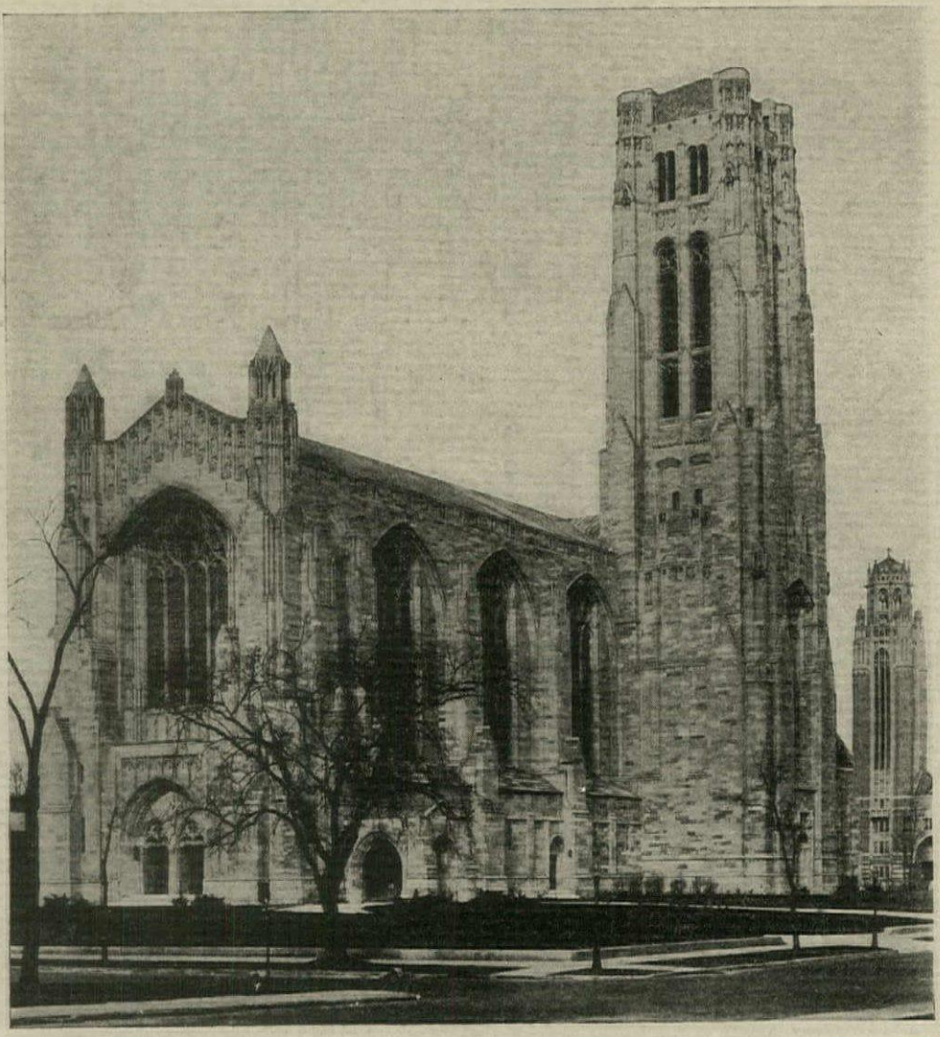
The AMERICAN ARCHITECT

Founded
1876

February 5
1929



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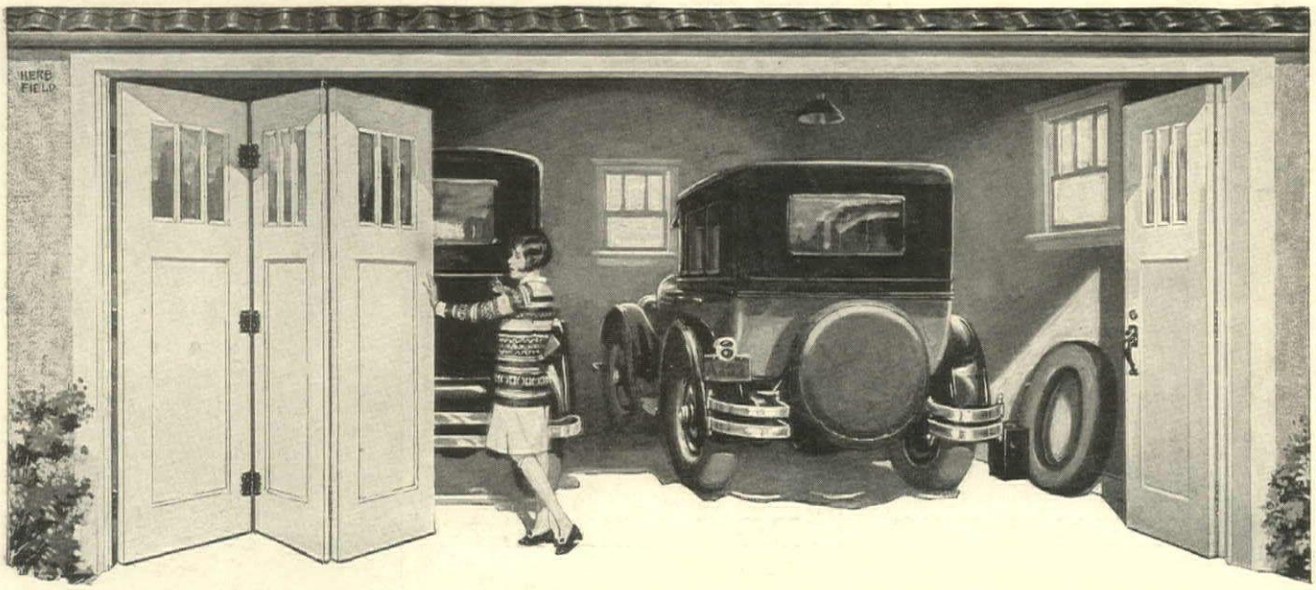

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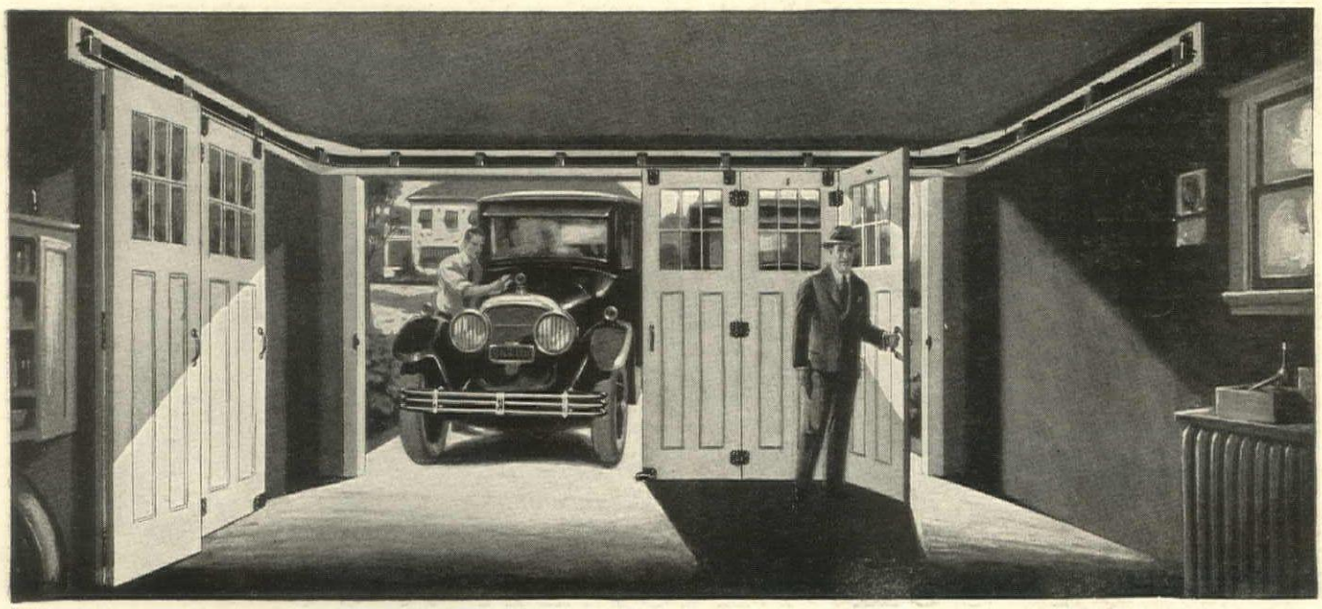
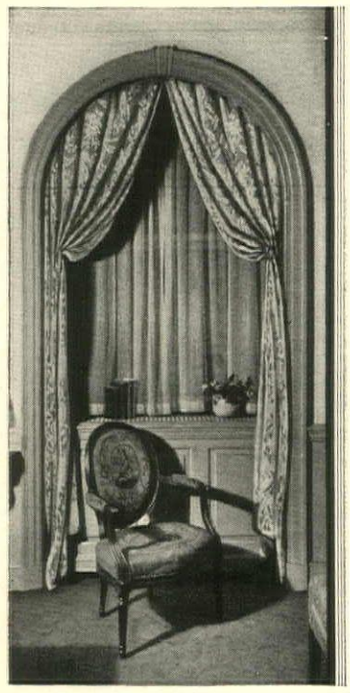


Flowers and Love Knots —
the ROMANCE *of* OLD FRANCE
INSPIRE THIS BROCATELLE



HOW vividly this brocatelle brings back the perfumed, peri-wigged, glamorous days of the Louis'— days when for a single fête a hundred orchestras made the royal forest sing for miles around—and the great gallery, hung with silks and satins and cloth of gold, shone in the light of three thousand candles.

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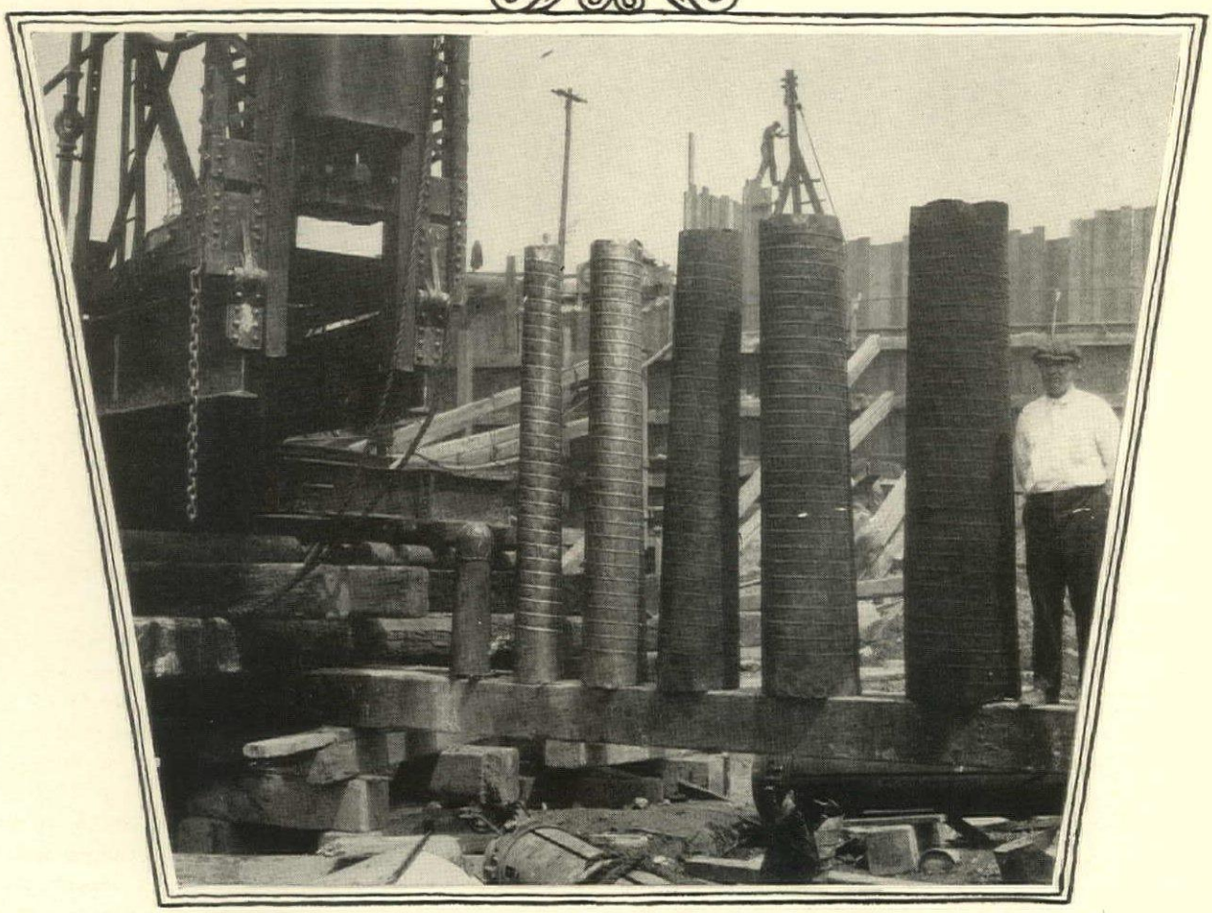

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The AMERICAN ARCHITECT

Founded 1876

VOLUME CXXXV - FEBRUARY 5, 1929 - NUMBER 2562

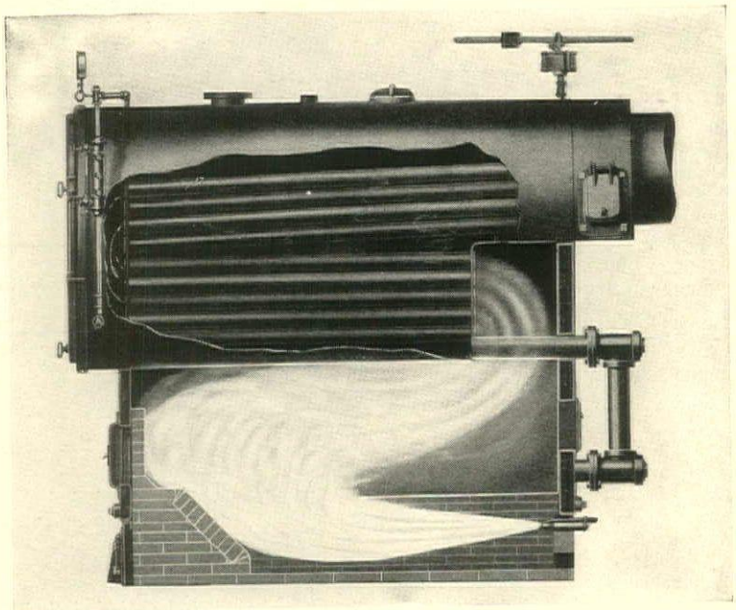
CONTENTS

PUBLICATION, EDITORIAL AND ADVERTISING OFFICES: 235 EAST 45TH STREET, NEW YORK CITY

WESTERN OFFICE: First National Bank Building, Chicago, PAGE A. ROBINSON, *Manager*
LONDON OFFICE: DORLAND HOUSE, 14 Regent Street, S. W. I.

Subscription rates in the United States, Seven Dollars per year or Ten Dollars for two years. In U. S. Possessions, Canada, Mexico and Cuba, Seven Dollars per year; other countries, Nine Dollars per year, payable in New York funds. Single copies, 50 cents.

The eloquence of things unseen



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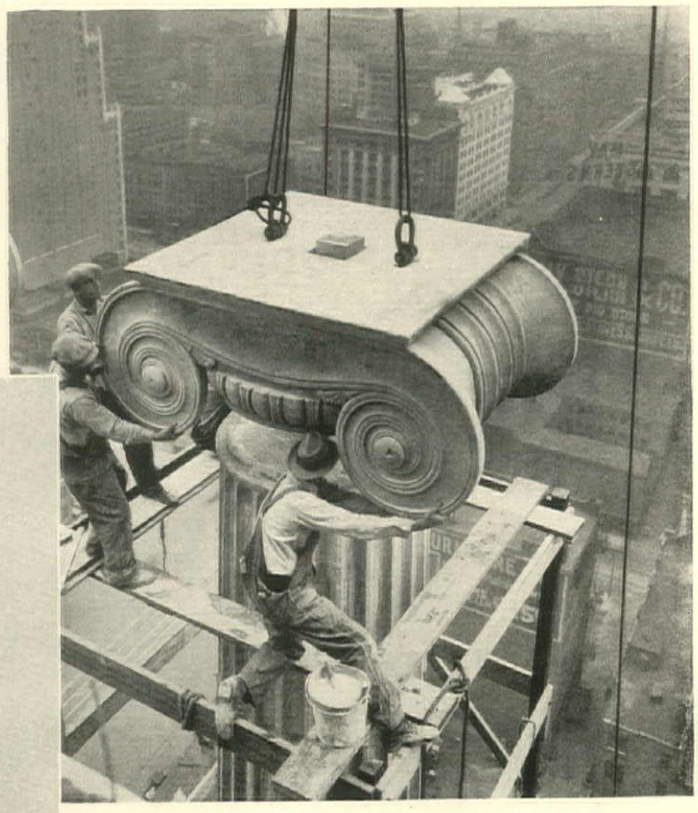

These pictures of the Civil Court House, St. Louis, Mo., in course of construction, indicate the kind of operations in which Indiana Limestone Company service has proved a factor of first importance in assuring the rapid and satisfactory completion of the job. Plaza Commission, Inc., Architects. Selden-Breck Construction Co., Builders.

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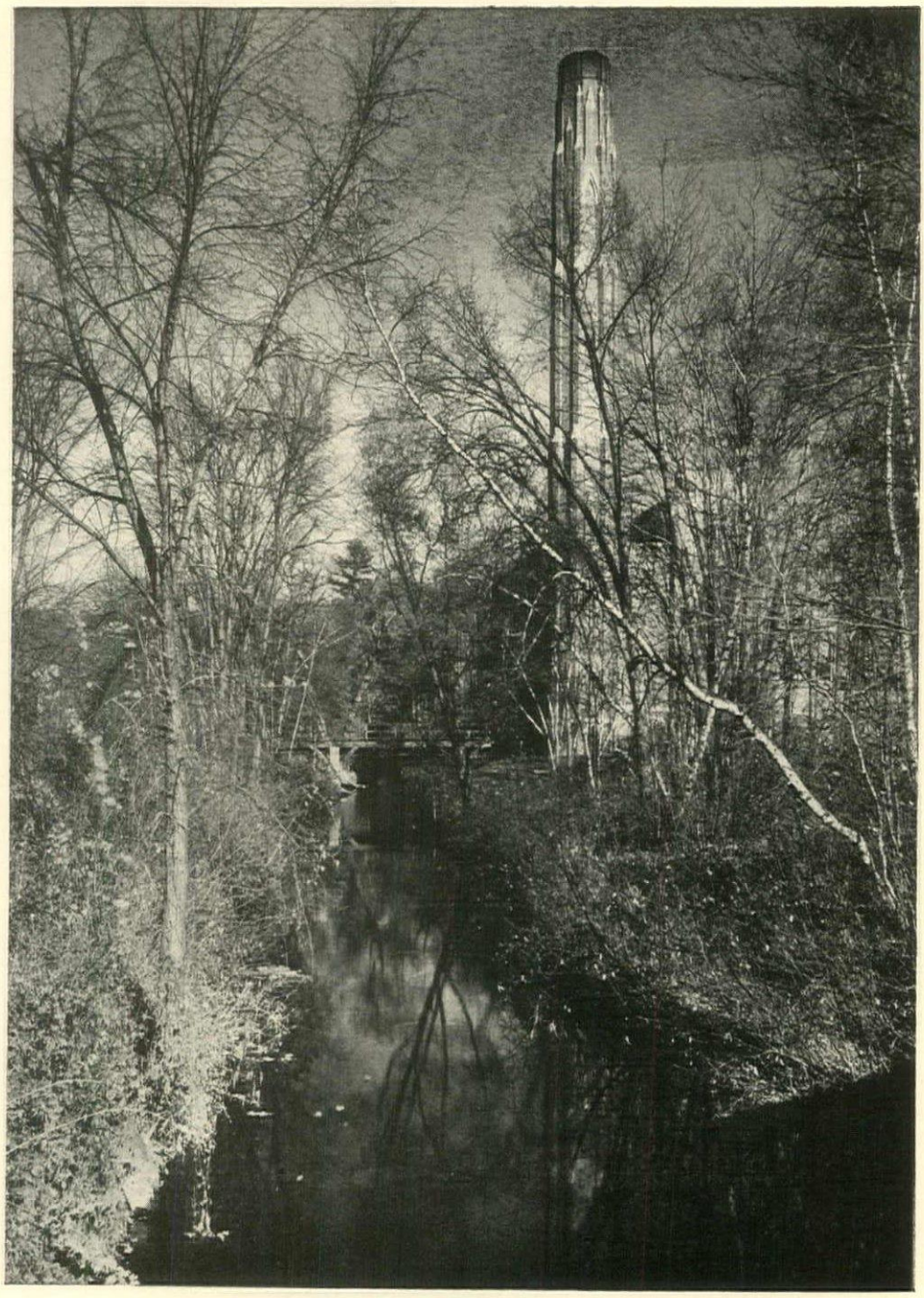
THE plan and design of the modern apartment house offers to the profession a most pressing problem. In this issue we publish an article on "Apartment House Architecture" which, while critical in one sense, makes certain suggestions that if rightfully considered might result in a more happy solution of this perplexing problem. The article is followed by a group of photographs and plans of some of the most recent work of this type in various parts of the country. ∞ ∞ ∞ We are now free to announce definitely that the Fisher Building is to be presented in detail in the issue of February 20th. This building is one of the most successful of its type of the year and we feel it is a privilege that we are allowed to present it completely in the pages of THE AMERICAN ARCHITECT. ∞ ∞ ∞ About eight years ago, an experimental broadcasting studio was opened at Newark, New Jersey. This was a room about fifteen by thirty, with curtained walls to subdue noise, furnished with a few uncomfortable chairs, a phonograph and a rented piano. In contrast with this studio, we invite our readers to view a "modern" broadcasting studio and become familiar with its practical features. The design of the National Broadcasting Company illustrated in this issue will no doubt have a bearing on the design of other studios erected in the future. ∞ ∞ The page size of THE AMERICAN ARCHITECT has been reduced one-eighth inch in width and the same amount in height. This minor but important change was inaugurated with the first issue of 1929. This change will in no way affect the size of illustrations and will permit the magazine to be conveniently filed in a standard letter file by those who desire to preserve their architectural magazines in this manner. We believe that this slight reduction in size will meet with the approval of our subscribers.

February 5, 1929 *The Publishers*



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THE AMERICAN ARCHITECT

February 5, 1929

The AMERICAN ARCHITECT

Founded 1876

VOLUME CXXXV FEBRUARY 5, 1929 NUMBER 2562

APARTMENT HOUSE ARCHITECTURE

By RODERICK SEIDENBERG

DURING the last decade America has witnessed, if not a new style of architecture, at any rate a newly invigorated architecture. While other types of buildings exhibit a bolder, more resourceful and imaginative expression of their functions, the apartment house, by and large, has remained in the architectural doldrums of a decade ago. Yet the apartment house is no more conditioned by being utilitarian and of our time and place than our factories, lofts and office buildings, our banks, railroad stations and hotels. Here architecture has risen to its opportunities; in the apartment building it remains moribund. For the apartment house, despite the fact that it probably outnumbers every other type of urban building, is rarely conceived as a problem in design. Aside from the baleful decoration of its walls, once these are established, it receives little or no architectural study. There is no questioning of form or study of relative values, no searching for mass, for proportion, for expression—in short, there is no period of architectural gestation. The apartment house, so to speak, is born full-scaled on the drafting board. Thus, it remains always the same graceless, unredeemed, box-like structure—the *bête noir* of architecture.

There is, of course, a vast range in scale and luxury between the fashionable apartment and the dreary flat. The difference in the design of these two types represents the embellishments of wealth rather than any fundamental change in conception. The exclusive apartment is built of better materials, its finish, workmanship and equipment are vastly improved, its plan elaborated, while its facade reveals a semblance of architectural technique. What was tawdry and awkward in the cheap flat has become arid and self-conscious in the acceptable apartment, yet for all their differences they remain alike tenements in a far deeper sense than mere legal terminology. These sheer rectangular enclosures, with endless windows, these vast "stylish" buildings, ranging up and down our widest avenues, are staid but not distinguished, huge but not impressive. The architecture of our apartment houses, despite their number and the wealth they represent, is bankrupt and diseased.

The reasons for this failure are complex and deep-rooted. Historically, the apartment house slowly supplanted the individual dwelling under stress of economic pressure, due to an ever-increasing population and rising land values. Such advantages as it indubitably possesses, were, from the beginning, of an economic nature. Primarily, the apartment house is a congestion problem; it follows the same principle of compactness in its units as the city does in its buildings:—in other words, it is designed to achieve a maximum room density. This principle affects every element of an apartment house, and dominates every minutest decision of plan, construction and general conception.

The logic of the situation demanded ever bigger buildings and smaller rooms; a trend that had as its limit a wholly absurd condition, from which the law alone preserved us. Even now, though the pendulum has swung far in the other direction, no room of an apartment house bears any relation in scale to the building as a whole. The entrance lobby, tortuously seeking its way among unrelated columns, has of necessity a lower ceiling than the boiler room in the cellar or the tank house on the roof. It is worth noting that never before in the history of architecture has there been a type of structure burdened by so grotesque a discrepancy in scale between its mass and the elements composing it. Perhaps no single consideration affects more pro-

foundly the architecture of a building than the basic correlation in scale between its interior elements and its exterior masses. The very possibility of creating and expressing an organic entity lies largely in this relationship. Neither the steamship nor the hotel, where compactness is as essential as in the apartment house, are reduced to the oppressive meagreness characteristic of every part of the latter. The same distinction applies to loft and office buildings, designed in motifs of large typical floor areas and simple, closely grouped horizontal and vertical systems of circulation. In all these cases larger elements give coherence to carefully grouped minor elements, thereby creating a sense of function and significance. But the apartment house, irrespective of its size, remains always a conglomeration of small elements, while its architecture of necessity is reduced to a blank and empty treatment of the "front."

The decisive principle in the designing of an apartment house is the domination of the plan to the exclusion of all other factors. Once the plan—identical in every detail for nine, twelve or fifteen stories as the case may be—is finished and figured, the building is completely determined excepting for the minor business of spacing the windows, and the addition of such paper architecture as may now be applied on the front in an effort to secure an acceptable facade. The reason for this stringent procedure is as obvious as it is adamant: it is the plan which rents the apartment. The facade is of necessity a postscript, an architectural afterthought, a veneer. It is extraneous not only because it is divorced from the plan, but because the plan itself is at best unyielding and lacking in design.

The plan needs indeed to be disguised rather than expressed. For it will be granted that the clear and naked expression of a plan, insisted upon by what might be called the pragmatic school of architecture, can be satisfying only in the degree in which the plan gives evidence of structure and design. The aesthetic value of undisguised construction is contingent upon a sense of design in the construction itself, without which it is simply cumbersome and meaningless. The plan of an apartment house is a bewildering, sorry-looking affair, the result of a dire scramble for light and air and floor space, the translation of which into the language of the facade

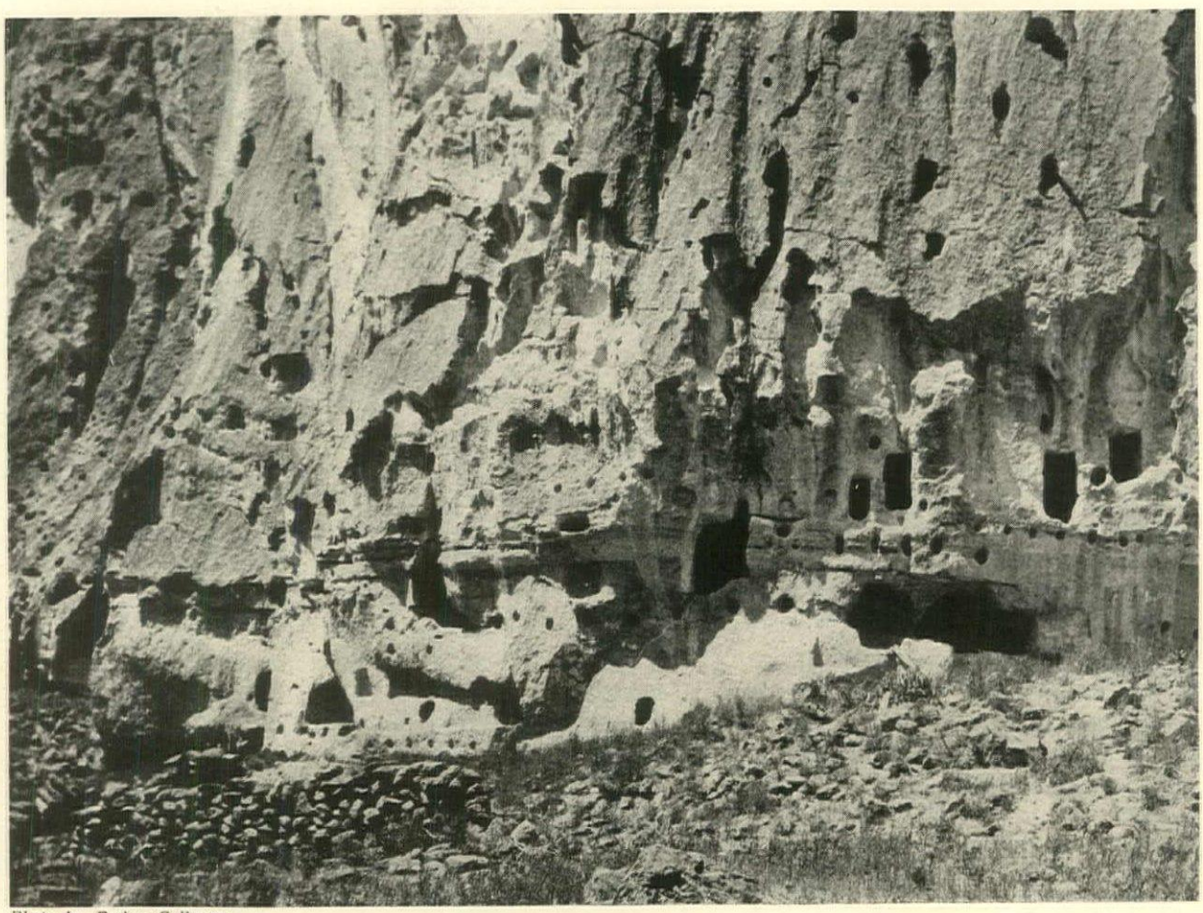


Photo by Ewing Galloway

PRIMITIVE APARTMENT HOUSES

IN CAVES IN THE CLIFFS OF THE FRIJOLES CANYON NEAR SANTA FE, MEXICO, A PREHISTORIC RACE FOUND PROTECTION FROM THE ELEMENTS AND THEIR NATURAL ENEMIES

would hardly be edifying. In proof of this, witness the rear elevations of apartment houses—nothing could well be more honest or ugly. Yet the principles underlying the plan are the same, whether the front or rear be considered. The difference between the elevations is entirely an artificial one. For the rooms, whether they be on the street or court, are always designed under the same compelling principle—each room must have its place in the sun at the expense of its proportions, its wall surfaces, and its functional position. This crowding results in a preponderance of elongated rooms, with the narrow end toward the light—an arrangement fatal to any interior charm and fraught with obvious difficulties for the exterior.

The treatment of the facade is complicated by still other features. The law demands that windows be at least equal to ten per cent of the area of the rooms to which they afford light. At first sight this seems a sufficiently innocent matter, yet experience soon shows how devastating this requirement can be. For, now, the largest window will of necessity determine the size of the typical window, since in its own case it merely fulfills a minimum requirement. In addition the more important rooms will surely have two windows—in fact, the trend favors two windows for all rooms—so that the unduly large windows will have to be repeated until little wall space is left on the exterior and, allowing for steel columns, pipes and partitions, even less on the interior. Finally the spacing of the windows will be still further constricted by their location in the major rooms. Under these circumstances the sacrifices will naturally be heavy in order to achieve some cogency in the exterior arrangement. When, after much effort, a tolerable fenestration emerges with some merit on both sides of the fence, the facade is ready to be decorated with such architectural remnants as the designer's fancy commands or the neighborhood warrants. The building having been completed, it is time to decide upon its style of architecture!

Style is at best a thorny matter, whether it obtrudes itself at the end or the beginning, largely because, to put it in a simple and naïve manner, the question is raised at all. Far from opening up the gates to wider possibilities, the problem of style, all too consciously conceived, reduces itself to a matter

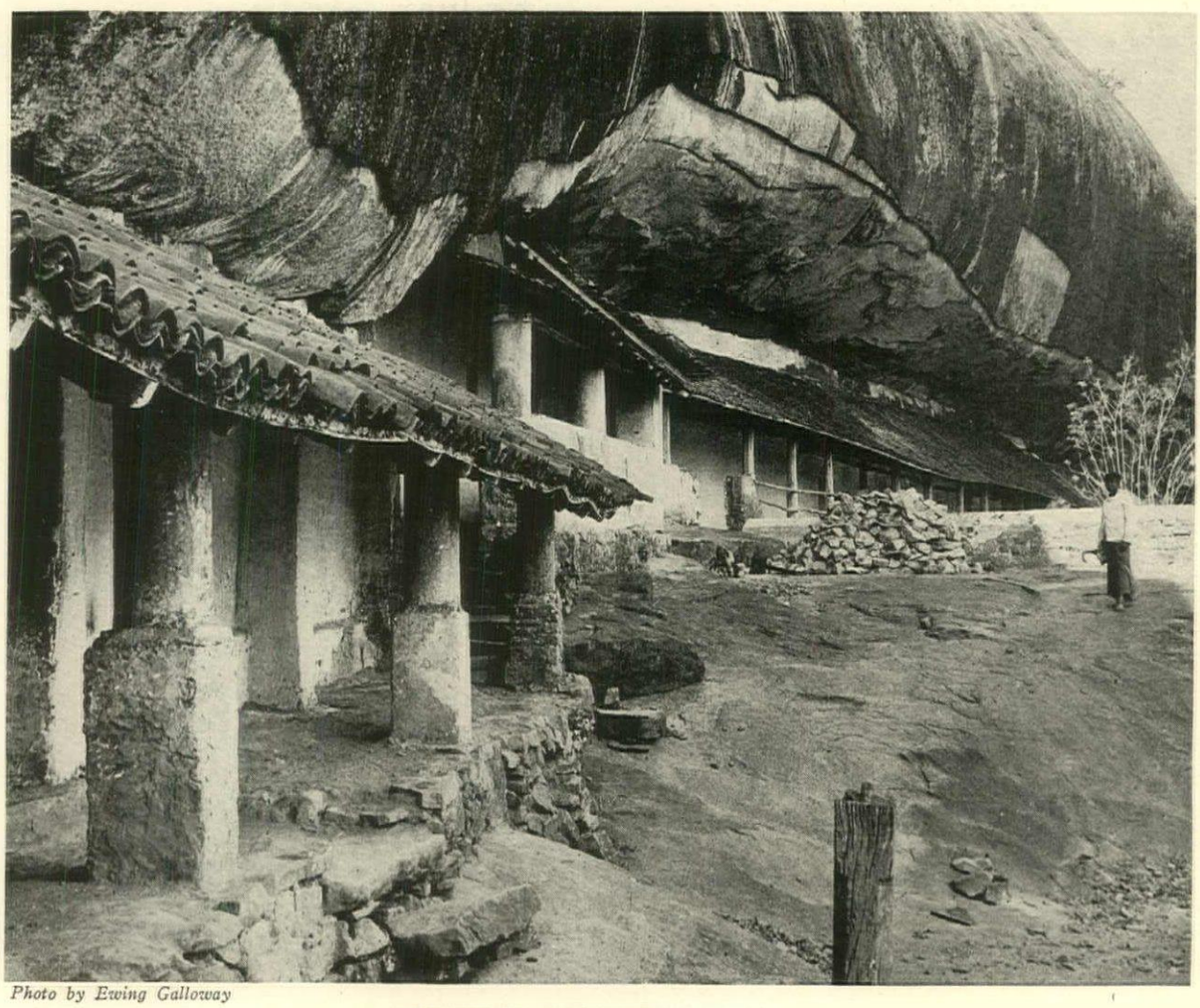
Photo by Ewing Galloway

PRIMITIVE APARTMENT HOUSES

THE COURTYARD OF A TROGLODYTE VILLAGE IN SOUTHERN TUNISIA, WHERE THE ADOBE HOUSES IN MUD DAUBER STYLE RESEMBLE THE NESTS OF MUD WASPS

of choice rather than to a creative opportunity. Style cannot be discussed in relation to specific buildings; it pertains to architecture as a whole and calls for the widest possible comprehension. Doubtless the present is a transitional period in architecture, not alone for us in America, but everywhere. For the influences on design of industrialism under a highly mechanized civilization are more far reaching than the revolution in the technique of building materials and building processes alone would imply. Above all, these influences are psychological. Their final effect upon architecture will be profound, calling for a wholly new idiom, suitable to and expressive of modern needs and a modern idealogy. The adaptation of a style is in itself a confession of atavism, for, in its legitimate period, style is not adopted, but created. The birth of a style is an indication of vitality—of a dynamic sense of design. It is the translation of lucidly conceived function into equally lucid forms—forms which are the symbol rather than the direct and unadorned expression of function. The long hood of an automobile is a symbol of power and speed—it is an idiom of automobile architecture. In the deeper sense, there is a woeful absence of design—of architecture—in the apartment house. Devoid of interior roots, apartment house architecture is shallow and extraverted. For the plan cannot be measured in terms of design, and the only unity which the apartment house may boast lies in its false and superimposed facade. Style becomes here simply a question of fashion, instead of the flowering of a principle of construction or the expression of our mode of life.

It is interesting to observe in relation to the question of style that apartment houses favor a horizontal rather than a vertical treatment in their facades. This borders on the paradoxical, considering the fact that the rooms have only a vertical relation—in a lateral sense they are entirely alien and disconnected. The reasons for this rather illogical approach are worth examining. At present



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PRIMITIVE APARTMENT HOUSES

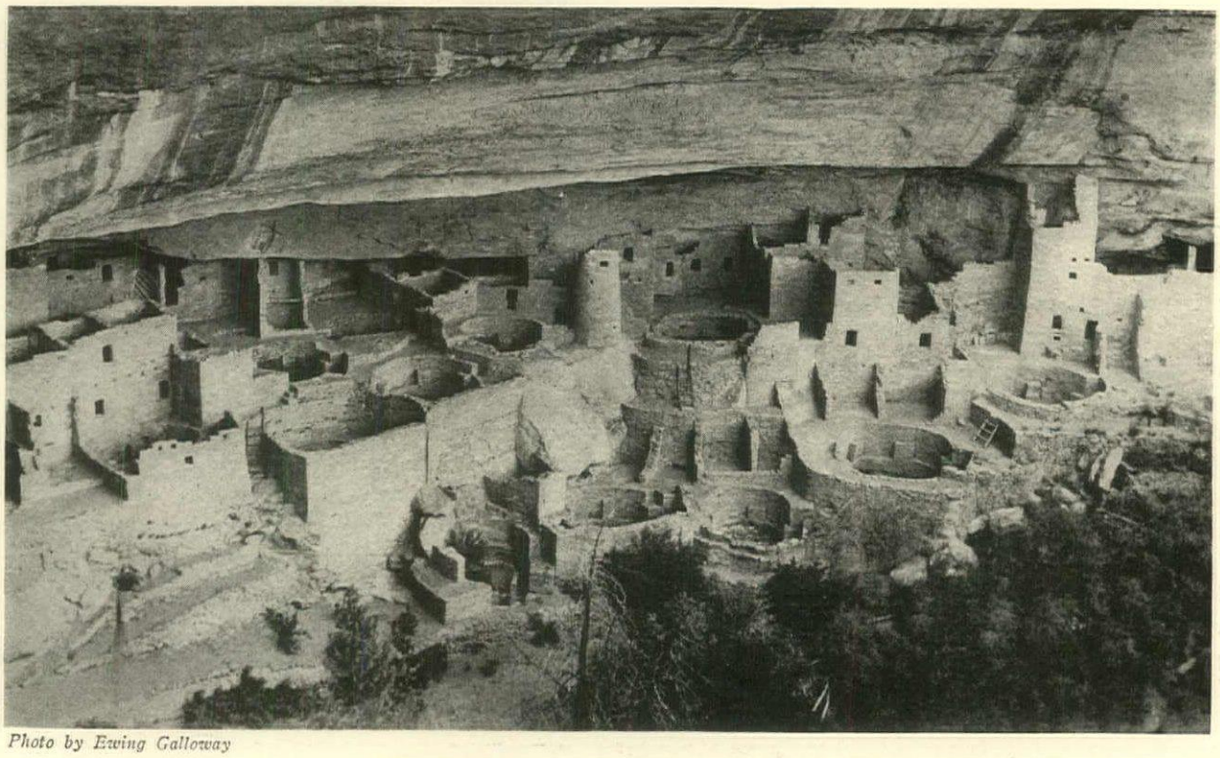
THE FAMOUS CAVE DWELLINGS OF DAMBOOLLAGALLA ROCK NEAR KANDY, CEYLON, FROM WHICH THE MODERN APARTMENT HOUSE EVOLVED

apartment houses are no higher than fifteen stories. This one condition alone has resulted in relatively low masses. The apartment house is slender in the sense in which we have become accustomed to verticality in our office buildings, hotels and lofts. To some extent the horizontal mass has doubtless favored a horizontal treatment, though this consideration alone is hardly responsible for so decided a trend. Perhaps the most potent factor lies in the domestic nature of the building. In an effort to retain some vestiges of its origin, the apartment house is naturally reminiscent of an architecture derived from low buildings such as dwellings have always been. In addition, the individual apartment, concentrated on one floor, in distinction to the three or four floors of the private house, suggests a horizontal rather than a vertical continuity. Finally, the hard line of the coping, kept as low as possible because of the valuable pent house apartments, depresses all beneath it; while the demand for a stone base, often enough an absurd real-estate gesture, intended for what, in Mr. Veblen's phrase, would count as "conspicuous waste" near the eye level where it can be appreciated, accentuates, like the coping, a horizontal tendency. But even more decisive perhaps than these considerations are the sacrifices which a vertical treatment entails, especially in the matter of reveals. In order to achieve a vertical scheme, four to twelve inches constitutes a modest depth in which to develop an inter-play of surfaces; yet in a building whose function it is to convert inches into dollars, this is prohibitive. The one definitive characteristic of the structure—its vertical repetition, is denied any explicit acknowledgment in the facade, for this feature is more pleasing to the landlord than to the tenants. Anatole France observes in "Monsieur Bergeret in Paris": "To my mind, the precision of modern houses reveals the daily function of the creatures enclosed in them as plainly as though the floors and ceilings were of glass. And all these people who dine one above another, play piano one above an-

Photo by Ewing Galloway

PRIMITIVE APARTMENT HOUSES

SKALA, A CLIFFSIDE TOWN IN GREECE, IS BUILT MUCH IN THE STYLE OF THE AMERICAN PUEBLOS, EXCEPTING THE SEMI-CIRCULAR ROOFS



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PRIMITIVE APARTMENT HOUSES

RUINS OF THE CLIFF DWELLERS ON A HIGH LEDGE OF ROCK IN MESA VERDE, NATIONAL PARK, COLORADO

other, and go to bed one above another, in a perfectly symmetrical fashion—when one thinks of it, they offer a spectacle both comical and humiliating." Architects have consoled themselves by throwing a disingenuous veil over this humiliating spectacle!

Recent developments in apartment building have followed wholly divergent courses. On the one hand, an attempt has been made in the cooperative apartment to attain in apartment life something of the integral, personal nature of home in its true conception of a place tenanted by the owner. On the other hand, along somewhat similar lines but catering to a slightly different field, there has arisen an increasing number of apartment hotels, studio apartments and the like, offering the service and the convenience of a hotel, combined with the permanence and relative privacy of the apartment.

From its financial conception, the cooperatively owned apartment belongs to a different category than the usual speculative enterprise—a fact which must inevitably affect its architecture. Since its planning is subject to specific, personal requirements, it is certain to exhibit a greater regard both for the function of individual rooms and for their general arrangement than is possible in the speculative type, designed perforce for some hypothetically typical family. Its rooms will regain in some measure the intangible qualities of distinction, privacy and freedom of planning which, more than all else, distinguish the home from a mere place of residence. The duplex scheme, possible but inexpedient in the common run of pre-planned apartments, can be used to great advantage in the cooperatively owned apartment, and affords unusual latitude both in the arrangement and proportions of the rooms.

The differences in character and conception between the cooperative and the conventional type of apartment house are more evident in their interior arrangements than in their exterior appearances. The higher the building, the more general will be this external resemblance. The severe problems of fenestration due to the variety of floor plans; the perplexing and costly conditions of the complex steel work; the delicate question of diverse tastes; and, not least, the tenement character of this type under the present law, all tend to chasten the facade into a rather characterless compromise. Finally, neither architects nor owners have thus far been sufficiently bold in realizing and emphasizing the essentially different function of the cooperative apartment. Not until there is a complete emancipation from the accepted sense of apartment house architecture, will the cooperative apartment emerge into a legitimate and expressive form. Some such development is doubtless imminent. The cooperative apartment house offers an interesting opportunity to those wealthy enough to avail themselves

of it—who might well afford the luxury of significant design—a luxury to which they are sensitive in their cars, their yachts and their apparel. Obviously, however, the cooperative apartment has not yet attained its architectural maturity. Perhaps "distinguished" architects find themselves hampered by their lack of familiarity with the tenement house code, while apartment house architects are even more hampered by their apparent unfamiliarity with architecture.

In contrast to this solution the apartment house is undergoing a far more radical change in which no vestige of the home as such remains—a development intended to serve the mobile section of the population. At its highest pitch, city life is no longer the life of the family, but one of shifting crowds, of restaurants and theatres, offices and subways—an existence in which the individual is lost in the mass. Of necessity, its architecture will represent a kind of common denominator of its mass requirements; it will be semi-public; hard, intricate and vast; an architecture of speed, precision and movement. It will afford privacy without individuality; it will be social without being intimate. Above all, it will consist of huge aggregations of small identical units, grouped with a keen sense of organization, and integrated by a few important elements of general function. In all these qualities it will reflect the essential structure of cosmopolitan life. A tentative approach to this form of edifice is apparent in the modern studio apartments and apartment hotels, women's clubs, Y. M. C. A. buildings, and the like, all of which provide, like the hotel itself, a larger measure of service and convenience and require less responsibility than even the smallest unit apartment. They afford that element of elasticity which alone makes congestion humanly possible. These buildings belong naturally to the heart of the city, yet as congestion increases they will doubtless spread until the apartment house in its present form may become wholly obsolete. Designed to supplant the private dwelling, it is destined to be supplanted in turn. For the apartment house is essentially a transitional compromise between the home and some imminent modification of the hotel.

The architecture of the apartment house is to be understood only by bearing in mind the compromise character of its function. Its architecture is weak and anomolous, precisely because its function

Photo by Ewing Galloway

PRIMITIVE APARTMENT HOUSES

THE MASSES IN THE VILLAGES IN THE GARADAGH MOUNTAINS IN PERSIA LIVE IN HOVELS

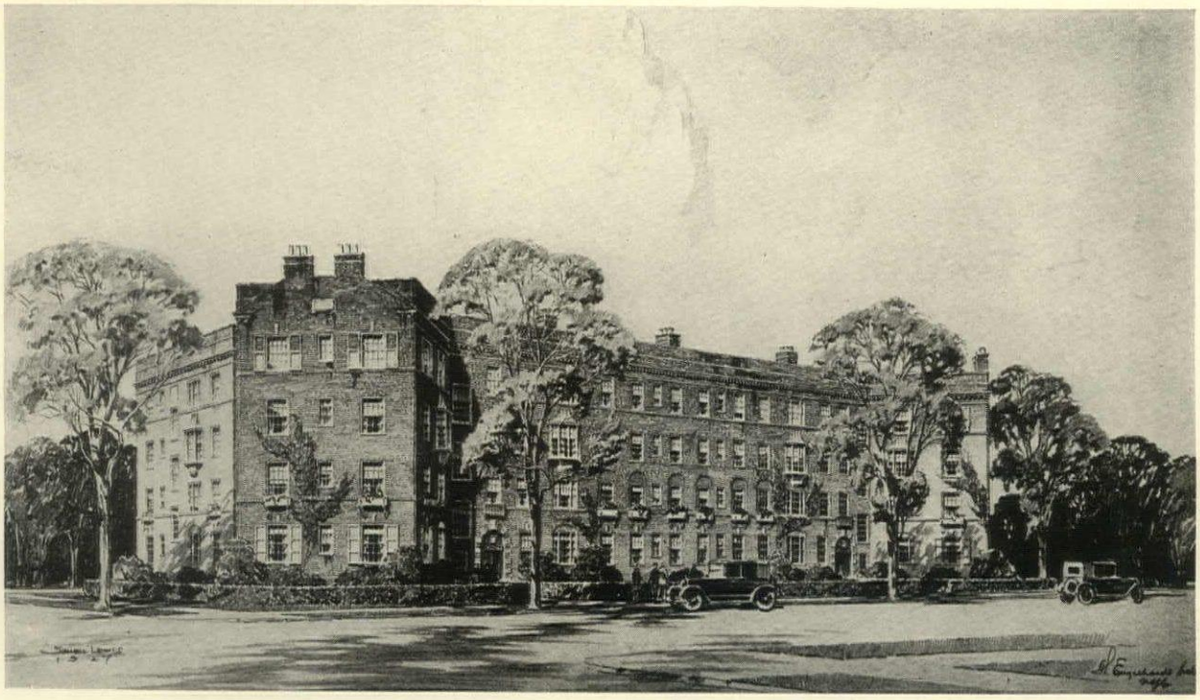
is abortive. Structurally an accretion of many homes, the apartment house connotes, in fact, the architectural degeneration of the home. For the apartment house is a pretense, the convenience of which is due to financial exigencies rather than to inherent merit. Privacy, individuality, above all the opportunity to expand with the development and growth of the family, are all alike denied by its seried scheme of iron bound compartments. Change can only be accomplished by the simple but fatal expedient of moving from one premise to another. Thus, the apartment is tacitly a place of temporary residence. Consequently, it is designed to meet some fictitious average of taste and general requirements, which, judged by the abstract version of a renting plan, gives it a livable appearance. In reality, it is arid and arbitrary. Everything conspires to increase the yearly migrations from one apartment to another—to accentuate the impermanent nature of occupancy. Even the household effects in an apartment differ from those in a private residence. The living room of an apartment has space for the evanescent magazine rather than for treasured books, while the pathetic panelling of its walls make the prints of Rembrandt superfluous.

This meagreness in fundamental values has induced builders to "improve" their offerings with all manner of mechanical contrivances. Under this system of bolstering up the questionable advantages of apartment house living, the bath and the kitchen have perhaps profited most. Bath rooms have not only been improved, they have been increased in number until, following the example set by the hotel, no bedroom is without one. The description of a modern apartment,—with its emphasis upon light and air, baths and sanitary mouldings, incinerators, noiseless elevators and electric refrigeration, its fireproof construction and efficient heating—sounds more like the specification for a hospital than a home. However valuable in themselves, these mechanical improvements merely emphasize the fact that the apartment house has little else to offer.

Despite the most exacting care in the arrangement of its parts, the apartment house never attains that felicitous simplicity essential to an architectural conception. It never suggests a sense of inner relations composed and mastered—a feeling of satisfaction in the presence of a highly intricate construction, resolved by human will and thought a clearly functioning organism. It is never "planned" in the architectural sense of the word: it is painfully contrived, and that under a set of rigorous requirements and minutely explicit regulations unknown in any other type of structure. The hectic jumble of bedrooms, bath rooms, and closets, living rooms and dining rooms, kitchens and pantries, corridors, stairs and foyers, passages and elevators, courts and yards, is still further complicated by a mesh of rules, by-laws, exceptions, regulations and provisions of the most formidable intricacy, having often enough no reasonable relation to the structure on hand. Such pandemonium is never resolved into "frozen music"; it remains a torturous cacophony. Certainly nowhere else are there to be found those irksome vagaries of planning which we have come to accept as inevitable in the apartment house; nowhere else do we tolerate the unrelieved angularity, the lack of charm, of freshness and design, the empty, meretricious decoration, the cramped banality which passes for architecture—nowhere do we abide these things but in the apartment houses where we live.

If the trend of the argument has seemed to show that these conditions are inherent, to that extent it has exonerated the architect. Yet stringent conditions, in defining the function of a building, lead to vigorous and significant architecture. The fact remains that many apartment houses have been fashioned in offices of otherwise unassailable reputation, without, however, attaining conspicuous merit. By and large the apartment house is architecturally a well-nigh hopeless problem; seriously to attempt its solution is to court defeat. Such defeat, unfortunately, is sufficiently congenial to some, however discouraging to others. It might be said that the severest of architectural problems has fallen by its own weight into the hands of those least capable of solving it. That is to say, solving it professionally, for the designing of apartment houses has in reality come to be largely a mercantile enterprise, in which the lowest fee constitutes the highest recommendation.

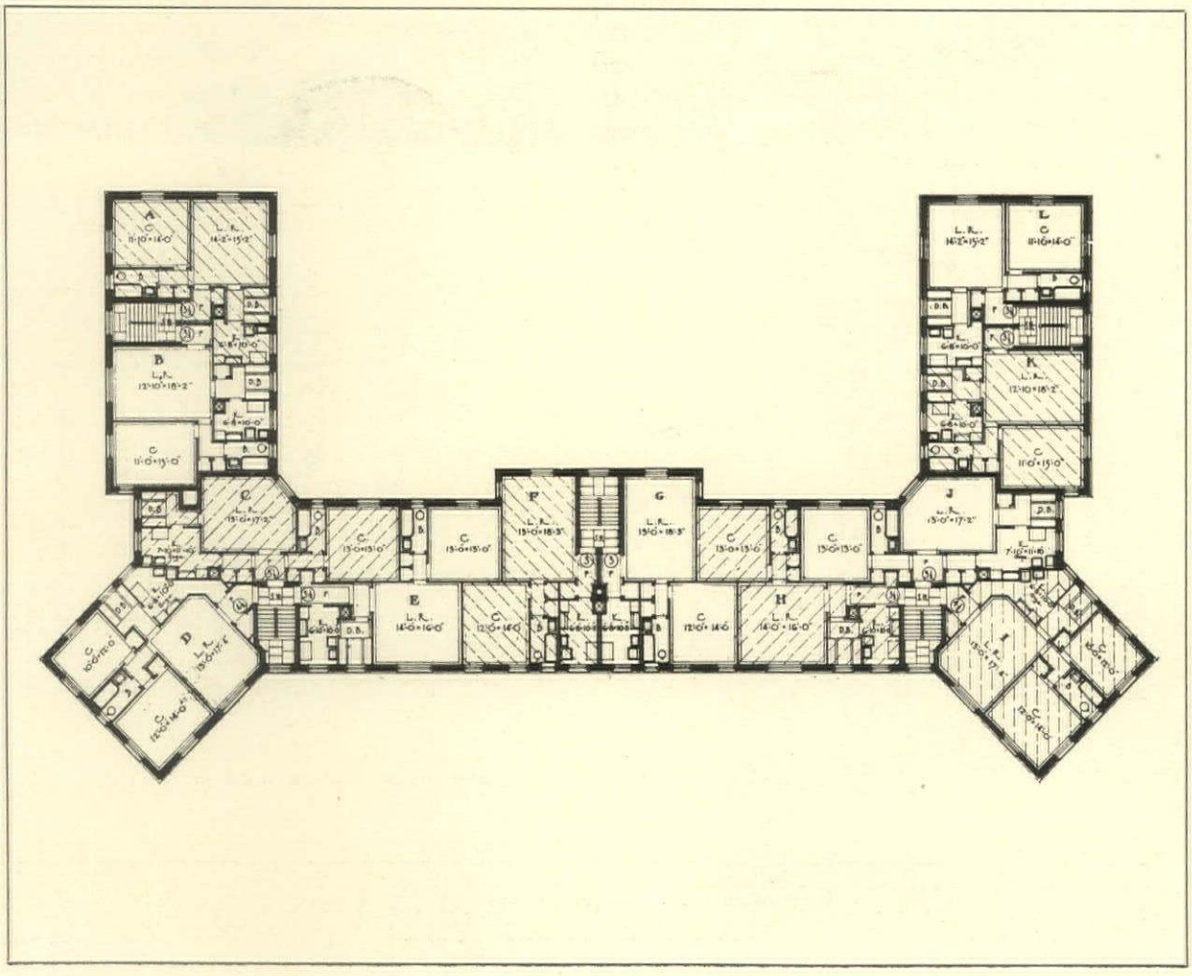
Only a change in the attitude of the profession toward the apartment house as an architectural problem can result in the development of new forms, new legal suggestions, and a fairer and more hopeful outlook. Every genuine contribution to the architecture of the apartment house will become incorporated in the type. But such contributions must come from those who alone are qualified to make them—that is, the architects.



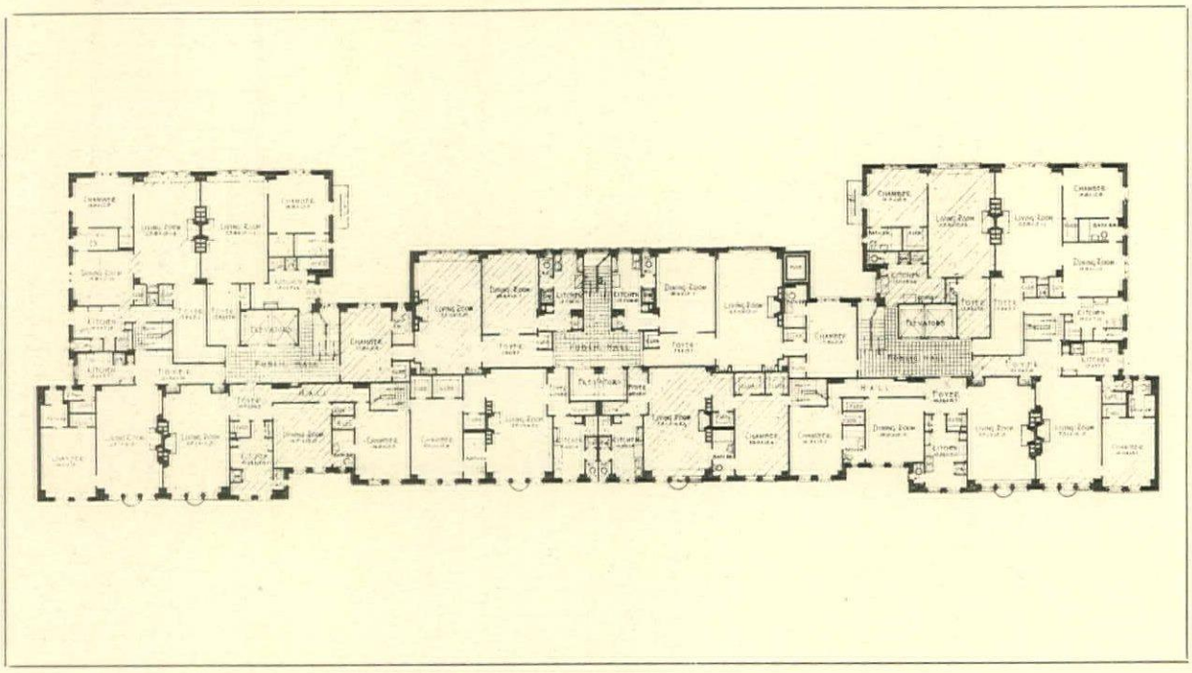
CONTINENTAL APARTMENTS, FOREST HILLS, NEW YORK

THEODORE ENGELHARDT, ARCHITECT

(From the drawing by Schell Lewis)



From the drawing by V. Hagopian



APARTMENT HOUSE, 38 TO 58 EAST TENTH STREET, NEW YORK

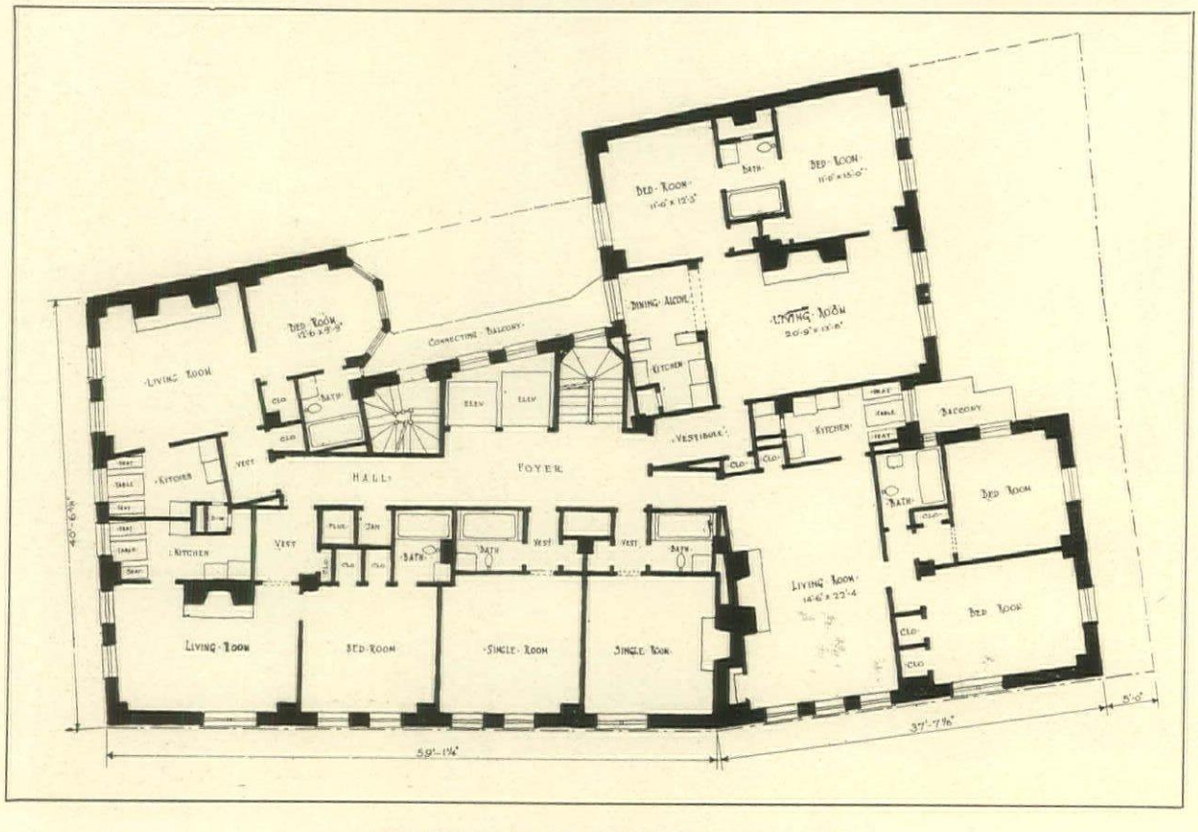
HELMLE, CORBETT & HARRISON, ARCHITECTS

Photo by Weber

ASHBURTON APARTMENTS, BOSTON, MASS.

STRICKLAND, BLODGET & LAW, ARCHITECTS

Photo by Weber

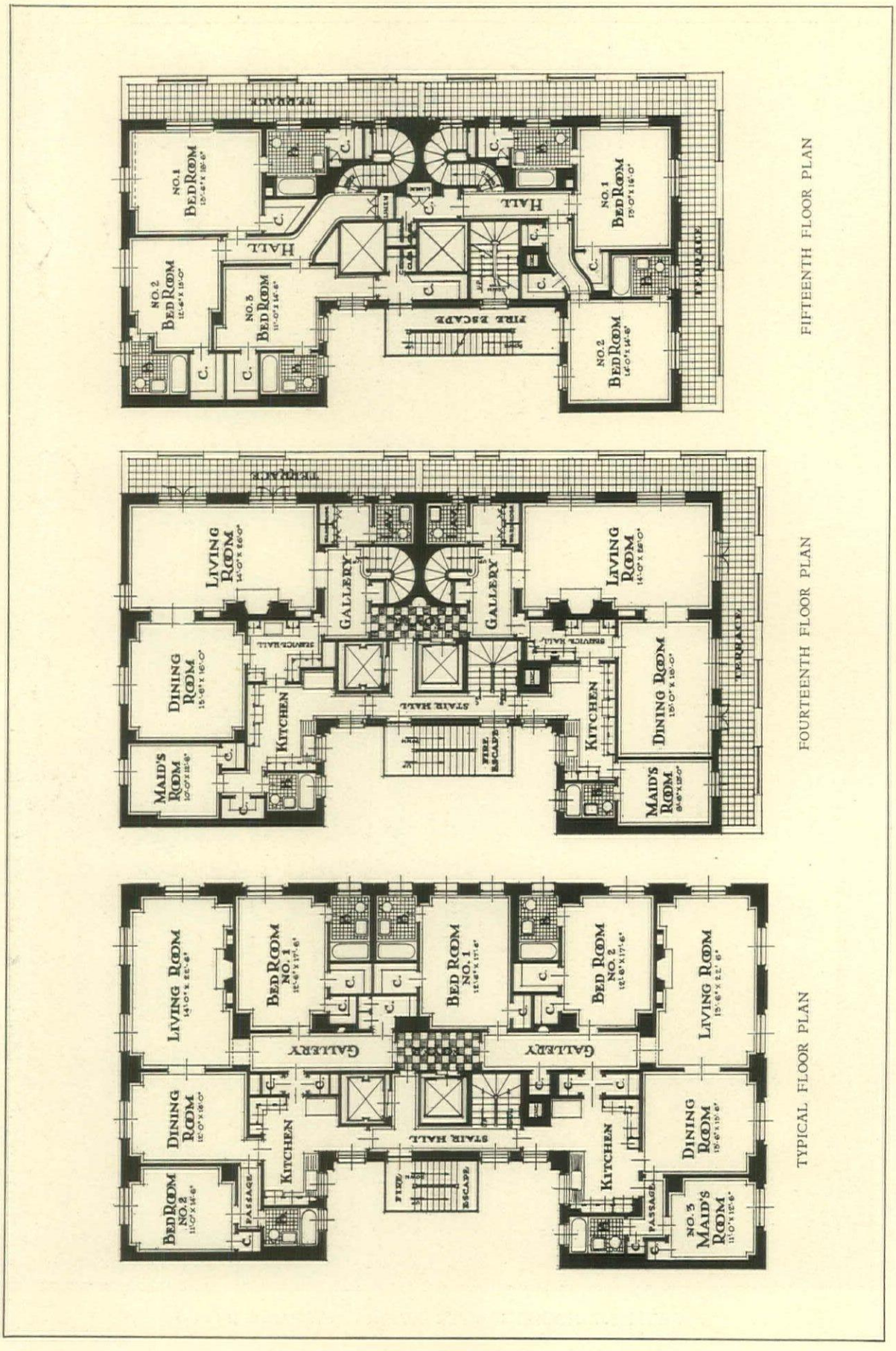


ASHBURTON APARTMENTS, BOSTON, MASS.

STRICKLAND, BLODGET & LAW, ARCHITECTS

APARTMENT HOUSE, HARPER AVENUE, CHICAGO, ILL

HUSZAGH AND HILL, ARCHITECTS

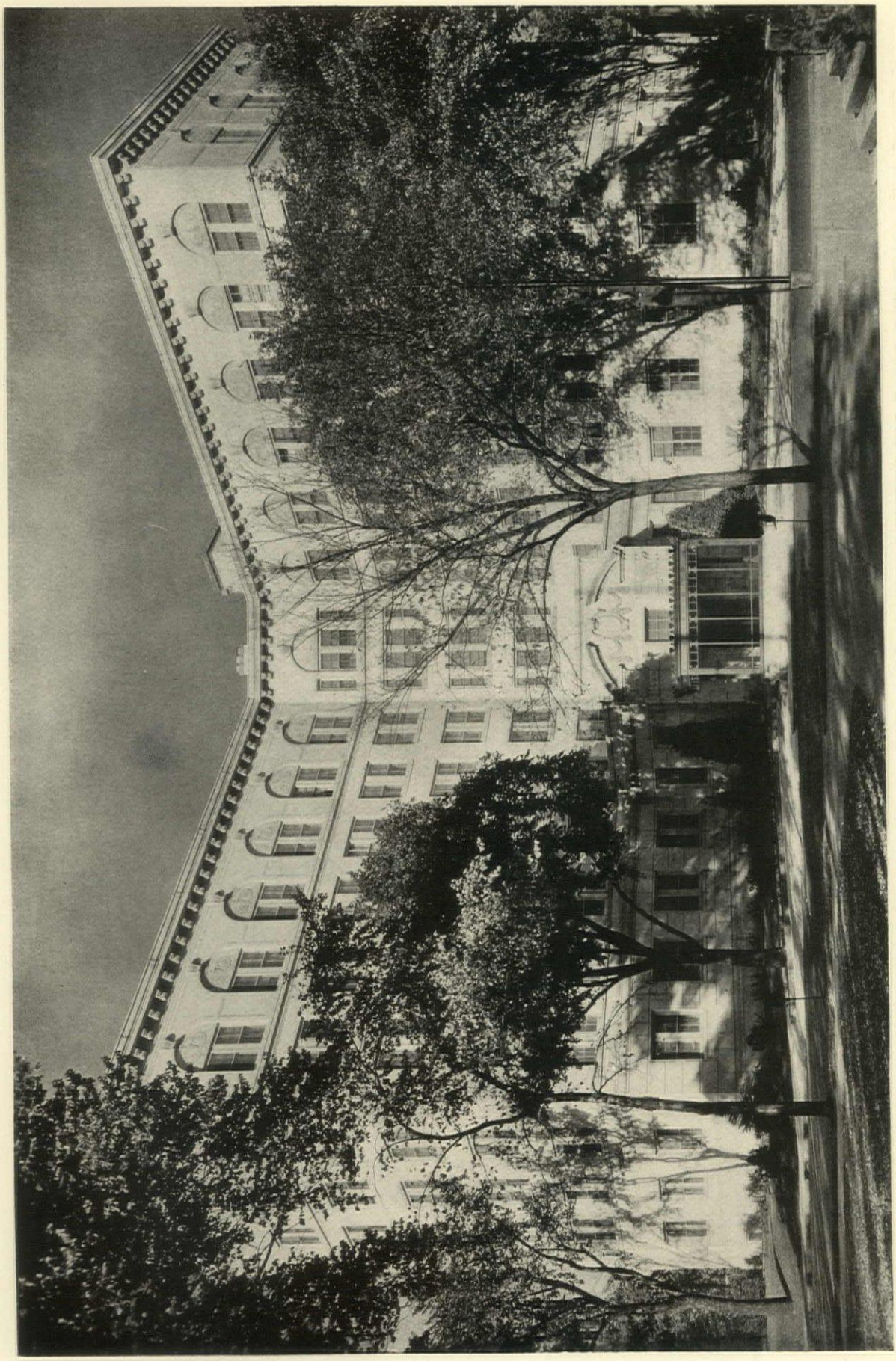


FIFTEENTH FLOOR PLAN

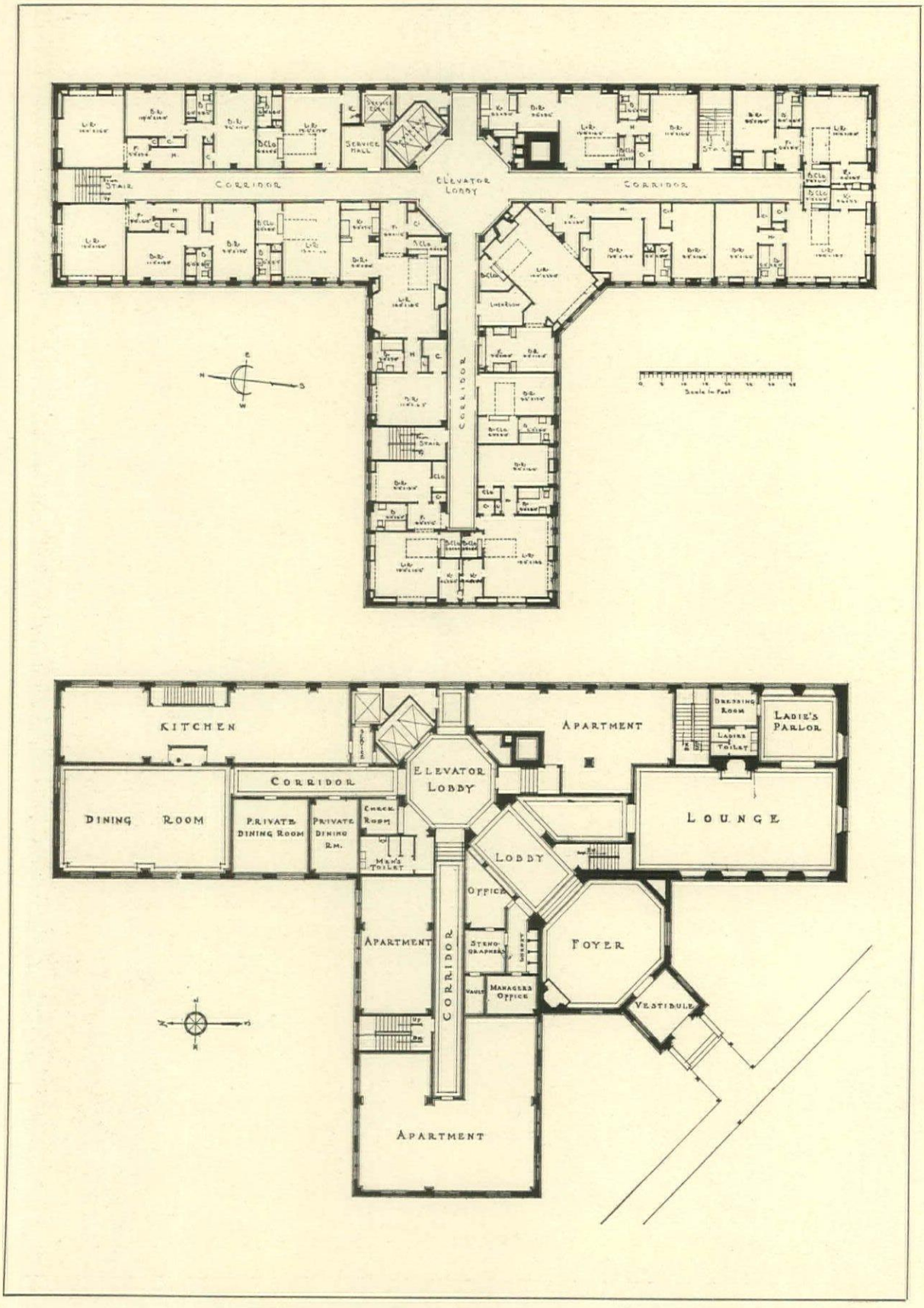
FOURTEENTH FLOOR PLAN

TYPICAL FLOOR PLAN

APARTMENT HOUSE, HARPER AVENUE, CHICAGO, ILL.—HUSZAGH AND HILL, ARCHITECTS



GROVELAND APARTMENT HOTEL, MINNEAPOLIS, MINN.—LARSON & McLAREN, ARCHITECTS



GROVELAND APARTMENT HOTEL, MINNEAPOLIS, MINN.

LARSON & McLAREN, ARCHITECTS

Photo by Weber

APARTMENT HOUSE, 282 BEACON STREET, BOSTON, MASS.

BLACKALL & ELWELL, ARCHITECTS

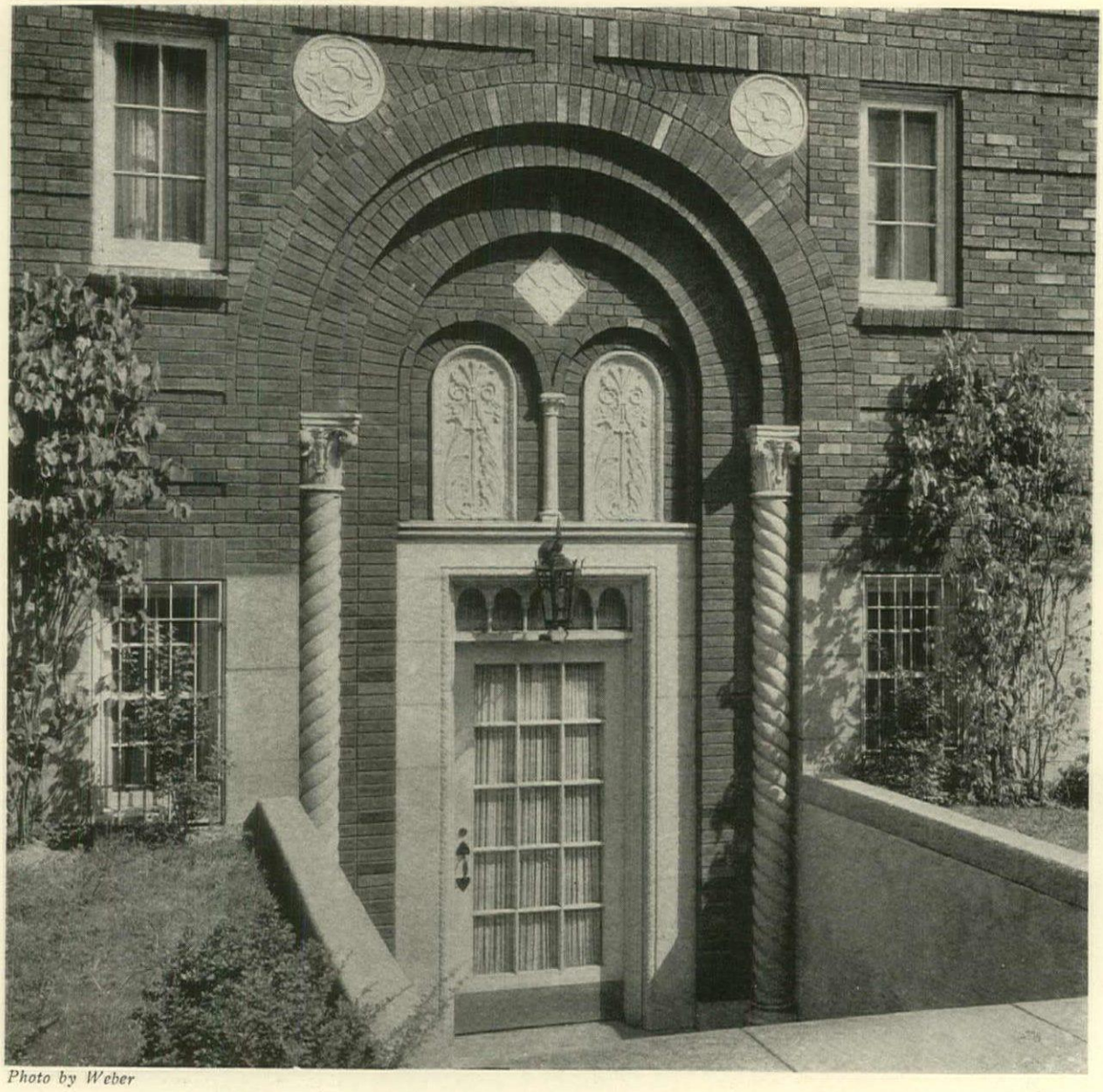
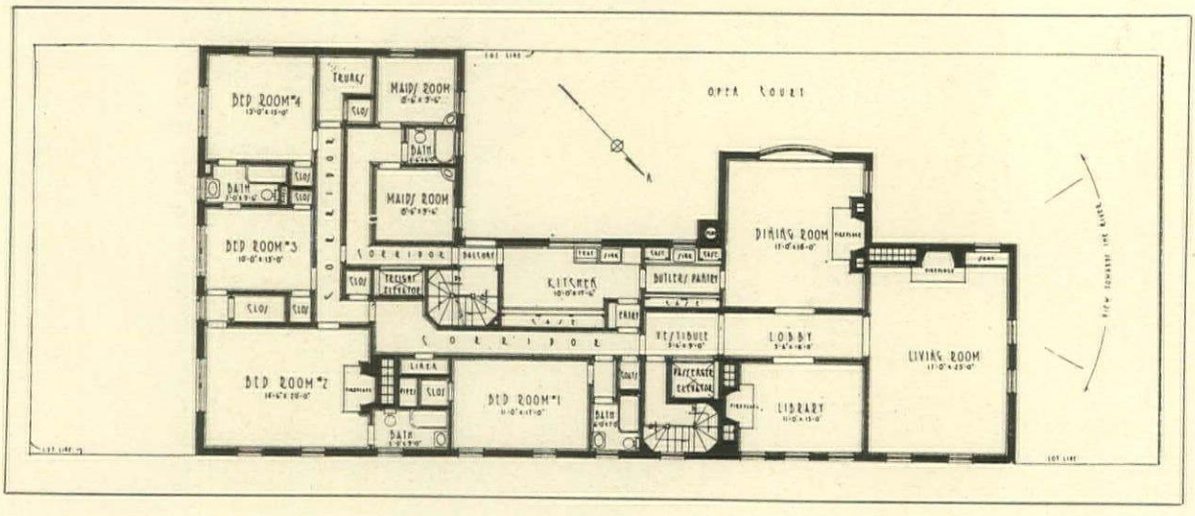
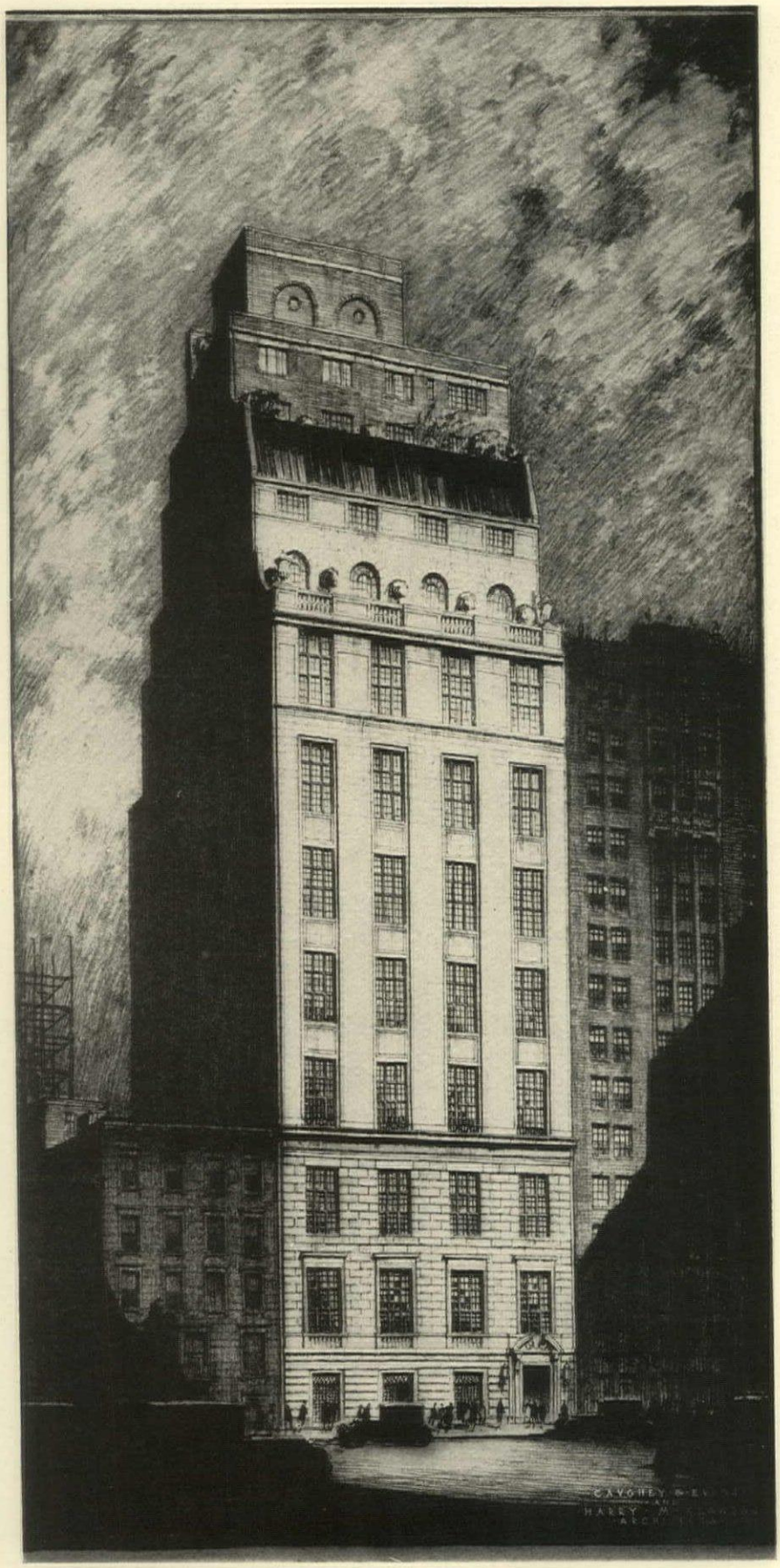


Photo by Weber



APARTMENT HOUSE, 282 BEACON STREET, BOSTON, MASS.

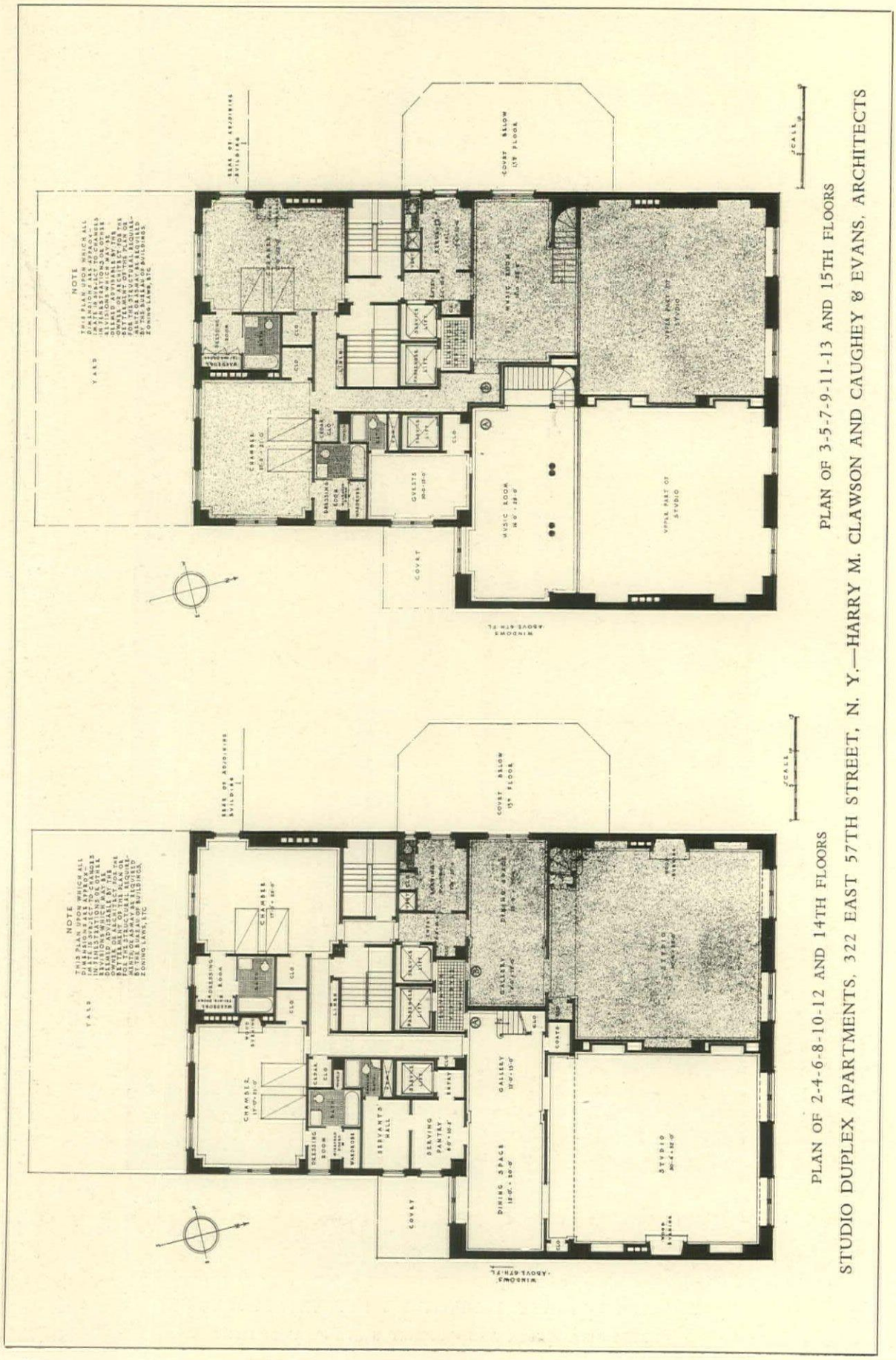
BLACKALL & ELWELL, ARCHITECTS



APARTMENT HOUSE, 322 EAST 57TH STREET, NEW YORK

HARRY M. CLAWSON AND CAUGHEY & EVANS, ARCHITECTS

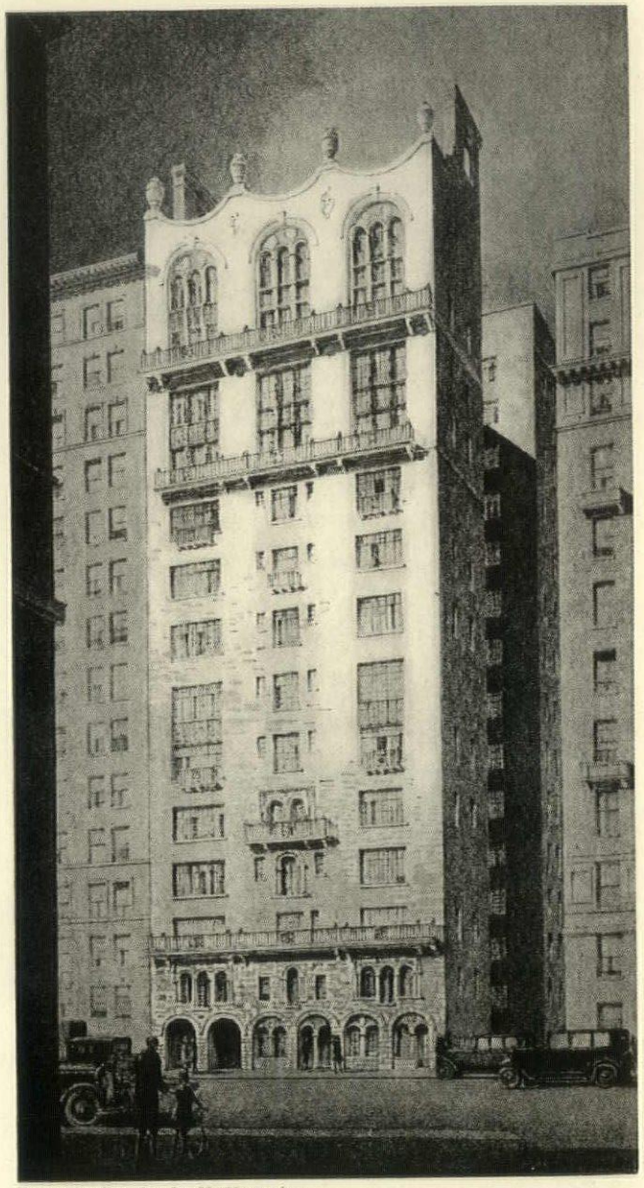
(From the drawing by Chester M. Price)



PLAN OF 3-5-7-9-11-13 AND 15TH FLOORS

PLAN OF 2-4-6-8-10-12 AND 14TH FLOORS

STUDIO DUPLEX APARTMENTS, 322 EAST 57TH STREET, N. Y.—HARRY M. CLAWSON AND CAUGHEY & EVANS, ARCHITECTS



From the drawing by V. Hagopian

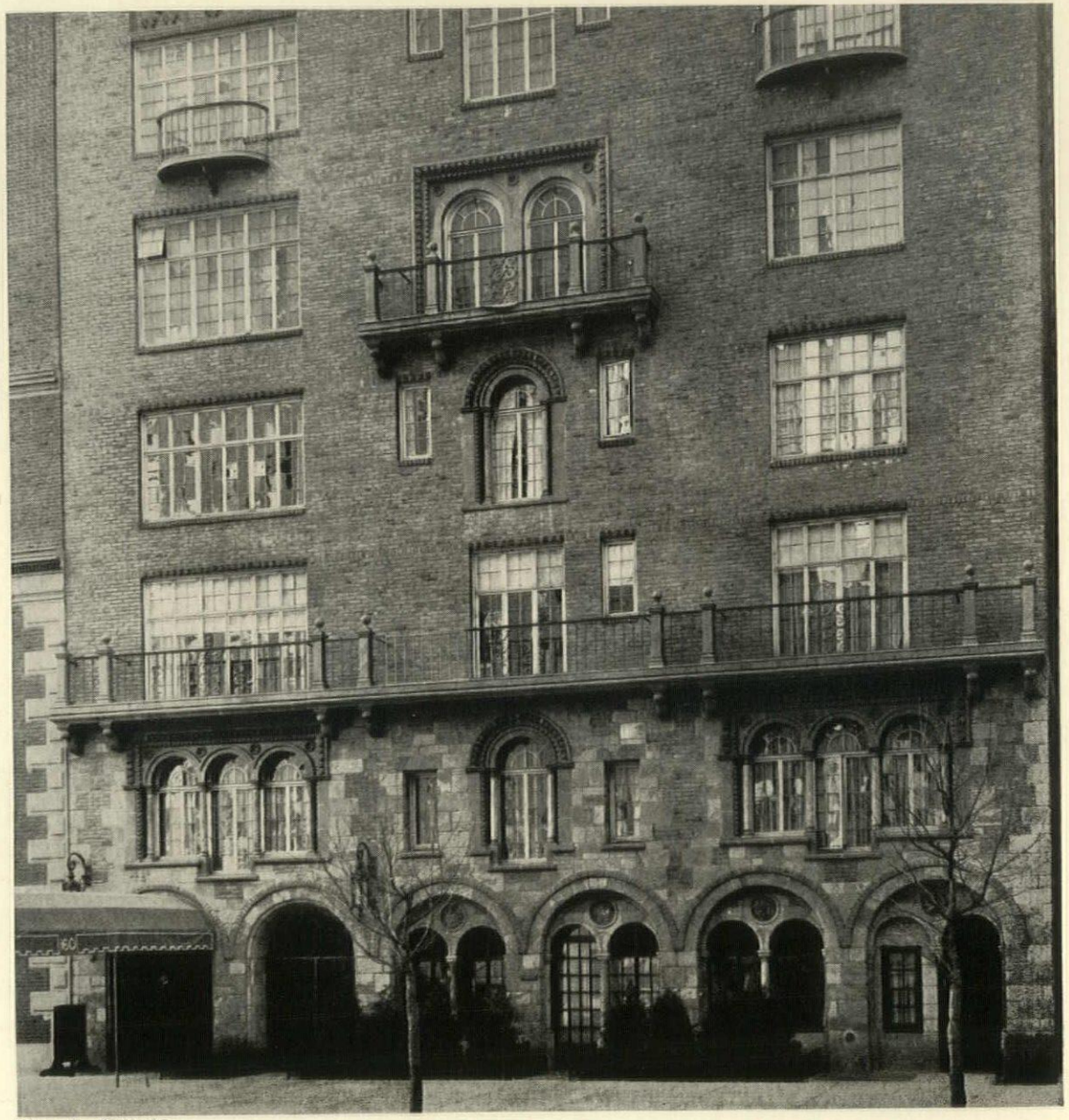
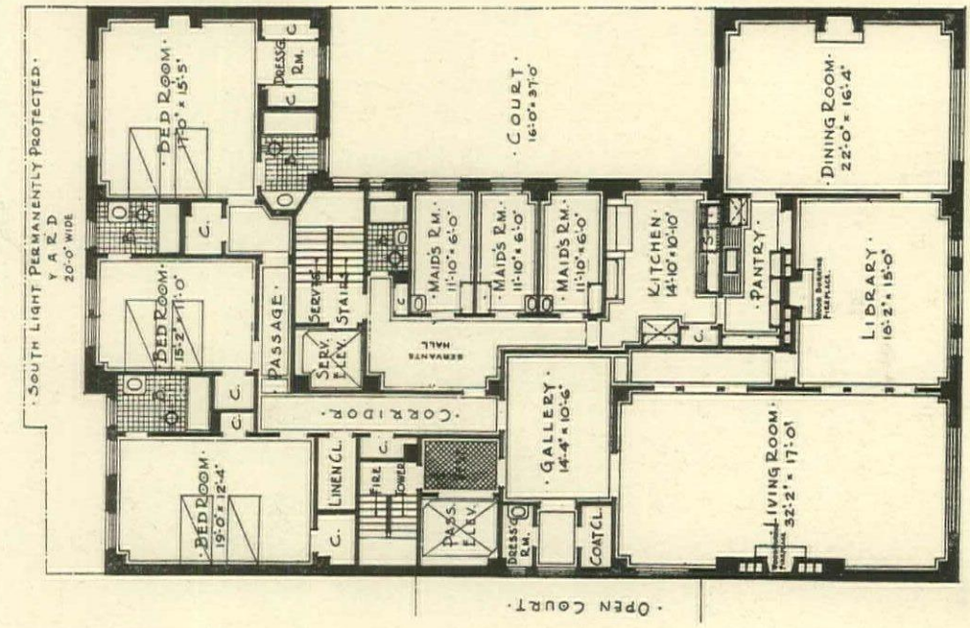
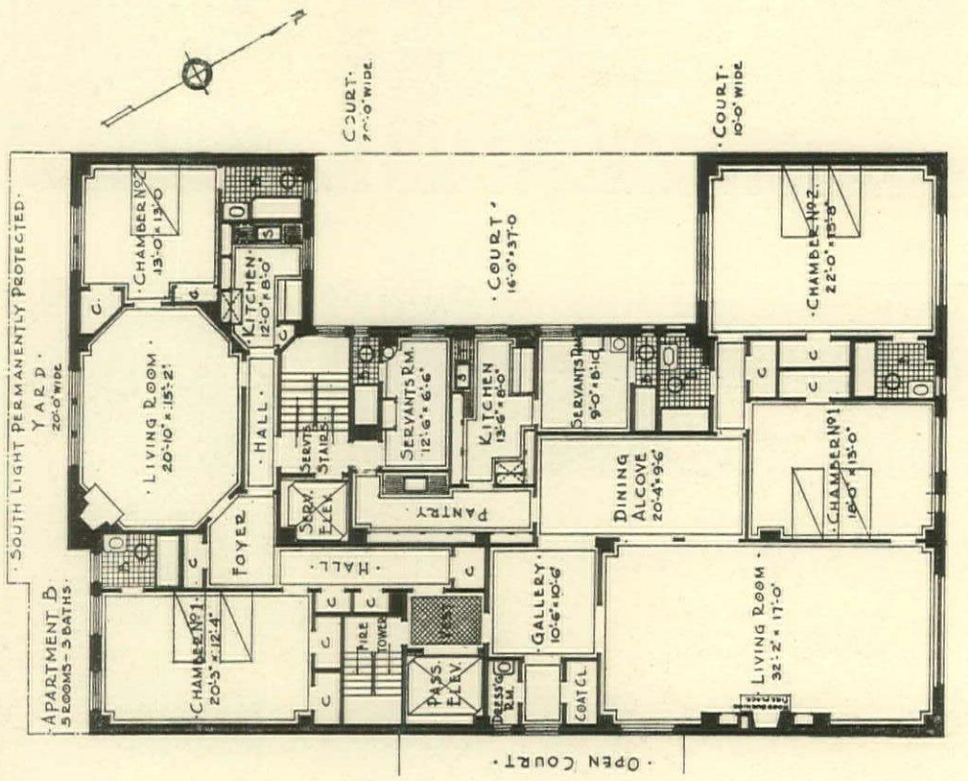


Photo by Gottscho

APARTMENT HOUSE, 160 EAST 72ND STREET, NEW YORK—TAYLOR & LEVI, ARCHITECTS; KENNETH M. MURCHISON, CONSULTING ARCHITECT



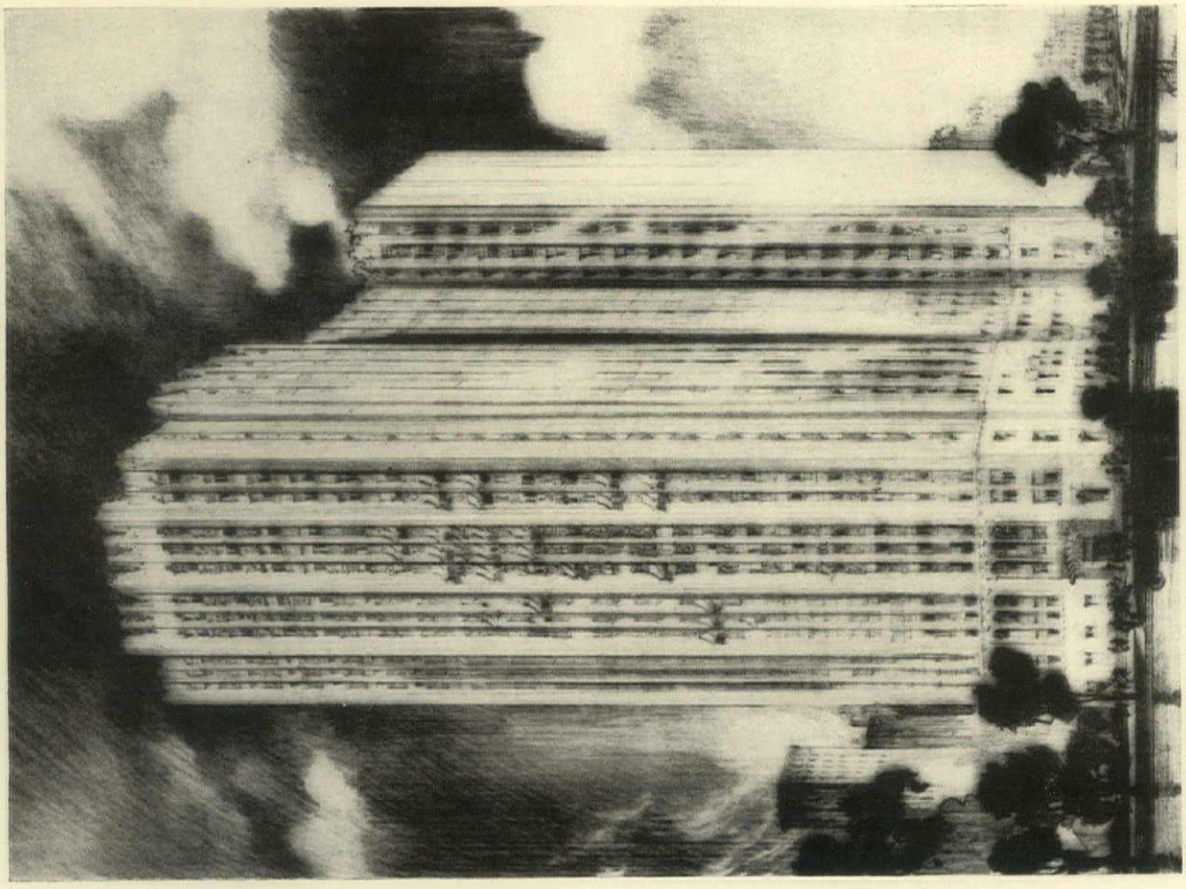
PLAN OF 5TH TO 10TH FLOORS

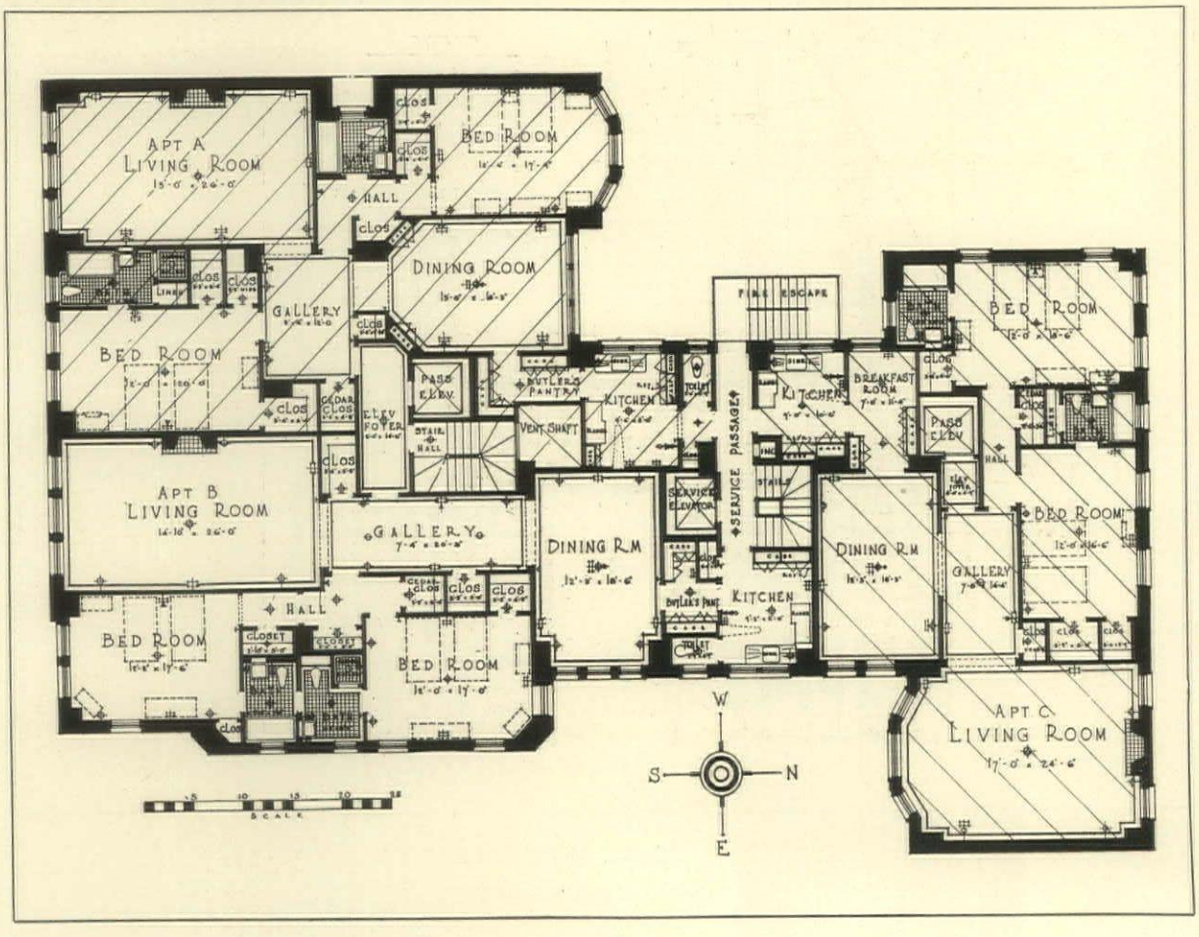


PLAN OF 3RD AND 4TH FLOORS

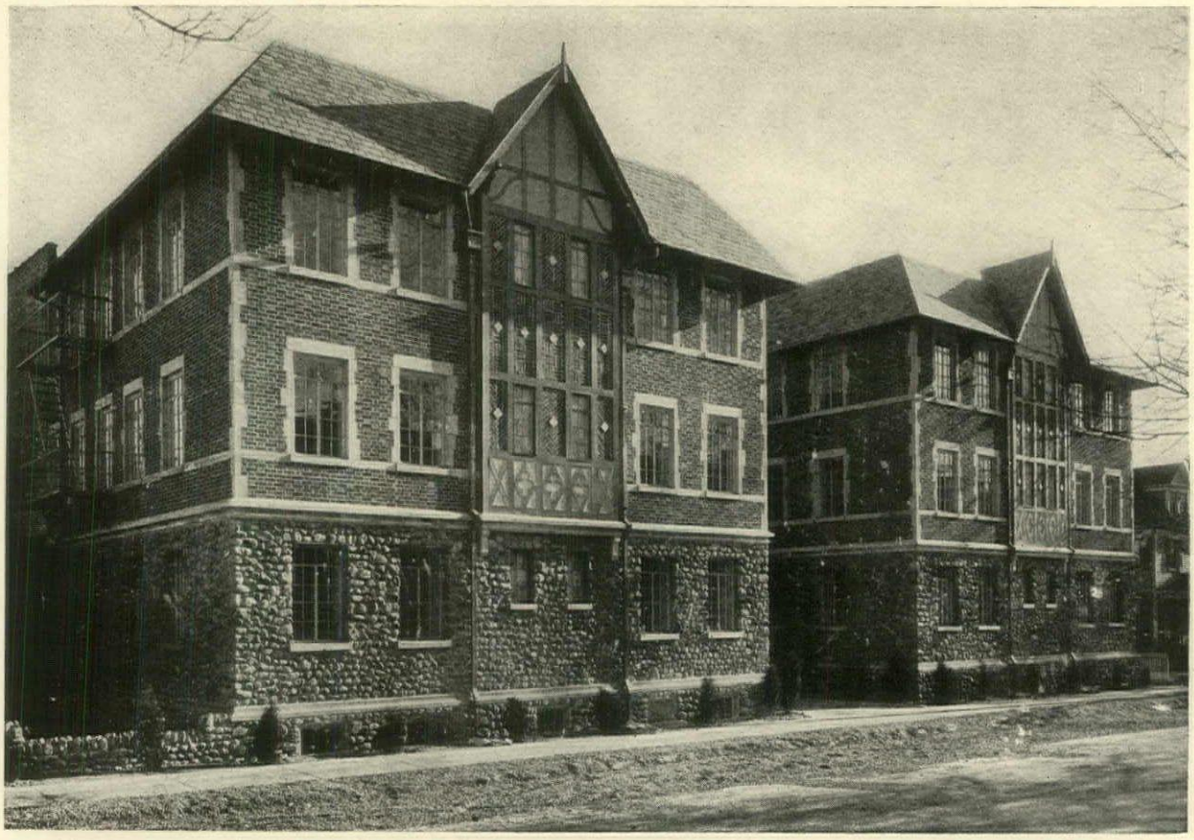
APARTMENT HOUSE, 160 EAST 72ND STREET, NEW YORK

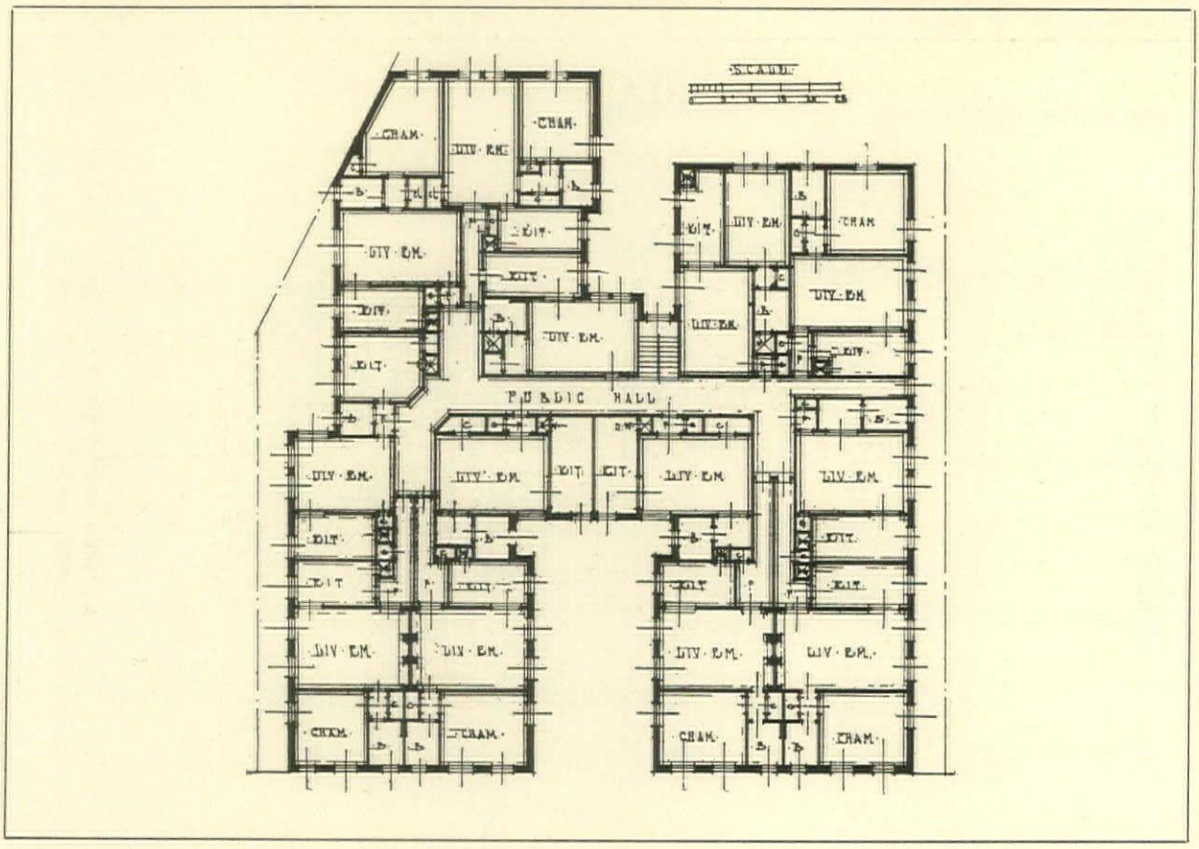
TAYLOR & LEVI, ARCHITECTS: KENNETH M. MURCHISON, CONSULTING ARCHITECT





NARRAGANSETT APARTMENTS, CHICAGO, ILL.—LEICHENKO & ESSER, ARCHITECTS





APARTMENT HOUSE, MONTCLAIR, N. J.

NATHAN HARRIS, ARCHITECT

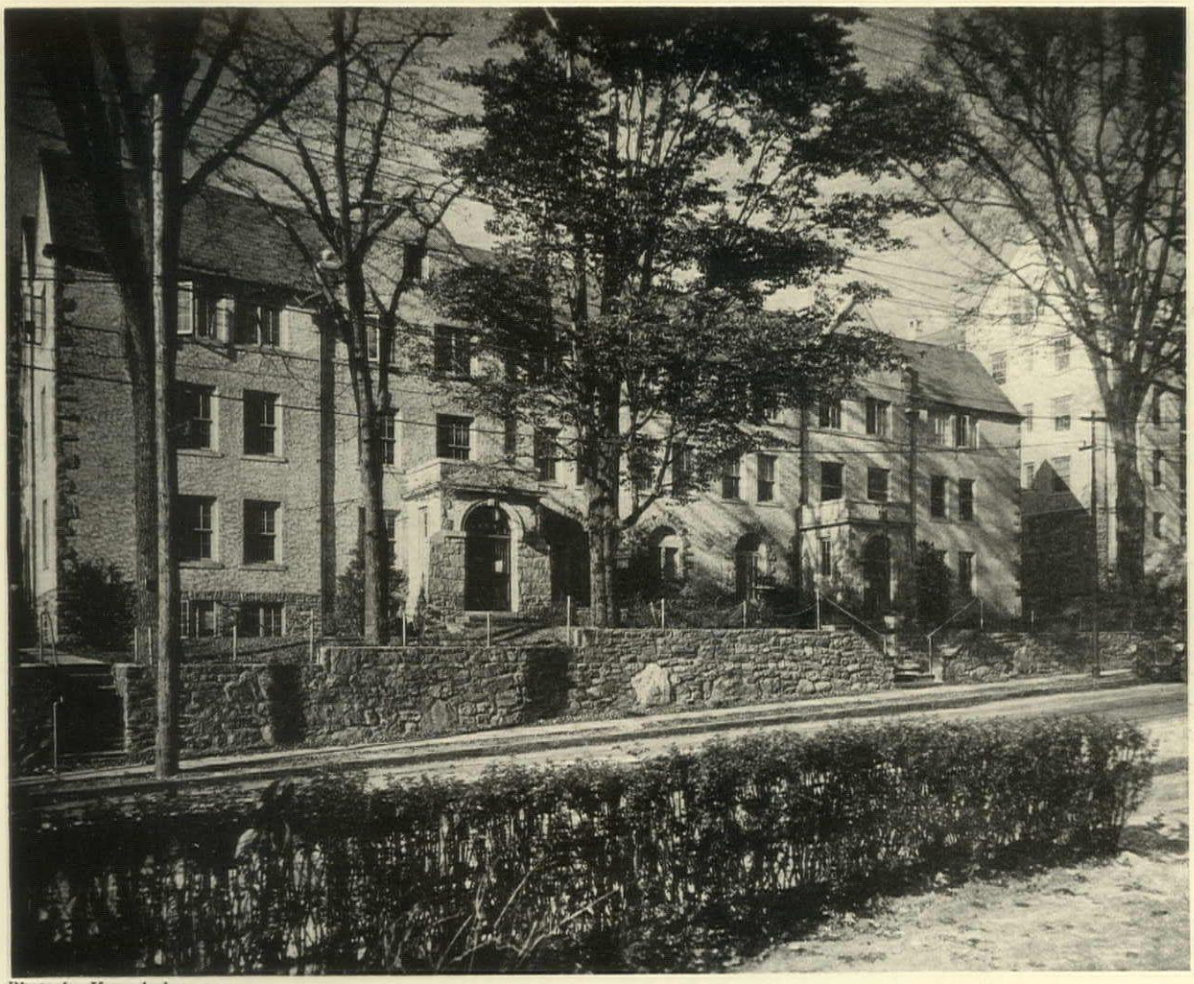
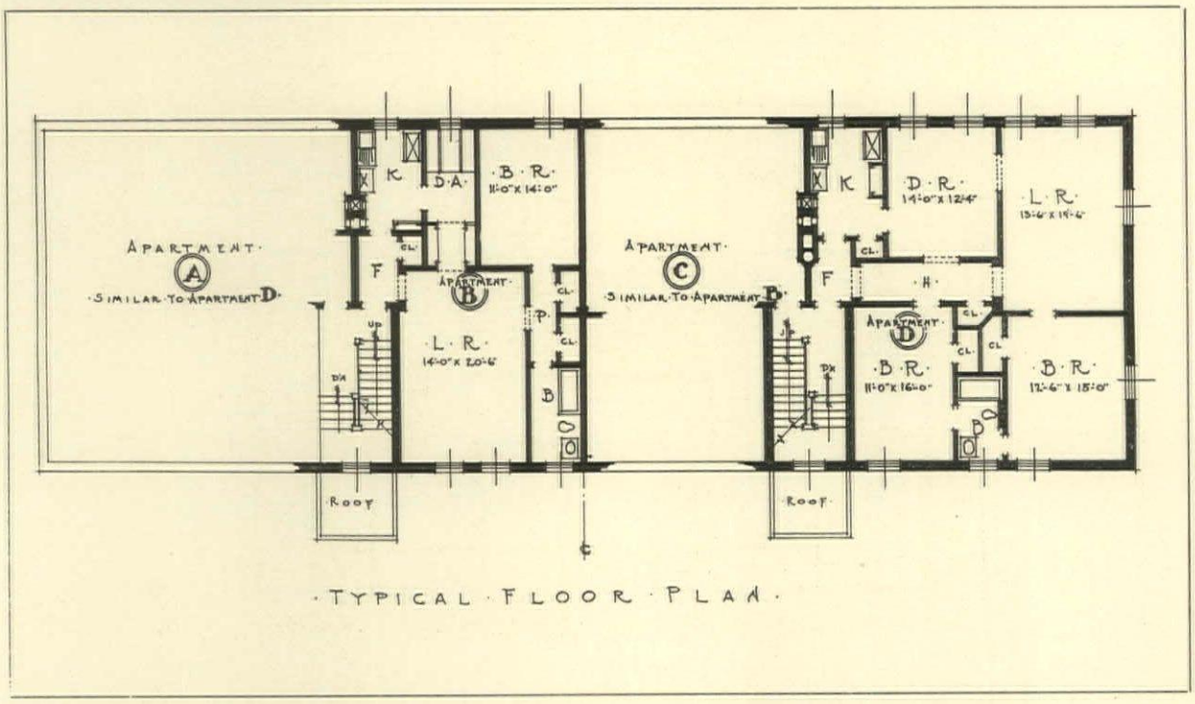


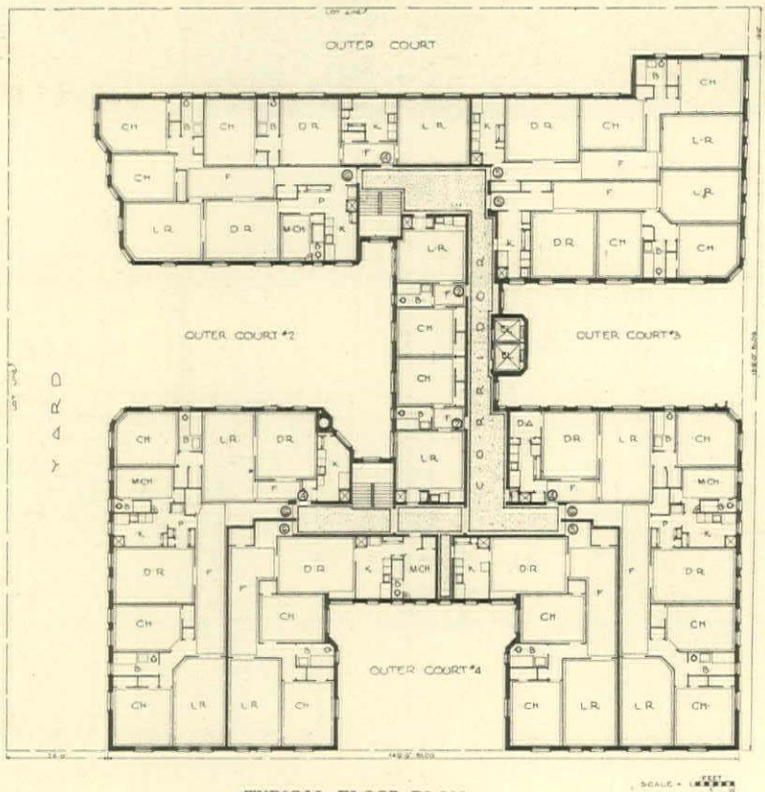
Photo by Van Anda



ELMS APARTMENTS, NEW ROCHELLE, N. Y.

LAURENCE LOEB, ARCHITECT

Photo by Guild

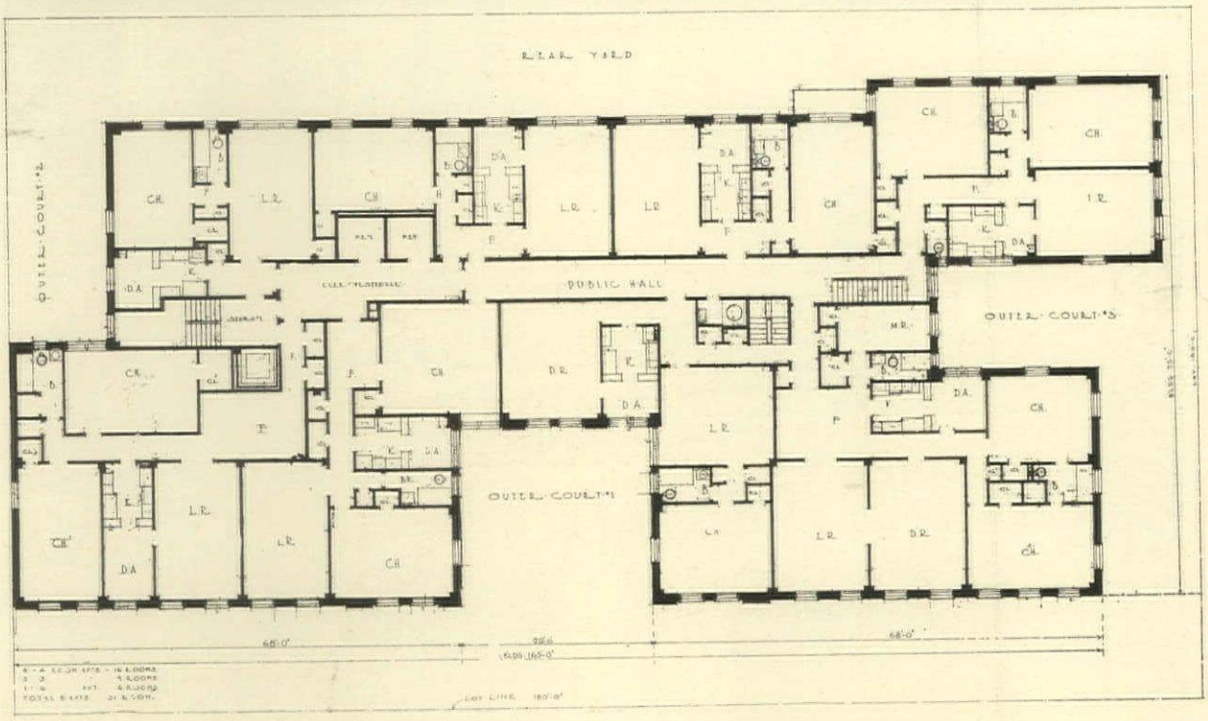


TYPICAL FLOOR PLAN

MAJESTIC COURT APARTMENTS, NEW YORK

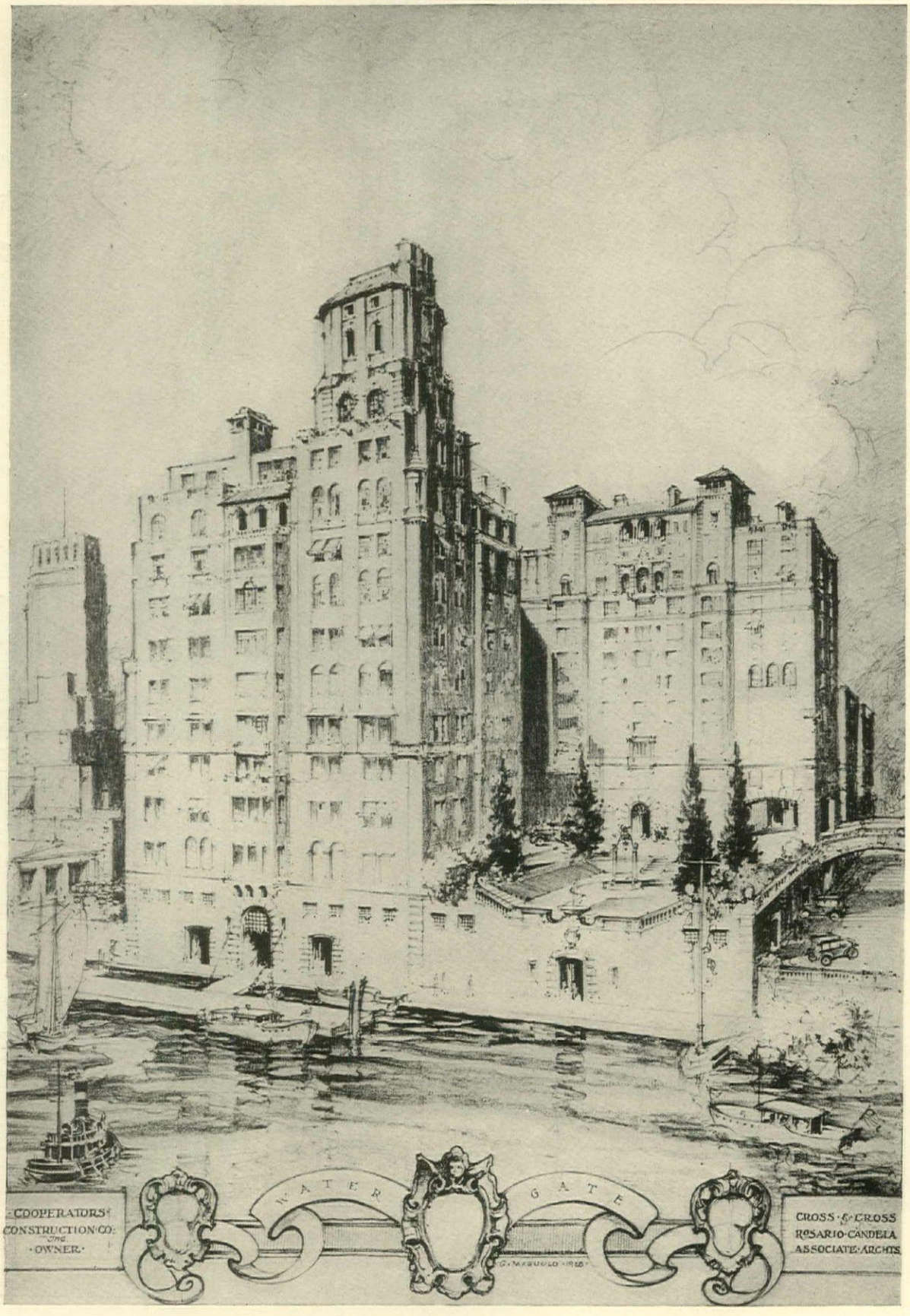
H. I. FELDMAN, ARCHITECT

Photo by Gillies



SHELBALL APARTMENTS, KEW GARDENS, N. Y.

SEELIG & FINKELSTEIN, ARCHITECTS



PRELIMINARY STUDY, WATERGATE APARTMENTS, NEW YORK

CROSS & CROSS, ROSARIO CANDELA, ASSOCIATE ARCHITECTS

INTERIOR ARCHITECTURE

▼ ▼ ▼

INTERIORS OF THE MODERN APARTMENT HOUSE

APPRECIATING the fact that the architectural treatment of the interior of the building, as well as of its exterior, should express in modern materials the economic and social conditions under which it was conceived, and, furthermore, that it should in some manner, at least, suggest the purpose which it is intended to serve, it would seem that the design of an apartment house, in its every detail, should logically be considered as a problem in the solution of which the modern style lends itself to peculiar advantage. For, unlike many of the buildings which we are called upon to design, the apartment house is purely a modern conception. It serves solely a modern purpose; modern materials are used almost exclusively in its construction to meet modern needs and requirements, while its plan is in reality governed more by modern modes of living than by architectural principles (although it often suffers as a result).

A modern style of architecture, as used here in relation to the design of a building which serves a purely modern purpose, is not to be confused with the term "modern" as so commonly employed to suggest an attempt merely to break away from the hackneyed historical styles or to satisfy a desire to do something new and different. As so often emphasized in the articles of this department, this latter interpretation of the word modern is not the modern in which we are interested. We are, however, interested in modern architecture which results naturally from a study and understanding of new problems and materials. Modern architecture, as we see it, is an attempt to apply the old established principles of architectural composition—the very same principles that guided the master-designers of the past—in the solution of our own peculiar problems. Thus, modern structural materials and the modern methods of construction

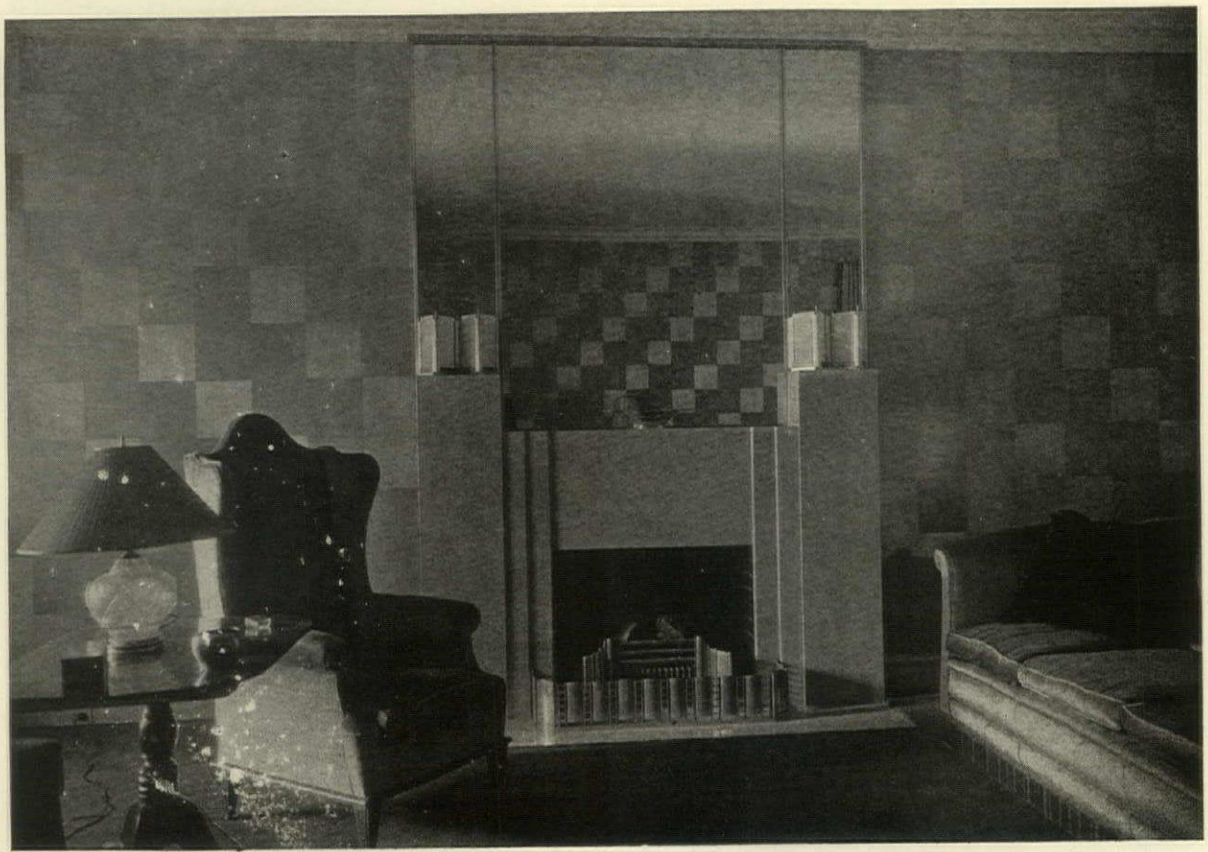


Photo by Gottscho

FIREPLACE DETAIL, LIVING ROOM IN THE APARTMENT OF ALFRED ROSE, NEW YORK

BUCHMAN & KAHN, ARCHITECTS

Photo by Gottscho

LIBRARY, APARTMENT OF ALFRED ROSE, NEW YORK—BUCHMAN & KAHN, ARCHITECTS

Photo by Gottscho

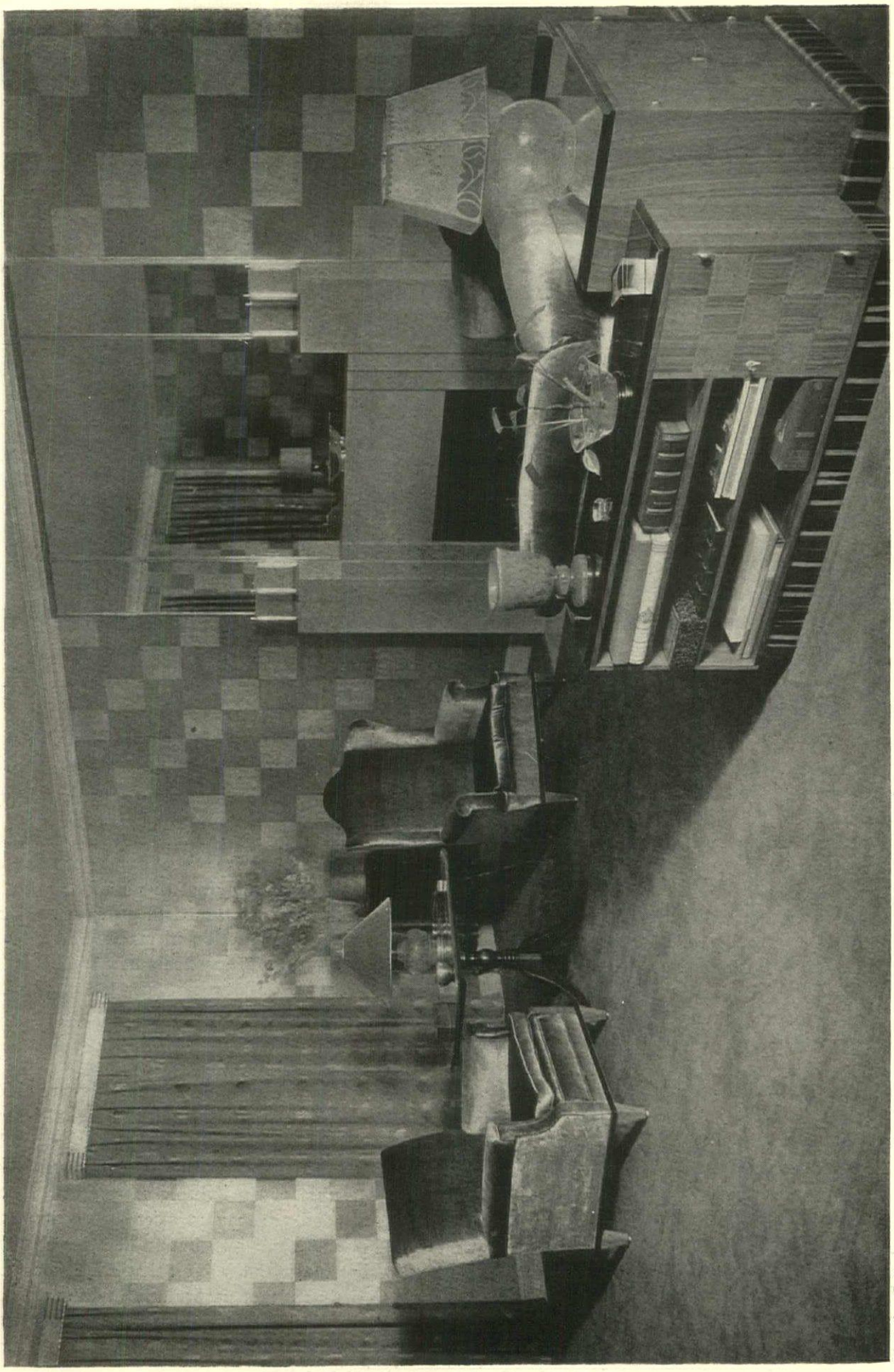
NURSERY IN THE APARTMENT OF ALFRED ROSE, NEW YORK

BUCHMAN & KAHN, ARCHITECTS

which they stipulate become the very foundation of architectural design.

We could find no better way to clarify our attitude than by pointing to a particular instance. Consider, then, for a moment, the design of the library in the apartment of Alfred Rose, New York, which is illustrated on the following page. It is necessary to describe certain structural features which were incorporated into the original fabric. On the east wall there were two closets installed, projecting into the room to a point flush with the ceiling beam, concealing from view the beam and an awkward soffit which might have appeared out of place if exposed. The architects, Buchman & Kahn, whose problem it was to treat the apartment in a style appropriate to its purpose, considered these closets as wasted space in a library. They were, therefore, removed and a built-in corner seat installed in their stead. To make the exposed ceiling beam appear logical, the plaster was torn away between the steel I-beams, and a glass panel was introduced to conceal lights which were placed inside the soffit of the beam. The beam, which before had been so awkward that even unnecessary means had been resorted to in order to conceal it, now appeared as a logical feature of the room, serving as an element of the lighting scheme. Certain pieces of furniture, designed in keeping with the built-in seat, completed the ensemble, and, on the adjoining north wall, bookcases were installed, correctly designed, flush with the ceiling beam, allowing of necessary space for books without waste of space.

To our way of thinking, this is modern architecture in that a peculiar modern problem has been solved in a thoroughly logical manner. In a transitory time, such as this, when a new style is in its formative stage, we must not forget that after all logic is all-important. If certain of that group of designers who choose to call themselves "modernists" would give more thought to logic, we would not be called upon to criticize their efforts to create "something different." If we have a logical reason for developing a design that is different, as Buchman & Kahn did in making the soffit of a ceiling beam a feature of the lighting scheme of a room, well and good, we may consider such action as a contribution to progress, but to design a chair in unusual forms, with the result that it is uncomfortable to sit in and not particularly inviting to look at, merely for the sake of departing from period forms, then it is time to arouse the architectural profession to action.

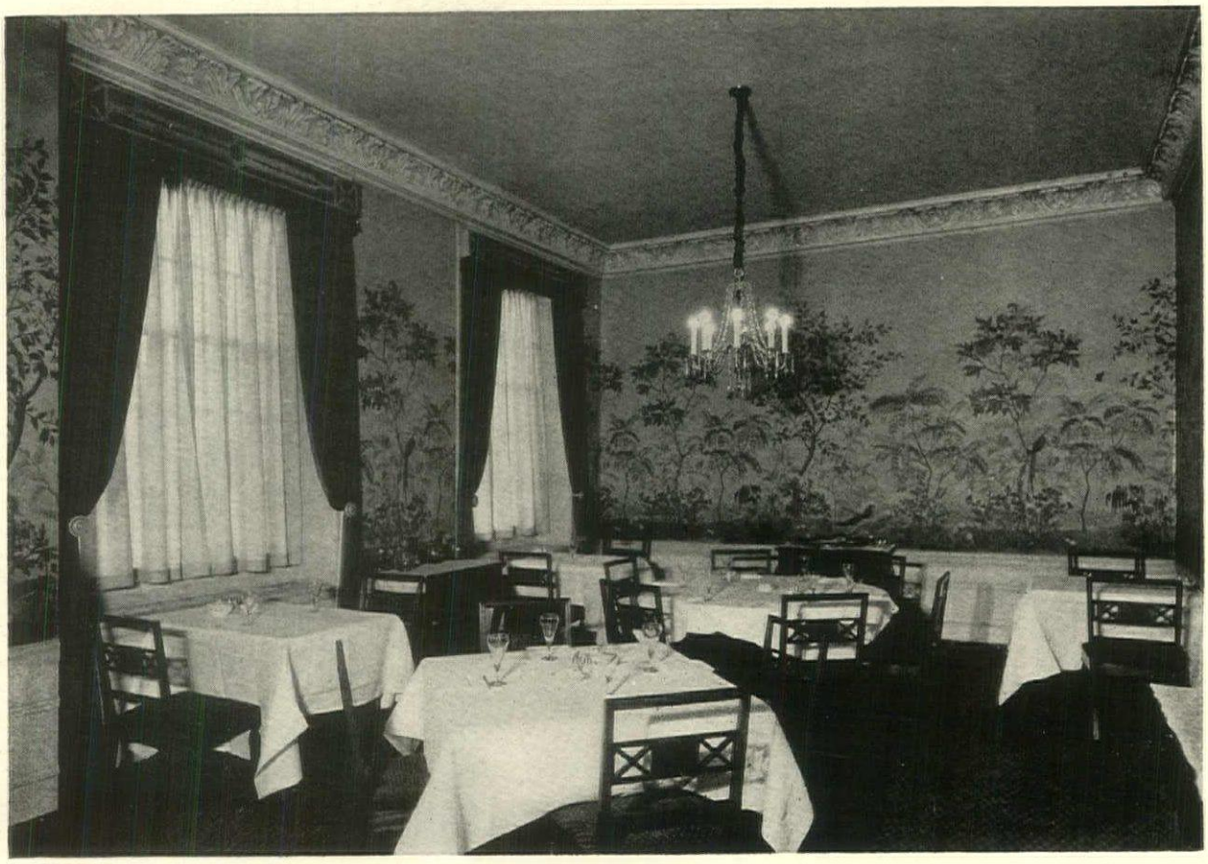


LIVING ROOM, APARTMENT OF ALFRED ROSE, NEW YORK—BUCHMAN & KAHN, ARCHITECTS

Photo by Gottscho

MAIN LOBBY, SHELBALL APARTMENTS, KEW GARDENS, N. Y.—SEELIG AND FINKELSTEIN, ARCHITECTS

Photo by Gillies



ABOVE, TYPICAL BEDROOM, BELOW, PRIVATE DINING ROOM
GROVELAND APARTMENT HOTEL, MINNEAPOLIS, MINN.—LARSEN & McLAREN, ARCHITECTS

ELEVATOR LOBBY, GROVELAND APARTMENT HOTEL, MINNEAPOLIS, MINN.
LARSEN & McLAREN, ARCHITECTS

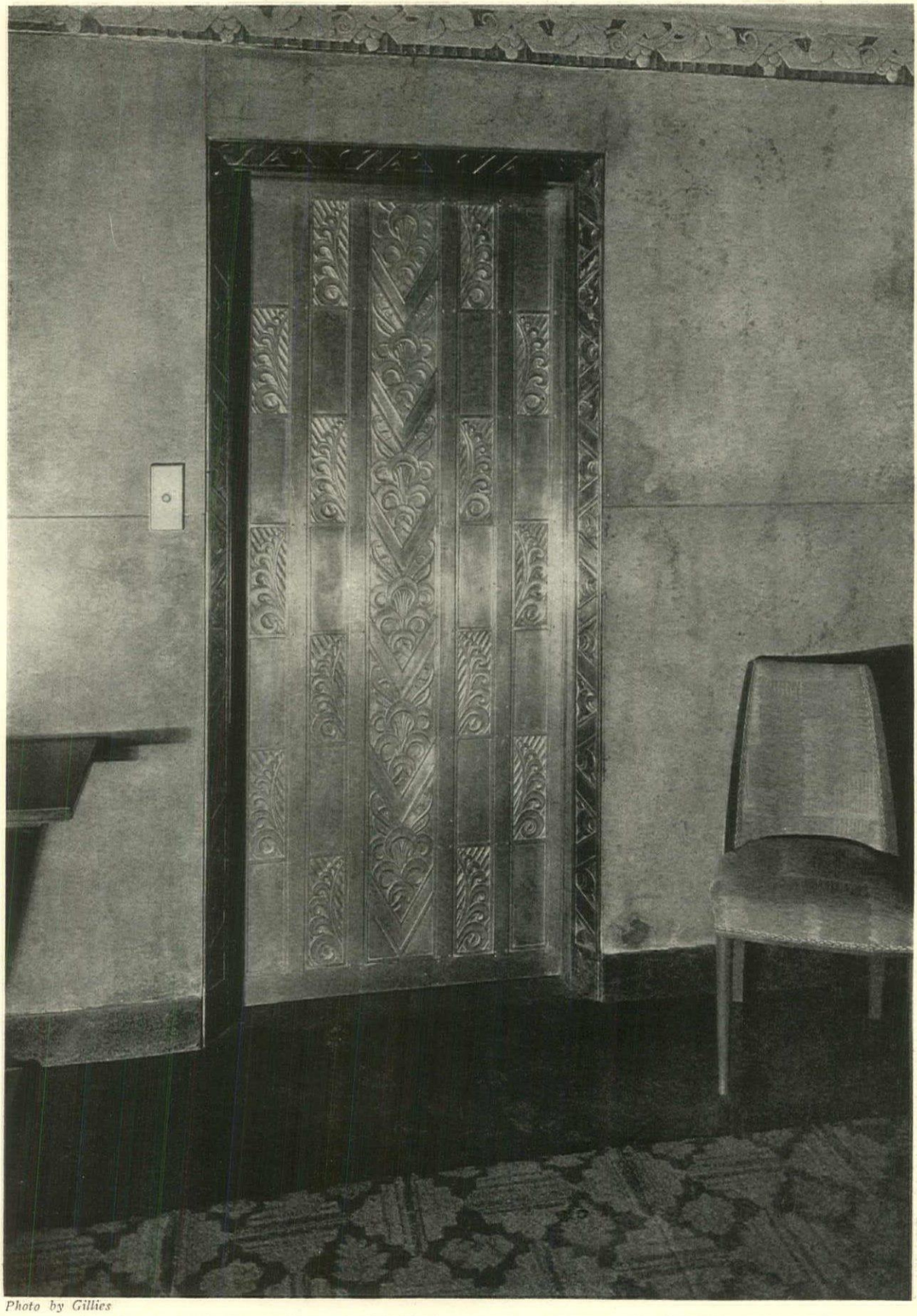


Photo by Gillies

DETAIL ELEVATOR DOOR, APARTMENT HOUSE, 3 EAST 84TH STREET, NEW YORK

RAYMOND M. HOOD, ARCHITECT

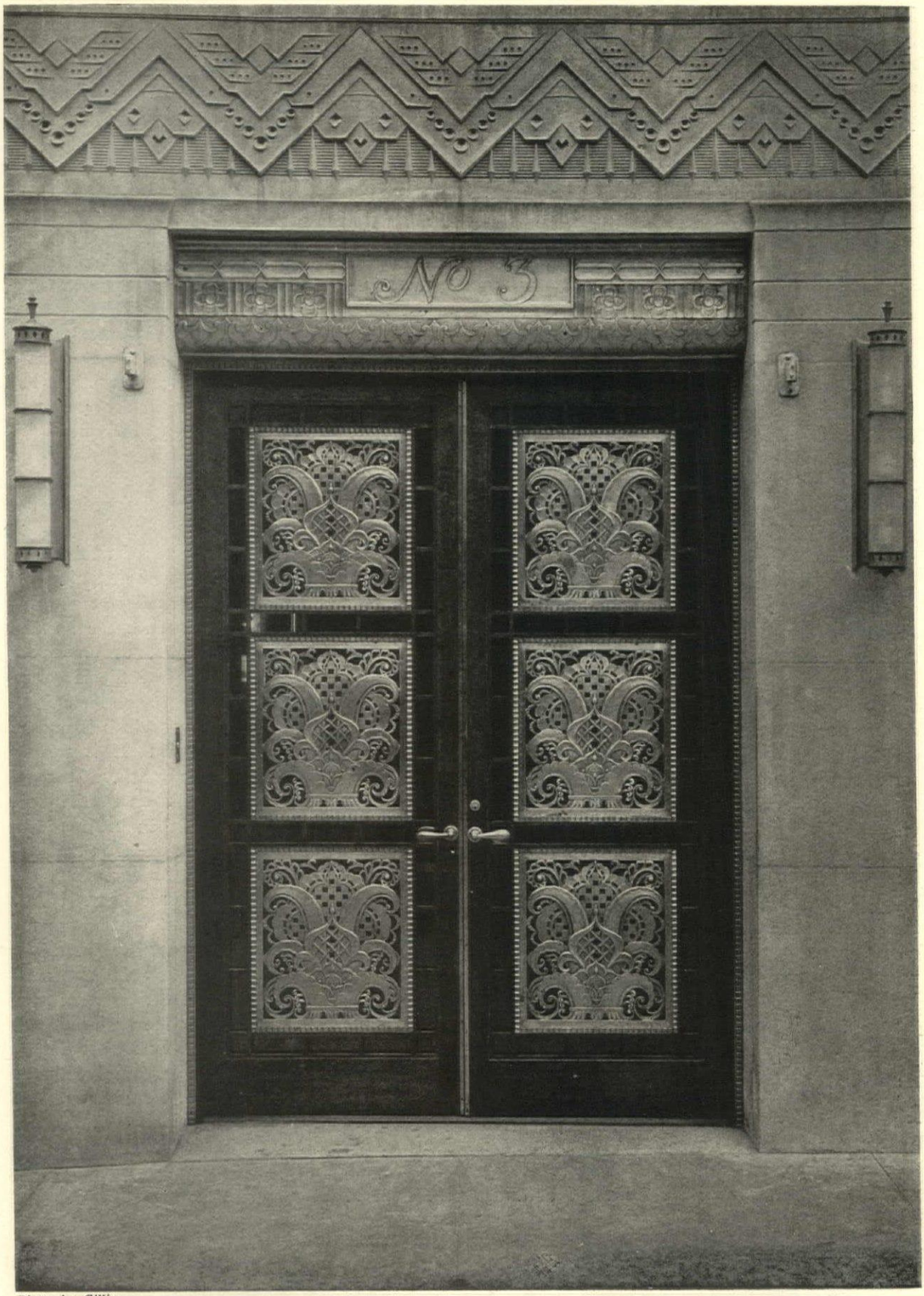


Photo by Gillies

ENTRANCE DETAIL, APARTMENT HOUSE, 3 EAST 84TH STREET, NEW YORK

RAYMOND M. HOOD, ARCHITECT

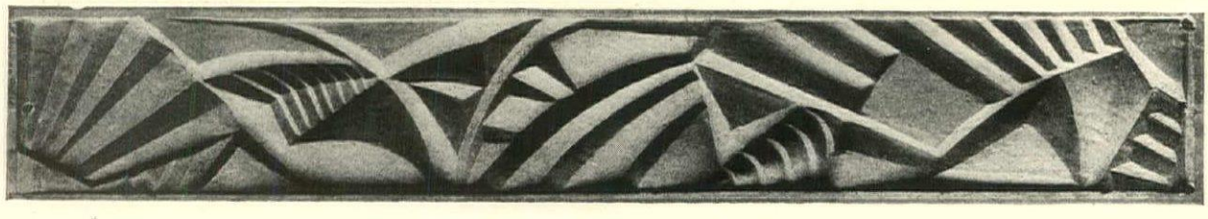
EDITORIAL COMMENT

A ROYALTY ON SKYSCRAPERS

MANY of us were surprised to hear that the principle by which the skyscraper was made possible was invented and patented by an architect and engineer nearly fifty years ago. Stranger still, it may seem, the patentee is to receive now his first royalty, the first tangible recognition of his invention on a building constructed after his ideas. Leroy S. Buffington, of Minneapolis, Minn., now in his ninetieth year, might well be called "the father of the modern skyscraper." The principle conceived by Mr. Buffington in 1880 and later patented by him was a braced skeleton of steel with a steel shelf at each floor to hold the masonry veneer. The buildings which he evolved on this idea he designated as "cloudscrapers." He was mocked at, derided, called a "crank" and a "dreamer," but went right ahead, and in 1882 drew his first perspective of a 28-story cloudscraper, in accordance with specifications in the patent application. Various suits for infringement were later instituted which dragged on so long that the patents ran out. The attention of the owner of a tall building, now in course of construction in Minneapolis, was recently directed to an article in which Mr. Buffington's story was related in detail. He investigated and found that the architect had asked for a royalty of one-eighth of one per cent and immediately decided to pay Mr. Buffington his due. It would be interesting to know just how much money the original inventor would have received during the intervening years if a royalty had been paid him on every skyscraper erected according to his principle.

VIEWING A CITY BUILDING

IT is only occasionally that a building in our modern cities is so located that it may be seen by the pedestrian in its entirety, as a complete architectural composition. On a street of average width perhaps the lower six stories of buildings come within the range of the eye of those passing on the opposite side, while the facades of those buildings in the distance, which, in perspective, come within the line of vision, are so foreshortened that it is impossible to determine their architectural treatment. Occasionally, however, an architect is commissioned to design a building which is not to be shut in on all sides by towering structures. Such was the case, for example, afforded the architect of the American Radiator Building, New York. Facing the building is a city park, so that the pedestrian may obtain an unobstructed view of it when walking on a street two blocks away. The Fisher Building, located at the terminal of one of the main thoroughfares of Detroit, was designed to take complete advantage of the opportunity that its peculiar site offered. This state of affairs must be considered by architects when designing city buildings, and we can often readily account for certain liberties taken when we see the building finally erected which we could not understand when examining the perspective and scale elevations. There is being completed in New York now a building, the location of which is unusual from an architectural standpoint. It is actually built over a street and traffic continues through arches cut through the ground floor. Furthermore, the street happens to be one of the most important thoroughfares of the city. The result is that, approaching midtown, where the building is located, the vista which greets the eye continually terminates in this important edifice. What an opportunity! What architect would not have jumped at a chance to design this building! Ideals, which may have accumulated for years in the hopes of some time obtaining just such an opportunity as this, might at last become realities! But what did the architects who got the job do? Certainly, not the best that might have been done. To us, they missed the grandest chance for fame with which they ever could or ever will be presented. The building to us is not symbolic of the "gateway to the city," as the owners have designated it.

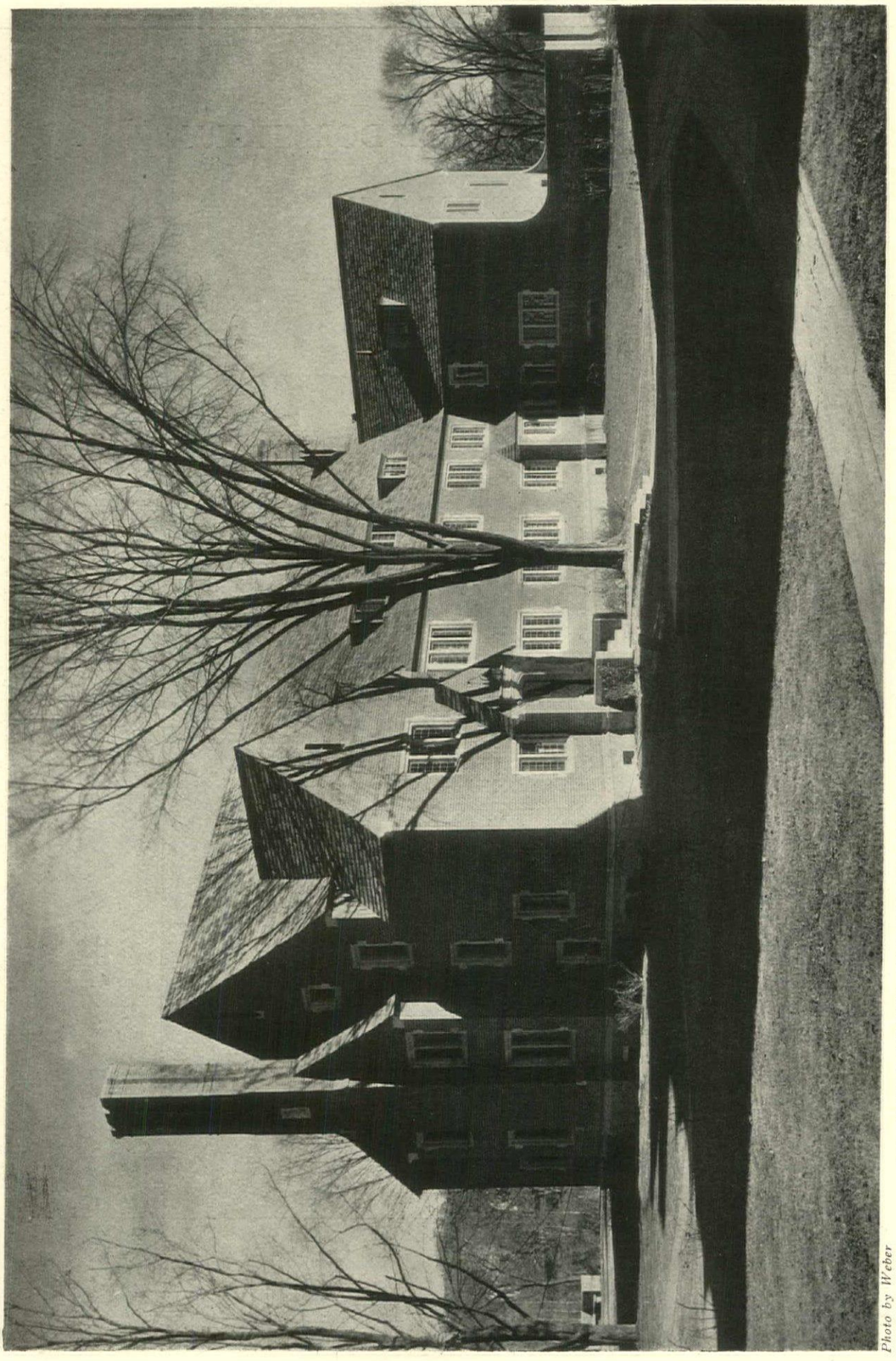


ST. PAUL'S SCHOOL DORMITORY

CONCORD, N. H.

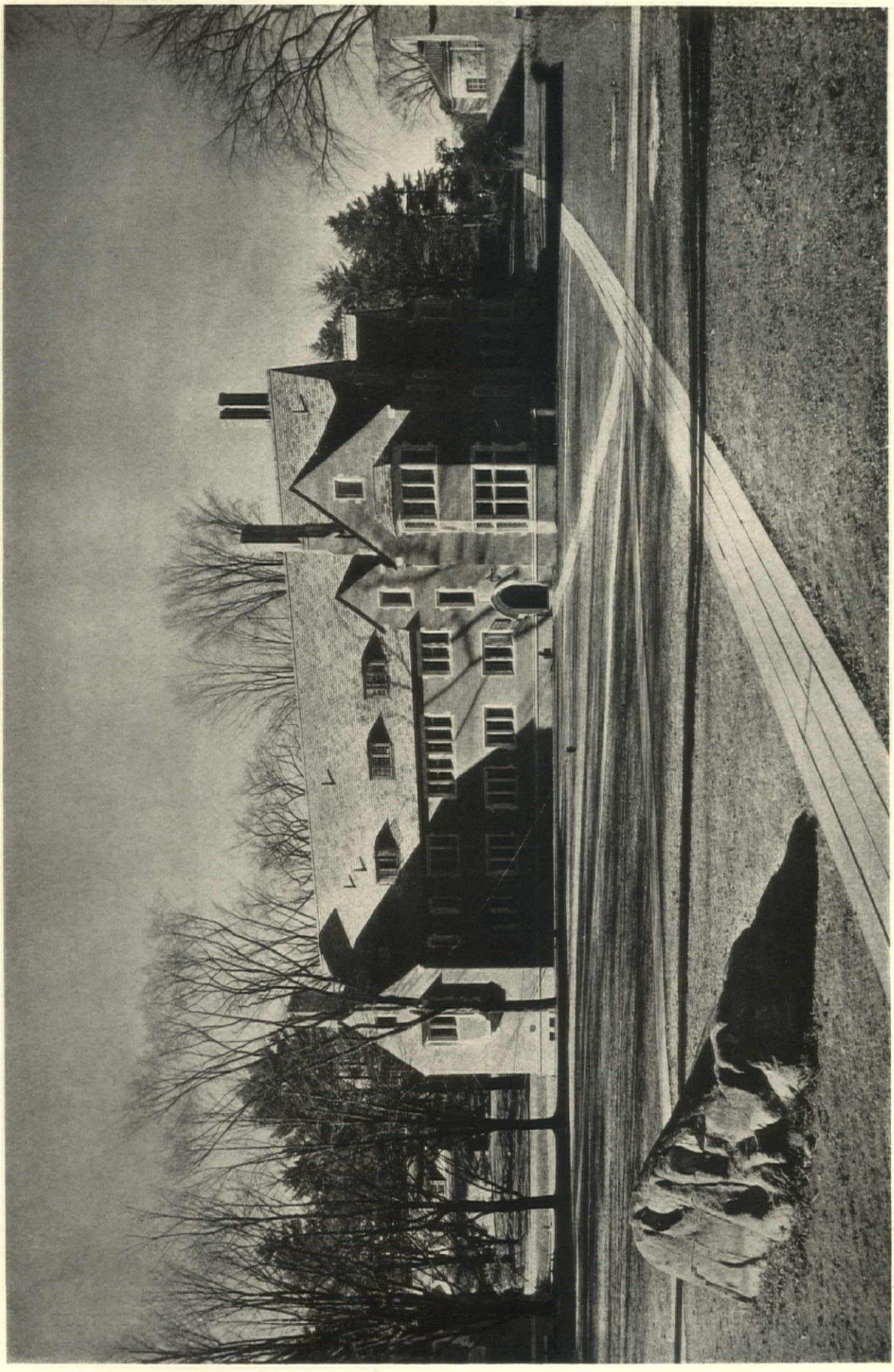
CHARLES Z. KLAUDER, *Architect*

Photo by Weber



ST. PAUL'S SCHOOL DORMITORY, CONCORD, N. H.— CHARLES Z. KLAUDER, ARCHITECT

Photo by Weber



ST. PAUL'S SCHOOL DORMITORY, CONCORD, N. H.— CHARLES Z. KLAUDER, ARCHITECT

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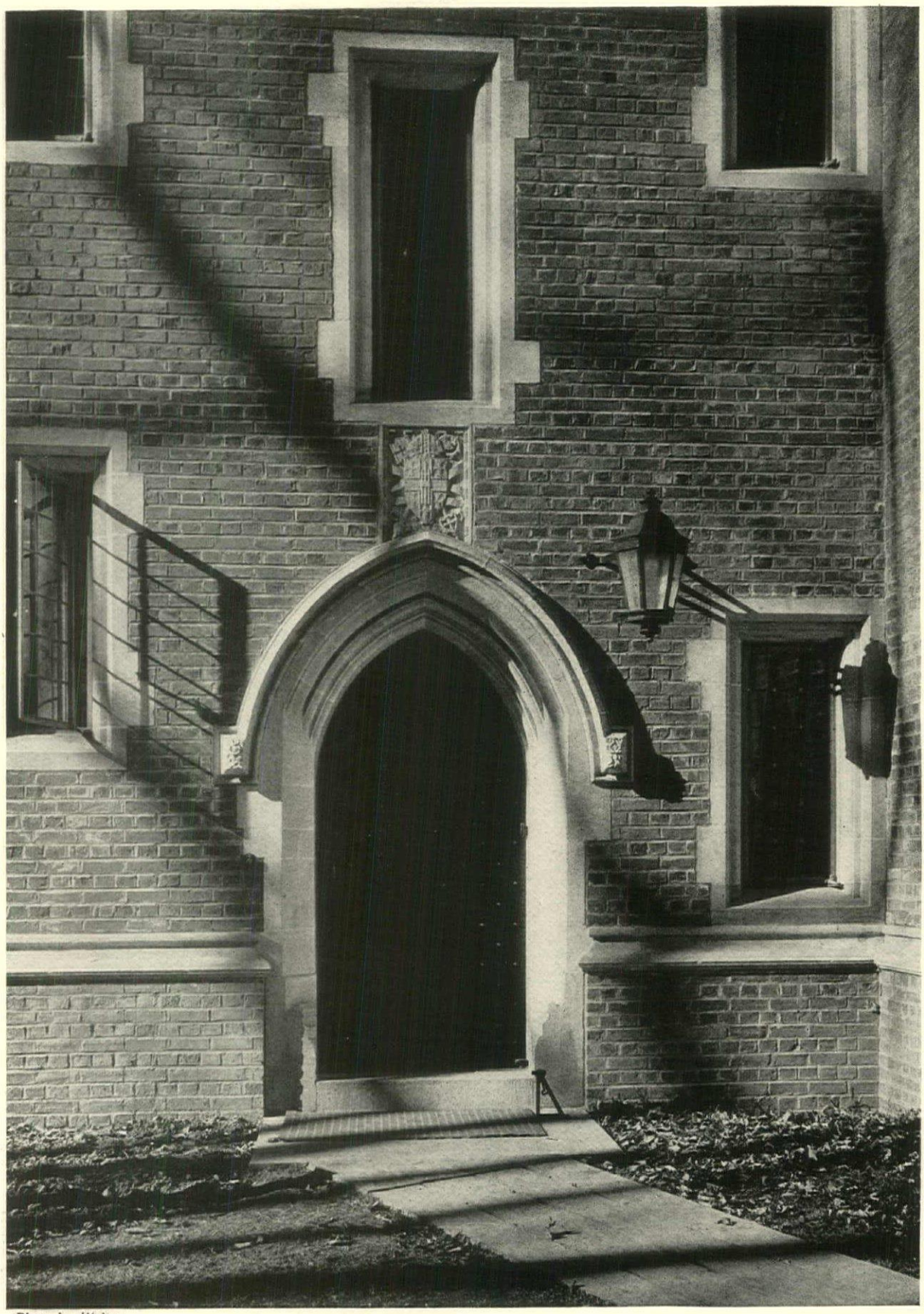

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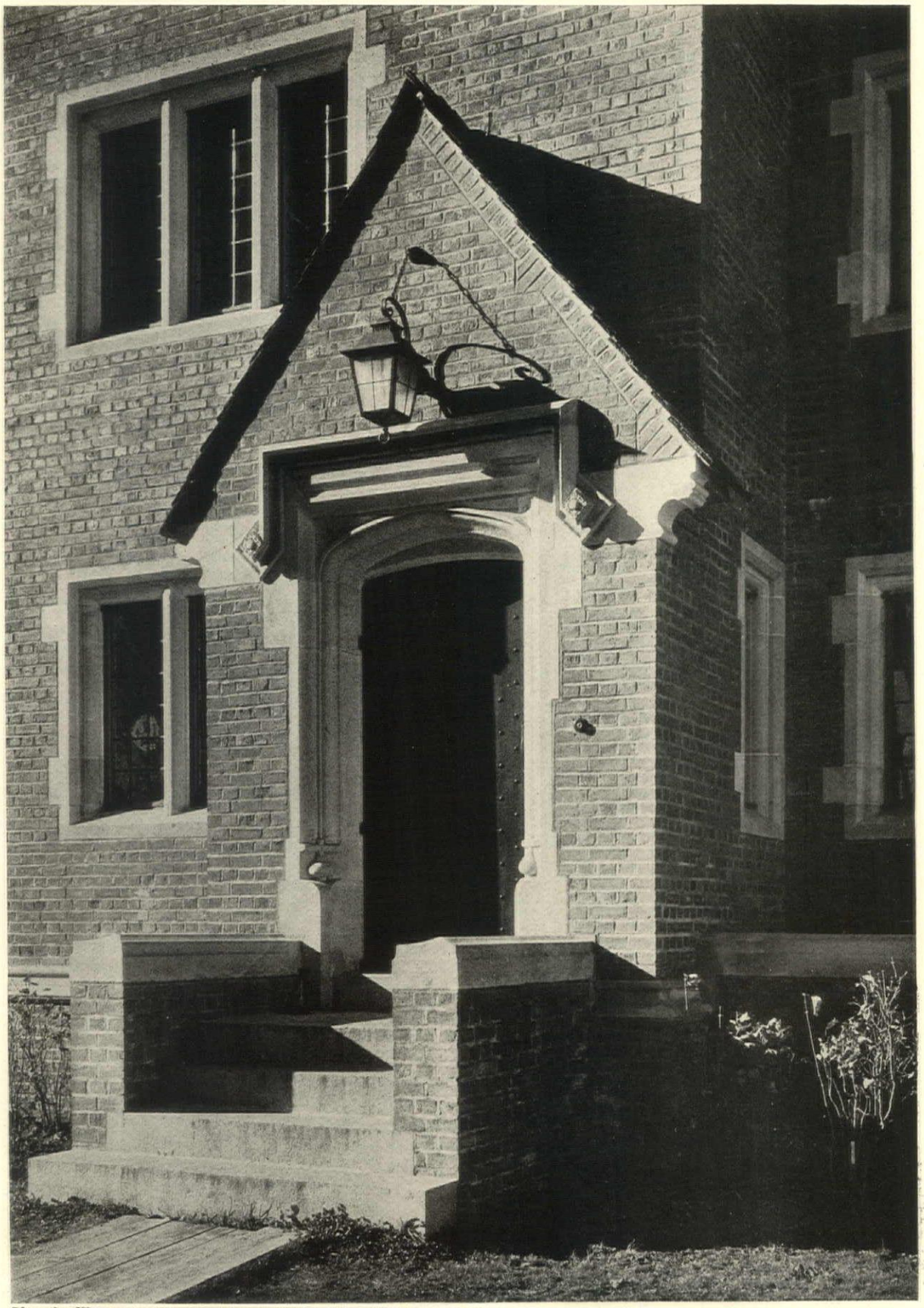
ST. PAUL'S SCHOOL DORMITORY, CONCORD, N. H.—CHARLES Z. KLAUDER, ARCHITECT



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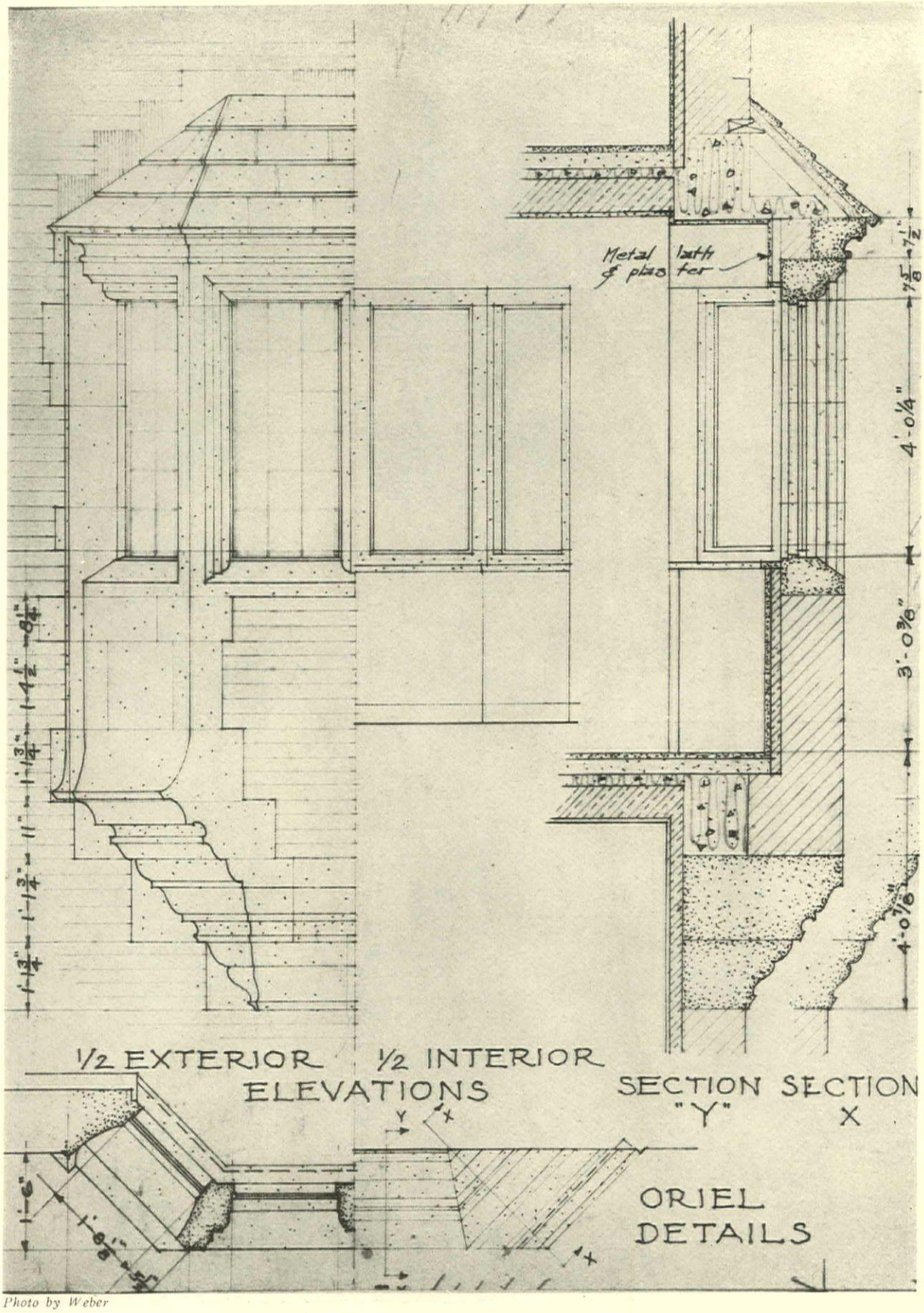
ST. PAUL'S SCHOOL DORMITORY, CONCORD, N. H.—CHARLES Z. KLAUDER, ARCHITECT



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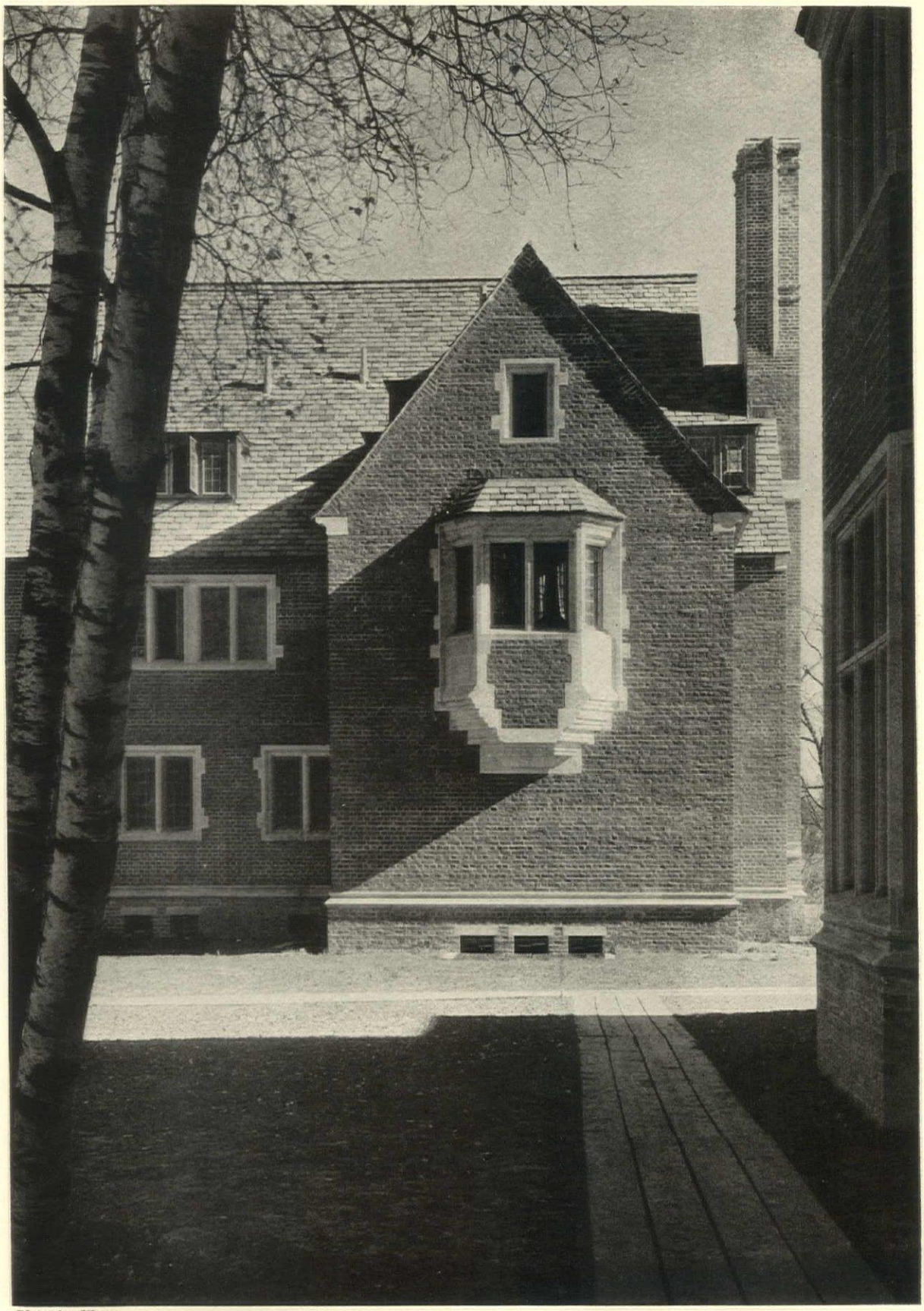

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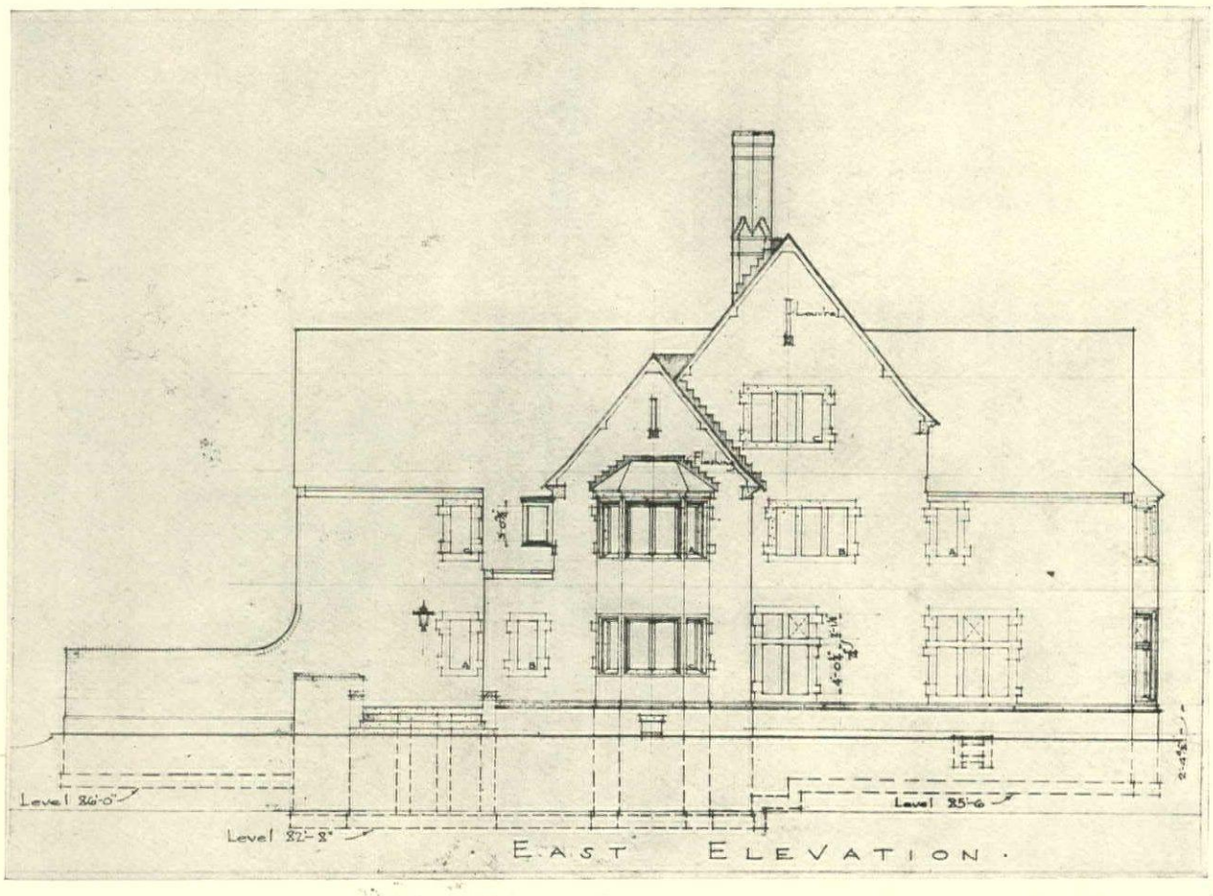


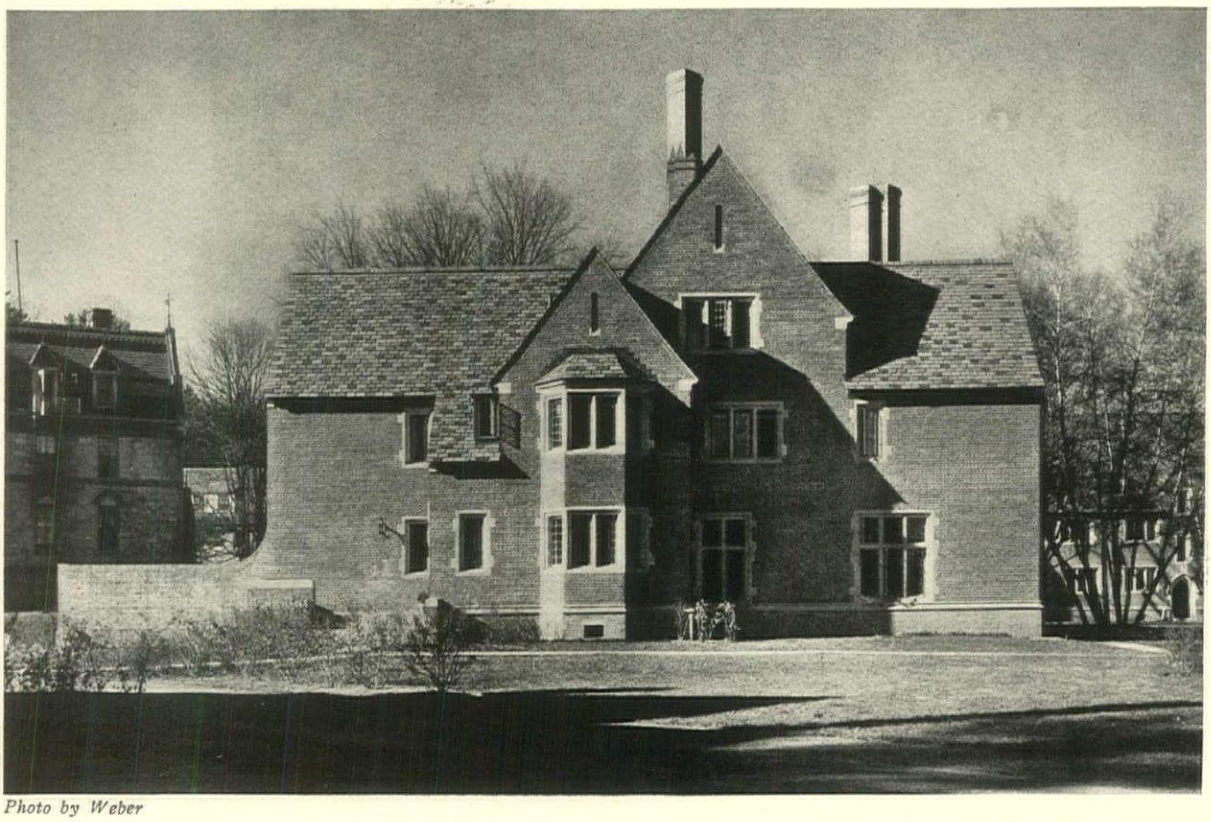
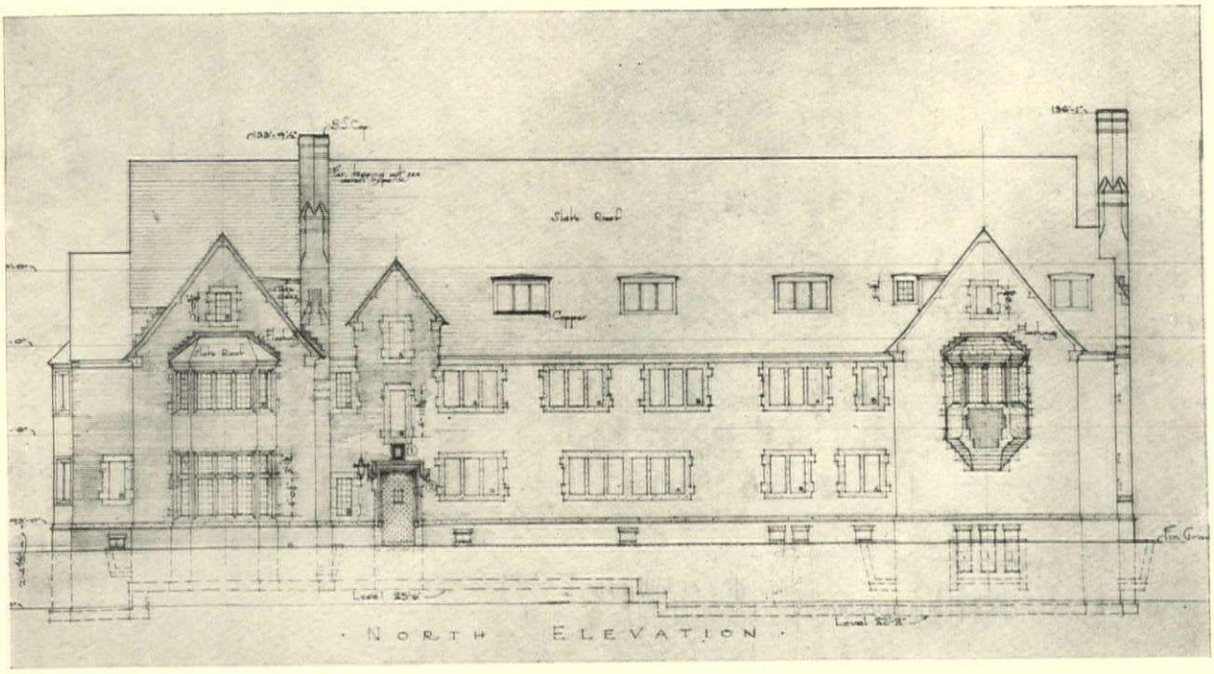


Photo by Weber

ST. PAUL'S SCHOOL DORMITORY, CONCORD, N. H.—CHARLES Z. KLAUDER, ARCHITECT



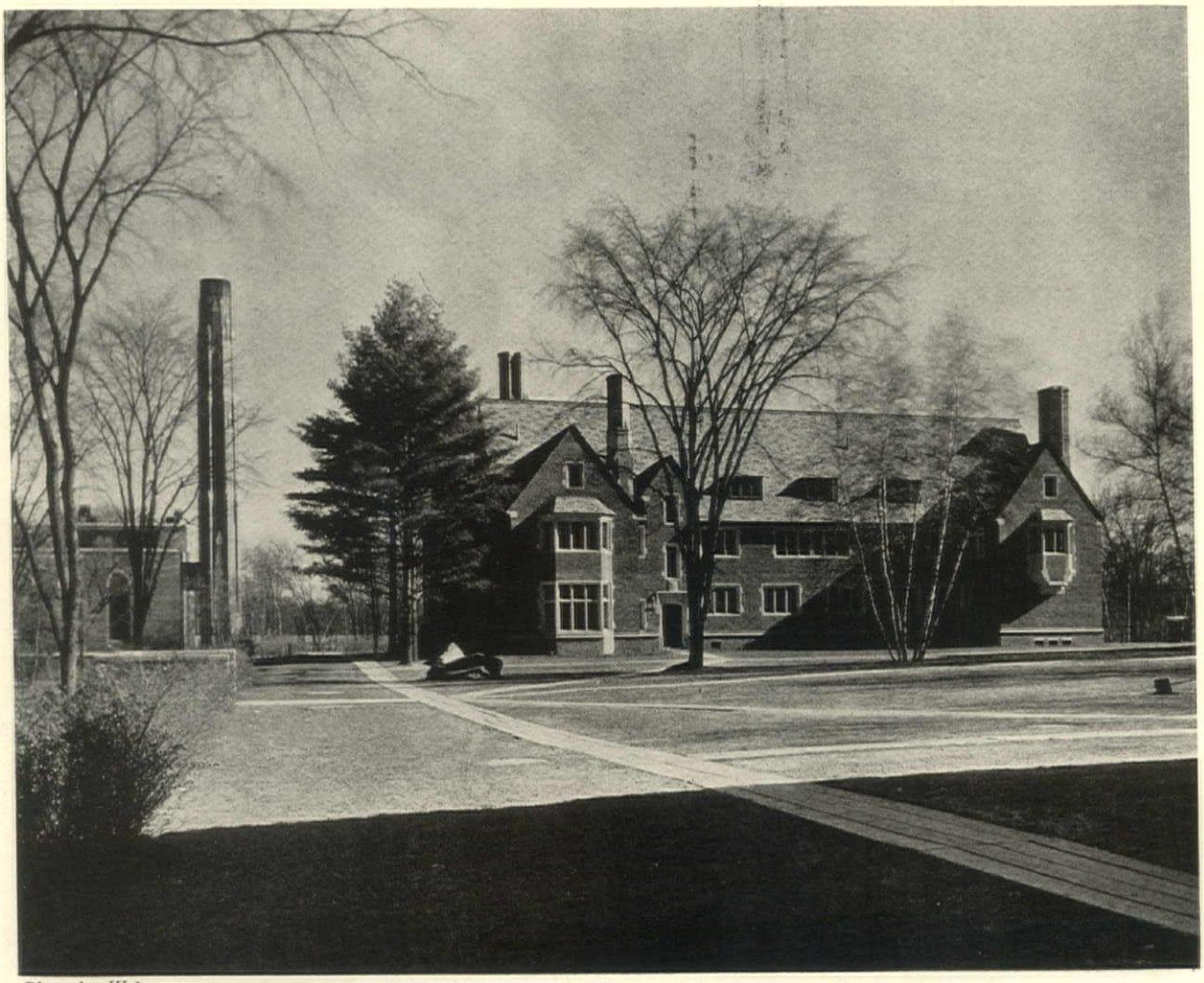
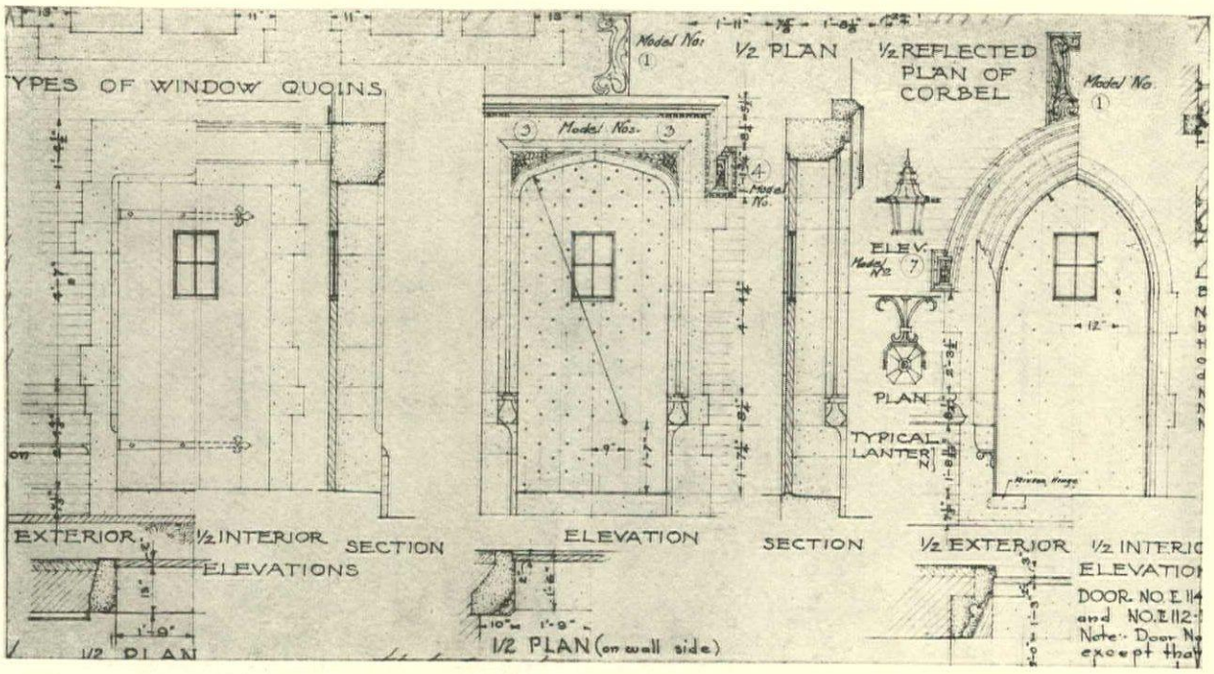


Photo by Weber

ST. PAUL'S SCHOOL DORMITORY, CONCORD, N. H.—CHARLES Z. KLAUDER, ARCHITECT



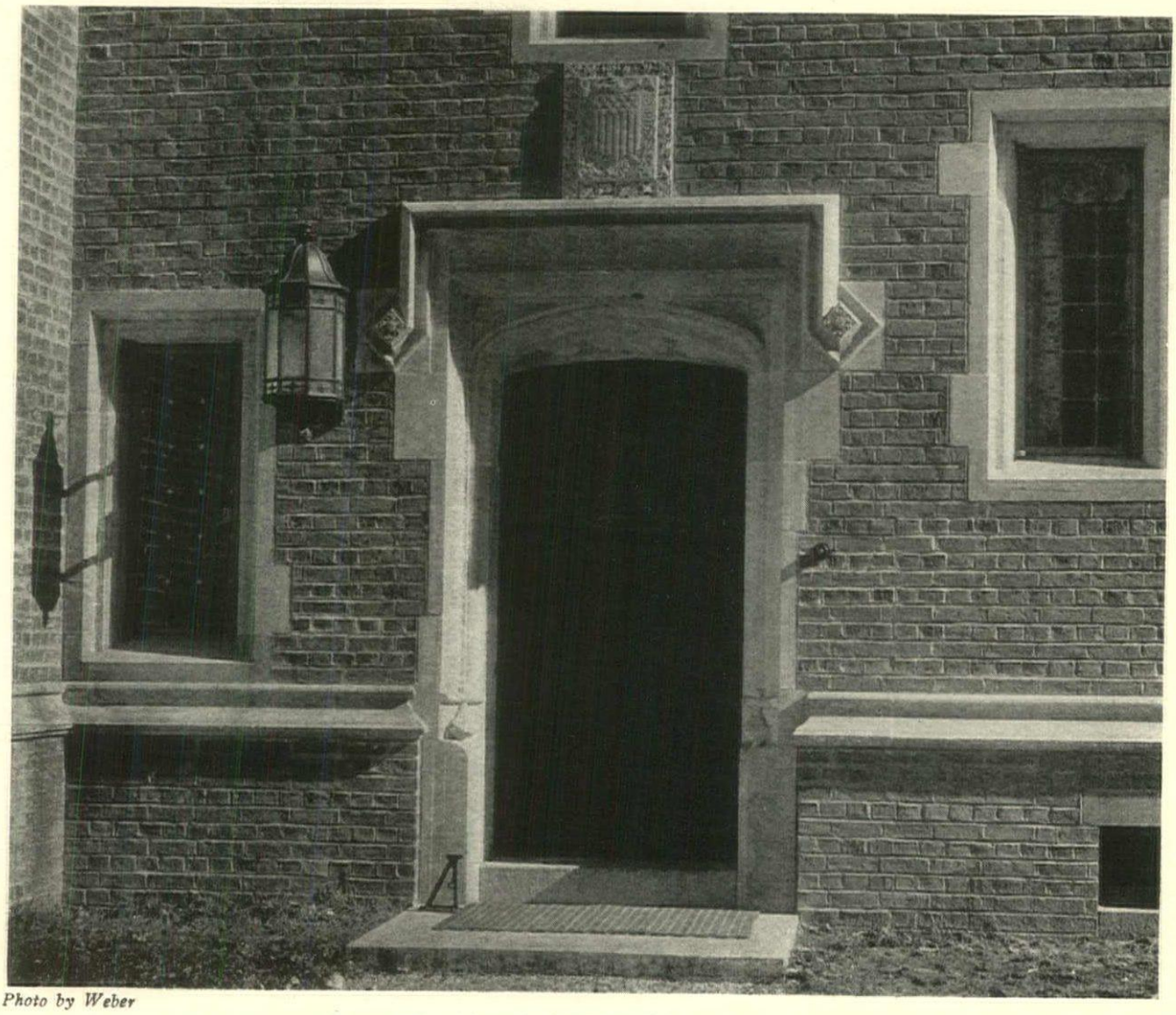


Photo by Weber

ST. PAUL'S SCHOOL DORMITORY, CONCORD, N. H.

CHARLES Z. KLAUDER, ARCHITECT

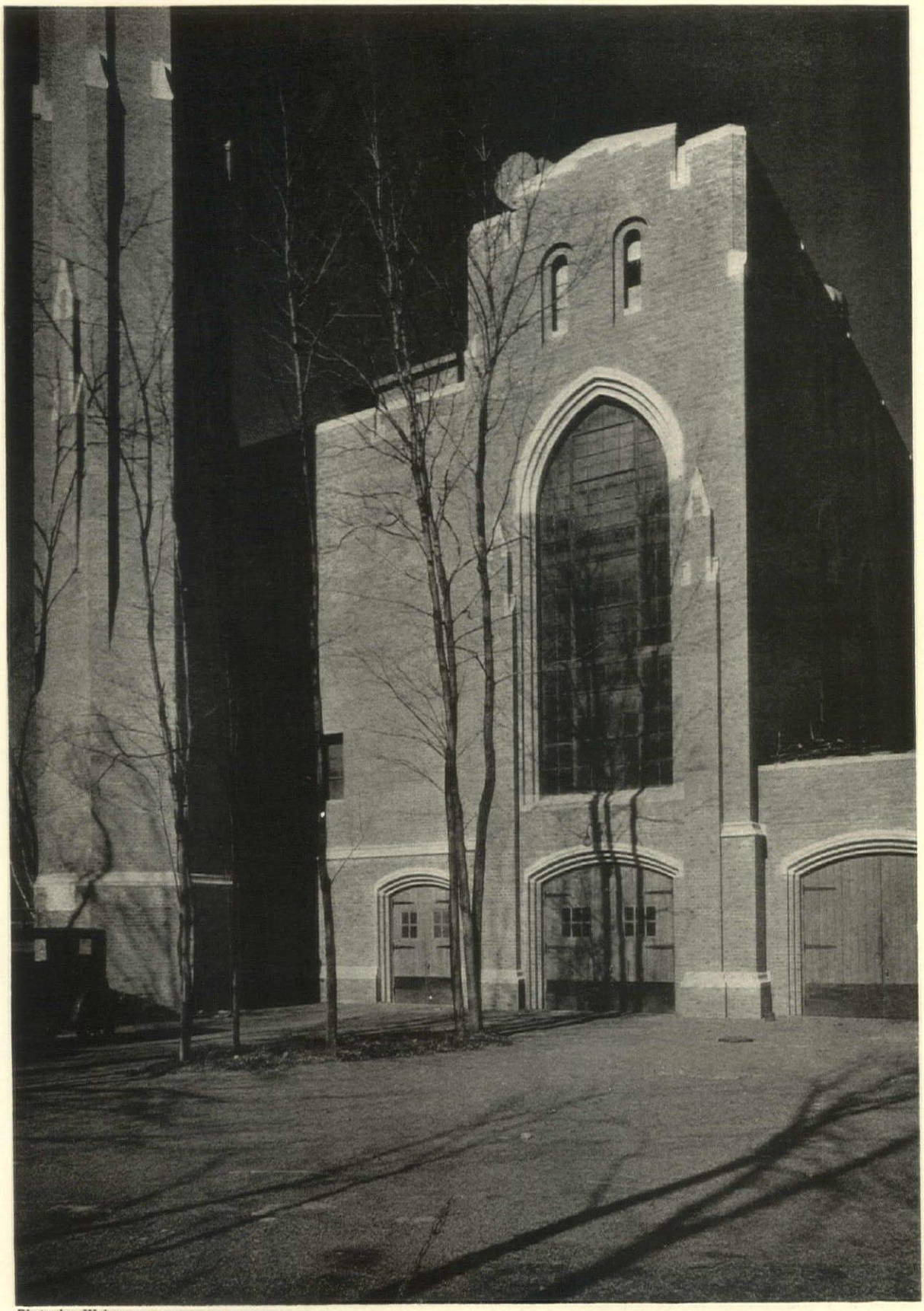
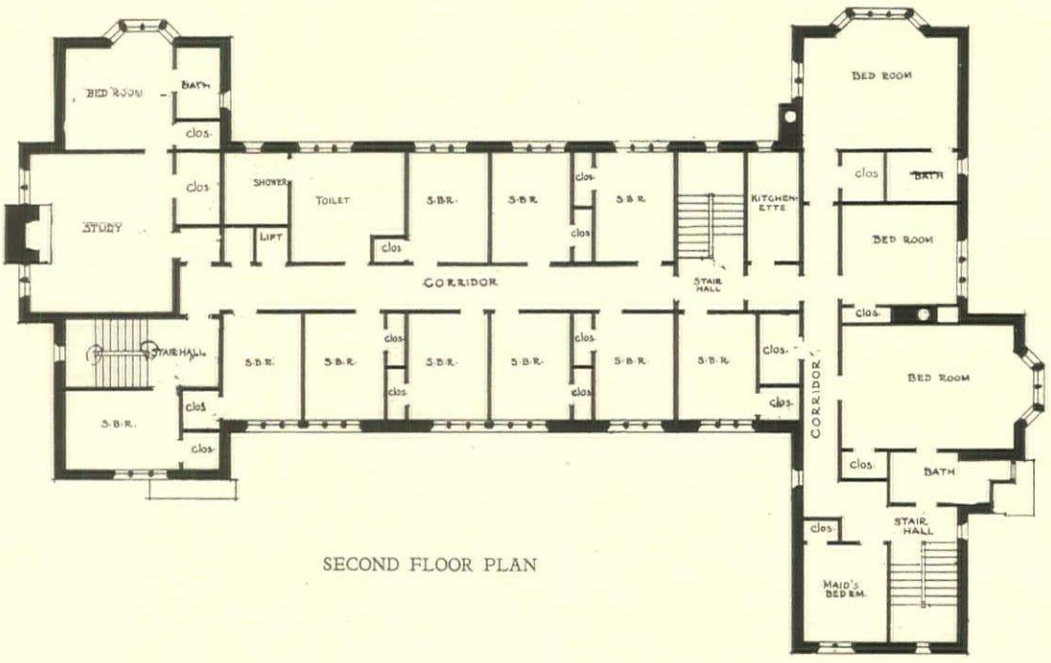


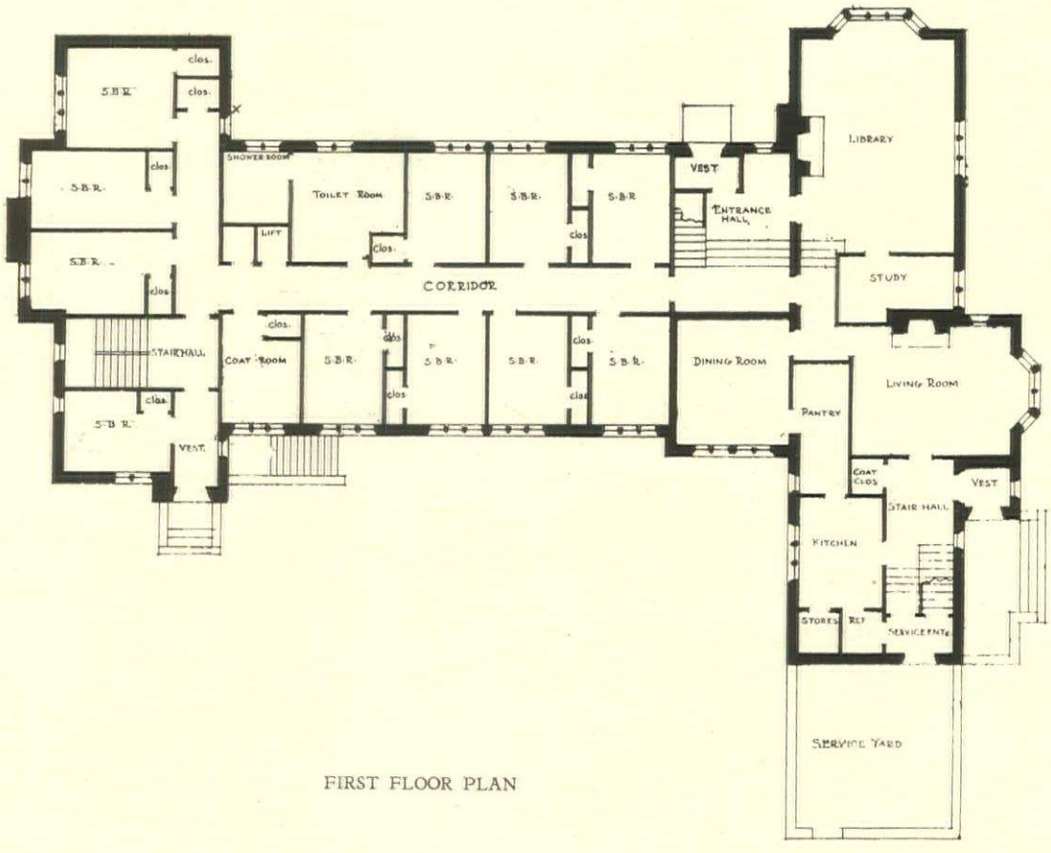
Photo by Weber

POWER AND HEATING PLANT AND WORKSHOPS, ST. PAUL'S SCHOOL, CONCORD, N. H.

CHARLES Z. KLAUDER, ARCHITECT

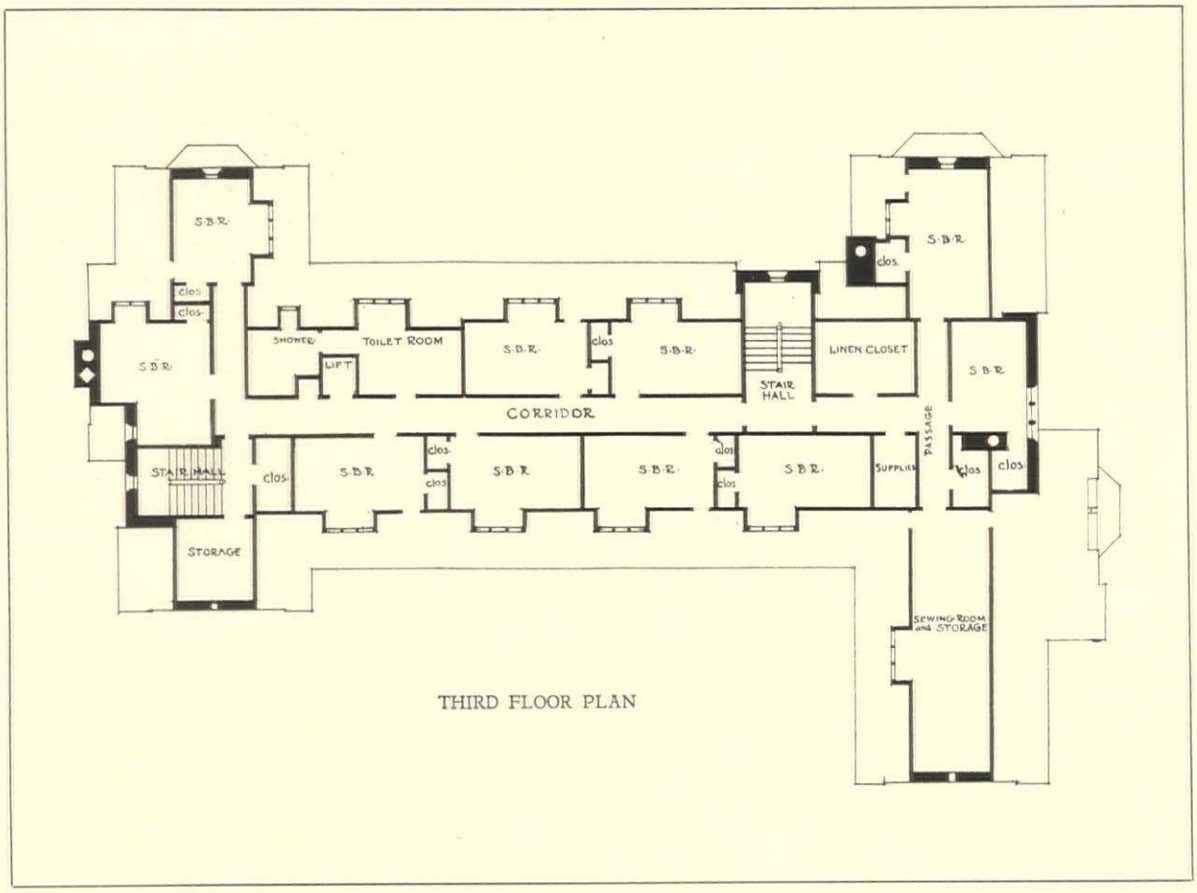


SECOND FLOOR PLAN

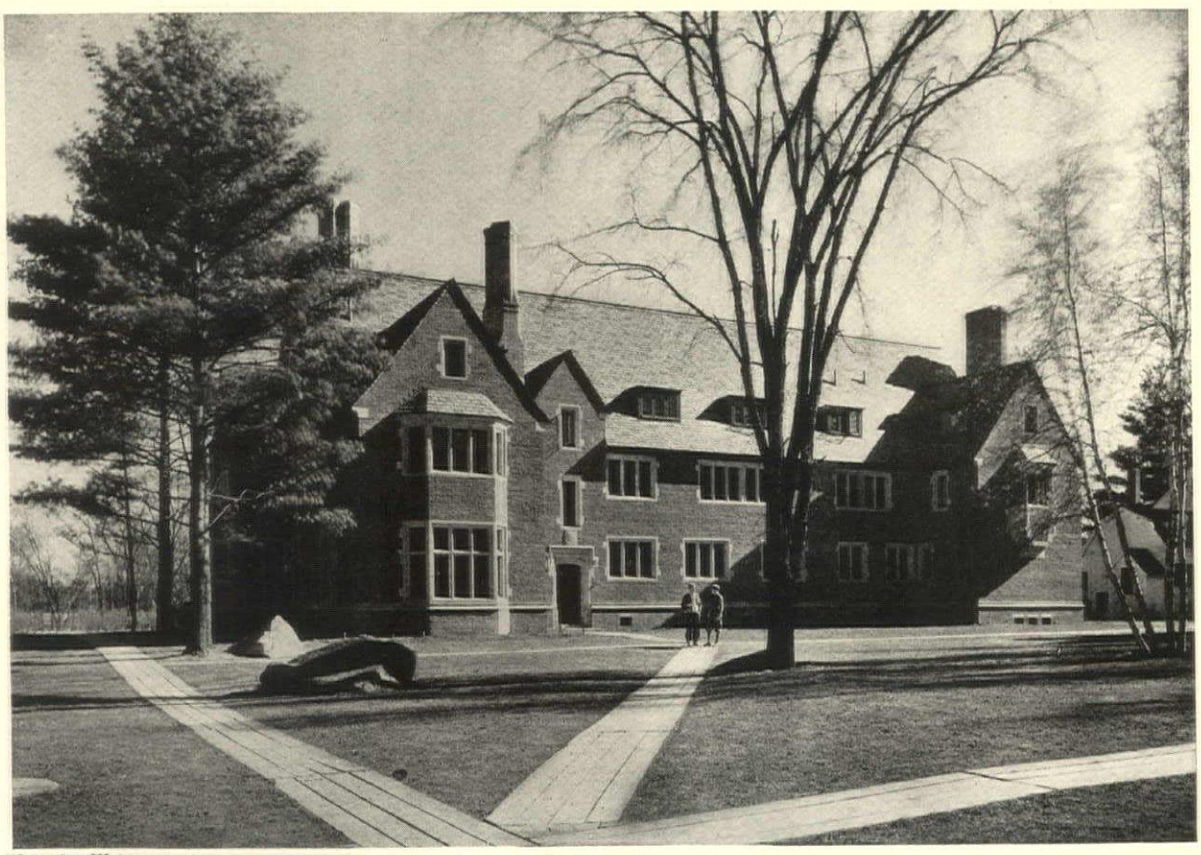


FIRST FLOOR PLAN

ST. PAUL'S SCHOOL DORMITORY, CONCORD, N. H.—CHARLES Z. KLAUDER, ARCHITECT



THIRD FLOOR PLAN



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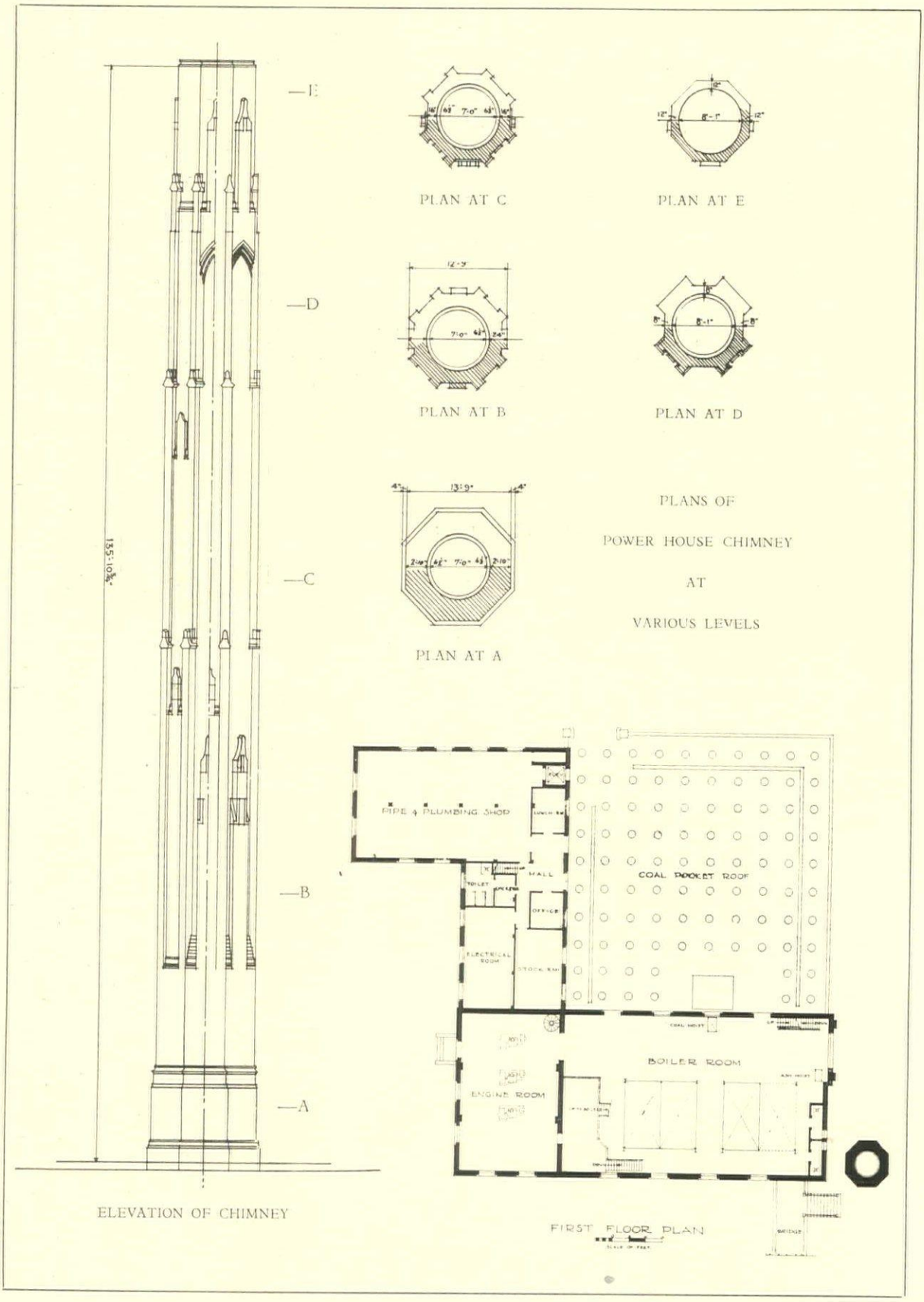

POWER AND HEATING PLANT AND WORKSHOPS, ST. PAUL'S SCHOOL, CONCORD, N. H.

CHARLES Z. KLAUDER, ARCHITECT

Photo by Weber

POWER AND HEATING PLANT AND WORKSHOPS, ST. PAUL'S SCHOOL, CONCORD, N. H.

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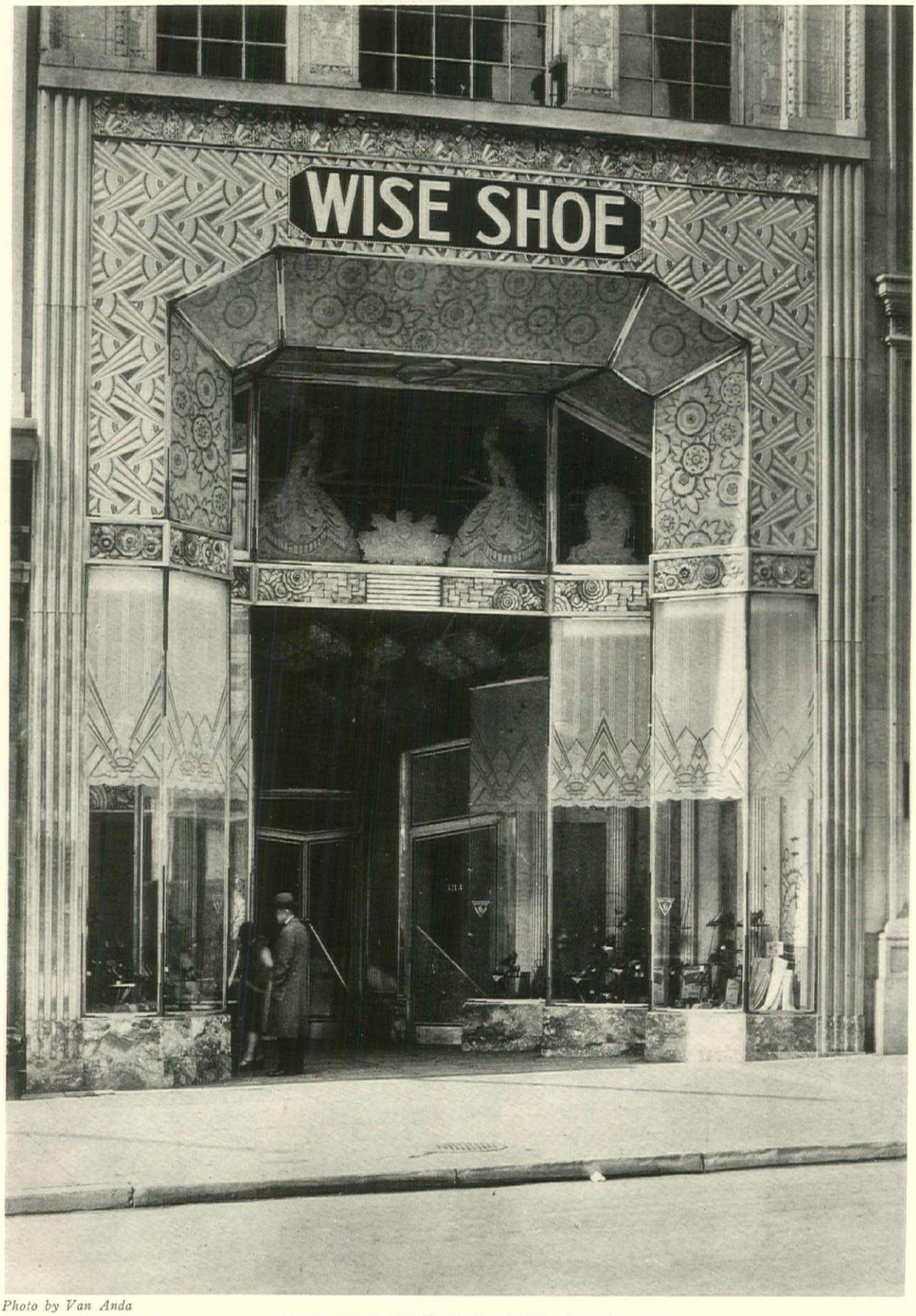
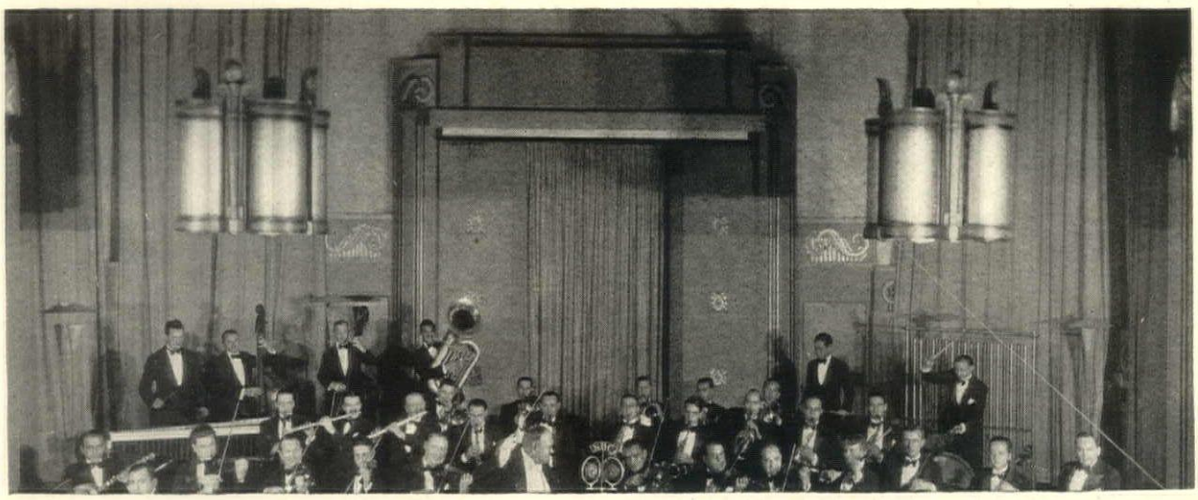


Photo by Van Anda

WISE SHOE SHOP, NEW YORK, N. Y.

ELIAS ROTHSCHILD & COMPANY, DESIGNERS

◉ ENGINEERING AND CONSTRUCTION ◉



ENGINEERING PROBLEMS OF RADIO BROADCASTING STUDIO DESIGN

AMONG the amazing developments in all fields of endeavor during the past quarter century, none have been more rapid or spectacular than that to be seen in radio broadcasting. Rapid progress in the perfection of radio broadcasting and receiving equipment has been stimulated by the immediate and enthusiastic acceptance by the public of the radio idea. Commercial success of the project depended upon three factors—perfected equipment for sending programs over the air, simple dependable receiving sets, and programs of such character that continued public interest would be assured. The very nature of the business required the coordination and perfection of all departments as quickly as possible.

Radio sending and receiving equipment is a matter of electrical and mechanical engineering design. If the recent development of television is excepted, radio programs depend upon artists who perform audibly. The success of a program depends upon the efficiency of the electrical equipment, the artists, the artists' program, and often upon the studio from which the program is sent.

The correct design of the studio is fundamental and common to both the quality of broadcasting programs and the quality of the product sent out, if it can be so described. The design of the broadcasting studio then becomes a modern architectural problem analogous to that of the moving picture studio, airplane hangar or other structure that houses a twentieth century development.

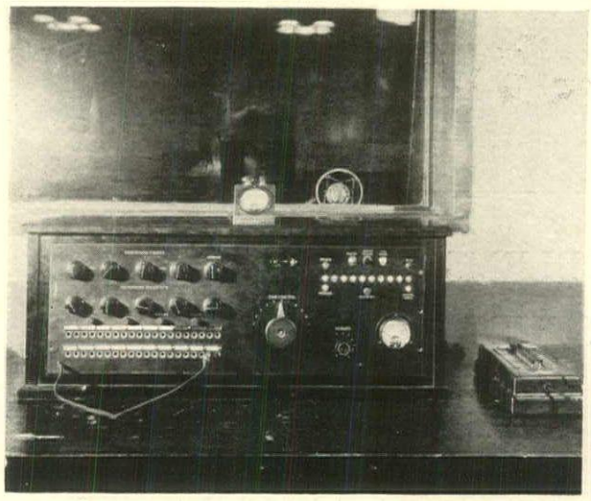
Radio broadcasting is such that programs must be accurately timed and must be sent out on a predetermined schedule. Programs must usually be rehearsed before they are publically released. The entertainment features may vary from a solo artist to an orchestra of fifty or sixty persons. It is at once apparent that both operating demands and economy require the providing of several studios, of different sizes, for independent and simultaneous use. Economy of space, as well as the elimination of outside street noises, make it desirable to employ interior rooms accessible to the artists' reception room, the "green" rooms, and radio control rooms.

The studios of the National Broadcasting Company in New York are unique in that all aspects of broadcasting have been carefully considered in their design. These considerations may be classified under two divisions—the soundproof and acoustical effect of the studio on the quality of the product sent over the air, and the atmospheric effect of the studio on artists and musical instruments.

The architecture and illumination of the studios have in general been given simple direct treatment. The largest studio of the National Broadcasting Building, which is located on the 15th floor, is a room of about 2,800 square feet and about 22 feet high, containing a more elaborate system of illumination. Eight free standing pilasters function to conceal a series of illuminating units. Between the pilasters, a horizontal series of reflectors is concealed by the wainscot extending around the entire room.

Large hanging fixtures conceal equipment for special lighting effects. Lights are arranged on three color circuits—white, red and blue, controlled by dimmers located in the switchboard room. Spot lights placed in the light control room permit additional stage lighting effects.

It is fact and not theory that human beings function mentally to the best advantage under certain temperature and humidity conditions of the atmosphere. A warm humid condition has a depressing effect, while cool dry air is stimulating and invigorating. Atmospheric conditions also have an

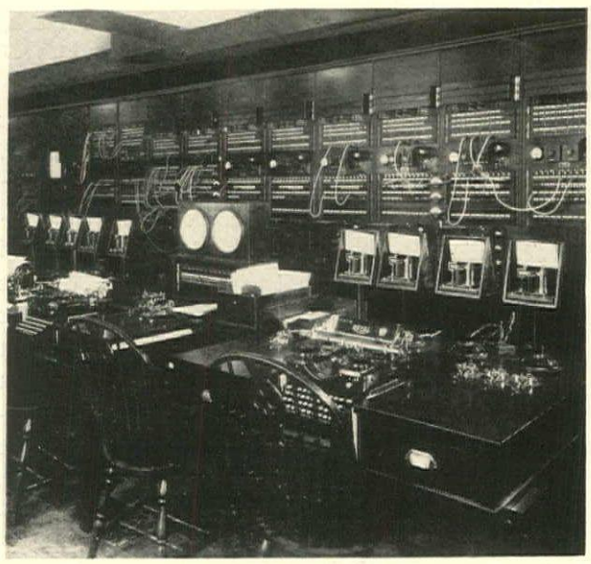


FROM A BOOTH ADJACENT TO THE STUDIO THE MONITOR SEES THROUGH A SOUNDPROOF WINDOW THE ARTISTS BEFORE THE MICROPHONE, THROUGH A REPRODUCER HE HEARS THEM, AND THROUGH THE "CONTROL BOX" HE CONTROLS THE EVEN QUALITY OF THE OUTPUT OF THE STUDIO

important effect on musical instruments, whose pitch and timbre are affected by changes in temperature and moisture content in the air. As a result air conditioning assumes an important role in broadcasting studio design and becomes mandatory since the studios must be, in effect, hermetically sealed to make them soundproof.

A completely sealed room must first of all be made livable by the introduction of fresh air and the removal of vitiated air, which is merely another way of saying that the studios must be adequately ventilated. This is neither a difficult nor unusual engineering problem in itself. Any difficulty in the ventilation of broadcasting studios arises from the necessity of maintaining a series of rooms of varying size, in which the number of occupants is continually changing at short intervals, at a uniform temperature and satisfactory humidity. The demands of individual studios as respects the quantity of air to be supplied at a given temperature and humidity therefore changes frequently and is seldom the same for any two studios. The ventilating system must therefore be flexible in operation to a high degree and so designed that no matter what the outside atmospheric conditions may be, uniform "weather" will prevail in the studios.

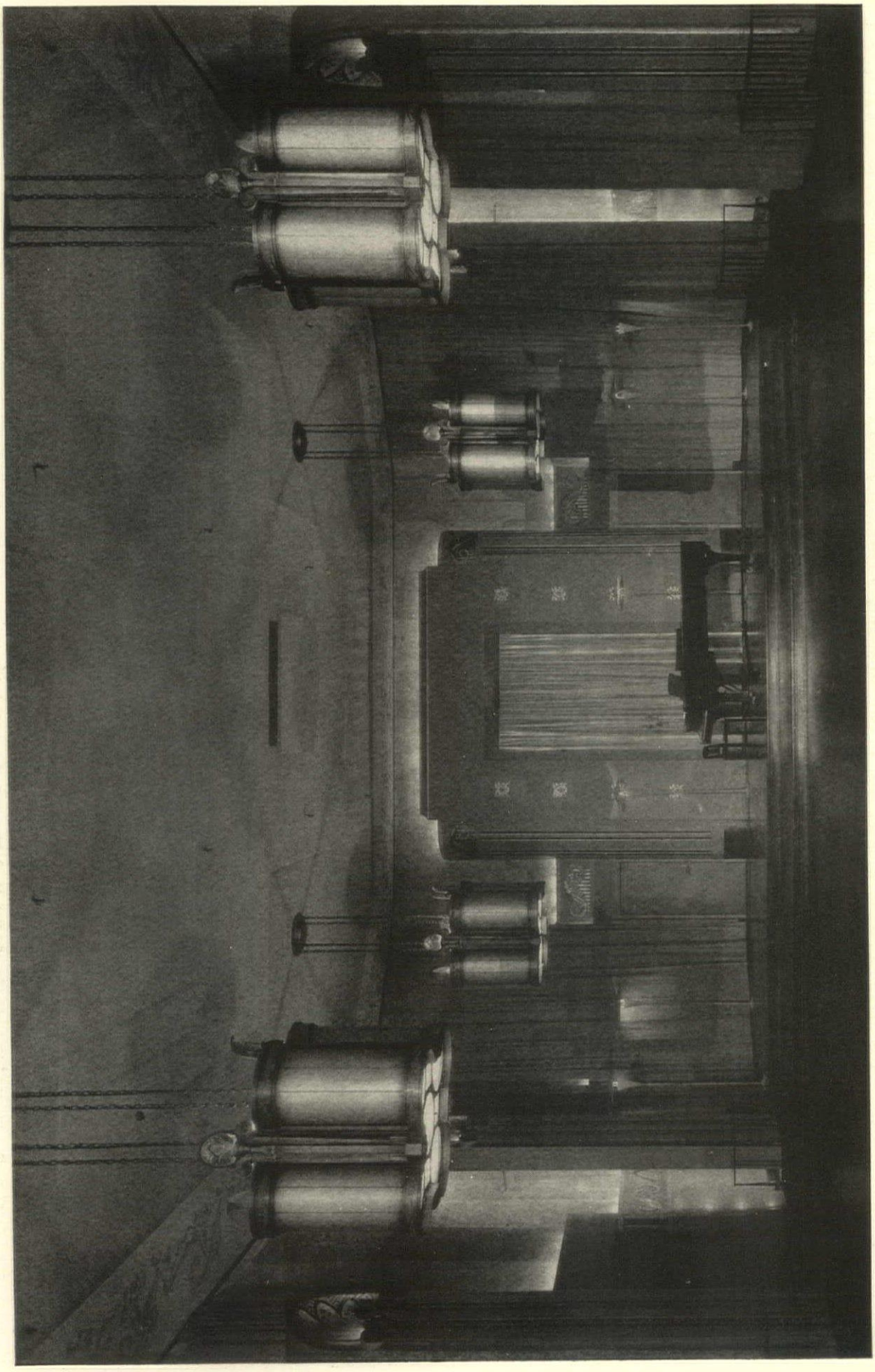
The air conditioning plant as installed in the National Broadcasting Building consists of an air chamber through which outside air is drawn and passed through an air washer and dehumidifier. When the outside temperature requires it, the water, before passing through the air washer, is passed through a refrigerating machine to lower its temperature below that required in the studios. The air is drawn in by a supply fan of about 30,000 cubic feet per minute capacity. From this point, air is distributed through separate ducts to the individual studios and other rooms requiring ventilation. Each duct has its own tempering coils which are automatically controlled by a pneumatic system operated by sensitive thermometers connected with the studios. Air is withdrawn from



MAIN CONTROL ROOM SHOWING REGULAR AND SPARE STUDIO AMPLIFIERS, AND LINE AND MONITORING AMPLIFIERS. MORSE TELEGRAPH INSTRUMENTS IN THE FOREGROUND ARE USED FOR COMMUNICATING WITH ASSOCIATED STATIONS

the various rooms by an exhaust fan. Automatic dampers permit the air to be recirculated as conditions require.

The air supply is introduced to the studio through openings in the ceilings. Diffusing plates placed about four inches below the ceiling distribute the air in all directions. The air is exhausted through grilled openings in the walls placed near the floor line. A system of automatic temperature and humidity control enables each studio to be tempered independently of any other. The cubic feet of air supplied to each studio is



MAIN STUDIO "H," NATIONAL BROADCASTING COMPANY, NEW YORK
RAYMOND HOOD, GODLEY & FOUILHOUX, ARCHITECTS

based upon the air capacity required to maintain a temperature of 70° to 72° at a relative humidity of 55 to 60 per cent. The temperature of the air introduced into the studios depends upon the amount of heat from human beings, electrical devices and other sources that must be absorbed. As a check upon the air conditions, sensitive recording thermometers maintain a record of each of the eight individual studios. The plant has now been in operation for one year and has proven to be sound in engineering design and to have produced the anticipated results.

To prevent the ventilating ducts from acting as conductors of sound into the studios, the ducts were soundproofed and a separate system of ducts was installed for each studio. The supply ducts were lined on the inside with sound absorbing board to prevent the transmission of noises within the duct to the outside. The exhaust ducts were also lined with sound absorbing board for a short distance back from the exhaust opening and fitted with baffles of the same material to break up the air currents and prevent noise due to possible high velocities. As a further precaution against possible noise from the ventilating equipment the ceiling diffusers are of metal covered with hair felt.

The studio rooms are soundproofed by a simple but effective method, based upon the breaking of all solid connections between the finished surfaces of the rooms and the building structure and the use of sound absorbing materials between. This system makes use of metal isolators separated by felt

TYPICAL SMALL STUDIO SHOWING ANNOUNCER'S CONTROL BOX AT LEFT OF SOUNDPROOF WINDOW OF MONITOR'S BOOTH, VENTILATING EXHAUST, DUCT GRILLS, AIR DIFFUSER AT CEILING AND MOVABLE SOUND ABSORBING CURTAINS ON TRACK

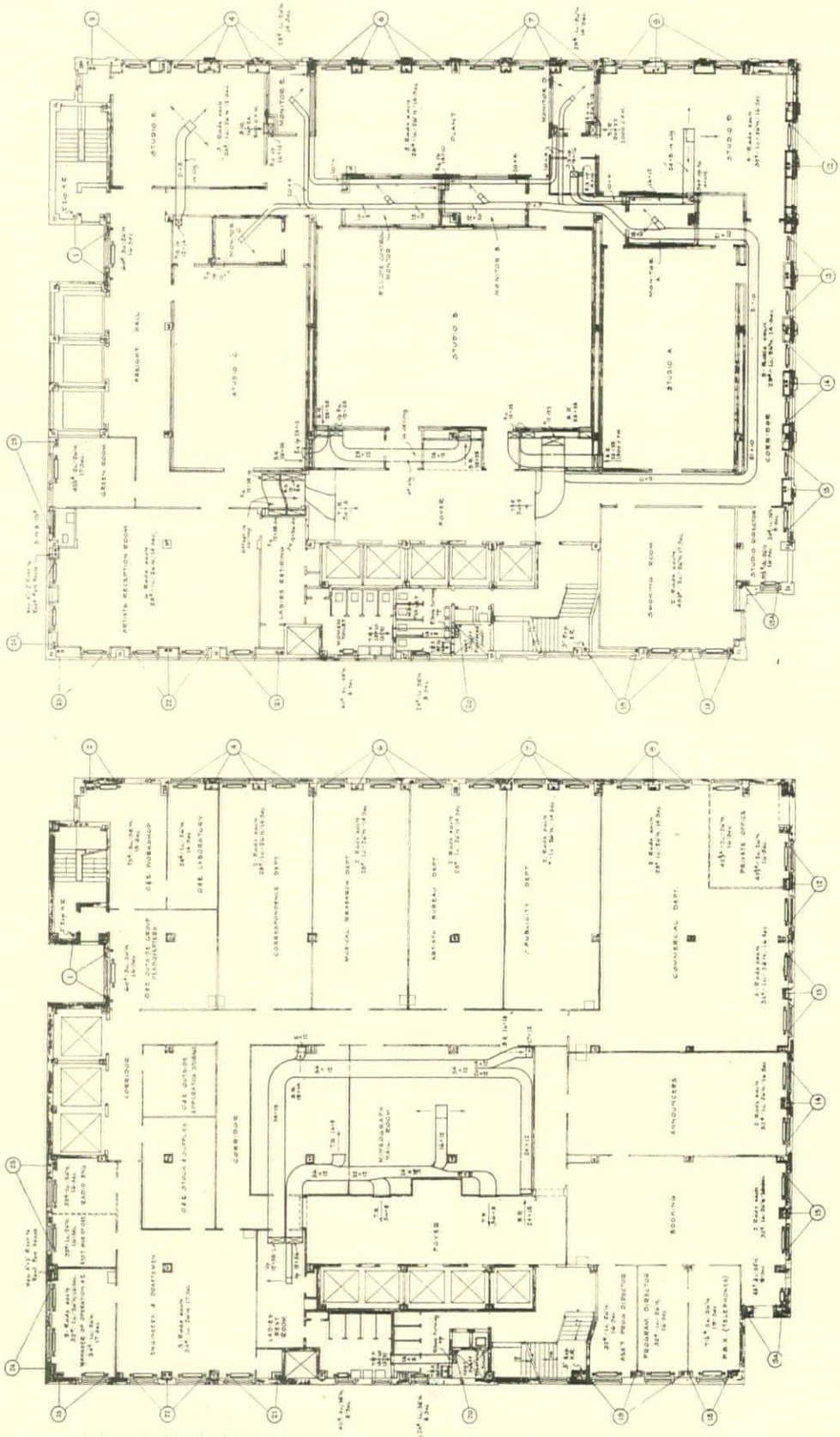
cushions. The isolators are used to support the wood floors and sleepers over the concrete slab, to separate and secure the furring, lath and plaster of the side walls inside of masonry partitions, and in conjunction with the hangers of suspended ceilings. This principle is not unlike the use of porcelain insulators in electrical work. Where windows occur in the studio they are protected against sound transmission by double glazed sash. Doorways are protected by soundproof doors of a type that completely seal the openings.

It should be noted that the soundproofing problem has, in this case, no relation to the acoustics of the room. Soundproofing presented a problem of preventing sound transmission, and acoustics became a separate consideration. In broadcasting it has been found that an absolutely "dead" room produced unnatural results in the ultimate product. It is therefore desirable to arrange for an absorption of a percentage of the sound only. A suitable sound absorbing plaster was used for the walls and ceilings. A track, supporting Monk's cloth curtains, extends around the rooms at the angle between the walls and ceiling. The curtains can be adjusted to cover such portions of the walls as acoustical conditions require, depending upon the particular use to which the room is being put. It has been found that wood sub-floors covered with cork produce the best results. Carpets are used to deaden sound reflecting areas when necessary.

The accompanying plans indicate the various departments for which space was provided. It will

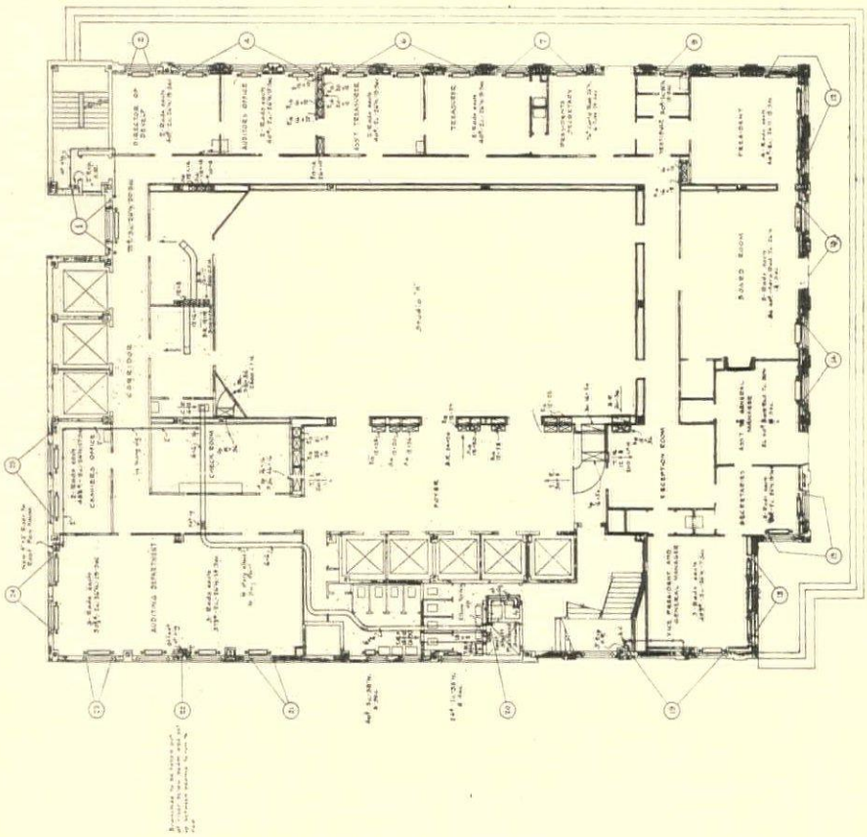
RECEPTION ROOM, NATIONAL BROADCASTING COMPANY, NEW YORK

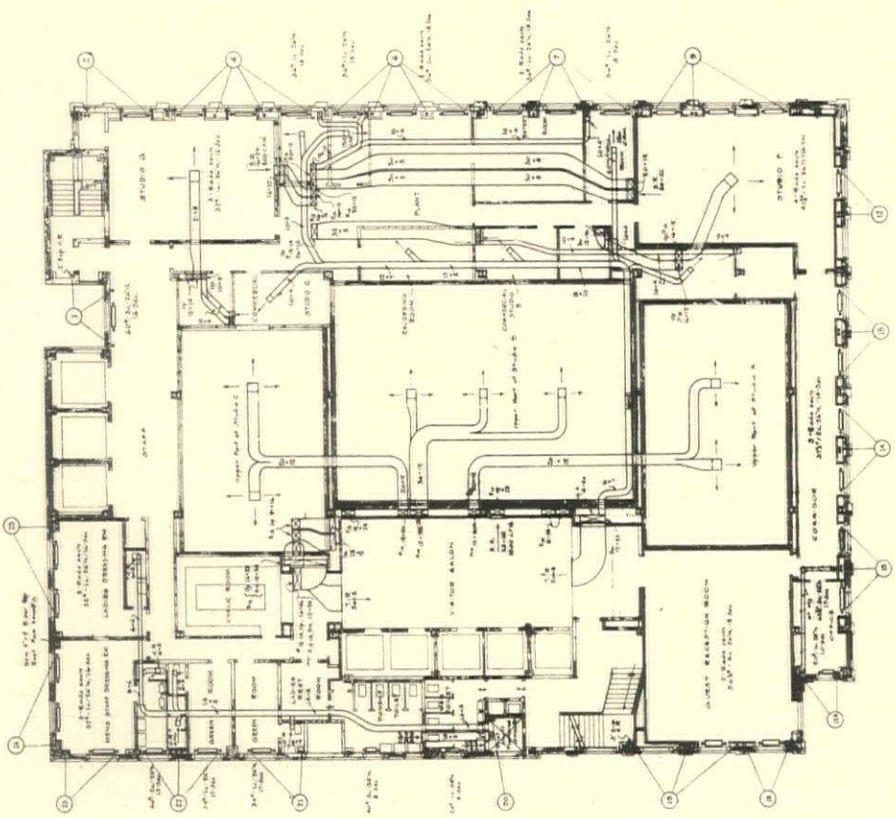
RAYMOND HOOD, GODLEY & FOUILHOUX, ARCHITECTS



PLANS OF 12TH AND 13TH FLOORS, NATIONAL BROADCASTING COMPANY, NEW YORK

RAYMOND HOOD, GODLEY & FOUILHOUX, ARCHITECTS; JAROS & BAUM, CONSULTING ENGINEERS



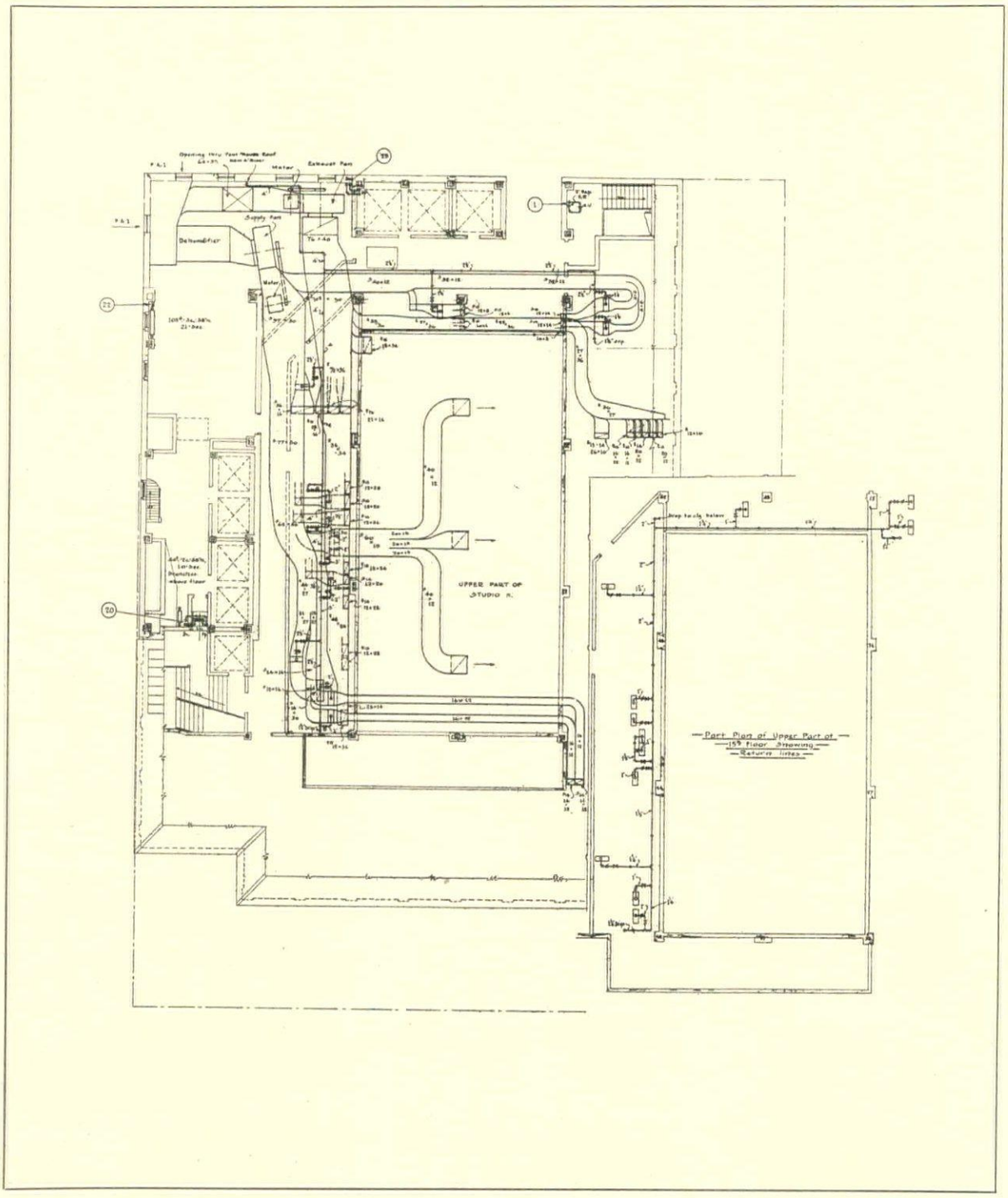


PLANS OF 14TH AND 15TH FLOORS, NATIONAL BROADCASTING COMPANY, NEW YORK

RAYMOND HOOD, GODLEY & FOUILHOUX, ARCHITECTS; JAROS & BAUM, CONSULTING ENGINEERS

be noted that the 12th floor accommodates the engineering and executive offices. Artists' rooms, studios and radio plant are located on the 13th and 14th floors. The 15th floor is used for executive offices and Studio "H." A mezzanine floor extending around this studio is used for the mechanical equipment and a light control room.

Raymond Hood, Godley and Fouilhoux were the architects of the National Broadcasting Company's studios. The ventilating equipment was installed under the direction of Jaros and Baum, Consulting Engineers.



UPPER PART OF 15TH FLOOR, NATIONAL BROADCASTING COMPANY, NEW YORK

RAYMOND HOOD, GODLEY & FOUILHOUX, ARCHITECTS; JAROS & BAUM, CONSULTING ENGINEERS

MAIN STUDIO "H," NATIONAL BROADCASTING COMPANY, NEW YORK

RAYMOND HOOD, GODLEY & FOUILHOUX, ARCHITECTS

AMERICAN BANKERS INSURANCE BUILDING, CHICAGO, ILL.

CHILDS & SMITH, ARCHITECTS

SPECIFICATIONS

Communications relative to specifications addressed to THE AMERICAN ARCHITECT *will be answered, in the pages of this department, by H. R. Dowswell, of the office of Shreve & Lamb, Architects.*

The main thought back of the New York Building Congress Specifications has been the standardization of materials and methods in accordance with accepted trade practice. Every effort has also been made to avoid repetition except where some useful purpose is served. Part B Specifications for Masonry and Concrete Materials, presented herewith, has been designed not only to standardize these materials as far as practicable, but also to permit of their use in connection with all of the trade divisions using any of these materials. The specifications are never supplemented by a Part A, but are used in connection with other specifications in the same way as the General Conditions of the Contract. Part B Specifications for Masonry, Mass and Reinforced Concrete, Concrete Arches and Concrete Fireproofing, Cement Finish, et cetera, to be published in future issues, will explain its application more fully. If possible each specification will be published complete in one issue.

A.I.A. DIVISION 3. STANDARD FORM OF THE NEW YORK BUILDING CONGRESS, EDITION OF 1929

New York Building Congress Standard Specifications for MASONRY AND CONCRETE MATERIALS

PART B.

General Conditions.

1. GENERAL CONDITIONS OF THE CONTRACT of the American Institute of Architects, current edition, shall form a part of this Division, together with the Special Conditions to which this Contractor is referred. **General Conditions**

Arbitration Clause.

2. Any dispute or claim arising out of or relating to this Contract, or for the breach thereof, shall be settled by arbitration under the Rules of the Arbitration Court of the New York Building Congress or the American Arbitration Association and judgment upon an award may be entered in the court having jurisdiction. **Arbitration Clause**

Scope.

3. The following requirements in regard to materials shall govern in all cases where such materials are used on any part of the work unless otherwise specifically mentioned in Part A of separate Trade Divisions or where in conflict with local Building Regulations. When local Building Requirements are in excess of the requirements herein specified, they shall be followed. **Scope**
4. Before approving the use of any material or product the Architect may, at his discretion, require the Contractor to furnish conclusive evidence that the materials or products proposed for use on the work conform to the requirements herein specified.

Water.

5. Water used for concrete, mortar and grout shall be clean and free from organic materials, strong acids or alkalis, or water used by city, town or village for drinking purposes. **Water**

Sand.

6. Sand for setting Brickwork, Rough Stone Masonry, Hollow Tile work and Gypsum Block work or for Cement Finish shall be clean, coarse and sharp, free from salt, loam, clay and other foreign materials. If necessary to obtain this condition, washing will be required. **Sand**
7. Sand for setting Granite, Cut Stone, Marble or Manufactured Stone shall be sharp, clean washed sand.
8. Where so specified under Part A, samples of sand proposed for use shall be submitted to the Architect for approval. Where doubt exists as to the suitability of the sand or where so specified under Part A it shall be analysed and tested by a competent testing laboratory, at the expense of the Contractor submitting same.

New York Building Congress Standard Specifications—

MASONRY AND CONCRETE MATERIALS—*Continued.*

Concrete Aggregates.

Fine Aggregate.

9. Fine aggregate shall consist of sand or other approved inert materials having similar characteristics, or a combination thereof, having hard, strong, durable particles. All fine aggregates shall be free from injurious amounts of organic substances and shall be well graded from coarse to fine. **Concrete Aggregates**

Coarse Aggregate.

10. Coarse aggregate shall consist of crushed stone, gravel, blast furnace slag or other approved inert materials of similar characteristics or combinations thereof, having hard, strong, durable pieces, free from adherent coatings and shall be well graded, between the limits specified under Part A of Mass and Reinforced Concrete Specifications, Part A Specifications for Concrete Arches and Concrete Fireproofing or Part A Specifications for Cement Finish.

Samples.

11. Samples of fine and coarse aggregates proposed for use shall be submitted to the Architect for approval. **Samples**

Testing.

12. Where any doubt exists as to the suitability of the fine or coarse aggregates submitted or where so specified under Part A of Specifications for Mass and Reinforced Concrete, Part A Specifications for Concrete Arches and Concrete Fireproofing, or Part A Specifications for Cement Finish, both fine and coarse aggregates shall be tested by a competent testing laboratory, approved by the Architect, at the expense of the Contractor submitting same. All such tests shall be made in accordance with the Standard Methods of tests of the American Society for Testing Materials and shall consist of tests for Deleterious Substances, Grading, Mortar Strength, Concrete Strength and Durability. **Testing**

13. Where blast furnace slag is specified or permitted to be used for coarse aggregate it shall conform to the following minimum weight requirements:

General Concrete.....65 pounds per cubic foot.
Concrete subject to abrasion.....70 pounds per cubic foot.

Cinders.

14. Cinders for reinforced concrete fireproofing or fill shall be clean, well burned anthracite cinders, free from unburned coal. **Cinders**

Storage of Aggregates.

15. Aggregates shall be stored in a manner to prevent the intrusion of foreign matter. **Storage of Aggregates**

Cements.

16. Portland Cement shall be a standard brand, approved by the Architects, conforming to the standard specifications (current edition) of the American Society for Testing Materials. **Cements**

17. Non-Staining Cement and Quick Setting Cement shall be a first grade product subject to the Architect's approval.

Cement Tests.

18. When so specified under Part A of Trade Divisions, all cement for use on the work shall be tested before being accepted for use by a competent testing laboratory approved by the Architect. The cost of such test shall be paid for out of the Cash Allowances provided in Part A of Trade Divisions. **Cement Tests**

19. When tested at the mill each car shall be sealed with the seal of the testing laboratory.

20. Cement delivered at the site in truck loads shall bear on each bag the testing laboratory's identification tag.

21. When cement is specified, under Part A, to be tested at the site a sufficient quantity shall be stored at the site to allow for test reports to be obtained on fineness, soundness and time of setting before cement is used, without delaying the progress of the work.

22. Rejected cement, whether damaged or rejected for other causes, shall be removed at once from the site and replaced with satisfactory materials, by and at the expense of the Contractor.

Packing and Storing.

23. Cement shall be delivered and packed in strong sacks. Each package shall be plainly marked with the brand, the name of the manufacturer, and the place of manufacture. Cement shall, until used, be stored in a dry place in such a manner as will insure it from all damage. **Packing and Storing**

New York Building Congress Standard Specifications—

MASONRY AND CONCRETE MATERIALS—*Continued.*

Inert Material.

Inert Material

24. Where an inert material is specified or permitted under Part A of Trade Divisions for use in connection with Concrete, Mortar, Stucco or Plaster, the material shall be subject to the Architect's approval, shall be measured in such a manner as will insure the correct proportions by weight, and shall be added at the mixer with the other dry materials.

Integral Waterproofing.

Integral Waterproofing

25. Material for Integral Waterproofing shall consist of a compound designed to be mixed with the cement, prior to combining with the aggregates, introduced into the concrete mixture along with the cement and aggregates or mixed with water and introduced into the concrete mixture during mixing. All integral waterproofing shall be subject to the Architect's approval and shall in all cases be used strictly in accordance with the manufacturer's specifications.

Lime.

Lime

26. Lump Lime shall be first quality, freshly burned, of approved brand, and shall be carefully stored under cover.
27. Lump Lime shall be thoroughly slacked in proper boxes and allowed to stand at least two days before being used.
28. Hydrated Lime shall conform to the specifications, current edition, for Hydrated Lime, for structural purposes for masons' hydrated lime of the American Society for Testing Materials.

Mortars.

Mortars

29. Unless otherwise specified under Part A the requirements for mortars shall be as follows:

Cement Mortar.

30. Shall consist of Portland Cement and sand in the proportion of one (1) part of cement to three (3) parts of sand, tempered with not more than one (1) part of hydrated lime to ten (10) parts of cement.

Cement and Lime Mortar.

31. Shall consist of Portland Cement, hydrated lime and sand in the proportion of one (1) part of cement, one (1) part of lime and four (4) parts of sand.

Lime Mortar.

32. Shall consist of slacked lime, lime putty or dry hydrated lime and sand in the proportion of one (1) part of lime and not more than four (4) parts of sand.

Non-Staining Cement Mortar.

33. Shall consist of non-staining cement and sand in the proportion of one (1) part of cement to three (3) parts of sand-tempered with not more than 1/5 part of Mason's hydrated lime.

Mortar for Gypsum Blocks.

34. Shall consist of lime mortar gauged with gypsum or Portland Cement Mortar as approved by the Architect.

Mortar for Fire Brick.

35. Shall consist of fire clay unless otherwise specified under Part A of Masonry Specifications.

Mixing Mortar.

Mixing Mortar

36. Materials for mortar shall be accurately measured by volume, mixed dry and then wet to the proper consistency for use. Materials mixed for a period sufficient to permit the cement or gypsum to obtain its initial set may not be used on any of the work.
37. Where lump lime is used the lime shall be slaked in proper boxes and allowed to stand at least two days when used for masonry and not less than two weeks when used for plastering.

Waterproofed Mortar.

Waterproofed Mortar

38. Where waterproofed mortar is called for under Part A, the waterproofing shall be accomplished through the use of an approved waterproofing compound used strictly in accordance with the Manufacturer's Specifications.

Mortar Color.

Mortar Color

39. Where required shall consist only of mineral pigments. The coloring pigments shall be used strictly in accordance with the Manufacturer's directions to produce the results desired by the Architect.

New York Building Congress Standard Specifications—

MASONRY AND CONCRETE MATERIALS—*Continued.*

Brick.

40. Clay and Sand Lime Brick for common brickwork shall conform to the Standard Specifications, current edition, for building brick of the American Society for Testing Materials. **Brick**

Face Brick.

41. Face brick shall be of the kinds noted under Part A of Specifications for Masonry or be selected by the Architect and purchased out of cash allowance given. Should the brick selected cost, delivered at the site, less than the stated allowance, the balance shall revert to the Owner; if in excess of the allowance, this Contractor shall receive extra compensation equal to the excess cost over the specified allowance. Samples in triplicate shall be submitted to the Architect for approval before any brick is delivered at the site.

Special Brick (Special Shapes, Glazed Brick and Paving Brick).

42. Shall be in accordance with the requirements given under Part A of Specifications for Masonry.

Fire Brick.

43. Fire brick shall conform to the requirements of the Standard Specifications, current edition, for fire brick of the American Society for Testing Materials.

Concrete Brick.

44. Twenty-eight (28) days after manufacture, or when delivered at the work, shall show an average compressive strength of not less than fifteen hundred (1500) pounds per square inch of gross-cross sectional area, tested in the position as laid in the wall. The compressive strength of any individual brick tested shall be not less than one thousand (1000) pounds. **Concrete Brick**

45. Concrete brick, subjected to a twenty-four (24) hour immersion test shall not absorb more than 12 per cent of their dry weight, except that for brick composed of concrete weighing less than one hundred and twenty-five (125) pounds per cubic foot an average absorption in per cent by weight shall not be more than twelve (12) multiplied by one hundred and twenty-five (125) and divided by unit weight in pounds per cubic foot of concrete under consideration.

Structural Terra Cotta (Hollow Tile).

46. All structural terra cotta (hollow tile) shall conform to the requirements of specifications for terra cotta, current edition, of the American Society for Testing Materials. **Structural Terra Cotta (Hollow Tile)**

47. The class to be used on various parts of the work shall be as noted under Part A Specifications for Masonry.

48. All hollow tile surfaces that are to receive plaster shall be seared to provide a key for the mortar. Badly split, cracked or warped tile will not be accepted for use on any portion of the work.

Gypsum Blocks.

49. Gypsum blocks shall consist of gypsum conforming to the Standard Specifications, current edition, of the American Society for Testing Materials. Unless otherwise specified under Part A or required by contract drawings the blocks shall be rectangular in shape, with straight square edges, true surfaces and face dimensions approximately 12″ x 30″. **Gypsum Blocks**

Concrete Blocks or Concrete Tile.

50. Used for exterior or party walls or piers shall show an average compressive strength of not less than seven hundred (700) pounds per square inch of gross sectional area tested in position as used in the wall. They shall, when composed of concrete weighing in excess of one hundred and forty (140) pounds per cubic foot, absorb not more than 10 per cent of water, by weight, under twenty-four (24) hour immersion test, except where the average compressive strength is in excess of twelve hundred (1200) pounds per square inch of gross sectional area. When this strength is shown, the absorption requirements may be waived. When composed of concrete weighing one hundred and forty (140) pounds or less the average absorption in per cent, by weight, shall not exceed ten (10) multiplied by one hundred and forty (140) divided by the unit weight in pounds per cubic foot of the concrete under consideration. **Concrete Blocks or Concrete Tile**

51. All tests on concrete blocks or tile shall be conducted in accordance with the Standard Specifications, current edition, of the American Concrete Institute.

A. I. A. COMMITTEE RECOMMENDS CHANGES TO THE NEW YORK TENEMENT HOUSE LAW

IN the early part of 1927, the New York State Legislature created a Temporary Commission to examine and revise the Tenement House Law which has not been materially altered since its adoption in 1901. The bill as submitted to the Legislature in 1928 failed of passage, but the term of the Commission was extended for another year with instructions to draft a new bill. The Commission wisely sought the cooperation and counsel of all those interested in the subject of multiple dwellings. Among others they invited to cooperate were the New York and Brooklyn chapters of the A.I A. and the New York Society of Architects. In the New York chapter the matter was logically referred to the Committee on Legislation, which was augmented by the special committee on design and this committee submitted their report last month. Many of its recommendations are of such interest to localities where a similar law applies, that the more important features of the report are referred to in outline herewith.

In the study of the details of the proposed legislation, the committee was guided by certain principles which are recorded in their report as follows:

1. That the value of direct sunlight, as compared with sky or reflected light, as well as the intensity of the light and the varying altitude of the sun, as influenced by seasonable changes, together with the relation of the height of structures and the effect of shadows cast on adjoining areas, should be fully considered in determining the requirements for yard and court areas and height limits.

2. That the present Tenement House Law represented minimum conditions applying in an era of buildings of very moderate height and area and to conditions which did not visualize the present conditions of intensive development involving the construction of fire-resisting structures of great height and bulk.

3. That the type of building originally constructed under the Tenement House Law provided very generally for the principal rooms on the street front with less important and service room on the rear and courts while under present conditions rear yard and court rooms are very generally of corresponding importance to those enjoying the advantageous outlook of the wider street front exposure.

4. That in determining the requirements for yards, courts and height limits it should be borne in mind the fixed direction of our streets and avenues, with relation to the direction of sun travel, provides more adequately for direct sunlight in streets, yards and courts facing in the favorable direction of such sun travel.

5. That the conditions of light and air, particularly in the lower stories of buildings, in areas intensively developed under the provisions of the present Tenement House Law are inadequate, unsatisfactory and socially undesirable as shown by the increasing percentage of vacancies in such lower stories and the difficulty of renting the portions of buildings so affected.

6. That this condition justifies the adoption of safeguards for the protection of existing conditions of light and air, with every reasonable degree of improvement in living conditions under the future development of multiple dwellings.

7. That, subject to such reasonable variations as the conditions in widely differing districts may warrant, the application of State legislation governing the conditions of the housing of its citizens should be statewide in its application.

8. That all buildings for multiple dwelling purposes, including hotels, lodging houses, etc., should be under one general law and subject to the same general provisions if difficulties similar to those arising under the distinction between buildings erected under the present Tenement House Law and the Building Code, are to be avoided.

9. That the protection of residential blocks through the restriction of any building erected within such block to the height and area applying to a residential building cannot be too highly commended.

10. That the limit of height for multiple dwellings of non-fireproof construction to be strongly recommended is not to exceed four (4) stories, but that in no event should such limit exceed five (5) stories, either with or without an elevator, which cannot be relied upon as a means of exit in emergency.

In this connection the provisions of the Building Code may be commended as representing reasonable restrictions with respect to buildings in which considerable numbers of people of all ages and conditions of health work or sleep, a condition comparable to multiple dwellings.

11. That the outside balcony fire-escape represents an obsolete, inadequate and unsafe type of emergency exit for persons of various ages, including the aged, very young, sick and infirm and, in view of the favorable exit provisions of your Tentative Draft, if it is not now found practicable to prohibit their use in new construction they should be limited for use on buildings not exceeding four (4) stories in height.

12. That, in contrast with the conditions and requirements affecting multiple dwellings at the time of the enactment of the present Tenement House Law, multiple dwellings to meet existing requirements vary from the simplest type of non-fireproof buildings to the most expensive fireproof structures of large area and bulk, arranged for apartments from one (1) to twenty (20) or more rooms and equipped throughout with every modern mechanical device contributing to convenience and comfort.

13. That we assume it to be the desire of your Commission, in any modification of the present law, to insure to all occupants of multiple dwellings conditions of light, air, health and fire safety no less favorable than similar conditions now applying under the proposed law.

There then follow certain specific recommendations and critical analyses of various articles and sections of the bill as drafted by the State Commission, in connection with which the following may be of particular interest:

"The distinctions of occupancy, originally applying between transient hotels and apartment hotels or apartment houses, are no longer so marked.

"Many tenants now reside for long periods in hotels and for short periods in apartment hotels. If a situation is to be avoided similar to that which has developed where buildings entered as apartment hotels, under the Building Code and Zoning Resolution, have become so-called 'Boot-Leg' apartments, we are of the opinion the definitions of *'Class A'* and *'Class B'* buildings must be clarified, the term 'transient' adequately defined and, to check and control unlawful conditions of occupancy, buildings under a hotel classification should be subject to special inspection and supervising authority.

"As to the height and bulk of multiple dwellings hereafter erected, we are appreciative of the economic conditions surrounding the development of property for multiple dwellings

purposes and the necessity of permitting every degree of development consistent with the rights of the occupants of such buildings, or adjoining buildings, to reasonably adequate safeguards affecting health and safety in which the factors of air, light, sanitation and fire protection are paramount.

"We have already noted the fact that the intensive development of multiple dwelling areas has produced an increasing percentage of inadequately lighted areas particularly in the lower floors of such buildings which, under any but the most abnormal conditions of supply and demand, cannot be readily or advantageously rented, thus affecting the rentable value of the building as a whole.

"As the result of careful consideration of existing conditions we are strongly of the opinion any increase in height limits, in the absence of impracticable increases in yard and court areas, will effect no benefit as to the light conditions in the lower stories of multiple dwellings but, on the contrary, will seriously increase the present inadequate conditions.

"Your Commission is to be commended on the adoption, in your Tentative Draft, of constructive provisions which simplify the problem of planning, particularly in connection with the development of large areas which is representative of the modern tendency.

"The placing of public hallways, stairways and required bathrooms on the interior of fireproof structures preserves the perimeter of the building for living rooms which, in no small degree, provides the rentable area affected by such increases in yard and court requirements as are necessary to furnish reasonably adequate light and air conditions to all of the occupants of the building.

"As the proposed requirements represent minimum provisions for the safeguarding of the occupants of multiple dwellings no adequate conception of the requirements affecting light and air can be formed in the absence of a study of the conditions produced by the intensive development which will unquestionably continue to follow economic and housing demands. . . .

"In considering the requirements to insure reasonably adequate light and air conditions for all of the occupants of multiple dwellings we would stress the fact that under existing conditions of housing requirements a high percentage of living rooms must be placed adjoining yards and courts. This condition, in our opinion, justifies the adoption of every reasonable means of insuring adequate light conditions and the freest possible circulation of air within such areas.

"In view of the foregoing we recommend the formulation of legislation predicated upon the following:

"No multiple dwelling hereafter erected to exceed the maximum height of twelve feet plus one and one-half times the widest street upon which it faces, the height to be measured from the curb to the top of the highest roof beams.

"No such building at the building line to exceed the following height limits:

For streets 100 ft. wide or over . . . . 150 ft. from curb
For streets 80 ft. to 100 ft. wide . . . . 100 ft. from curb
For streets 75 ft. to 80 ft. wide . . . . 90 ft. from curb
For streets 60 ft. to 75 ft. wide . . . . 70 ft. from curb

"The front wall of such building, in excess of the above height limits, to be set back from the building line one foot for each three feet in height, or fraction thereof, to the maximum height limit, as mentioned. The set-backs for yard walls to start at a point twenty feet lower than provided in your Tentative Draft.

"To insure a reasonably adequate circulation of air within yard, court and block areas we recommend:

"1. That, in the interests of block ventilation, no building on an interior lot running through from one street to another street and exceeding one hundred and ten feet from building line to building line be permitted without rear yards, as provided in your Tentative Draft, except under the following conditions:

"When all of the interior lots in a block are developed under one ownership and where all buildings on such interior lots are extended through from one street to another street and where on each side of each of such buildings there shall be a side court extending through from building line to building line and equal in width from each side lot line to the side walls of the building on such lot the requirements for the depth of a rear yard.

"2. That no inner or box courts be permitted as required court areas.

"3. That for buildings over four stories in height side lot line courts be required to be arranged as outer courts to prevent the possibility of creating an inner court condition in conjunction with the building on the adjoining property.

"Permission to erect towers, regardless of their relative area to plot sizes, is in direct opposition to the principle of conserving direct sunlight as contrasted with sky or reflected light.

"While favorable light and air conditions may result, so far as the occupants of individual towers are concerned, the continued erection of such towers, even if separated by considerable areas, tends to form an overlapping screen which effectively cuts off direct sunlight within the range of the shadow cast by such towers.

"Existing towers now cast shadows over areas several blocks from such towers and the multiplication of towers cannot fail to seriously affect the direct sunlight available not only in the lower stories of adjoining buildings but the highest stories as well. We recommend, therefore, towers be prohibited as a part of multiple dwelling structures."

Further recommendations have to do with cooking spaces in small apartments, a subject which has aroused considerable discussion but which is of minor importance, the commission contends, for a building which is constructed of fire resisting materials.

There are certain changes which are suggested as to overcrowding, artificial hall lighting and sanitation. While the report states that the provisions for stair and exit requirements represent a distinct improvement over existing regulations, certain recommendations are suggested.

"We believe the requirements for stairs, in excess of two within 75 feet of each apartment entrance, may safely be determined by this rule rather than the number of rooms in view of the fact that the inclusion of living rooms and kitchens, while adding to the number of rooms, does not tend to increase population and, in our opinion, the requirement for two stairways within 75 feet of each apartment entrance will preclude, in this type of building, overcrowding of exit facilities.

"Increasing the width of one stairway, in lieu of adding an additional independent stairway, does not insure equivalent exit facilities.

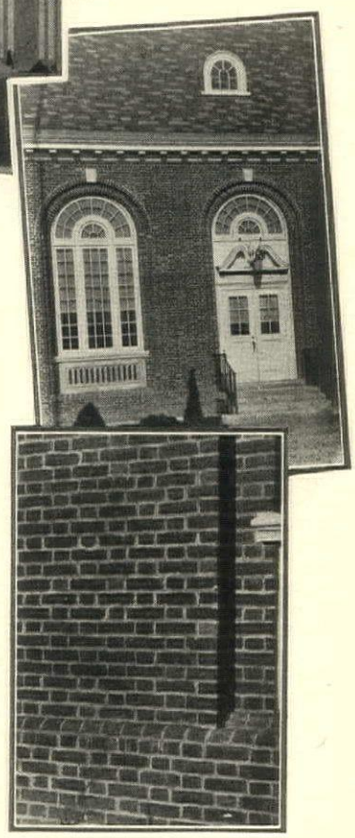
"In a building requiring three stairways, where one normal and one widened stairway are provided, the exit facilities would be reduced to one normal stairway, in place of three, if, for any reason, the widened stairway was not available for use in the emergency.

"In our opinion if any concession is to be made two stairways should be widened for each stairway omitted."

The Committee on Legislation of New York Chapter, American Institute of Architects, consisted of: Samuel R. Bishop, Frank Goodwillie, Arthur Loomis Harmon, Arthur C. Holden, Lansing C. Holden, F. Mathesias, Jr., and Charles B. Meyers. Special Sub-Committee on Design: Harvey Wiley Corbett, Electus D. Litchfield, Yasno Matsui, William L. Rouse, Cyrus W. Thomas, George A. Boehm, and McKim, Mead and White. Theodore I. Coe acted as Chairman.

Brick By LANCASTER

High School
Leola, Pa.
Henry Y. Schaub
Architect



Lofty Simplicity—Subtle Elegance

Won for this school the two highest awards

In the recent School Building Architectural Competition conducted by The Common Brick Manufacturers Association, The Leola School by Architect Henry Y. Schaub took both the first and grand prizes. These awards are particularly significant in view of the wide variety of designs submitted from all parts of the country, some representing outlays of as high as half a million dollars.

The judges, all outstanding school architects, said of the Leola School, "This entry possesses a charm which is rarely accomplished in buildings of this kind." As the most prominent part of any building is the wall, this statement of the judges manifestly was influenced by the brickwork.

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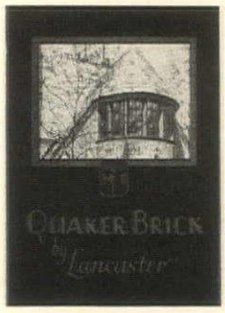

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BOOK NOTES

OF INTEREST TO GLASS PAINTERS

BY MAURICE HEATON

THE intimate and scholarly work of John A. Knowles, Honorary Editor of the Journal of the British Society of Master Glass-Painters, about the History of the York school of glass painting, is of immense interest to both students and laymen. For, as a glass painter who has lived most of his life within a stone's throw of York Minster, he is bound to tell the secrets of the jewelled glass windows in a far more concrete and fact finding fashion than any antiquarian. Indeed, as each instalment comes into print, there are always observations, or anecdotes that bring the past to the present. When Mr. Knowles gives a sketch of part of a canopy in which 14th century pinnacles are propped on 15th century shafting, he does not only make clear the difference between the two types but gives at the same time an inkling of how mediaeval tradition weighed heavily in the hand of the glass painters. And when the mouldings of a column are painted as in an architect's section, instead of showing the perspective, another sketch follows to show what the glass painter meant to draw and did not succeed in doing through lack of knowledge of perspective.

Variation and unity of color in old glass is described in a few words: "York painters had a passion for counter-change in the colour; thus a red Bishop stood upon a blue background with a red background to his canopy" . . . and "in the next light this was merely turned around, whilst the whole of one window would again be counter-changed in the one next to it." Indeed the truth of this observation can hardly be overestimated and is the keynote of the massing of color decoration in the middle ages. And when Mr. Knowles adds: "Colouring, therefore, was not a question of artistic feeling, but of mechanical procedure," he merely means that tradition was taken as a matter of fact in the middle ages, just as it was by the Italian tile setter who told me last year that tiles should not be set in solid cement, although he did not know why. The difference being, judged by the result, that the old craftsman very well knew why.

The other articles in the Journal all deal with ancient glass, or sale of ancient glass, and if it were not for an electric kiln described in the technical page and reproduction of modern work from the review of a German book, one would ask, Are these English master glass painters gentlemen of leisure whose only interest is apparently old glass? I can understand the space devoted to printing of ancient records of mediaeval glazing by L. F. Salzman, never published before, but to use space devoted to the description of more ancient glass, however important, to the exclusion of contemporary work, seems a positive mistake. How long would THE AMERICAN ARCHITECT be subscribed to if it published records of Gothic and ancient monuments and reproduced the photo of a recent skyscraper as a mere illustration following a book review?

Although stained glass may be restricted by the style of the churches it decorates and, in England, cannot boast perhaps of radical experiments, the very study of mediaeval glass ought to show that the old masters were far more modernistic and truly decorative than most contemporary stained glass window designers today.

Journal of the British Society of Master Glass-Painters, Vol. II, No. 4, October, 1928, London.

HANDBOOK OF REINFORCED CONCRETE BUILDING DESIGN

A HANDBOOK, by Arthur S. Lord, based upon the recommendations of the Committee on Reinforced Concrete Building Design and specifications of the American Concrete Institute, has been issued by the Portland Cement Association. It is stated that the purpose of the book is to establish a safe and economical standard for reinforced concrete construction and to provide designers with necessary tables and diagrams that assist in designing quickly and economically. The make-up of this volume presupposes an understanding of the fundamentals of the design of reinforced concrete; it is intended to be a handbook for engineers. It covers all phases of reinforced concrete design with a directness that greatly simplifies the subject. Cost data are included that should be found invaluable. Altogether this volume should prove of inestimable value to structural designers. An interesting, unusual and exceedingly practical feature of this handbook is the method of marginal indexing. The first page in the book contains the marginal headings. By bending the book backward, black lines appear on the edge of the pages opposite the marginal headings. This greatly facilitates the location of data.

Handbook of Reinforced Concrete Building Design, by Arthur S. Lord. Chicago: Portland Cement Association, 33 West Grand Avenue. 262 pages, illustrated, size 5¼ x 7½ inches. $1.00 (50 cents each in quantities of six or more to one address).

Smoking Room in Avalon Theatre, Chicago, John Eberson, Architect. Interior Tiling Co., Tiling Contractor.

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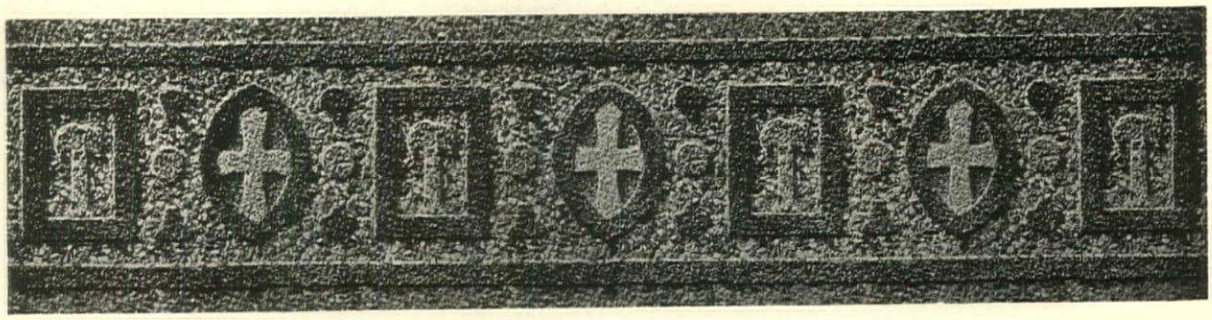


CONCRETE ORNAMENT IN THE SHRINE OF THE SACRED HEART, WASHINGTON, D. C.
MURPHY & OLMSTED, ARCHITECTS; JOHN J. EARLEY, ARCHITECTURAL SCULPTOR

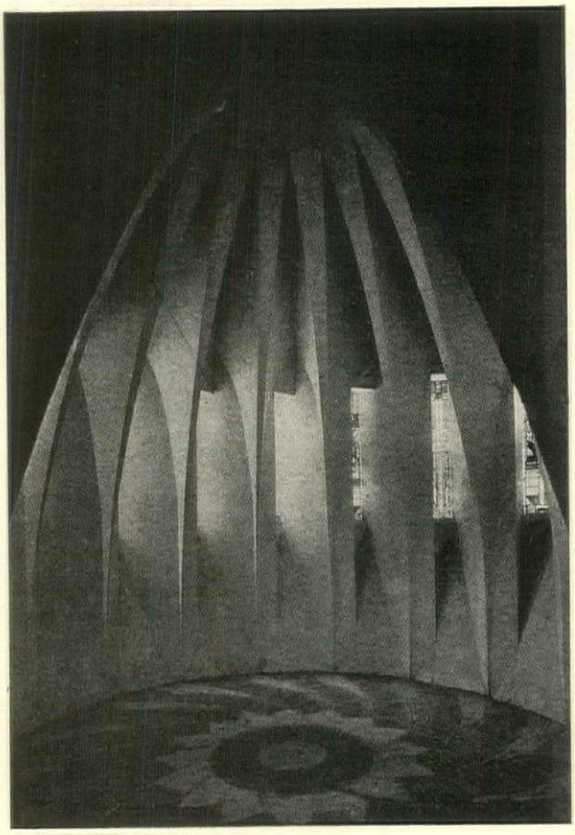
THE FERRO-CONCRETE STYLE

DURING the past five years increased interest has been evidenced in the design of structural elements as decorative members. This has been particularly apparent in recent European architecture and more or less true of much work done in America. While the idea is not limited to any one material, nor is it a new one, reinforced concrete has given evidence of being well adapted to such design. It is interesting and timely to review a book devoted to "The Ferro-Concrete Style."

The author, Dr. F. S. Onderdonk, we understand, was born in New York. He spent twenty years in Europe, where he studied architecture. In 1928 he received the degree of Doctor of Technical Sciences from the Vienna Imperial and Royal Technical University, as the result of a thesis on Reinforced Concrete Architecture. Upon returning to the United States he became a member of the faculty of the College of Architecture of the University of Michigan. In this capacity he has had an opportunity to continue his research by surveying concrete architecture in the United States.

Dr. Onderdonk by experience and research study is well qualified to write on the development of reinforced concrete in architecture. In fact, the present volume leaves one with a feeling that there is little more to be said on the subject until such time as future developments provide new material.

Anyone not thoroughly acquainted with the uses to which reinforced concrete has been put and the many ways in which it has been handled may well be amazed upon viewing the illustrations contained in this volume. In referring to the architectural uses of concrete, Irving K. Pond, F.A.I.A., has said, "The possibilities of texture, the possibilities of color inhering in the product, make it a thing through which the sensitive designer can make his feelings flow. So that to have this product made the medium of a wonderful expressive art, all we would seem to need is a wonderfully sensitive designer!" The text and illustrations contained in "The Ferro-Concrete Style" give the impression that the surface of possibilities of this material has hardly been scratched.



RESURRECTION CHAPEL, KRIEGERGEDACHTNIS CHURCH, NEU-ULM, GERMANY

PROF. DOMINIKUS BOHM, ARCHITECT

(From "The Ferro-Concrete Style" by Francis S. Onderdonk)

This volume is divided into five chapters dealing with the possibilities of Reinforced Concrete; Surface Treatment and Sculpture; Concrete Tracery; The Parabolic Arch and The Ferro-Concrete Style. A very complete index to illustrations, subjects, architects, engineers, painters, sculptors and authors; and bibliography are included. Anyone interested in the design of buildings in reinforced concrete will find this volume instructive.

The Ferro-Concrete Style, by Dr. Francis S. Onderdonk, Jr. 265 pages, illustrated. Size 8 x 11 inches. The Architectural Book Publishing Company, New York, price $12.50.

CONCESSION MADE IN PROGRAM OF THE COLUMBUS MEMORIAL LIGHTHOUSE COMPETITION

THE third and last bulletin to be issued by Albert Kelsey, Technical Advisor of the Pan American Union, Columbus Memorial Lighthouse Competition, announces a further concession in the drawings required to be submitted by competitors. A final revision of the program is made with respect to "The Detail Sheet." The bulletin reads, in part, as follows:

" 'With the retention of the detail drawing and the elevation at the original scale,' a talented and accomplished architect writes, 'I do not feel that I can afford to spend the money necessary to do the competition.' As some others may feel the same way, and since the purpose of the competition is to secure the cooperation of just such minds, a further concession is now made.

"Both the perspective and the detail sheet may be omitted, but all competitors are hereby notified that those who omit them will, without doubt, find themselves in competition with some who will submit one or both of these drawings, and that of the two the International Jury will consider the detail drawing of the greater importance. It may, of course, be possible to set forth everything convincingly on the remaining four sheets, and even without a single detail, but if the design is to be "precioso," as a Spanish architect aptly said the winning design must be, it is then for the competitor to decide whether he can suggest true preciosity without drawing at least one detail, either on a separate sheet or on any of the other sheets where space can be found for it. In short, he who is consecrating himself to the designing of something more than a fine partie; he who is capable of expressing himself with true emotion; he who, with deep sincerity, intends to set forth the wonder of Western civilization, or the material interests that unite men, or perhaps the best impulses that lie beneath the political efforts of twenty-one nations, or perhaps again the common religion of all the Americas, or any theme at all worthy of the opportunity, will have to be a good draftsman indeed to indicate at the small scale of the other drawings whatever he may have in mind. Furthermore, it is not enough to have a good idea. It is equally important to convince the International Jury that the competitor is able and anxious to develop that idea with finesse and sustained enthusiasm."

The bulletin also calls attention to the fact that correspondence reaching Washington after February 25th will receive no consideration, but, should it be necessary to communicate with the Technical Adviser, after that date, letters should be addressed to him care of Vda. de Angel Macarron, Jovellanos 2, Madrid, Spain. All drawings are to be mailed to the same address in ample time to reach Madrid before April 1st, 1929. The card recently sent to all competitors should be returned immediately properly filled out so that the Spanish government may provide sufficient wall space for the hanging of all drawings submitted. The bulletin also reminds competitors that a gummed label sent them must be attached to the outer wrapper of the package to serve as a mark of identification to the Custom House officials at the Spanish frontier.

SECOND ANNUAL A. W. BROWN TRAVELLING SCHOLARSHIP COMPETITION

THE second annual competition for the A. W. Brown Travelling Scholarship has been announced. It will be held under the direction of a committee of the American Institute of Architects, including J. Monroe Hewlett, Charles Butler and Wm. Dewey Foster.

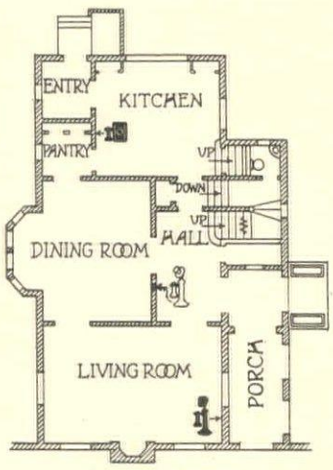
The scholarship is the gift of the Ludowici-Celadon Co. and is a memorial to the late A. W. Brown. The value of the scholarship is two thousand dollars, to be used towards defraying the expenses of a year of travel and study in Europe. Travelling expenses between the winner's place of residence and the port of New York will be paid in addition to this amount. An award of two hundred and fifty dollars will be made to the person whose design is placed second in the competition; one hundred and fifty dollars to the person whose design is placed third; and one hundred dollars to the person whose design is placed fourth.

It is stipulated by the donors that the competition shall be open to any architect or architectural draftsman who is a citizen and resident of the United States; who has never been the beneficiary of any other European scholarship; who has passed his twenty-second but has not passed his thirty-second birthday on May 1st, 1929; and who has been in active practice or employed in the offices of practicing architects for at least six years, or, if a graduate of an architectural school, at least two years since graduation.

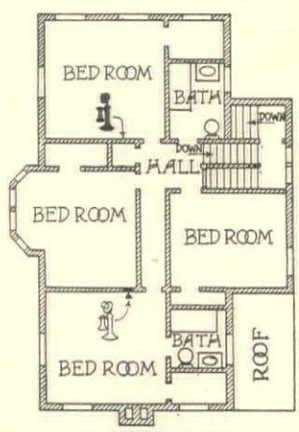
Those wishing to take part in the competition are advised to apply in writing for information and application blanks to the secretary of the committee, Wm. Dewey Foster, 25 West 45th Street, New York City.

Programmes will be mailed to approved applicants March 1st, 1929, approximately, and it will be required that drawings are delivered on April 1st, 1929.

Telephone Arrangements are now Planned in Advance . . . and *Built into* the House



FIRST FLOOR



SECOND FLOOR

Outlined telephones indicate additional outlets

People everywhere are welcoming the new idea . . . telephone service available throughout the house . . . wherever it is needed

TELEPHONE service *throughout the house.*

This is part of the new idea of telephone convenience and comfort which is meeting instant favor among home-owners everywhere.

Telephones permanently installed in those rooms frequently used . . . living-rooms, kitchen, bedchambers, hallways, etc.

Telephone service *available* in other parts of the house—when needed!

And it can be accomplished so easily. Especially in new or remodeled homes facilities for wires and other apparatus can be ***built in***, adding appreciably to appearance and permanence.

Architects are finding it desirable, in designing residences and buildings, to plan in advance for telephone convenience. They arrange for telephone outlets during construction, providing not only for immediate service requirements, but for future expansion and rearrangements as well.

Conduits are run, within the walls, to all points where present or ultimate service may be desired. Thus, rearrangement of the service, or additions to it, may be made without the necessity of exposed wiring.

Many people nowadays want two or more telephone lines—one, or perhaps two, for the family and another for the servants. Household business can then be conducted without interfering with incoming and outgoing calls. Additional equipment is available for all sorts of requirements.

To help architects and others in preparing for proper telephone facilities, the Bell System has issued two booklets on planning for telephones in residences and buildings. If you have not yet received your copies, the Business Office of the local Bell company will be glad to see that you are supplied at once.

AMERICAN TELEPHONE & TELEGRAPH CO. AND ASSOCIATED COMPANIES — BELL SYSTEM

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A LETTER

The Editors:—

"The Opportunity of the Architectural Profession," in your issue of December 20th, 1928, deserves the thoughtful reading of every member of the profession.

It points the way to a distinct public service for which the architect is peculiarly well fitted.

The rapid growth and development of our country with the concentration and congestion in urban sections present problems of ever increasing complexity.

This has encouraged the resort to legislation as a hoped for panacea for every sort and degree of ailment to which the body politic is susceptible.

Our legislative bodies, large and small, are reservoirs from which flow a never ending flood of regulatory rules, regulations, ordinances and laws intended to regulate, direct and control our actions, habits and surroundings.

In large measure these provisions are sponsored and enacted as separate and distinct measures with too little regard to a broad and well-studied co-ordination with existing requirements and conditions or the possible results which may follow the application of such requirements to conditions not in contemplation when the law was adopted.

In an age of increasing specialization there are many phases of legislation which call for the most expert and co-ordinated study and analysis if the pitfalls of illogical or inadequate legislation are to be avoided.

We have been, and are, too prone to consider the formulation of all legislation as the province of the lawyer. Much of it is, and should be, but who is better qualified than the architect to speak with authority as to the requirements to govern so much of the legislation pertaining to the increasingly important and vital problems of providing economically sound and healthful habitat conditions for the many uses for which buildings are required, together with the beneficial grouping of such buildings as comprehended in wise zoning arrangements and forward looking community and city planning?

The study and solution of these problems demands and should have the full benefit of the practical and artistic training and experience of the architect as expressed from the broad professional viewpoint which, to the same extent as the public recognizes and applies to the profession of medicine, should stand for public benefit and welfare, as against self-interest or purely material conditions.

When architects fully accept their professional responsiblity for such worthwhile public service they will bring nearer the time when the public will recognize the need for and support, through legislative enactment, the establishment of standards which will place the practice of architecture on a truly professional basis surrounded and protected by safeguards in character with those now applying to other professional groups.

Yours very sincerely,
THEODORE I. COE, A.I.A.

SIMPLIFIED PRACTICE RECOMMENDATION

THE Bureau of Standards of the Department of Commerce has recently issued Simplified Practice Recommendation R13-28, superseding R13, on "Structural Slate (for Plumbing and Sanitary Purposes)." It standardizes various types of laundry tubs, sinks, shower stalls, etc. This recommendation may be obtained for ten cents from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C.

CARNEGIE CORPORATION OF NEW YORK SCHOLARSHIP GRANTS FOR 1929-1930

THE Carnegie Corporation of New York has set aside a fund for the continuation during 1929-30 of scholarship grants in behalf of prospective college teachers in the fine arts. The sum available will provide for a limited number of re-appointments and new appointments, the stipends to range from $1,200 for first year graduate students to $2,000 in certain cases for advanced work abroad. The purpose of the grants is to enable students in the fine arts to pursue graduate study under the direction of American universities either in residence in them or abroad, in preparation for the teaching of graphic and plastic arts in colleges and universities.

Applications for scholarship grants for 1929-30 should be filed before February 11th, 1929. Inquiries for information are to be addressed to the Carnegie Corporation Advisory Group Scholarship Grants, 522 Fifth Avenue, New York, N. Y.

The Advisory Group on Scholarship Grants will make selection on or before March 15th, 1929, and applicants will be notified as soon as possible thereafter.

EXPERIMENTS CONFIRM SUBFLOOR ADVANTAGES

THAT the addition of a subfloor has a valuable stiffening effect in wooden floor construction is confirmed by recent tests at the Forest Products Laboratory, U. S. Forest Service, on 30 different constructions conforming to floor designs and conditions met with in common practice. These tests indicate that a subfloor, by distributing the loads placed upon the floor, adds appreciably to the strength of a floor system, reduces distortion and vibration, diminishes the cracking of plaster, and probably decreases floor squeaking. Under the load of a piano or other heavy piece of furniture, the joists supporting a floor are deflected or bent. One effect of this bending of the joists is a bending of the lath and plaster on the ceiling below, which may cause the plaster to crack. It was found that a subfloor of ordinary thickness added to a floor system consisting of a 1-inch hardwood floor on 2 by 10-inch joists, 12 feet long and 16 inches apart, reduced the total deflection or bending of an individual joist approximately 30 per cent and its deflection with respect to adjacent joists approximately 40 per cent. Less bending of the individual joists means less tendency for the plaster on the ceiling beneath to crack.

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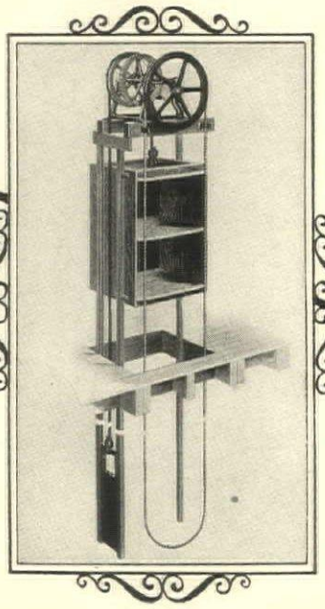
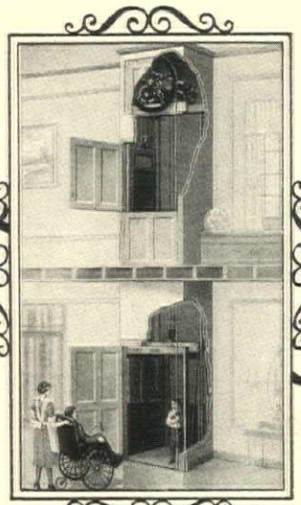
SEDGWICK

DUMB WAITERS *and* ELEVATORS

For all purposes



Geared Automatic Brake Dumb Waiter Type "FDCG"



Invalid Elevator at Left

THE customary requirements in most buildings are met completely by one of the twenty-one different standard types of Sedgwick Dumb Waiters and Elevators. Unusual conditions demand special equipment which is expertly and economically built and installed.

Fuel Lift

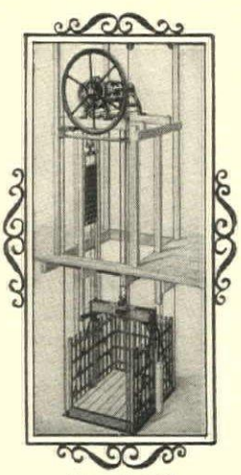
Early Consultation Advisable

Consultation with us when plans are being drawn will assure selection of and provision for the equipment best adapted for complete satisfaction and economy in use.

Write now for catalog which contains dimension data and other useful information.

REPRESENTATIVES IN MANY CITIES

SEDGWICK MACHINE WORKS
159 West 15th Street New York



Trunk Lift

SEDGWICK SERVICE SATISFIES

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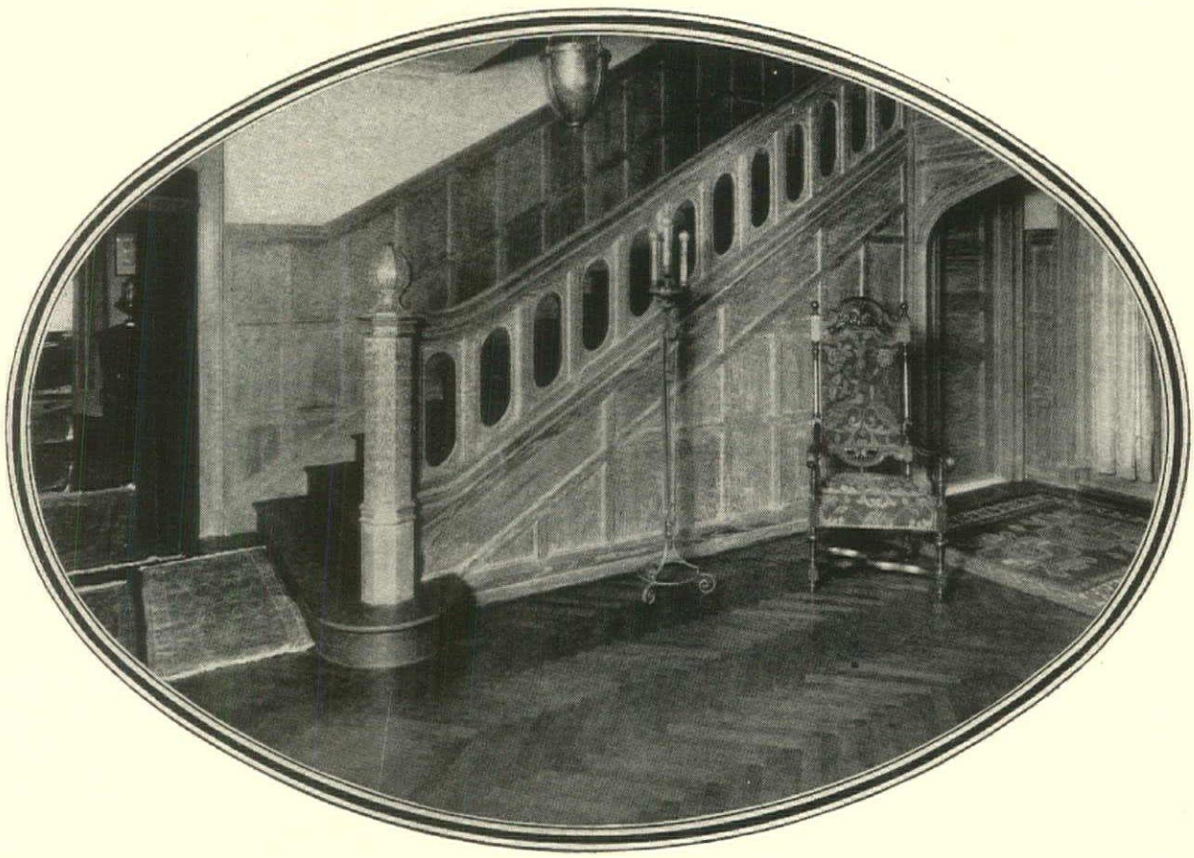
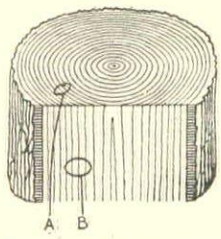
RITTER FLOORING

Manufactured Exclusively from

Appalachian Oak



Exclusive Quality for Your Distinctive Homes



Slow growth, dependent on ideal climate, soil and drainage in the Appalachian Highlands, causes narrow annular growth rings (A), which in turn produce close grain (B), resulting in a fine-grained floor.

FUNDAMENTAL to the acknowledged superiority of Ritter Flooring is the inherent quality of the wood itself. Every foot of it is cut from Appalachian Highland Oak that has grown slowly, uniformly, under ideal conditions of climate, soil and drainage.

In addition to these *natural* conditions are the *controlled* conditions under which the lumber is fabricated, seasoned, annealed and handled, all of which are responsible for the commercial excellence of which the name of Ritter is symbolic.

The skill with which every manufacturing operation is conducted, the exacting thoroughness of multiple inspection, the scrupulous care with which Ritter Flooring is graded for quality, all combine to augment and enhance its architectural acceptability.

To the architect this means better results and lasting satisfaction without the annoyances and delays incident to the use of cheaper materials.

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

W. M. RITTER LUMBER COMPANY

Largest Producers of Appalachian Hardwoods

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RITTER APPALACHIAN OAK FLOORING

MADE *in* THE APPALACHIANS *from* APPALACHIAN OAK *only*

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The J. L. Hudson Co. Building, Detroit, Mich. *Architect and Engineers*—Smith, Hinchman & Grylls. *General Contractor*—Bryant-Detwiler Co. *Plumbing and Heating Contractor*—Donald Miller Company. *Electrical Contractors*—John H. Busby Co. & McCleary-Harmon Company.

The J. L. Hudson Co. Building is piped for permanence with Youngstown steel pipe—used exclusively in both plumbing and heating systems: and the electrical wiring is permanently protected with Youngstown-Buckeye Conduit, which is used exclusively.

Youngstown — a specification as sound as a Bond

THROUGHOUT the country—and the world—Architects and Engineers in ever increasing numbers are specifying "Youngstown" Steel Pipe, Youngstown Sheets and Youngstown-Buckeye Conduit to safeguard the quality of their work and insure a permanent installation.

Time and performance have conclusively proved Youngstown durability, demonstrating that "Youngstown" is a symbol of endurance in all steel products marketed under that name.

THE YOUNGSTOWN SHEET AND TUBE COMPANY

One of the oldest manufacturers of copper-bearing steel, under the well-known and established trade name "Copperoid"

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MINNEAPOLIS—Andrus Bldg.
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Dashwood House, Old Broad St., London, E C England

PIPE SHEETS CONDUIT

YOUNGSTOWN

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ZENITHERM

14
Lovely Colors

There are Zenitherm colors in dark shades for floors and in pastels for walls. All have texture, depth and warmth. Illustrated above are Buff, No. 3 Brown and Stone Grey. The reproduction is made full size from actual samples of Zenitherm.

Natural Buff Gold Red Pink Drab Dark Brown
Light Brown Blue Black Green Olive Stone Gray Light Gray

5 POINT PIPE

Art Endures—When "Five Point" Pipe Protects It

Back of the thought and skill that produce a structural masterpiece must stand the assurance of *completely* dependable pipe. For no building is younger than its pipes, and beauty cannot endure when walls and ceilings must be torn open to replace pipe that gives only *partial* protection.

That's the value of specifying Reading Genuine Puddled Wrought Iron Pipe—the "five point" pipe that lasts for generations because it resists *all* the forces that tend to shorten pipe endurance.

There is no substitute for genuine *puddled* wrought iron pipe. To be certain of complete protection, specify Reading Genuine Puddled Wrought Iron Pipe—and look for the Reading name and spiral knurl mark on every piece.

1
Resists Corrosion—the puddling process* coats every inmost particle of Reading Pipe with age-lasting silicious slag.

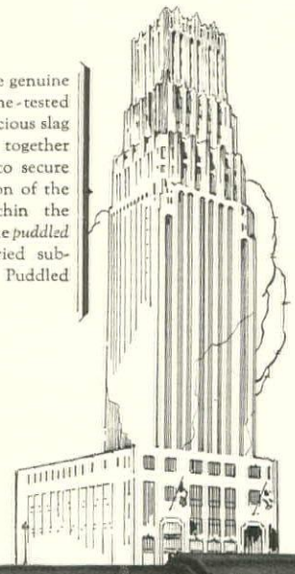
2
Defies Vibration—puddling imparts a tough, rope-like structure that does not crystallize or fracture sharply.

3
Threads Better—clean threads are quickly cut, insuring tight joints that stay leak-proof.

4
Welds Easily—pipe walls have maximum strength; no "weak spots".

5
Holds Coatings Permanently—due to the texture of genuine puddled wrought iron, galvanizing adheres to Reading Pipe four times more thickly than to any other ferrous pipe material. Paint and other coatings last indefinitely.

*There is only one way to make genuine *puddled* wrought iron—the time-tested material. Pure pig iron and silicious slag must be kneaded and worked together inside a flame-filled furnace, to secure perfect and uniform distribution of the protective slag filaments within the metal. Time tells of only genuine *puddled* wrought iron—accept no untried substitutes for Reading Genuine Puddled Wrought Iron Pipe.



New Gulf Building, Houston, Texas. Alfred C. Finn, Architect, Kenneth Franzheim and J. E. R. Carpenter, Consulting Architect. Reading Pipe is installed in this structure.

READING PIPE

GENUINE PUDDLED WROUGHT IRON

READING IRON COMPANY, Reading, Pennsylvania

Atlanta	-	Buffalo	-	Detroit	-	New York	-	St. Louis	-	Fort Worth
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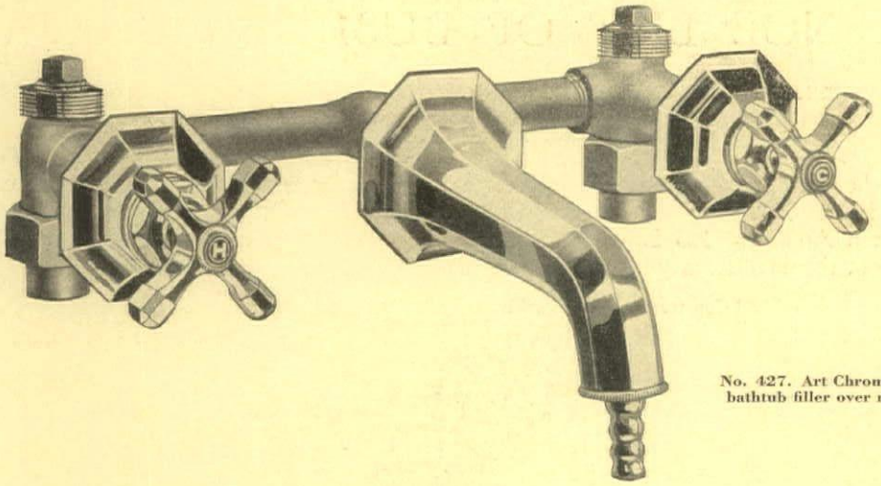
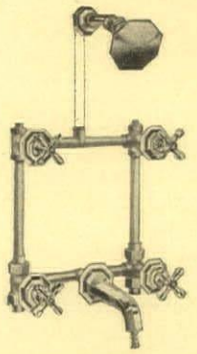
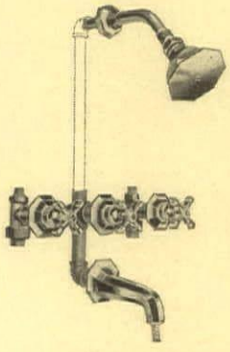


No. 427. Art Chrome all-metal bathtub filler over rim of tub.

MASTERPIECES IN ART CHROME No. 7



No. 434. Art Chrome all-metal Overim Tub Filler with Shower Valves connected.



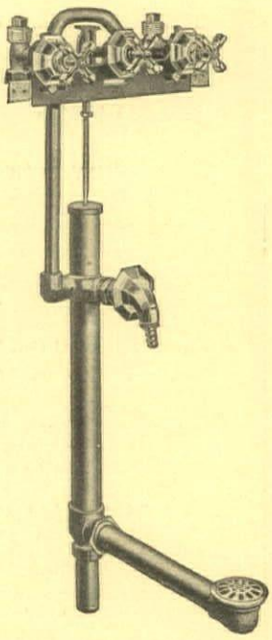
No. 431. Art Chrome all-metal Overim Tub Filler and Shower Switch Valve.

Art Chrome all-metal Bathtub and Shower Fixtures have all the characteristics that appeal to architects—originality, beauty, serviceability.

The distinctive octagonal design is carried out harmoniously to the smallest detail on every part. The result is a rare and beautiful combination made all the more striking in lustrous Art Chrome—equally effective for white or colored bathrooms or fixtures. And the Chicago Faucet famous renewable unit construction means a minimum of trouble and a maximum of service.

This is the last of our present series of advertisements on Art Chrome Chicago Faucets—a line consisting of 24 items. They are described and illustrated in a new 2-color folder, while new Art Chrome sheets to fit our regular catalog are also ready for distribution. Both will be gladly sent to you immediately.

Write for full particulars.



No. 429. Art Chrome all-metal standing waste bathtub fixture.

THE CHICAGO FAUCET CO.

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Life Long Service ~ Life Long Lustre

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REFERENCE LIST OF BUSINESS LITERATURE

A Service arranged for the use of the Architect, Specification Writer and Architect Engineer

THIS list of the more important business literature of Manufacturers of building material and equipment is published each issue. Any of these publications may be had without charge, unless otherwise noted, by applying to The American Architect, 235 East 45th Street, New York, or obtained directly from the manufacturers. Either the titles or the numbers may be used in ordering.

Arranged according to the Standard Construction Classification adopted by the American Institute of Architects.

1. Preparation of Site.
2. Excavation.
3. Masonry Materials.
4. Concrete and Monolithic Construction.
5. Brick Work.
6. Foundations.
7. Waterproofing and Dampproofing.
8. Stone Work.
9. Architectural Terra Cotta.
10. Block Construction.
11. Paving.
12. Roofing, Sheet Metal and Skylights.
13. Structural Steel and Iron.
14. Miscellaneous Steel and Iron.
15. Ornamental Metal Work and Physical Properties of Metals.
16. Fire Resisting Doors, Windows and Trim.
17. Special Doors and Windows.
18. Vaults and Safes.
19. Carpentry.
20. Furring and Lathing.
21. Plastering.
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31. Electrical Work.
32. Refrigeration.
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1. PREPARATION OF SITE

2. EXCAVATION

3. MASONRY MATERIALS

The Carney Company, 714 Builders Exchange, Minneapolis, Minn.

1486. *A Remarkable Combination of Quality and Economy.* Booklet sets forth the advantages of Carney Cement for brick and tile mortar. Specifications are included. A. I. A. File No. 3a4. 20 pp. Illustrated. Size, 8½ x 11 in.

The Genfire Steel Co., Youngstown, Ohio.

941. *Fireproof Handbook.* 64 pp. Size, 8½ x 11 in. Illustrated. Gives methods of construction, specifications, data on Herringbone metal lath, steel tile, Trussit solid partitions, steel lumber, self-centering formless concrete construction.

942. *Hardening and Dustproofing New or Old Cement Floors.* Gives methods for both metallic and chemical hardening. Form A-541.

Kosmos Portland Cement Co., Louisville, Ky.

877. *Kosmortar. A Mason's Cement.* A circular describing the properties of this material, tests of strength and directions for its use. 8 pp. Illustrated. Size, 3½ x 8¼ in.

Louisville Cement Co., Inc., Louisville, Ky.

311. *Brixment, the Perfect Mortar.* The reading of this little book gives one a feeling that definite valuable information has been acquired about one of the oldest building materials. Modern science has given the mason a strong water-resisting mortar with the desirable "feel" of the best rich lime mortar. 16 pp. Illustrated, in colors. Size, 5½ x 7¾ in.

1395. *Brixment.* Booklet describes Brixment, a mason's cement, and its use. Chemical analysis, tests, partial list of buildings in which Brixment has been used and architects specifications are included. A. I. A. file No. 3a 4 pp. Size, 8½ x 11 in.

Truscon Laboratories, Detroit, Mich.

920. *Sweep Hardness Into Your Concrete Floors.* Pamphlet of information on Agatex chemical cement floor hardener, with specifications for use. Illustrated. 8 pp. Size, 4 x 9 in.

4. CONCRETE AND MONOLITHIC CONSTRUCTION

Cement-Gun Company, Inc., Allentown, Pa.

1030. *Gunite Bulletins.* A series of bulletins describing the adaptability of gunite, cement-gun product, for a wide range of construction and replacement work of all kinds. Illustrated. Size, 6½ x 9½ in.

Concrete Engineering Co., Omaha, Neb.

347. *Handbook of Fireproof Construction.* An illustrated treatise on the design and construction of reinforced concrete floors with and without suspended ceilings. The Meyer Steel-form Construction is emphasized and tables are given of safe loads for ribbed concrete floors. 40 pp. Illustrated. Size, 8½ x 11 in.

Genfire Steel Co., Youngstown, Ohio.

1243. *Self-Sentering.* A combined form and reinforcement for floors and roofs—Trussit—reinforcement for solid partitions and curtain walls. A valuable book of specifications and data for architects on the use of these materials and their accessories. 48 pp. Illustrated. Size, 8½ x 11 in.

1264. *GF. Steel-Tile.* An economical system of floor construction. Booklet sets forth the advantages of GF Steel-Tile floor construction and includes tables for designing and building steel-tile floors, and complete specifications. 32 pp. Illustrated. Size, 8½ x 11 in.

1265. *Self-Sentering and Trussit.* Booklet devoted to self-sentering, a combined form and reinforcement for floors and roofs and Trussit reinforcement for solid partitions and curtain walls with erection details and specifications for use in walls, ceiling, roofs and floors. 48 pp. Illustrated. Size, 8½ x 11 in.

Missouri Portland Cement Co., St. Louis, Mo.

1558. *Design and Control of Concrete Mixtures.* Catalog containing valuable data regarding design and mixture of concrete with tables of recommended proportions as well as specifications. 32 pp. Size, 8½ x 11 in.

1567. 24 *Hour Cement.* Catalog describing Prestolith Velo, a quick setting cement. 16 pp. Illustrated. Size, 8½ x 11 in.

Mitchell-Tappen Co., 15 John Street, New York City.

1469. *Standardized Metal Caging for Reinforcing Concrete Soffit Fireproofing.* Bulletin No. 21 contains useful data on Standardized Metal Caging (S.M.C.). Folder covers advantages, estimating, size required and directions for applying S. M. C. to beams, channels and columns. A. I. A. File No. 4f. 4 pp. Illustrated. Size, 8½ x 11 in.

Portland Cement Association, 33 West Grand Avenue, Chicago, Ill.

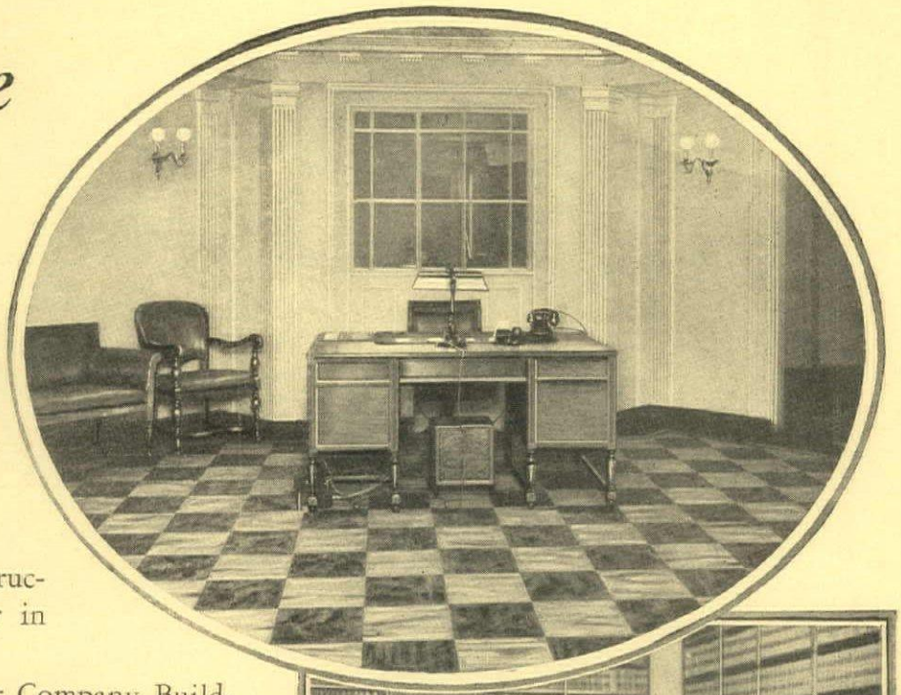
636. *Design and Control of Concrete Mixtures.* Booklet T-12 describes concrete mixtures by different methods, and includes a treatise on the factors essential to the economic production of concrete of proper strength and durability. 32 pp. Illustrated. Size, 8½ x 11 in.

Truscon Steel Co., Youngstown, Ohio.

317. *Truscon Floortyle Construction—Form D-352.* Contains complete data and illustrations of Floortyle installations. 10 pp. Illustrated. Size, 8½ x 11 in.

Specifications of most products advertised in THE AMERICAN ARCHITECT appear in the Specification Manual

BONDED FLOORS IN THE *Equitable Trust Building*



IN 1927, the Hotel Savoy-Plaza was selected by Building Investment Magazine as the outstanding construction achievement of the year in New York City.

In 1928, the Equitable Trust Company Building wins the Award of Merit by this leading authority on building construction and maintenance.

Both buildings enjoy the quiet comfort, the economy and the lasting durability of Bonded Floors.

BONDED FLOORS COMPANY INC.
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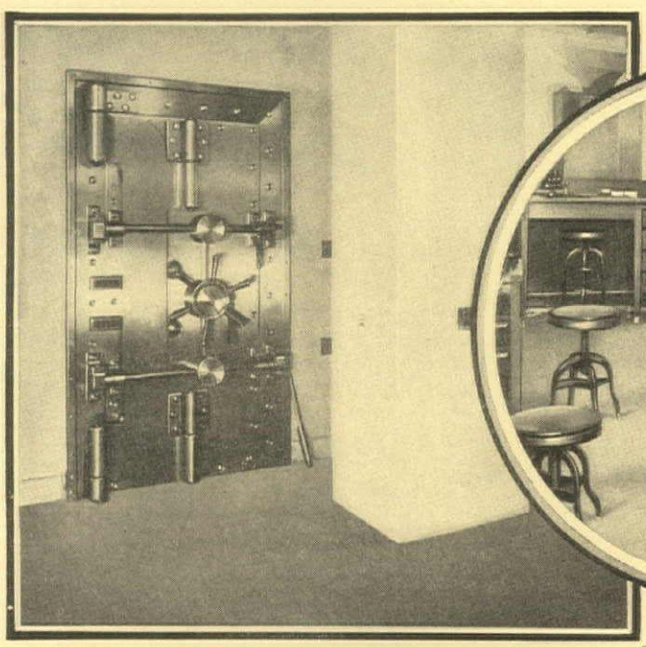

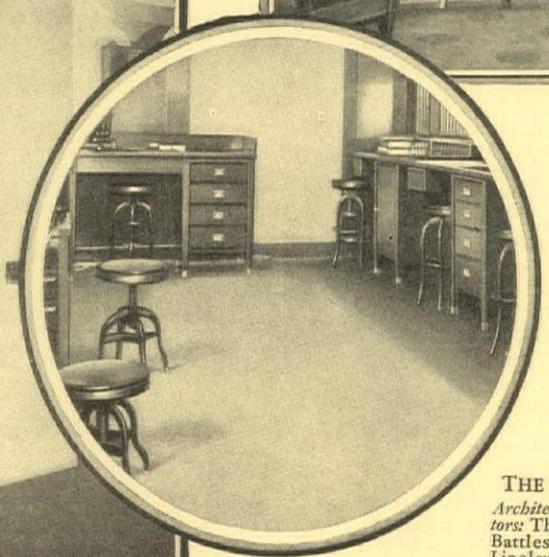

Above: Battleship Linoleum in library of Jerome & Rand, Counselors at Law.

Top: Marble-ized Cork-Composition Tile in reception room, Murray, Aldrich & Roberts, Counselors at Law.

Left: Bonded Floor of Battleship Linoleum in working spaces of Equitable Trust Co.

Extreme left: Bonded Floor of Battleship Linoleum in vaults of Equitable Trust Co.

THE EQUITABLE TRUST BUILDING
Architects: Trowbridge & Livingston; *Contractors:* Thompson Starrett Co. 23,000 sq. yds. Battleship Linoleum, 2,700 sq. yds. Jaspé Linoleum and Jaspé "plank" floor, 18,000 sq. ft. Cork-Composition Tile were installed by Bonded Floors Co.

BONDED FLOORS

ISSUED BY U.S. FIDELITY AND GUARANTY CO.

Resilient Floors Backed by a Guaranty Bond

Specifications of most products advertised in THE AMERICAN ARCHITECT appear in the Specification Manual

REFERENCE LIST OF BUSINESS LITERATURE—Continued

5. BRICK WORK

American Face Brick Association, 1754 People's Life Bldg., Chicago, Ill.

1158. *Brickwork in Italy.* 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 halftones 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. 298 pp. Size, 7½ x 10½ in.

Common Brick Manufacturers' Association, Guarantee Title Building, Cleveland, Ohio.

1527. *Brick: How to Build and Estimate.* Booklet contains a wealth of information on the use of brick. 96 pp. Illustrated. Size, 8½ x 11 in.

Old Virginia Brick Company, Salem, Virginia.

1424. *The True Moulded Old Virginians.* Folder illustrates and describes hand moulded old Virginia brick and includes a reply card for obtaining miniature sample bricks. 4 pp. Illustrated. Size, 8½ x 11 in.

1436. *F. F. Vees or Controlled Distorts.* Folder describes F. F. Vees brick that are similar to klinker brick, being irregular in shape and possessing a wide variation in color range due to burning. Typical walls built of F. F. Vees are shown. 4 pp. Illustrated. Size, 8½ x 11 in.

6. FOUNDATIONS

MacArthur Concrete Pile Corporation, New York City.

1462. *MacArthur Piles.* A series of folders pertaining to the subject of Concrete Piles. Bulletins cover the following subjects—"Straight and Tapered Piles," "Compressed Concrete Pedestal Type," "Composite Type" and "Compressed Concrete Straight Shaft Type." Each bulletin 4 pp. Illustrated. Size, 8½ x 11 in.

Raymond Concrete Pile Co., 140 Cedar St., New York City.

156. *Raymond Concrete Piles—Special Concrete Work.* A booklet with data concerning the scope of the Raymond Concrete Pile Co., for special concrete work. It classifies piles, showing by illustration, text and drawings the relative value of special shape and manufacture of piles. It gives formulae for working loads, and relative economy. 60 pp. Size, 8½ x 11½ in.

7. WATERPROOFING AND DAMPPROOFING

Samuel Cabot, Inc., 141 Milk St., Boston, Mass.

340. *Cabot's Waterproofing Specialties.* Describes Dampproofing, Clear Brick Waterproofing and Clear Cement Waterproofing with specifications and covering data. 12 pp. Illustrated. Size, 4 x 9 in.

The Philip Carey Co., Lockland, Cincinnati, Ohio.

1035. *Carey Waterproofing and Dampproofing Specifications.* A valuable file of eleven specifications for waterproofing and dampproofing various type of structures with different conditions. 44 pp. Illustrated. Size, 8 x 10¼ in.

Genfire Steel Co., Youngstown, Ohio.

1263. *GF Waterproofing Handbook.* Seventh edition, describes effective and economical methods for waterproofing concrete and all forms of masonry with GF waterproofings; the use of GF preservatives for protecting finished surfaces against water, weather and stains; and the use of compounds for bonding new concrete to old. Specifications and estimating data included. 72 pp. Illustrated. Size, 8½ x 11 in.

Johns-Manville Corp., 292 Madison Ave., New York City.

1548. *Waterproofing.* Catalog contains information regarding waterproofing and dampproofing materials for many purposes, as well as specifications. 24 pp. Illustrated. Size, 6 x 5 in.

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

1474. *Minwax Products.* A complete index of all Minwax products. Gives specifications for dampproofing and waterproofing; asphalt products; and protecting coatings and finishes. Individual data sheets on the above products are included. 9 folders, each folder 2 to 6 pp. Illustrated. Size, 8½ x 11 in.

Sommers & Co., Ltd., 342 Madison Ave., New York City.

1118. *Permanite Liquid Waterproofing* for making concrete and cement mortar permanently impervious to water. Also circulars on floor treatment and cement colors. Complete data and specifications. Sent upon request to architects using business stationery. Circular size, 8½ x 11 in.

L. Sonneborn Sons, Inc., 114 Fifth Ave., New York City.

891. *Dampproofing and Waterproofing. Floor Treatments.* Bulletins of specification data for dampproofing structures and for floor hardening and coloring. Sent on request on business stationery. In folders. Size, 8½ x 11 in.

Toch Brothers, 443 Fourth Avenue, New York City.

1495. *Architects' Specification Data.* Filing folder contains loose sheets indexed with correct A. I. A. filing number. Each sheet contains specification data and a description of each material manufactured by Toch Brothers. Series includes materials for integral and membrane waterproofing, dampproofing, back painting and stainproofing of stone work, concrete hardeners, caulking and pointing, painting structural steel, concrete floor treatments, special enamels, etc. 25 sheets. Size, 8½ x 11 in.

Truscon Laboratories, Detroit, Mich.

967. *Specifications for Truscon Waterproofing, Dampproofing and Oil Proofing, Book "A."* Complete specifications for all conditions requiring water and dampproofing for concrete, plaster, stucco, stone and other masonry. 14 pp. Illustrated. Size, 8½ x 11 in.

8. STONE WORK

The Georgia Marble Co., Tate, Ga.

1396. *Georgia Marble.* Architects' Service Catalog. A comprehensive book describing the production of marble from quarry to building. The results of laboratory tests. Detail drawings and photographs of prominent buildings, architects' standard specifications, and plates showing colors and finishes available in Georgia marble are included. A. I. A. File No. 8Bl. 68 pp. Illustrated. Size, 8½ x 11 in.

Indiana Limestone Company, 1317 Tribune Tower, Chicago, Ill.

845. *School and College Buildings, Vol. 6, Series B.* A profusely illustrated booklet showing the use of Indiana Limestone in a large number of educational buildings of all kinds and types and in all parts of the United States. 80 pp. Illustrated. Size, 8½ x 11 in.

Indiana Limestone Company, Architects' Service Bureau. P. O. Box 308, Bedford, Ind.

1241. *Indiana Limestone Specification Manual.* This is Vol. III, Series "A-3." Service publication on Indiana Limestone, containing Specifications and Supplementary Data relating to best methods of specifying and using this stone for all building purposes. It can be obtained from a Field representative of the company or by direct request from architects written on his letterhead. 84 pp. Size, 8½ x 11 in.

9. ARCHITECTURAL TERRA COTTA

Midland Terra Cotta Company, Chicago, Ill.

1429. *Standardized Terra Cotta.* A portfolio of plates illustrating entrances, architraves, lintel and band courses, sills and ashlar, cornice and belt and many other items made of terra cotta in standard shapes and sizes. 17 plates of detail drawings. Size, 9¾ x 14½ in.

National Terra Cotta Society, 19 West 44th St., New York City.

664. *Standard Specifications.* Contains complete detailed specifications for the manufacture, furnishing and setting of terra cotta, a glossary of terms relating to terra cotta and a short form specification for incorporating in architects' specification. 12 pp. Size, 8½ x 11 in.

854. *Color in Architecture.* A revised and permanently bound book with 12 color plates, illustrating early Italian and modern uses of polychrome terra cotta in building construction. Sent free to architects, draftsmen, schools and libraries, requesting same on business letterheads. 64 pp. Illustrated. Size, 9½ x 12¼ in.

The Northwestern Terra Cotta Co., 2525 Claybourn Ave., Chicago, Ill.

96. *Architectural Terra Cotta.* A collected set of advertisements in a book, giving examples of architectural terra cotta, ornamental designs and illustrations of examples of facades of moving-picture, houses, office buildings, shops, vestibules and corridors in which Northwestern Terra Cotta was used. 78 pp. Size, 8½ x 11 in.

10. BLOCK CONSTRUCTION

11. PAVING

Specifications of most products advertised in THE AMERICAN ARCHITECT appear in the Specification Manual

REFERENCE LIST OF BUSINESS LITERATURE—Continued

12. ROOFING, SHEET METAL AND SKYLIGHTS

The Edwards Manufacturing Co., Cincinnati, Ohio.

1356. *Edwards Sheet Metal Products Catalog No. 7b.* A complete catalog of sheet metal building materials including various types of roofing, gutters and conductors, doors and windows, skylights and ventilators and many other products. General illustrations, descriptions, detail drawings and specifications are included. A. I. A. File No. 12. 184 pp. Illustrated. Size, 9¼ x 12 in.

Mohawk Asbestos Slate Co., Inc., Utica, N. Y.

1561. *Tapered Asbestos Shingles.* Catalog in colors. Illustrated. Gives specifications and method of application. A. I. A. File No. 12F1. 12 pp. Size 8½ x 11 in.

Peebles Ceramic Products Co., Portsmouth, Ohio.

F-1291. *Peebles Ceramic Roofing Tile.* Catalog in color describing a new roofing tile, which is individually cast from patterns that reproduce the natural shapes and markings of genuine stone slabs. A. I. A. File No. 12El. 12 pp. Illustrated. Size, 8½ x 11 in.

Rising and Nelson Slate Company, 101 Park Ave., New York City.

496. *Tudor Stone Roofs.* This leaflet discusses colors and sizes of Tudor hand-wrought slates; deals with the service given to architects and tells how the material is quarried for each product after careful drawing and specifications are prepared in co-operation with architects. Special grades are described in detail and illustrations are given of buildings with Tudor slate roofs. Contains also specifications of laying slate. 4 pp. Illustrated. Size, 8½ x 11 in.

571. *Tudor Stone Roofs.* A brochure describing the 7 special grades of Tudor Stone and the 7 grades of commercial slate produced by this company with illustrations of many structures on which it has been used. 28 pp. Illustrated. Size, 6 x 9½ in.

Truscon Steel Company, Youngstown, Ohio.

1176. *Truscon Roofs (Steeldeck) "Ferrodeck" and "I-Plates" Types.* Booklet illustrating and describing the construction of "Steeldeck" roofs for any type of building. The application of insulation and waterproofing is shown. Specifications for roofs constructed of Ferrodeck or I-Plates are also included. 8 pp. Illustrated. Size, 8½ x 11 in.

1231. *Copper Bearing Steel Resists Corrosion.* By Robert D. Snodgrass, Consulting Engineer. A treatise containing facts, figures and photographs showing the rust resisting properties of steel containing a percentage of copper. Booklet No. 679 will be sent to those interested upon request. 16 pp. Illustrated. Size, 8½ x 11 in.

13. STRUCTURAL STEEL AND IRON

Bethlehem Steel Co., Bethlehem, Pa.

1173. *Bethlehem Structural Shapes. Catalog S-27.* Handbook containing complete information on Bethlehem sections, dimensions, weights, and safe load tables for beams, girders and columns. This handbook also contains much valuable engineering data useful in the design of structural steel buildings. 372 pp. Illustrated. Size, 4½ x 7 in.

1517. *Steel Joists and Stanchions for Dwellings, Apartment Houses, etc.* Catalog S-28 contains tables of weights and dimensions, properties, safe loads and spacing of joists. Other valuable information useful in structural engineering is included. 72 pp. Illustrated. Size, 4 x 6½ in.

Carnegie Steel Company, Pittsburgh, Pa.

1336. *Carnegie Beam Sections.* Handbook contains profiles, dimensions and properties and safe load tables for new series, Carnegie Structural Steel beams and column sections. A hand book of value to architects and engineers designing structural steel. 170 pp. Illustrated. Size, 5 x 8 in.

1443. *Carnegie Beam Sections. Additions to New Series.* Booklet contains profiles, properties and safe loads for additions to new series Carnegie structural steel beams and column sections. The new series contains additions and modifications that have been found of advantage to users of Carnegie beam sections. A. I. A. File No. 13. 20 pp. Illustrated. Size, 5 x 7½ in.

Genfire Steel Co., Youngstown, Ohio.

945. *The Steel Lumber Handbook.* Full details on steel lumber floor construction with tables and drawings. Size, 8½ x 11 in.

1460. *Steel Joists.* Catalog describes T-Bar and Plate Girder Joists, giving their advantages, construction details, tables of safe loads for various spacings, and specifications. A. I. A. File No. 13g. 40 pp. Illustrated. Size, 8½ x 11 in.

Macomber Steel Co., 960 Belden Ave., Canton, Ohio.

1544. *Massillon Bar Joists and Massillon Nailer Joists.* Two valuable folders showing safe loading tables and standard specifications. A. I. A. File No. 13G. 8 pp. each. Size, 8½ x 11 in.

1545. *Bank Vault Reinforcing.* An eight-page folder containing designing data and insurance rating. A. I. A. File No. 18. Size, 8½ x 11 in.

14. MISCELLANEOUS STEEL AND IRON

Blasteel Manufacturing Company, Kansas City, Mo.

1440. *Blasteel Ankortite Floor Joiner, Brass Threshold Plates.* Circular F illustrates and describes the Ankortite floor joiner for use as a permanently secure threshold in either bullnose or flat top style for abutting floors, and Blasteel standard threshold plates in plain or corrugated design and various widths. A. I. A. File No. 14b53. 2 pp. Illustrated. 8½ x 11 in.

1441. *Stair Nosings and Linoleum Bindings.* Circular illustrates and describes polished brass or white metal stair nosings for wood, cement, or marble treads, various styles of Blasteel beveled brass binding strips for linoleum floors and recessed brass binding bar for binding linoleum, rubber tile or other applied floor covering where an offset is provided in the concrete or terrazzo to receive the applied material. Dimensions and method of application are shown. 4 pp. Illustrated. A. I. A. File 28i4. Size, 8½ x 11 in.

1454. *Steel Windows for Standard Openings Reduce Building Costs.* Fifty sizes of three types of steel windows have been standardized to fit the same standard openings. Tables of the fifty sizes and details are shown in this booklet. Standard sizes available provide for openings from 3′ 0″ to 5′ 0″ in width and 4′ 6″ to 9′ 0″ in height. 16 pp. Illustrated. Size, 8½ x 11 in.

Colonial Fireplace Co., 4603 Roosevelt Road, Chicago, Ill.

1142. *Everything for the Fireplace.* Catalog 16-26. Showing Andirons, Firesets, Grates, Set-Grates, Screens, Fenders, Hoods, Hearth and Mantel Accessories, "Glo-Hot" Electric Heater and Colonial Head Throat and Damper. 48 pp. Illustrated. Size, 8½ x 11 in.

H. W. Covert & Co., 243 East 44th St., New York City.

774. *Fireplace and Flue Construction.* A treatise explaining the elements of fireplace construction with details and dimensions and description of dampers and other accessories. 12 pp. Illustrated. Size, 8½ x 11 in.

The Genfire Steel Co., Youngstown, Ohio.

1266. *Architectural Details of GF Steel Windows,* steel lintels, steel doors and mechanical operators. Book of working details, notes, sizes and specifications. 62 pp. Illustrated. Size, 8½ x 11 in.

1267. *GF Steel Standard Casement Windows.* 1926 edition, architectural details, sizes and specifications for standard steel casement windows that can be combined to fill any size opening. Valuable information for the drafting room. A. I. A. File No. 16e. 16 pp. Illustrated. Size, 8½ x 11 in.

1268. *GF Standard Industrial Doors and Frames.* Catalog of standard stock size doors and frames for industrial and commercial buildings. 6 pp. Illustrated. Size, 8½ x 11 in.

The Safety Stair Tread Company, Wooster, Ohio.

1320. *New Stairs for Old.* Folder describes the repair and safeguarding of old worn stair treads through the use of Wooster Safe Groove Treads. A. I. A. File No. 14d1. 6 pp. Illustrated. Size, 3¾ x 8½ in.

1321. *Wooster Securily Nosing* with feather edged flange. Nosing made in white or yellow brass for use with any material on steps of any material. Sheet contains description and full size sections of nosing shapes. A. I. A. File No. 14d2. 2 pp. Illustrated. Size, 8½ x 11 in.

Woodbridge Ornamental Iron Co., 1515 Altgeld St., Chicago, Ill.

1444. *PresTeel Stairways Standardized Construction.* Catalog No. 30 contains complete information on pressed steel standardized construction and includes strength tests, designs, details, specifications, references, installations and information for estimating purposes. A valuable booklet on the subject of steel stairways. A. I. A. File No. 14d. 92 pp. Illustrated. Size, 8½ x 11 in.

15. ORNAMENTAL METAL WORK AND PHYSICAL PROPERTIES OF METALS

American Brass Co., Main Office, Waterbury, Conn.

139. *Illustrated Pamphlets.* Describes the use and adaptability of Extruded Architectural Shapes, Benedict Nickel, Brass and Copper Pipe in Iron Pipe sizes for plumbing installations. Size, 8½ x 11 in.

16. FIRE RESISTING DOORS, WINDOWS AND TRIM

Crittall Casement Window Co., Detroit, Mich.

672. *Crittall Universal Casement, Catalog No. 22.* Contains complete description, photographs, specifications and details of steel casement windows for banks, schools, residences, churches, hospitals, set directly into masonry and with auxiliary frames. 76 pp. Illustrated. Size, 9 x 12 in.

REFERENCE LIST OF BUSINESS LITERATURE—Continued

16. FIRE RESISTING DOORS, WINDOWS AND TRIM —Continued

Crittall Casement Window Co., Detroit, Mich.

1169. *Crittall Standardized Casements, Catalog No. 1-26.* For architects, A. I. A. File No. 16e1. An attractively prepared book of details, specifications and descriptive data on standard size and section steel casements. 32 pp. Illustrated. Size, 8½ x 11 in.

Dahlstrom Metallic Door Co., Jamestown, N. Y.

674. *Architectural Catalog.* Illustrated catalog showing styles and types of Dahlstrom Standard Construction Hollow Metal Doors and Trim. Conduo-Base, etc. Also various types of frames, jamb construction and architectural shapes. 178 pp. Illustrated. Size, 8½ x 11 in. in looseleaf.

Genfire Steel Co., Youngstown, Ohio.

1525. *Genfire Casements and Basement Windows, Model No. 5.* Architectural details, 1928 edition, No. 600-1. Booklet for the files, contains descriptions of superior features; specifications; tables of stock and standard sizes; full size and half size details of sash and frames, installation details, hardware, and suggested provision for screens. A. I. A. File No. 16e. 16 pp. Illustrated. Size, 8½ x 11 in.

David Lupton's Sons Company, Philadelphia, Pa.

1564. *Lupton Pivoted Windows.* Catalog No. 12 describing Pivoted Windows, Operating Device and Commercial Steel Doors. Gives full description, details and specifications. A. I. A. File No. 16E1. 40 pp. Size 8½ x 11 in.

Macomber Steel Co., 10th and Belden, N. E., Canton, Ohio.

1560. *Massillon Picoted Steel Windows and Stock Size Steel Doors.* Catalog giving designing data and erection details. A. I. A. File No. 16E. 8 pp. Size 8½ x 11 in.

Richards-Wilcox Mfg. Co., Aurora, Ill.

796. *Fire Doors and Hardware. Catalog No. A-25.* A catalog of standard, approved tin-clad fire doors, steel frames, automatic door hangers, tracks and fixtures; also hinges, locks and accessories. Details, dimensions and installation diagrams. 96 pp. Illustrated. Size, 8½ x 11 in.

Truscon Steel Co., Youngstown, Ohio.

348. *Truscon Steel Sash.* This handbook has been prepared for detailers and specification writers. The descriptions are clear and the details are complete. 80 pp. Illustrated. Size, 8½ x 11 in.

1235. *Truscon Solid Steel Double Hung* (counter weighted) *Windows.* Booklet describes the features of Model "A" Truscon solid steel double-hung window, illustrates typical installations, gives detail drawings of window and installation, drafting room standards and specifications. A. I. A. File No. 16e1. 24 pp. Illustrated. Size, 8½ x 11 in.

1363. *Truscon Drafting Room Standards, 4th Edition.* Detail drawings for installations, sections, standard sizes and specifications for various types of steel windows, doors and mechanical operators. Booklet No. 717 will be found of value in the drafting room. A. I. A. File No. 16e. 128 pp. Illustrated. Size, 8½ x 11 in.

The United Metal Products Co., Canton, Ohio.

968. *Architects' Handbook.* A very fine catalog of hollow metal doors, metal partitions, metal bucks and jambs, metal conduo-base, and metal mouldings. 108 pp. Illustrated. Size, 8½ x 11 in.

17. SPECIAL DOORS AND WINDOWS

Irving Hamlin, 1500 Lincoln St., Evanston, Ill.

735. *The Evanston Sound-Proof Door: also The Hamlinized Folding Partitions.* A circular explaining the construction of a sound-proof door and folding partitions hermetically sealed against odors, dust, light, weather and air, especially adapted to music schools, hospitals, etc. 8 pp. Size, 8½ x 11 in.

907. *The Evanston Sound-Proof Door.* A catalog giving details and hardware equipment of sound, odor, dust and air-proof doors for hospitals and music schools. Also Hamlinized folding partitions for Churches, Sunday Schools and Public Schools. 10 pp. Illustrated. Size, 8½ x 11 in.

David Lupton's Sons Co., Philadelphia, Pa.

1575. *Lupton Residence Casements of Steel.* Catalog describing a line of solid steel windows and hardware. Contains details of installation and specifications. 24 pp. Size, 8½ x 11 in.

18. VAULTS AND SAFES

19. CARPENTRY

E. L. Bruce Co., Memphis, Tenn.

1559. *Style in Oak Floors.* Booklet describing Cellized Oak Floors, with laying instructions. 15 pp. Size, 6 x 9 in.

Samuel Cabot, Inc., 141 Milk St., Boston, Mass.

1330. *Cabot's Creosote Stained Shingles.* Booklet contains description, approximate and comparative costs, data on covering fastening, suggested specifications and details for the use of Cabot's Stained Shingles. A. I. A. File No. 19d1. 16 pp. Illustrated. Size, 8½ x 11 in.

Chamberlin Metal Weather Strip Co., Inc., Detroit, Mich.

1466. *Chamberlin Details for Wood Sash and Doors.* A booklet of Chamberlin Weather Strip Details including a description of equipment, their adaptation and selection. scale and full size details for double-hung and casement sash, austral windows, transoms, and outside doors. Specifications are given. A. I. A. File No. 19e14. 50 pp. Illustrated. Size, 8½ x 11 in.

1467. *Chamberlin-Simpson Roll Screen Details* for Outswinging Casement Windows. Booklet prepared for filing illustrates and describes Chamberlin-Simpson Roll Screens. Details, specifications, and installation data are included. A. I. A. File No. 19e15. 12 pp. Illustrated. Size, 8½ x 11 in.

1468. *Details and Specifications* for calking with Chamberlin Plasti-Calk. Folder contains details, specifications and other valuable data on the calking of window frames. A. I. A. File No. 19e16 4 pp. Illustrated. Size, 8½ x 11 in.

Hartmann-Sanders Company, 6 East 39th St., New York City.

334. *Catalog No. 47.* Illustrating Kell's Patent Lock Joint wood stave columns for exterior and interior use. 48 pp. Illustrated. Size, 7½ x 10 in.

Hyde Murphy Company, Ridgeway, Pa.

F1304. *Better Business Homes with Takapart.* Catalog describing Takapart partitions. Contains detail drawings and specifications. Illustrated. A. I. A. File No. 19e62. 32 pp. Size, 8½ x 11 in.

Edwin A. Jackson & Bro., Inc., 50 Beekman St., New York, also Lexington Ave., at 65th St., New York City.

90. *Wood Mantels. Portfolio.* Wood mantel designs of various types and openings, giving dimensions, projections and showing fireplace grate designs. Size, 9 x 6¼ in. 32 pp.

Maple Flooring Manufacturers Assn., 332 South Michigan Ave., Chicago, Ill.

1483. *The New Color Enchantment in Hard Maple Floors.* Booklet illustrating in color the use of maple flooring in houses with reproductions of possible color effects through the use of various stains applicable to maple flooring. Technical information on characteristics of maple flooring, grading rules, standard sizes, estimating, uses of different grades and directions for laying are included. A. I. A. File No. 19e9. 20 pp. Illustrated. Size, 8½ x 11 in.

G. E. Walter, 157 East 44th Street, New York City.

1167. *Duretta.* Booklet describing Duretta, a fireproof composition with which carved woodwork and metal can be faithfully imitated. Illustrated with examples of executed doors, panelling, mantels and grills. 16 pp. Illustrated. Size, 5¾ x 8¼ in.

Watson Manufacturing Co., Jamestown, N. Y.

737. *Watson Insect Screens.* Reprint of space in Sweet's Catalog giving illustrations and detailed data for the use of architects. 21 pp. Illustrated. Size, 8½ x 11 in.

West Coast Lumber Trade Ex. Bureau, Longview, Washington.

1496. *Western Red Cedar "The Enduring Wood of the Ages."* Booklet describes the advantages of Western Red Cedar and its numerous uses in building construction. Technical data is included. 24 pp. Illustrated. Size, 8½ x 11 in.

Western Pine Manufacturers Association, Portland, Ore.

1296. *Bingo of Flathead.* A dog's story of Pondosa, the Pick o' the Pines, a narrative that gives the reader a comprehensive idea of Pondosa Pine from forest to finished lumber. The intermediate steps in the production of lumber are briefly told in an interesting manner. 16 pp. Illustrated. Size, 6 x 9 in.

20. FURRING AND LATHING

American Steel & Wire Company, Continental & Commercial National Bank Bldg., Chicago, Ill.

1148. *Stucco Houses Reinforced with Triangle Mesh Fabric.* Booklet contains information on triangle mesh fabric, hints on stucco construction, stucco qualities, plans and perspectives of stucco houses etc. 20 pp. Illustrated. Size, 6 x 9 in.

Concrete Engineering Co., Omaha, Neb.

346. *How to Use Ceco Lathing Materials.* An illustrated treatise on the use of expanded metal lath. Contains construction details and complete specifications with sample piece of lath in pocket on cover of book. 16 pp. Illustrated. Size, 8½ x 11 in.

Genfire Steel Co., Youngstown, Ohio.

944. *The Herringbone Book.* A complete treatise on the use of metal lath in all types of construction. Size, 8½ x 11 in.

REFERENCE LIST OF BUSINESS LITERATURE—Continued

FURRING AND LATHING—Continued

Milwaukee Corrugating Company, Milwaukee, Wis.

1414. *Milcor Reinforcing Rib Lath. Catalog No. 20d.* A technical data book for architects and engineers featuring Milcor metals and materials for fire-resisting reinforced concrete construction referring especially to Milcor ¾-inch stayrib No. 3 reinforcing lath. Engineering data including table of safe loads are included. 16 pp. Size, 8½ x 11 in.

Truscon Steel Company, Youngstown, Ohio.

316. *Hy-Rib and Metal Lath.* Tables, general data and illustrations of Hy-Rib and metal lath constructions. 6 pp. Illustrated. Size, 8½ x 11 in.

21. PLASTERING

The Best Bros. Keene's Cement Co., Medicine Lodge, Kansas.

1329. *Best Bros. Keene's Cement.* Booklet contains statement as to the advantages, grades and uses of Best Bros. Keene's Cement, specifications, data on quantities and the painting or enameling of Keene's cement. A booklet of practical value. 24 pp. Illustrated. Size, 5 x 9 in.

Louisville Cement Co., Speed Bldg., Louisville, Ky.

1560. *Brixment for Stucco.* Folder describing Brixment and its uses. Contains estimating table and specifications. A. I. A. File No. 21 D1. 5 pp. Size, 8½ x 11 in.

Milwaukee Corrugating Company, Milwaukee, Wis.

1416. *Modern Modes in Better Plastering.* Attractively prepared booklet illustrating practical application of various plaster textures with a treatise on better plastering methods. 32 pp. Illustrated. Size, 8½ x 11 in.

Portland Cement Association, 33 West Grand Ave., Chicago, Ill.

1110. *Portland Cement Stucco.* Book for architects' files, illustrating in color various stucco finishes with description; steps required to obtain these finishes are illustrated. Specifications for Portland cement stucco, recommendations on design and construction. Notes on prepared stucco, color materials, overcoating old houses and construction details. 64 pp. Illustrated. Size, 8½ x 11 in.

22. MARBLE, SLATE AND STRUCTURAL GLASS

Alberene Stone Co., 153 West 23rd St., New York, N. Y.

1220. *Alberene Stone Toilet Partitions.* Shower compartments and stair treads and landings. Loose leaf catalog sheets containing information on characteristic features of the material, notes on assembly of units, standard details and specifications, and partial list of installations. 8 pp. Illustrated. Size, 8½ x 11 in.

The Vitrolite Company, 133 West Washington St., Chicago, Ill.

1493. *Vitrolite Fixtures.* Loose leaf catalog illustrated in color, contains general descriptive data on Vitrolite and its adaptability for use in connection with counters, soda fountains, tables, etc., for restaurants, barber shops, butcher shops, bakeries, hospitals, schools, etc. 60 pp. Illustrated. Size, 8½ x 11 in.

23. FLOOR AND WALL TILE, LINOLEUM AND ACCESSORIES

Armstrong Cork Company, Linoleum Division, Lancaster, Pa.

1194. *Enduring Floors of Good Taste.* Armstrong's linoleum for all types of buildings, description and illustration in both black and white and in color. Information on how to choose linoleum, how to lay linoleum and proper care after laying. Typical patterns reproduced in color. 48 pp. Illustrated. Size, 6 x 9½ in.

1314. *Armstrong's Linoleum Floors.* Fifth Edition, March, 1927, completely revised. Linoleum gauges and weights, tests for judging the quality of linoleum, complete specifications, color plates of typical designs and list of representative installations are given. Booklet is contained in filing folder indexed A. I. A. File No. 23j. 40 pp. Illustrated. Size, 8½ x 11 in.

Bonded Floors Co., Inc., Kearny, N. J.

1531. *Specifications Resilient Floors.* Specification book giving descriptions of, and competitive specifications for, various types of resilient floors, such as cork composition tile, marble-ized tile, cork tile and linoleum. Data on colors, sizes and thicknesses, and installation details are included. Volume is indexed for convenient use. 48 pp. Illustrated. Size, 8½ x 11 in.

1532. *Analyzing the Problem of Resilient Floors.* A series of five booklets, analyzing the problem of resilient floors, including tables of relative importance of various characteristics of finished floors. Each booklet covers a separate type of building. The series includes schools, stores, clubs, hotels, hospitals and offices. A. I. A. file No. 23j. Each booklet 8 pp. Illustrated. Size, 8 x 10½ in.

1533. *Gold Seal Battleship Linoleum.* Booklet describing and giving data on Gold Seal Battleship Linoleum—a "Bonded Floor." 12 pp. Illustrated. Size, 6 x 9 in.

1534. *Gold Seal Marble-ized Tile—A Bonded Floor.* Booklet contains a description and gives advantages of Gold Seal Marble-ized Tile. Color illustrations are included. 12 pp. Illustrated. Size, 6 x 9 in.

1535. *Gold Seal Treadlite Tile—A Bonded Floor.* Description and illustration of Gold Seal Treadlite Tile are included between the covers of this interesting booklet. 12 pp. Illustrated. Size, 6x9 in.

The Mosaic Tile Co., Zanesville, Ohio.

1488. *Colored Tiles.* Booklet contains illustrations in color showing uses of color in tile work using Mosaic Faience, Ironstone, Granitex and Mosaic "All-Tile" Accessories. Specifications for obtaining the effect indicated in the illustrations are given. Typical Mosaic Satin Matt color panels are included. 20 pp. Illustrated. Size, 8½ x 11 in.

1500. *Mosaic Floor Tile.* Catalog No. 4 contains standard and suggested floor designs made in ceramic tiles. Illustrations are in color and the color numbers by which any pattern may be specified, are included. 90 plates. Illustrated. Size, 5½ x 8½ in.

1501. *Wall Tile Trimmers.* Catalog No. 3—loose leaf catalog—showing standard sizes and shapes of glazed and unglazed wall tile trimmers (base, caps, corners, etc.), 63 plates. Illustrated. Size, 5½ x 8½ in.

Zenitherm Company, Inc., Newark, N. J.

1302. *Zenitherm Floors.* Booklet describes and illustrates the use of Zenitherm as a flooring material for use in various types of buildings. The qualities and properties of Zenitherm are set forth in the text. Zenitherm is a material suitable for interior or exterior use. Data on colors and standard sizes, and a partial list of architects who have specified Zenitherm are included. A. I. A. File No. 23g2. 14 pp. Illustrated. Size, 8½ x 11 in.

1303. *Zenitherm Walls.* A booklet giving a comprehensive idea of the outstanding qualities of Zenitherm as a building material, particularly for walls. Direction for erecting, and other data are included. Partial list of installations is included. A. I. A. File No. 23g2. 22 pp. Illustrated. Size, 8½ x 11 in.

24. PLASTIC FLOORS

Franklin R. Muller, Inc., Waukegan, Ill.

242. *Asbestone Flooring Composition.* A book describing uses of and giving specifications and directions for Composition Flooring, Base, Wainscoting, etc. Illustrated. Size, 8½ x 11 in.

25. PAINT, PAINTING AND FINISHING

Samuel Cabot, Inc., 141 Milk St., Boston, Mass.

342. *Cabot's Creosote Stains.* Description of a standard stain for shingles, siding, boarding and timbers, with covering capacity and specifications. 16 pp. Illustrated Size, 4 x 8½ in.

Cook Paint and Varnish Company, Kansas City, Mo.

1337. *Hand Book and Specifications of Architectural Finishes.* A series of loose leaf specifications attached to a folder for filing. Folder includes general clauses, definition of materials, guide for treatment of ordinary woods used for interior woodwork and specifications for interior and exterior finishes of wood and cement floors. A description of the products made by Cook Paint and Varnish Company are included. This is a valuable hand book for specification writers. A. I. A. File No. 25c. 27 pp. Size, 8½ x 11 in.

The Genfire Steel Co., Youngstown, Ohio.

1269. (a) GF Floor Enamel. (b) GF Protective Coatings. (c) GF Cement Paint. Folders contain data, specifications and estimating information for GF technical paints. Each folder 4 pp. Size, 8½ x 11 in.

The Glidden Company, Cleveland, Ohio.

419. *Architectural Specifications Book*—8½ x 10¾ in. 32 pp. Containing complete architectural specifications and general instruction for the application of Glidden Paints and Varnishes, including Ripolin. Directions for the proper finishing of wood, metal, plaster, concrete, brick, and other surfaces, both interior and exterior, are included in this specification book.

Marb-L-Cote, Inc., 400 North Michigan Ave., Chicago, Ill.

1508. *Marb-L-Cote for Beautiful Textured Walls.* Booklet describes "Marb-L-Cote." Illustrations are given showing different rooms done in this material, with instructions telling how various textures are obtained. 16 pp. Illustrated. Size, 4½ x 6¾ in.

1509. Architects' Specification sheet for Marb-L-Cote Textural Wall Finish, gives information regarding the preparation of surfaces before using Marb-L-Cote and the application of same. A. I. A. File No. 25-B-29. 1 page. Size, 8½ x 11 in.

The Muralo Company, Inc., 570 Richmond Terrace, Staten Island N. Y.

1352. *Mural-Tex for the Rich Mellow Beauty of Plastic Textured Walls.* Attractively prepared booklet on the subject of wall textures and the use of Mural-Tex for wall decoration and surface texture. 16 pp. Illustrated. Size, 8½ x 11 in.

REFERENCE LIST OF BUSINESS LITERATURE—Continued

25. PAINT, PAINTING AND FINISHING—Continued

The Muralo Company, Inc., 570 Richmond Terrace, Staten Island, N. Y.

1364. *Mural-Tex for Textured and Relief Decoration.* Direction folder and architects' short form specifications. Complete directions for preparation of various backing surfaces and application of Mural-Tex. A. I. A. File No. 25b29. 6 pp. Size, 8½ x 11 in.

National Lead Co., 111 Broadway, New York City.

1343. *Standard Specification for the Use of White-Lead Paint.* A valuable booklet for the files containing standard painting specifications and A. S. T. M. and government specifications for linseed oil, drier, turpentine and white-lead. A. I. A. File No. 25a21 or 25c. 32 pp. Size, 7½ x 10⅝ in.

L. Sonneborn Sons, Inc., 114 Fifth Ave., New York City.

892. *Interior and Exterior Painting and Structural Painting.* Bulletins of specifications for interior and exterior paints, and paints for structural work, technical paints and roof protection. Sent on request on business stationery. In folders. Size, 8½ x 11 in.

Toch Brothers, 443 Fourth Ave., New York City.

1417. *Technical Paints and Waterproofing Compounds.* A hand book describing the use of R. I. W. waterproofing compounds, dampproofing coatings, steel preservative paints, concrete and masonry finishes and other R. I. W. products. Color ranges are included. 38 pp. Size, 4½ x 7½ in.

26. GLASS AND GLAZING

Detroit Show Case Co., Detroit, Mich.

78. *Details.* Sheets of full size details of "Desco" awning transom bar covers, sill covers, side, head and jamb covers, ventilated hollow metal sash and profile of members showing complete "Desco" construction No. 926 Details, 8½ pp. full size details.

1368. *Desco Metal Store Fronts.* Catalogue No. 627 contains illustrations, detail drawings of metal sections, installation details and suggested designs for show window layouts to meet different conditions. A. I. A. File No. 26b1. 40 pp. Illustrated. Size, 8½ x 11 in.

Mississippi Wire Glass Co., 220 Fifth Ave., New York City.

1015. *Mississippi Service.* A complete catalog illustrating the wire glass products and their adaptability for various uses. Technical data and sizes. 32 pp. Illustrated. Size, 4 x 8½ in.

Zouri Drawn Metals Co., Chicago Heights, Ill.

1562. *The Business of Buying A Store Front.* Catalog in color giving designs of various types of Store Fronts. Contains complete detailed drawings. Catalog contains 32 pages with 9 sheets of details. Size, 8½ x 11 in.

27. HARDWARE

American Steel & Wire Company, Continental & Commercial National Bank Building, Chicago, Ill.

1147. *Nails, Staples, Etc.* With a manual of carpentry. Valuable information on nails, sizes, quantity and various types of nails manufactured for different purposes; also staples, wire, fence wire, fasteners, etc. A book for the files. 60 pp. Illustrated. Size, 6 x 9 in.

P. & F. Corbin, New Britain, Conn.

1283. *General Catalog No.* 27. Listing and illustrating builders' hardware, revised to conform with products now being manufactured. Certain articles have been eliminated and others have been added. This is a valuable hardware reference book. 486 pp. Illustrated. Bound in board covers. Size, 8½ x 11 in.

1561. *Colonial and Early English Hardware.* Catalog showing reproductions of historic originals and design based upon wrought iron hardware precedent, made in rustless metal reproducing the surface and color of the wrought iron originals. Latches, knobs, handles, knockers, hinges, key plates and other articles for doors, windows, shutters and cupboards are illustrated by dimensioned sketches. A. I. A. File No. 273. 48 pp. Illustrated. Size, 8½ x 11 in.

Richards-Wilcox Mfg. Co., Aurora, Ill.

897. *Special Purpose Hinges, Catalog No.* 42. Devoted exclusively to special purpose hinges for every purpose. Hinge problems solved by Engineering Department, catalog sent on request. 26 pp. Illustrated. Size, 8½ x 11 in.

939. *Big Door Hardware Catalog No.* 41. This catalog describes a complete line of hardware and hangers for accordion, parallel sliding, vertical bi-folding and other types for large openings in round houses, freight houses, shipping rooms, mills and warehouses. Also overhead trolley equipment. 24 pp. Illustrated. Size, 8½ x 11 in.

940. *Sliding and Folding Partitions Door Hardware. Catalog No.* 40. A complete line of hardware for partition doors of all kinds and for all places. Description, details and directions for ordering. 32 pp. Illustrated. Size, 8½ x 11 in.

988. *Singleknob Garage Door Controller.* Catalog describing garage door operator by which one or both of a pair of doors can be opened and held in that position. 4 pp. Illustrated. Size, 8 x 11 in.

Sargent & Company, New Haven, Conn.

1145. *Sargent Locks and Hardware* 1926 *Catalog.* Fully illustrates Sargent finishing and builders' hardware, locks, butts, bolts, trim, etc. Book contains much valuable data and detail drawings for standard hardware. 534 pp. Illustrated. Size, 9 x 12 in.

The Smith & Egge Mfg. Co., Bridgeport, Conn.

773. *Chains. Catalog A-1.* Describing the "Giant Met al," "Red Metal" and Steel Sash Chains made by this company with strength, size and weight data. Also illustrating cable chains, plumbers, chains and other special chains. 24 pp. Illustrated. Size, 6 x 8½ in.

The Oscar C. Rixson Co., Chicago, Ill.

1459. *Improved Mechanisms in Builders' Hardware.* Catalog No. 2. A complete catalog with details of Single Acting and Double Acting Overhead and Floor Checks and Hardware Specialties, including transom operators, friction hinges, and bolts. 57 pp. Illustrated. Size, 6 x 9 in.

The Stanley Works, New Britain, Conn.

495. *Stanley Detail Manual.* A catalog in looseleaf binder, consisting of five sections on Butts, Bolts, Blinds and Shutter Hardware. Stanley Garage Hardware, Screen and Sash Hardware. Detail drawings are given, showing clearances and other data needed by detailers. 116 pp. Illustrated. Size, 7½ x 10½ in.

Vonnegut Hardware Co., Indianapolis, Ind.

747. *Von Duprin Self-Releasing Fire Exit Latches, Reference Book—No.* 240. A complete catalog with details of the working part of these latches, handle bars, door holders and accessories. Dimensions and installation direction. 96 pp. Illustrated. Size, 8½ x 11 in.

28. FURNISHINGS

American Seating Co., 14 East Jackson Blvd., Chicago, Ill.

867. *Church Furniture.* Three catalogs illustrating church seating furniture, chancel furniture and Sunday School furniture. 48, 32 and 24 pages. Illustrated. Size, 8½ x 11 in.

869. *Assembly Chairs.* Three catalogs illustrating all types of portable and fixed assembly chairs and seats, including tablet arm chairs, for all kinds of places and uses. 32, 16 and 33 pp. Illustrated. Size, 6 x 9 in.

Frederic Blank & Company and Salubra Company, 40 East 34th Street, New York City.

1464. *Countless Strokes of a Scrubbing Brush*—and still it shows no wear. Folder describes the advantages of Salubra, a washable wall covering. A partial list of hotels in which Salubra has been used is included. 4 pp. Size, 8½ x 11 in.

1465. *Salubra.* Sample book of designs of Salubra Washable Wall Covering. This book includes fifty of the 1,000 patterns or color combinations manufactured. Size, 9 x 10 in.

The Columbus Union Oil Cloth Co., Columbus, Ohio.

1374. *Wall-Tex-Permanent Wall Covering.* Folder illustrates two patterns of Wall-Tex, an oil coated fabric for walls, and reproduces two letters of recommendation from architects. 4 pp. Illustrated. Size, 8½ x 11 in.

W. L. Evans, Washington, Indiana.

F1305. *Evans Vanishing Door.* Catalog describing a modern economical method of wardrobe construction. Contains full information and detail drawings. Illustrated. A. I. A. File No. 28B33. 48 pp. Size, 8½ x 11 in.

Hardwick & Magee Company, 650 W. Lehigh Ave., Philadelphia, Pa.

1542. *Wilton Rugs.* Color plates of Wilton rugs in various sizes and shapes. Excellent in design, shape and color. 36 plates in color.

Kent-Costikyan, 585 Fifth Ave., New York City.

954. *The House of Kent-Costikyan.* A booklet describing the various types and grades of carpets and rugs, including antique rugs of the Ispahan and Kuba types, in the extensive stocks of this company. 16 pp. Illustrated in color. Size, 5½ x 8 in.

The B. L. Marble Chair Co., Bedford, Ohio.

1393. *Business Chairs.* Catalog No. 33. A comprehensive volume illustrating chairs, lounges and other furniture especially designed for office furnishings. Material and overall sizes of pieces are given in connection with the illustrations. Separate catalogs of school chairs and Windsor chairs are available. 72 pp. Illustrated. Size, 9 x 12 in.

REFERENCE LIST OF BUSINESS LITERATURE—Continued

28. FURNISHINGS—Continued

Watson Manufacturing Co., Jamestown, N. Y.

788. *Watson Metal Office Furniture.* Catalog describing steel furniture for offices, banks and public buildings. Installations illustrated. 55 pp. Illustrated. Size, 8½ x 11 in.

29. PLUMBING

W. D. Allen Mfg. Co., 566-570 West Lake St., Chicago, Ill.

1130. *Allen on Fire Protection.* A. I. A. File No. 29e2. Folder containing data, specifications, detail drawings and dimensions of hose cabinets designed for various types of equipment. Catalog includes notes on underwriters' requirements, hose racks, valves, couplings, details of fire pump and single standpipe system, etc. A valuable book of practical information for architects' files. 24 pp. Illustrated. Size, 8½ x 11 in.

American Brass Co., Waterbury, Conn.

862. *Brass Pipe for Water Service, Publication B-1.* A compilation of data on corrosion of various kinds of pipe and the value of Anaconda Brass Pipe for permanent service, also comparative cost estimates. 31 pp. Illustrated. Size, 8¼ x 11 in.

A. P. W. Paper Company, Albany, N. Y.

1434. *Onliwon Toilet Paper Cabinets.* Filing card with index tab covering Onliwon recessed and surface type toilet paper holders and surface type paper towel cabinets. Various type are shown with details and dimensions. 2 pp Illustrated. Size, 9 x 11½ in.

The Beaton & Cadwell Mfg. Co., New Britain, Conn.

813. *"Genuine" Perfection Line. Catalog No. 7.* A catalog describing a complete line of Simplex Flush valves, automatic air valves, floor and ceiling plates, towel bars, pipe hangers and accessories. 90 pp. Illustrated. Size, 4 x 6 in.

A. M. Byers Company, Pittsburgh, Pa.

679. *What is Wrought Iron? Bulletin 26-A.* Contains the definition of wrought iron, methods of manufacture, chemical and physical characteristics; advantages of wrought iron as a pipe material; service records from old buildings equipped with Byers Genuine Wrought Iron Pipe. How to tell the difference between iron and steel pipe. 40 pp. Illustrated. Size, 8 x 10¼ in.

680. *The Installation Cost of Pipe. Bulletin 38.* Contains cost analysis of a variety of plumbing, heating, power and industrial systems, with notes on corrosive effects in different kinds of service. 32 pp. Illustrated. Size, 8 x 10¾ in.

The Duriron Co., Dayton, Ohio.

1309. *Duriron Drain Pipe and Fittings. Bulletin No. 134-B.* Bulletin describing the physical properties, details and specifications for drain pipe and fittings which are non-corrosive to acid, alkali and other chemical wastes of industrial plants, laboratories, hospitals and colleges. 20 pp. Illustrated. Size, 8¼ x 11 in.

Hess Warming & Ventilating Co., 1207 to 1229 South Western Avenue, Chicago, Ill.

860. *Hess Snow-White Steel Cabinets and Mirrors.* A catalog with details of construction, dimensions, weights and prices of Snow-White steel cabinets of various styles and mirror access doors and frames to pipe shaft. 16 pp. Illustrated. Size, 4 x 6 in.

Jenkins Bros., 80 White Street, New York City.

1153. *Jenkins Valves for Low Cost Valve Service.* An illustrated folder in color, showing various types of valves suitable for every purpose on steam, water, air or gas. Form 100. 16 pp. Size, 3½ x 6½ inches.

National Tube Company, Pittsburgh, Pa.

1421. *Corrosion of Hot-Water Piping* "National". Bulletin No. 2. This bulletin contains a large amount of technical data on the subject of corrosion of hot water piping. 24 pp. Illustrated. Size, 8½ x 11 in.

1422. *Characteristics and Advantages of "National" Pipe.* "National" Bulletin No. 1. This bulletin contains chapters on the characteristics, chemical and physical properties, tests and inspections and advantages of "National" pipe in specific industries. A short history of pipe and early methods of manufacture is included. 44 pp. Illustrated. Size, 8½ x 11 in.

The Permutit Company, 440 Fourth Ave., New York City.

105. *Permutit (Water Rectification Systems).* Illustrated booklet. Describes all methods of softening water, including the original Zeolite process. For homes, hotels, apartment houses, swimming-pools, laundries, and industrial plants. 32 pp. Size, 8½ x 11 in.

Reading Iron Co., Reading, Pa.

1112. *Handbook and Price List* of Reading Wrought Iron Pipe and Fittings. Tables of sizes and other data including specifications. 50 pp. Illustrated. Size, 5 x 7 in.

1113. *Reading Wrought Iron Pipe.* In the making and in service. Bulletin No. 1. Booklet covering historical data, manufacture of Reading pipe, advantages of wrought iron pipe, uses of wrought iron pipe, model specifications. Reading Iron Co. guarantee and mill specifications for wrought iron standard pipe. 32 pp. Illustrated. Size, 8½ x 11 in.

1520. *Taber Standard Sewage Pumps.* Circular SEW-628 illustrates and describes Taber Single and Duplex sewage pumps. Detail drawings showing installation requirements. Specifications and rating tables are given. A. I. A. File No. 29c2. 4 pp. Illustrated. Size, 8½ x 11 in.

Taber Pump Company, Buffalo, New York.

1472. *Taber Standard Sump Pumps for Drainage Water and Sewage.* Bulletin No. 120-B. Description includes dimensions of standard sizes, capacity and installation details. Suggested specifications are given. A. I. A. File No. 29cl. 6 pp. Illustrated. Size, 8½ x 11 in.

Thomas Savill's Sons, Hancock and Huntingdon Sts., Philadelphia, Pa.

1456. *How Do You Buy Faucets?* Folder illustrates various types of "Savill" faucets. List prices are included. 4 pp. Illustrated. Size, 8½ x 11 in.

The Vitrolite Company, 133 West Washington St., Chicago, Ill.

1494. *Vitrolite Toilet Compartments and Sanitary Construction.* Booklet prepared for filing contains detail drawings, technical data and suggestive specifications for the designing and detailing of toilet compartments, urinals and shower stalls of Vitrolite. 16 pp. Illustrated. Size, 8½ x 11 in.

The Whitlock Coil Pipe Co., Hartford, Conn.

1046. A looseleaf folder of water storage heaters, preheaters, water treatment, details and sales manual. 16 pp. Illustrated. Size, 8½ x 11 in. Bulletins, looseleaf, details and data water heaters and fuel oil heaters. 52 pp. Illustrated. Size, 5½ x 8½ in.

30. HEATING AND VENTILATING

American Gas Products Corp., 376 Lafayette St., New York City.

1238. *Live in the House that Gas Heats.* Booklet describes Ideal Gas boilers, made in various sizes from 225 sq. ft. to 8,000 sq. ft. steam rating or 375 to 13,000 sq. ft. hot water rating. Ratings, dimensions and assembly drawings are included. 8 pp. Illustrated. Size, 8½ x 11 in.

American Radiator Co., 40 West 40th St., New York City.

1513. *How Shall I Heat My Home?* A concise and instructive discussion of the various methods of home heating. 16 pp. Illustrated. Size, 5¾ x 8½ in.

Bayley Blower Co., 732 Greenbush St., Milwaukee, Wis.

1481. *Turbo Atomizer and Air Conditioner.* Bulletin No. 25 illustrates and describes the Turbo Air Washer for cleaning, cooling, tempering, humidifying and dehumidifying air. Valuable technical data and specifications are included. Partial list of installations is given. 32 pp. Illustrated. Size, 7¾ x 10½ in.

1482. *Chinook Heaters.* Bulletin No. 30 describes the construction, operation and application of Chinook Heaters for ventilating systems, with illustrations of typical installations, tables, diagrams, and methods of calculations. A reference book for heating, ventilating and drying engineers. 88 pp. Illustrated. Size, 7¾ x 10½ in.

Buckeye Blower Co., Columbus, Ohio.

960. *Heatovent System. Bulletin No. 123.* Illustrating individual heating and ventilating units for schools and places of public assemblage. Engineering data, details and specifications. 14 pp. Illustrated. Size, 8 x 10½ in.

Buffalo Forge Company, P. O. Box 985, Buffalo, N. Y.

1489. *"Buffalo" Conoidal Fans.* Catalog No. 422 contains illustrations and detail descriptions of Duplex and Turbo Conoidal Ventilating Fans. Specifications and dimensions are given. 24 pp. Illustrated. iz 8½ x 11 in.

1490. *Multi-Rating Tables and Dimensions* of Buffalo Duplex and Turbo Conoidal Fans. Catalog No. 426 presents specifications and tables of capacities, pressures, speeds and horsepowers of Buffalo Duplex Conoidal and Turbo Conoidal Fans. Tables are so arranged that complete information concerning fans of every size is readily available. 56 pp. Illustrated. Size, 8½ x 11 in.

Burnham Boiler Corporation, Irvington, N. Y.

800. *Letters To and Fro.* A booklet which explains the difference between steam, hot water and vapor systems of heating and the relative cost of each. Questions, answers and boiler data. 24 pp. Size, 7 x 10 in.

The Duriron Company, Dayton, Ohio.

1009. *Duriron Ventilating Fans and Hoods. Bulletin No. 140.* Bulletin describing a line of electrically driven exhaust fans for use with acid and other corrosive fumes in industrial plants and laboratories. Also non-corrosive equipment for laboratory hoods. 20 pp. Illustrated. Size, 8½ x 11 in.

REFERENCE LIST OF BUSINESS LITERATURE—Continued

30. HEATING AND VENTILATING—Continued

Economy Pumping Machinery Co., 122 North Curtis St., Chicago, Ill.

1310. *Economy Centrifugal Vacuum-Boiler Feed Pumps.* Technical description of Economy boiler feed pumps with suggested specification and partial list of installations. 12 pp. Illustrated. Size, 8½ x 11 in.

1311. *Economy Pumps and Receivers.* Bulletin describes briefly a line of electric pumps and receivers for various conditions and pressures. Sizes, capacities, installation data, and suggested specifications are given. 16 pp. Illustrated. Size, 8½ x 11 in.

The Frost Manufacturing Co., Galesburg, Ill.

1143. *Ross Steel Boilers, Catalog 4A.* Describes Ross steel boilers for steam or hot water heating, smokeless for coal or oil burning. Dimensions and data for boilers of steam ratings from 400 to 27,000 square feet, or hot water 640 to 43,200 square feet. 16 pp. Illustrated. Size, 6 x 9 in.

1144. *Frost Boilers, Catalog No.* 172. Illustrates and describes frost horizontal tubular boilers for 100 and 150 pounds working pressure. Details, measurements and tables of brick quantities required for setting. 32 pp. Illustrated. Size, 8½ x 11 in.

Gillis & Geoghegan, 535 West Broadway, New York City.

1394. *The G & G Telescopic Hoist* for ash removal and handling material between floors. Filing folder and booklet containing general description of electric and hand power telescopic hoists, details, specifications and other data. A. I. A. File No. 30i1. 24 pp. Illustrated. Size, 8½ x 11 in.

Hart & Cooley Mfg. Co., New Britain, Conn.

1549. *H. & C. Wrought Steel Grilles, Catalog No.* 24 covers the complete line of H. & C. Grilles and includes descriptions, illustrations and sizes. Illustrated. 24 pp. Size, 7¾ x 10 in.

Heggie Simplex Boiler Co., Joliet, Ill.

1070. *Catalog No.* 26. Heggie Simplex Electric Welded Steel Heating Boilers. Descriptive illustrations and detailed data on size, ratings, etc. 22 pp. Illustrated. Size, 8½ x 10¾ in.

Hess Warming and Ventilating Co., 1207-1229 South Western Ave., Chicago, Ill.

178. *Modern Furnace Heating.* An illustrated book on the Hess Welded Steel Furnaces, Pipe and Pipeless, notes for installation, sectional views, showing parts and operations, dimensions, register designs, pipes and fittings. 48 pp. Size, 6 x 9½ in.

Illinois Engineering Co., 21st St., Racine Ave., Chicago, Ill.

1280. *Vapor Details Bulletin* 22. A concise and simple explanation of True Vapor Heat, describing Illinois Heating Systems and Vapor Specialties. Contains a great deal of Engineering information with detail sheets relative to the installation of Heating Systems in various types of office and residential buildings. It also gives standards for computing radiation and boiler sizes compiled by the Standardization Committee of the Chicago Master Steamfitters' Association. A. I. A. File No. 30c2. 24 pp. Illustrated. Size, 8½ x 11 in.

1281. *Illinois Engineering Company Bulletins.* Bulletin 14, Steam Heating Specialties; 45, Non-Return Valves; 103, Pressure Reducing Valves; 203, Back Pressure and Relief Valves; 33, Eclipse Steam Traps; 53, Separators, Oil and Steam; 703, Eclipse Pump Governors, Balanced Valves. Number of pages varies. Illustrated. Size, 8½ x 11 in.

Jenkins Bros., 80 White Street, New York City.

1152. *Jenkins Fig.* 700 *Modulating Valve.* A Bulletin descriptive of a new supply control radiator valve for low pressure steam, vacuum, and vapor heating. A. I. A. File No. 30-c-2. 4 pp. Illustrated. Size, 8½ x 11 in.

Johnson Service Company, 149 Michigan St., Milwaukee, Wis.

391. *The Regulation of Temperature and Humidity.* A description of the Johnson System of temperature regulation and humidity control for buildings; showing many kinds of thermostatic appliances for automatically maintaining uniform temperature. 63 pp. Illustrated. Size, 8½ x 11 in.

392. *Johnson Electric Thermostat, Valves and Controllers.* A catalog of devices mentioned in the title. 24 pp. Illustrated. Size, 3½ x 6 in.

Kewanee Boiler Corp., Kewanee, Ill.

771. *Kewanee Power Boilers. Catalog No.* 79. A complete description of brick set horizontal tubular power boilers with full and half front settings. Also smokeless tubular boilers, with drawn draft furnace and steel casing. Also steel portable locomotive boilers, grates, breechings, cast-iron fronts, air receivers, storage tanks and accessories. 34 pp. Illustrated. Size, 6 x 9 in.

884. *Kewanee Firebox Boilers, Water Heaters, Tanks and Garbage Burners.* General Catalog No. 80. This catalog gives capacities, dimensions and selling data for firebox, boilers, portable and power boilers, and water heaters, garbage burners, tanks, radiators and breechings. 24 pp. Illustrated. Size, 8½ x 10½ in.

Modine Manufacturing Co., Racine, Wis.

1348. *Thermodine Unit Heater.* Catalog No. 127 contains complete information, details of construction, dimensions, piping arrangements, capacities, and architectural and engineering data on the Thermodine Unit Heater. 24 pp. Illustrated. Size, 8½ x 11 in.

1543. *Thermodine Cabinet Heater.* Catalog No. 327 contains details, dimensions and capacities of the Thermodine Cabinet Heater. 12 pp. Illustrated. Size, 8½ x 11 in.

The Herman Nelson Corporation (formerly Moline Heat), Moline, Ill.

411. *Univent Ventilation. Architects' and Engineers' Edition.* A scientific treatise on ventilation for schools, offices and similar buildings; with 40 pages of engineering data on ventilation for architects and engineers. 72 pp.

1115. *Invisible Radiator, Herman Nelson.* Book descriptive of the Herman Nelson Invisible Radiator which can be installed in any ordinary wall or partition without special construction. Illustrated in color; 16 pp. Size, 8½ x 11 in. Booklet of mechanical data showing method of installation, tables of standard sizes, square feet, radiation equivalent, etc., of the Invisible Radiator for steam, vacuum and vapor systems. 24 pp. Illustrated. Size, 6 x 9¼ in.

New York Blower Co., 3159 Shields Avenue, Chicago, Ill.

1211. Type ME fan. Catalog No. 100 illustrates and describes type ME air moving apparatus. This catalog contains dimensions and capacity of various size fans and includes specifications and other valuable engineering data. 32 pp. Illustrated. Size, 8½ x 11 in.

1212. *Comet Unit-Heaters.* Bulletin No. 85. Folder contains general description, dimensions, general data and capacities of Comet Unit-Heaters. 4 pp. Illustrated. Size, 8½ x 11 in.

Pacific Steel Boiler Corporation, Waukegan, Ill. Bristol, Pa.

1071. *Bulletin SC-28.* Descriptive illustrations and specifications. Pacific Direct Draft and Up Draft Smokeless Boilers: Bulletin OF-28 covers Pacific Oil Fired Boilers; Bulletin RT-27 Pacific Steel Residence Boilers; and DD-27 Pacific Down Draft Boilers.

1410. *An Actual Operating Test on Pacific Rear Oil-Fired Boilers.* Booklet describes and gives the results of test of Pacific Rear oil-fired boiler conducted on an installation in the Mark Hopkins Hotel, San Francisco, Cal. 8 pp. Illustrated. Size, 8½ x 11 in.

Peerless Unit Ventilation Co., Inc., Skillman Ave. and Hulst St. Long Island City, N. Y.

1048. *Peer Vent Heating and Ventilating Units.* Feb. 1928. Booklet descriptive of Unit heating and ventilating units, mechanical features and advantages. Directions for laying out unit systems, complete engineering data and details of standard units. 52 pp. Illustrated. Size, 8¼ x 10¾ in.

Rome Brass Radiator Corporation, 1 E. 42d St., New York City.

1367. *The Robras* 20-20. Booklet describes the development and construction of the Robras 20-20 brass radiator. 12 pp. Illustrated. Size, 4 x 9 in.

1449. *Within the Walls.* Catalog describes Robras radiators, 20-20s which may be put in the walls, out of sight. Used with steam, vapor or hot water heating systems. Catalog describes method of installation. Size, 9 x 4 in. Illustrated. 12 pp.

Sarco Company, Inc., 183 Madison Ave., New York City.

1383. *Sarco Products.* Loose leaf catalog of Sarco steam traps, radiator traps, packless inlet valves, temperature regulators, and pipe line strainers. Description, dimensions and prices are included. 20 pp. Illustrated. Size, 6¼ x 9¼ in.

B. F. Sturtevant Co., Hyde Park, Boston, Mass.

1203. *Unit Ventilators, Design* 2. Catalog No. 344. Complete description of the Sturtevant Unit Ventilator for schools, etc., and the design of unit systems of heating and ventilating. Specifications and details are included. A. I. A. File No. 30d1. 20 pp. Illustrated. Size, 8½ x 11 in.

1204. *Sturtevant Unit Heaters. Design* 3. Catalog No. 339. Sturtevant Engineering series describes unit heaters for factories, etc., with notes on design of system, detail data and suggested specifications. A. I. A. File No. 30d1. 30 pp. Illustrated. Size, 8½ x 11 in.

Tuttle & Bailey Manufacturing Co., 441 Lexington Ave., New York City.

1450. *Registers, Grilles and Radiator Cabinets.* Eightieth Annual Catalog, complete for architects and engineers. Finishes, descriptions, sizes, specifications and other valuable data are included in this catalog which is intended for reference and filing. A. I. A. File No. 30e. 82 pp. Illustrated. Size, 8½ x 11 in.

31. ELECTRICAL WORK

Frank Adam Electric Co., St. Louis, Mo.

1361. *Panelboards and Cabinets.* Catalog No. 40. Contains list prices and illustrations of a complete line of one and two fuse type panelboards and steel box cabinets, including meter control panelboards. Other electrical equipment is also shown and described. A. I. A. File No. 31c3. 72 pp. Illustrated. Size, 7¼ x 10¼ in.

1567. *The Control of Lighting in Theatres.* A book describing means for complete control of lighting the stage, auditorium and other parts of theatres, with distribution schedules and specifications. A. I. A. File No. 31c2. 66 pp. Size 8½ x 11½ in.

REFERENCE LIST OF BUSINESS LITERATURE—Continued

31. ELECTRICAL WORK—Continued

The Benjamin Electric Mfg. Co., 120-128 South Sangamon Street Chicago, Ill.

1514. A new and complete file folder in colors describes and illustrates the new line of apartment house models of Benjamin All Porcelain Cabinets for electric refrigeration. 8 pp. Illustrated. Size, 8½ x 11 in.

1553. *Benjamin Electric Ranges.* A folder containing descriptions, detailed drawings and specifications. Illustrated. 8 pp. Size, 8½ x 11 in.

Cooper Hewitt Electric Company, 95 River Street, Hoboken, N. J.

553. *Industrial Lighting Briefs.* No. 1 deals with Industrial Lighting in theory and practice. No. 2 deals with the engineering of illumination with Cooper Hewitt Lamps. No. 3 deals with the quickness of response of the Hand to Eye. Each 4 pp. Size, 8 x 10½ in.

The Frink Co., Inc., 24th St. and 10th Ave., New York City.

150. *Light Service for Hospitals. Catalog No.* 426. 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. 12 pp. Size, 7 x 10 in.

218. *Picture Lighting. Booklet No.* 422. A pamphlet describing Frink Reflectors for lighting pictures, art galleries, decorated ceilings, cove lighting, the lighting of stained glass, etc., and containing a list of private and public galleries using Frink Reflectors. 24 pp. Illustrated. Size, 5¼ x 7 in.

219. *Frink Reflectors and Lighting Specialties for Stores. Catalog No.* 424. A catalog containing a description of the Frink Lighting System for Stores; the Synthetic System of Window Illumination; and a number of appliances to produce the most effective lighting of displayed objects. 20 pp. Illustrated. Size, 8 x 11 in

220. *Frink Lighting Service for Banks and Insurance Companies, Reflectors. Catalog No.* 425. A very interesting treatise on the lighting of offices; with details of illustrations and description of lamps and reflectors. Contains a list covering several pages of banks using Frink Desk and Screen Fixtures. 36 pp. Illustrated. Size, 8¼ x 11 in.

Graybar Electric Co., Lexington Ave. and 43rd St., New York City.

1108. *Fan Catalog.* 1927, for A. C. and D. C. circuits, non-oscillating, oscillating, ceiling and ventilating (exhaust) fans. Descriptive specifications and details. 32 pp. Illustrated. Size, 5½ x 8½ in.

The Edwin F. Guth Co., St. Louis, Mo.

1186. *Aglite and Guthlite.* Folders describing and illustrating the Guthlite Super-Illuminator and Aglite Porcelain Enameled Illuminators. Each folder A. I. A. File No. 31f23. 4 pp. Illustrated. Size, 8½ x 11 in.

1471. *Architectural Catalog No.* 19, contains 32 pages in colors illustrating fixture installs and 80 pages illustrating lighting fixtures suitable for hotels, banks, public buildings, theatres, schools, parks, hospitals, residences, etc. A. I. A. File No. 31f23. 112 pp. Illustrated. Size, 8½ x 11 in.

1573. *Guth Lighting Equipment.* Catalog No. 18, bound, illustrating lighting fixtures suitable for public buildings, hotels, banks, hospitals, schools, residences, etc. A. I. A. File No. 31f23. 32 pp. Illustrated. Size, 8½ x 11 in.

The Hart & Hegeman Mfg. Co., 342 Capitol Ave., Hartford, Conn.

1555. *Fine Switches and Wiring Devices.* Catalog T contains complete information on H. & H. switches, sockets, receptacles and wiring devices. A valuable reference book for the architects building material library. 120 pp. Illustrated. Size, 8½ x 10 in.

1566. *Atop the Style Trend in Wall Plates.* One sheet illustrating and describing the new H & H art plates, hand etched on heavy brass for switch and convenience outlet cover plates. A. I. A. File No. 31c7. 2 pp. Size 8½ x 11 in.

Kanne & Bessant, 211 East 45th St., New York City.

1294. *Lamps and Shades.* Catalog illustrates reproductions of early American pewter lamps adapted to modern use. Catalog also includes other early American types for both table and floor. In brass, iron and glass. Supplement to Catalog No. 10 includes other lamps and shades, sconces, fire screens and andirons. Overall dimensions of fixtures and lamps are given. Catalog 8 pp.; supplement 20 pp. Illustrated. Size, 6 x 9 in.

The Kayline Company, 600 Huron Road, Cleveland, Ohio.

1497. *Department Store Lighting—by Kayline.* Booklet illustrates the uses of various designs of Kayline lighting fixtures in department stores. 8 pp. Illustrated. Size, 8½ x 11 in.

The Lincoln Electric Co., Dept. 11-11, Cleveland, Ohio.

1216. *Lincoln Motors.* Two booklets: (*a*) motors for electric elevators; (*b*) "Line-Weld" motors. Both booklets completely describe the construction of motors made of welded steel and contain valuable data on motors and their construction—(*a*) 2 pp., (*b*) 26 pp. Illustrated. Size, 7¾ x 11 in.

Youngstown Sheet and Tube Co., Youngstown, Ohio.

1017. *Electrical Conduit.* Circular giving complete data about Buckeye Rigid Conduit and Realflex Flexible Steel Armored Cable with specifications. 6 pp. Illustrated. Size, 8½ x 11 in.

32. REFRIGERATION

Frick Company, Waynesboro, Pa.

1290. *Ice and Frost.* Series I, No. 4. Enclosed type Ammonia Compressors and Refrigerating Equipment. A brief outline of the advantages and uses of modern mechanical refrigeration. A few installations of Frick equipment are illustrated. 48 pp. Illustrated. Size, 6 x 9 in.

1502. *Frick Refrigeration.* Ice and Frost Bulletin No. 118-A illustrates and describes Carbon-Dioxide refrigerating equipment for hotels, apartment houses, hospitals, office buildings, etc. 8 pp. Illustrated. Size, 8½ x 11 in.

Servel Sales, Inc., 51 E. 42nd St., New York City.

1506. *Servel Electric Refrigeration.* Folder describes Servel Cabinets and Refrigerating Units. Brief specifications are given. 4 pp. Illustrated. 8½ x 11 in.

1507. *Servel "Duplex."* Folder describes the Servel Duplex Refrigerating Unit. 6 pp. Illustrated. 3¼ x 6¼ in.

33. ELEVATORS AND ACCESSORIES

Kimball Bros. Co., Council Bluffs, Iowa.

742. *Kimball Straight Line Drive Elevators.* A complete catalog of passenger, freight and garage traction elevators, push button elevators, dumbwaiters, sidewalk and ash hoist elevators. 36 pp. Illustrated. Size, 8½ x 11 in.

Otis Elevator Co., 260 Eleventh Ave., New York City.

651. *Otis Geared and Gearless Traction Elevators.* Leaflets describing all types of geared and gearless traction elevators with details of machines, motors and controllers for these types. Illustrated. Size, 8½ x 11 in.

1562. *Escalators.* A comprehensive catalog describing and illustrating the use of escalators for supplementing elevator service in department stores, also for subways, railroad stations and other locations. 32 pp. Illustrated. Size, 8½ x 11 in.

Richards-Wilcox Mfg. Co., Aurora, Ill.

795. *"Ideal" Elevator Door Hardware. Catalog No.* 37. A catalog showing hangers for every type of elevator doors hand operated, interlocking door controllers, bar locks and accessories. 56 pp. Illustrated. Size, 8½ x 11 in.

Sedgwick Machine Works, 159 West 15th St., New York City.

1341. *Sedgwick Dumb Waiters and Elevators.* Catalog P contains valuable information, standard sizes, installation details and other data on hand power dumb waiters, fuel and log lifts, freight elevators, invalid elevators, automobile elevators and sidewalk elevators. Experience of nearly 35 years in the design, manufacture and installation of hand power dumb waiters and elevators for all purposes has been drawn upon in the compilation of this catalog. 32 pp. Illustrated. Size, 8½ x 11 in.

A. B. See Electric Elevator Co., 52 Vesey St., New York City.

169. Photographs and description in detail of elevator equipment manufactured by the A. B. See Electric Elevator Co. Size, 6 x 8 in.

Storm Mfg. Company, 40-50 Vesey St., Newark, N. J.

1503. *Elevators and Dumbwaiters.* A series of bulletins describing various types of machines. No. 17 "H" machines for handpower elevators, No. 18 "N" machines for dumbwaiters, No. 19 "P" machines for automatic dumbwaiters, No. 22—sidewalk elevators, No. 16—F. & W. machines for electric dumbwaiters, No. 21—hospital elevators and dumbwaiters. 30 pp. Illustrated. Size, 6 x 9 in.

34. POWER PLANT

35. EQUIPMENT, STATIONARY

American Seating Co., 14 E. Jackson Boulevard, Chicago, Ill.

1563. *Furnishings for Modern Churches.* A portfolio containing a number of illustrations showing chancel furnishings, pew seatings and special pieces in loose leaf form, with file folder. A. I. A. No. 35A42—35A41—28B11. Size, 8½ x 11 in.

American Stove Co., St. Louis, Mo.

1050. *Handbook on Gas Ranges for Architects and Builders.* A practical book of data on gas ranges and pipe sizes for the files of the architect and specification writer. 32 pp. Illustrated. Size, 8¾ x 11¼ in.

REFERENCE LIST OF BUSINESS LITERATURE—Continued

35. EQUIPMENT, STATIONARY—Continued

Champion Dish Washing Machine Co., 15th & Bloomfield Sts., Hoboken, N. J.

1499. *Dishwashing Mathematics*—Figure Facts on Dishwashing. Booklet contains information and make up sheet for arriving at cost of dishwashing. Various types of machines are illustrated and described. 16 pp. Illustrated. Size, 3¼ x 6¼ in.

R. W. Clark Mfg. Co., 4311 Ravenswood Ave., Chicago, Ill.

1151. *Clark Directories and Bulletin Boards.* A. I. A. File No. 35n3. Interchangeable letter equipment for office building directory, hotel, bank, apartment and public building directory and bulletin boards. Booklet ready for filing contains detail drawings with dimensions and specifications for various styles and sizes of bulletin and directory boards. 8 pp. Illustrated. Size, 8½ x 11 in.

Cutler Mail Chute Co., Rochester, N. Y.

294. *The Cutler Mail Chute. Model F.* Describes the Cutler Mail Chute in its standard form, known as Model F. Contains data for rough floor openings not included in the Mail Chute contract. 16 pp. Illustrated. Size, 4 x 9¼ in.

1574. *The Cutler Mail Chute.* Booklet describing Cutler Mail Chutes. Contains illustrations and details. 16 pp. Size, 4 x 9 inches.

J. C. Deagan, Inc., 189 Deagan Bldg., Chicago, Ill.

783. *Deagan Tower Chimes.* Describing the important features of Deagan Tower Chimes and including information concerning the space requirements and construction required for installing chimes in towers and belfries. 8 pp. Size, 8½ x 11 in.

W. F. Dougherty & Sons, Inc., 1009 Arch St., Philadelphia, Pa.

1433. *Food Service Equipment.* A complete catalog of kitchen and restaurant equipment. A valuable reference book for those interested in equipping hospitals, hotels, clubs, schools and industrial plants. 210 pp. Illustrated. Size, 8½ x 11 in.

The G&G Atlas Systems, 545 West Broadway, New York City.

1398. *The G&G Atlas Pneumatic Tube System.* Series of folders illustrating and describing the installation and uses of G&G Atlas pneumatic tube systems in various types of buildings. These include among others The Halle Bros. Co., Cleveland, The Stevens Hotel, Chicago, and The New York World. Each 2 pp. Illustrated. Size, 8 x 11¼ in.

Kerner Incinerator Co., 641 E. Water St., Milwaukee, Wisc.

1199. *Garbage and Waste Disposal for Apartment Buildings.* Folder describes principle and design of Kernerator chimney-fed Incinerator for apartments aad list of illustrations.

1292. *The Sanitary Elimination of Garbage and Household Waste* Folder contains complete information on the Kernerator for residences. 8 pp. Illustrated. Size, 8½ x 11 in.

1564. *Incinerators (Chimney Fed)* Catalog No. 17, Architects' and Builders' Edition. Describes the Kernerator chimney fed incinerators for residences, apartments, hospitals, schools and institutions. Gives design, general information and working data. Also standard layout sheet. 20 pp. Illustrated. Size, 8½ x 11 in.

National Stove Co., Division of American Stove Co., Loraine, Ohio.

506. *Catalog No.* 94. *Second Edition.* A catalog of Direct Action Gas Ranges equipped with Lorain Oven Heat Regulator.

Quick Meal Stove Co., Division of American Stove Co., St. Louis, Mo.

595. *Catalog No.* 131. A catalog of gas (also combination of coal and cook stoves; gas boilers, soldering furnaces, cake bakers, hot plates, water heaters, gas heaters for rooms. Lorain Oven Heat regulations, etc. 56 pp. Size, 6 x 9 in.

Skinner Organ Company, 677 Fifth Ave., New York City.

1484. *The Skinner Residence Organ.* Booklet describes and illustrates the Skinner Ten Stop Residence Organ for manual, semi-automatic or full automatic operation. Illustrations have been selected from numerous installations that show various conditions. 48 pp. Illustrated. Size, 8¼ x 11¼ in.

The Spencer Turbine Co., Hartford, Conn.

1239. *Spencer Central Cleaning Systems.* Vacuum cleaning apparatus for all purposes. Booklet completely describes the Spencer System of vacuum cleaning. A large number of buildings using this system are illustrated. 32 pp. Illustrated. Size, 8½ x 11 in.

36. CONSTRUCTION PLANT

37. INSULATION

Armstrong Cork & Insulation Co., 24th St. and Allegheny River, Pittsburgh, Pa.

1273. *Armstrong's Cork Board Insulation for Walls and Roofs of Buildings.* Ready to file catalog prepared and edited by the Architectural Council of Minneapolis, containing complete information on cork board insulation, arranged especially for the use of the specification writer and drafting room. A valuable reference volume. A. I. A. File No. 37b4. 66 pp. Illustrated. Size, 9¼ x 11¼ in.

1455. *Roof Insulation—Efficiency—Economy and Practicability.* No. 5 of a series of folders relative to the desirability and use of Armstrong's cork board for Roof Insulation. This is an interesting series containing data on the subject of roof insulation. 6 pp. Illustrated. Size, 8½ x 11 in.

The Philip Carey Co., Lockland, Cincinnati, Ohio.

379. *Pipe and Boiler Coverings. Catalog* 1362. A catalog and manual of pipe and boiler coverings, cements, etc. Contains a number of valuable diagrams and tables. 71 pp. Illustrated. Size, 6 x 9 in.

The Insulite Company, Minneapolis, Minn.

1477. *Roof Insulation and Prevention of Condensation with Insulite.* Filing folder containing chapters on roof insulation, the advantages of using Insulite, analysis of a typical roof, technical data on insulating against heat transmission and prevention of condensation. Specifications for Insulite roof insulation are included. A. I. A. File No. 37a1. 16 pp. Illustrated. Size, 8½ x 11 in.

1478. *Specifications and Details on the Use and Installation of Insulite,* for plaster base, sheathing, wall board, exterior finish, acoustical correction and sound deadening. Booklet prepared for filing illustrates the various uses of Insulite. Valuable for drafting room and specification writer. A. I. A. File No. 37a1. 16 pp. Illustrated. Size, 8½ x 11 in.

United States Mineral Wool Co., 280 Madison Ave., New York City.

83. *The Uses of Mineral Wool in Architecture.* Illustrated booklet. Properties of insulation against heat, frost, sound, and as a fire proofing, with section drawings and specifications for use. It gives rule for estimate and cost. Size, 5 x 6⅝ in. 34 pp.

38. LANDSCAPE

Erkins Studios, 254 Lexington Ave., New York City.

1473. *Garden Furniture in Pompeian Stone, Lead, Terra Cotta and Marble.* Booklet illustrates Vases, Pedestals, Sundials, Fonts, Fountains, Tables, Benches, Balustrades, Well Heads, Gazing Globes and Pergolas. 20 pp. Illustrated. Size, 8 x 11 in.

H. A. Robinson & Co., Inc., 128 Water St., New York, N. Y.

1431. *En-Tout-Cas Fast Drying Tennis Courts.* Booklet illustrates several tennis courts and describes the En-Tout-Cas method of tennis court construction. Tennis court fittings are also illustrated and described. 16 pp. Illustrated. Size, 8¼ x 9½ in.

39. ACOUSTICS

40. REGULATIONS

I PLANS AND DESIGNS

American Face Brick Association, 1754 People's Life Bldg., Chicago, Ill.

155. *The Home of Beauty.* A booklet containing fifty prize designs for small brick houses submitted in national competition by architects. Texts by Aymar Ambury II, Architect. Size, 8 x 10 in. 72 pp. Price, 50 cents.

Truscon Steel Company, Youngstown, Ohio.

318. *Truscon Standard Buildings. Form D-398.* Describes Truscon Standard Steel Buildings, with diagrams, illustrations of installations, descriptive matter and list of users. 48 pp. Illustrated. Size, 8½ x 11 in.

II GENERAL CATALOGS

American Lead Pencil Co., 220 Fifth Ave., New York City.

268. *Booklet C-20. Venus Pencil in Mechanical Drafting.* An interesting illustrated booklet showing the possibilities of the Venus Drawing Pencil for drafting. Size, 6 x 9 in.

Johns-Manville Corporation, New York City.

752. *Johns-Manville Service to Industry.* A complete catalog of Asbestos Roofings, Heat and Electric Insulations, Waterproofing, Industrial Flooring, etc. Complete details and specifications. Valuable reference book for architects. 260 pp. Illustrated. Size, 8½ x 11 in.

A. Wyckoff & Sons Co., Elmira, N. Y.

397. *Wyckoff Wood Pipe. Catalog No. 42.* A description of machine-made woodstave pipe and Wyckoff's express steam pipe casing. Contains also a number of pages of useful formulas and tables for hydraulic computation. 92 pp. Illustrated. Size, 6x9 in.

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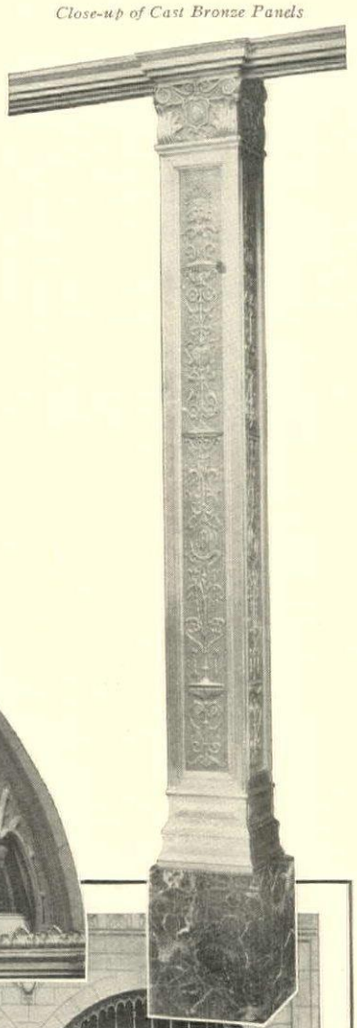
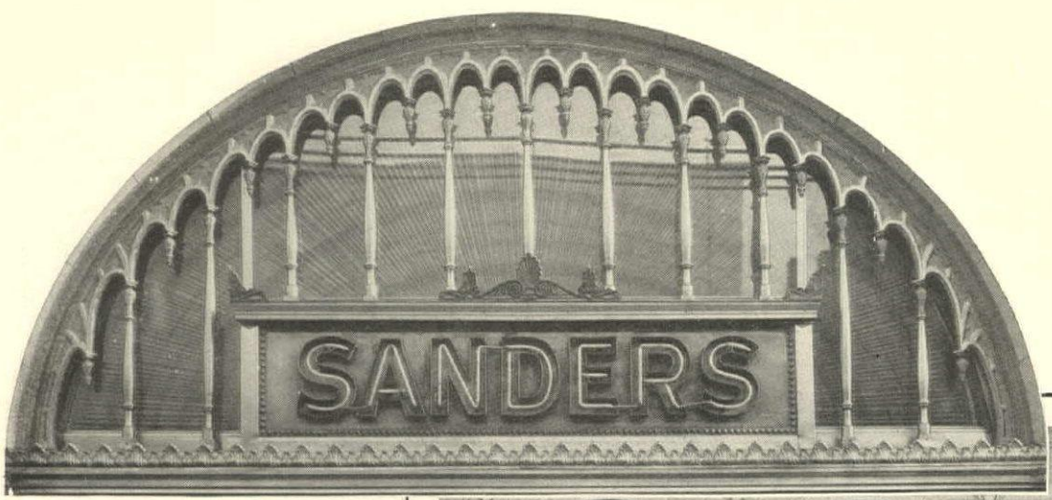
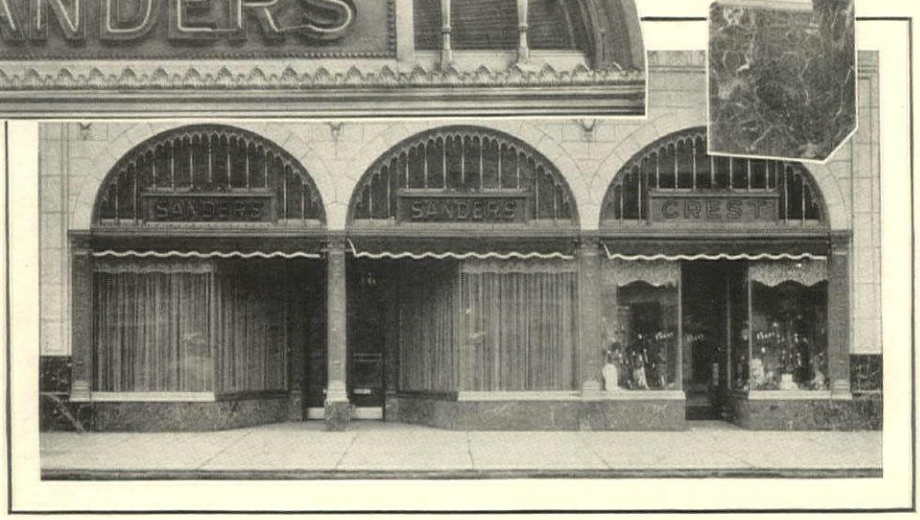


Pollmar and Ropes, Architects, Detroit, Mich.



Close-up of Cast Bronze Grille



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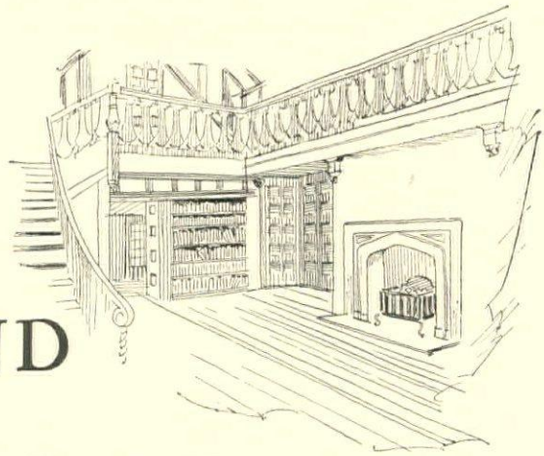

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Cincinnati, 659 Freeman Ave. — Cleveland, 820 W. Superior Ave.
St. Louis, 722 Chestnut St. — San Francisco, 235 Montgomery St.
Pittsburgh, National Lead & Oil Co. of Pa., 316 Fourth Ave.
Philadelphia, John T. Lewis & Bros. Co., 437 Chestnut St.

DUTCH BOY WHITE-LEAD

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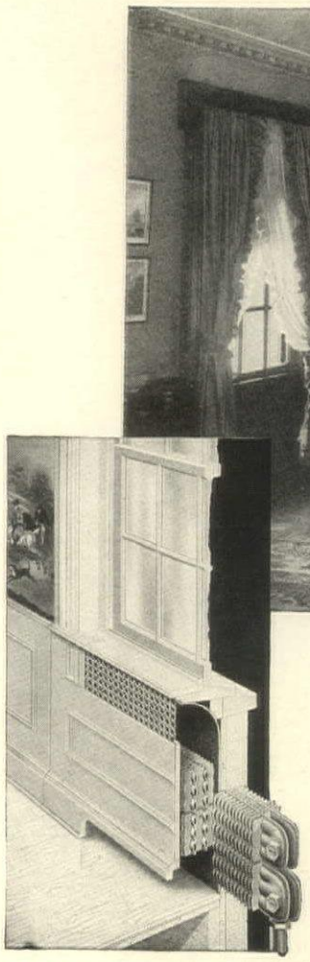
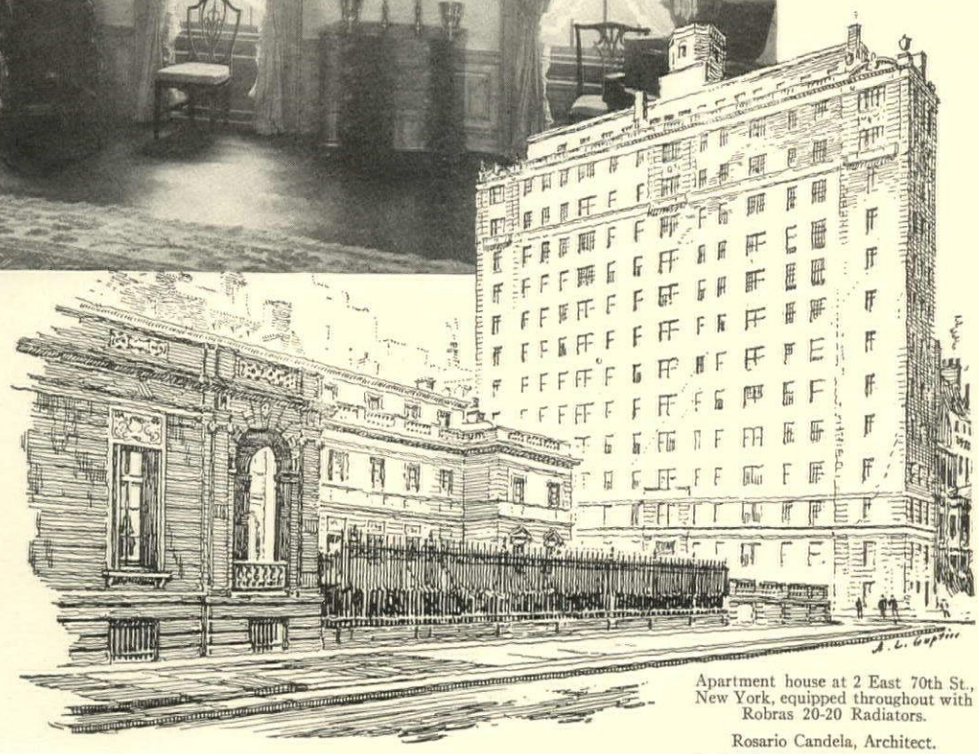


Method of installing ROBRAS 20-20 Radiators in four-inch recesses under the windows.



Apartment house at 2 East 70th St., New York, equipped throughout with Robras 20-20 Radiators.

Rosario Candela, Architect.
E. A. Kingsley & Co., Steamfitters.

ROBRAS 20-20 Designed To Be Accepted As *THE* Concealed RADIATOR

Why is it so accepted?

Because it was designed with the problems of the architect in mind. Realizing that the architect is loath to change his plans to fit in "units" of given dimensions, we assemble the Robras 20-20 Radiators to order, to fit in almost any shaped space.

There are nine section lengths, from eighteen to seventy inches. They are rated from five to twenty-five square feet per section. If a single section is used, it is only eight inches high and two and one-quarter inches deep. If sections are added laterally, each of the sections adds only one and one-half inches to the original width. This is because the fins of each section interlink.

Robras 20-20 Radiators are usually ordered two-tiers high, two-sections deep, and of the length nearest to the space available. Thus they fit easily under a window and in the standard studding.

Additional information on these radiators can be had from your A.I.A. File, from Sweets, or from inquiry direct to us.

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ROME BRASS RADIATOR CORPORATION

ONE EAST FORTY-SECOND STREET - - NEW YORK

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Portion of conservatory in Proctor residence Larchmont, N. Y. Architect C. J. Fernschild, Jr., New York Tile contractors Mart & Lawton Inc New York

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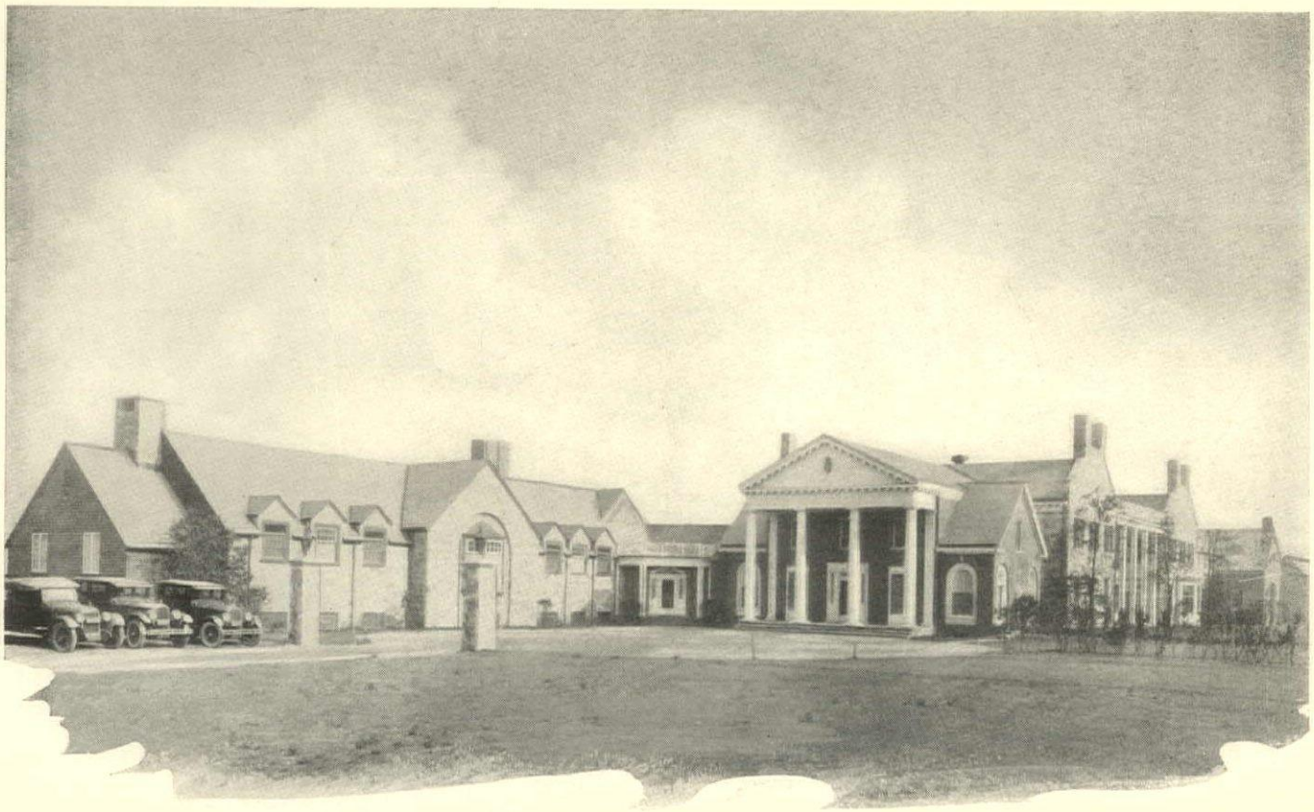

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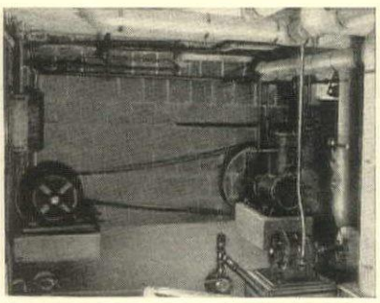

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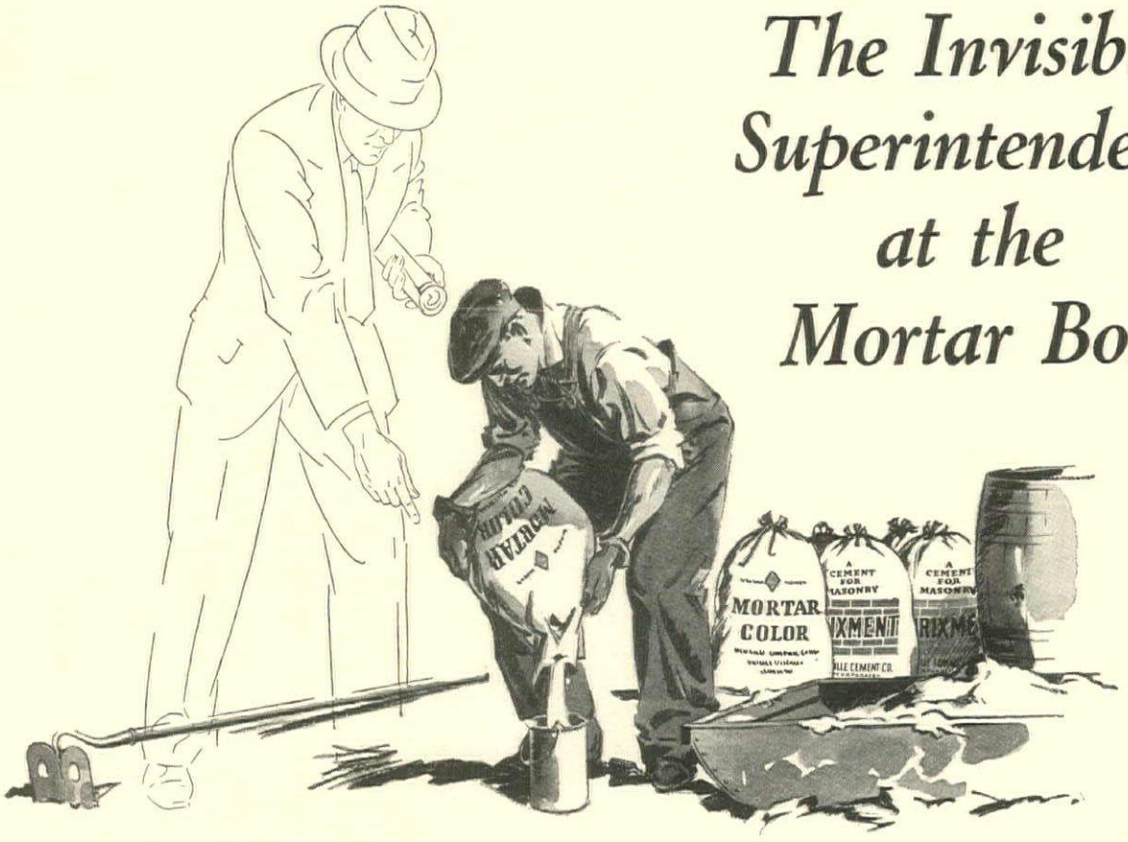
The Invisible Superintendent at the Mortar Box



Prevents Fading of Colors

THE permanence of the mortar color in the joint depends not only upon the pigment selected but upon the mortar with which it is mixed. Too frequently the desired effect of harmony or contrast is entirely lost by the use of a mortar that fades the color and causes a washed-out appearance of the joint.

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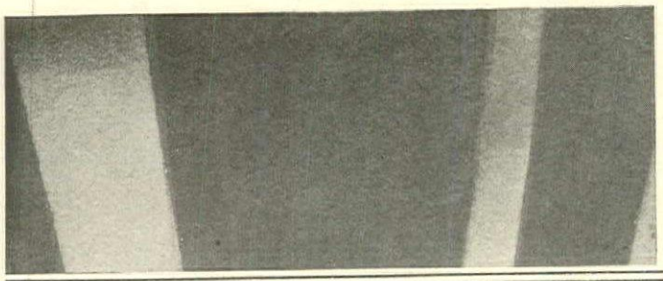


The Koppers Building
Pittsburgh, Pa.

Graham, Anderson, Probst & White—Architects
Mellon-Stuart Company—Contracting Engineers
McClintic-Marshall Contruction Co.—Fabricators
Bass Construction Company—Steel Erectors

And again Carnegie Beams were selected

"A man is not without honor save in his own country" has been disproved in Pittsburgh, the home city of Carnegie Beams. The magnificent Koppers Building is one of many imposing structures now under construction in this city of steel, in which these beams form the framework. Here, as well as all over the country, architects, engineers and builders have been quick to recognize the many advantages offered in this modern series.

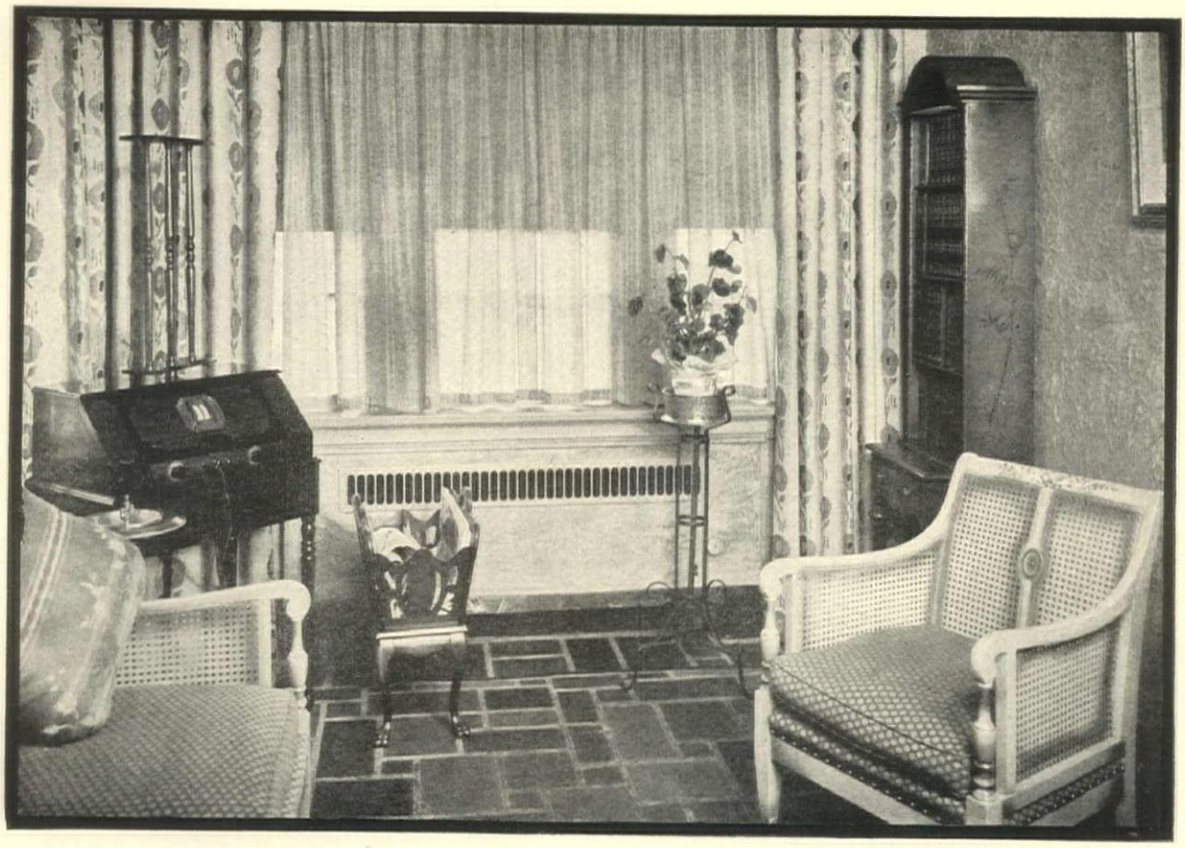
The Carnegie Beam Series offers two unique features. First, the flanges are of uniform thickness without taper—a factor which permits of simple connections and facilitates fabrication and erection. Second, a complete series of 10″ and 12″ sections are included, designed for column purposes, in which the various weights have a constant depth. In tier or apartment house construction, constant depth is especially valuable. The details of splices, girders, floor beams, spandrels, stairwells, elevator shafts, etc., for one floor are identical for successive floors. The economy afforded by this uniformity presents an opportunity for substantial savings. The new Carnegie Beams merit your investigation.

Our handbook "Carnegie Beam Sections" will acquaint you with complete details. We will gladly send a copy at your request.

1951

CARNEGIE STEEL COMPANY

Subsidiary of UNITED STATES STEEL CORPORATION
CARNEGIE BUILDING ··· *PITTSBURGH, PA.*

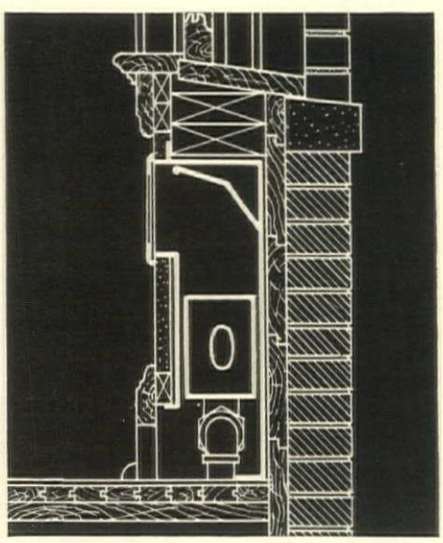


THERE are two good ways to estimate the age of any building. One is to read the cornerstone. *The other is to look at the heating fixtures.*

Modern heaters should be felt— NOT SEEN

Every year the trend grows more and more rapidly away from the great, bulky fixtures of the past to the *completely concealed heater* of tomorrow. Now more than ever, the use of Circulair Heat is vital to the architect and contractor, because *it will delay obsolescence by years.*

And there are other factors. Circulair Heat consumes no valuable room-space. It harmonizes with any architectural design. It permits the placement of furniture wherever convenience may suggest. It is economical to buy and surprisingly simple to install.



Full descriptions of these years-ahead heaters, together with engineering data and photographs of many beautiful installations, are contained in the NEW Circulair catalog, just off the presses. Use the coupon for getting your copy now. Circulair Heat, Incorporated, 205 Central Ave., Louisville, Ky.

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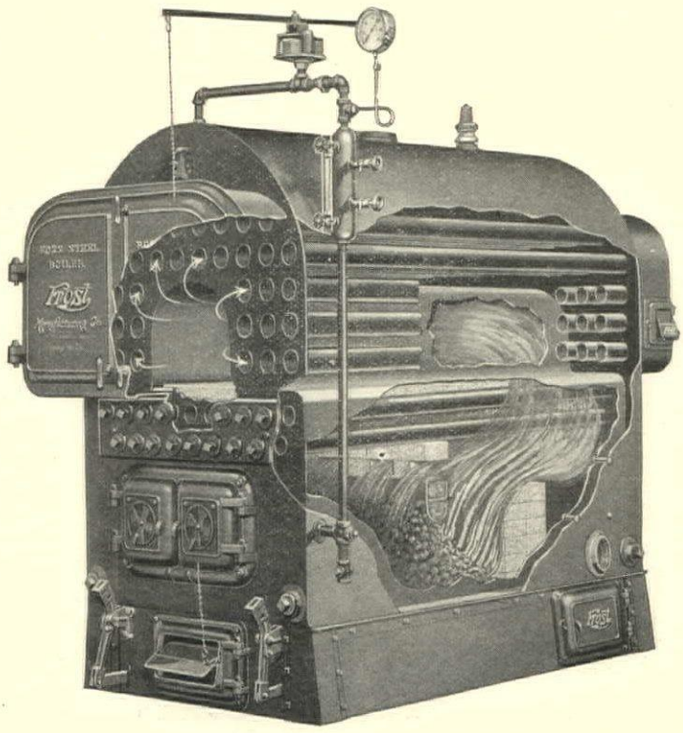

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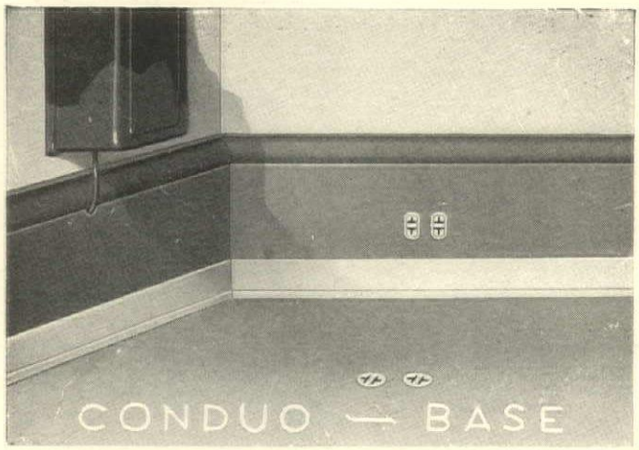

First National Bank Building
DOLLAR SAVINGS AND TRUST CO. BUILDING

YOUNGSTOWN, OHIO

HARRY A. BOYD
BUILDING MANAGER

December 21, 1928.

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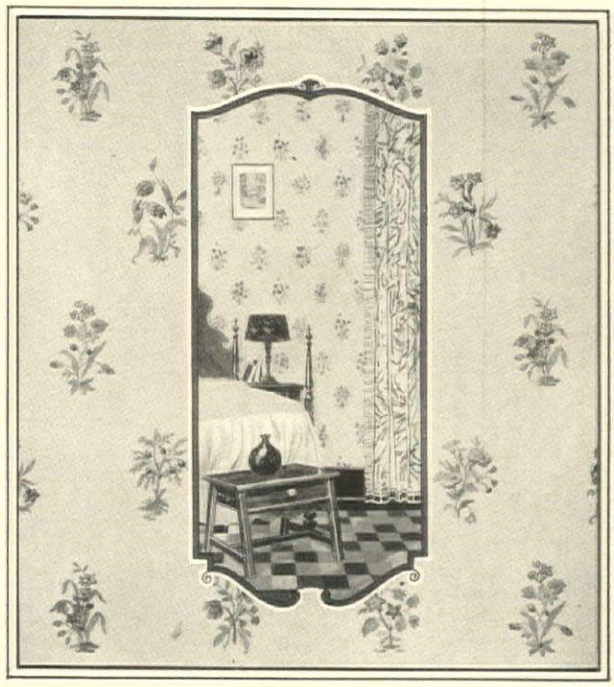

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DOOR and window openings finished with Expansion Metal Casing. Walls attractively textured in plaster over Stay-Rib Metal Lath. The modern upper wall panels developed over formed cold rolled Channels. Milcor Concealed Metal Picture Molding. Inner angles and exposed corners protected from tension cracks and bumps, and made straight and true with Expansion Corner Beads.

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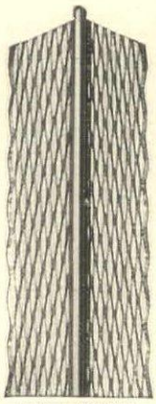

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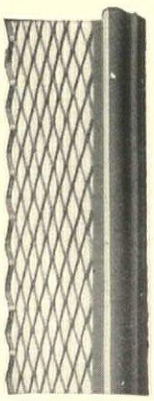

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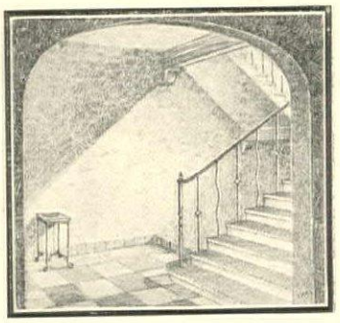

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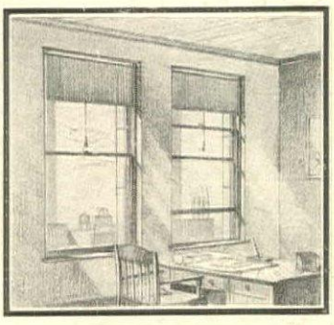

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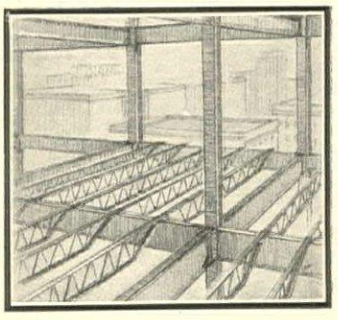

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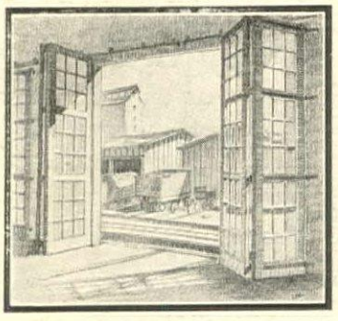

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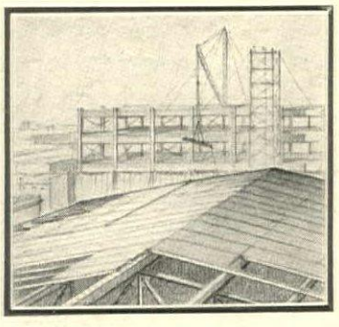

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Jefferson silhouette made from the original hanging in Jefferson's own bedroom at Monticello.

What Then Are Old Virginia Jefferson Bricks?

Being Tale Telling Number Seven

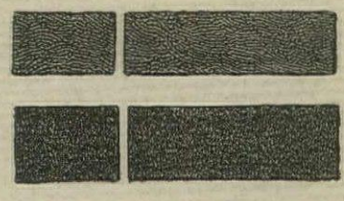
THEY ARE Old Virginia Bricks made half-inch oversize. That is, oversize compared to present-day standard size. Half-inch higher — but same length.

Bricks that are made in a true Old Virginia way, from molds of cherry and maple wood. Bricks not alone having the softened edges of the hand-made ones; but the variant shapings of those yester-years, when bricks were bricks, way down in old Virginia.

Every building of Jefferson's design from Monticello, to Old Sweet and the University of Virginia, was built with the half-inch higher brick. Makes the heads just a bit off the square. Shortens the stretcher effect. Gives a sturdy, staunch look, with lessened mortar in evidence.

Cost more per thousand to buy. But less to lay. Five thousand Jeffersons lay up as much wall as six of the present-day standard size.

So far as we know, no one else makes this Jefferson size. If you like, we'll send you one of our Brick-Kits containing 18 quarter-size Jeffersons, you can lay them up on your table or desk and see for yourself.



Compare these two sizes. The top row is present-day standard size, which we also make. The bottom one, Jefferson size.

OLD VIRGINIA BRICK

Old Virginia Brick Company
Salem, Virginia

Special Number { PRINCETON ARCHITECTURE
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VOLUME XCVI | JULY 21, 1909 | NUMBER 1752

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