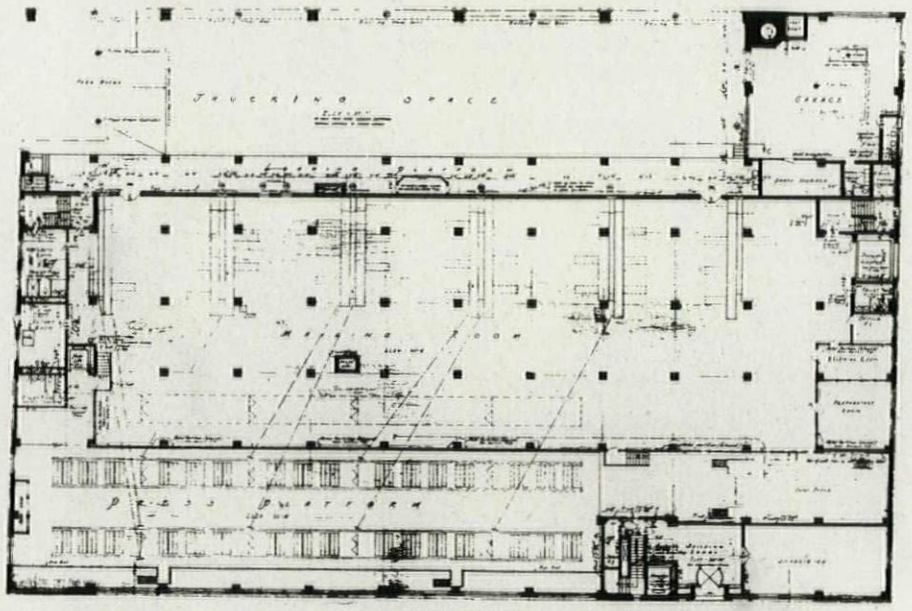
BUILDING FOR ORIGINAL FRENCH LAUNDRY, SAN DIEGO
FRANK P. ALLEN, ARCHITECT

Plan on Back

BUILDING FOR THE PITTSBURGH PRESS
HOWELL & THOMAS, ARCHITECTS

COST AND CONSTRUCTION DATA

Year of Completion: 1927.
Type of Construction: Steel frame; hollow tile floor arches; fireproof throughout.
Exterior Materials: Brick.
Floors: Mechanical rooms, wood block; offices, rubber tile.
Windows: Metal.
Lighting: Semi-direct.
Heating: Steam.
Ventilating: Forced air and discharge.
Cubic Foot Cost: 70 cents.
Total Cost: $1,750,000.
Use of Building: Newspaper publishing plant.

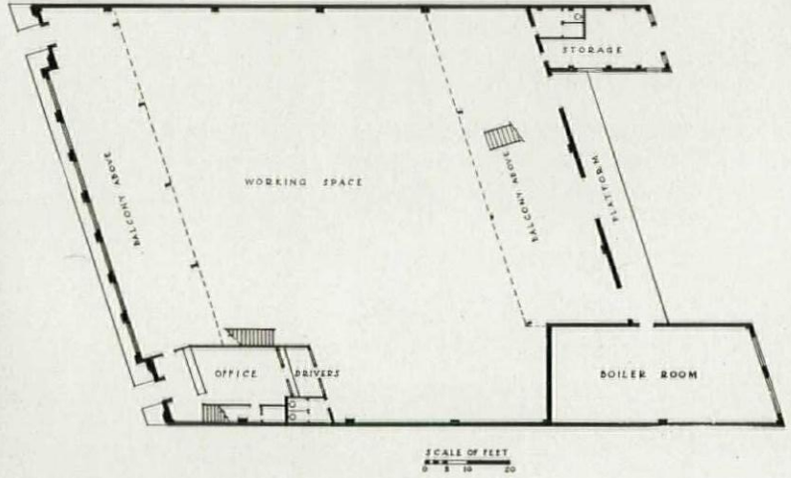


FIRST FLOOR

PLAN. BUILDING FOR THE PITTSBURGH PRESS
HOWELL & THOMAS, ARCHITECTS

CONSTRUCTION DATA

Type of Construction: Concrete.
Exterior Materials: Cement and tile.
Floors: Concrete and wood.
Windows: Steel sash.
Use of Building: Laundry.



FIRST FLOOR

PLAN. BUILDING FOR ORIGINAL FRENCH LAUNDRY, SAN DIEGO
FRANK P. ALLEN, ARCHITECT

THE DESIGNING OF POWER STATIONS

BY

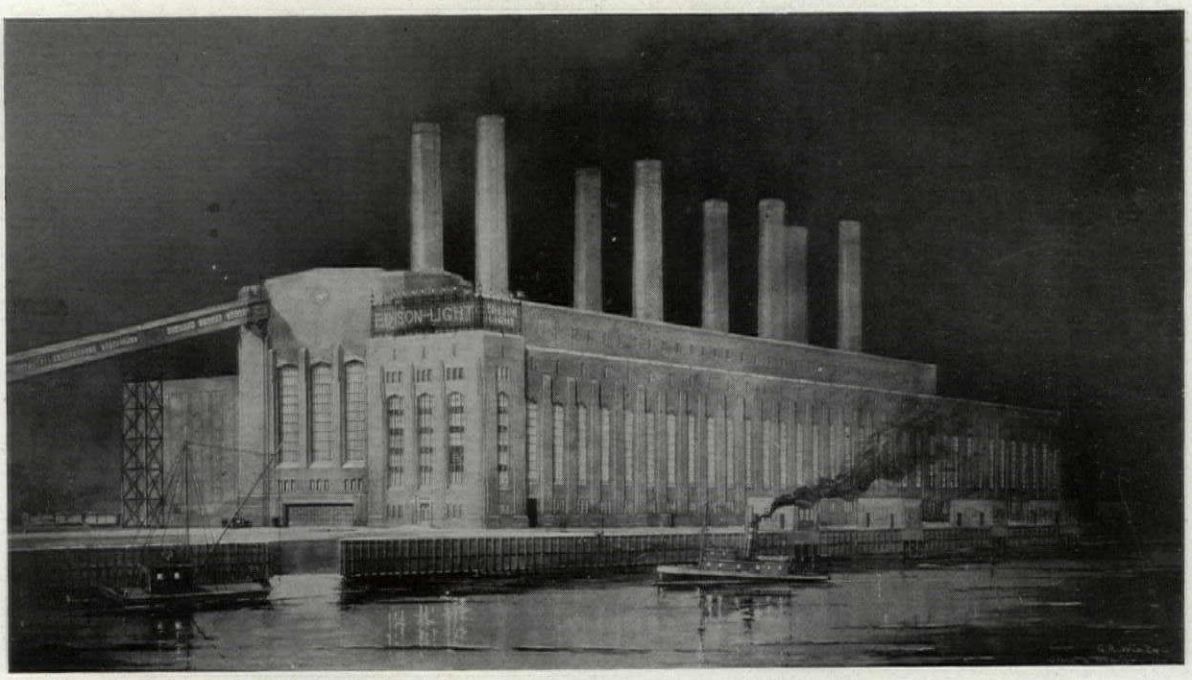
DONALD DES GRANGES

AFTER all the great wars in history, the victors have grown to recognize their power, their abilities, and their capacities for conquering in fields other than that of war. Since the Great War, we in this country have been progressing as was never even dreamed of prior to that catastrophic event, as is evidenced in our great commercial development, our recent vast business consolidations and unification of public utilities to better serve the public. These latter have brought into being central power plants on a scale and magnitude never before conceived. These great structures from 100 to 150 feet high and a thousand feet long are designed to generate electricity up to hundreds of thousands of kilowatts.

These buildings naturally have a tremendous influence upon the communities in which they are located; they, like great railroad terminals, are being looked upon as institutions of public service. Therefore, a certain architectural dignity to give the impressiveness demanded of semi-public buildings is being required. And a civic consciousness is being developed among some of the public utilities, so that they not only take pride in their buildings, but in the layout of their grounds and outlying buildings and develop park-like surroundings which add very materially to the good impression which the public has of these large corporations. If the buildings are located in remote locations, as hydroelectric stations frequently are, the beauty of the surroundings alone calls for beauty and dignity in the buildings.

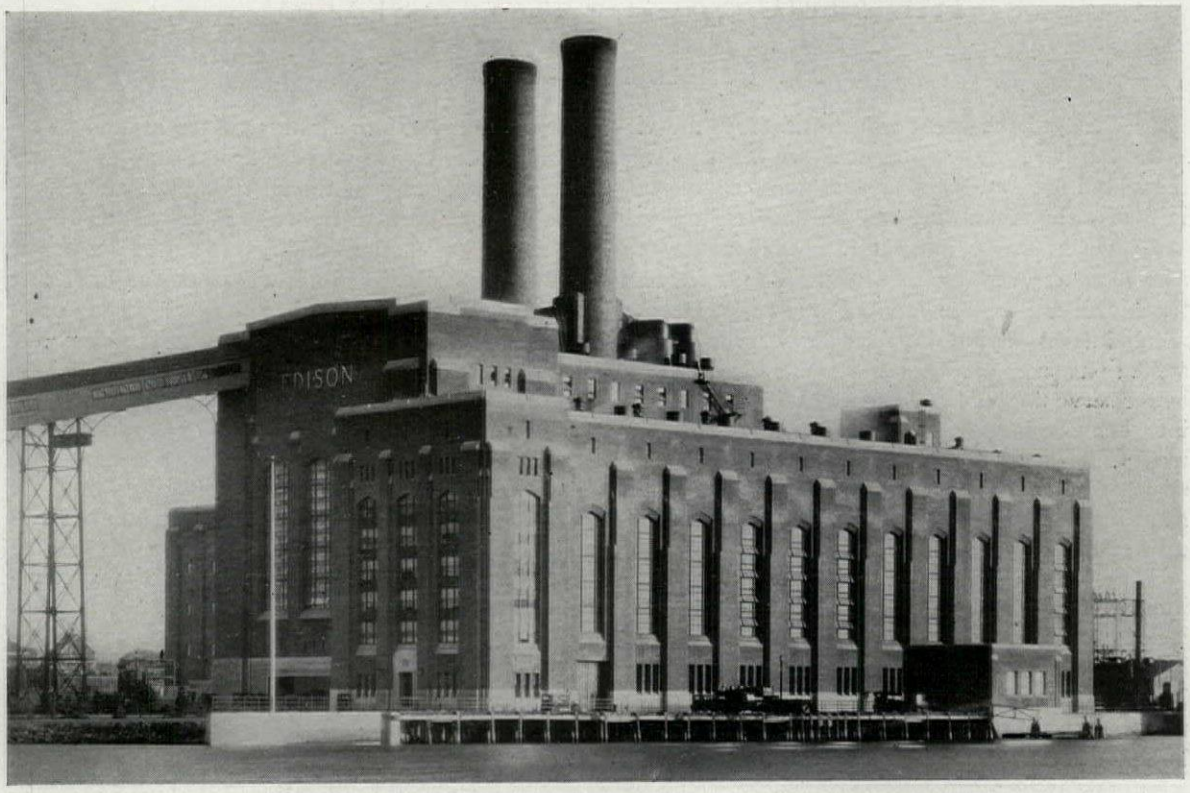
The use and the functions of modern power stations are totally different from those of any other buildings that have come down through history. There is nothing that has even remotely paralleled these structures in use or design. These modern buildings are intended to house huge machines and few people, to protect from the elements forces that are stupendous and superhuman. Thus the scale of these buildings must be adapted to the mechanical equipment, to machines which sometimes require a clear room height of 100 feet; to machines, some parts of which require the use of cranes which can lift 300 tons; to other machines which are operating at extremely high pressure. There is a feeling of grandeur and of poetry and of beauty in the orderly assembly of this modern, efficient and economical equipment, and it acts as a stimulant and an inspiration to the designer of the structure which houses it.

A power plant should reflect the life of today, for it is designed to supply needs in that life, needs that never arose in any previous civilization. What decoration may be used must be planned to meet exactly the problems which they



Proposed Ultimate Development, Charles Leavitt Edgar Station, No. Weymouth, Mass.

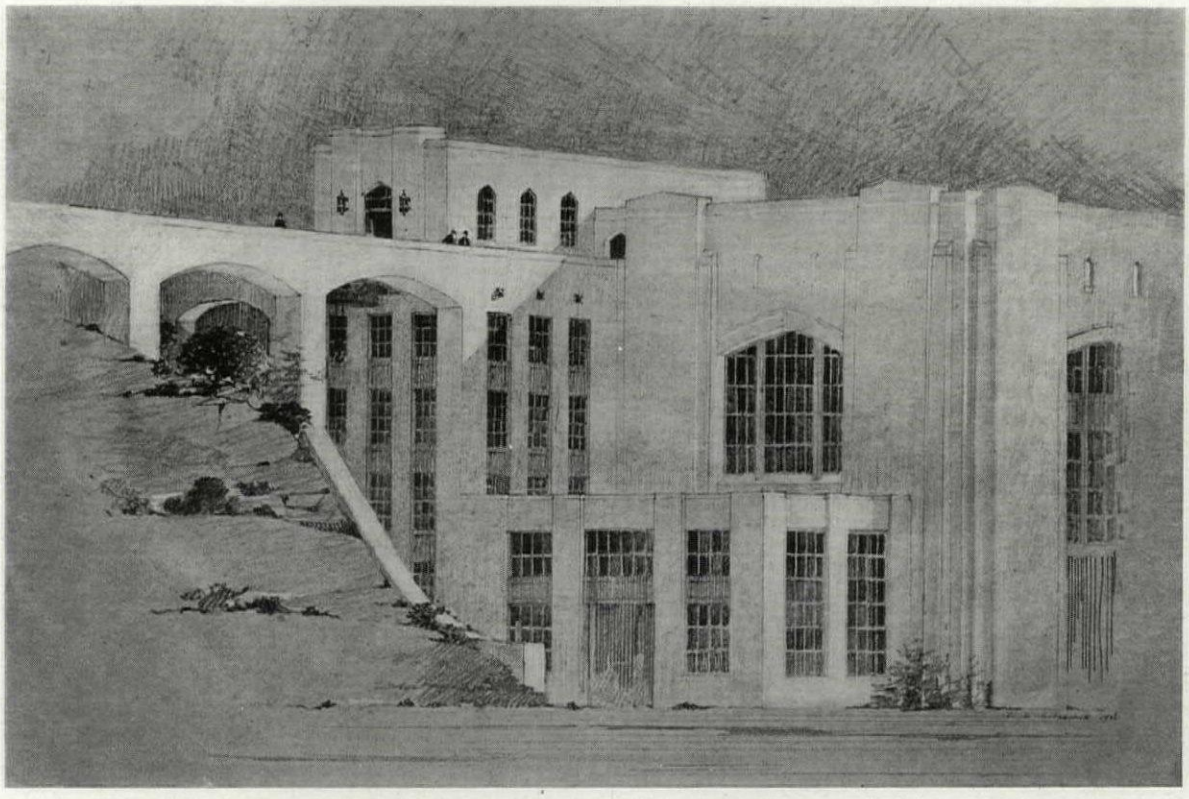
Edison Electric Illuminating Co. of Boston
Stone & Webster Engineering Corp., Engineers and Constructors
Bigelow & Wadsworth, Consulting Architects



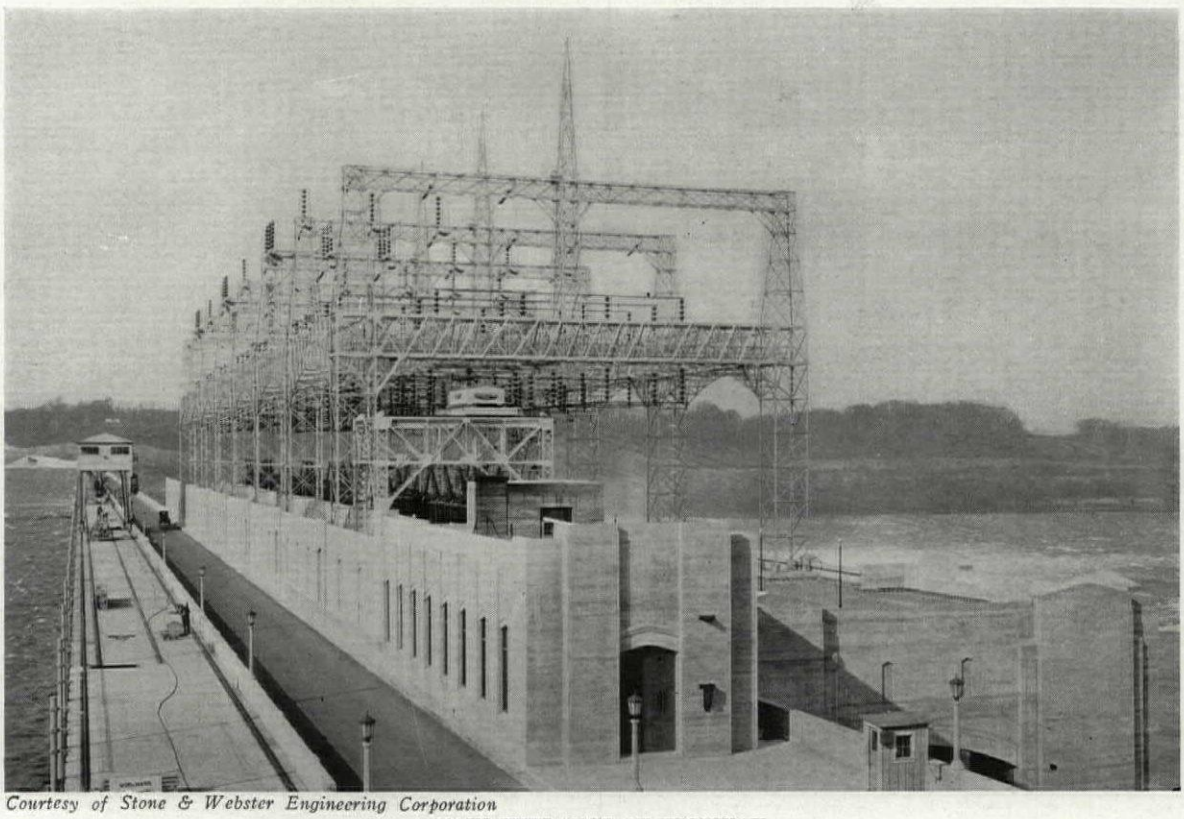
GENERAL VIEW

SWITCH HOUSE

CHARLES LEAVITT EDGAR STATION, NO. WEYMOUTH, MASS.
EDISON ELECTRIC ILLUMINATING CO. OF BOSTON
STONE & WEBSTER ENGINEERING CORP., ENGINEERS AND CONSTRUCTORS
BIGELOW & WADSWORTH, CONSULTING ARCHITECTS



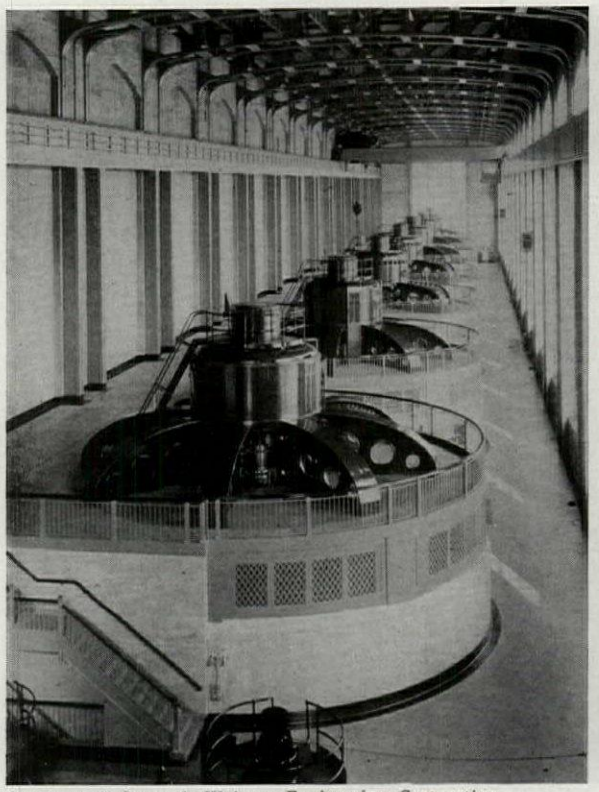
PERSPECTIVE STUDY OF OFFICE BAY



Courtesy of Stone & Webster Engineering Corporation

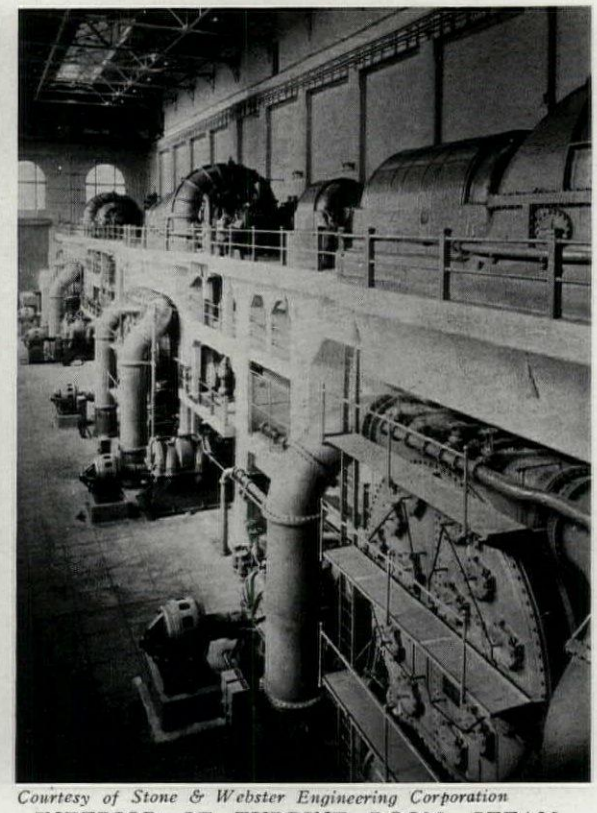
MAIN ENTRANCE AT HIGHWAY

HYDRO ELECTRIC DEVELOPMENT, SUSQUEHANNA POWER CO., CONOWINGO, MD.



Courtesy of Stone & Webster Engineering Corporation

INTERIOR OF GENERATOR ROOM, HYDRO ELECTRIC DEVELOPMENT, SUSQUEHANNA POWER CO., CONOWINGO, MD.

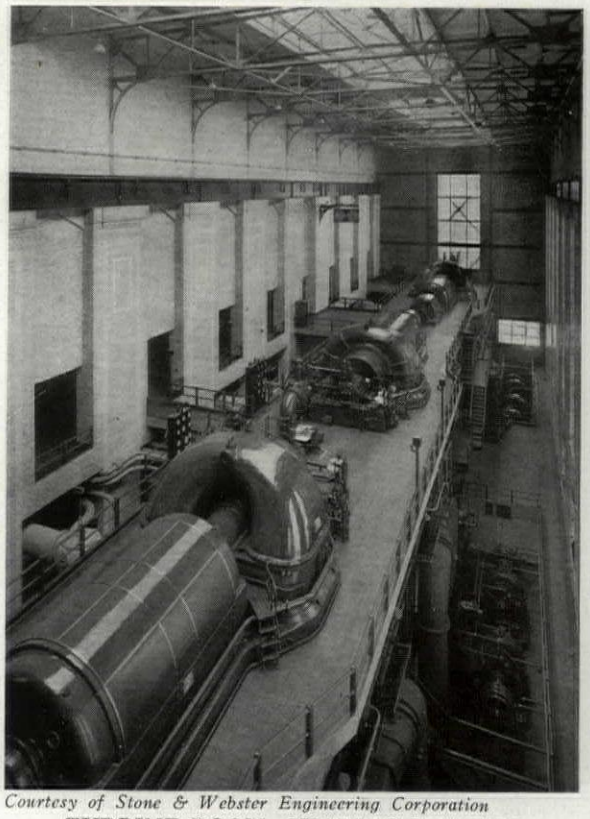


Courtesy of Stone & Webster Engineering Corporation

INTERIOR OF TURBINE ROOM, STEAM PLANT NO. 2, SOUTHERN CALIFORNIA EDISON CO., LONG BEACH, CAL.

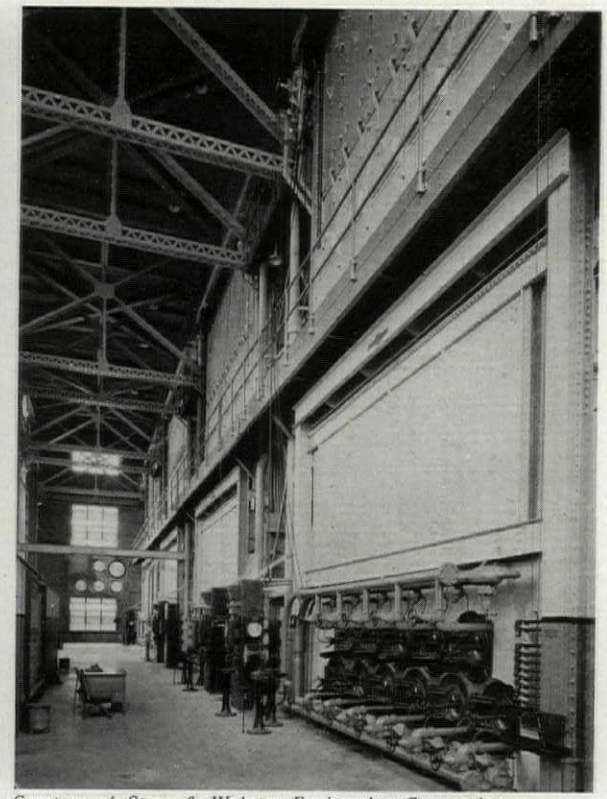
STACK HOUSE, ST. PAUL'S SCHOOL, CONCORD, N. H.

DAY & KLAUDER, ARCHITECTS



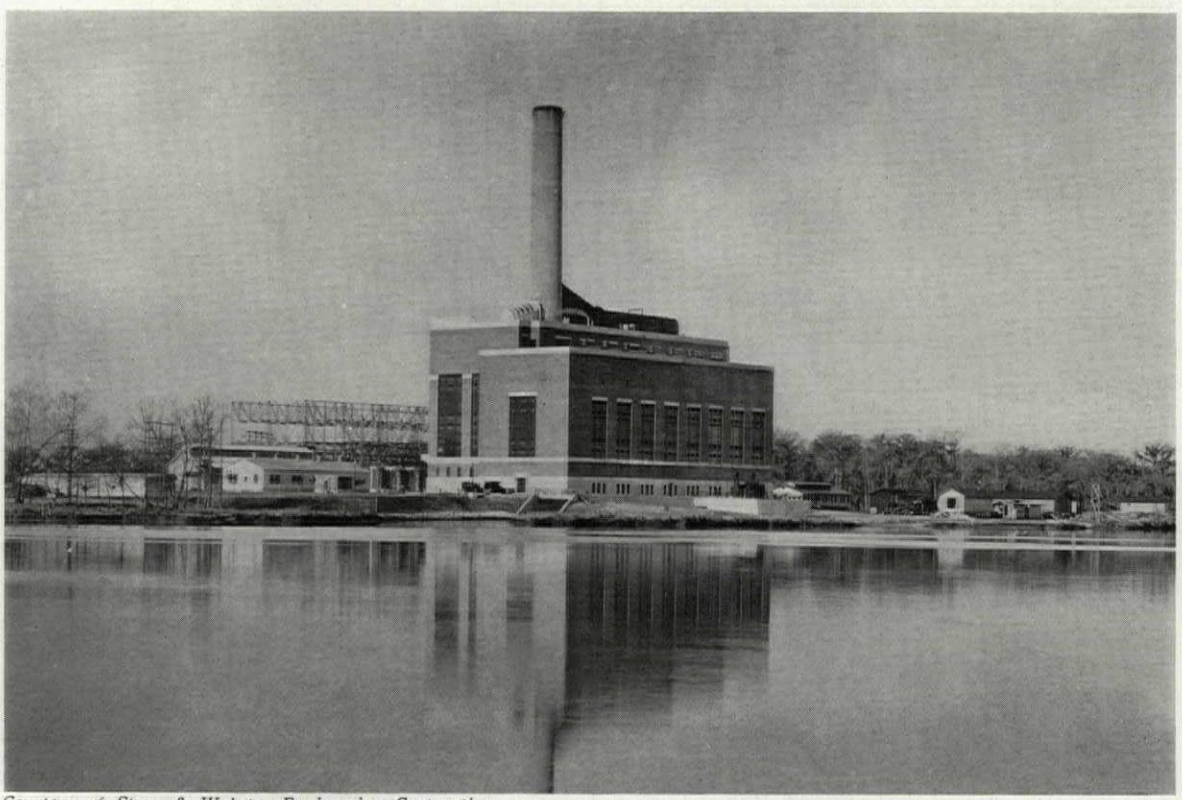
Courtesy of Stone & Webster Engineering Corporation

TURBINE ROOM, CHARLES LEAVITT EDGAR STATION, NO. WEYMOUTH, MASS. EDISON ELECTRIC ILLUMINATING CO. OF BOSTON



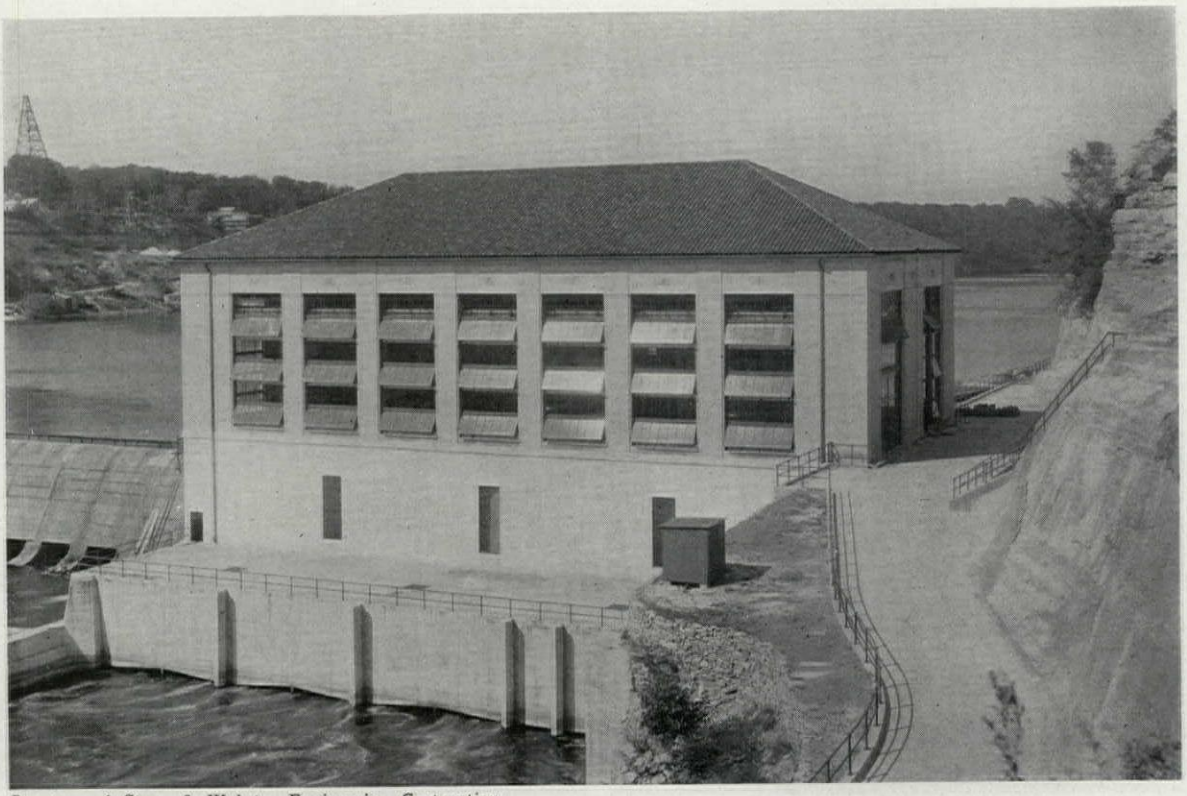
Courtesy of Stone & Webster Engineering Corporation

INTERIOR OF BOILER ROOM, NECHES POWER STATION GULF STATES UTILITIES CO., BEAUMONT, TEX.



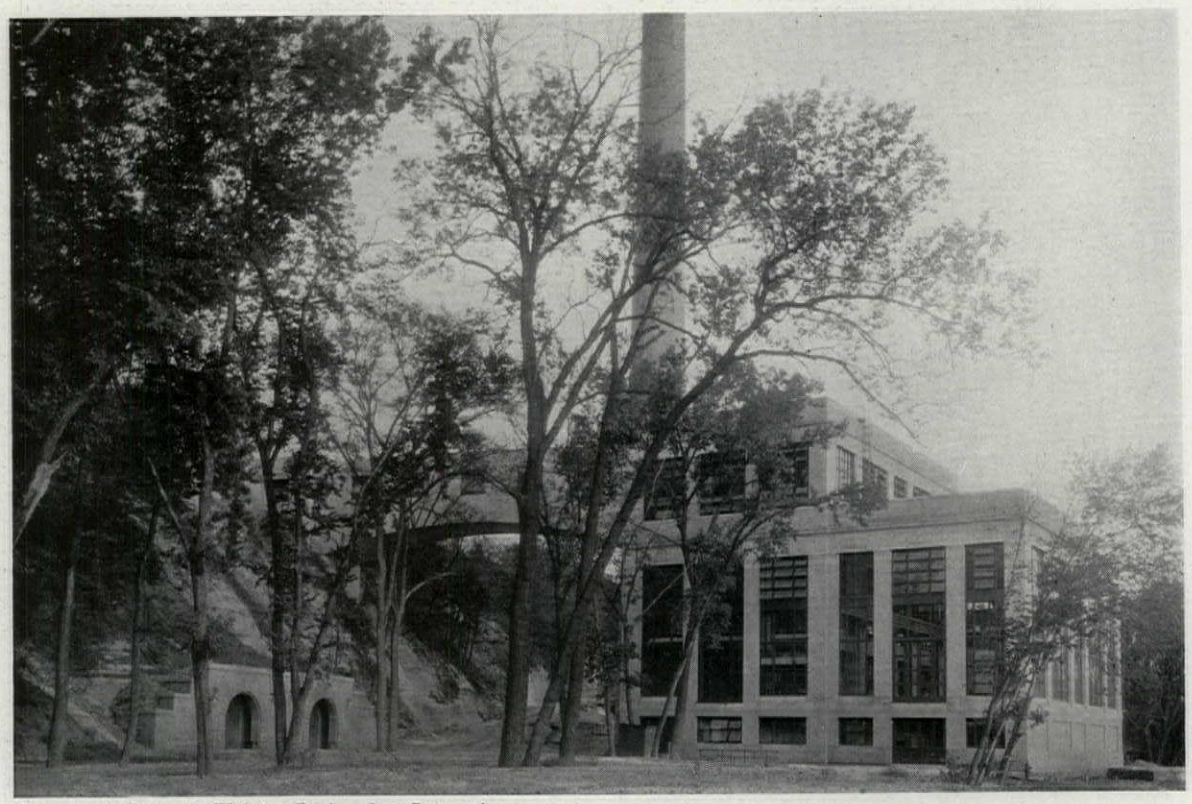
Courtesy of Stone & Webster Engineering Corporation

NECHES POWER STATION, GULF STATES UTILITIES CO., BEAUMONT, TEX.



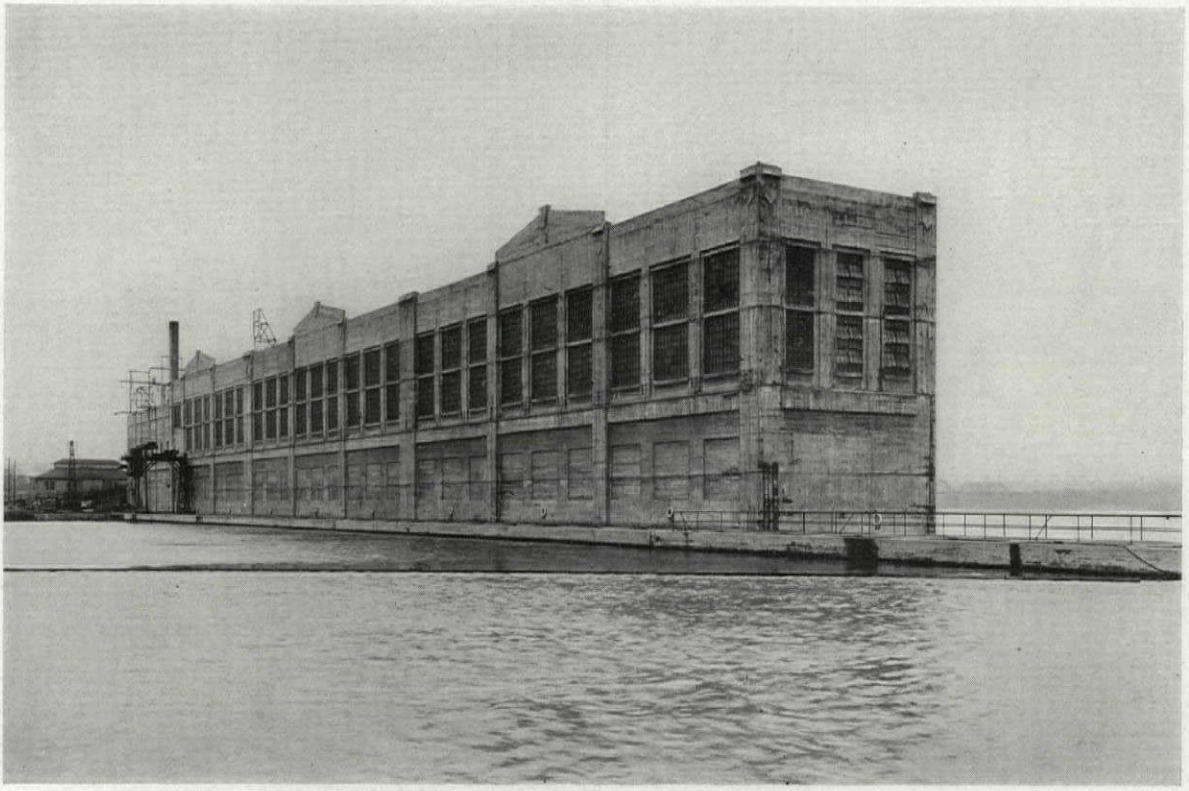
Courtesy of Stone & Webster Engineering Corporation

TWIN CITIES HYDRO ELECTRIC PLANT, FORD MOTOR COMPANY, ST. PAUL

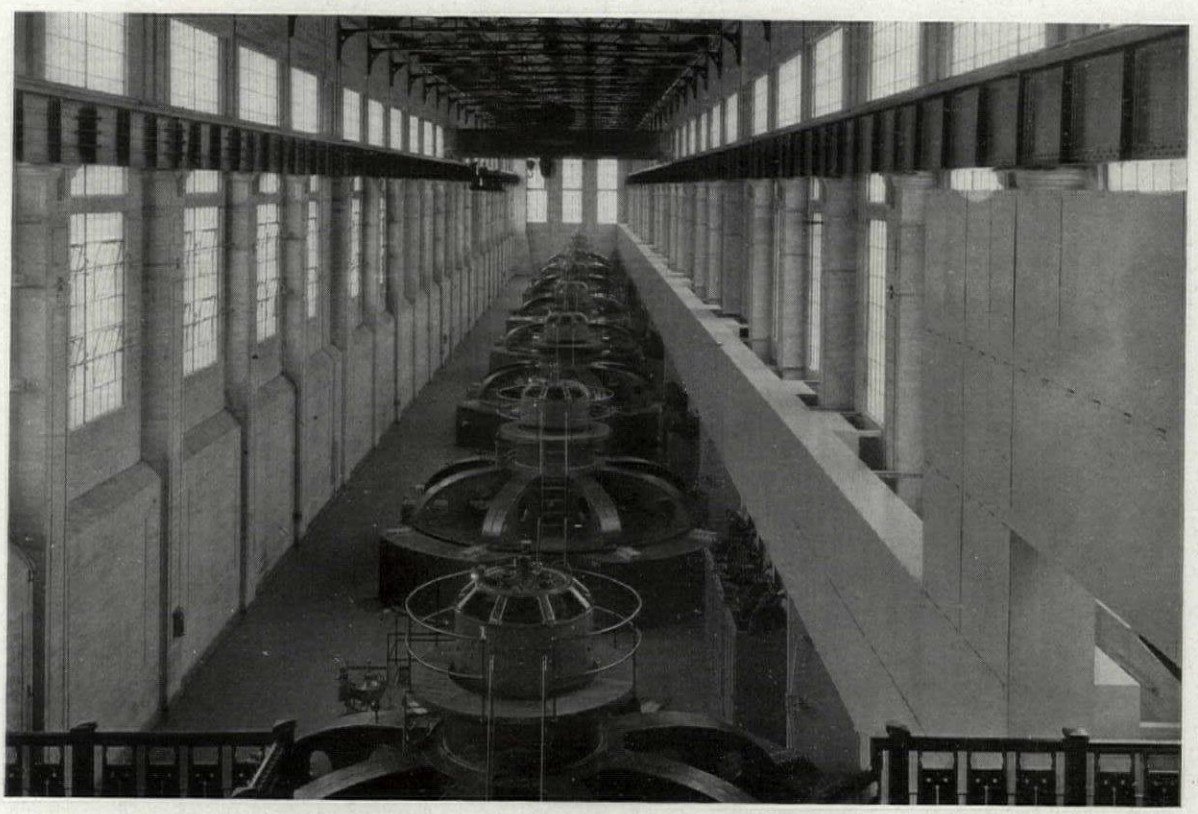


Courtesy of Stone & Webster Engineering Corporation

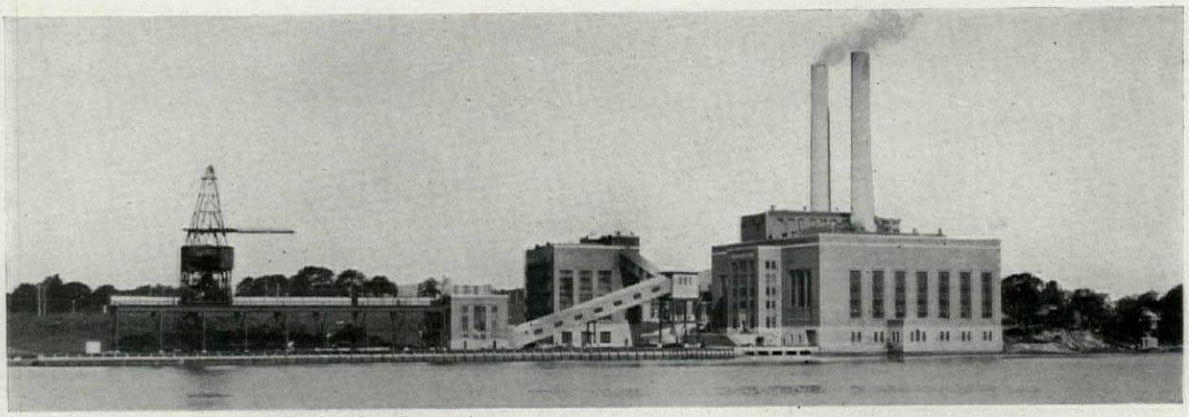
TWIN CITIES STEAM PLANT, FORD MOTOR CO., ST. PAUL



EXTERIOR VIEW

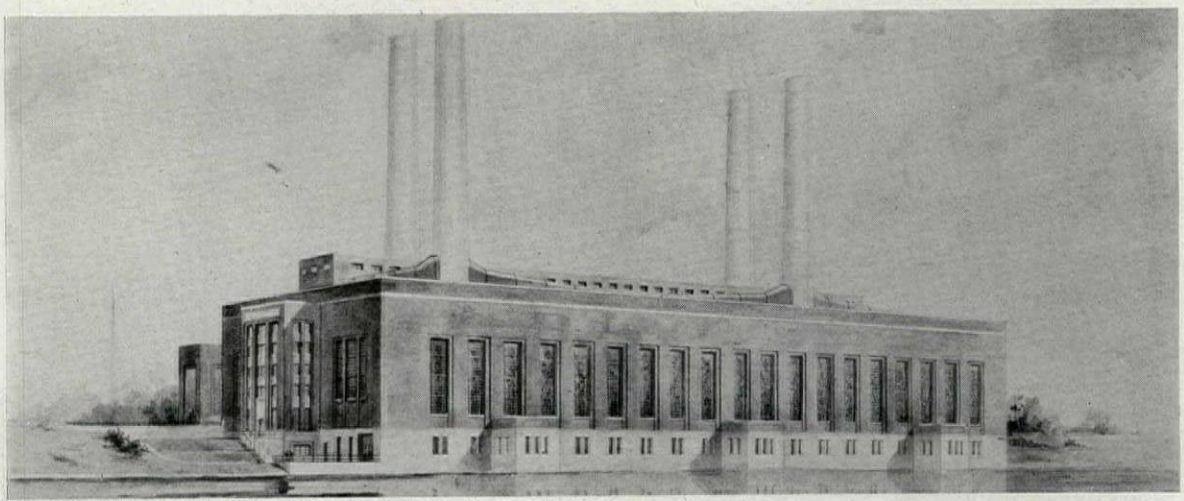


INTERIOR, OHIO FALLS HYDRO STATION, LOUISVILLE GAS & ELECTRIC CO.
BYLLESBY ENGINEERING & MANAGEMENT CORPORATION, ENGINEERS



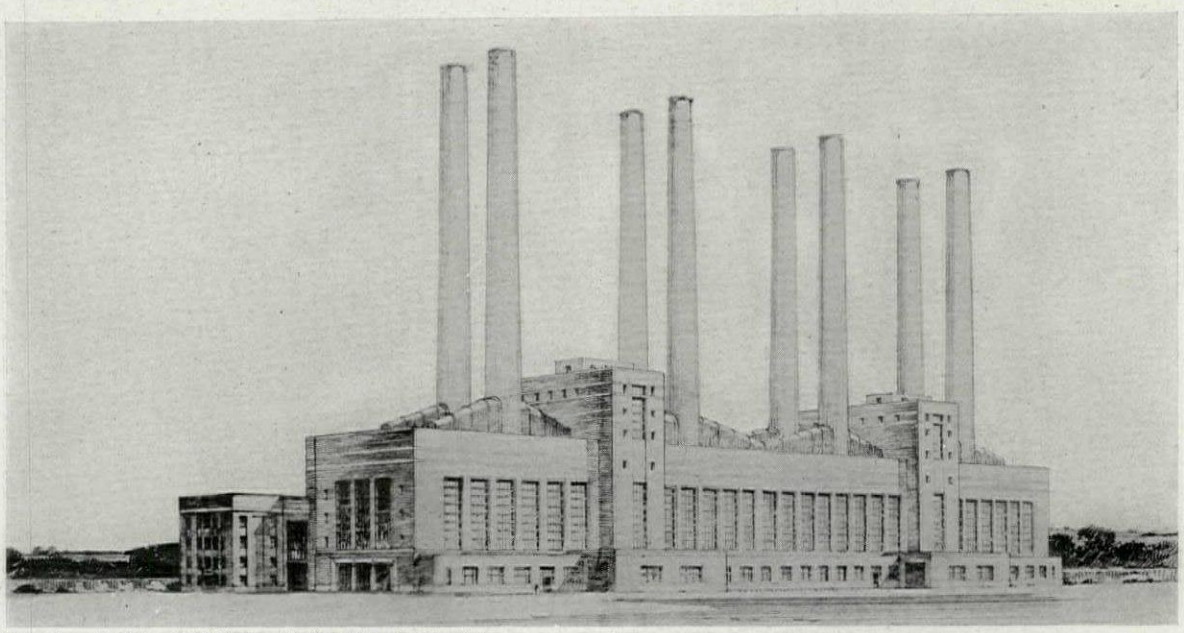
Courtesy of Stone & Webster Engineering Corporation

SOMERSET POWER STATION, MONTAUP ELECTRIC CO., SOMERSET, MASS.



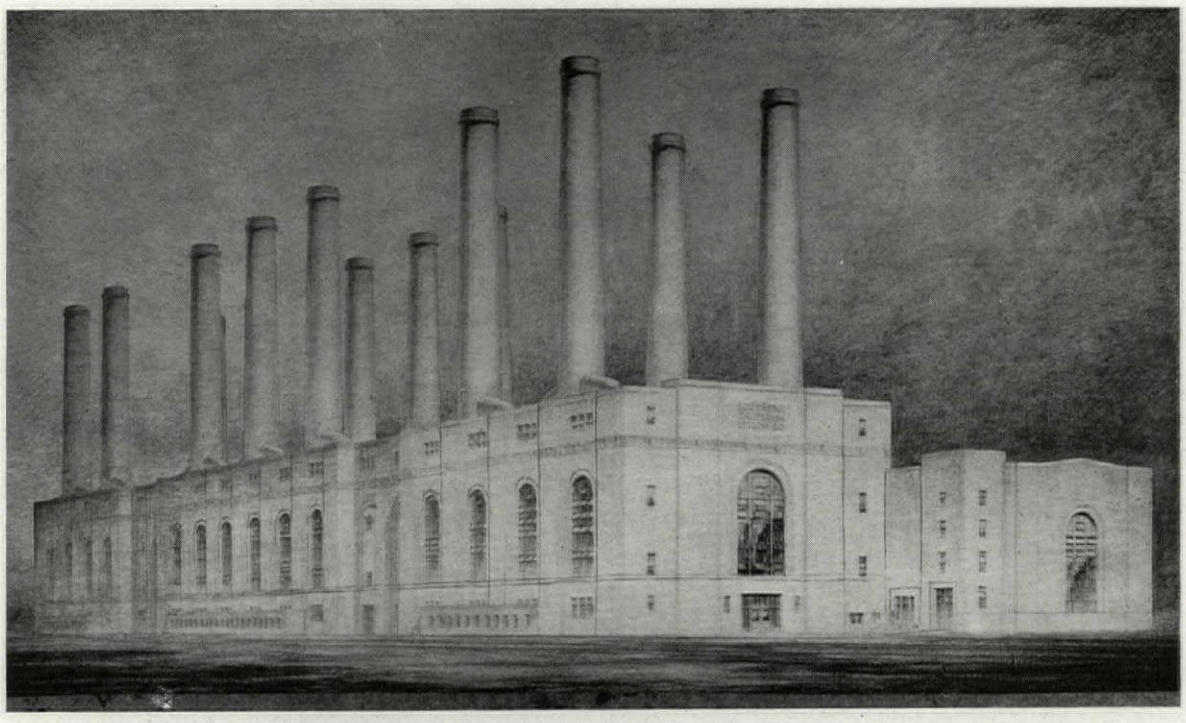
Courtesy of Stone & Webster Engineering Corporation

PERSPECTIVE OF ULTIMATE DEVELOPMENT, SOMERSET POWER STATION, MONTAUP ELECTRIC CO., SOMERSET, MASS.

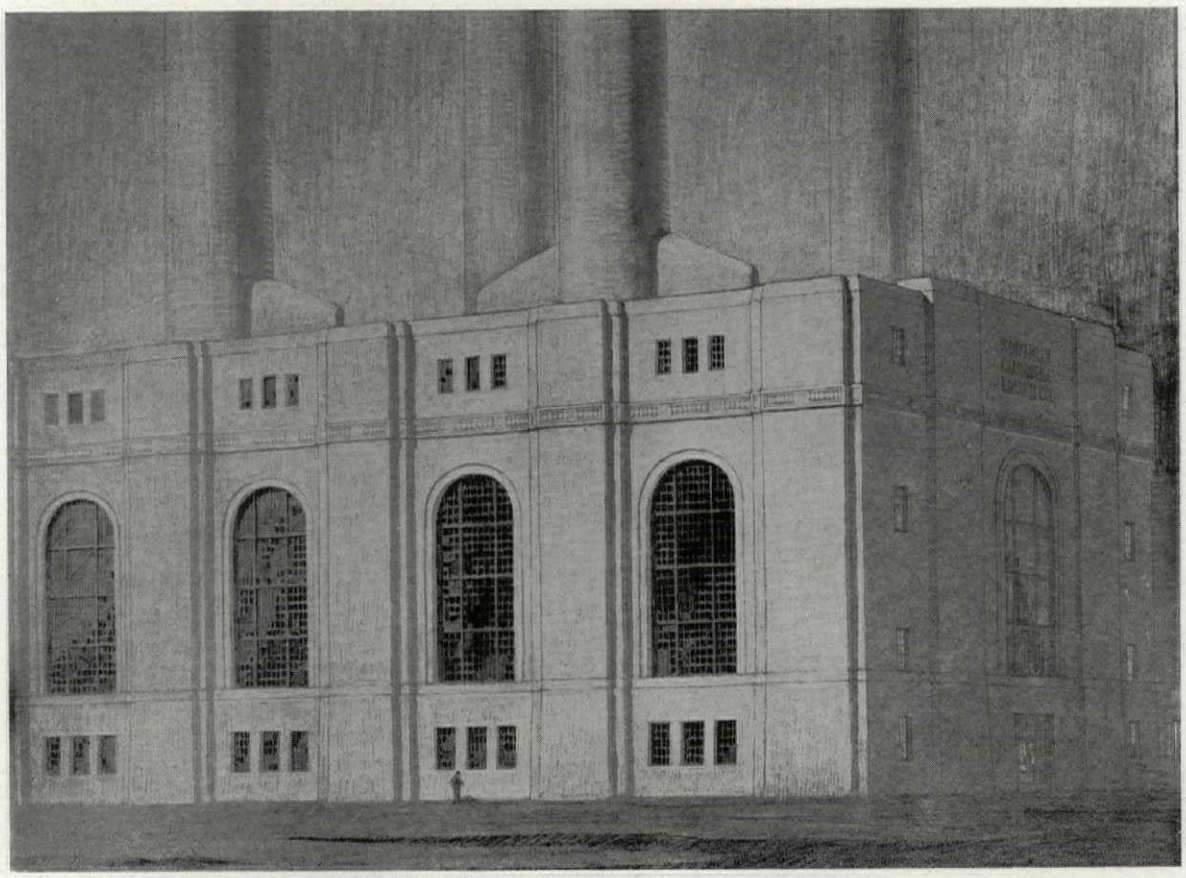


Courtesy of Stone & Webster Engineering Corporation

PERSPECTIVE OF ULTIMATE DEVELOPMENT, POWER STATION, LUZERNE COUNTY GAS & ELECTRIC CORPORATION, HEMLOCK CREEK, PA.



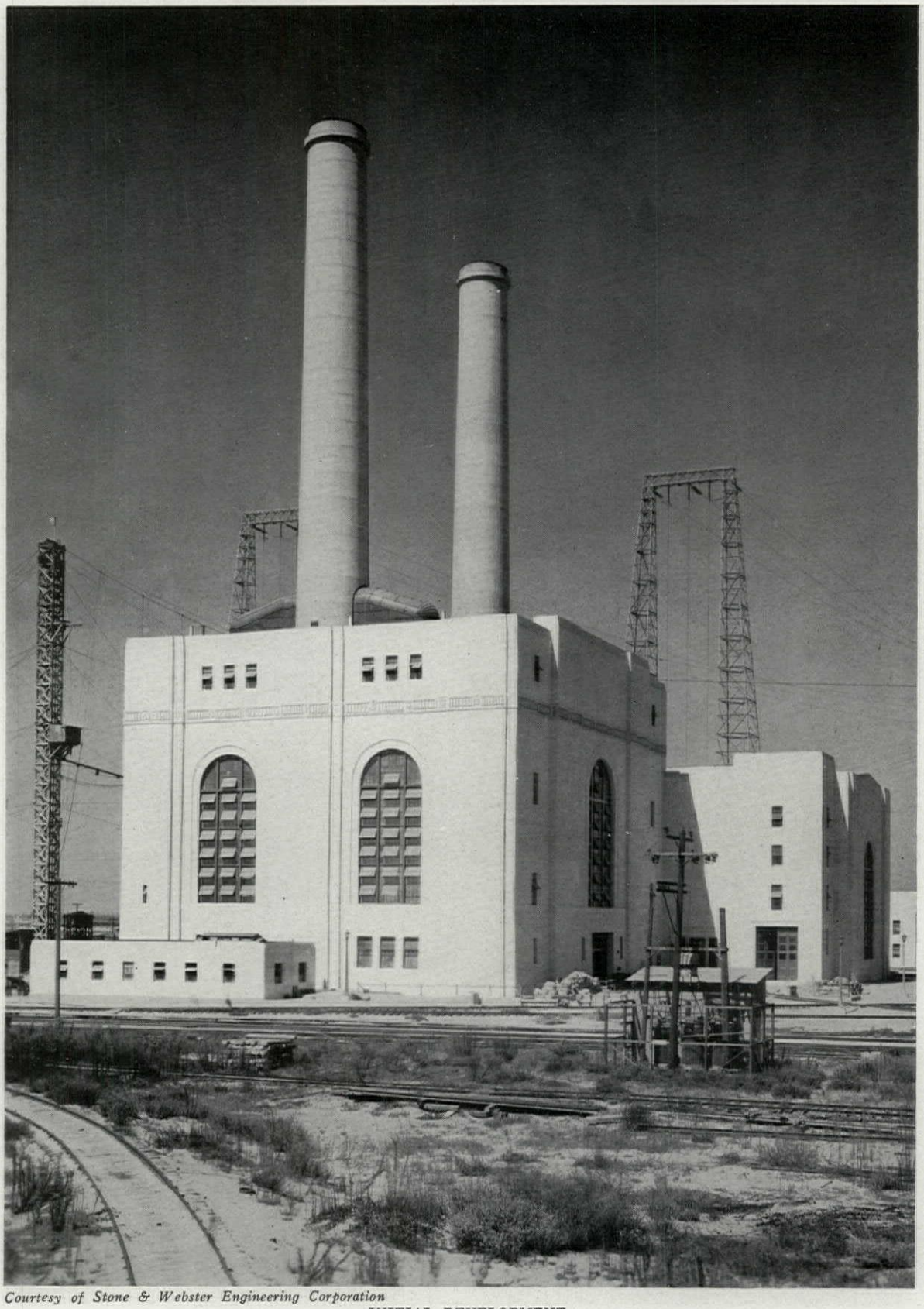
PERSPECTIVE OF ULTIMATE STATION



Courtesy of Stone & Webster Engineering Corporation

STUDY OF EXTERIOR DETAILS

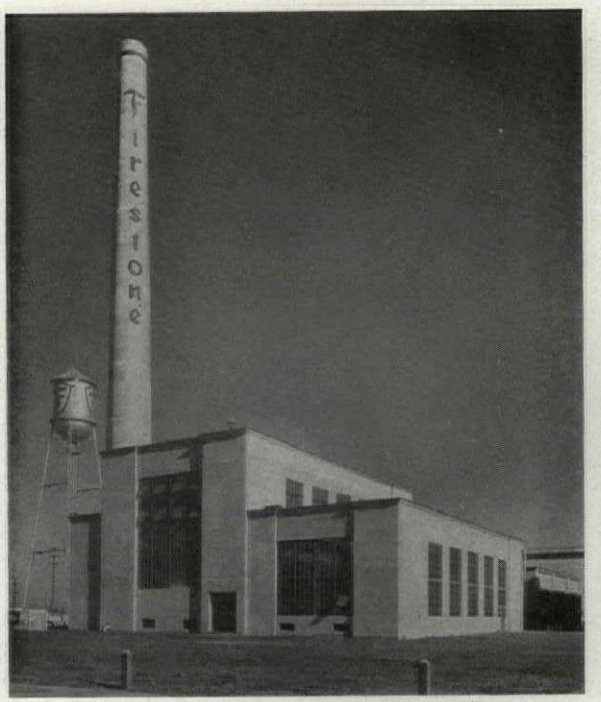
STEAM PLANT NO. 3, SOUTHERN CALIFORNIA EDISON CO., LONG BEACH, CAL.



Courtesy of Stone & Webster Engineering Corporation

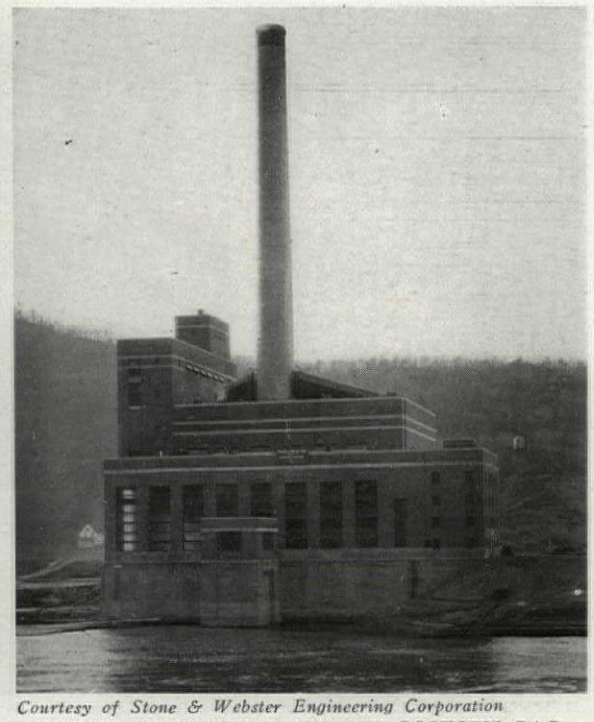
INITIAL DEVELOPMENT

STEAM PLANT NO. 3, SOUTHERN CALIFORNIA EDISON CO., LONG BEACH, CAL.



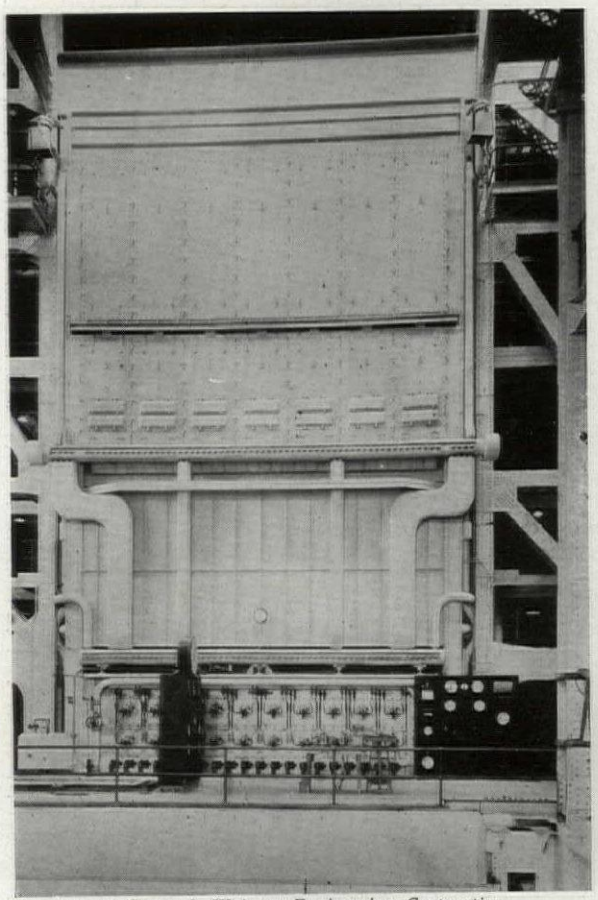
Courtesy of Stone & Webster Engineering Corporation

BOILER PLANT, FIRESTONE TIRE & RUBBER CO., LOS ANGELES



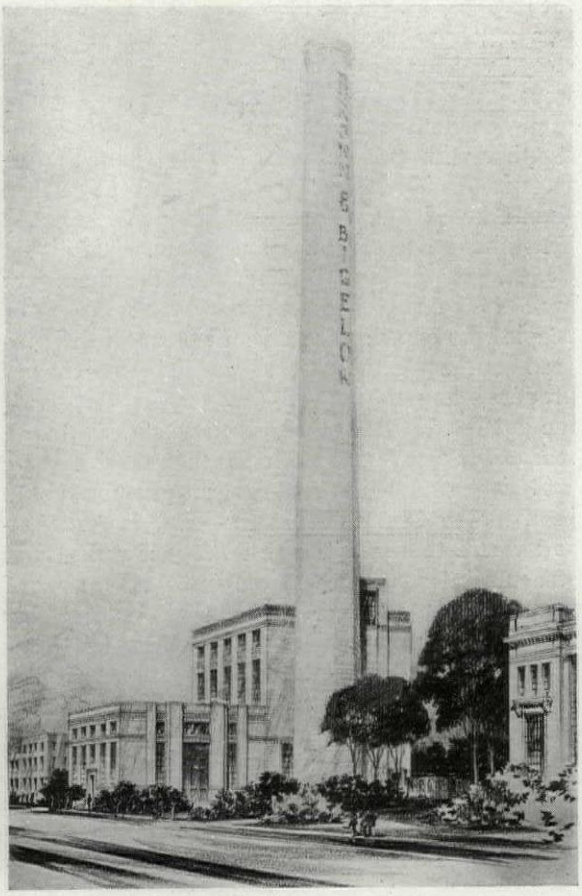
Courtesy of Stone & Webster Engineering Corporation

POWER STATION, LUZERNE COUNTY GAS & ELECTRIC CORP., HEMLOCK CREEK, PA.



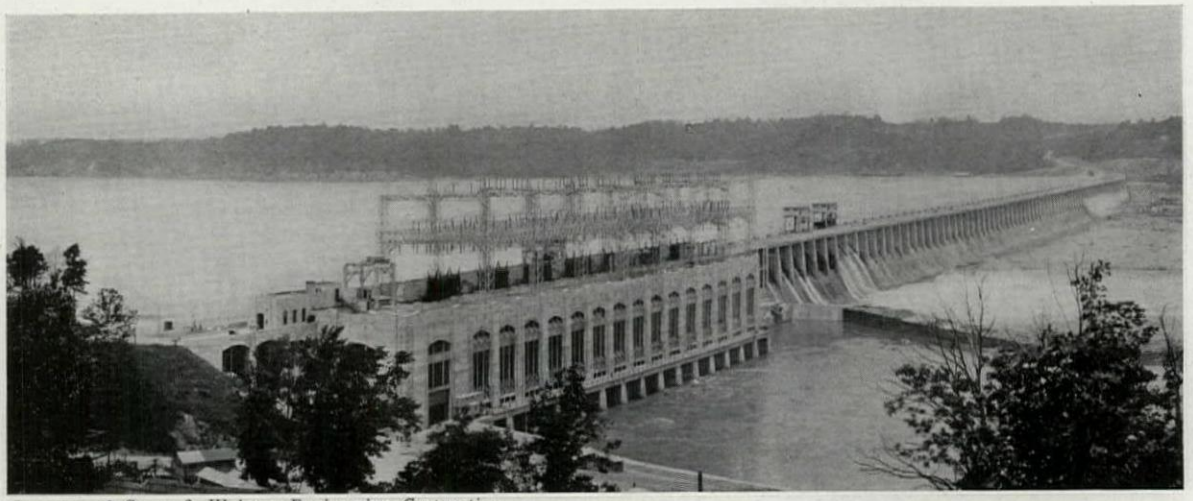
Courtesy of Stone & Webster Engineering Corporation

INTERIOR OF BOILER ROOM, STEAM PLANT NO. 3, SOUTHERN CALIFORNIA EDISON CO., LONG BEACH, CAL.



POWER PLANT FOR BROWN & BIGELOW, ST. PAUL

TOLTZ, KING & DAY, INC., ARCHITECTS & ENGINEERS



Courtesy of Stone & Webster Engineering Corporation
Hydro Electric Development, Susquehanna Power Co., Conowingo, Md.

present. "True architecture is construction carried to the highest point of development without the necessary addition of any elements foreign to its own conditions of stability and strength. Structure cannot be elevated into the domain of art merely by the application of ornament." Decoration is no longer a need of this age as it was in the days before people could read and before there was much printing, for then decoration told a story, which is now told much better in other ways. We should depend today on mass, beauty of proportion, and relations of voids and solids together with texture and color to obtain the effects for which we are striving. The design then should be of the utmost simplicity in character. This likewise tends toward economy, which is an exceedingly important factor, for the money to build these stations comes from large numbers of people who expect to receive a return on their investment, while the cost of the light and power produced must be paid for by the great mass of the public who cannot afford to pay more than a reasonable price for the service they receive.

Besides simplicity of design, an attempt should be made to express strength,—that is power,—and where the limitations of the mechanical and structural designs are not too great, at times real beauty can be secured. Yet one of the deterring factors in obtaining beauty is the piecemeal fashion in which these stations must often be built. At the same time it necessarily influences the design of the whole, for the building must be chopped off at any point which will satisfactorily house the equipment then being installed, since the stations are designed merely to meet the load requirements for an estimated period of time. Similarly, it is practically impossible to anticipate the ultimate size of any given plant. The design of mechanical and electrical equipment is changing so rapidly, new principles are being discovered, new economies are being found,—that a station which is modern today may in a few years be entirely out of date, or it may be too small to contain newly designed equipment, thus demanding the establishment of a new plant, or the complete redesigning of the additions.

The dominating influence of mechanical and electrical features upon the architectural design should be apparent. The elements of this equipment must be related in the most advantageous manner to produce steam and electricity at the lowest cost. The design of the building must not interfere with the perfect coördination of turbine with condenser, of economizers and preheaters with the boilers, of atmospheric exhausts to go somewhere, and induced draft and exhaust fans which call for louvers many times larger than they should be for appearance, and cinder catchers that won't get under the roof; and then the loads of the structure and its equipment and its chimneys all carried in the beams and girders and columns do not leave much opportunity for design.

However, with all these limitations, the cooperation of the engineers and architects, with the hearty assistance of clients, is permitting definite advancement in the designing of power plants. That this is now being done is amply demonstrated in every part of the country. Countless excellent examples of such buildings are being constantly illustrated in the architectural publications, and not a few are shown in this number of THE ARCHITECTURAL FORUM, devoted as it is exclusively to industrial structures. Mere size of itself possesses but little interest, but when to size there are added fine and simple lines and well studied proportions, and when use has been made of appropriate materials, there comes a grace or rhythm which constitutes beauty in a high degree.

ARCHITECT VERSUS ENGINEER

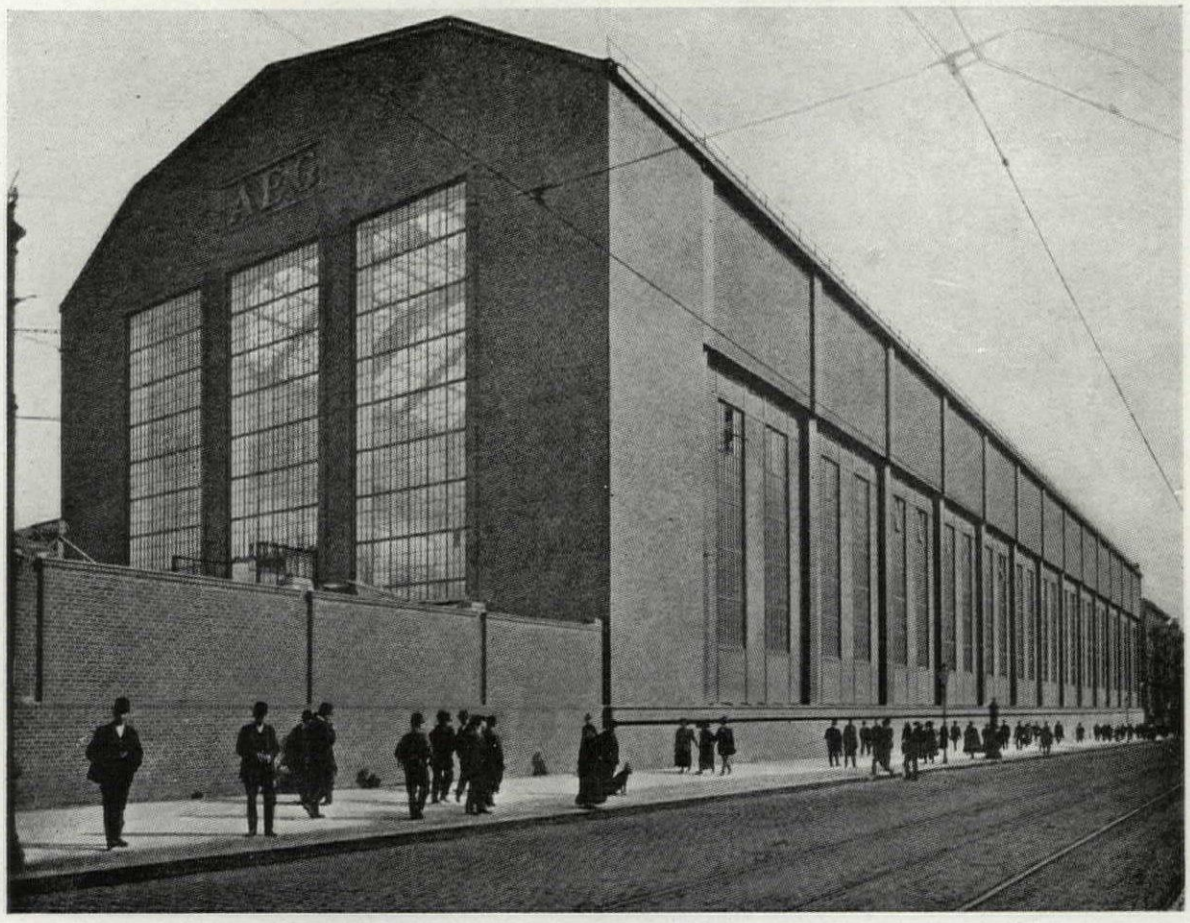
BY

SHEPARD VOGELGESANG

BEING A SUMMARY OF THE BOOK "ARCHITEKT UND INGENIEUR" BY FRITZ SCHUPP AND MARTIN KREMMER, BERLIN, 1929

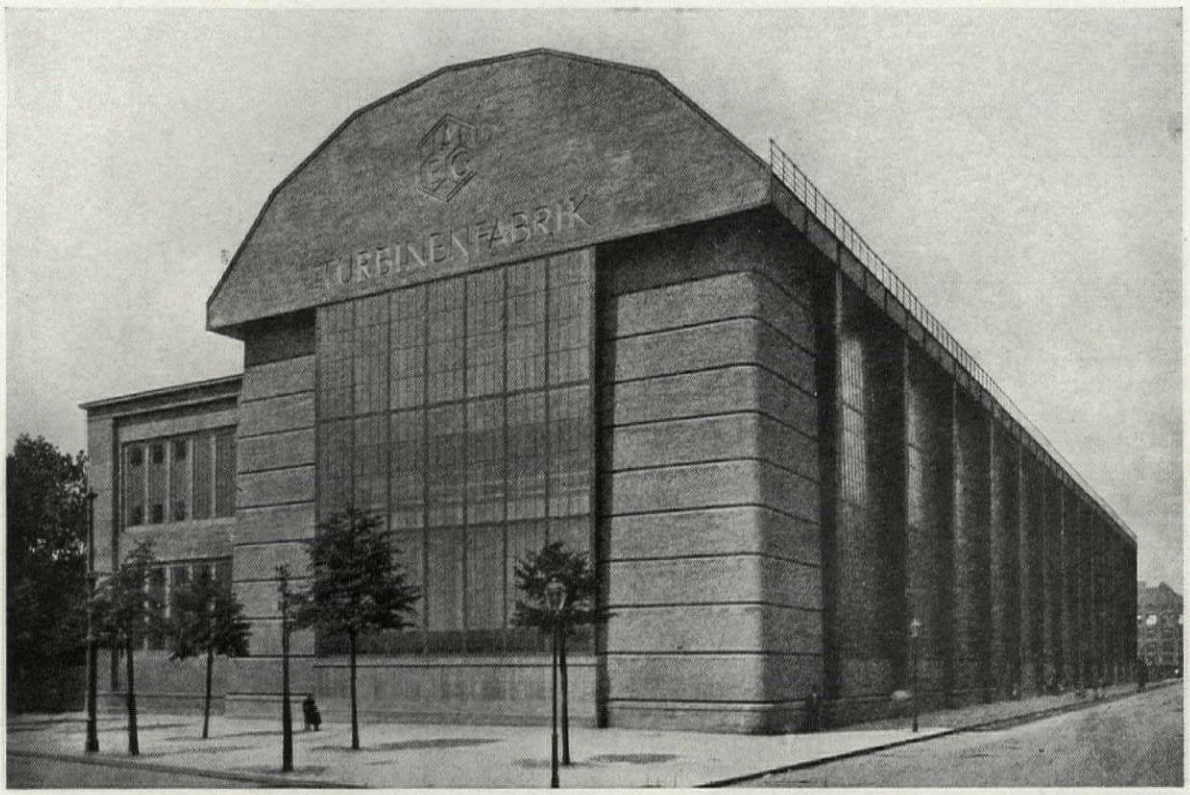
OCCASIONALLY the American architect is challenged by the opportunity to do purely industrial work. More often an engineer alone is employed, industrial building being considered by some beyond the compass of the architect's training. The point of view often held by engineers and manufacturers is that an architect is all right if you want to dress things up, but otherwise why employ one? It is for this reason that an opportunity to do industrial work comes as a challenge to the architect. This attitude,—that an architect is hired to put frippery on an otherwise complete structure,—strikes at the very foundations of the architect's service. Architecture is not millinery or, as the Germans say, "hair dressing"; it is the art and science of orderly arrangement plus a sense for beauty.

The architectural sense for beauty is not bound up in ornament. A building may be bare and yet architecturally beautiful through proportions, rhythm and material. As the degree of sensibility of the architect to proportion, rhythm and material is high, so high will the architectural worth of the building be. It is hard to find in America buildings more beautiful than some early colonial work which often presents only these primal elements of architectural beauty unornamented. Architecture is more than right structure, it is building related to human needs, the need for interest in arrangement, the right degree of uniformity, the right break in monotony, the friendly climate indoors supplanting the hostile elements outside. The difference between planned architecture and mere building is like the difference between the movements of a trained and an untrained body. The difference between a skilled architect's management of building stuff and the mere use of the same materials is much the same as the difference between the polished brilliant and the uncut gem. At every



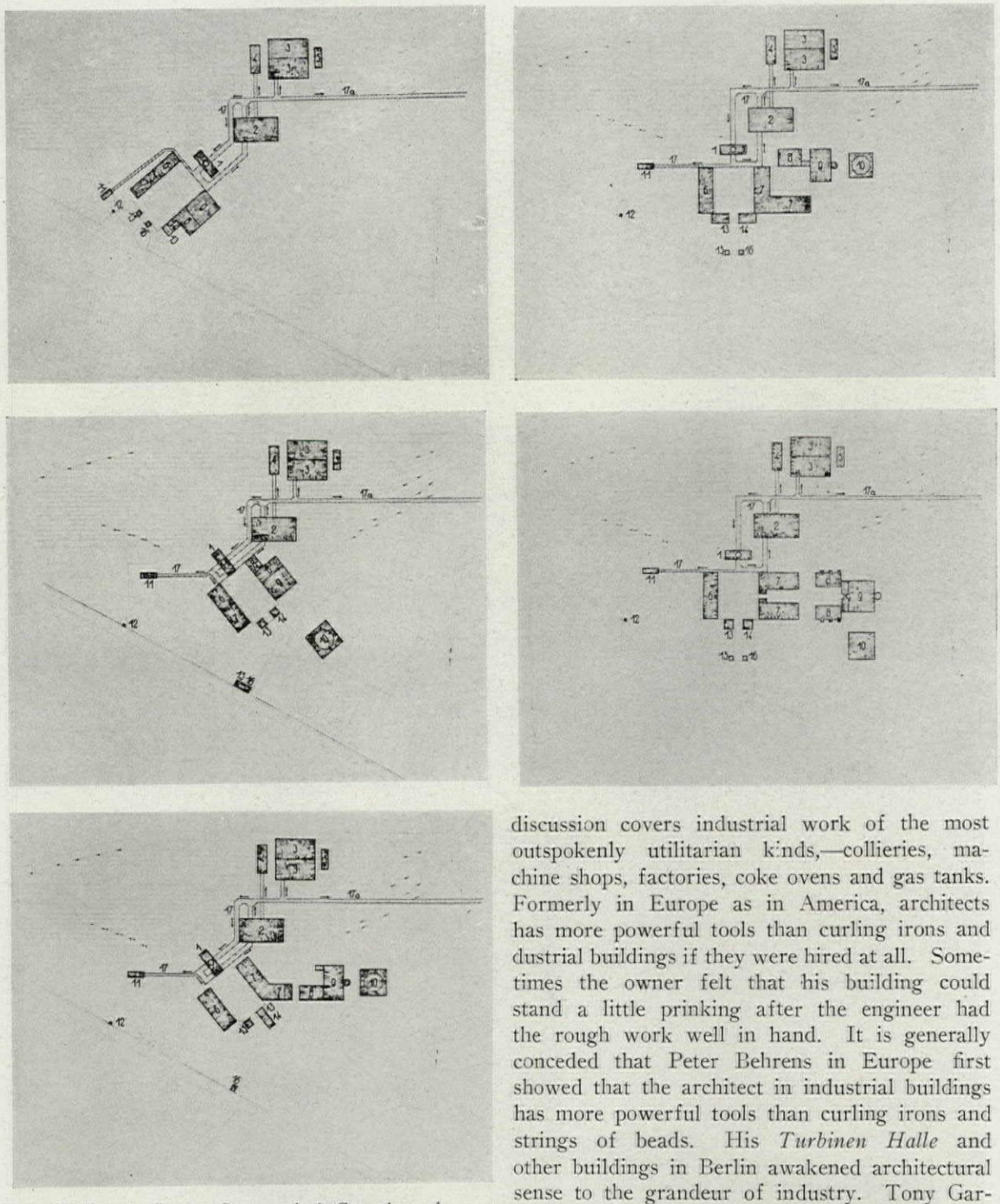
Montagehalle, A. E. G. Company, Berlin
Peter Behrens, Architect

MAIN BUILDING, A. E. G. COMPANY, BERLIN
PETER BEHRENS, ARCHITECT



TURBINEN HALLE, A. E. G. COMPANY, BERLIN
PETER BEHRENS, ARCHITECT

FACTORY AT FRANKFORT
PETER BEHRENS, ARCHITECT

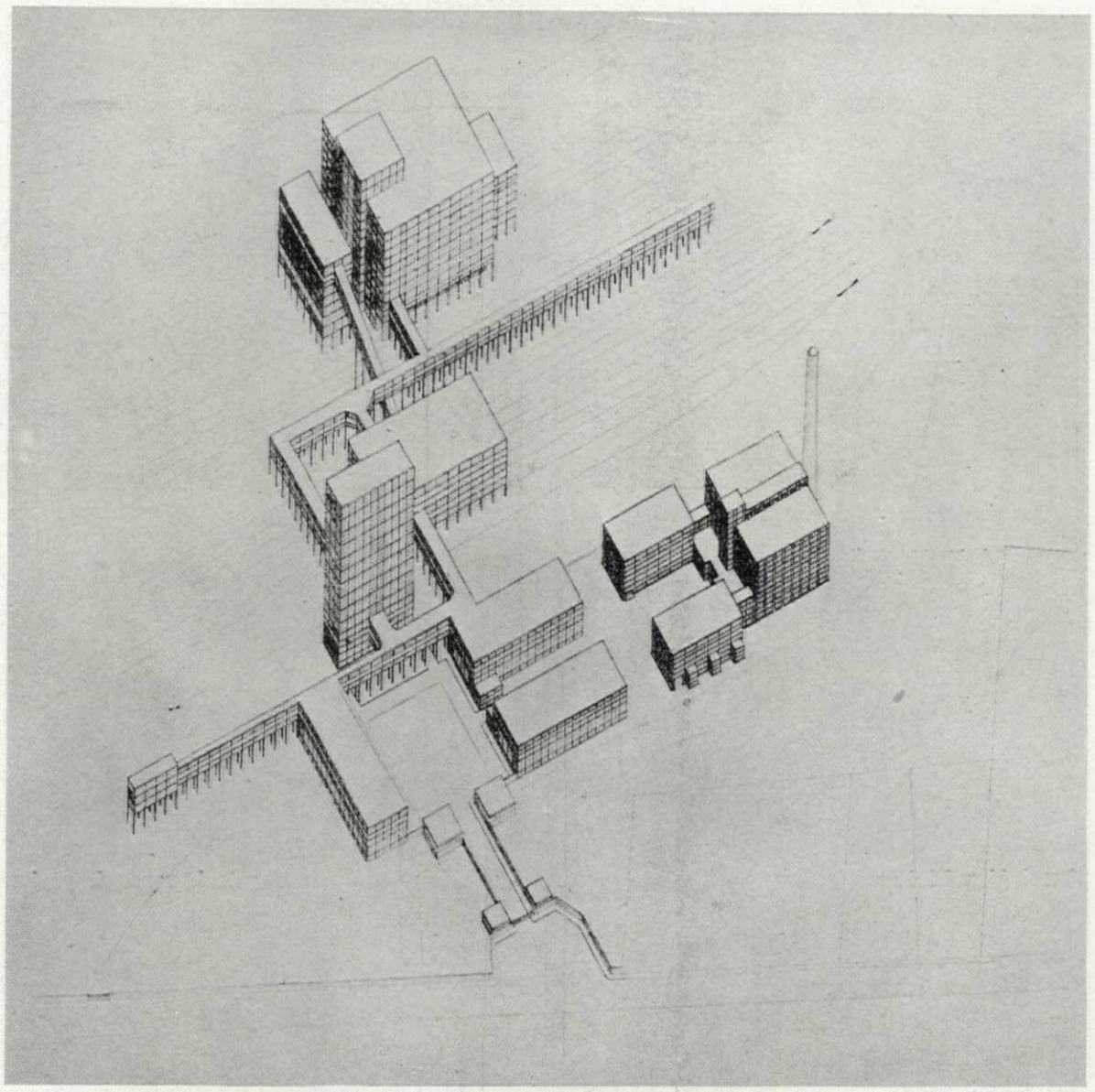


Studies to Secure Symmetrical Grouping of Colliery Buildings

point the architect touches some human need deeper than mere structure, or else he fails in rendering the service expected of an architect.

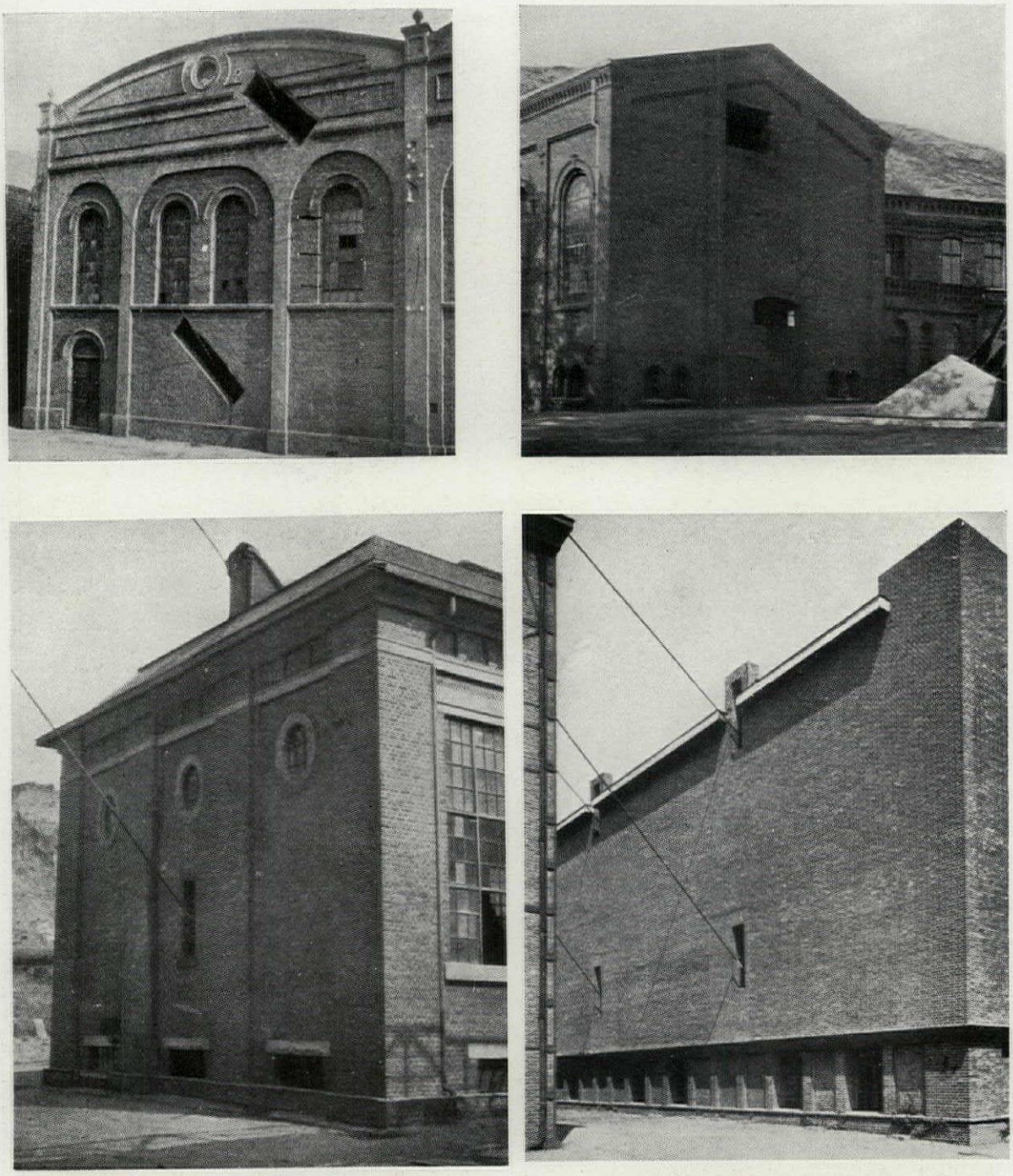
The source of most of the illustrations to this article is a book fresh from Germany with the trenchant title "Architect *versus* Engineer or Architect and Engineer." It is written by two graduated engineers, Mr. Schupp and Mr. Kremmer, who are, besides, architects. The field of discussion covers industrial work of the most outspokenly utilitarian kinds,—collieries, machine shops, factories, coke ovens and gas tanks. Formerly in Europe as in America, architects has more powerful tools than curling irons and dustrial buildings if they were hired at all. Sometimes the owner felt that his building could stand a little prinking after the engineer had the rough work well in hand. It is generally conceded that Peter Behrens in Europe first showed that the architect in industrial buildings has more powerful tools than curling irons and strings of beads. His *Turbinen Halle* and other buildings in Berlin awakened architectural sense to the grandeur of industry. Tony Garnier repeated the same service for France in his *Abattoirs de la Mouche* at Lyons.

The importance of industrial expansion after the war placed a new emphasis on industrial building. Here was something in the overturned social scheme which had at least the reality of a concrete service. The impulse was to dignify this service, and, following the precedent set by Behrens, architects of high standing found increasing interest in industrial work. Such buildings as Behrens's dye works at Hochst am Main



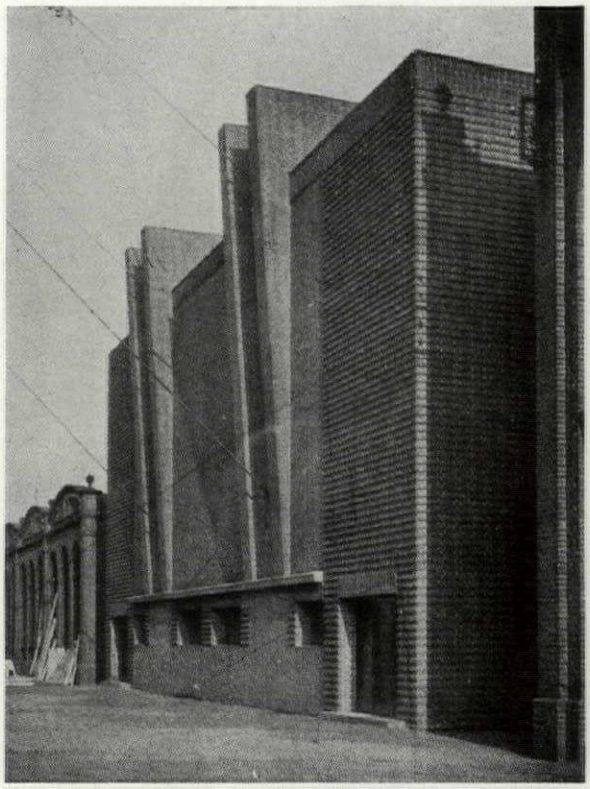
Sketch of Final Grouping of Colliery Buildings. Page 65, "Architect vs. Engineer"

(Illustration Moderne Bavformen, page 331), Alfred Fischer's power plant at Cologne, and Erich Mendelsohn's hat factory near Berlin illustrate the success with which architects entered this field. An entire school of architects, in fact, was carried away by the glories of the completely utilitarian. For some, architecture and the product of the engineer became the same. Any work of engineering possessed final beauty because it was the result of function frankly expressed. Of great and often healthy influence, this idea is gradually becoming modified. Too many buildings have been built by engineers with all the elements in correct sequence, built of appropriate materials, and yet possessing no perceptible coherence. Conduits will plunge through raw looking gaps in walls, steel skeletons brandish tanks through roofs, and the whole tatterdemalion succession of brick, steel, concrete and corrugated iron produces too often the effect of mere brutality. The day of the old architect who built a power station on the proportions of the Petit Trianon and then allowed this structure to be pierced by ventilators, conveyor belts and ærial gangways, is also happily past. The architect is the man trained in the proportioned arrangement of space; it is he who takes the engineer's ruder sequences and arranges them in order. This order is not that of a regiment of soldiers commanded to a scheme but the result of an individualistic study of the elements composing the whole. Certain elements form natural groups, which again lead on to other groupings of kindred functions. The whole is

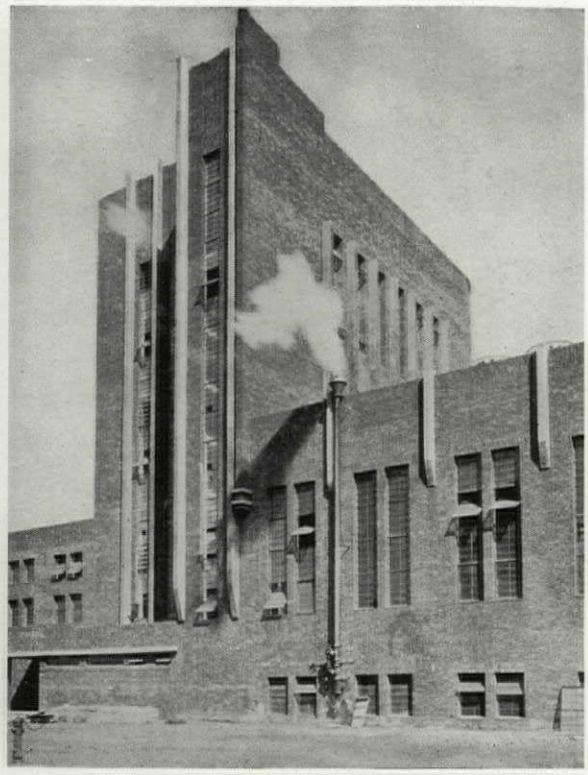


Illustrations, Page 7 of "Architect vs. Engineer," Showing Right and Wrong Treatments of Power Cables

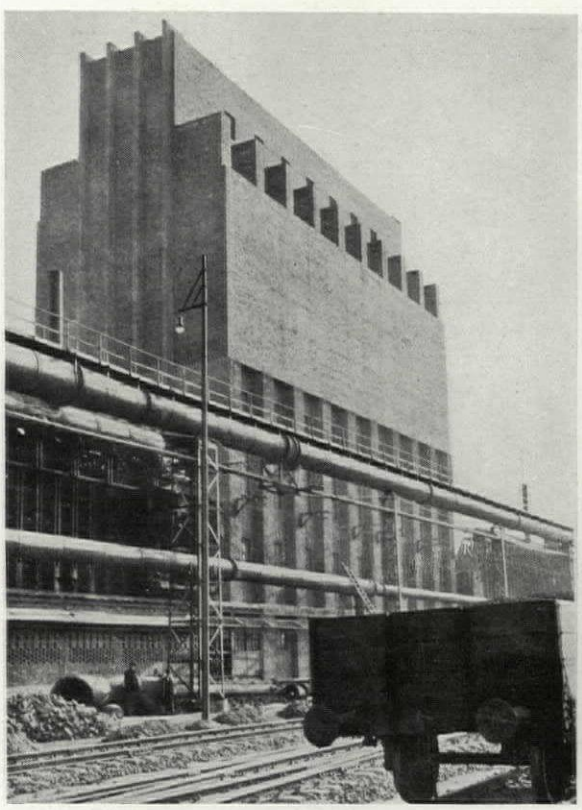
organized with an eye to presenting all of the parts as favorably as possible with as much space about them and between them as can be had, the while a sense of the groups forming one whole is maintained. The development from an engineering solution of a problem to an architectural arrangement is shown in illustrations 1, 2, 3, 4 and 5 on pages 61, 62 and 63 of "Architect *vs.* Engineer." The finished building mass is on page 65. The subject of the layout is a colliery. The road and railroad approach remain constant factors. The chief elements are: shaft house (1), with tower hoists, power and boiler houses (8, 9), (7) work shops, (6) executive, (3) washing, (2) shipping; (17a) leads to old mines. While it is plain that the architect has greatly increased the amount of foundation work, it can also be definitely asserted that the final scheme shows more organic arrangement and gains in clarity, in wholesomeness, and in



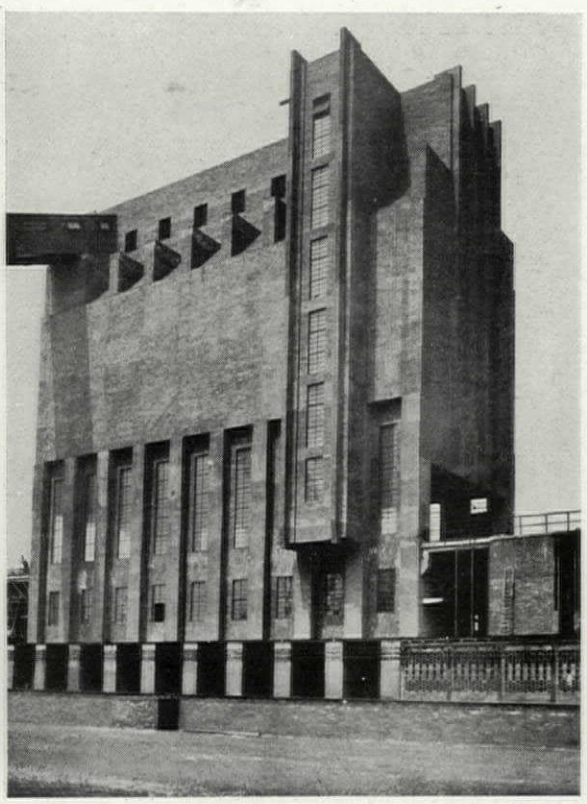
FROM PAGE 9, "ARCHITECT VS. ENGINEER," SHOWING TREATMENT OF A CABLE WALL—ENTRANCES



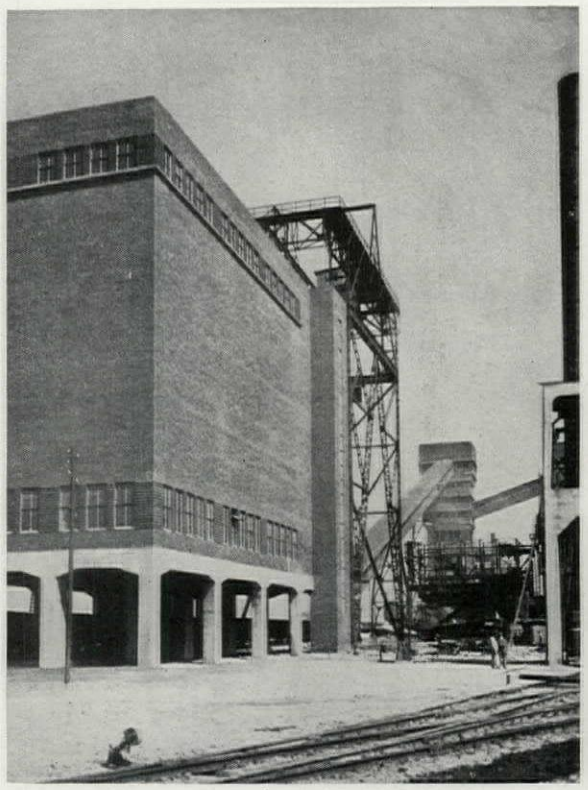
FROM PAGE 11, "ARCHITECT VS. ENGINEER," ILLUSTRATING AN EXAMPLE OF A MODERN ELEVATOR SHAFT



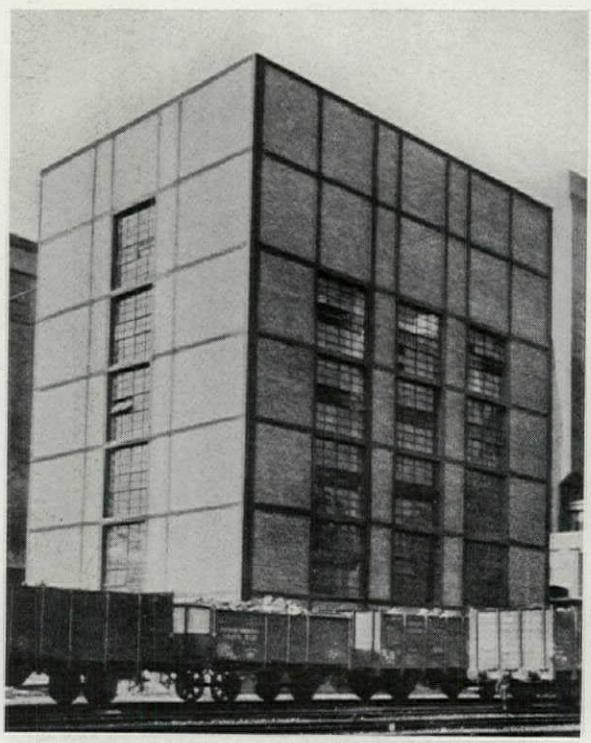
FROM PAGE 17, "ARCHITECT VS. ENGINEER," SHOWING SYMMETRICAL COAL ELEVATOR



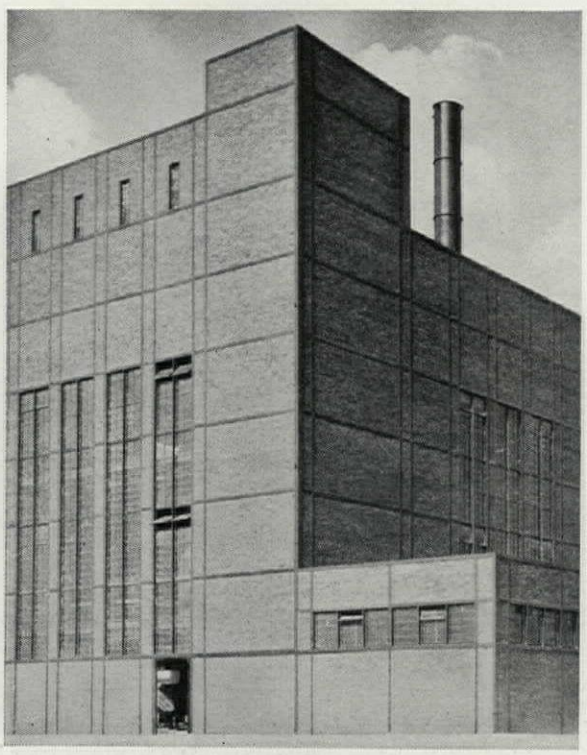
FROM PAGE 14, "ARCHITECT VS. ENGINEER," ILLUSTRATING TREATMENT OF EXTERIOR STAIR SHAFT



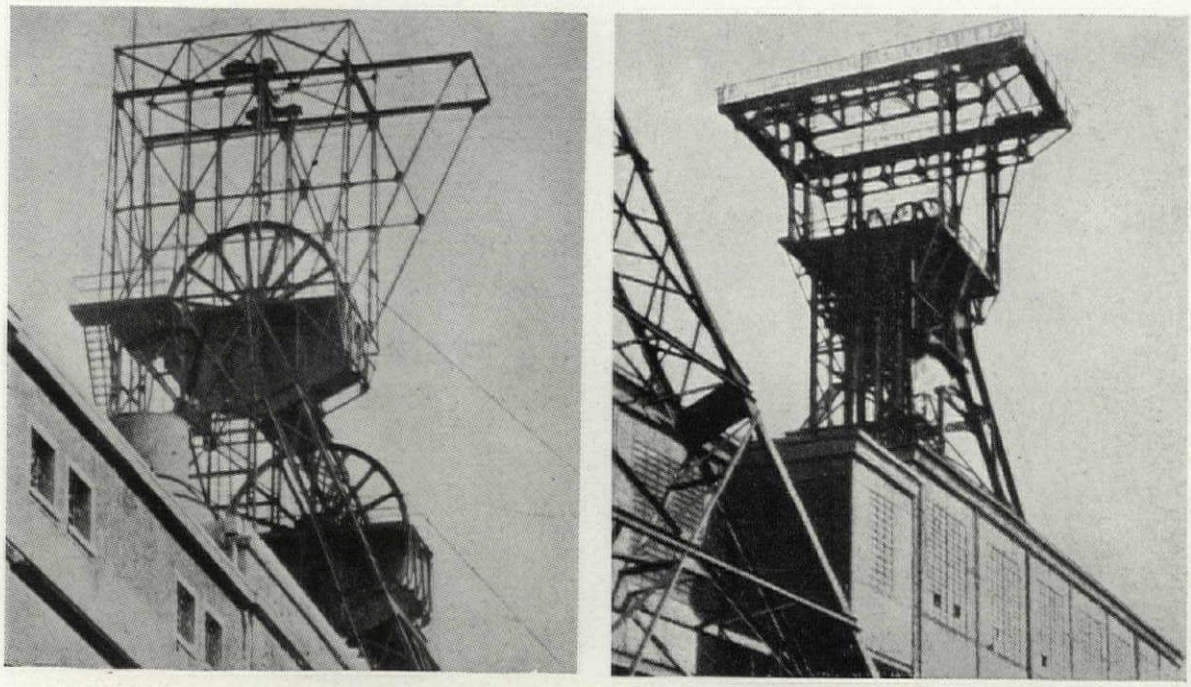
FROM PAGES 12 AND 14, "ARCHITECT VS. ENGINEER," ILLUSTRATING VERTICAL EXPRESSION OF STAIR AND ELEVATOR SHAFTS



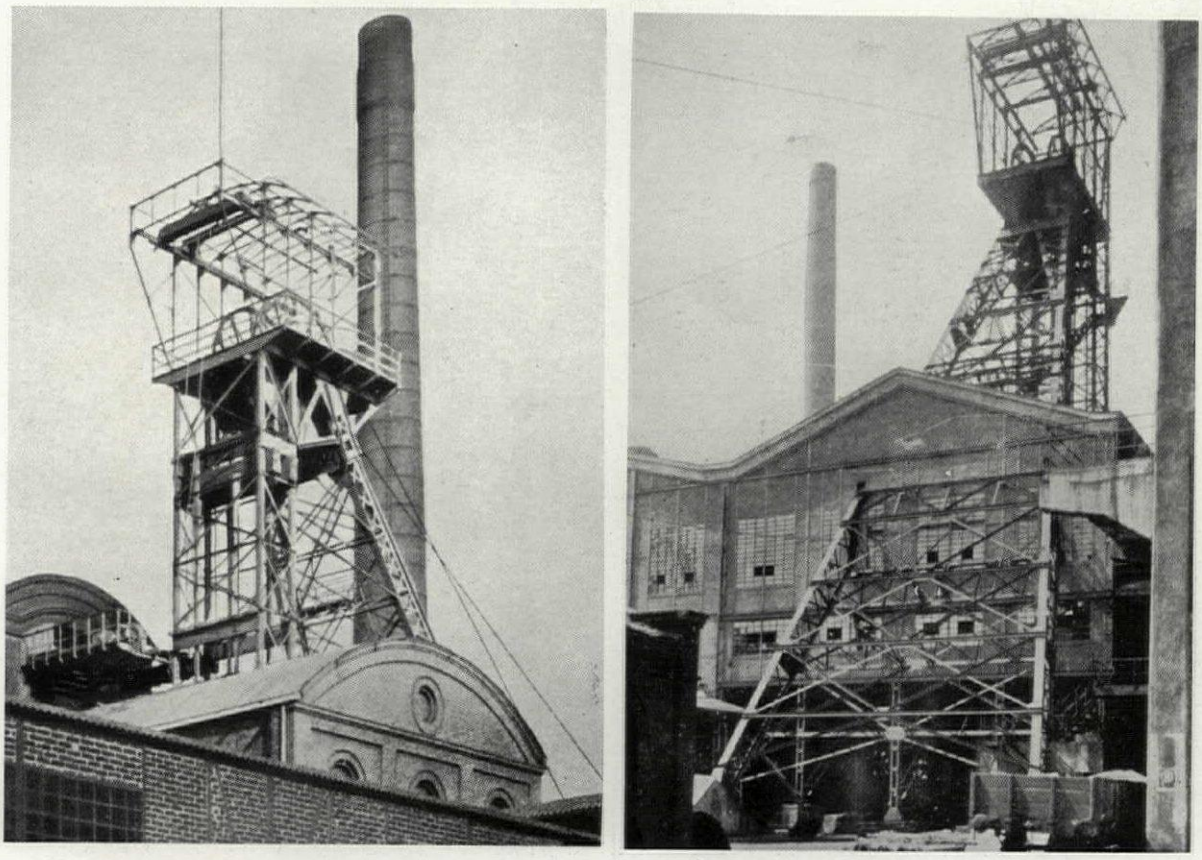
FROM PAGE 25, "ARCHITECT VS. ENGINEER." IRON WORKS SHOWING STEEL CONSTRUCTION THROUGH BRICK WALLS



FROM PAGE 26, "ARCHITECT VS. ENGINEER." BOILER HOUSE SHOWING STEEL CONSTRUCTION THROUGH BRICK WALLS

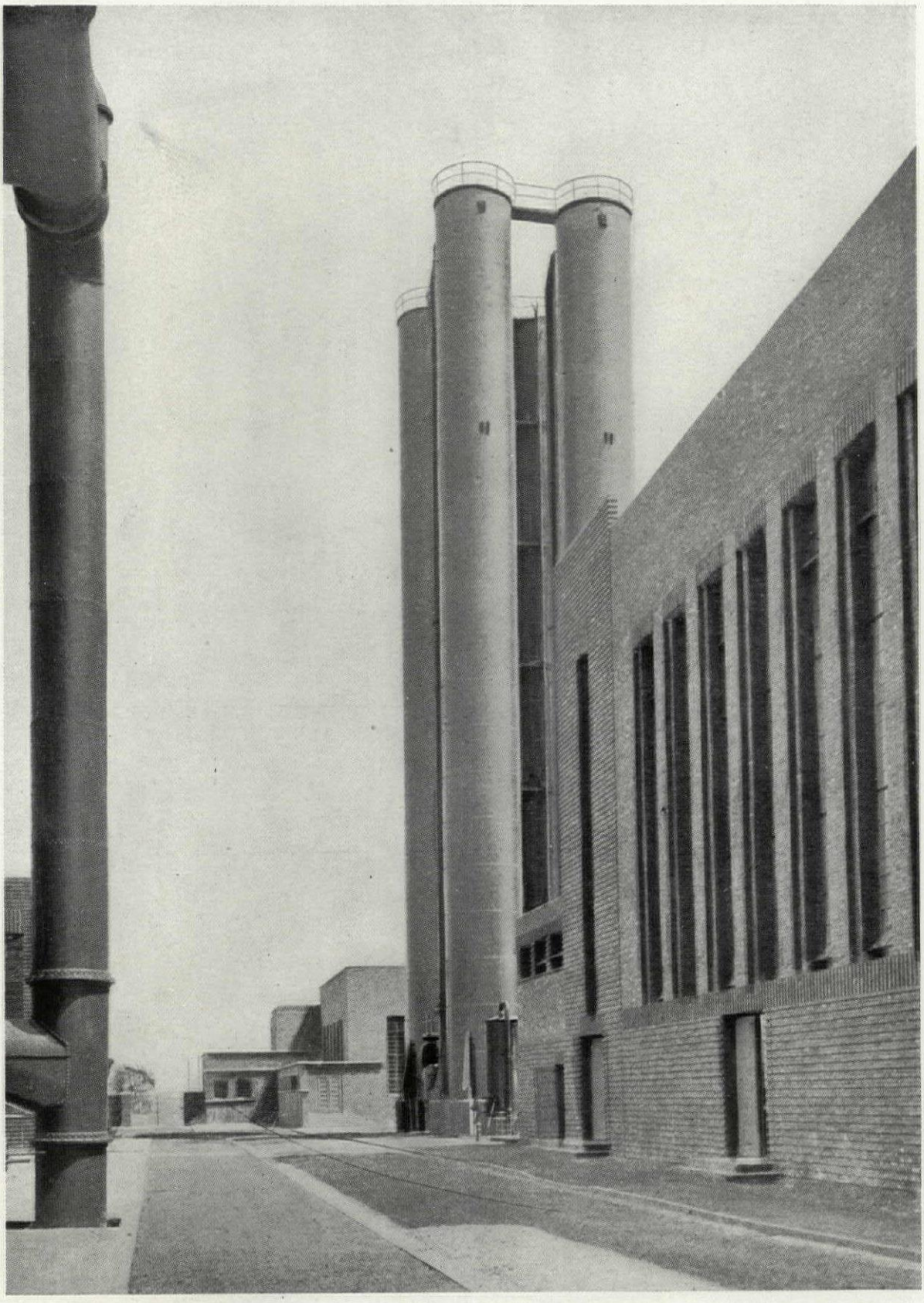


FROM PAGE 29, "ARCHITECT VS. ENGINEER." HARMONIOUS TREATMENT OF STEEL SUPERSTRUCTURES ON TOPS OF SOLID BUILDINGS

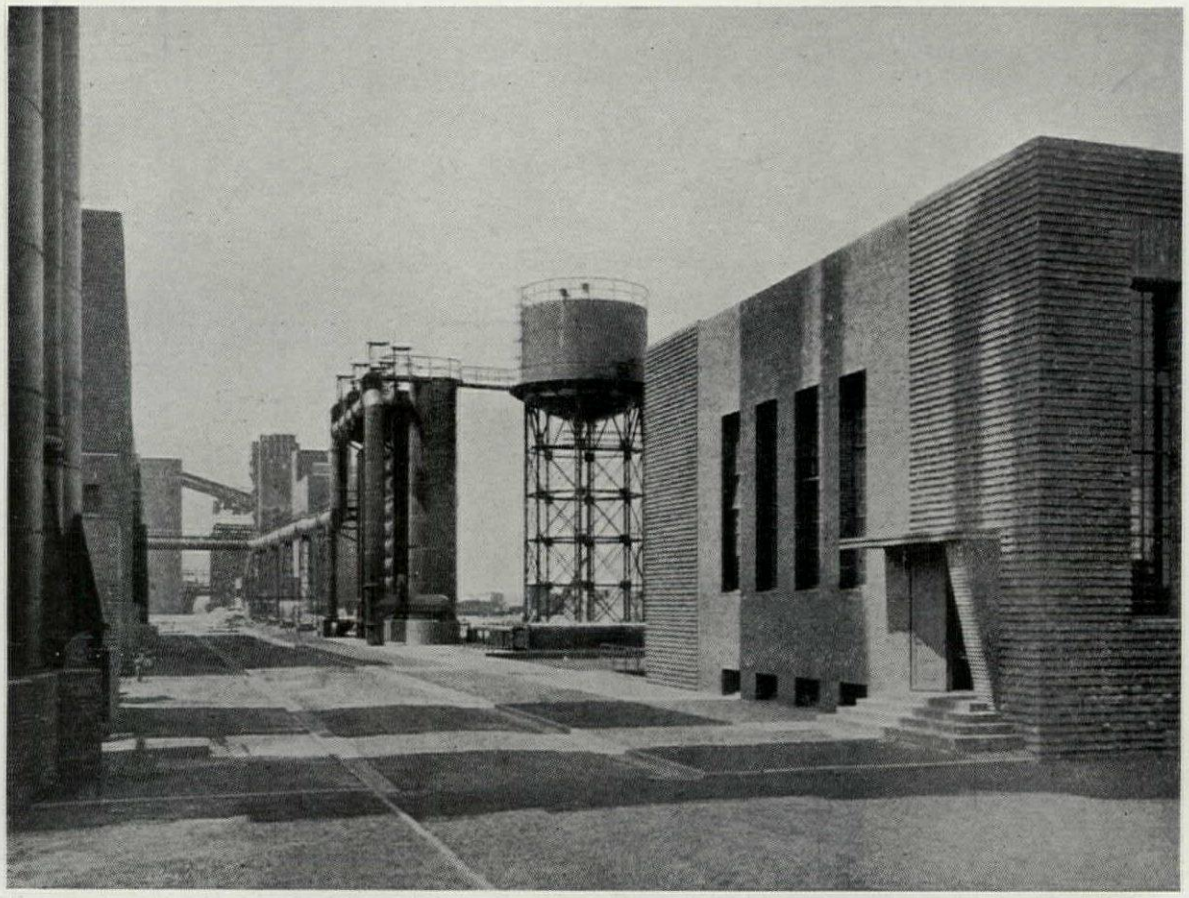


FROM PAGE 31 "ARCHITECT VS. ENGINEER." IMPROPER TREATMENTS OF OPEN STEEL SUPERSTRUCTURES ON TOPS OF SOLID BUILDINGS

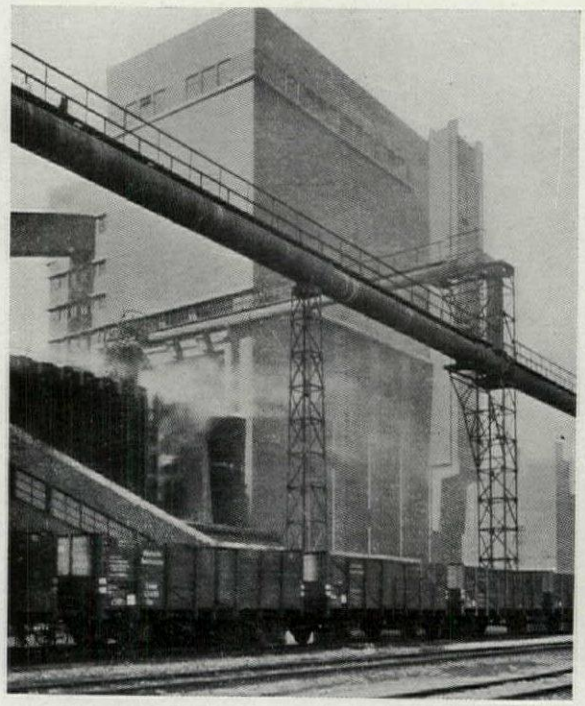
FROM PAGE 33, "ARCHITECT VS. ENGINEER." PROPER INCORPORATION OF OPEN STEEL SUPERSTRUCTURES IN THE BUILDING SCHEME THROUGH TOWER BASES

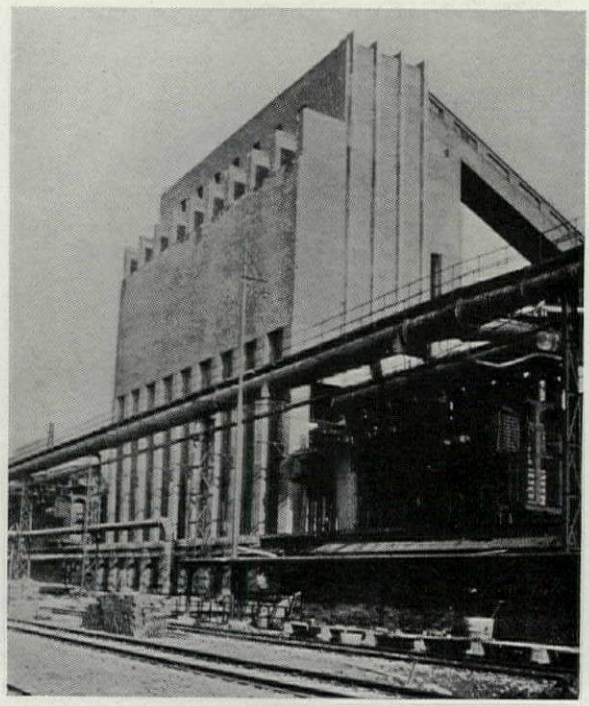


FROM PAGE 39, "ARCHITECT VS. ENGINEER," SHOWING ORDERLY ARRANGEMENT OF STANDPIPES AND BUILDINGS

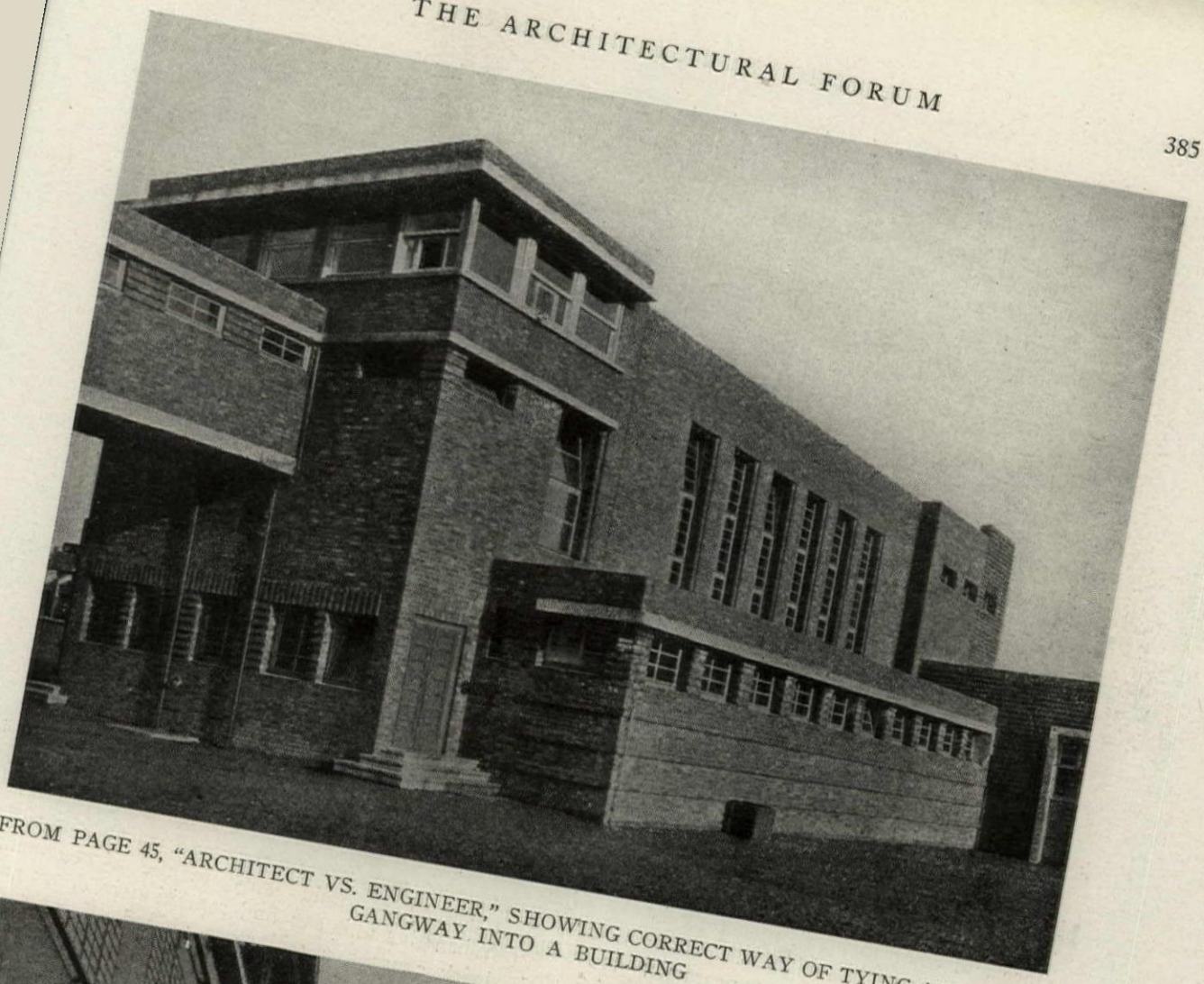


FROM PAGE 36, "ARCHITECT VS. ENGINEER," SHOWING ORDERLY ARRANGEMENT OF TANKS, SMOKE STACKS, STANDPIPES AND BUILDINGS

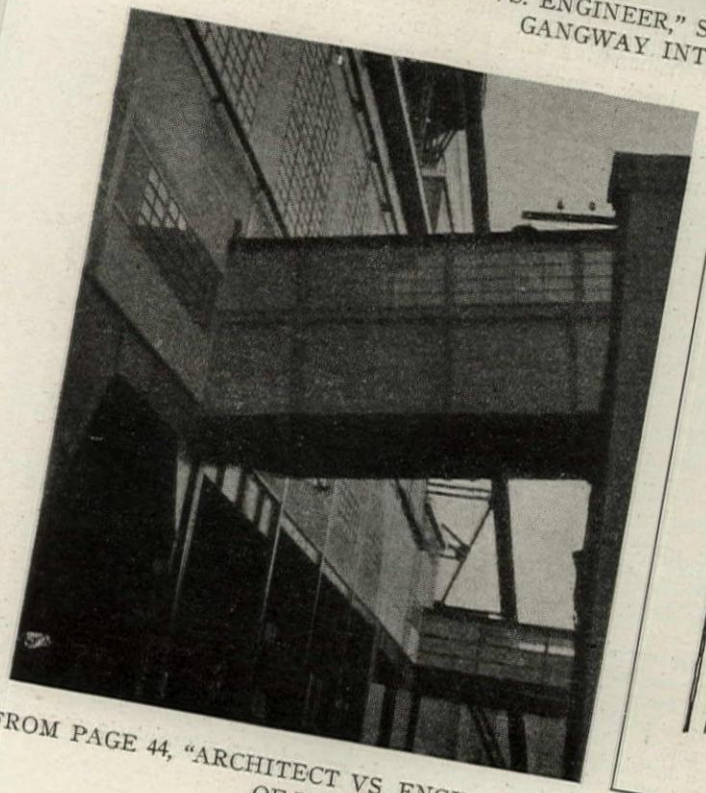


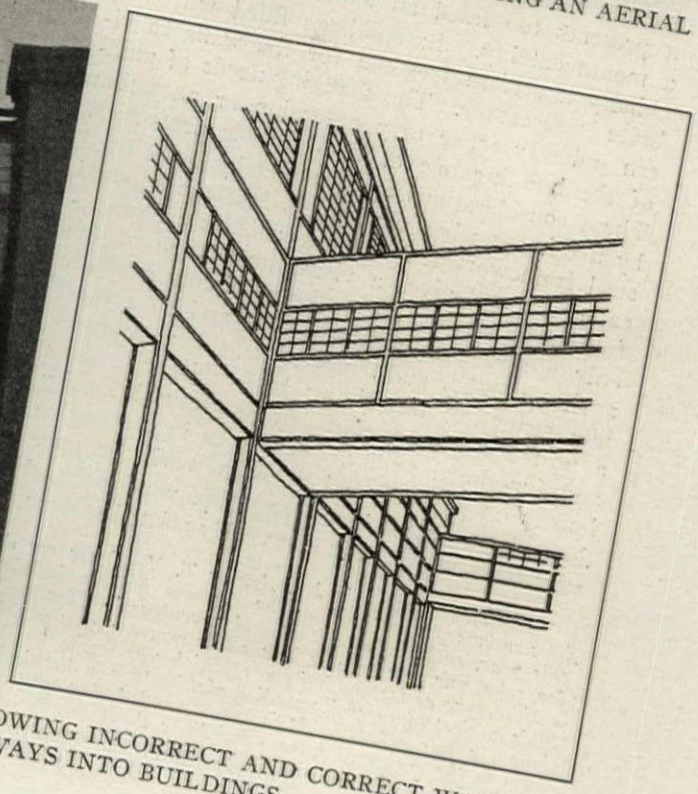


FROM PAGE 42, "ARCHITECT VS. ENGINEER," SHOWING AERIAL CONDUITS UTILIZED TO BIND BUILDING GROUPS TOGETHER



FROM PAGE 45, "ARCHITECT VS. ENGINEER," SHOWING CORRECT WAY OF TYING AN AERIAL GANGWAY INTO A BUILDING





FROM PAGE 44, "ARCHITECT VS. ENGINEER," SHOWING INCORRECT AND CORRECT WAYS OF BUTTING AERIAL GANGWAYS INTO BUILDINGS

spatial composition. The writer has previously inveighed against the extreme school of modernists who would avoid the "court of honor" scheme because of the literary associations of the word when such a scheme serves the purposes of a clear arrangement for units and useful connection between them. He is of the opinion that monumentality is an admissible expression of industrialism and that there are no monuments more appropriate to this age than its industrial buildings,—provided that the monumentality is real and not of the improved "Trianon" variety.

This search for reality of expression forms the subject matter of most of the illustrations and attains its end for the most part successfully. Page 7 of "Architect *vs.* Engineer" illustrates the raw and gradually improved treatment of a cable power belt. Page 9 its fully expressed function. Pages 10, 11 and 12 illustrate the clear, vertical expression of stair and elevator shafts.

Pages 18 to 28 illustrate the use of brick. In buildings where resistance against coal-gas laden atmosphere, smoke and general industrial impurity of the air is imperative, brick is the ideal material. Its quiet, warm, unified color binds buildings of diversified purposes into harmony. The ease with which the variation of a pattern can be introduced through modulation of surface and color to break monotony is one of its greatest assets. Its chief disadvantage is that it presents too fixed an appearance,—too solid a monumentality. In buildings filled with machinery a certain freedom for the walls to vibrate is necessary. The changing needs of modern industry make easy extension or alteration of the building one of its desirable properties. These considerations are not met by brick used by itself, but when used to fill between exposed steel framework it immediately meets the practical needs and gives a visual impression of the fulfillment. Since the modern building is really only a screen to regulate light and to protect against weather and temperature, this membrane-like structure, resembling half-timbering, gives a perfect expression of both structural facility and functional reality. When, as in the engine houses on page 23 and the iron works on page 25 and the boiler house page 26, windows and steel framework are in one visibly related scheme, a close unity or harmony in expression of the building elements is attained.

The next feature of industrial work to be discussed is the open steel superstructure on top of the solid building. Page 29 of "Architect *vs.* Engineer" shows the development of such features toward harmony with the solid structure beneath through the use of solid plate girders. Page 31 illustrates the accidental, uncoördinated location of such superstructures and 33 their proper incorporation in the building scheme through tower bases.

Page 36 of the same work illustrates an orderly arrangement of diverse elements such as standpipes, water tanks and solid buildings. Because of well proportioned planning and wise placing, these various types of construction count each for its own function without noisiness. It is sometimes possible and desirable to enclose such varied and inharmonious features, but it is not always necessary æsthetically nor always practicable to so screen them.

Pages 42 and 43 of "Architect *vs.* Engineer" show ærial conduits utilized to bind the building groups together instead of crawling over and among them. On 44 and 45 the correct and incorrect ways of butting ærial gangways into buildings are shown. Preserving the window banding ties the elements together. Where possible, the maintenance of a single scale pane and window openings proportioned to the unit do much to maintain unity in the arrangement. When this unit can find repetition in doors and brick courses, a still more unified effect is assured.

Messrs. Schupp and Kremmer give advice in "Architect *vs.* Engineer" to the architect. Accepting the architect as one sensible to beauty and amenable to advice from the engineer, his value is established. Only when the age decides against pride in the monuments to its industry will the architect prove unnecessary. Only when the architect is not content with a real solution of his problem, but prefers to make a stage setting, will the engineer do better without him. The age has elements of greatness too vast to become the property of one profession, and solving collective problems requires collective thinking. Industry gives us something entirely our own to express without relation to what other ages have hitherto expressed, and herein lies inspiration.

EDITOR'S NOTE. *To Mr. Arthur T. North we are deeply indebted for permission to reproduce a number of the illustrations from the book on German industrial buildings by Messrs. Schupp & Kremmer, published in Berlin this year, entitled "Architekt und Ingenieur." This book was sent to Mr. North by his friend, Dr. Edmund Schueler, who, due to a serious illness this summer, was unable to prepare for us a review of this important work on the architecture of factory buildings, which was finally written by Shepard Vogelgesang of the office of Joseph Urban. This subject of carefully studied architecture in the design and arrangement of factory buildings is only in its infancy in this country. It is recommended that all architects and engineers interested in architectural improvement in the design of factory buildings should study carefully the work of the several foreign architects, as well as the foreign books suggested by Mr. Vogelgesang in his brief but interesting article.*

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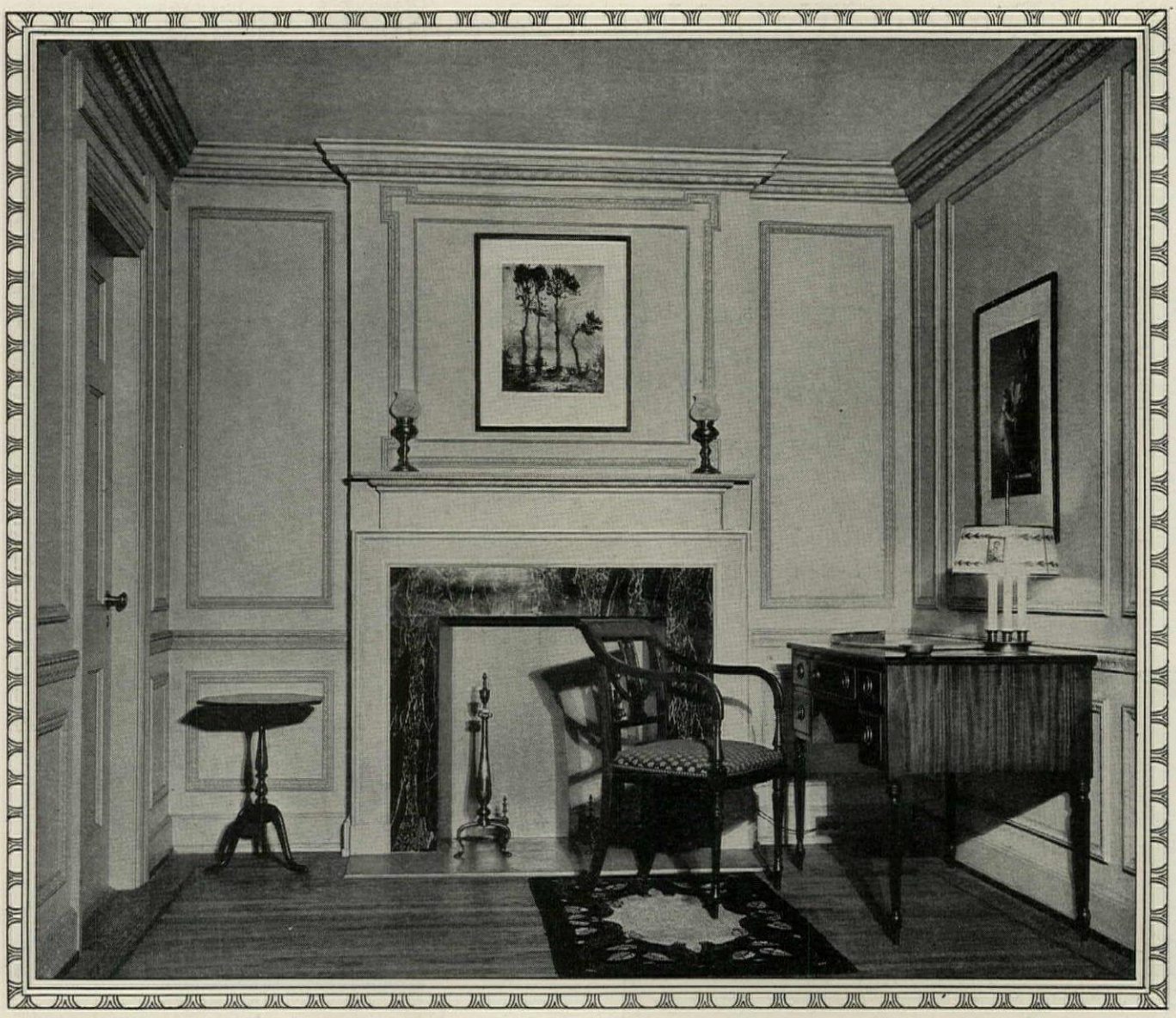

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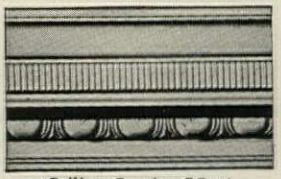

Ceiling Cornice CC-14

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PERIOD MOULDINGS
in ornamented wood

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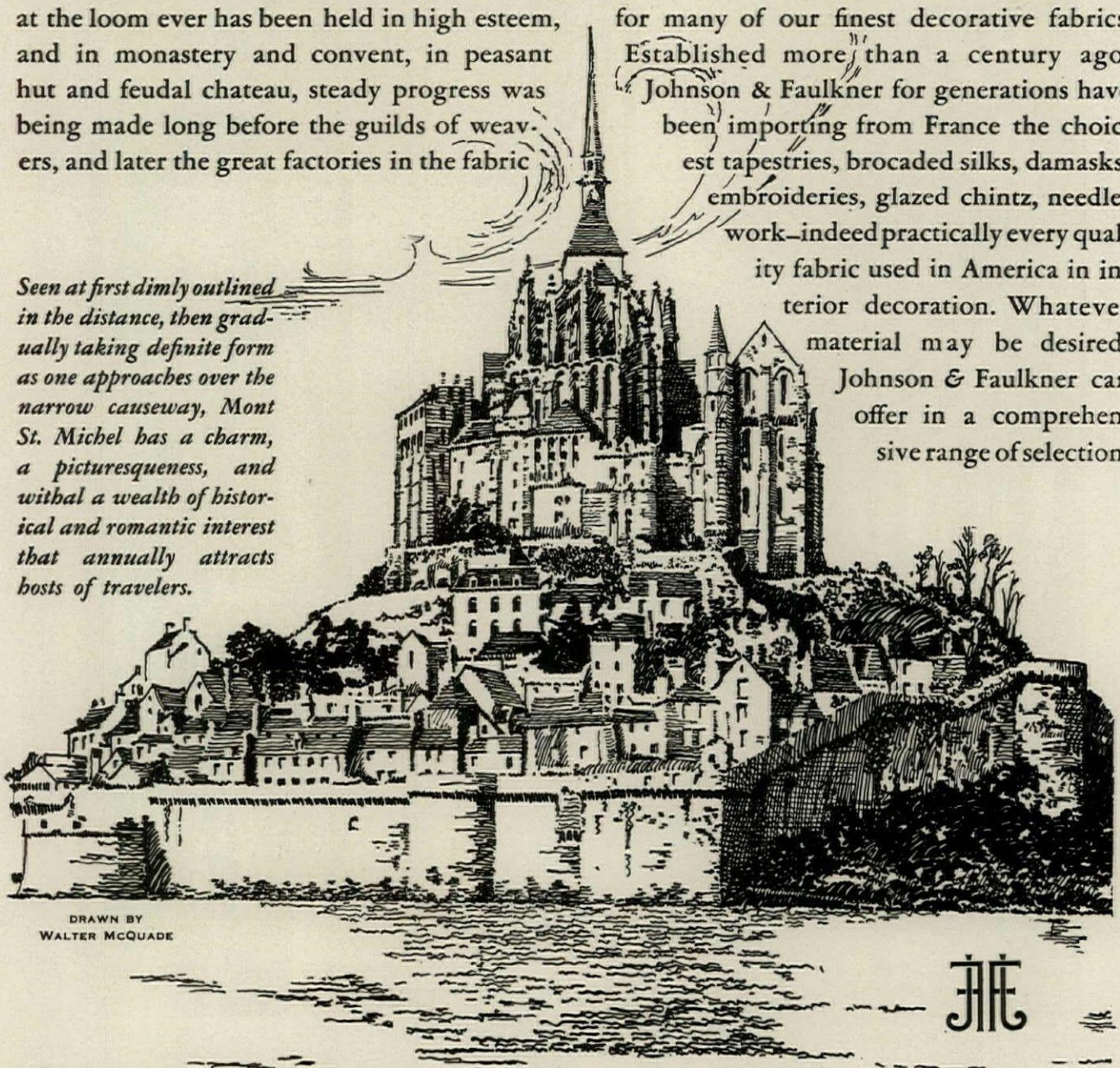
UPHOLSTERY *and* DRAPERY FABRICS

FRANCE — aesthetic, beauty-loving — has been a devoted patron to the art of weaving since the Age of Charlemagne. Skill at the loom ever has been held in high esteem, and in monastery and convent, in peasant hut and feudal chateau, steady progress was being made long before the guilds of weavers, and later the great factories in the fabric centers, brought the art to a degree of perfection hitherto unknown. This leadership has not been lost, and it is still to France that we look for many of our finest decorative fabrics. Established more than a century ago, Johnson & Faulkner for generations have been importing from France the choicest tapestries, brocaded silks, damasks, embroideries, glazed chintz, needlework–indeed practically every quality fabric used in America in interior decoration. Whatever material may be desired, Johnson & Faulkner can offer in a comprehensive range of selection.

Seen at first dimly outlined in the distance, then gradually taking definite form as one approaches over the narrow causeway, Mont St. Michel has a charm, a picturesqueness, and withal a wealth of historical and romantic interest that annually attracts hosts of travelers.



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WALTER McQUADE

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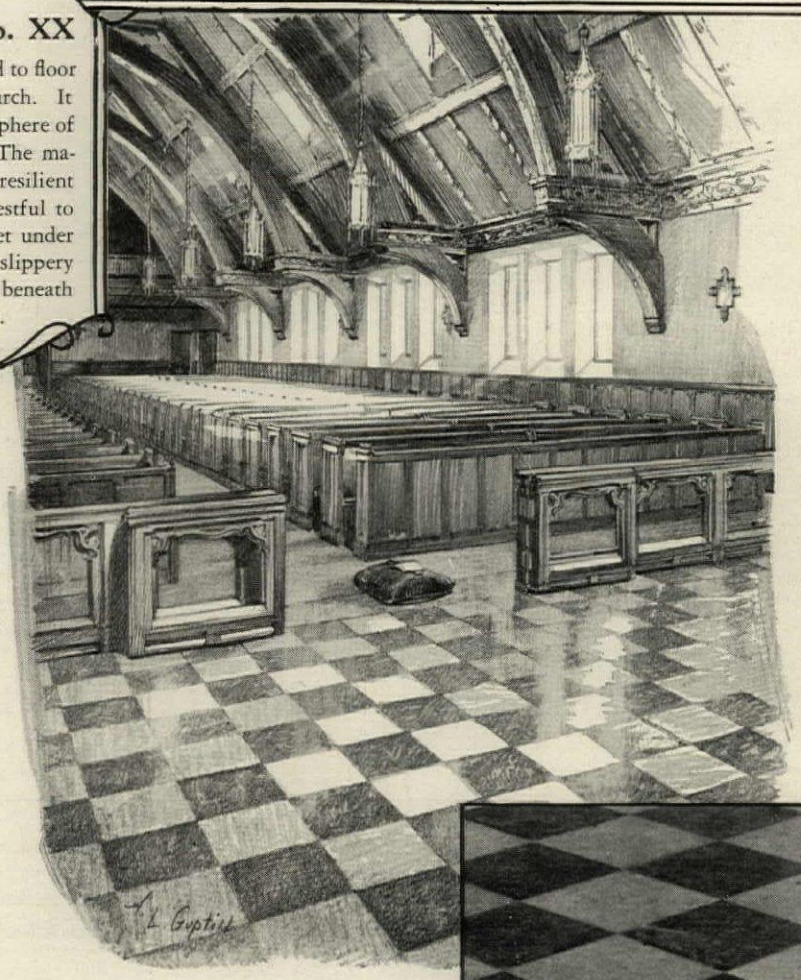
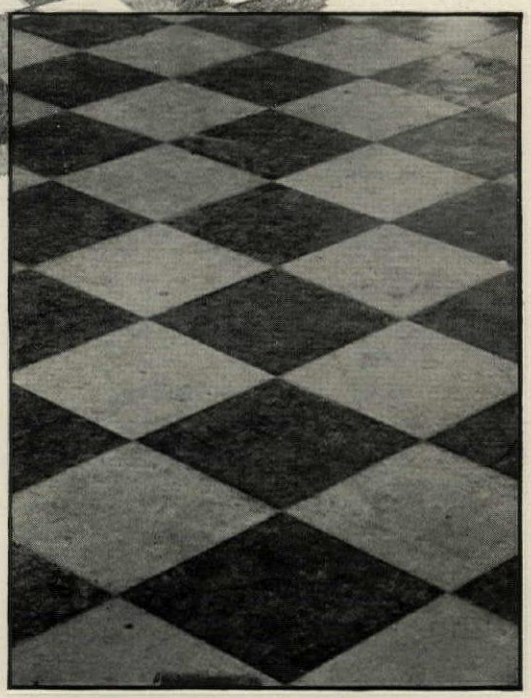
ZENITHERM

Stating
PROBLEM No. XX

A material is required to floor the sanctuary of a church. It must create an atmosphere of dignity and repose. The material must be resilient enough to be both restful to stand upon, and quiet under foot. It must not be slippery nor must it be cold beneath those kneeling.





Dark Brown and Buff Zenitherm in alternate squares in St. Stephen's Church, Winooski, Vermont. Maginnis and Walsh, *Architects.*

The PROBLEM *Solved*

NO small part of the architect's task is choosing the correct material to answer such a problem. In St. Stephen's church at Winooski, Vermont, Zenitherm was used, not only to floor the sanctuary but also for the tread and risers of the steps from the nave.

Zenitherm created the requisite atmosphere. Moreover, its splendid tri-toned shades added to the ensemble of ecclesiastic colors. It is not slippery even when damp from a recent scrubbing. Due to its cellular construction, Zenitherm is resilient and is exceedingly restful beneath those standing or kneeling. This same cellular construction makes Zenitherm such a splendid insulator that it never feels cold to the touch. It also prevents it from transmitting unpleasant acoustic vibrations. Zenitherm is a material of permanence. It is long wearing, fireproof, and rodent-proof. It requires a minimum of maintenance and upkeep.

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Custom Made Floors
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Here is a floor of "U. S." Rubber Tile designed to blend with church architecture. ✣ ✣ ✣ This superior flooring is obtainable in twenty standard colors to harmonize with any interior decorative plan. See Sweet's Catalogue for information or write direct to Room 1604.
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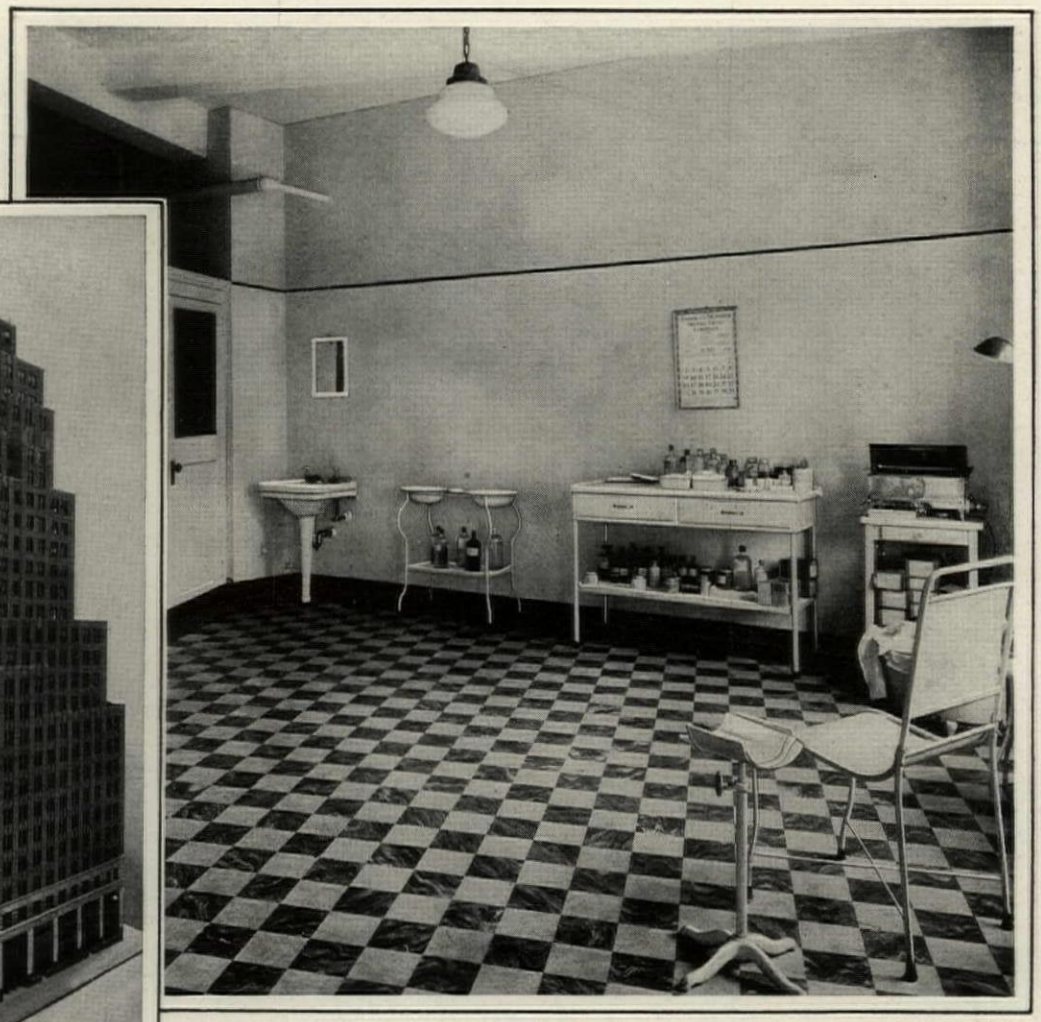


North American Indemnity Insurance Company Building at 111 John Street, New York City

Insurance Company buys DOUBLE-WAXED LINOLEUM

This Service Free to Architects

We maintain a service department to assist architects in planning or specifying linoleum floors. This service is at your disposal without charge. Write for copy of Architects Data Book and ask for representative to call if you wish advice on specific problems. Address: Architects Service Department, W. & J. Sloane, 577 Fifth Avenue, New York City.

IN their new home offices at New York the North American Indemnity Insurance Company installed over 8600 square yards of W. & J. Sloane DOUBLE-WAXED Linoleum.

Discriminating buyers of linoleum today insist on more than standard Government specifications. They have learned to demand, in addition, a smooth, lustrous surface without pores to catch and hold dust and grime.

W. & J. Sloane Linoleum is made with a *natural* fine-textured finish, the result of extra-processing in the grinding and mixing of raw materials and extra pressure in the calendars. It is then *double-waxed at the plant* by an exclusive Sloane process.

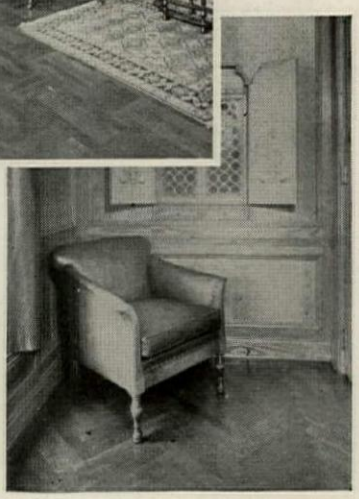
When you specify W. & J. Sloane Linoleum you assure your client of the finest money can buy. It comes to the job *double-waxed*. It is easy to handle and lay and ready for use the instant it is laid. Examine this superfine finish before you write the specifications. We will gladly send you a quality sample.

W. & J. SLOANE
Double-Waxed LINOLEUM

Reflecting the Culture of the Home

Interior view of Doddington House built by the Doddington Company, Columbus, for use of local architects and prospective home builders. Miller and Reeves Architects. Ritter Parquetry Flooring used

Basket Weave Pattern (above)



Herringbone Pattern (right)

As an Architect You'd Appreciate the Doddington House

In Columbus, Ohio, the Architects and Builders make use of a fascinating exhibit of modern home interiors to illustrate their ideas to clients. This is a permanent exhibit, in the form of a distinctive home -- the Doddington House, built primarily for the use of architects and prospective home owners interested in quality materials.

Its many beautiful rooms are replete with floorings, rich furnishings and charming arrangements, blending with perfect examples of the finest in interior decoration.

The flooring, in most of the first floor rooms, is of Ritter Appalachian Oak. Visitors instantly recognize its rich exclusive beauty. They can see for themselves its "finer" grain -- its more velvet-like texture. Its superb quality is expressed in mellowed loveliness.

Specify Ritter Oak Flooring for your next important home or building and note the difference. You'll be convinced . . . and very much satisfied.

For additional information see either Sweet's or Architect's Manual

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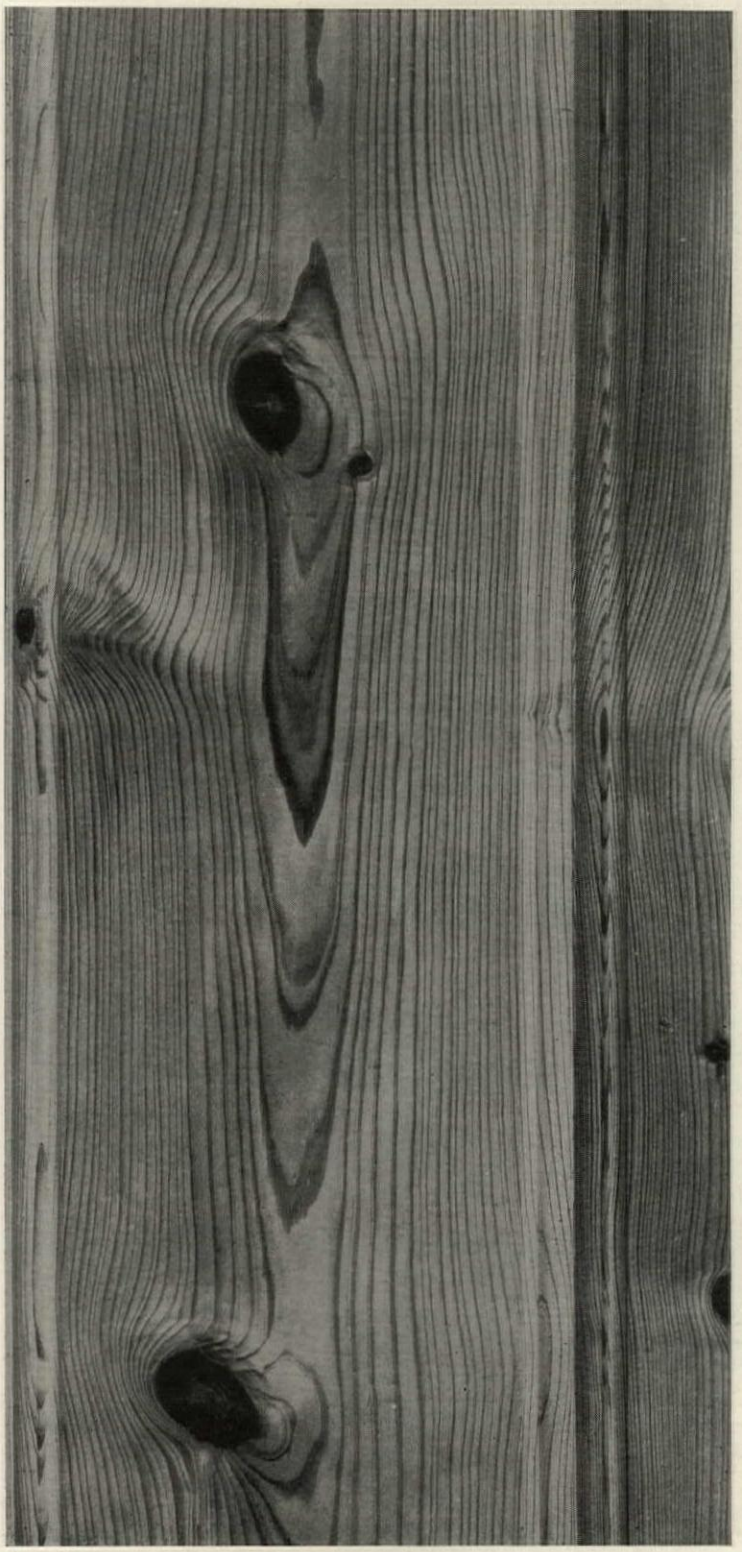

MODERN architects turned back the pages of history for a distinctive treatment of walls, and found it in the homes of our forefathers. Today, the expressive charm of colorful sound knots and beautiful grain of knotty Southern Pine, first used and liked by the Colonists, has been recreated in scores of distinguished homes.

Dierks Early American NottiPine Paneling adds color, warmth and variety of expression to the accepted building trends — the Georgian, the Colonial, the New England and the Early American. From the Dierks Mills, it comes a finished product . . . tongued, grooved, scientifically steam kiln dried and machine sanded . . . beautiful, practical, permanent and *easy-to-install.*

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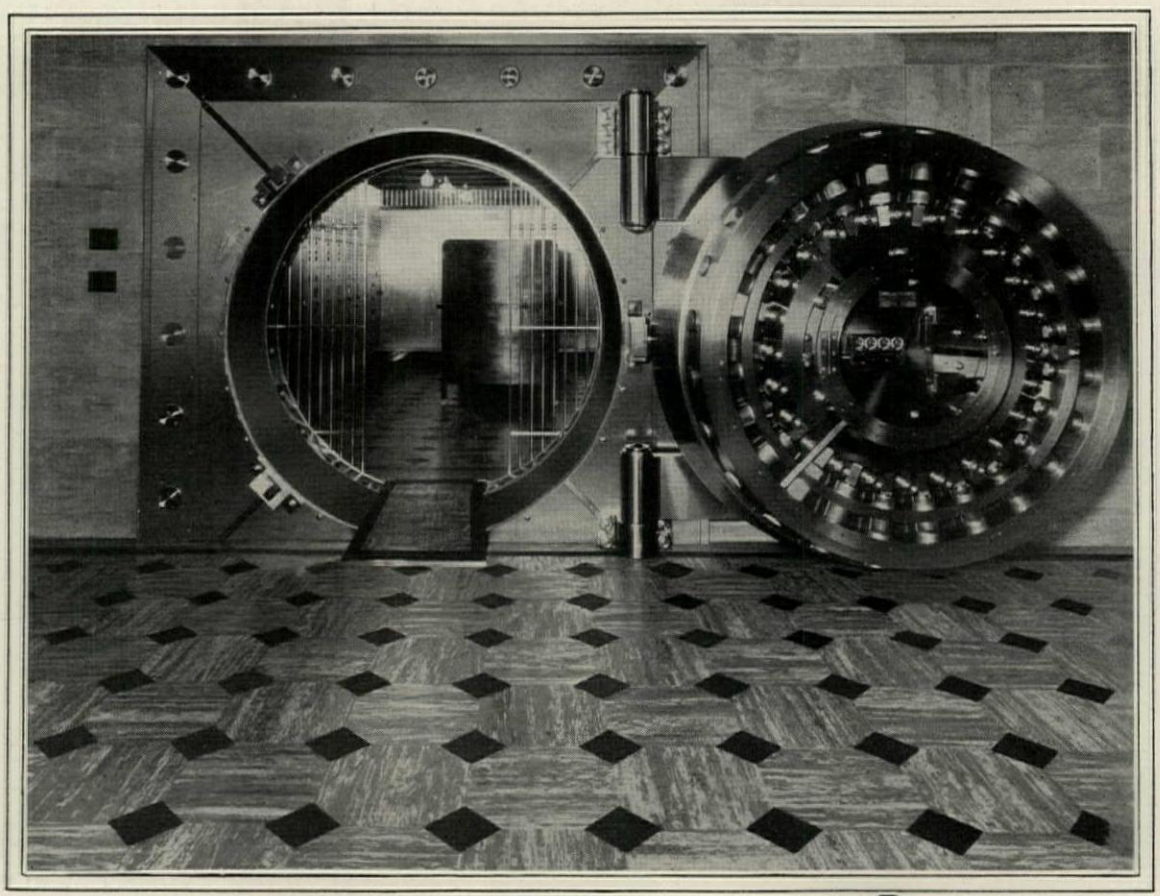
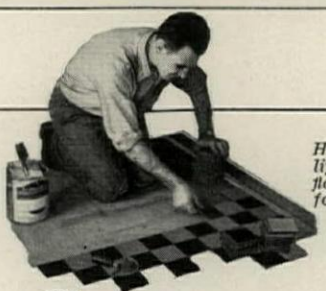


This beautiful Linotile floor was installed in the Bank of California, by the Dinwiddie Construction Company. Architects, Bliss and Fairweather.



Handlaid to last a lifetime. A Linotile floor is laid by hand for enduring service and beauty.

You can't hang pictures on a SAFE

Banks are difficult to decorate ~ but two San Francisco architects made floors do their part.

A BANK has so little wall space . . . so many barred cages . . . so much cold steel. How can such an interior be given the feeling of friendly warmth and welcome that bankers would like their depositors to feel? Obviously draperies, pictures, and all wall decorations must play a very minor part. Obviously, too, the floor must do double duty . . . serve both as the floor and as the main decorative unit.

Bliss and Fairweather made the floor do its part in The Bank of California, shown on this page, by specifying Armstrong's Linotile in a distinctive design. Dignity combines with a warmth of feeling in this contrasting pattern of black and marbleized green. Linotile is really an exceptional floor. It has the beauty of marble with none of its hardness. Each tile is laid separately by hand, and firmly cemented to the floor base, making a quiet, resilient, long-wearing floor of lasting beauty.

With Linotile, the architect is able to plan any kind of an individualized floor. He can suit his design exactly to the particular type of home or business interior. With the sixteen plain and fourteen marbleized colorings, practically any design may be created, practically any color scheme effectively matched.

Many architects have found that the Armstrong Bureau of Interior Decoration can be of real help in suggesting decorative schemes for any type of interior. We should be glad to have you consult us, too. Just address the Armstrong Cork Company, Custom Floors Department, Lancaster, Pennsylvania.

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Period Entrances

that promise

Charm and Hospitality within

Reproductions by Curtis *for the houses you design*

No single feature of a house attracts the eye of your client more than the entrance—for the entrance to a home is really its "face". Some are warm and welcoming, some are simple and dignified—some, because of their plainness, leave clients cold and indifferent.

Curtis entrance reproductions will give to your houses just that note of character you wish them to have. The entrance illustrated here—so intimately associated with the simple, straightforward architecture of Old Salem and Old Deerfield—is an admirable expression of the charm and hospitality of Colonial America.

Yet this is but one of the many beautiful period pieces available to you. There are also exquisite mantels steeped in history to give your living rooms that *different* touch, stairwork that makes the hall a charming introduction to the home, as well as many period entrances to lend *distinction* to the "face" of your houses.

To protect the individuality of your selections, Curtis makes these reproductions in limited quantities only. Yet Curtis facilities make it possible to produce them at a cost no greater than that of good ordinary woodwork. Whatever you select from the wide Curtis line—kitchen units, doors, windows, frames, stairwork, porchwork or trim—the Curtis name assures you authentic design and finest precision workmanship. Write for details.

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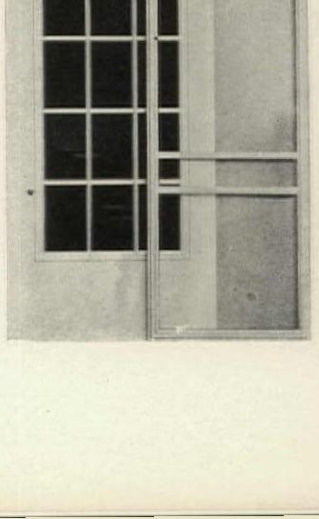
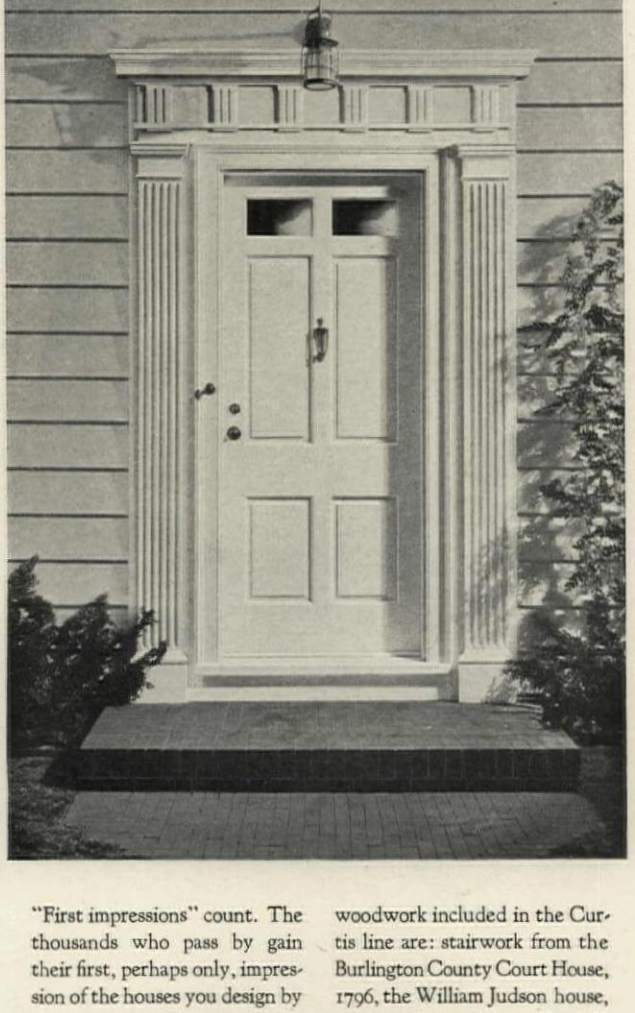


A Double Duty Door

This combination door does the double duty of screen door in summer and storm door in winter. The screen panel and glass panel may be interchanged in a few brief moments.



"First impressions" count. The thousands who pass by gain their first, perhaps only, impression of the houses you design by the entrances. This simple Colonial entrance consists of frame C-1732 and door C-1027. From Curtis dealers' present stocks at less than $60.00. Other reproductions of famous old pieces of woodwork included in the Curtis line are: stairwork from the Burlington County Court House, 1796, the William Judson house, 1723, and the George Read II house, 1791; mantels from the Webb house, 1752, and the Vernon house, 1758; also mantels, entrances and stairwork from English inspiration.

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Visit Curtis Woodwork, Inc., Display Rooms and Sales Office, Room 201, 9 East 41st St., New York City. Chicago Display Rooms, Curtis Door & Sash Co., 1414 S. Western Ave., Chicago, Ill.

The CHANIN BUILDING is crowned with light

. . . *from Chromilite Floodlights*

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MR. RICHARD HAVILAND SMYTHE won with this design for "the DOOR OF TOMORROW"

Columbia University . . . American Academy, Rome . . . Welles Bosworth, Warren & Wetmore . . . own practice . . . modernist . . . Winner Smythe! "Modern practice," he says, "tends toward woods of interesting figure." He has often found Philippine Laminex useful.

MR. SMYTHE has unquestionably caught the spirit of this new architectural era in his design, selected from 153 sketches as "The Door of Tomorrow."

It was, the jury has admitted, no easy task to select the winners. So many designs expressed the feeling of this new day.

And almost without exception, the entrants made a motif of the graceful, slender ribbon grain that distinguishes that beautiful new wood, Philippine Laminex.

"The Door of Tomorrow" will soon be procurable in Philippine Laminex.

Already available are the stock Phillippine Laminex designs, Belle Porte, Slab, Panel, French—some 23 in all. A leading millwork dealer in your city can show you these interesting new doors, and Philippine Laminex trim to match.

These doors come in two natural shades of beautiful Philippine hardwood, a dark and a light. They may be finished in the rich dark red that mahogany usually is stained, or in lustrous walnut, or any of the intermediate shades. A versatility you've never known of mahogany!

Surprising, too, is their extremely low cost. Philippine Laminex doors run from 40% to 50% less than doors of ordinary mahogany.

Belle Porte, one of the 23 beautiful new Philippine Laminex doors. With the vertical ribbon grain that is mahogany's charm, at a saving of at least 40%! Plus the stability of Laminex construction: These doors will not shrink, swell, or warp.

FLUSH PANEL DOOR
DARK, LIGHT & BLEACHED MAHOGANY FINISH
THREE INCH TRIM IN STRIPS OF SAME

See these lovely doors this week at a local yard. For additional information and a copy of the Philippine Laminex catalog, write your name and address in margin and mail this page to:

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PHILIPPINE LAMINEX DOORS

Will not shrink, swell, or warp

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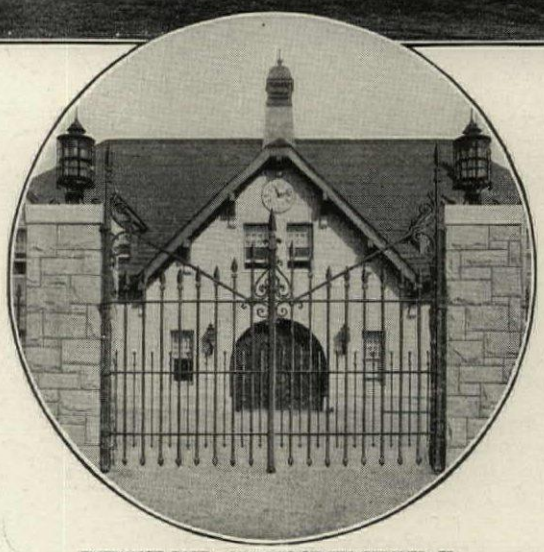
MR. WALLACE F. YERKES, CHICAGO, ILL., AWARDED $150.00 FOR THE BEST NEW DESIGN FOR A COMMERCIAL BUILDING.

MR. J. E. HOSTETTER, PORTLAND, ORE., AWARDED $50.00 FOR THE SECOND BEST NEW DESIGN FOR A HOME.

MR. ROBERT E. RADER, JR., WASHINGTON, D. C., AWARDED $50.00 FOR THE SECOND BEST NEW DESIGN FOR A COMMERCIAL BUILDING.

THE JURY: MR. JOHN HOWARD RAFTERY OF FRAZIER AND RAFTERY, ARCHITECTS CHICAGO: MR. W. STUART THOMPSON, PROXY FOR MR. HENRY S. CHURCHILL OF THOMPSON & CHURCHILL, ARCHITECTS, NEW YORK, MR. WILLIAM ZORACH, SCULPTOR, NEW YORK.

STABLES OF WM. ZIEGLER, JR., NORWTON, CONN., H. P. KNOWLES, ARCHITECT



ENTRANCE GATE—STABLES OF WM. ZIEGLER, JR

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JOHN RUSSELL POPE, *Architect*

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PERCY ROCKEFELLER, Overhills, N. C.
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ROUND HILL COUNTRY CLUB, Greenwich, Conn.
THEODORE E. BLAKE, *Architect*

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EDSEL L. FORD, Seal Harbor, Maine
DUNCAN CANDLER, *Architect*

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(See page in SWEET'S)

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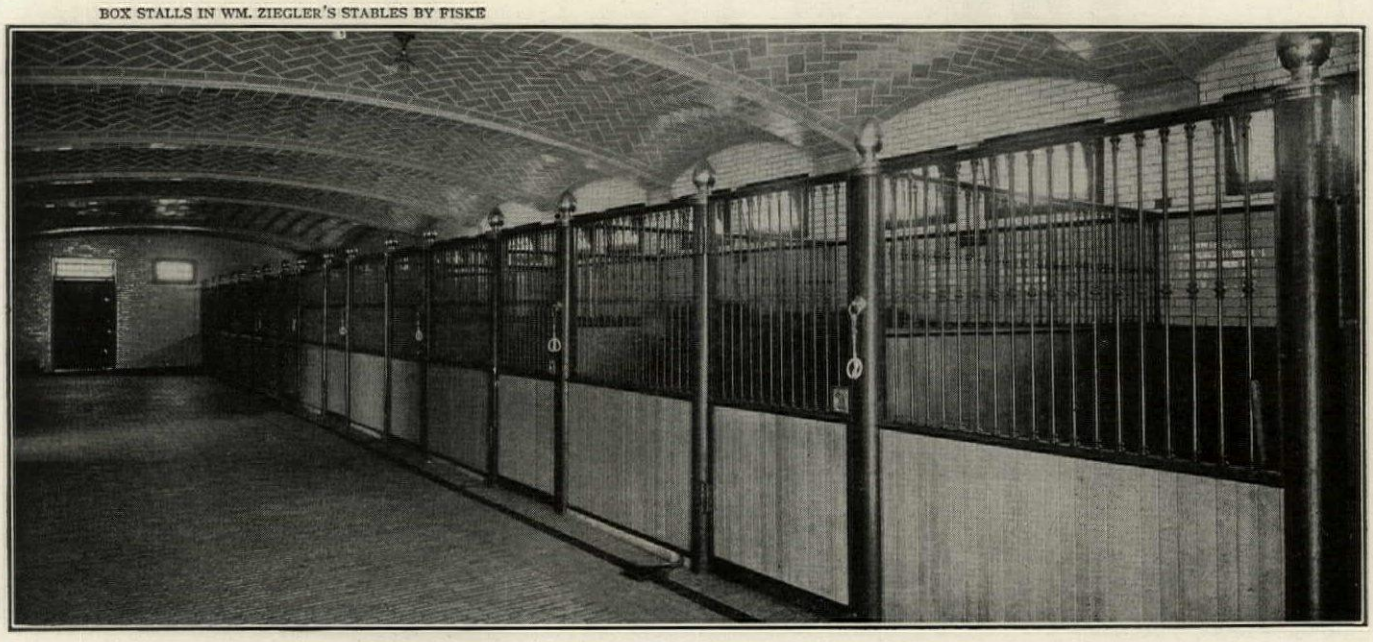
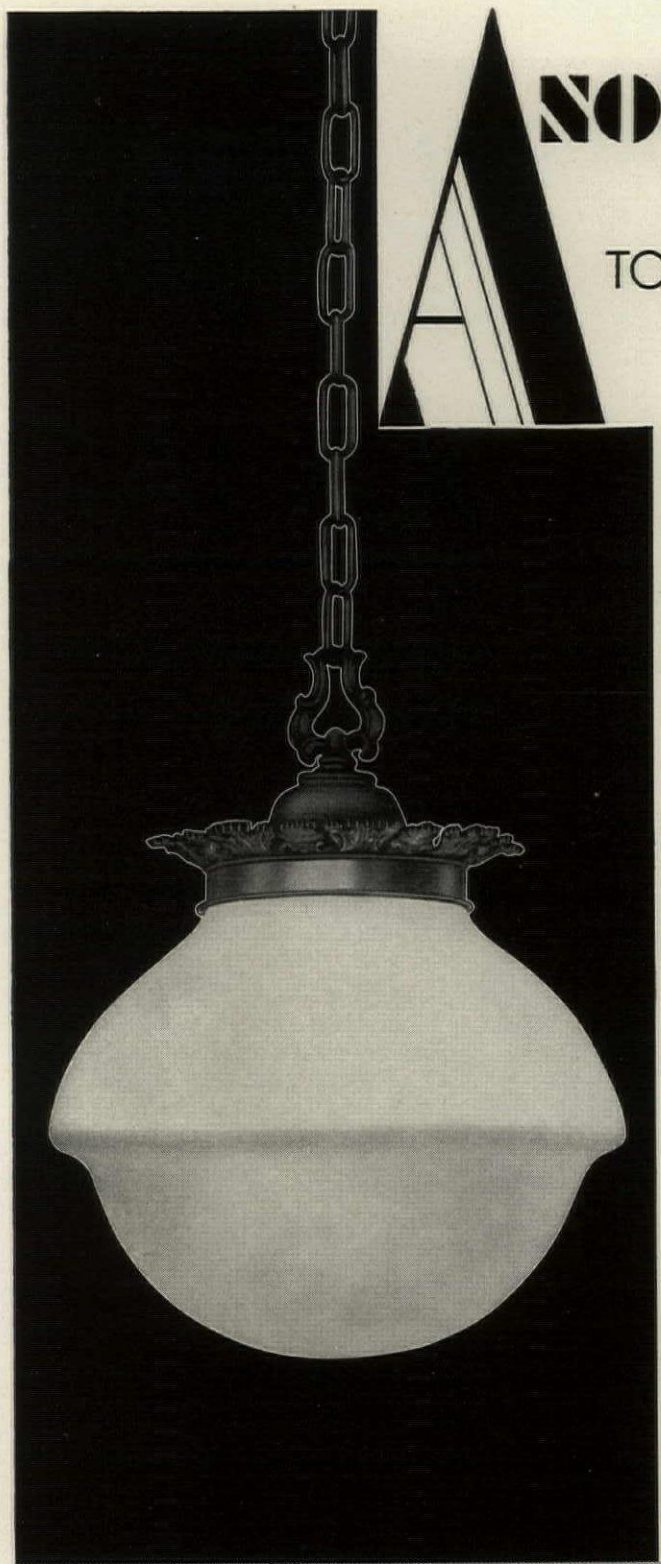
BOX STALLS IN WM. ZIEGLER'S STABLES BY FISKE





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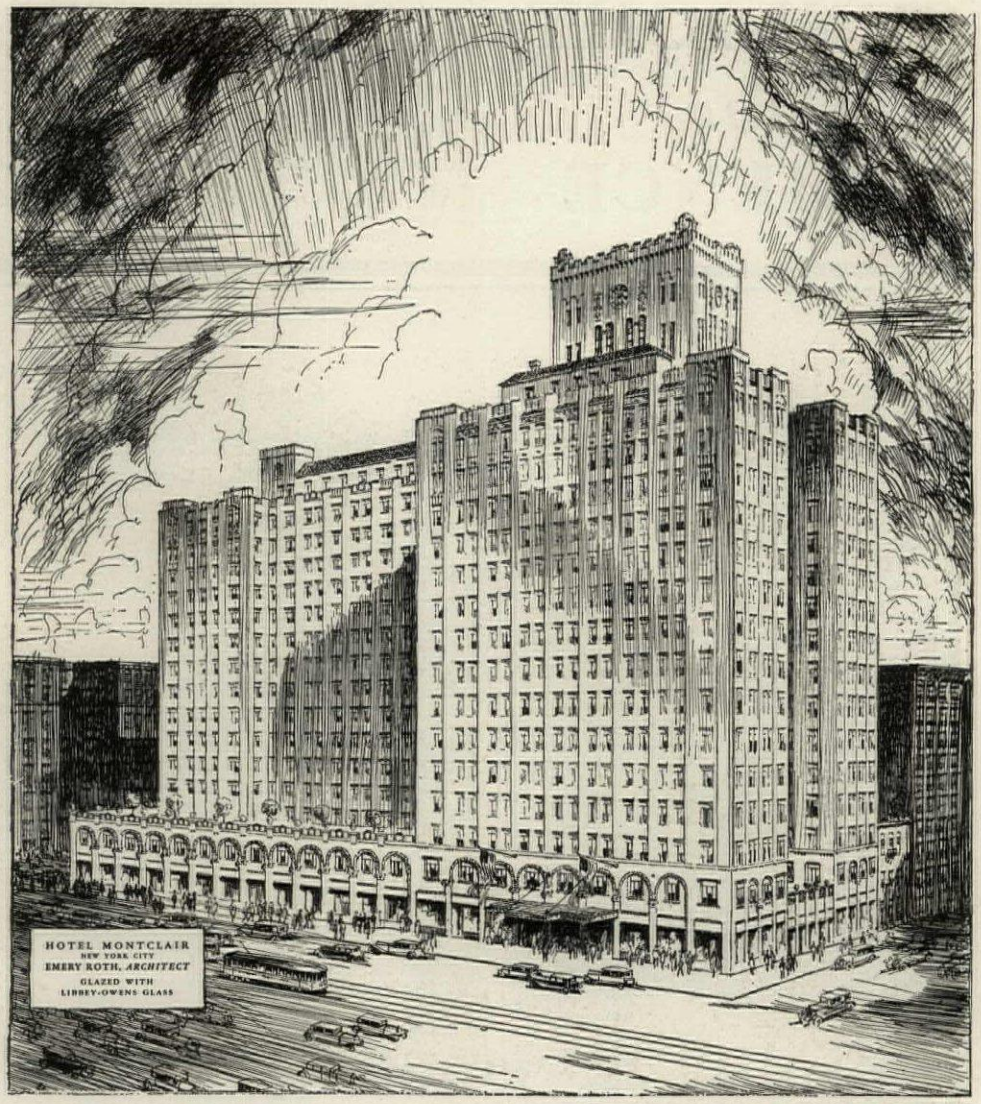

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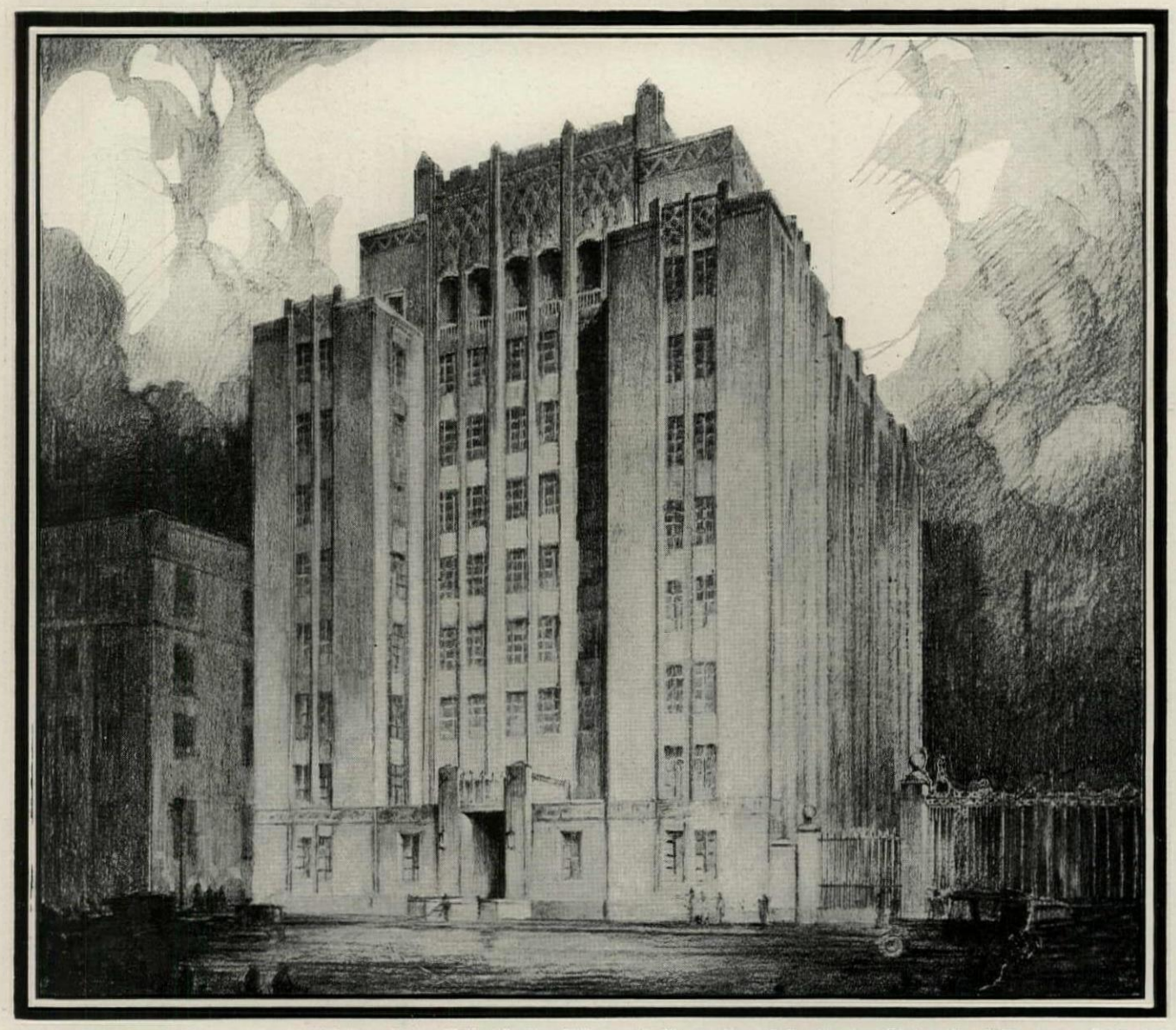

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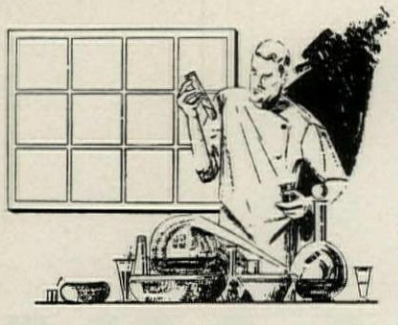

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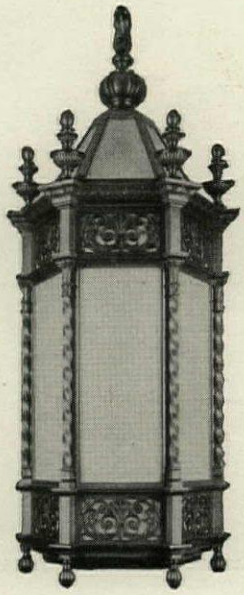

IN the main corridor of the New York Life Insurance Company building, New York City, designed by Mr. Cass Gilbert there are suspended fifteen large bronze lanterns, produced in our shops. For other important locations in this building we have made the lighting fixtures which are no less beautiful in detail and finish . . . For the execution of lighting fixtures of any size, or for the creation of the beautiful in metal, marble and glass, we offer the architectural and decorating professions the benefit of our wide experience. In our New York showrooms are innumerable suggestions for your consideration. Or one of our representatives would be glad to confer with you in your own office.

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FOR THE SERVICE OF ARCHITECTS, ENGINEERS, DECORATORS, AND CONTRACTORS

The publications listed in these columns are the most important of those issued by leading manufacturers identified with the building industry. They may be had without charge unless otherwise noted, by applying on your business stationery to *The Architectural Forum*, 521 Fifth Ave., New York, or the manufacturer direct, in which case kindly mention this publication.

ACOUSTICS

R. Guastavino Co., 40 Court St., Boston.
Akoustolith Plaster. Brochure, 6 pp., 8½ x 11 ins. Important data on a valuable material.

Johns-Manville Corporation, New York.
Sound-Absorbing Treatment in Banks and Offices, Booklet, 18 pp., 8½ x 11 ins. Illustrated.
Sound-Absorbing Treatment in Churches and Religious Institutions. Brochure. 22 pp., 8½ x 11 ins. Illustrated.

U. S. Gypsum Co., 205 W. Monroe St., Chicago, Ill.
A Scientific Solution of an Old Architectural Problem. Folder, 6 pp., 8½ x 11 ins. Describes Sabinite Acoustical Plaster.

ASPHALT

Barber Asphalt Company, New York, Philadelphia, Chicago, Pittsburgh, Kansas City, St. Louis, San Francisco.
Specifications for Applying Genasco Asphalt Mastic. Booklet, 16 pp., 8 x 9 ins.
Genasco Trinidad Lake Asphalt Mastic. Brochure, 32 pp., 6 x 9 ins.
Specifications for Applying Genasco. Booklet, 16 pp., 8 x 10½ ins.

BRICK

American Face Brick Association, 1751 Peoples Life Building, Chicago, Ill.
Brickwork in Italy. 298 pp., size 7½ x 10½ ins., an attractive and useful volume on the history and use of brick in Italy from ancient to modern times, profusely illustrated with 69 line drawings, 300 half-tones, and 20 colored plates, with a map of modern and XII century Italy. Bound in linen. Price now $3.00, postpaid (formerly $6.00). Half Morocco, $7.00.
Industrial Buildings and Housing. Bound Volume, 112 pp., 8½ x 11 ins. Profusely illustrated. Deals with the planning of factories and employes' housing in detail. Suggestions are given for interior arrangements, including restaurants and rest rooms. Price now $1.00 postpaid (formerly $2.00).

Common Brick Mfrs. Assn. of America, 2134 Guarantee Title Bldg., Cleveland.
Brick; How to Build and Estimate. Brochure, 96 pp., 8½ x 11 ins. Illustrated. Complete data on use of brick.
The Heart of the Home. Booklet, 24 pp., 8½ x 11 ins. Illustrated. Price 25 cents. Deals with construction of fireplaces and chimneys.
Skintled Brickwork. Brochure, 16 pp., 8½ x 11 ins. Illustrated. Tells how to secure interesting effects with common brick.
Building Economy. Monthly magazine, 22 pp., 8½ x 11 ins. Illustrated. $1 per year, 10 cents a copy. For architects, builders and contractors.

Hanley Company, Bradford, Pa.
General Catalog. 16 pp. 8½ x 11 ins. Illustrated.
Bradford Reds. Folder. 8 pp., 3 x 8 ins. Illustrated.

CEMENT

Carney Company, The, Mankato, Minn.
A Remarkable Combination of Quality and Economy. Booklet, 20 pp., 8½ x 11 ins. Illustrated. Important data on valuable material.

Kosmos Portland Cement Company, Louisville, Ky.
Kosmortar for Enduring Masonry. Folder, 6 pp., 3½ x 6½ ins. Data on strength and working qualities of Kosmortar.
Kosmortar, the Mortar for Cold Weather. Folder, 4 pp., 3⅜ x 6½ ins. Tells why Kosmortar should be used in cold weather.

Louisville Cement Co., 315 Guthrie St., Louisville, Ky.
BRIXMENT for Perfect Mortar. Self-filing handbook, 8½ x 11 ins. 16 pp. Illustrated. Contains complete technical description of BRIXMENT for brick, tile and stone masonry, specifications, data and tests.

Portland Cement Association, Chicago, Ill.
Concrete Masonry Construction. Booklet, 48 pp., 8½ x 11 ins. Illustrated. Deals with various forms of construction.
Town and Country Houses of Concrete Masonry. Booklet, 20 pp., 8½ x 11 ins. Illustrated.
Facts About Concrete Building Tile. Brochure, 16 pp., 8½ x 11 ins. Illustrated.
The Key to Firesafe Homes. Booklet, 20 pp., 8½ x 11 ins. Illustrated.
Design and Control of Concrete Mixers. Brochure, 32 pp., 8½ x 11 ins. Illustrated.
Portland Cement Stucco. Booklet, 64 pp., 8½ x 11 ins. Illustrated.

CEMENT—Continued

Concrete in Architecture. Bound Volume, 60 pp., 8½ x 11 ins. Illustrated. An excellent work, giving views of exteriors and interiors.

CONCRETE BUILDING MATERIALS

Concrete Steel Company, 42 Broadway, New York.
Modern Concrete Reinforcement. Booklet, 32 pp., 8½ x 11 ins. Illustrated.

Kosmos Portland Cement Company, Louisville, Ky.
High Early Strength Concrete, Using Standard Kosmos Portland Cement. Folder, 1 page, 8½ x 11 ins. Complete data on securing high strength concrete in short time.

CONCRETE COLORINGS

The Master Builders Co., 7016 Euclid Ave., Cleveland.
Color Mix, Colored Hardened Concrete Floors (integral). Brochure, 16 pp., 8½ x 11 ins. Illustrated. Data on coloring for floors.
Dychrome. Concrete Surface Hardener in Colors. Folder, 4 pp., 8 x 11 ins. Illustrated. Data on a new treatment.

CONSTRUCTION, FIREPROOF

Master Builders Co., Cleveland, Ohio.
Color Mix. Booklet, 18 pp., 8½ x 11 ins. Illustrated. Valuable data on concrete hardener, waterproofer and dustproofer in permanent colors.

National Fire Proofing Co., 250 Federal St., Pittsburgh, Pa.
Standard Fire Proofing Bulletin 171. 8½ x 11 ins., 32 pp. Illustrated. A treatise on fireproof floor construction.

North Western Expanded Metal Co., 1234 Old Colony Building, Chicago, Ill.
North Western Expanded Metal Products. Booklet, 8½ x 10¼ ins. 16 pp. Fully illustrated, and describes different products of this company, such as Kno-burn metal lath, 20th Century Corrugated, Plaster-Sava and Longspan lath channels, etc.
A. I. A. Sample Book. Bound volume, 8½ x 11 ins., contains actual samples of several materials and complete data regarding their use.

CONSTRUCTION, STONE AND TERRA COTTA

Cowing Pressure Relieving Joint Company, 100 North Wells St., Chicago, Ill.
Pressure Relieving Joint for Buildings of Stone, Terra Cotta or Marble. Booklet, 16 pp., 8½ x 11 ins. Illustrated. Deals with preventing cracks, spalls and breaks.

CORNICES, METAL

Sheet Steel Trade Extension Committee. Terminal Tower, Cleveland. This committee will send upon request full data published by its members on sheet steel cornices and specifications for their use.

DAMPPROOFING

The Master Builders Co., 7016 Euclid Ave., Cleveland.
Waterproofing and Dampproofing Specification Manual. Booklet, 18 pp., 8½ x 11 ins. Deals with methods and materials used.
Waterproofing and Dampproofing. File. 36 pp. Complete descriptions and detailed specifications for materials used in building and concrete.

Minwax Company, Inc., 11 West 42nd St., New York.
Complete Index of all Minwax Products. Folder, 6 pp., 8½ x 11 ins. Illustrated. Complete description and detailed specifications.

Sonneborn Sons, Inc., L., 116 Fifth Ave., New York.
Specification Sheet, 8½ x 11 ins. Descriptions and specifications of compounds for dampproofing interior and exterior surfaces.

Toch Brothers, New York, Chicago, Los Angeles.
Handbook of R. I. W. Protective Products. Booklet, 40 pp., 4½ x 7½ ins.

The Vortex Mfg. Co., Cleveland, Ohio.
Par-Lock Specifications "Forms A and B" for dampproofing and plaster key over concrete and masonry surfaces.
Par-Lock Specification "Form J" for dampproofing the wall surfaces that are to be plastered.
Par-Lock Dampproofing. Specification Forms C, F, I, and J. Sheets 8½ x 11 ins. Data on gun-applied asphalt dampproofing for floors and walls.

DOORS AND TRIM, METAL

The American Brass Company, Waterbury, Conn.
Anaconda Architectural Bronze Extruded Shapes. Brochure, 180 pp., 8½ x 11 ins., illustrating and describing more than 2,000 standard bronze shapes of cornices, jamb casings, mouldings, etc.

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SELECTED LIST OF MANUFACTURERS' PUBLICATIONS — *Continued from page 81*

DOORS AND TRIM, METAL—Continued

Richards-Wilcox Mfg. Co., Aurora, Ill.
Fire-Doors and Hardware. Booklet, 8½ x 11 ins., 64 pp. Illustrated. Describes entire line of tin-clad and corrugated fire doors, complete with automatic closers, track hangers and all the latest equipment—all approved and labeled by Underwriters' Laboratories.

Sheet Steel Trade Extension Committee, Terminal Tower, Cleveland.
This committee will send upon request full data published by its members on metal doors and trim and specifications for their use.

Truscon Steel Company, Youngstown, Ohio.
Copper Alloy Steel Doors. Catalog 110. Booklet, 48 pp., 8½ x 11 ins. Illustrated.

DOORS, SOUNDPROOF

Irving Hamlin, Evanston, Ill.
The Evanston Soundproof Door. Folder, 8 pp., 8½ x 11 ins. Illustrated. Deals with a valuable type of door.

DRAINAGE FITTINGS

Josam Mfg. Co., Michigan City, Ind.
Josam Products. Booklet, 73 pp., 8½ x 11 ins. Illustrated. A valuable line of accessories.
Josam-Marsh Grease, Plaster, Sediment and Hair Interceptors. Brochure. 7 pp., 8½ x 11 ins. Illustrated.
Josam New Saw Tooth-Roof Drain. Folder, 4 pp., 8½ x 11 ins. Illustrated.

DUMBWAITERS

Sedgwick Machine Works, 151 West 15th St., New York, N. Y.
Catalog and Service Sheets. Standard specifications, plans and prices for various types, etc. 4¼ x 8¼ ins., 60 pp. Illustrated.
Catalog and pamphlets, 8½ x 11 ins. Illustrated. Valuable data on dumbwaiters.

ELECTRICAL EQUIPMENT

Baldor Electric Co., 4358 Duncan Avenue, St. Louis, Mo.
Baldor Electric Motors. Booklet, 14 pp., 8 x 10½ ins. Illustrated. Data regarding motors.

Bryant Electric Company, Bridgeport, Conn.
HooKeX Plug and Receptacle. Folder, 6 pp., 3½ x 6¼ ins. Illustrated.
KeNeX Plug and Receptacle. Folder, 6 pp., 3½ x 6¼ ins. Illustrated.
Three-wire Polarized Caps and Receptacles. Leaflet, 8½ x 10 ins. Illustrated.
Three-wire Polarized Caps and Receptacles for Heavy Duty. Leaflet, 8½ x 10 ins. Illustrated.

General Electric Co., Merchandise Dept., Bridgeport, Conn.
Wiring System Specification Data for Apartment Houses and Apartment Hotels. Booklet, 20 pp., 8 x 10 ins. Illustrated.
Electrical Specification Data for Architects. Brochure, 36 pp., 8 x 10½ ins. Illustrated. Data regarding G. E. wiring materials and their use.
The House of a Hundred Comforts. Booklet, 40 pp., 8 x 10½ ins. Illustrated. Dwells on importance of adequate wiring.

Harvey Hubbell, Inc., Bridgeport, Conn.
Electrical Specialties. Catalog No. 19. 52 pp., 8½ x 10 ins. Illustrated.

Pick-Barth Company, Inc., Albert, 1200 West 35th St., Chicago, and Cooper Square, New York.
School Cafeteria. Booklet, 6 x 9 ins. Illustrated. The design and equipment of school cafeterias with photographs of installation and plans for standardized outfits.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
Electric Power for Buildings. Brochure, 14 pp., 8½ x 11 ins. Illustrated. A publication important to architects and engineers.
Variable-Voltage Central Systems as Applied to Electric Elevators. Booklet, 12 pp., 8½ x 11 ins. Illustrated. Deals with an important detail of elevator mechanism.
Modern Electrical Equipment for Buildings. Booklet, 8½ x 11 ins. Illustrated. Lists many useful appliances.
Electrical Equipment for Heating and Ventilating Systems. Booklet, 24 pp., 8½ x 11 ins. Illustrated. This is "Motor Application Circular 7379."
Westinghouse Panelboards and Cabinets (Catalog 42-A). Booklet, 32 pp., 8½ x 11 ins. Illustrated. Important data on these details of equipment.
Beauty; Power; Silence; Westinghouse Fans. (Dealer Catalog 45.) Brochure, 16 pp., 8½ x 11 ins. Illustrated. Valuable information on fans and their uses.
Electric Range Book for Architects (A. I. A. Standard Classification 31 G-4). Booklet, 24 pp., 8½ x 11 ins. Illustrated. Cooking apparatus for buildings of various types.
Westinghouse Commercial Cooking Equipment (Catalog 280). Booklet, 32 pp., 8½ x 11 ins. Illustrated. Equipment for cooking on a large scale.
Electric Appliances (Catalog 44-A). 32 pp., 8½ x 11 ins. Deals with accessories for home use.

ELEVATORS

Otis Elevator Company, 260 Eleventh Ave., New York, N. Y.
Otis Push Button Controlled Elevators. Descriptive leaflets, 8½ x 11 ins. Illustrated. Full details of machines, motors and controllers for these types.
Otis Geared and Gearless Traction. Elevators of All Types. Descriptive leaflets, 8½ x 11 ins. Illustrated. Full details of machines, motors and controllers for these types.
Escalators. Booklet, 8½ x 11 ins., 22 pp. Illustrated. Describes use of escalators in subways, department stores, theaters and industrial buildings. Also includes elevators and dock elevators.

Richards-Wilcox Mfg. Co., Aurora, Ill.
Elevators. Booklet, 8½ x 11 ins., 24 pp. Illustrated. Describes complete line of "Ideal" elevator door hardware and checking devices, also automatic safety devices.

Sedgwick Machine Works, 151 West 15th St., New York, N. Y.
Catalog and descriptive pamphlets, 4¼ x 8¼ ins., 70 pp. Illustrated. Descriptive pamphlets on hand power freight elevators, sidewalk elevators, automobile elevators, etc.
Catalog and pamphlets, 8½ x 11 ins. Illustrated. Important data on different types of elevators.

ESCALATORS

Otis Elevator Company, 260 Eleventh Ave., New York, N. Y.
Escalators. Booklet, 32 pp., 8½ x 11 ins. Illustrated. A valuable work on an important item of equipment.

FIREPLACE CONSTRUCTION

H. W. Covert Company, 243 East 44th Street, New York, N. Y.
Covert Fireplace Construction. Booklet, 12 pp., 8½ x 11 ins. Illustrated. Valuable data on an important topic.

FIREPROOFING

Concrete Engineering Co., Omaha, Neb.
Handbook of Fireproof Construction. Booklet, 54 pp., 8½ x 11 ins. Valuable work on methods of fireproofing.

Concrete Steel Company, 42 Broadway, New York.
Economical Fireproof Floors for Suburban Buildings. Folder. 4 pp., 8½ x 11 ins. Illustrated.

North Western Expanded Metal Co., 407 South Dearborn Street, Chicago, Ill.
A. I. A. Sample Book. Bound volume, 8½ x 11 ins. Contains actual samples of several materials and complete data regarding their use.

FLOOR HARDENERS (CHEMICAL)

Master Builders Co., Cleveland, Ohio.
Concrete Floor Treatment. File, 50 pp. Data on securing hardened dustproof concrete.
Concrete Floor Treatments—Specification Manual. Booklet, 24 pp., 8½ x 11 ins. Illustrated. Valuable work on an important subject.

Minwax Company, 11 West 42nd Street, New York, N. Y.
Concrete Floor Treatments. Folder, 4 pp., 8½ x 11 ins. Illustrated.

Sonneborn Sons, Inc., L., 116 Fifth Ave., New York, N. Y.
Lapidolith, the liquid chemical hardener. Complete sets of specifications for every building type in which concrete floors are used, with descriptions and results of tests.

Toch Brothers, New York, Chicago, Los Angeles.
Handbook of R. I. W. Protective Products. Booklet, 40 pp., 4½ x 7½ ins.

FLOORS—STRUCTURAL

Concrete Steel Company, 42 Broadway, New York.
Structural Economies for Concrete Floors and Roofs. Brochure, 32 pp., 8½ x 11 ins. Illustrated.

Truscon Steel Co., Youngstown, Ohio.
Truscon Floretyle Construction. Booklet, 8½ x 11 ins., 16 pp. Illustrations of actual jobs under construction. Lists of properties and information on proper construction. Proper method of handling and tables of safe loads.

Structural Gypsum Corporation, Linden, N. J.
Gypsteel Pre-cast Fireproof Floors. Booklet, 36 pp., 8½ x 11 ins. Illustrated. Data on flooring.

FLOORING

Armstrong Cork Co. (Linoleum Division), Lancaster, Pa.
Armstrong's Linoleum Floors. Catalog, 8½ x 11 ins., 44 pp. Color plates. A technical treatise on linoleum, including table of gauges and weights and specifications for installing linoleum floors. Newly revised, February, 1929.
Armstrong's Linoleum Pattern Book, 1929. Catalog, 9 x 12 ins., 44 pp. Color plates. Reproduction in color of all patterns of linoleum and cork carpet in the Armstrong line.
Linoleum Layer's Handbook. 5 x 7 ins., 36 pp. Instructions for linoleum layers and others interested in learning most satisfactory methods of laying and taking care of linoleum.
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Blabon Company, Geo. W., Nicetown, Philadelphia, Pa.
Planning the Color Schemes for Your Home. Brochure, illustrated in color; 36 pp., 7½ x 10½ ins. Gives excellent suggestions for use of color in flooring for houses and apartments.
Handy Quality Sample Folder of Linoleums. Gives actual samples of "Battleship Linoleum," cork carpet, "Feltex," etc.
Blabon's Linoleum. Booklet, illustrated in color; 128 pp., 3½ x 8½ ins. Gives patterns of a large number of linoleums.
Blabon's Plain Linoleum and Cork Carpet. Gives quality samples, 3 x 6 ins. of various types of floor coverings.

Carter Bloxonend Flooring Co., Keith & Perry Bldg., Kansas City, Missouri.
Bloxonend Flooring. Booklet, 3¼ x 6¼. ins., 20 pp. Illustrated. Describes uses and adaptability of Bloxonend Flooring to concrete, wood or steel construction, and advantages over loose wood blocks.
File Folder. 9⅜ x 11¾ ins. For use in connection with A. I. A. system of filing. Contains detailed information on Bloxonend Flooring in condensed loose-leaf form for specification writer and drafting room. Literature embodied in folder includes standard Specification Sheet covering the use of Bloxonend in general industrial service and Supplementary Specification Sheet No. 1, which gives detailed description and explanation of an approved method for installing Bloxonend in gymnasiums, armories, drill rooms and similar locations where maximum resiliency is required.

Cellized Oak Flooring, Memphis, Tenn.
Style in Oak Floors. Booklet, 16 pp., 6 x 9 ins. Illustrated.

Congoleum-Nairn, Inc., 195 Belgrove Drive, Kearny, N. J.
Facts you should know about Resilient Floors. A series of booklets on floors for (1) schools, (2) hospitals, (3) offices, (4) stores, (5) libraries, (6) churches, (7) Clubs and Lodges, (8) apartments and hotels. Illustrated.
Specifications for Resilient Floors. Booklet, 12 pp. A reprint from Sweet's.
A New Kind of Floor Service. Brochure, 8 pp. Data on Bonded Floors.
Sealex Battleship Linoleum. Booklet, 12 pp. Illustrated. Shows typical installations.
Sealex Treadlite Tiles. Two booklets, 8 and 16 pp. Illustrated.
Colonial Planks. Brochure, 8 pp. Illustrated.

Thomas Moulding Floor Co., 165 W. Wacker Drive, Chicago, Ill.
Better Floors. Folder, 4 pp., 11¼ x 13¾ ins. Illustrated. Floors for office, administration and municipal buildings.
Better School Floors. Folder, 4 pp., 11¼ x 13¾ ins. Illustrated.
Characteristics, Specifications and Uses. Brochure, 16 pp., 11¼ x 13¾ ins. Illustrated. Data on floors.

C. Pardee Works, 9 East 45th St., New York, N. Y., and 1600 Walnut St., Philadelphia, Pa.
Pardee Tiles. Bound Volume, 48 pp., 8½ x 11 ins. Illustrated.

Structural Gypsum Corporation, Linden, N. J.
Gypsteel Pre-cast Fireproof Floors. Booklet, 36 pp., 8½ x 11 ins. Illustrated. Data on floorings.

U. S. Gypsum Co., Chicago.
Pyrobar Floor Tile. Folder, 8½ x 11 ins. Illustrated. Data on building floors of hollow tile and tables on floor loading.

U. S. Rubber Co., 1790 Broadway, New York, N. Y.
Period Adaptations for Modern Floors. Brochure, 8 x 11 ins., 60 pp. Richly Illustrated. A valuable work on the use of rubber tile for flooring in interiors of different historic styles.

FURNITURE

American Seating Co., 14 E. Jackson Blvd., Chicago, Ill.
Art Ecclesiastical Booklet, 6 x 9 ins., 48 pp. Illustrations of church fitments in carved wood.
Theatre Chairs. Booklet, 6 x 9 ins., 48 pp. Illustrations of theatre chairs.

Kittinger Co., 1893 Elmwood Ave., Buffalo, N. Y.
Kittinger Club & Hotel Furniture. Booklet, 20 pp., 6¼ x 9½ ins. Illustrated. Deals with fine line of furniture for hotels, clubs, institutions, schools, etc.
Kittinger Club and Hotel Furniture. Booklet, 20 pp., 6 x 9 ins. Illustrated. Data on furniture for hotels and clubs.
A Catalog of Kittinger Furniture. Booklet, 78 pp., 11 x 14 ins. Illustrated. General Catalog.

McKinney Mfg. Co., Pittsburgh, Pa.
Forethought Furniture Plans. Sheets, 6¼ x 9 ins., drawn to ¼-inch scale. An ingenious device for determining furniture arrangement.

GLASS CONSTRUCTION

Adamson Flat Glass Co., Clarksburg, W. Va.
Quality and Dependability. Folder, 2 pp., 8½ x 11 ins. Illustrated. Data in the company's product.

Libbey-Owens Sheet Glass Co., Toledo, Ohio.
Flat Glass. Brochure, 12 pp., 5⅛ x 7⅝ ins. Illustrated. History of manufacture of flat, clear, sheet glass.

GREENHOUSES

King Construction Company, North Tonawanda, N. Y.
King Greenhouses for Home or Estate. Portfolio of half-tone prints, varnishes, 8¼ x 10½ ins.

GREENHOUSES—Continued

William H. Lutton Company, 267 Kearney Ave., Jersey City, N. J.
Greenhouses of Quality. Booklet, 50 pp., 8½ x 11 ins. Illustrated. Conservatories making use of Lutton Patented Galvanized Steel V-Bar.

HARDWARE

P. & F. Corbin, New Britain, Conn.
Early English and Colonial Hardware. Brochure, 8½ x 11 ins. An important illustrated work on this type of hardware.
Locks and Builders' Hardware. Bound Volume, 486 pp., 8½ x 11 ins. An exhaustive, splendidly prepared volume.
Colonial and Early English Hardware. Booklet, 48 pp., 8½ x 11 ins. Illustrated. Data on hardware for houses in these styles.

Cutler Mail Chute Company, Rochester, N. Y.
Cutler Mail Chute Model F. Booklet, 4 x 9¼ ins., 8 pp. Illustrated.

Richards-Wilcox Mfg. Co., Aurora, Ill.
Distinctive Garage Door Hardware. Booklet, 8½ x 11 ins., 66 pp. Illustrated. Complete information accompanied by data and illustrations on different kinds of garage door hardware.
Distinctive Elevator Door Hardware. Booklet, 90 pp., 10½ x 16 ins. Illustrated.

Russell & Erwin Mfg. Co., New Britain, Conn.
Hardware for the Home. Booklet, 24 pp., 3½ x 6 ins. Deals with residence hardware.
Door Closer Booklet. Brochure, 16 pp., 3½ x 6 ins. Data on a valuable detail.
Garage Hardware. Booklet, 12 pp., 3½ x 6 ins. Hardware intended for garage use.
Famous Homes of New England. Series of folders on old homes and hardware in style of each.

HEATING EQUIPMENT

American Blower Co., 6004 Russell St., Detroit, Mich.
Heating and Ventilating Utilities. A binder containing a large number of valuable publications, each 8½ x 11 ins., on these important subjects.

American Radiator Company, The, 40 West 40th St., N. Y. C.
Ideal Boilers for Oil Burning. Catalog 5½ x 8½ ins., 36 pp. Illustrated in 4 colors. Describing a line of Heating Boilers especially adapted to use with Oil Burners.
Corto—The Radiator Classic. Brochure, 5½ x 8½ ins., 16 pp. Illustrated. A brochure on a space-saving radiator of beauty and high efficiency.
Ideal Arcola Radiator Warmth. Brochure, 6¼ x 9½ ins. Illustrated. Describes a central all-on-one-floor heating plant with radiators for small residences, stores, and offices.
How Shall I Heat My Home? Brochure, 16 pp., 5¾ x 8½ ins. Illustrated. Full data on heating and hot water supply.
New American Radiator Products. Booklet, 44 pp., 5 x 7¾ ins. Illustrated. Complete line of heating products.
A New Heating Problem. Brilliantly Solved. Broadside, 4 pp., 10¾ x 15 ins. Illustrated. Data on the IN-AIRID invisible air valve.
In-Airid, the Invisible Air Valve. Folder, 8 pp., 3½ x 6 ins. Illustrated. Data on a valuable detail of heating.
The 999 ARCO Packless Radiator Valve. Folder, 8 pp., 3½ x 6 ins. Illustrated.

James B. Clow & Sons, 534 S. Franklin St., Chicago, Ill.
Clow Gasteam Vented Heating System. Brochure, 24 pp., 8½ x 11 ins. Illustrated. Deals with a valuable form of heating equipment for using gas.

C. A. Dunham Company, 450 East Ohio St., Chicago, Ill.
Dunham Radiator Trap. Bulletin 101, 8 x 11 ins., 12 pp. Illustrated. Explains working of this detail of heating apparatus.
Dunham Packless Radiator Valves. Bulletin 104, 8 x 11 ins., 8 pp. Illustrated. A valuable brochure on valves.
Dunham Return Heating System. Bulletin 109, 8 x 11 ins. Illustrated. Covers the use of heating apparatus of this kind.
Dunham Vacuum Heating System. Bulletin 110, 8 x 11 ins., 12 pp. Illustrated.
The Dunham Differential Vacuum Heating System. Bulletin 114. Brochure, 12 pp., 8 x 11 ins. Illustrated. Deals with heating for small buildings.
The Dunham Differential Vacuum Heating System. Bulletin 115. Brochure, 12 pp., 8 x 11 ins. Illustrated. Deals with heating for large buildings.

The Fulton Sylphon Company, Knoxville, Tenn.
Sylphon Temperature Regulators. Illustrated brochures, 8½ x 11 ins., dealing with general architectural and industrial applications; also specifically with applications of special instruments.
Sylphon Heating Specialties. Catalog No. 200, 192 pp., 3½ x 6¼ ins. Important data on heating.

Hoffman Specialty Company, Inc., 25 West 45th St., New York, N. Y.
Heat Controlled With the Touch of a Finger. Booklet, 46 pp., 5¾ x 8¾ ins. Illustrated.
How to Lock Out Air, the Heat Thief. Brochure, 48 pp., 5 x 7¼ ins. Illustrated.

Janette Manufacturing Company, 556 West Monroe Street, Chicago.
More Heat from Any Hot Water System on Less Fuel. Folder. 4 pp., 8½ x 11 ins. Illustrated. Deals with use of the "Hydrolator."

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SELECTED LIST OF MANUFACTURERS' PUBLICATIONS — *Continued from page 84*

HEATING EQUIPMENT—Continued

S. T. Johnson Co., Oakland, Calif.
Johnson Oil Burners. Booklet, 9 pp., 8½ x 11 ins. Illustrated.
Bulletin No. 4A. Brochure, 8 pp., 8½ x 11 ins. Illustrated. Data on different kinds of oil-burning apparatus.
Bulletin No. 31. Brochure, 8 pp., 8½ x 11 ins. Illustrated. Deals with Johnson Rotary Burner with Full Automatic Control.

Kewanee Boiler Corporation, Kewanee, Ill.
Kewanee on the Job. Catalog, 8½ x 11 ins., 80 pp. Illustrated. Showing installations of Kewanee boilers, water heaters, radiators. etc.
Catalog No. 78, 6 x 9 ins. Illustrated. Describes Kewanee Firebox Boilers with specifications and setting plans.
Catalog No. 79, 6 x 9 ins. Illustrated. Describes Kewanee power boilers and smokeless tubular boilers with specifications.

May Oil Burner Corp., Baltimore, Md.
Adventures in Comfort. Booklet, 24 pp., 6 x 9 ins. Illustrated. Non-technical data on oil as fuel.
Taking the Quest Out of the Question. Brochure, 16 pp., 6 x 9 ins. Illustrated. For home owners interested in oil as fuel.

McQuay Radiator Corporation, 35 East Wacker Drive, Chicago, Ill.
McQuay Visible Type Cabinet Heater. Booklet, 4 pp., 8½ x 11 ins. Illustrated. Cabinets and radiators adaptable to decorative schemes.
McQuay Concealed Radiators. Brochure, 4 pp., 8½ x 11 ins. Illustrated.
McQuay Unit Heater. Booklet, 8 pp., 8½ x 11 ins. Illustrated. Gives specifications and radiator capacities.

Modine Mfg. Co., Racine, Wisc.
Modine Copper Radiation. Booklet, 28 pp. 8½ x 11 ins. Illustrated. Deals with industrial, commercial and domestic heating.
A Few Short Years. Folder. 4 pp. 8½ x 11 ins. Illustrated. Heating for garages.
Dairy Plant Heating. Folder. 4 pp., 8½ x 11 ins. Illustrated.

Nash Engineering Company, South Norwalk, Conn.
Bulletin 85. Booklet. 12 pp. 10¾ x 7½ ins. Illustrated in color. Describes construction and operation of the Jennings Return Line Vacuum Heating Pump.
Bulletin 87. Brochure. 8 pp. 10¾ x 7½ ins. Illustrated in color. Deals with Sizes T and U Jennings Vacuum Heating Pump for 2500 and 5000 square feet equivalent direct radiation.
Bulletin 63. Booklet. 4 pp. 10¾ x 7½ ins. Illustrated. Describes in detail the Unit Type Motor Driven Jennings Condensation Pump.
Bulletin 52. Brochure. 6 pp. 10¾ x 7½ ins. Illustrated in color. Devoted to Jennings Standard Centrifugal Pumps for house service, boosting city water pressure to supply top stories, for circulating warm water, etc.

National Radiator Corporation, Johnstown, Pa.
Aero Radiators; Beauty and Worth. Catalog 34. Booklet, 6 x 9 ins., 20 pp., describing and illustrating radiators and accessories.
Six Great Companies Unite to Form a Great Corporation. Booklet, 28 pp., 8½ x 10½ ins. Illustrated. Valuable data on heating.

Sarco Company, Inc., 183 Madison Ave., New York City, N. Y.
Steam Heating Specialties. Booklet, 6 pp., 6 x 9 ins. Illustrated. Data on Sarco Packless Supply Valves and Radiator Traps for vacuum and vapor heating systems.
Equipment Steam Traps and Temperature Regulations. Booklet, 6 pp., 6 x 9 ins. Illustrated. Deals with Sarco Steam Traps for hospital, laundry and kitchen fixtures and the Sarco Self-contained Temperature Regulation for hot water service tanks.

Spencer Heater Co., Williamsport, Pa.
Catalog. Booklet, 20 pp., 6⅛ x 9 ins. Illustrated. Complete line of magazine feed cast iron sectional and steel tubular heaters.
The Fire that Burns Uphill. Brochure, 24 pp., 6⅛ x 9¼ ins. Illustrated in color. Magazine feed heaters for steam, vapor and hot water heating.

B. F. Sturtevant Company, Hyde Park, Boston, Mass.
Tempervane Heating Units. Catalog 363. Booklet, 44 pp., 8½ x 11 ins. Illustrated. Data on "Heating Every Corner with Maximum Economy."

Trane Co., The, La Crosse, Wis.
Bulletin 14, 16 pp., 8½ x 10⅝ ins. Covers the complete line of Trane Heating Specialties, including Trane Bellows Traps, and Trane Bellows Packless Valves.
Bulletin 20. 24 pp., 8½ x 10⅝ ins. Explains in detail the operation and construction of Trane Condensation. Vacuum, Booster, Circulating, and similar pumps.
How to Cut Heating Costs. Booklet, 18 pp., 8½ x 11 ins. Illustrated.

HOISTS, TELESCOPIC

Gillis & Geoghegan, Inc. 535 West Broadway, New York.
G & G Telescopic Hoist. Booklet. 24 pp. 8½ x 11 ins. Illustrated complete data on hoists.
Ash Removal. Folder. 8½ x 11 ins. Illustrated. Hoists for removing ashes from basements.

HOSPITAL EQUIPMENT

The Frink Co., Inc., 369 Lexington Ave., New York City.
Catalog 426. 7 x 10 ins., 16 pp. A booklet illustrated with photographs and drawings, showing the types of light for use in hospitals, as operating table reflectors, linolite and multilite concentrators, ward reflectors, bed lights and microscopic reflectors, giving sizes and dimensions, explaining their particular fitness for special uses.

Holophane Company, 342 Madison Avenue, New York.
Lighting Specific for Hospitals. Booklet, 30 pp., 8½ x 11 ins. Illustrated.

The International Nickel Company, 67 Wall St., New York, N. Y.
Hospital Applications of Monel Metal. Booklet, 8½ x 11½ ins., 16 pp. Illustrated. Gives types of equipment in which Monel Metal is used, reasons for its adoption, with sources of such equipment.

Pick-Barth Company, Inc., Albert, 1200 West 35th St., Chicago, and Cooper Square, New York.
Some Thoughts About Hospital Food Service Equipment. Booklet, 22 pp., 7½ x 9¼ ins. Valuable data on an important subject.

HOTEL EQUIPMENT

Pick-Barth Company, Inc., Albert, 1200 West 35th St., Chicago, and Cooper Square, New York.
Some Thoughts on Furnishing a Hotel. Booklet, 7½ x 9 ins. Data on complete outfitting of hotels.

INCINERATORS

Home Incinerator Co., Milwaukee, Wis.
The Decent Way. Burn it with Gas. Brochure, 30 pp., 5¼ x 7¼ ins., inside. Illustrated. Incinerator sanitation equipment for residence use.
A. I. A. File, 12 pp., 8¾ x 10¾ ins., inside. Suggestions for architect on incineration, showing installation and equipment.
Specialized Home Comforts Service Plan Book. 40 pp., 8½ x 11 ins., inside. Illustrated. A complete outline of the many advantages of incineration.
Blue Star Standards in Home Building. 16 pp., 5½ x 8½ ins., inside. Illustrated. Explaining fully the Blue Star principles, covering heat, incineration, refrigeration, etc.

Josam Mfg. Co., Michigan City, Ind.
Josam-Graver Incinerators. Folder, 4 pp., 8½ x 11 ins. Illustrated.

Kerner Incinerator Company, 715 E. Water St., Milwaukee, Wis.
Incinerators (Chimney-fed). Catalog No. 15 (Architect and Builders' Edition). Size 8½ x 11 ins., 16 pp. Illustrated. Describes principles and design of Kernerator Chimney-fed Incinerators for residences, apartments, hospitals, schools, apartment hotels, clubs and other buildings. Shows all standard models and gives general information and working data.
Sanitary Elimination of Household Waste. Booklet, 4 x 9 ins. 16 pp. Illustrated. Gives complete information on the Kernerator for residences.
Garbage and Waste Disposal for Apartment Buildings. Folder, 8½ x 11 ins., 16 pp. Illustrated. Describes principle and design of Kernerator Chimney-fed Incinerator for apartments and gives list of buildings where it has been installed.
Sanitary Disposal of Waste in Hospitals. Booklet, 4 x 9 ins., 12 pp. Illustrated. Shows how this necessary part of hospital service is taken care of with the Kernerator. Gives list of hospitals where installed.
The Kernerator (Chimney-fed) Booklet. Catalog No. 17, 20 pp., 8½ x 11 ins. Illustrated. Data on a valuable detail of equipment.

INSULATION

Armstrong Cork & Insulation Co., Pittsburgh, Pa.
The Insulation of Roofs with Armstrong's Corkboard. Booklet. Illustrated. 7½ x 10½ ins., 32 pp. Discusses means of insulating roofs of manufacturing or commercial structures.
Insulation of Roofs to Prevent Condensation. Illustrated booklet, 7½ x 10½ ins., 36 pp. Gives full data on valuable line of roof insulation.
Filing Folder for Pipe Covering Data. Made in accordance with A. I. A. rules.
The Cork-lined House Makes a Comfortable Home. 5 x 7 ins. 32 pp. Illustrated.
Armstrong's Corkboard. Insulation for Walls and Roofs of Buildings. Booklet, 66 pp., 9½ x 11¾ ins. Illustrates and describes use of insulation for structural purposes.

Cabot, Inc., Samuel, Boston, Mass.
Cabot's Insulating Quilt. Booklet, 7½ x 10½ ins., 24 pp. Illustrated. Deals with a valuable type of insulation.

Structural Gypsum Corporation, Linden, N. J.
Heat Insulation Value of Gypsteel. Folder, 4 pp., 8½ x 11 ins. Brochure, by Charles L. Norton, of M. I. T.

JOISTS

Bates Expanded Steel Truss Co., East Chicago, Ind.
Catalog No. 4. Booklet, 32 pp., 8½ x 11 ins. Illustrated. Gives details of truss construction with loading tables and specifications.

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SELECTED LIST OF MANUFACTURERS' PUBLICATIONS — *Continued from page 86*

JOISTS—Continued

Concrete Steel Company, 42 Broadway, New York, N. Y.
Structural Economies for Concrete Floors and Roofs. Booklet, 32 pp., 8½ x 11 ins. Illustrated.
Modern Concrete Reinforcement. Brochure, 32 pp., 8½ x 11 ins. Illustrated.
Construction Details for Installing Havemeyer Trusses. Data sheets, 8½ x 11 ins. Illustrated.
Standard Practice for Placing Havemeyer Reinforcement in Columns, Beams and Slabs. Data sheets, 8½ x 11 ins. Illustrated.

KITCHEN EQUIPMENT

The International Nickel Company, 67 Wall St., New York, N. Y.
Hotels, Restaurants and Cafeteria Applications of Monel Metal. Booklet, 8½ x 11 ins., 32 pp. Illustrated. Gives types of equipment in which Monel Metal is used, with service data and sources of equipment.

Pick-Barth Company, Inc., Albert, 1200 West 35th St., Chicago, and Cooper Square, New York.
School Cafeteria. Booklet, 6 x 9 ins. Illustrated. The design and equipment of school cafeterias with photographs of installation and plans for standardized outfits.

LABORATORY EQUIPMENT

Alberene Stone Co., 153 West 23rd Street, New York City.
Booklet, 8¾ x 11¼ ins., 26 pp. Stone for laboratory equipment, shower partitions, stair treads, etc.

Duriron Company, Dayton, Ohio.
Duriron Acid, Alkali and Rust-proof Drain Pipe and Fittings. Booklet, 8½ x 11 ins., 20 pp. Full details regarding a valuable form of piping.

LANTERNS

Todhunter, Arthur, 119 E. 57th St., New York, N. Y.
Hand-wrought Lanterns. Booklet, 5¼ x 6¾ ins., 20 pp. Illustrated in black and white. With price list. Lanterns appropriate for exterior and interior use, designed from old models and meeting the requirements of modern lighting.

LATH, METAL AND REINFORCING

Milwaukee Corrugating Co., Milwaukee.
The Milcor Manual. Booklet, 96 pp., 8½ x 11 ins. Illustrated. Data on metal lath and similar materials.
Milcor Metal Ceiling Catalog. Booklet, 288 pp., 8½ x 11 ins. Illustrated. Data on metal ceiling and wall construction.

National Steel Fabric Co., Pittsburgh, Pa.
Better Walls for Better Homes. Brochure, 16 pp., 7¾ x 11¼ ins. Illustrated. Metal lath, particularly for residences.
Steeltex for Floors. Booklet, 24 pp., 8½ x 11 ins. Illustrated. Combined reinforcing and form for concrete or gypsum floors and roofs.
Steeltex Data Sheet No. 1. Folder, 8 pp., 8½ x 11 ins. Illustrated. Steeltex for floors on steel joists with round top chords.
Steeltex Data Sheet No. 2. Folder, 8 pp., 8½ x 11 ins. Illustrated. Steeltex for floors on steel joists with flat top flanges.
Steeltex Data Sheet No. 3. Folder, 8 pp., 8½ x 11 ins. Illustrated. Steeltex for folders on wood joists.

North Western Expanded Metal Co., 1234 Old Colony Building, Chicago, Ill.
North Western Expanded Metal Products. Booklet, 8½ x 10¾ ins., 20 pp. Fully illustrated, and describes different products of this company, such as Kno-burn metal lath, 20th Century Corrugated. Plasta-saver and longspan lath channels, etc.
Longspan ¾-inch Rib Lath. Folder, 4 pp., 8½ x 11 ins. Illustrated. Deals with a new type of V-Rib expanded metal.
A. I. A. Sample Book. Bound volume, 8½ x 11 ins. Contains actual samples of several materials and complete data regarding their use.
Norwest Metal Lath. Folder, 8½ x 11 ins. Illustrated. Data on Flat Rib Lath.

Truscon Steel Company, Youngstown, Ohio.
Truscon ¾-inch Hy-Rib for Roofs, Floors and Walls. Booklet, 8½ x 11 ins., illustrating Truscon ¾-inch Hy-Rib as used in industrial buildings. Plates of typical construction. Progressive steps of construction. Specification and load tables.

LAUNDRY MACHINERY

American Laundry Machinery Co., Norwood Station, Cincinnati, O.
Functions of the Hotel and Hospital Laundry. Brochure, 8 pp., 8½ x 11 ins. Valuable data regarding an important subject.

Troy Laundry Machinery Co., Inc., 9 Park Place, New York City.
Laundry Machinery for Large Institutions. Loose-leaf booklet, 50 pp., 8½ x 11 ins. Illustrated.
Laundry Machinery for Small Institutions. Loose-leaf brochure, 50 pp., 8½ x 11 ins. Illustrated.
Accessory Equipment for Institutional Laundries. Leather bound book, 50 pp., 8½ x 11 ins. Illustrated.
Dry Cleaning Equipment for Institutional Purposes. Brochure, 50 pp., 8½ x 11 ins. Illustrated.

LIGHTING EQUIPMENT

The Frink Co., Inc., 369 Lexington Ave., New York, N. Y.
Catalog 415, 8½ x 11 ins., 46 pp. Photographs and scaled cross-sections. Specialized bank lighting, screen and partition reflectors, double and single desk reflectors and Polaralite Signs.

Holophane Company, Inc., 342 Madison Ave., New York, N. Y.
The Lighting of Schools; A Guide to Good Practice. Booklet. 24 pp., 8½ x 11 ins. Illustrated.
Lighting Specifications for Hospitals. Brochure, 30 pp., 8½ x 11 ins. Illustrated.
Industrial Lighting. Bulletin 448A. Booklet, 24 pp., 8½ x 11 ins. Illustrated.
Holophane Catalog. Booklet, 48 pp., 8½ x 11 ins. Combination catalog and engineering data book.
The Lighting of Schools. A Guide to Good Practice. Booklet, 24 pp., 8½ x 11 ins. Illustrated.

Smyser-Royer Co., 1700 Walnut Street, Philadelphia, Pa.
Catalog "J" on Exterior Lighting Fixtures. Brochure, illustrated, giving data on over 300 designs of standards, lanterns and brackets of bronze or cast iron.

Todhunter, 119 East 57th St., New York, N. Y.
Lighting Fixtures, Lamps and Candlesticks. 24 pp., 8½ x 11 ins. Illustrated. Fine assortment of lighting accessories.

Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa.
Industrial Lighting Equipment. Booklet, 32 pp., 8½ x 11 ins. Illustrated.
Commercial Lighting. Brochure, 24 pp., 8½ x 11 ins. Illustrated.
Airport and Floodlighting Equipment. Booklet, 20 pp., 8½ x 11 ins. Illustrated.

LUMBER

National Lumber Mfrs. Assn., Washington, D. C.
Use of Lumber on the Farm. Booklet, 38 pp., 8½ x 11 ins. Illustrated.

MAIL CHUTES

Cutler Mail Chute Company, Rochester, N. Y.
Cutler Mail Chute Model F. Booklet, 4 x 9¼ ins., 8 pp. Illustrated.

MANTELS

Henry Klein & Co., Inc. 40-46 West 23rd Street, New York.
Driwood Mantels. Booklet. 12 pp. 8½ x 11 ins. Illustrated. Fine line of eighteenth century English and American mantels.

Arthur Todhunter, 119 E. 57th St., New York, N. Y.
Georgian Mantels. New booklet, 24 pp., 5¾ x 6¾ ins. A fully illustrated brochure on eighteenth century mantels. Folders give prices of mantels and illustrations and prices of fireplace equipment.

MARBLE

The Georgia Marble Company, Tate, Ga.; New York Office, 1328 Broadway.
Why Georgia Marble Is Better. Booklet, 3⅛ x 6 ins. Gives analysis, physical qualities, comparison of absorption with granite, opinions of authorities, etc.
Convincing Proof. 3⅛ x 6 ins., 8 pp. Classified list of buildings and memorials in which Georgia Marble has been used, with names of Architects and Sculptors.
Hurt Building, Atlanta; Senior High School and Junior College, Muskegon, Mich. Folders, 4 pp., 8½ x 11 ins. Details.

METALS

Aluminum Company of America, Pittsburgh.
Architectural Aluminum. Brochure, 30 pp., 8½ x 11 ins. Illustrated. An excellent booklet on the subject.

Central Alloy Steel Corporation, Massillon, Ohio.
Sheet Iron Primer. Booklet, 64 pp., 5¼ x 7¾ ins. Illustrated.
The Path to Permanence. Brochure, 52 pp., 8½ x 11 ins. Illustrated. Data on sheet iron.

The International Nickel Company, 67 Wall St., New York, N. Y.
Monel Metal Primer. 8 folders, 4 pp., 8½ x 11 ins. Illustrated. Valuable data on use of monel in kitchens, laundries, etc.

MILL WORK—See also Wood

Curtis Companies Service Bureau, Clinton, Iowa.
Architectural Interior and Exterior Woodwork. Standardized Book, 9 x 11½ ins., 240 pp. Illustrated. This is an Architects' Edition of the complete catalog of Curtis Woodwork, as designed by Trowbridge & Ackerman. Contains many color plates.
Better Built Homes. Vols. XV-XVIII, incl. Booklet, 9 x 12 ins., 40 pp. Illustrated. Designs for houses of five to eight rooms, respectively, in several authentic types, by Trowbridge & Ackerman, architects for the Curtis Companies.
Curtis Details. Booklet, 19½ x 23½ ins., 20 pp. Illustrated. Complete details of all items of Curtis woodwork, for the use of architects.
Curtis Cabinet and Stair Work. Booklet, 48 pp., 7¾ x 10½ ins. Illustrated.

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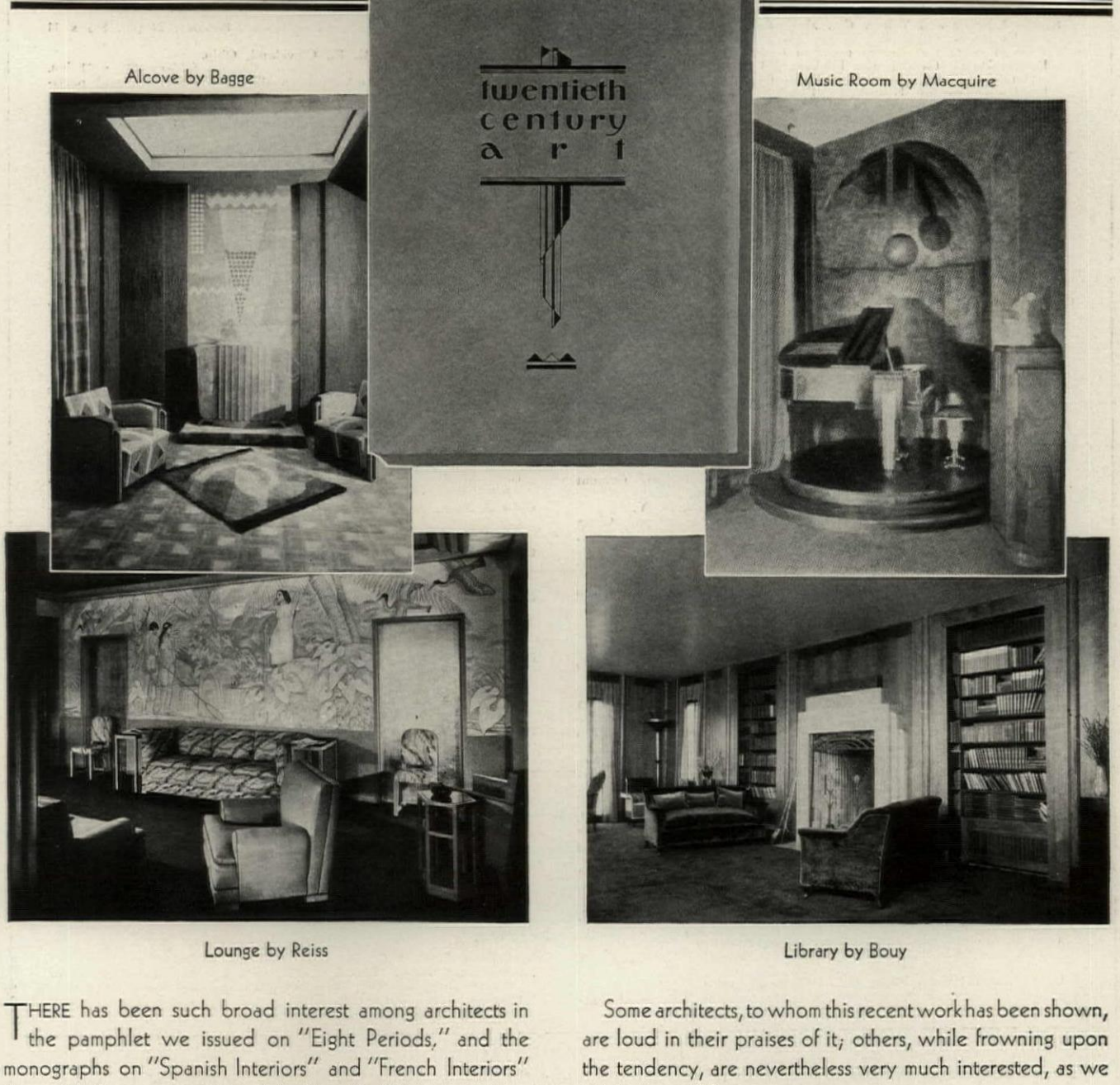

Alcove by Bagge

Music Room by Macquire

Lounge by Reiss

Library by Bouy

THERE has been such broad interest among architects in the pamphlet we issued on "Eight Periods," and the monographs on "Spanish Interiors" and "French Interiors" that, with the co-operation of Architectural Forum, we have recently published a monograph on "Twentieth Century Art" as applied to interiors.

Some architects, to whom this recent work has been shown, are loud in their praises of it; others, while frowning upon the tendency, are nevertheless very much interested, as we think you will be.

We are glad to send this to all architects who ask for it. Murphy Varnish Company, Newark, San Francisco, Chicago.

SELECTED LIST OF MANUFACTURERS' PUBLICATIONS — *Continued from page 88*

MILL WORK—See also Wood—Continued

Curtis Windows. Brochure, 7¾ x 10½ ins. Illustrated.
Curtis Interior Doors. Booklet, 7¾ x 10½ ins. Illustrated.
Curtis Entrances and Exterior Doors. Brochure, 7¾ x 10½ ins. Illustrated.

Hartmann-Sanders Company, 2155 Elston Ave., Chicago, Ill.
Column Catalog, 7½ x 10 ins., 48 pp. Illustrated. Contains prices on columns 6 to 36 ins. diameter, various designs and illustrations of columns and installations.
The Pergola Catalog. 7½ x 10 ins., 64 pp. Illustrated. Contains illustrations of pergola lattices, garden furniture in wood and cement, garden accessories.

Klein & Co., Inc., Henry, 11 East 37th St., New York, N. Y.
Two Driwood Interiors. Folder, 4 pp., 6¼ x 9 ins. Illustrated. Use of moulding for paneling walls.
A New Style in Interior Decoration. Folder, 4 pp., 6¼ x 9 ins. Illustrated. Deals with interior woodwork.
Driwood Period Mouldings in Ornamented Wood. Booklet, 28 pp., 8½ x 11 ins. Illustrated.
How Driwood Period Mouldings in Ornamented Wood Set a New Style in Decoration. Folder.

Roddis Lumber and Veneer Co., Marshfield, Wis.
Roddis Doors. Brochure, 24 pp., 5¼ x 8½ ins. Illustrated price list of doors for various types of buildings.
Roddis Doors, Catalog G. Booklet, 184 pp., 8½ x 11 ins. Completely covers the subject of doors for interior use.
Roddis Doors for Hospitals. Brochure, 16 pp., 8½ x 11 ins. Illustrated work on hospital doors.
Roddis Doors for Hotels. Brochure, 16 pp., 8½ x 11 ins. Illustrated work on doors for hotel and apartment buildings.

MORTAR AND CEMENT COLORS

Clinton Metallic Paint Co., Clinton, N. Y.
Clinton Mortar Colors. Folder, 8½ x 11 ins., 4 pp. Illustrated in colors, gives full information concerning Clinton Mortar Colors with specific instructions for using them.
Color Card. 3¾ x 6½ ins. Illustrates in color the ten shades in which Clinton Mortar Colors are manufactured.
Something New in Stucco. Folder, 3½ x 6 ins. An interesting folder on the use of coloring matter for stucco coated walls.

ORNAMENTAL PLASTER

Jacobson & Co., 241 East 44th St., New York, N. Y.
A Book of Old English Designs. Brochure, 47 plates, 12 x 9 ins. Deals with a fine line of decorative plaster work.
Architectural and Decorative Ornaments. Cloth bound volume, 184 pp., 9 x 12 ins., 18 plates. Price, $3.00. A general catalog of fine plaster ornaments.
Geometrical ceilings. Booklet, 23 plates, 7 x 9 ins. An important work on decorative plaster ceilings.

PAINTS, STAINS, VARNISHES AND WOOD FINISHES

Minwax Company, Inc., 11 West 42nd St., New York.
Color Card and Specifications for Minwax Brick and Cement Coating. Folder, 4 pp., 8½ x 11 ins. Illustrated.

National Lead Company, 111 Broadway, New York, N. Y.
Handy Book on Painting. Book, 5½ x 3¾ ins., 100 pp. Gives directions and formulæ for painting various surfaces of wood, plaster, metals, etc., both interior and exterior.
Red Lead in Paste Form. Booklet, 6¼ x 3½ ins., 16 pp. Illustrated. Directions and formulæ for painting metals.
Came Lead. Booklet, 6 x 8¾ ins., 12 pp. Illustrated. Describes various styles of lead cames.

Pratt & Lambert, Inc., Buffalo, N. Y.
Specification Manual for Paint, Varnishing and Enameling. Booklet, 38 pp., 7½ x 10⅝ ins. Complete specifications for painting, varnishing and enameling interior and exterior wood, plaster, and metal work.

Sherwin-Williams Company, 601 Canal Rd., Cleveland, Ohio.
Painting Concrete and Stucco Surfaces. Bulletin No. 1. 8½ x 11 ins., 8 pp. Illustrated. A complete treatise with complete specifications on the subject of Painting of Concrete and Stucco Surfaces. Color chips of paint shown in bulletin.
Enamel Finish for Interior and Exterior Surfaces. Bulletin No. 2, 8½ x 11 ins., 12 pp. Illustrated. Thorough discussion, including complete specifications for securing the most satisfactory enamel finish on interior and exterior walls and trim.
Painting and Decorating of Interior Walls. Bulletin No. 3, 8½ x 11 ins., 20 pp. Illustrated. An excellent reference book on Flat Wall Finish, including texture effects, which are taking the country by storm. Every architect should have one on file.
Protective Paints for Metal Surfaces. Bulletin No. 4, 8½ x 11 ins., 12 pp. Illustrated. A highly technical subject treated in a simple, understandable manner.

Sonneborn Sons, Inc., L., Dept. 4, 116 Fifth Ave., New York. N. Y.
Paint Specifications. Booklet, 8½ x 10¾ ins., 4 pp.

Toch Brothers, New York, Chicago, Los Angeles.
Architects' Specification Data. Sheets in loose leaf binder, 8½ x 11 ins., dealing with an important line of materials.

U. S. Gutta Percha Paint Co., Providence, R. I.
Barreled Sunlight. Booklet, 8½ x 11 ins. Data on "Barreled Sunlight" with specifications for its use.

PAINTS, STAINS, VARNISHES AND WOOD FINISHES—Continued

Valentine & Co., 456 Fourth Ave., New York, N. Y.
How to Use Valspar. Illustrated booklet, 32 pp., 3¾ x 8 ins. Deals with domestic uses for Valspar.
How to Keep Your House Young. Illustrated brochure, 24 pp., 7 x 8½ ins. A useful work on the upkeep of residences.
Architectural Four-Hour Varnishes and Enamels. Booklet, 8 pp., 4½ x 6 ins. Data on a useful line of materials.

PARCEL DELIVERY DEVICES

Receivador Sales Company, Grand Rapids, Mich.
Architects' Portfolio. Booklet, 12 pp., 8½ x 11 ins. Illustrated. Deals with delivery problems and their solution.

PARTITIONS

Circle A. Products Corporation, New Castle, Ind.
Circle A. Partitions Sectional and Movable. Brochure. Illustrated. 8½ x 11¼ ins., 32 pp. Full data regarding an important line of partitions, along with Erection Instructions for partitions of three different types.

Dahlstrom Metallic Door Company, Jamestown, N. Y.
Dahlstrom Standard Steel Partitions. Booklet, 24 pp., 8½ x 11 ins. Illustrated.

Hauserman Company, E. F., Cleveland, Ohio.
Hollow Steel Standard Partitions. Various folders, 8½ x 11 ins. Illustrated. Give full data on different types of steel partitions, together with details, elevations and specifications.

Improved Office Partition Company, 25 Grand St., Elmhurst, L. I.
Telesco Partition. Catalog, 8¼ x 11 ins., 14 pp. Illustrated. Shows typical offices laid out with Telesco partitions, cuts of finished partition units in various woods. Gives specifications and cuts of buildings using Telesco.
Detailed Instructions for Erecting Telesco Partitions. Booklet, 24 pp., 8½ x 11 ins. Illustrated. Complete instructions, with cuts and drawings, showing how easily Telesco Partition can be erected.

Richards-Wilcox Mfg. Co., Aurora, Ill.
Partitions. Booklet, 7 x 10 ins., 32 pp. Illustrated. Describes complete line of track and hangers for all styles of sliding parallel, accordion and flush-door partitions.

U. S. Gypsum Co., Chicago, Ill.
Pyrobar Partition and Furring Tile. Booklet, 8½ x 11 ins., 24 pp. Illustrated. Describes use and advantages of hollow tile for inner partitions.

PIPE

American Brass Company, Waterbury, Conn.
Bulletin B-1. Brass Pipe for Water Service. 8½ x 11 ins., 28 pp. Illustrated. Gives schedule of weights and sizes (I.P.S.) of seamless brass and copper pipe, shows typical installations of brass pipe, and gives general discussion of the corrosive effect of water on iron, steel and brass pipe.

American Rolling Mill Company, Middletown, Ohio.
How ARMCO Dredging Products Cut Costs. Booklet, 16 pp., 6 x 9 ins. Data on dredging pipe.

Clow & Sons, James B., 534 S. Franklin St., Chicago, Ill.
Catalog A. 4 x 16½ ins., 700 pp. Illustrated. Shows a full line of steam, gas and water works supplies.

Cohoes Rolling Mill Company, Cohoes, N. Y.
Cohoes Pipe Handbook. Booklet, 40 pp., 5 x 7½ ins. Data on wrought iron pipe.

Duriron Company, Dayton, Ohio.
Duriron Acid, Alkali, Rust-proof Drain Pipe and Fittings. Booklet, 20 pp., 8½ x 11 ins. Illustrated. Important data on a valuable line of pipe.

National Tube Co., Frick Building, Pittsburgh, Pa.
"National" Bulletin No. 2. Corrosion of Hot Water Pipe, 8½ x 11 ins., 24 pp. Illustrated. In this bulletin is summed up the most important research dealing with hot water systems. The text matter consists of seven investigations by authorities on this subject.
"National" Bulletin No. 3. The Protection of Pipe Against Internal Corrosion, 8½ x 11 ins., 20 pp. Illustrated. Discusses various causes of corrosion, and details are given of the deactivating and deareating systems for eliminating or retarding corrosion in hot water supply lines.
"National" Bulletin No. 25. "National" Pipe in Large Buildings. 8½ x 11 ins., 88 pp. This bulletin contains 254 illustrations of prominent buildings of all types, containing "National" Pipe, and considerable engineering data of value to architects, engineers, etc.
Modern Welded Pipe. Book of 88 pp., 8½ x 11 ins., profusely illustrated with halftone and line engravings of the important operations in the manufacture of pipe.

PLASTER

Best Bros. Keene's Cement Co., Medicine Lodge, Kans.
Information Book. Brochure, 24 pp., 5 x 9 ins. Lists grades of plaster manufactured; gives specifications and uses for plaster.
Plasterers' Handbook. Booklet, 16 pp., 3½ x 5½ ins. A small manual for use of plasterers.

REQUEST FOR CATALOGS

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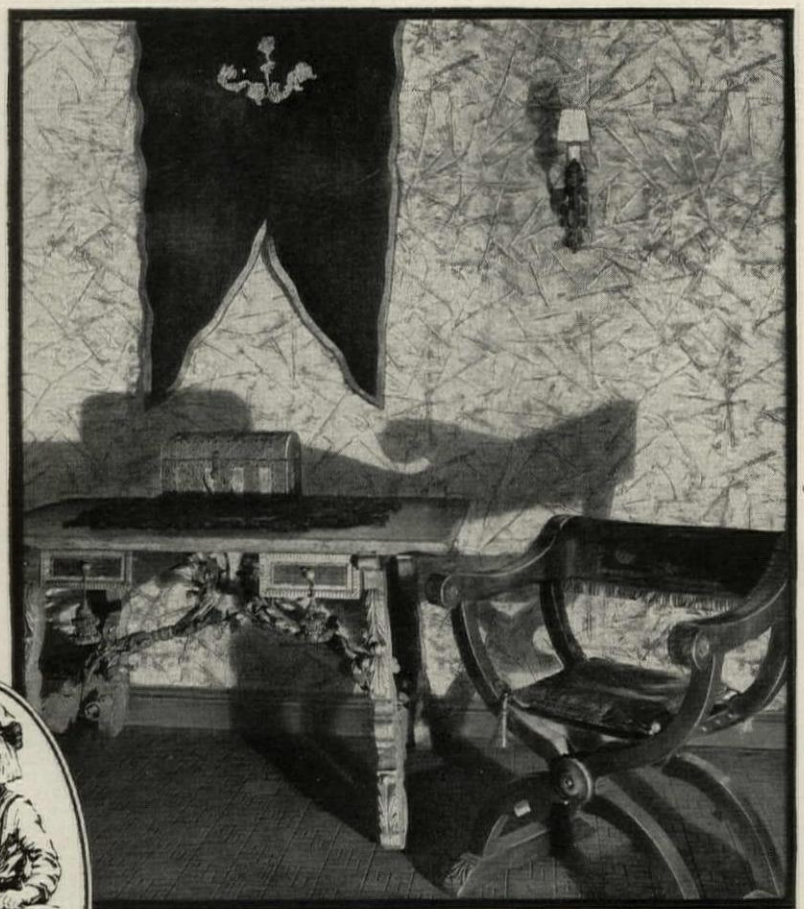
In the Spanish Mode

TEXTURED FINISHES

made with

DUTCH BOY WHITE-LEAD

PURE WHITE-LEAD
for generations the standard in decorating exteriors and interiors, now also used for plastic paint finishes of modified texture



The texture shown here, achieved by use of a straight edge, is well adapted to a room designed under Spanish influence.

WITH white-lead and oil plastic paint, architects may have side wall decoration in perfect keeping with the mode of the room — be it Spanish, Old English, Italian or modern.

This plastic paint, or "plastic lead" as it is sometimes called, gives the modified or low-relief type of texture and lends itself readily to the production of all manner of interesting and appropriate texture treatments. At the same time, it assures a finish having the durability and washability that are characteristic of lead and oil paint.

Many advantages . . . White-lead and oil plastic paint is easy to mix, tint, apply and texture. It is mixed of materials the painter carries regularly in his shop — Dutch Boy white-lead, dry whiting, Dutch Boy flatting oil and drier. It is tinted in the usual way with colors-in-oil. It is applied with a paint brush, remaining workable on the wall for about an hour and thus permitting the handling of large wall areas conveniently. It can be textured with a sponge, paint brush, whiskbroom, graining comb and in many other ways.

Applied today, a "plastic lead" finish is ready for glazing tomorrow. It sets up sufficiently overnight to take a glaze properly. Many beautiful glazed effects are possible. However, glazing is not necessary in order to produce a washable finish with white-lead and oil plastic paint. By itself, this plastic paint can be used to give a complete finish and one which is thoroughly washable.

Write for more information

For further information about white-lead and oil plastic paint and illustrations of various textures, write to our Department of Color Research and Decoration for the booklet "White-Lead and Oil Plastic Finishes." Address your inquiry to our nearest branch.

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New York, 111 Broadway - Buffalo, 116 Oak Street - Chicago, 900 West 18th Street - Cincinnati, 659 Freeman Avenue - Cleveland, 820 West Superior Avenue - St. Louis, 722 Chestnut Street - San Francisco, 235 Montgomery Street - Boston, National-Boston Lead Co., 800 Albany Street - Pittsburgh, National Lead & Oil Co. of Pa., 316 Fourth Avenue - Philadelphia, John T. Lewis & Bros. Co., 437 Chestnut Street.

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Another product of National Lead Company is lead cames. The line includes cames for every type of stained glass work and we make special cames to architect's specifications. Write for catalog.

DUTCH BOY WHITE-LEAD

SELECTED LIST OF MANUFACTURERS' PUBLICATIONS — *Continued from page 90*

PLASTER—Continued

Interior Walls Everlasting. Brochure, 20 pp., 6¼ x 9¼ ins. Illustrated. Describes origin of Keene's Cement and views of buildings in which it is used.

PLUMBING EQUIPMENT

Clow & Sons, James B., 534 S. Franklin St., Chicago, Ill.
Catalog M. 9¼ x 12 ins., 184 pp. Illustrated. Shows complete line of plumbing fixtures for Schools, Railroads and Industrial Plants.

Crane Company, 836 S. Michigan Ave., Chicago, Ill.
Plumbing Suggestions for Home Builders. Catalog, 3 x 6 ins., 80 pp. Illustrated.
Plumbing Suggestions for Industrial Plants. Catalog, 4 x 6½ ins., 34 pp. Illustrated.
Planning the Small Bathroom. Booklet, 5 x 8 ins. Discusses planning bathrooms of small dimensions.

John Douglas Co., Cincinnati, Ohio.
Douglas Plumbing Fixtures. Bound volume, 200 pp., 8½ x 11 ins. Illustrated. General catalog.
Another Douglas Achievement. Folder, 4 pp., 8½ x 11 ins. Illustrated. Data on new type of stall.
Hospital. Brochure, 60 pp., 8½ x 11 ins. Illustrated. Deals with fixtures for hospitals.

Duriron Company, Dayton, Ohio.
Duriron Acid, Alkali and Rust-Proof Drain Pipe and Fittings. Booklet, 8½ x 11 ins., 20 pp. Full details regarding a valuable form of piping.

Imperial Brass Mfg. Co., 1200 W. Harrison St., Chicago, Ill.
Watrous Patent Flush Valves, Duojet Water Closets, Liquid Soap Fixtures, etc. 8½ x 11 ins., 136 pp., loose-leaf catalog, showing roughing-in measurements, etc.

Maddock's Sons Company, Thomas, Trenton, N. J.
Catalog K. 7⅞ x 10⅞ ins., 242 pp. Illustrated. Complete data on vitreous china plumbing fixtures with brief history of Sanitary Pottery.

Speakman Company, Wilmington, Del.
Catalog K. Booklet, 150 pp., 8½ x 10⅞ ins. Illustrated. Data on showers and equipment details.

Trenton Potteries Company, Trenton, N. J.
The Blue Book of Plumbing. Bound volume, 182 pp., 8½ x 10½ ins. Illustrated.

PNEUMATIC TUBE SYSTEMS

Gillis & Geoghegan, Inc., 535 West Broadway, New York.
G & G Atlas Systems. Booklet. 12 pp. 8½ x 11 ins. Illustrated. Tube systems for department stores.
Quickly and Efficiently Handling Sales Transactions. Folder. Illustrated. Plan of tube system for a department store.

PUMPS

Kewanee Private Utilities Co., 442 Franklin St., Kewanee, Ill.
Bulletin E. 7¾ x 10¾ ins., 32 pp. Illustrated. Catalog. Complete descriptions, with all necessary data, on Standard Service Pumps, Indian Brand Pneumatic Tanks, and Complete Water Systems, as installed by Kewanee Private Utilities Co.

The Trane Co., La Crosse, Wis.
Trane Small Centrifugal Pumps. Booklet, 3¾ x 8 ins., 16 pp. Complete data on an important type of pump.

RADIO EQUIPMENT

Radio Corporation of America, Woolworth Building, New York City, N. Y.
R. C. A. Antenna Distribution System for Multiple Receivers. Booklet, 16 pp., 8½ x 11 ins. Illustrated. Apparatus for apartment houses and similar large buildings.
R. C. A. Centralized Radio Receiving Equipment. Brochure, 8 pp., 9 x 11 ins. Illustrated. Radio equipment for hotels, hospitals, etc.

RAMPS

Ramp Buildings Corporation, 21 East 40th St., New York, N. Y.
Building Garages for Profitable Operation. Booklet, 8½ x 11 ins. 16 pp. Illustrated. Discusses the need for modern mid-city, parking garages, and describes the d'Humy Motoramp system of design, on the basis of its superior space economy and features of operating convenience. Gives cost analyses of garages of different sizes, and calculates probable earnings.
Garage Design Data. Series of informal bulletins issued in loose-leaf form, with monthly supplements.

REFRIGERATION

The Fulton Syphon Company, Knoxville, Tenn.
Temperature Control of Refrigeration Systems. Booklet, 8 pp., 8½ x 11 ins. Illustrated. Deals with cold storage, chilling of water, etc.

North Western Expanded Metal Company, Chicago, Ill.
Designing Data. Book, 6 x 9 ins., 96 pp. Illustrated. Covers the use of Econo Expanded Metal for various types of reinforced concrete construction.
Longspan ¾-inch Rib Lath. Folder, 4 pp., 8½ x 11 ins. Illustrated. Deals with a new type of V-Rib expanded metal.

REINFORCED CONCRETE—See also Construction, Concrete

Truscon Steel Company, Youngstown, Ohio.
Shearing Stresses in Reinforced Concrete Beams. Booklet, 8½ x 11 ins., 12 pp.

RESTAURANT EQUIPMENT

John Van Range Company, Cincinnati.
Planning Restaurants That Make Money. Booklet, 78 pp., 8½ x 11 ins. Illustrated. Excellent work on equipment.

ROOFING

The Barrett Company, 40 Rector St., New York City.
Architects' and Engineers' Built-up Roofing Reference Series; Volume IV Roof Drainage System. Brochure, 64 pp., 8½ x 11¼ ins. Gives complete data and specifications for many details of roofing.

Federal Cement Tile Co., 608 S. Dearborn Street, Chicago.
Federal Nailing Concrete Roof Slabs. Folder. 4 pp., 8½ x 11 ins. Illustrated.
Roof Standards. Booklet. 30 pp., 8½ x 11 ins. Illustrated.
Federal Interlocking Tile and Glass Tile. Folder. 4 pp., 8½ x 11 ins. Illustrated.
Federal Long-Spare Roof Slab. Folder. 4 pp., 8½ x 11 ins. Illustrated.
New Federal Light Six Roof Slab. Folder. 4 pp., 8½ x 11 ins. Illustrated.
Catalog and Roof Standards. Booklet. 36 pp. 8½ x 11 ins. Illustrated. Full data on Featherweight Concrete Insulating Roof Slabs, and Featherweight Nailing Concrete Roof Slabs.
Examples of Theatres and Theatre Roofs. Booklet, 16 pp., 8½ x 11 ins. Illustrated.

Heinz Roofing Tile Co., 1925 West Third Avenue, Denver, Colo.
Plymouth-Shingle Tile with Sprocket Hips. Leaflet, 8½ x 11 ins. Illustrated. Shows use of English shingle tile with special hips.
Italian Promenade Floor Tile. Folder, 2 pp., 8½ x 11 ins. Illustrated. Floor tiling adapted from that of Davanzati Palace.
Mission Tile. Leaflet, 8½ x 11 ins. Illustrated. Tile such as are used in Italy and Southern California.
Georgian Tile. Leaflet, 8½ x 11 ins. Illustrated. Tiling as used in old English and French farmhouses.

Johns-Manville Corporation, New York.
The New Book of Roofs. Brochure, 24 pp., 8½ x 11 ins. Illustrated. Roofing from the Architect's point of view.

Ludowici-Celadon Company, 104 So. Michigan Ave., Chicago, Ill.
"Ancient" Tapered Mission Tiles. Leaflet, 8½ x 11 ins., 4 pp. Illustrated. For architects who desire something out of the ordinary this leaflet has been prepared. Describes briefly the "Ancient" Tapered Mission Tiles, hand-made with full corners and designed to be applied with irregular exposures.

Milwaukee Corrugating Co., Milwaukee.
Milcor Architectural Sheet Metal Guide. Booklet. 72 pp., 8½ x 11 ins. Illustrated. Metal tile roofing, skylights, ventilators, etc.
Milcor Sheet Metal Handbook. Brochure. 128 pp., 8½ x 11 ins. Illustrated. Deals with rain-carrying equipment, etc.

Sheet Steel Trade Extension Committee, Terminal Tower, Cleveland.
This committee will send upon request full data published by its members on steel roof decks and specifications for their use.

Structural Gypsum Corporation, Linden, N. J.
Relative Effectiveness of Various Types of Roofing Construction in Preventing Condensation of the Under Surface. Folder, 4 pp., 8¾ x 11 ins. Important data on the subject.
Gypsteel Pre-cast Fireproof Roofs. Booklet, 48 pp., 8½ x 11 ins. Illustrated. Information regarding a valuable type of roofing.

U. S. Gypsum Co., Chicago, Ill.
Pyrobar Roof Construction. Booklet, 8 x 11 ins., 48 pp. Illustrated. Gives valuable data on the use of tile in roof construction.
Sheetrock Pyrofill Roof Construction. Folder, 8½ x 11 ins. Illustrated. Covers use of roof surfacing which is poured in place.

SEWAGE DISPOSAL

Kewanee Private Utilities, 442 Franklin St., Kewanee, Ill.
Specification Sheets. 7¾ x 10¼ ins., 40 pp. Illustrated. Detailed drawings and specifications covering water supply and sewage disposal systems.

Nash Engineering Company, South Norwalk, Conn.
Bulletin 97. Booklet. 16 pp. 10¾ x 7½ ins. Illustrated in color. Describes the design, construction and operation of the Jennings Suction Sump Pump.
Bulletin 11. Brochure. 8 pp. 10¾ x 7½ ins. Illustrated in color. Deals with Nash Hytor Vacuum Pumps for air and gases.
Bulletin 67. Booklet. 16 pp. 10¾ x 7½ ins. Illustrated in color. Describes Type A Jennings Sewage Ejector for handling Unscreened sewage and raising it from basements below sewer level.
Bulletin 103. Brochure. 16 pp. 10¾ x 7½ ins. Illustrated in color. Deals with small size Type B Jennings Sewage Ejector.

SCREENS

American Brass Co., The, Waterbury, Conn.
Facts for Architects About Screening. Illustrated folder, 9½ x 11¾ ins., giving actual samples of metal screen cloth and data on fly screens and screen doors.

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MI SUEÑO, *sixteenth century Spanish and Italian Renaissance home of S. W. King, Dallas, Texas. Allan Boyle, Architect. Walter Whitley, Builder. M. Jacques Carlu, critic, interior decorator, and painter of the fine mural in the dining room, a room praised as unrivalled in its conception and inspired by the Davanzati Palace of Florence.*

The grandeur of Old Spain relives in this Estancia of today

"ONE of the finest Spanish Renaissance homes in America." Thus critics pay tribute to *Mi Sueño,* Dallas residence of S. W. King.

The beauty of its sixteenth century Spanish and Italian architecture is outlined against the Texas sky whose varying hues are reflected in the soft Mediterranean pink of its stucco exterior. Above the entrance, flanked by sculptured stone columns, the facade rises in blue and gold tiling. Stone flying buttresses surround a dome, capped in blue.

No effort was spared, no detail omitted, that might contribute to perfection. Architect Allan Boyle was sent to Spain where he studied for months refining his plans. Then to Fontainebleau where the criticism of the great M. Carlu, Directeur of the Ecole des Beaux Arts, was secured.

Equally painstaking care extended to the choice of materials. It is significant that Atlas White Portland Cement was selected for the stucco. Only with its pure white base could such exquisite shading of color have been obtained. In even the most modest cottage architects may achieve the charm, the dependability, and the fire-safeness of Atlas White stucco, so eloquently recommended by *Mi Sueño.*

SELECTED LIST OF MANUFACTURERS' PUBLICATIONS — *Continued from page 92*

SCREENS—Continued

Athey Company, 6015 West 65th St., Chicago, Ill.
The Athey Perennial Window Shade. An accordion pleated window shade, made from translucent Herringbone woven Coutil cloth, which raises from the bottom and lowers from the top. It eliminates awnings, affords ventilation, can be dry-cleaned and will wear indefinitely.

Orange Screen Co., Maplewood, N. J.
Orsco Aluminum Screens. Booklet, 8 pp., 8 x 11 ins. Illustrated. Data on a valuable line of screens.
Orsco Screens and Other Products. Brochure, 20 pp., 8 x 11 ins. Illustrated. Door and window screens and other hardware.

SHADE CLOTH AND ROLLERS

Columbia Mills, Inc., 225 Fifth Avenue, New York, N. Y.
Window Shade Data Book. Folder, 28 pp., 8½ x 11 ins. Illustrated.

SHELVING-STEEL

David Lupton's Sons Company, Philadelphia, Pa.
Lupton Steel Shelving. Catalog E. Illustrated brochure, 40 pp., 8⅝ x 11 ins. Deals with steel cabinets, shelving, racks, doors, partitions, etc.

STEEL PRODUCTS FOR BUILDING

Bethlehem Steel Company, Bethlehem, Pa.
Steel Joists and Stanchions. Booklet, 72 pp., 4 x 6¾ ins. Data for steel for dwellings, apartment houses, etc.

Sheet Steel Trade Extension Committee, Terminal Tower, Cleveland.
This committee will send upon request full data published by its members on steel partitions and specifications for their use.

Steel Frame House Company, Pittsburgh, Pa. (Subsidiary of McClintic-Marshall Corp.)
Steel Framing for Dwellings. Booklet, 16 pp., 8½ x 11 ins. Illustrated.
Steel Framing for Gasoline Service Stations. Brochure, 8 pp., 8½ x 11 ins. Illustrated.
Steel Frame Standard Gasoline Service Stations. Booklet, 8 pp., 8½ x 11 ins. Illustrated. Three standard designs of stations.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.
The Arc Welding of Structural Steel. Brochure, 32 pp., 8½ x 11 ins. Illustrated. Deals with an important structural process.

STONE, BUILDING

Indiana Limestone Company, Bedford, Ind.
Volume 3, Series A-3. Standard Specifications for Cut Indiana Limestone work, 8½ x 11 ins., 56 pp. Containing specifications and supplementary data relating to the best methods of specifying and using this stone for all building purposes.
Volume 1. Series B. Indiana Limestone Library, 6 x 9 ins., 36 pp. Illustrated. Giving general information regarding Indiana Limestone, its physical characteristics, etc.
Volume 4. Series B. Booklet. New Edition, 8½ x 11 ins., 64 pp. Illustrated. Indiana Limestone as used in Banks.
Volume 5. Series B. Indiana Limestone Library. Portfolio, 11⅛ x 8¾ ins. Illustrated. Describes and illustrates the use of stone for small houses with floor plans of each.
Volume 6. Series B. Indiana Limestone School and College Buildings. 8½ x 11 ins., 80 pp. Illustrated.
Volume 12. Series B. Distinctive Homes of Indiana Limestone. 8½ x 11 ins., 48 pp. Illustrated.
Old Gothic Random Ashlar. 8½ x 11 ins., 16 pp. Illustrated.

STORE FRONTS

Brasco Manufacturing Co., 5025-35 South Wabash Ave., Chicago, Ill.
Catalog No. 33. Series 500. All-Metal Construction. Brochure, 20 pp., 8½ x 11 ins. Illustrated. Deals with store fronts of a high class.
Catalog No. 34. Series 202. Standard construction. Booklet, 16 pp. 8½ x 11 ins. Illustrated, complete data on an important type of building.
Detail Sheets. Set of seven sheets, 8½ x 11 ins., printed on tracing paper, giving full-sized details and suggestions for store front designs.
Davis Solid Architectural Bronze Sash. Set of six sheets, 8½ x 11 ins., printed on tracing paper. Full-sized details and suggestions for designs of special bronze store front construction.

The Kawneer Company, Niles, Mich.
Store Front Suggestions. Booklet, 96 pp., 6 x 8½ ins. Illustrated. Shows different types of Kawneer Solid Copper Store Fronts.
Catalog K. 1927 Edition. Booklet, 32 pp., 8½ x 11 ins. Illustrated. Details of Kawneer Copper Store Fronts.
Detail Sheets for Use in Tracing. Full-sized details on sheets 17 x 22 ins.

STORE FRONTS—Continued

Kawneer Construction in Solid Bronze or Copper. Booklet, 64 pp., 8½ x 11 ins. Illustrated. Complete data on the subject.

Modern Bronze Store Front Co., Chicago Heights, Ill.
Introducing Extruded Bronze Store Front Construction. Folder, 4 pp., 8½ x 11 ins. Illustrated. Contains full-sized details of metal store fronts.

Zouri Drawn Metals Company, Chicago Heights, Ill.
Zouri Safety Key-Set Store Front Construction. Catalog, 8½ x 10½ ins., 60 pp. Illustrated. Complete information with detailed sheets and installation instructions convenient for architects' files.
International Store Front Construction. Catalog, 8½ x 10 ins., 70 pp. Illustrated. Complete information with detailed sheets and installation instructions convenient for architects' files.
Store Fronts by Zouri. Booklet, 30 pp., 9 x 12 ins. Illustrated.

TELEPHONE SERVICE ARRANGEMENTS

All Bell Telephone Companies. Apply nearest Business Office, or American Telephone and Telegraph Company, 195 Broadway, New York.
Planning for Home Telephone Conveniences. Booklet, 52 pp., 8½ x 11 ins. Illustrated.
Planning for Telephones in Building. Brochure, 74 pp., 8½ x 11 ins. Illustrated.

TERRA COTTA

National Terra Cotta Society, 19 West 44th St., New York, N. Y.
Standard Specifications for the Manufacture, Furnishing and Setting of Terra Cotta. Brochure, 8½ x 11 ins., 12 pp. Complete Specification, Glossary of Terms Relating to Terra Cotta and Short Form Specification for incorporating in Architects' Specification.
Color in Architecture. Revised Edition. Permanently bound volume, 9⅛ x 12¼ ins., containing a treatise upon the basic principles of color in architectural design, illustrating early European and modern American examples. Excellent illustrations in color.
Present Day Schools. 8½ x 11 ins., 32 pp. Illustrating 42 examples of school architecture with article upon school building design by James O. Betelle, A. I. A.
Better Banks. 8½ x 11 ins., 32 pp. Illustrating many banking buildings in terra cotta with an article on its use in bank design by Alfred C. Bossom, Architect.

TILE, HOLLOW

National Fire-Proofing Co., 250 Federal Street, Pittsburgh.
Natco. The Complete line of Structural Clay Tile. Booklet. 39 pp. 8½ x 11 ins. Illustrated. A General Catalog.
Natco Double Shell Load Bearing Tile Bulletin. 8½ x 11 ins., 6 pp. Illustrated.
Natco Unibacker Tile Bulletin. 8½ x 11 ins., 4 pp. Illustrated.
Natco Header Backer Tile Bulletin. 8½ x 11 ins., 4 pp. Illustrated.
Natcoflor Bulletin. 8½ x 11 ins., 6 pp. Illustrated.
Natco Face Tile for the Up-to-Date. Farm Bulletin. 8½ x 11 ins.

TILES

Hanley Company, Bradford, Pa.
Hanley Quarry Tile. Folder. 4 pp., 5 x 8 ins. Illustrated.

C. Pardee Works, 9 East 45th St., New York, N. Y., and 1600 Walnut St., Philadelphia, Pa.
Pardee Tiles. Bound volume, 48 pp., 8½ x 11 ins. Illustrated.

United States Quarry Tile Co., Parkersburg, W. Va.
Quarry Tiles for Floors. Booklet, 120 pp., 8½ x 11 ins. Illustrated. General catalog. Details of patterns and trim for floors.
Art Portfolio of Floor Designs. 9¼ x 12¼ ins. Illustrated in colors. Patterns of quarry tiles for floors.

VALVES

Crane Co., 836 S. Michigan Ave., Chicago, Ill.
No. 51. General Catalog. Illustrated. Describes the complete line of the Crane Co.

C. A. Dunham Co., 450 East Ohio St., Chicago, Ill.
The Dunham Packless Radiator Valve. Brochure, 12 pp., 8 x 11 ins. Illustrated. Data on an important type of valve.

Jenkins Brothers, 80 White Street, New York.
Office Buildings Yesterday and Today. Folder, 8½ x 11 ins. Illustrated. Valves for use in office buildings.
The Valve Behind a Good Heating System. Booklet, 4½ x 7¼ ins., 16 pp. Color plates. Description of Jenkins Radiator Valves for steam and hot water, and brass valves used as boiler connections.

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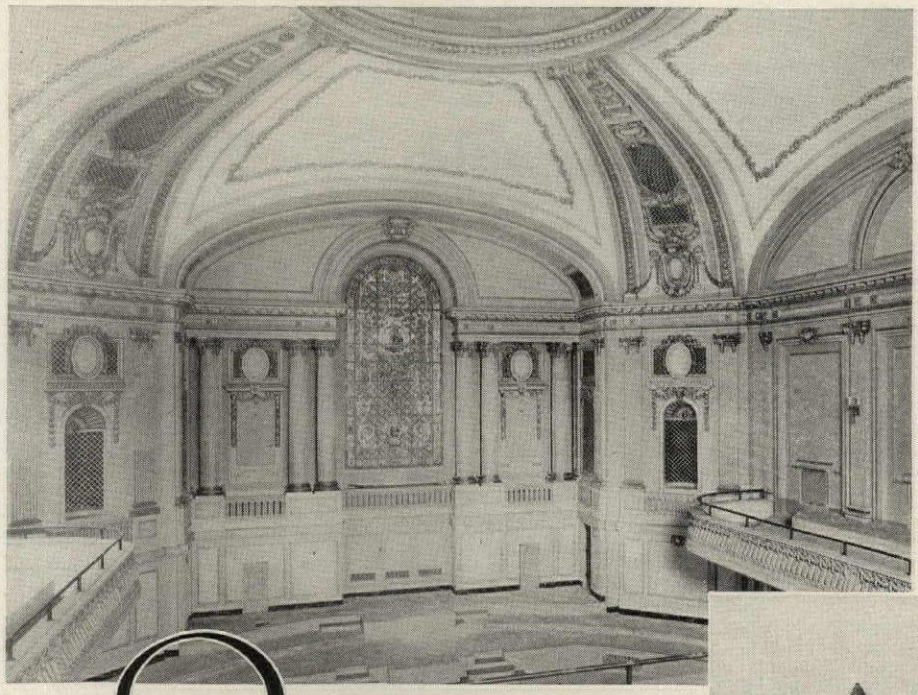

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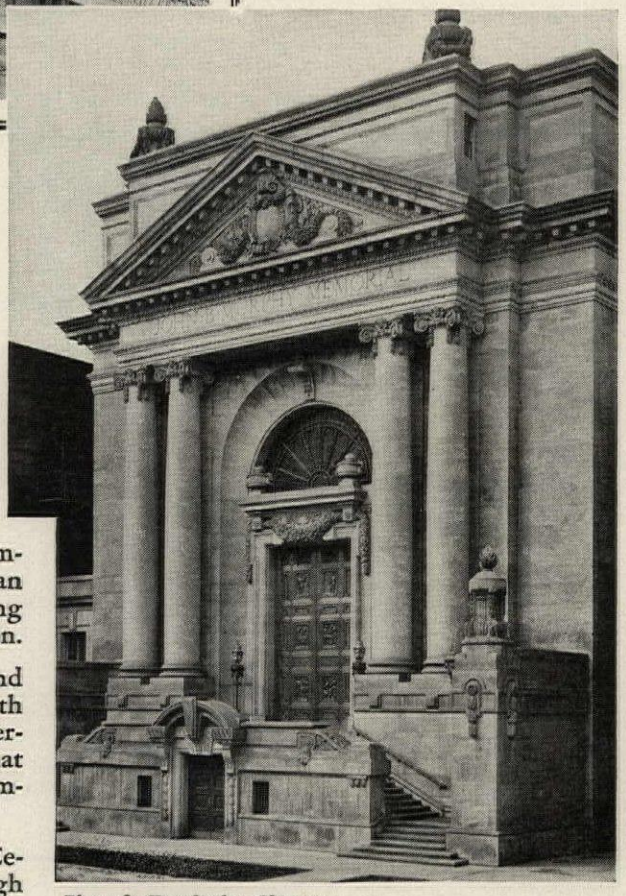

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In this masterpiece of building art, beauty and permanence are expressed everywhere. Both in interior and exterior it is a model of perfection. And we are proud of the fact that BEST BROS. Keene's Cement played a prominent part in the interior finish.

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CEMENT
Always "BEST" for Plastering

An Architect is an Investment — not an Expense.

SELECTED LIST OF MANUFACTURERS' PUBLICATIONS — *Continued from page 94*

VALVES—Continued

Jenkins Valves for Plumbing Service. Booklet, 4½ x 7¼ ins. 16 pp. Illustrated. Description of Jenkins Brass Globe, Angle Check and Gate Valves commonly used in home plumbing, and Iron Body Valves used for larger plumbing installations.

VENETIAN BLINDS

Burlington Venetian Blind Co., Burlington, Vt.
Venetian Blinds. Booklet, 7 x 10 ins., 24 pp. Illustrated. Describes the "Burlington" Venetian blinds, method of operation, advantages of installation to obtain perfect control of light in the room.

VENTILATION

American Blower Co., Detroit, Mich.
American H. S. Fans. Brochure, 28 pp., 8½ x 11 ins. Data on an important line of blowers.

Duriron Company, Dayton, Ohio.
Acid-proof Exhaust Fans. Folder, 8 x 10½ ins., 8 pp. Data regarding fans for ventilation of laboratory fume hoods.
Specification Form for Acid-proof Exhaust Fans. Folder, 8 x 10½ ins.

Staynew Filter Corporation, Rochester, N. Y.
Protectomotor High Efficiency Industrial Air Filters. Booklet, 20 pp., 8½ x 11 ins. Illustrated. Data on valuable detail of apparatus.

WATERPROOFING

Master Builders Company, Cleveland, Ohio.
Waterproofing and Dampproofing and Allied Products. Sheets in loose index file, 9 x 12 ins. Valuable data on different types of materials for protection against dampness.
Waterproofing and Dampproofing File. 36 pp. Complete descriptions and detailed specifications for materials used in building with concrete.

Minwax Company, Inc., 11 West 42nd St., New York.
Waterproofing Stadia. Folder, 4 pp., 8½ x 11 ins. Illustrated.
Transparent Waterproofings for All Masonry Walls and Surfaces. Folder, 4 pp., 8½ x 11 ins. Illustrated.
Data Sheet on Membrane Waterproofing. Folder, 4 pp., 8½ x 11 ins. Illustrated.

Sommers & Co., Ltd., 342 Madison Ave., New York, N. Y.
"Permantile Liquid Waterproofing" for making concrete and cement mortar permanently impervious to water. Also circulars on floor treatments and cement colors. Complete data and specifications. Sent upon request to architects using business stationery. Circular size, 8½ x 11 ins.

Sonneborn Sons, Inc., L., 116 Fifth Ave., New York, N. Y.
Pamphlet, 3¾ x 8¾ ins., 8 pp. Explanation of waterproofing principles. Specifications for waterproofing walls, floors, swimming pools and treatment of concrete, stucco and mortar.

Toch Brothers, New York, Chicago, Los Angeles.
Architects' Specification Data. Sheets in loose leaf binder, 8½ x 11 ins., dealing with an important line of materials.

WEATHER STRIPS

Athey Company, 6035 West 65th St., Chicago, Ill.
The Only Weatherstrip with a Cloth to Metal Contact. Booklet, 16 pp., 8½ x 11 ins. Illustrated. Data on an important type of weather stripping.

WINDOWS

Detroit Steel Products Co., 2250 E. Grand Boulevard, Detroit.
Fenestra Blue Book. Brochure, 75 pp., 8½ x 11 ins. Illustrated. Data on steel windows.

The Kawneer Company, Niles, Mich.
Kawneer Solid Nickel Silver Windows. In casement and weight-hung types and in drop-down transom type. Portfolio, 12 pp., 9 x 11½ ins. Illustrated, and with demonstrator.

David Lupton's Sons Company, Philadelphia, Pa.
Lupton Pivoted Sash. Catalog 12-A. Booklet, 48 pp., 8⅝ x 11 ins. Illustrates and describes windows suitable for manufacturing buildings.

WINDOWS, CASEMENT

Detroit Steel Products Co., 2250 E. Grand Boulevard, Detroit.
Fenestra Casements. Booklet, 14 pp., 8¼ x 11 ins. Illustrated. Discusses casements, particularly for residences.
Fenestra Screen Casements. Brochure, 16 pp., 8½ x 11 ins. Illustrated.
Decorating With Casements. Booklet, 18 pp., with inserts in color 6 x 8½ ins. Deals with use of decorations, particularly draperies, with casement windows.

WINDOWS, CASEMENT—Continued

Hope & Sons, Henry, 103 Park Ave., New York, N. Y.
Catalog, 12¼ x 18½ ins., 30 pp. Illustrated. Full-size details of outward and inward opening casements.

The Kawneer Company, Niles, Mich.
Kawneer Solid Nickel Silver Windows. In casement and weight-hung types and in drop-down transom type. Portfolio, 12 pp., 9 x 11½ ins. Illustrated, and with demonstrator.

David Lupton's Sons Company, Philadelphia, Pa.
Lupton Casement of Copper Steel. Catalog C-217. Booklet, 24 pp., 8⅝ x 11 ins. Illustrated brochure on casements, particularly for residences.
Lupton Heavy Casements. Detail Sheet No. 101, 4 pp., 8½ x 11 ins. Details and specifications only.

Richards-Wilcox Mfg. Co., Aurora, Ill.
Casement Window Hardware. Booklet, 24 pp., 8½ x 11 ins. Illustrated. Shows typical installations, detail drawings, construction details, blue-prints if desired. Describes AIR-way Multifold Window Hardware.
Architectural Details. Booklet, 8½ x 11 ins., 16 pp. Tables of specifications and typical details of different types of construction.
List of Parts for Assembly. Booklet, 8½ x 11 ins., 16 pp. Full lists of parts for different units.

WINDOW SCREENS

Detroit Steel Products Co., 2250 E. Grand Boulevard, Detroit.
Fenestra Screen Casements. Brochure, 16 pp., 8½ x 11 ins. Illustrated.

Orange Screen Company, Maplewood, N. J.
New Vogue Aluminum Frame Screens. Booklet, 12 pp., 3½ x 8½ ins. Illustrated.

WINDOW SHADES AND ROLLERS

Columbia Mills, Inc., 225 Fifth Avenue, New York, N. Y.
Window Shade Data Book. Folder, 28 pp., 8½ x 11 ins. Illustrated.

WINDOWS, STEEL AND BRONZE

David Lupton's Sons Company, Philadelphia, Pa.
A Rain-shed and Ventilator of Glass and Steel. Pamphlet, 4 pp., 8⅝ x 11 ins. Deals with Pond Continuous Sash. Sawtooth Roofs, etc.
How Windows Can Make Better Homes. Booklet, 3⅞ x 7 ins., 12 pp. An attractive and helpful illustrated publication on use of steel casements for domestic buildings.

Truscon Steel Company, Youngstown, Ohio.
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Truscon Solid Steel Double-Hung Windows. 24 pp. Booklet, 8½ x 11 ins. Containing illustrations of buildings using this type of window. Designs and drawings of mechanical details.
Continuous Steel Windows and Mechanical Operators. Catalog 126. Booklet, 32 pp., 8½ x 11 ins. Illustrated.

WOOD—See also Millwork

American Walnut Mfrs. Association, 618 So. Michigan Boulevard, Chicago, Ill.
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Curtis Companies Service Bureau, Clinton, Iowa.
Curtis Cabinet and Stair Work. Booklet, 47 pp., 7¾ x 10½ ins. Illustrated.
Curtis Windows. Brochure, 7¾ x 10½ ins. Illustrated.
Curtis Interior Doors. Booklet, 7¾ x 10½ ins. Illustrated.
Curtis Entrances and Exterior Doors. Brochure, 7¾ x 10½ ins. Illustrated.

National Lumber Mfrs. Assn., Washington, D. C.
Airplane Hangar Construction. Booklet, 24 pp., 8½ x 11 ins. Use of lumber for hangars.

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Minwax Company, 11 West 42nd St., New York.
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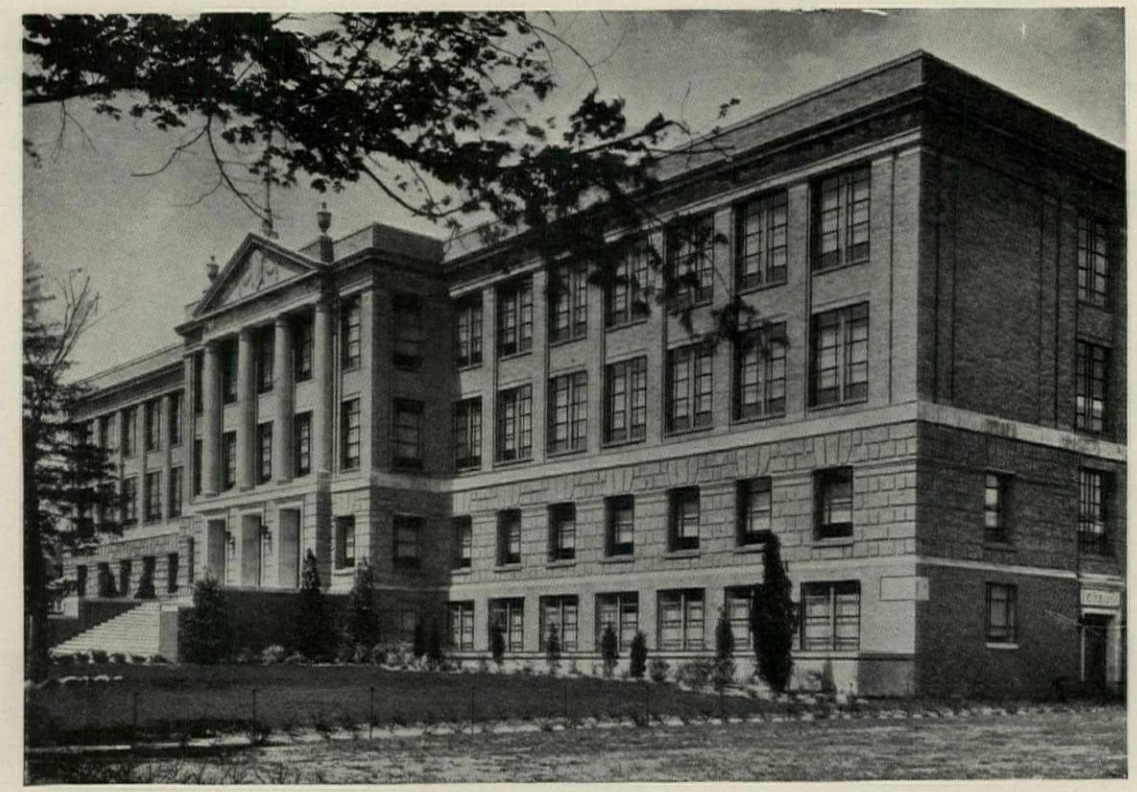

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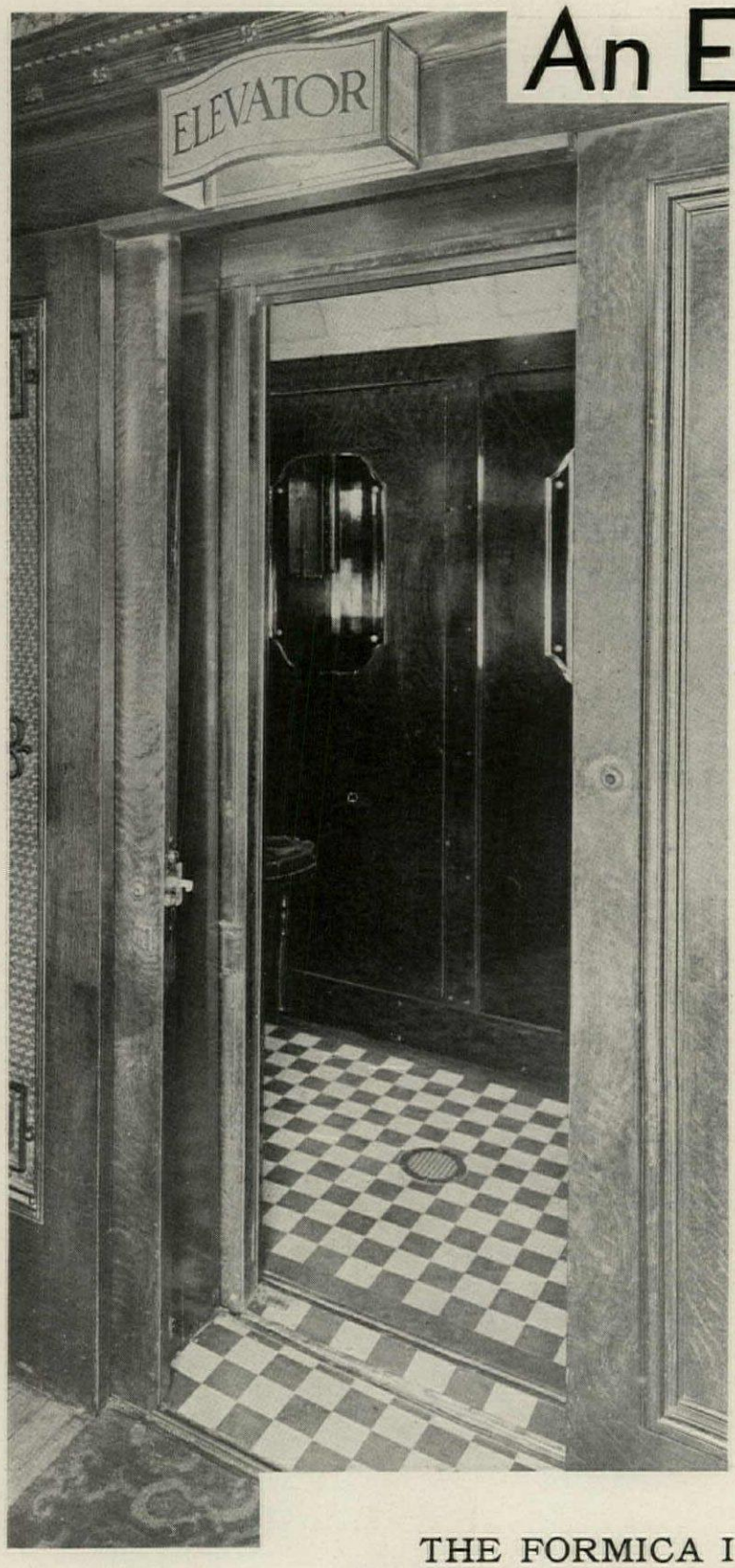

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REVIEWS OF MANUFACTURERS' PUBLICATIONS

UNITED STATES GYPSUM COMPANY, 300 West Adams Street, Chicago. "*The Gypsumist*, Architects' Edition."

Architects and their designers should receive regularly and file away carefully this little periodical which has already been frequently referred to in these pages of THE FORUM. Its editors are successful in maintaining excellent "balance" in selecting its subject matter, the interests of designers being given full consideration without in the least neglecting the interests of others who may be chiefly interested in matters relating to structure or specifications. For example, one particular issue (Volume V, Number 2) deals first of all with some minor developments in Mediterranean architecture, illustrated with views of some charmingly simple and graceful old buildings in the south of France, while a little later there are data on such practical subjects as soundproofing and the use of gypsum tile for affording fire-resistance. The make-up of *The Gypsumist* and the excellent taste with which it is produced should make a year's numbers when bound in book form a treasure for any library.

TUTTLE & BAILEY MFG. CO., 441 Lexington Avenue, New York. "Grilles for Heating and Ventilating."

In creating designs or patterns for their metal grilles, particularly grilles for covering or screening heating apparatus and the openings of ventilators, certain manufacturers seem to have reviewed literally all the sources and resources of ornament. This has been suggested by an examination of a booklet recently issued by these widely known makers of metallic grilles, for the brochure illustrates not only all sizes and shapes of grilles, such as are used for covering radiators, hot air registers and ventilators but also countless types of design drawn from almost every country in the world which possesses anything in the way of pattern or ornament. In addition to this the booklet lists the sizes in which these grilles are to be had and gives all the data likely to be needed for their intelligent selection. As the brochure suggests, the cost of even the most expensive grilles which could be made would, after all, be but a tiny fraction of the cost of a building, and being absolutely indestructible they constitute a form of investment. Along with lighting fixtures they are the most important and conspicuous non-structural parts of a building, and it would seem to be real economy to devote every care and attention to their selection and installation.

HENRY KLEIN & CO., INC., 40-46 West 23rd Street, New York. "Driwood Mantels." Their artistic excellence.

Those who value the refinements and niceties of interior architecture have every reason for being grateful to the firms which manufacture and market many of the details which enter into such architecture. In these pages of THE ARCHITECTURAL FORUM there has been frequent mention of the excellence of some of these details now easily to be had at no great cost, and often attention has been drawn to catalogs or booklets which illustrate and describe such details. This particular publication well deserves such mention. Henry Klein & Co., Inc.—or perhaps the firm's designers,—have made a careful study of English eighteenth century interior detail and of the American following of the English which some architects and almost all laymen are fond of calling "Colonial", and the reproductions of much of this detail are admirable. The details illustrated in this brochure are mantels and the mouldings which are used for quite a variety of purposes,—cornices at the points where walls and ceilings join; mouldings used for defining wall panels. mouldings used as chair rails, as bases, for doorheads and window casings. The brochure says: "Driwood Mantels have been developed to fill the real need among architects, builders and home owners for a dependable line of mantels made of wood. For after all there is nothing quite so beautiful, nothing quite so artistic and homelike as a wood mantel. Driwood Mantels have first of all been carefully designed. They were inspired by eighteenth century English and Colonial architecture. The grace of line, the restrained selection of ornament, the good taste so characteristic of these periods are reflected in the New Driwood Mantels." All this is true.

DETROIT STEEL PRODUCTS COMPANY, 2250 East Grand Boulevard. "Decorating with Casements."

One of the few objections which have been urged against use of casement windows has been that it is difficult to fit them with the curtains and other draperies which good taste decrees should be used in interiors of many types. That this objection is founded upon theory rather than upon fact is proved by this booklet upon the subject, in preparing which the advertiser has had the assistance of Marshall Field & Co., Chicago, of the J. L. Hudson Co., Detroit, and of W. & J. Sloane, Inc., of New York. With the booklet there come six loose-leaf plates in full color illustrating interiors of several types,—Early American, Spanish, Stuart, Provincial French, Louis XV, and "Modern",—furnished with all the accessories which belong to these styles and showing their casement windows hung with draperies which are both appropriate and practical. The booklet proper is full of suggestions likely to interest interior decorators and architects whose work has to do with interiors of residence structures.

BENJAMIN ELECTRIC MFG. CO., Des Plaines, Ill. "Supplement No. 1 to Benjamin Catalog 24."

To the publication of goodly size known as "Catalog 24," the Benjamin Electric Mfg. Co. has recently issued "Supplement No. 1," which contains complete descriptions, listings, illustrations and extensive data relating to several additions to the large line of details electrical which the firm manufacturers and sells—Sign Reflector; New Type 79 Glassteel Diffuser; Sturdox Fixtures; Removable Reflector Holders; Vaporproof Projectolite; Intensifier; Portable Inspection-Lite; New Dust-Tight Glass Cover; Concentrating Type Unit; Gymnasium Fixture; 45 Degree Ball Fixture Aligner; Motor-Driven Signal; New Super-Sensitive Relay; and Stand Lamp Vase Adapter. So rapidly are improvements made and new devices introduced that within a few months' time a catalog may become obsolete or a supplement thereto be required. The completeness of this new publication leaves nothing to be desired by the worker in that part of the electrical field with which this booklet is concerned. Particularly admirable is the arrangement of such details of data as sizes of lamps, wattage, etc., all this being evidence of the careful editing without which a publication of this character has little value to architects.

ATLANTIC TERRA COTTA COMPANY, 19 West 44th Street, New York. "*Atlantic Terra Cotta;* for Architects."

Probably to keep well before architects and designers the great possibilities which lie in the use of terra cotta as well as to present evidence that the opportunities which terra cotta offers are by no means being neglected or overlooked, the Atlantic Terra Cotta Company issues a little magazine, several issues of which have been reviewed in these pages of THE FORUM. This particular issue,—that dated June, 1929,—illustrates with a number of views the Smith-Young Tower, San Antonio; a telephone building at Newark, O.; the West Street Building, New York; the Southwestern Bell Telephone Building, Dallas; a telephone building at Tiffin, O.; and the Atlanta City Hall. With one exception these buildings are all recently constructed, and all show excellent use of terra cotta. The exception is the well-known structure at 90 West Street, illustrated now in connection with its having been recently cleaned, presumably given merely a thorough scrubbing, since as the text says, the surface of terra cotta is impervious, and cleaning is comparatively easy. The text also says that the Atlantic Company is prepared to undertake such service, and that the cleaning adds considerably to the "rentability" of a building. Terra cotta of course possesses a surface which is glazed and into which water cannot enter as long as the glaze is neither cracked nor broken. It should not be unduly difficult to clean a surface both hard and smooth, and as this issue of *Atlantic Terra Cotta* points out, a fresh and attractive appearance enhances the practical value of any building.

REVIEWS OF MANUFACTURERS' PUBLICATIONS

THE VOIGT COMPANY, 1743 North Twelfth Street, Philadelphia. "Moderne Art Lighting Fixtures."

What is currently known as the "modern" style of decoration seems to be particularly applicable to certain accessories in the way of furnishings. Fabrics of many kinds appear to offer unusual opportunities to designers, and the same thing is true of lighting fixtures,—perhaps in an even greater degree, since lighting fitments make wide use of metal and glass, both materials which are much affected by light. And then, since the fixtures of course are the sources of light itself, their design is of immense importance in determining the character of an interior of any sort. This brochure describes and illustrates an extensive variety of fixtures of many types. Several finishes are used for the metal parts, and the glass used is described "Flashed Opal," "White Art," "Amber Art," and "White-Opalescent." Some of the designs show a complete acceptance of the "modern" style, while others are much more likely to please those whose taste is for fixtures of more conservative types. All are interesting, however, and their wide variety affords ample opportunity for choosing what may be most desirable for a particular use in any building.

MILWAUKEE CORRUGATING COMPANY, Milwaukee. "Modern Modes in Better Plastering." Data on the subject.

Aided not a little by the ingenuity of manufacturers, present-day architects have learned anew the architectural and decorative value of wall textures. Travelers in Italy, Spain, France and certain other countries well know the interest which attaches to textures ripened and mellowed by the wear of centuries; in fact at times the architectural excellence of an exterior or an interior seems to depend rather less upon its merits in the way of design than upon the beauty of its wall textures and the colorings which belong to them. And yet until comparatively recently all this has been ignored in America. Our architects were long concerned, where brickwork was involved, in securing surfaces as smooth and characterless as possible, and plaster surfaces were never so valued as when they were smooth, hard and brittle, and as free from flaws as a highly polished mirror. "Looking back over thousands of years of history, it is interesting to note that during the past few years, greater strides have been made in advancing style in plastering than during any other age or period of civilization. Striving to develop harmony of exterior and interior architecture, the deft trowel of today's plasterer, guided by the genius of the architect, has revealed the truly artistic possibilities of better plastering. Interesting plaster textures are now in vogue. This is not merely an innovation. It is a renaissance of ancient plaster textures. It marks the rise of a new American period in architecture. Architect and artisan together have awakened a proper appreciation for plastering as a medium of expression in interior and exterior architecture. Proper adaptation of these textures to various types of architecture and to various rooms, is important." This beautifully produced brochure deals with the value of appropriate wall textures for exteriors or interiors. A great number of illustrations prove that architects in every part of the United States now realize their value and the importance of securing their lasting qualities by use, as a foundation, of the metal lath or other more or less similar materials for making which the Milwaukee Corrugating Company is so well and widely known. The brochure abounds in data of great value to architects, engineers, home owners and interior decorators, and in its final paragraph it offers to those interested its very extensive facilities. "A wealth of literature is being published for the benefit of prospective home builders. This organization keeps constantly in touch with the best publications and is prepared to offer valuable suggestions to anyone who is thinking about building. Look upon us, if you will, as your librarian. Ask us to furnish a list of the best books, magazines and articles with which we come in contact. A valuable monthly magazine featuring small houses, including reproductions of floor plans, is now available, and if you so desire, we shall be glad to see that you receive it, with our compliments. This service is maintained for all who are interested in better homes. Even though you may not contemplate building in the near future, do not hesitate to write and consult us."

MASTER BUILDERS COMPANY, Cleveland. "Reducing Ratio of Soluble Constituents in Portland Cement Concrete."

The endless research carried on by the manufacturers of building materials of different sorts brings extremely useful data to the attention of builders, contractors, and the writers of specifications. As these pages of THE ARCHITECTURAL FORUM have often pointed out, one of the few benefits brought by present-day high building costs has been the increased attention paid to obtaining the utmost from the material used, and this, quite logically, depends upon there being presented an accurate analysis of the material's ingredients. Amid all the results of research which reach the desk of THE FORUM's catalog reviewer,—booklets, brochures, and other items of data,—nothing is more valuable than are the publications put forth by The Master Builders Company, —valuable to the point of erudition. The brochure under review here illustrates just this. Its author is Director of Research of The Master Builders Company and was formerly Research Chemist of the Universal Portland Cement Company, and the booklet gives convincing evidence of thorough and painstaking research. From several points of view, however, the work might seem to be over-technical and over-erudite. THE FORUM'S reviewer has known many writers of specifications in three large American cities, and he has found them so absorbed in determining the qualities of so many building materials that they have been able to dwell upon only the "high spots" (so to speak) of any one, and that concentration upon study of any one material, even a material so important as Portland cement must not be permitted to occupy (also so to speak) the "center of the stage." None the less, the booklet in question is to be highly praised and recommended in the most unqualified way to all architects, engineers, specification writers, builders and contractors who are in a position to profit by the extremely valuable data it so well presents. It deserves wide circulation.

CENTRAL ALLOY STEEL CORPORATION, Massillon, O. "Enduro KA2 Steel; An Epochal Introduction."

"Ancient alchemists spent their lives in futile attempts to transmute baser metals into gold. Metallurgical engineers, alchemists of today, direct their efforts along more practical lines, yet they have reached some of the goals for which their predecessors strove in vain. The alloying of metals has become a science, the application of which grows ever wider. 'Enduro KA2,' with which this booklet deals, an alloy of chromium, nickel and iron, partakes of the nature of a noble metal and is perhaps the highest expression of the metallurgist's art. When polished, it is proof against water, atmospheric attack, dilute solutions, and even acids at high temperatures and at high pressures. It takes and holds a mirror finish which is untarnishable under all atmospheric conditions. Stronger than carbon steel, it is easily workable. It can be deep drawn, wire drawn, spun, machined and welded. Such a combination of unusual properties might presuppose a price proportionately high. Enduro KA2 costs less than many materials in common use. It is in truth a new metal for present-day requirements. In scores of applications, Enduro KA2 is used for its striking appearance alone. A huge bank in Canada, with safe deposit boxes and ceiling of Enduro, indicates the effect that may be obtained with this material. Its possibilities for decorative treatment in lighting fixtures and fittings of all sorts for homes and buildings are almost unlimited. Plated materials have no appeal in comparison with a metal whose finish cannot wear off because it is the same all the way through. Household appliances of every kind may now have fittings with a gleaming luster. It is now being used in hood hinges, body trim, lamp rims, wire wheels, bumpers, radiator and gas tank caps and other parts where good appearance and corrosion resistance are essential. And wherever equipment must always be spotlessly clean, nothing will provide a greater degree of cleanliness than a metal which is unaffected by any of the solutions with which it may come in contact. Operating tables, sterilizers, and much of the furniture and clinical apparatus of the modern hospital will approach the sanitary perfection for which hospitals strive, when made of Enduro KA2." This brochure is replete with data.

INDEX TO ADVERTISING ANNOUNCEMENTS

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PART 2—ARCHITECTURAL ENGINEERING AND BUSINESS

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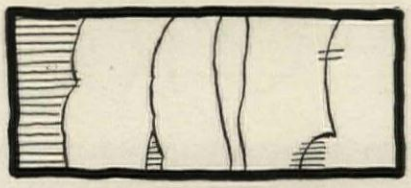

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