



THE AMERICAN ARCHITECT



FOUNDED 1876

THE NEW RENAISSANCE IN ARCHITECTURE

AS SEEN IN THE DESIGN OF BUILDINGS FOR MAIL ORDER HOUSES

By GEORGE C. NIMMONS, F. A. I. A.

WHAT people buy with their money has always been an important influence in their lives. Formerly the necessities of life were the principal things people bought, but now they buy more things for their recreation, amusement and entertainment than they ever did before, because labor-saving machinery and industrial developments have greatly increased the leisure time of everyone. There are authorities who believe that the manner in which people spend their leisure time is one of the biggest problems of our social life. They hold that the character of the people from now on is going to be moulded to an important extent by the way they spend their leisure time. Leisure time raises the question of, "What to do with it?" and here is where the merchant comes in with his suggestions through advertisements, and influences the people to a large extent in how this leisure time is to be spent. The merchant of the country, his policy of doing business, and the things he sells to the people, are consequently of more importance in the development of the character of the people than they ever were before.

The mail order houses of this country have developed to such an extent that they sell more merchandise and of a greater variety than any other merchants. They build the largest buildings in the world; some of their buildings contain 1,500,000 sq. ft. of floor space, and more. A large majority of the people of this country are their customers. Sears, Roebuck and Co. have 11,000,000 customers, largely heads of families, and when multiplied by four to represent the average family, means that about 44,000,000 people patronize them.

The mail order houses supply every kind of clothing worn by men, women and children; they furnish and equip houses complete from basement to attic; and they sell food, drugs, confectionery and all kinds of supplies to maintain the home. For the farmer, tradesman, gardener and workman in

the various occupations, they have tools, implements, supplies and equipment of almost every kind. In addition to supplying the essential things for the home and the various useful occupations, they furnish all sorts of things required for the amusement, entertainment, education and recreation of the people, such as toys, games, musical instruments, phonographs, radio sets, books and sporting goods, bicycles and automobile accessories.

While a customer will buy only what he wants or what is in accordance with his ideals and standards of taste, the merchant, nevertheless, influences his customers' standards materially by the character of the things he offers for sale. He has to be careful not to stock up with things the customer will not buy, but the merchant may and often does influence the buyer's standard of taste in favor of better design and better craftsmanship than he would ordinarily select. As the mail order houses sell their goods through the agency of illustrated catalogs placed in the hands of the customers, these catalogs, extending back over years, become an index of the changes in the demands and taste of the people.

The things which the people now buy as representing the essentials of life are, in a general way, conducive to wholesome, healthy and clean living, and the things which they procure for their amusement, recreation and education are largely of a character to develop in a commendable way the mental and spiritual side of their natures. Comparison with catalogs of the earlier years shows a decided increase in the variety of things purchased and a marked development in quality and design. Particularly is this true in respect to furniture, wall paper, house furnishings and decorations, as well as in many other articles. The improvement is most striking in the standard of taste displayed in the selection of books, ornaments, musical instruments

and records, and many other things employed for amusement and entertainment.

The business of mail order houses has become so large that it has occasioned the building of many buildings and will sooner or later establish a type of building that will become familiar as representative of the mail order business. Sears, Roebuck and Co., whose buildings are illustrated in this article, will have, with the completion of the one at Boston now under construction, ten mail order stores or distributing plants for their mail order business, located throughout the country, near the center of each parcel post section of the U. S. Postal Department. The decentralizing of their business in this way makes a shorter carry and prompter service for the customer, than a centralized organization. The traveling salesmen who sell the goods for the mail order stores, are the catalogs. The orders from customers arrive by mail and these orders as a rule are filled and shipped within twenty-four hours.

The requirements for the building are, therefore, to provide for this simple process of doing business largely through the mail and by use of freight and express transportation for the heavier goods and special shipments. Briefly stated, the filling of a customer's order consists of sending through

pneumatic tubes from the main office a separate order to each department containing the goods called for. Each department selects the goods ordered, and starts them going on the way to the shipping room at the time scheduled, as the time for every article to arrive in the shipping room is pre-arranged when the separate orders are made out. This timing of the moving of orders produces a steady flow of merchandise in shipment and prevents the overcrowding and spasmodic operation of the system. The movement of merchandise horizontally is accomplished generally for long distances by horizontal traveling conveyors, and the movement downward to the shipping room, which is in one of the lower articles, is made by means of spiral chutes. The horizontal conveyors take the merchandise, usually placed in baskets, to the spiral chutes, and it slides round and round in a large steel tube until it finally comes out on another horizontal traveling conveyor down near the shipping room, and here it goes through a sorting process of transferring it from one conveyor to another, that finally results in accumulating all of the various articles of an order in one section in the shipping room, where they are packed, addressed and started on their way by mail or express to the customer.



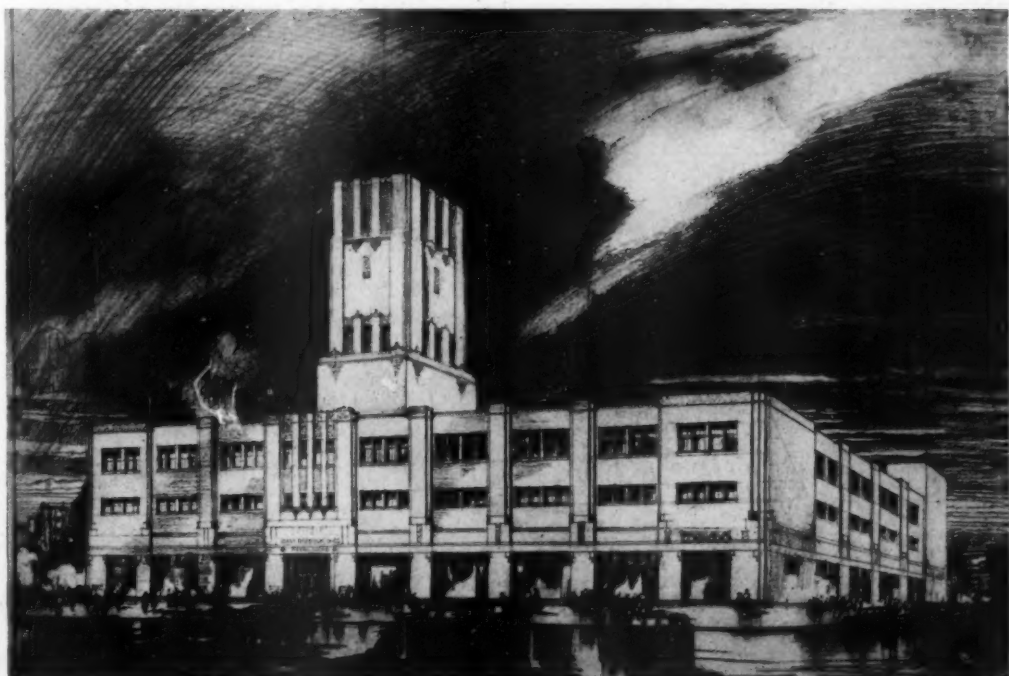
Photo by Nordin

SEARS, ROEBUCK & COMPANY MAIL ORDER STORE, MINNEAPOLIS, MINN.—NIMMONS, CARR & WRIGHT, ARCHITECTS



SEARS, ROEBUCK & COMPANY RETAIL STORE, LOS ANGELES, CALIF.

NIMMONS, CARR & WRIGHT, ARCHITECTS



SEARS, ROEBUCK & COMPANY RETAIL STORE, MILWAUKEE, WIS.

NIMMONS, CARR & WRIGHT, ARCHITECTS

This method of doing business has brought about the creation of a type of building that is different from a wholesale house or a commercial building of the ordinary type, because the ordinary methods of storing merchandise and filling orders in the latter case are not best adapted for a mail order house. Mechanical means of assembling goods for shipment, and the arranging and designing of the different parts of the building so as to secure the greatest convenience in operation and the greatest economy in the handling of goods and the supervision and direction of employees, are the outstanding features in planning a mail order building.

The Boston building, when completed, will be typical in its arrangement and equipment of the ten mail order plants throughout the country. The Boston store in design does not follow any historic style of architecture. It represents an effort to express architecturally the plan and construction along the line of "modern" design. The materials are light gray brick and Indiana limestone, with simple ornamentation to emphasize its important features. The tower, which dominates the building, encloses the sprinkler tank and becomes the central feature of the entire design. The building fronts on a park, "The Fenway," and is set back from the street in front over 100 ft., and this foreground is to be landscaped with trees, lawns, flowers and shrubs so as to make a pleasing appearance for the neighborhood and an attractive setting for the building. The parking space for cars will be screened off with trees and shrubbery from the street, and all of the move-

ment of freight by railroad and trucks will be out of view in the rear of the building.

The Minneapolis and Memphis mail order stores, illustrated herewith, are completed, and are buildings similar in design to the Boston building, done, as is the latter, in light gray brick and stone with a tower in each case containing the water tanks, which furnishes the dominating architectural feature to mark the main entrance of each building.

All of their buildings are required to have sprinkler systems in order to secure low fire insurance rates. Since enclosing the large water tank in a tower involves relatively small expense over that required for an exposed skeleton support, and adds greatly to the good appearance of the building, guards against freezing of the tank and reduces the cost of maintenance, the tower design has been adopted for their buildings generally, and has become a distinguishing feature.

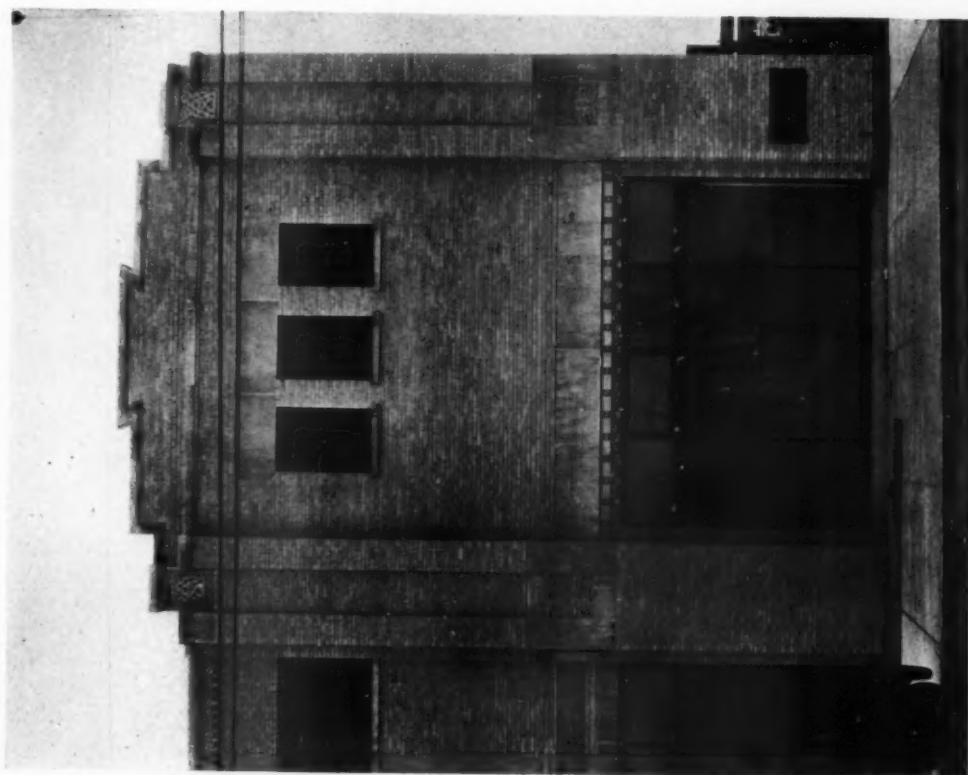
The Detroit, Milwaukee and Los Angeles buildings illustrated are typical examples of retail store buildings built in different parts of the country, which sell to their customers directly by retail. These buildings are two or three stories high, and are each provided with a parking space for the cars of the customers.

The architectural treatment of the exterior design of these buildings represents an effort to design in conformity with the modern movement. No historic style of architecture was followed, but the expression of the plan and arrangement of the parts of the

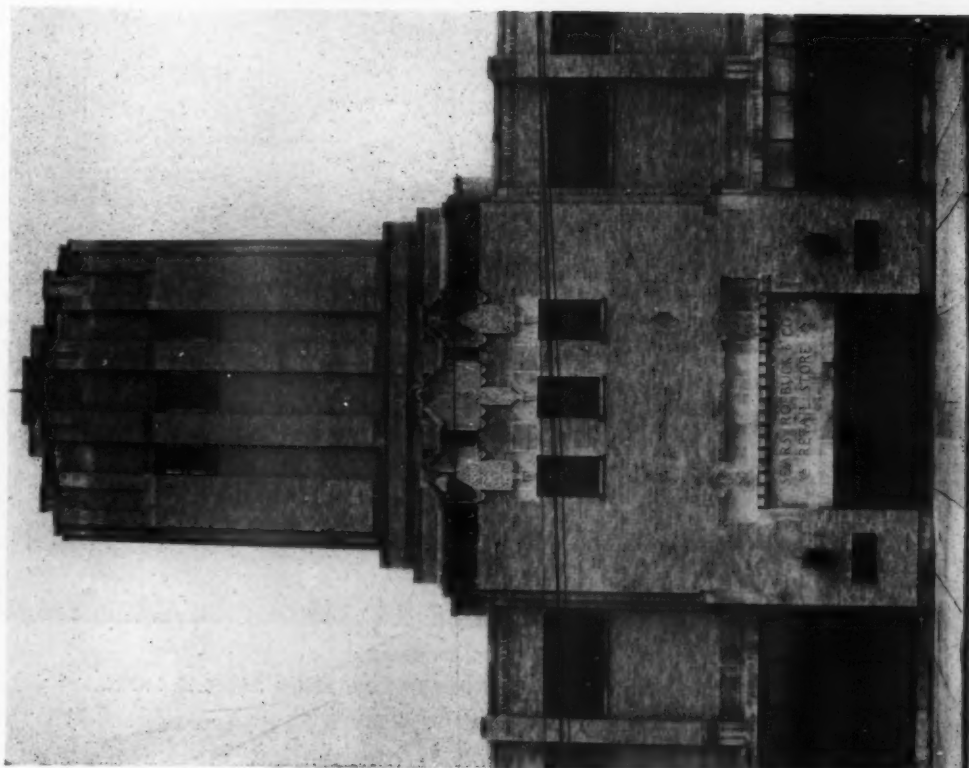


Photo by Manning

SEARS, ROEBUCK & COMPANY RETAIL STORE, DETROIT, MICH.—NIMMONS, CARR & WRIGHT, ARCHITECTS



END PAVILION
SEARS, ROEBUCK & COMPANY RETAIL STORE, DETROIT, MICH.—NIMMONS, CARR & WRIGHT, ARCHITECTS



TOWER AND MAIN ENTRANCE
SEARS, ROEBUCK & COMPANY RETAIL STORE, DETROIT, MICH.—NIMMONS, CARR & WRIGHT, ARCHITECTS

Photos by Manning

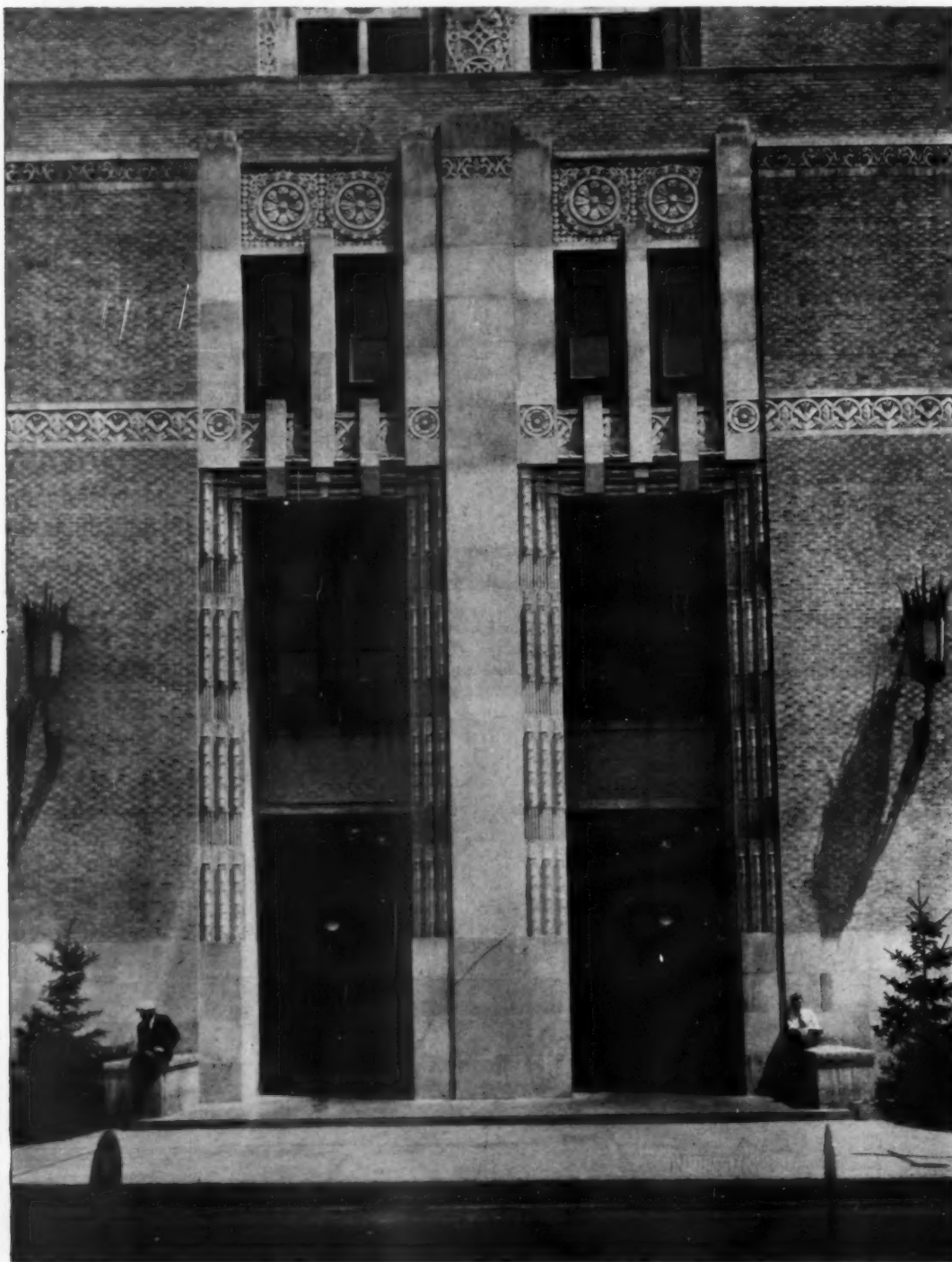
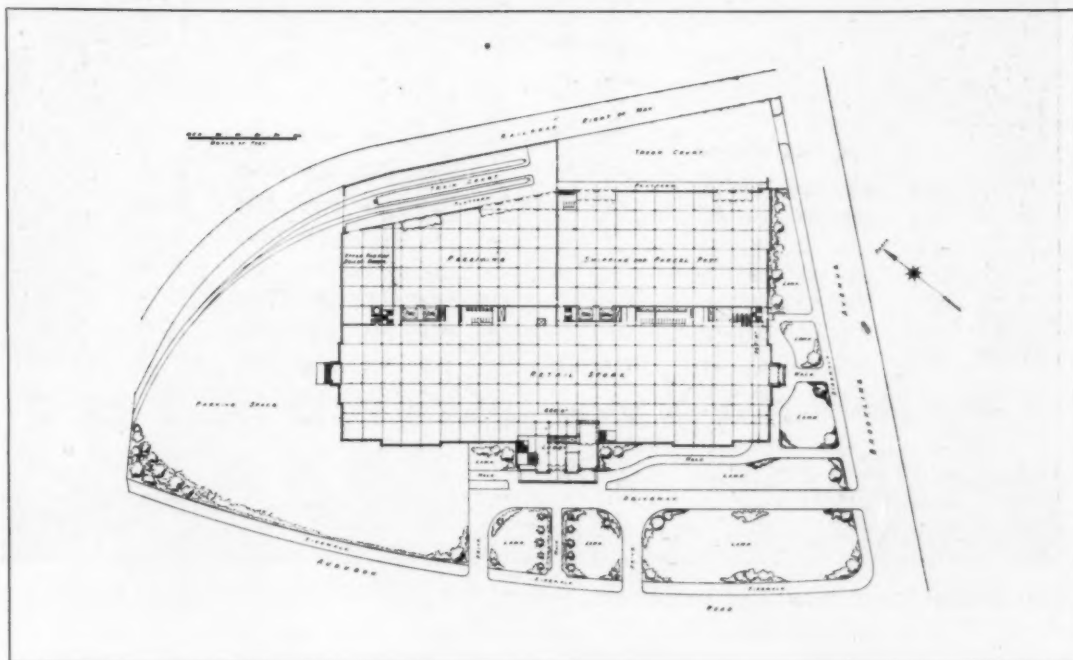


Photo by Nordin

DETAIL OF MAIN ENTRANCE

SEARS, ROEBUCK & COMPANY MAIL ORDER STORE, MINNEAPOLIS, MINN.

NIMMONS, CARR & WRIGHT, ARCHITECTS



SEARS, ROEBUCK & COMPANY MAIL ORDER STORE, BOSTON, MASS.

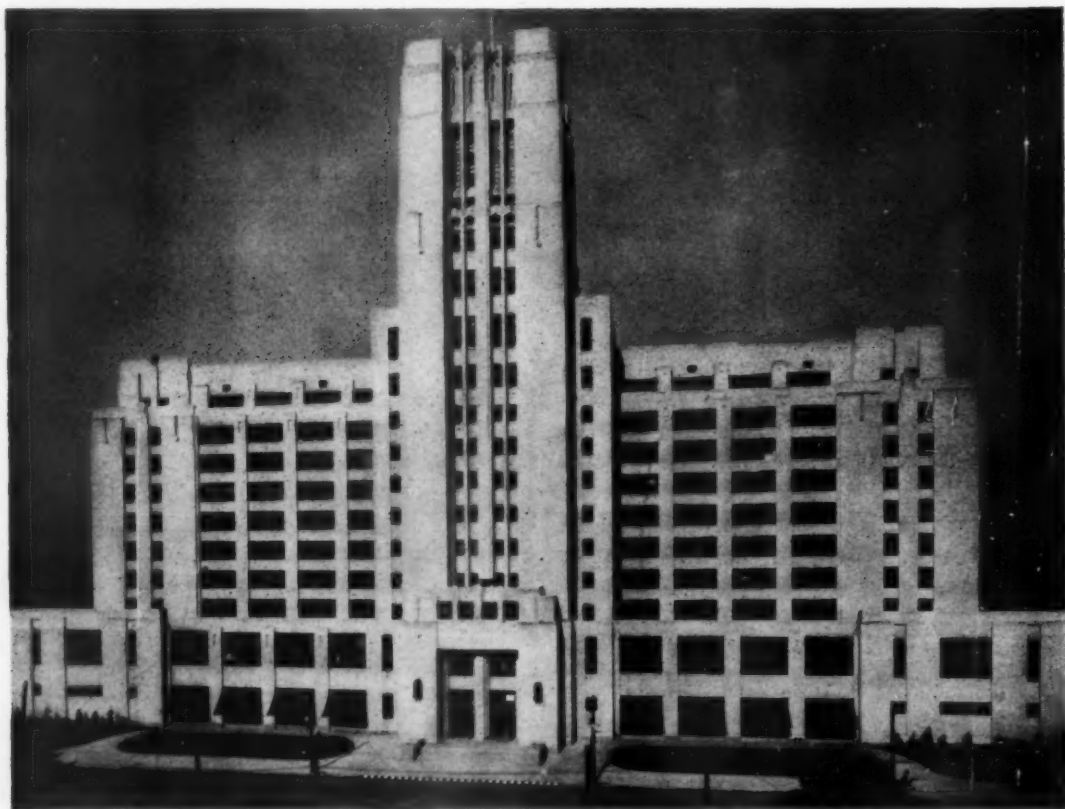
NIMMONS, CARR & WRIGHT, ARCHITECTS

building, together with the features of its construction, were made the basis of the design. In nearly every case the vertical lines of construction were marked by strong piers or projections, and no cornices whatever were used. Forms and proportions of the whole composition and its parts were depended upon principally for the effects or design in each case. Features of importance were emphasized in a simple way by enrichments of stone carving in low relief.

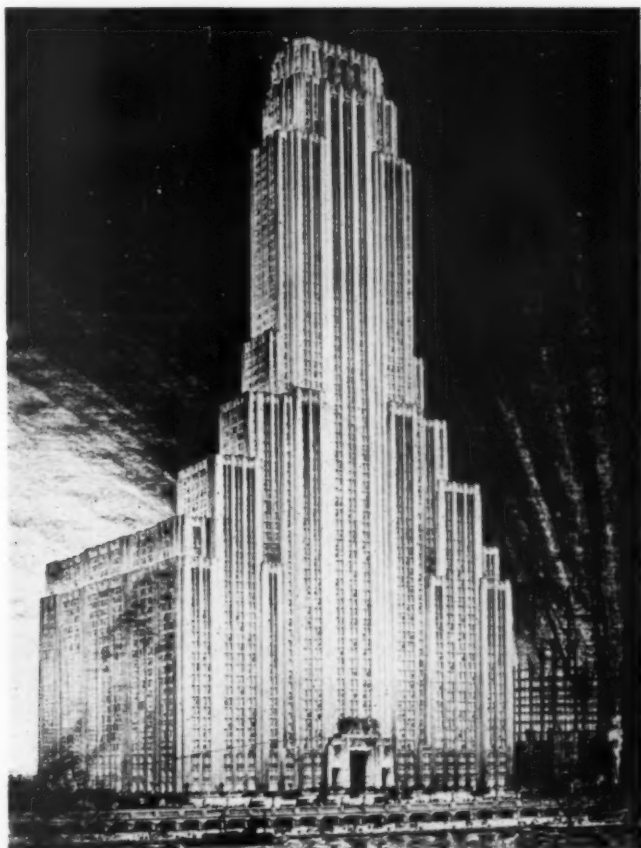
The architectural expression of these buildings may be typical of what Professor Meeks of Yale referred to at the last convention of The American Institute of Architects, when he said that the tendency of the modern architectural expression is toward a chaos of styles, but that there were also indications of the beginning of a new renaissance. What the new renaissance in architecture will be like if it comes nobody as yet can tell, but there is at least one hopeful aspect of the present situation. Never before has the younger generation of archi-

ects been so well prepared to enter into a new field of design as they are now, because they are, as a rule, better trained and better educated in their art than any architects ever were before, due to the many excellent schools of architecture in this country, and the thorough training of architectural students. With a good background of training in the historic styles of architecture and a complete knowledge of all that the past ages have to offer in design, it is more than likely that the present generation of younger architects will give a good account of themselves in their efforts with the new movement, and eventually develop the new renaissance to which Professor Meeks refers.

At any rate, there are certain principles at the base of all good architectural design which, if followed, will aid greatly in developing properly along enduring lines the new movement of design, and in avoiding the creation of the architectural monstrosities which in the past have characterized transition periods such as we are about to pass through.



SEARS, ROEBUCK & COMPANY MAIL ORDER STORE, MEMPHIS, TENN.—NIMMONS, CARR & WRIGHT, ARCHITECTS



PROPOSED APPAREL MANUFACTURERS' MART, CHICAGO, ILL.

WALTER W. AHLSCHLAGER, ARCHITECT



BALTIMORE TRUST COMPANY BUILDING, BALTIMORE, MD.

TAYLOR & FISHER; SMITH & MAY, ASSOCIATED ARCHITECTS



EDITORIAL COMMENT



The Education of Future Clients

OUR universities and colleges of architecture have for many years been educating students in architecture with the primary object of fitting them for the practice of this profession. While various courses in the history of art are open for the general student body and occasional art exhibitions are held, these have been planned as general educational programs. They have not been designed with the object of making appreciative and intelligent future clients of the men who were being educated to take their place in the ranks of the architectural profession.

Professor William H. Schuchardt of the College of Architecture, Cornell University, well fitted through professional practice, undertook last year to inaugurate a series of exhibitions intended to awaken in the general student body at the University a love for beauty, and to impress upon these students an appreciation of art and architecture. The idea behind this movement has been that the University students are potential clients of architects and that through these exhibitions they may be started on the road to become intelligent clients.

During the 1927-1928 term, six exhibitions were held by the College of Architecture under the direction of Professor Schuchardt. These included an exhibition of oriental art objects; paintings by eminent American painters; stage settings; tapestries, old masters, antique furniture and rugs; and drawings and photographs of buildings designed and executed by thirty-five alumni of the College of Architecture who graduated prior to 1908. More than eight thousand students and others availed themselves of the opportunity to attend these exhibitions.

During this same period general lectures on art, architecture and pottery making were given by visiting lecturers. Lorado Taft spoke on "My Visit to the 15th Century;" Lewis Mumford on "The City of the Future;" H. V. Magonigle on "The Value of Tradition," and Harvey W. Corbett on "The Evolution of the Skyscraper."

This movement to educate future clients in art appreciation, begun at Cornell University, might well be adapted by other colleges and universities. The idea is one that has a definite place in a campaign to educate laymen in the wisdom of placing the design of buildings in the hands of a capable architectural advisor. We commend the movement in its entirety and hope that the success of the past year may be the beginning of a campaign whose influence will be felt over the years to come.

The Business of Architecture

ARCHITECTS who insistently maintain that the practice of architecture is solely an art, and in no sense a business, may be interested to learn of the case of a newly organized firm of so-called architects.

In a recent report of the Institute Committee on Practice, of which Abram Garfield is Chairman, it is stated that a certain newly incorporated firm of architects having received a large commission, and lacking necessary funds to proceed, endeavored to secure an amount of money to meet its requirements by the ingenious method of selling its stock at par; each share, it was assured, would be redeemed at the expiration of twelve months, with six per cent interest added.

The contractors asked to co-operate in this scheme were assured that they would receive copies of all plans and specifications put out by this firm, and were, by inference, led to believe that they would be asked to submit bids. The whole scheme is one to borrow money without an offer of adequate collateral.

We have in this case an example of the low level to which the practice of architecture may sink until such time as it may be controlled and directed by a governing body having necessary punitive powers. When Mr. Garfield's Committee has brought a case of this sort to the attention of the Institute, and taken proper steps to warn the public, it has done all it can do.

We are looking forward to a day when the total membership of the Institute will equal, if not exceed, a majority of the practicing architects in this country, and also to a day when the Institute will by right of its truly representative membership, have the power to discipline any architect or organization of architects that does not conform to the Institute's well established canons of ethics.

1927 Fire Loss

ACCORDING to a recent report of the Actuarial Bureau of the National Board of Fire Underwriters, the estimated fire loss in the United States in 1927 was \$478,245,620. This is the lowest reported fire loss since 1920 and is approximately fifteen per cent less than the loss of 1926. Probably a number of factors have contributed to this reduction. Many communities have greatly improved fire fighting facilities. Building codes are becoming more stringent in their requirements of fire resisting construc-

tion in congested districts, and also require the use of fire resisting materials in less congested districts at points of greatest fire hazard. Well directed advertising campaigns are making the American public fire-conscious and more careful in the use of the numerous agents through which fires generally originate. A substantial fire loss reduction of fifteen per cent in one year is encouraging and makes us think that the time may come when the loss by fire in the United States will be comparable to, or less than, that of European countries that have been generally looked upon as examples for us to follow.

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Architects' Fees

IN an article printed in a recent issue of *The Journal of The American Institute of Architects*, Professor W. A. Boring of Columbia University, states that while in theory the artistic success of a design should be rewarded in proportion to its merit, it seems impossible to evaluate such merit on a business basis. Professor Boring contends that the present scale of minimum charges for architects' services is too low, and seeks to have the scale revised upward.

There never has been a time when the value of artistic service could be standardized relatively as to artistic merit, for the very good reason that it is impossible to evolve any definite designation as to just what constitutes artistic service.

Undoubtedly, the rapidly mounting cost of maintaining an efficiently working architectural office or organization, has reached a point where the minimum fee as now set forth by the Institute should be changed. But in considering such a readjustment, it will be necessary to regard architectural service as standardized, of a certain fixed value, as was undoubtedly the case when the present scale of minimum charges was fixed.

As a matter of fact, what really is the use of all this fixing of charges for professional services? Other professions do not resort to such methods, and it is only trade unions, whose fixed scales are held anathema by most architects, that exact a fixed and often unreasonably high price.

We believe that architects, as long as they insist on being designated artists,—as they undoubtedly are,—should not seek to lower their art to terms of daily labor. Undoubtedly the cause of good craftsmanship in this country has been greatly retarded by reason of the fixed scales of wages, whereby the incompetent workman may exact the same wages as the highly skilled craftsman. No harm for architects to set a minimum price; if they seek higher remuneration, they will have to demonstrate their artistic ability to ask it and their business ability to secure its payment.

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Advertising the Architect

THE movement to advertise architects, that the public may have a better appreciation of the value of their services, is meeting with the approval of many outside of the architectural profession. The National Surety Company has recently advised its agents to insert in their local publications an advertisement directed to house owners and lenders of money on private construction work, calling attention to the importance of architectural services as a protection of the owner's interests. A typical advertisement states: "The fee you pay the architect is the cheapest investment you can possibly make." The attitude taken by this surety company is significant. Unless we are mistaken, the time is not far distant when others will in some similar manner stress the importance and value of employing architects to design and supervise the construction of buildings, large and small.

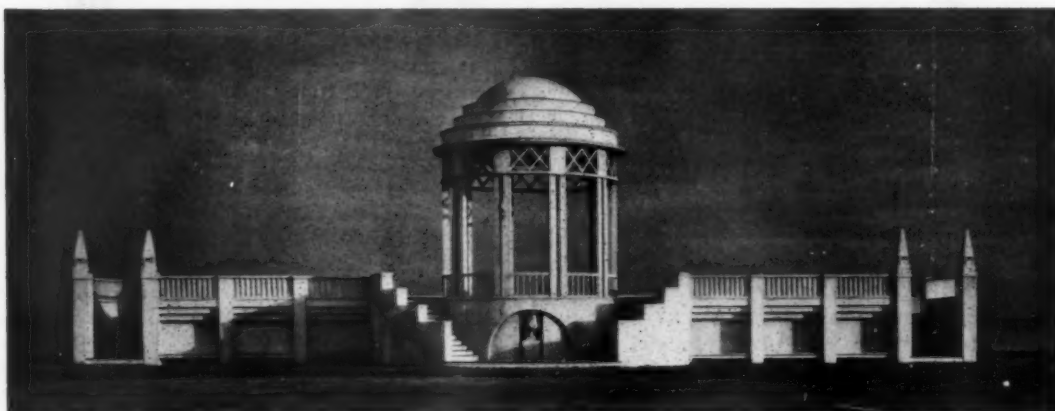


Photo by Brown Brothers

BATHING PAVILION, PINEWALD, N. J.—W. K. OLTAR-JEVSKY, ARCHITECT
(For additional illustrations of Mr. Oltar-jevsky's work, see pages 171 to 174, inclusive)



BAKER TOWER AND CAYUGA LAKE FROM THE UNIVERSITY CAMPUS

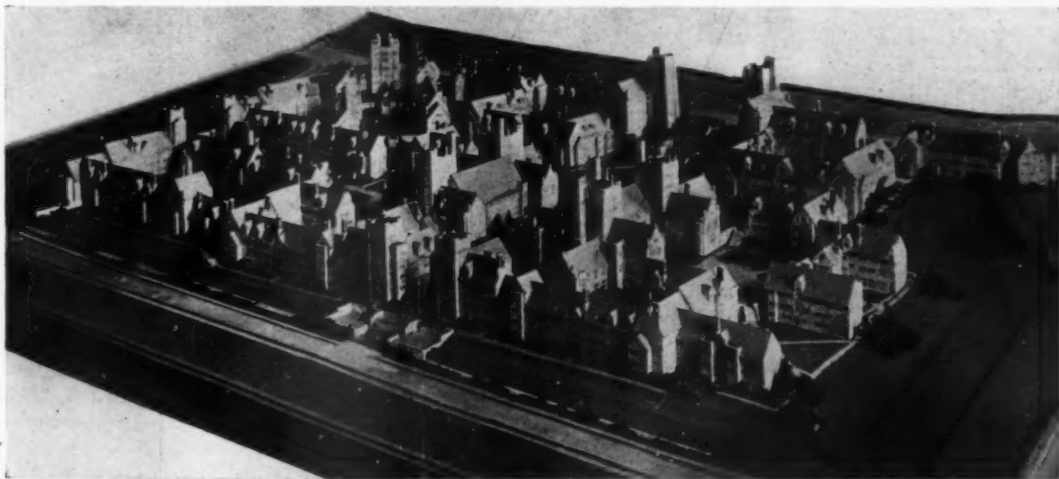
RESIDENTIAL HALLS, CORNELL UNIVERSITY, ITHACA, N. Y.

DAY & KLAUDER, Architects

SITUATED on a hillside and overlooking Cayuga Lake and the City of Ithaca, N. Y., Cornell University has an enviable site, or at least one that is probably unlike that of any other university in the United States. The location of the earliest buildings fronting toward the lake indicates that the founder little realized that the school would have so rapid a growth that the plateau to the rear of these buildings would eventually become the campus and college green and be completely built up. Like many other universities, numerous build-

ings built at frequent intervals reflect the type of architecture of the prevailing period.

With the plateau well developed, it has become necessary to begin a development further down the hillside on University Avenue. The academic requirements of the institution are fairly well housed for the present, and now attention has been directed toward the building of a group of dormitories for men. With the rapid growth of the University, beginning about 1890, an urgent need for residential halls became apparent, and the fraternity and



Photos by Troy

MODEL OF PROPOSED MEN'S RESIDENTIAL HALLS OF WHICH FIVE UNITS HAVE BEEN BUILT.
FOUR OTHER UNITS WILL BE STARTED IN THE NEAR FUTURE

rooming houses adjacent to the campus soon became inadequate to house the men students.

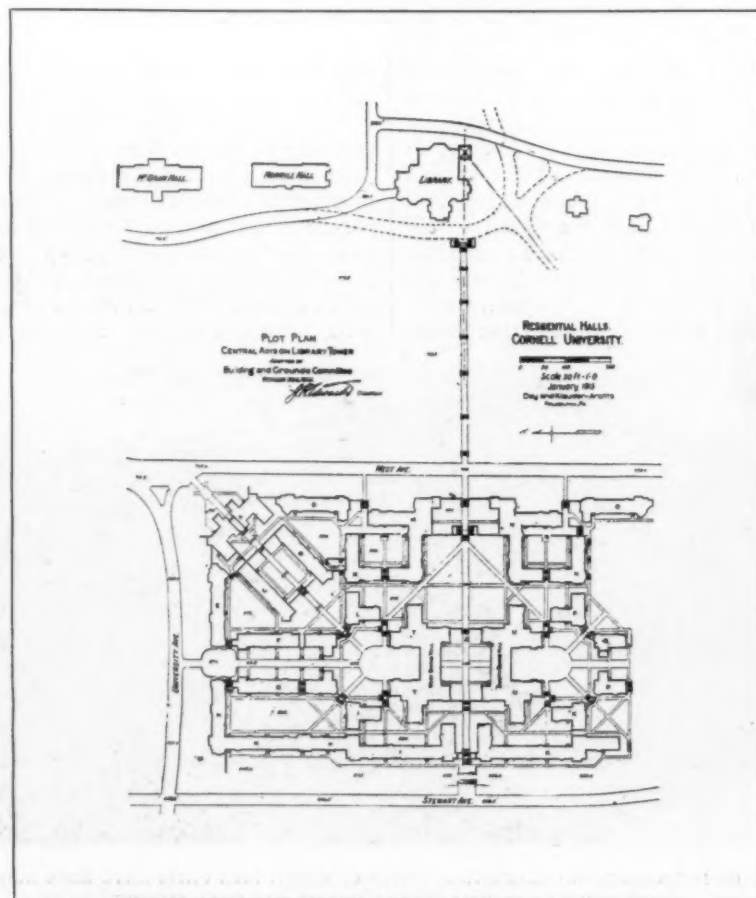
In 1902, a tract of land containing sixteen acres was purchased by the University to provide for a dormitory group. George C. Boldt was appointed chairman of a special committee on residential halls, and Day & Klauder, architects, were engaged to plan the entire group. In 1915, the construction of Baker Tower and the two flanking units was begun. Further development of the group was delayed by the World War. A significant step toward the completion of the men's dormitory group will be marked by the construction of two War Memorial Towers, the Cloisters, Lyon and McFaddin Halls. It is also planned to erect near the War Memorial another unit to be known as Memorial Hall, and eventually two dining halls. This group, when completed, will provide housing under ideal conditions for a large number of men students.

In the development, the topography of the site has been carefully considered as well as a comprehensive scheme for the landscaping and arrangements of roads and walks. The open arches of the Cloisters connecting the twin towers of the War

Memorial look out upon the Library Tower and toward Cayuga Lake. The War Memorial will constitute the central feature of the dormitory group. In designing this Memorial it was determined that it must not only be beautiful, but useful as well. Each of the two towers will contain seventeen rooms for students. The development thus far completed furnishes accommodations for 310 students. Additional buildings now under consideration will bring this to a total of 430 men.

English Collegiate Gothic was selected as the architectural inspiration. A highly stratified local stone, occurring in various shades of an agreeable color, which is found upon the site, used in the construction of Baker Tower, will also be used in future buildings of the group.

The dormitories, in plan, are served by "entries," each of which is completely separated from adjoining entries. Each has its own stairway and contains studies and bedrooms in units accommodating from twelve to thirty men. Provision has been made for suites for two men, consisting of a study and two bedrooms, and for single rooms arranged as study-bedrooms, permitting flexibility in assignments.





BAKER TOWER AND FOUNDER'S HALL FROM WEST AVENUE

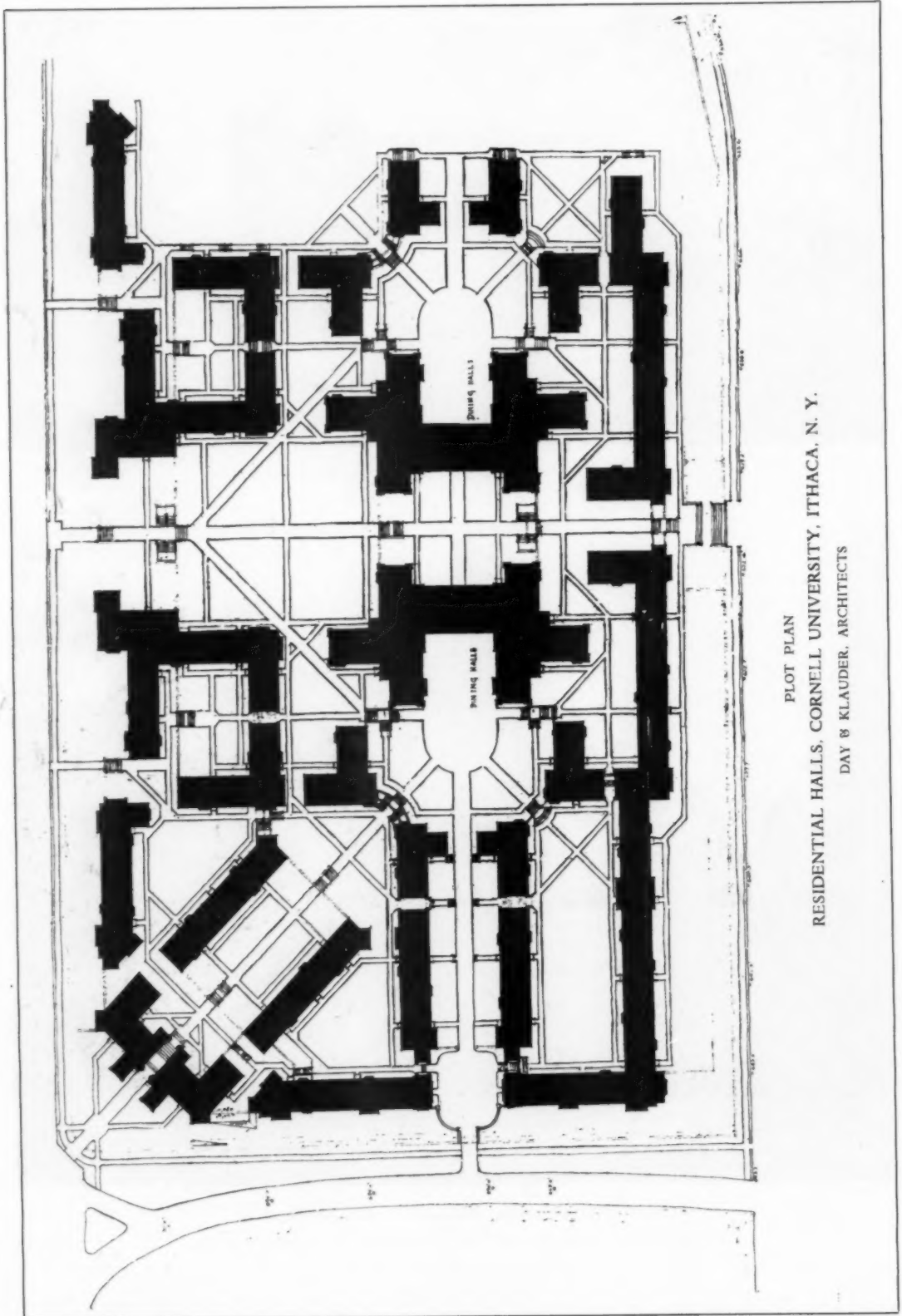


Photos by Troy

COURT BETWEEN BAKER TOWER AND NORTH BAKER HALL
RESIDENTIAL HALLS, CORNELL UNIVERSITY, ITHACA, N. Y.

DAY & KLAUDER, ARCHITECTS

(See plot plan on back)

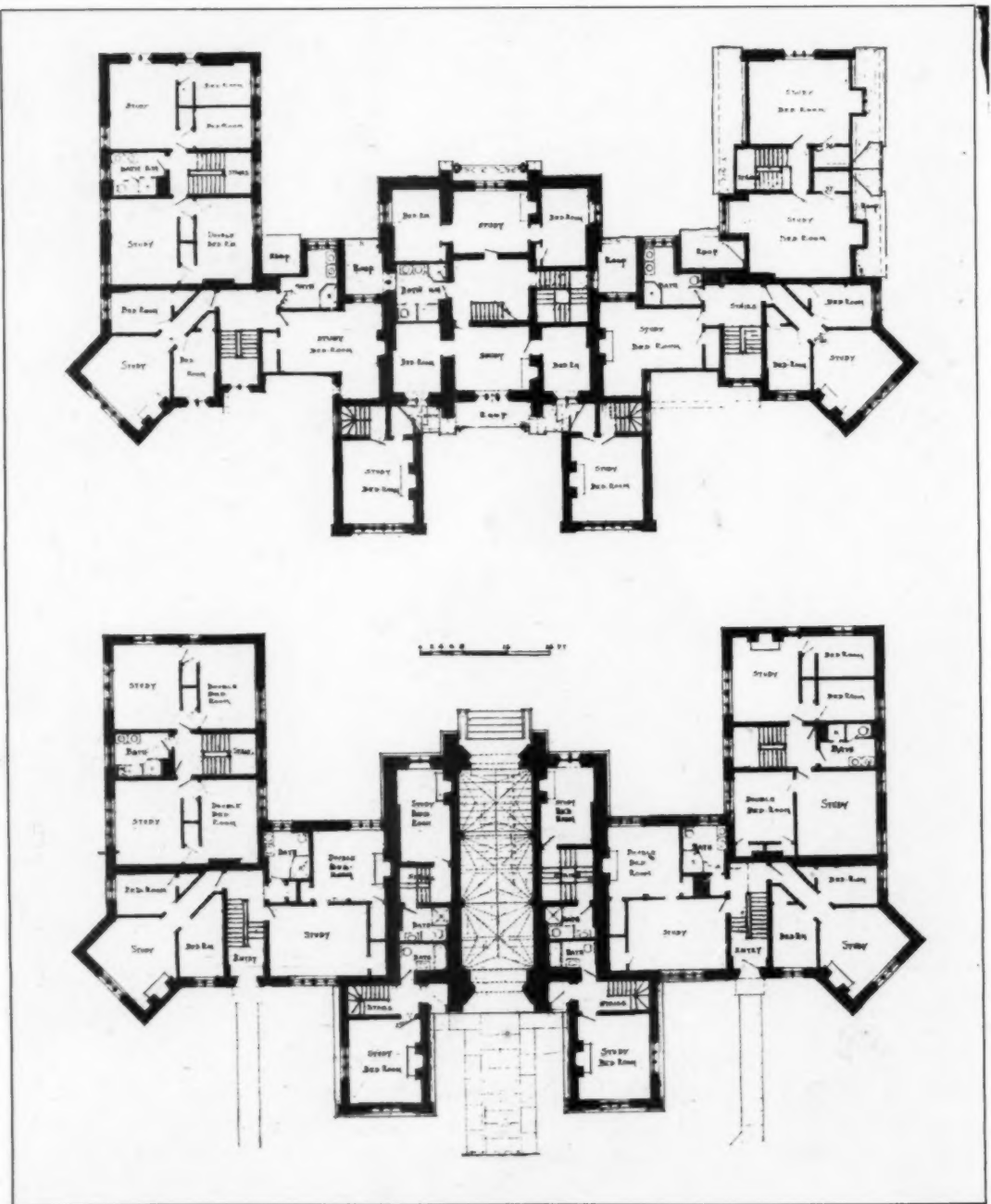


PLOT PLAN
RESIDENTIAL HALLS, CORNELL UNIVERSITY, ITHACA, N. Y.
DAY & KLAUDER, ARCHITECTS



Photo by Troy

ENTRANCE TO BAKER TOWER
RESIDENTIAL HALLS, CORNELL UNIVERSITY, ITHACA, N. Y.
DAY & KLAUDER, ARCHITECTS
(See plans on back)



FIRST AND SECOND FLOOR PLANS, BAKER TOWER
RESIDENTIAL HALLS, CORNELL UNIVERSITY, ITHACA, N. Y.
DAY & KLAUDER, ARCHITECTS

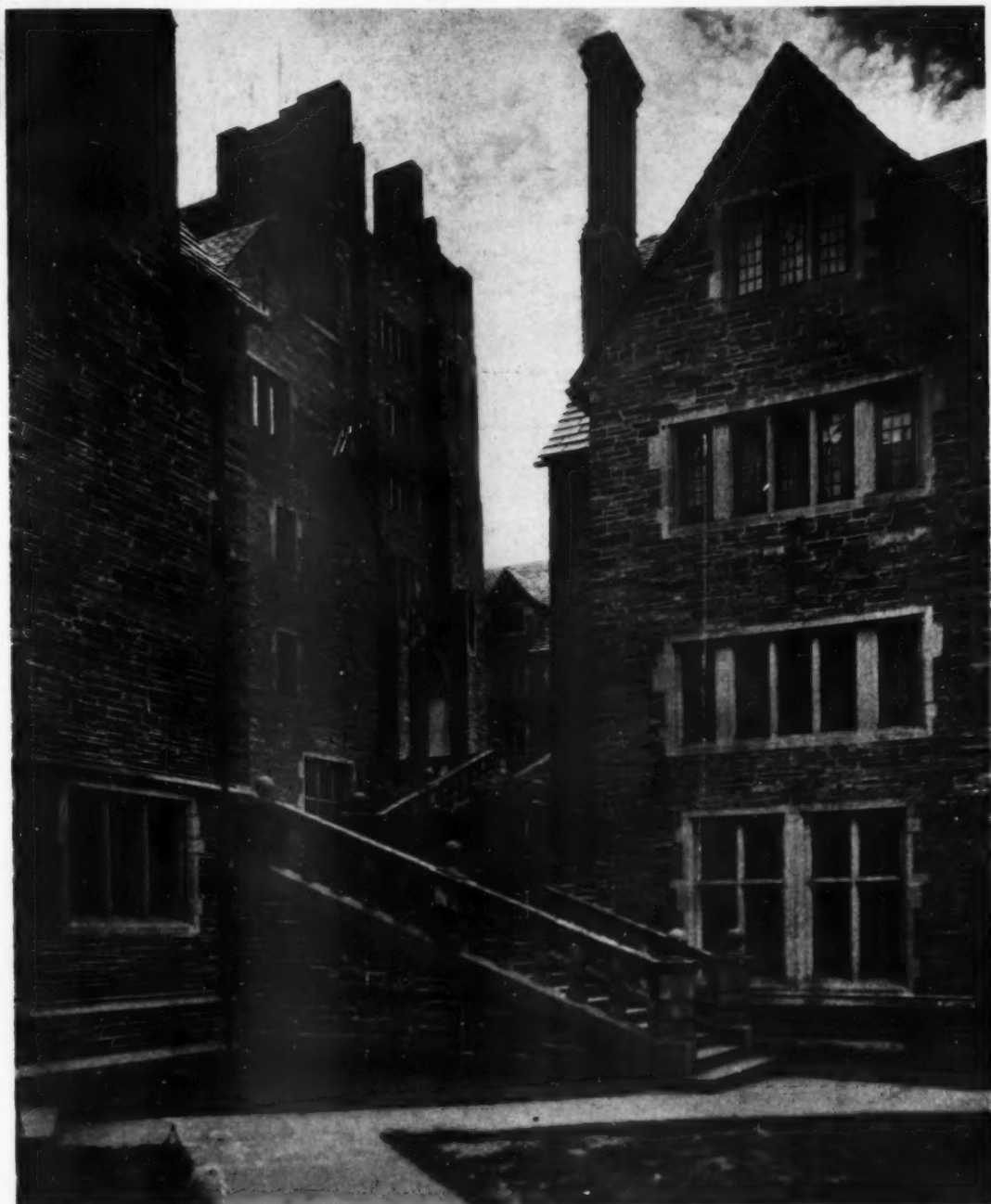
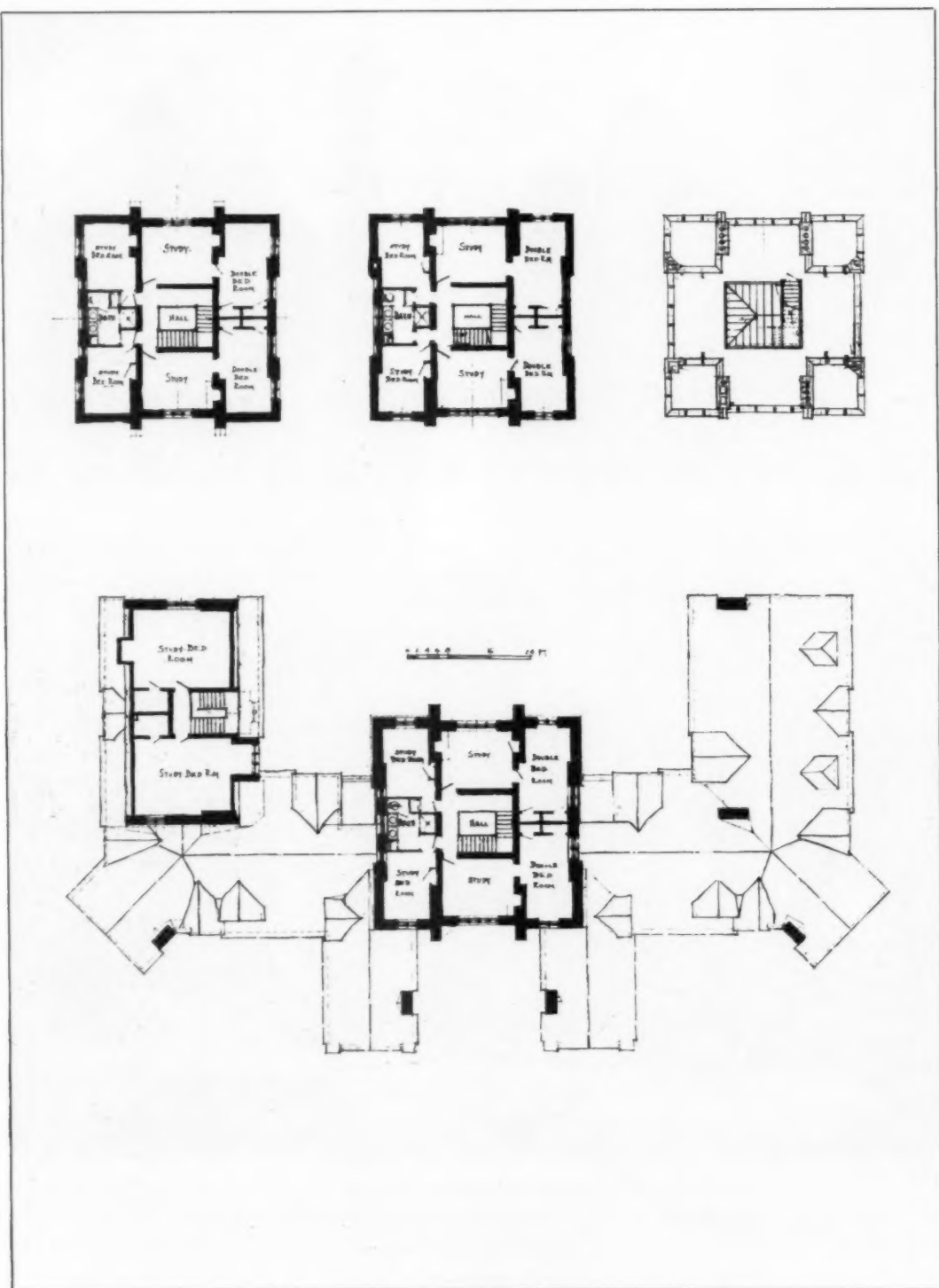


Photo by Troy

BAKER TOWER AND BOLDT HALL
RESIDENTIAL HALLS, CORNELL UNIVERSITY, ITHACA, N. Y.

DAY & KLAUDER, ARCHITECTS

(See plans on back)



THIRD, FOURTH, FIFTH FLOOR AND ROOF PLANS, BAKER TOWER
RESIDENTIAL HALLS, CORNELL UNIVERSITY, ITHACA, N. Y.

DAY & KLAUDER, ARCHITECTS

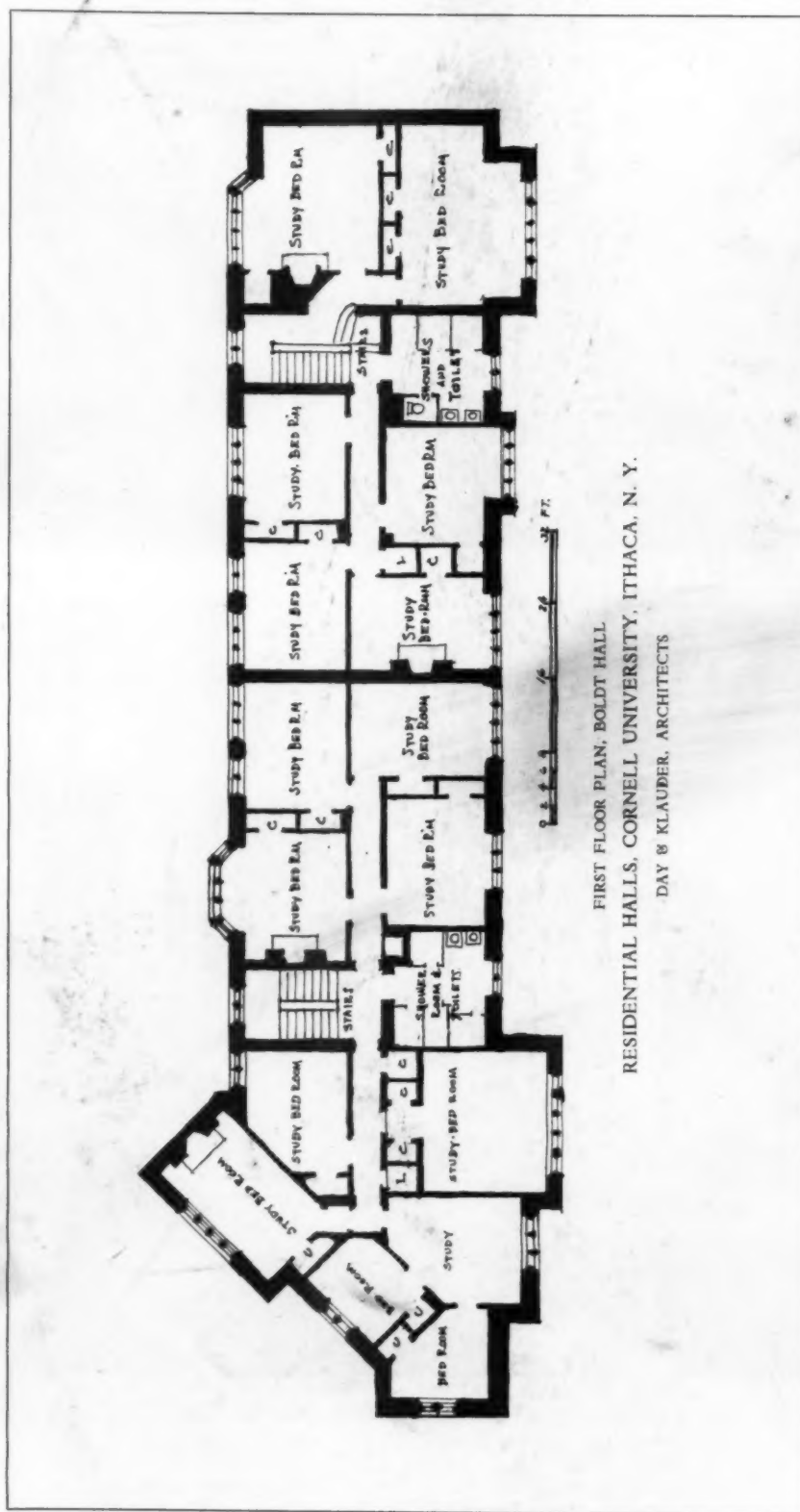


Photos by Troy

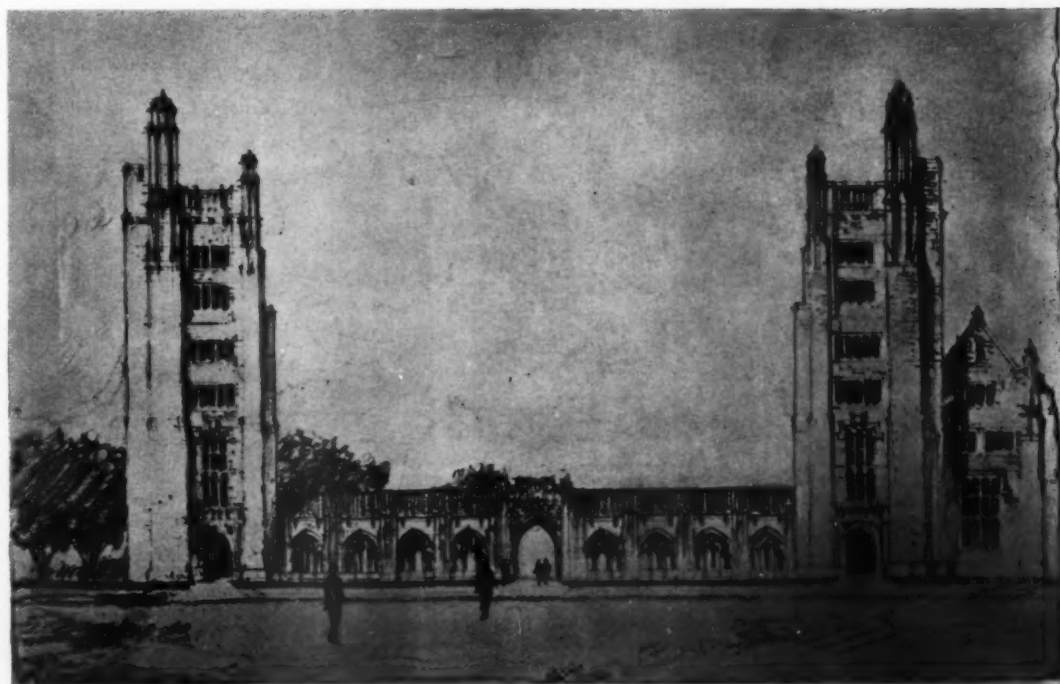
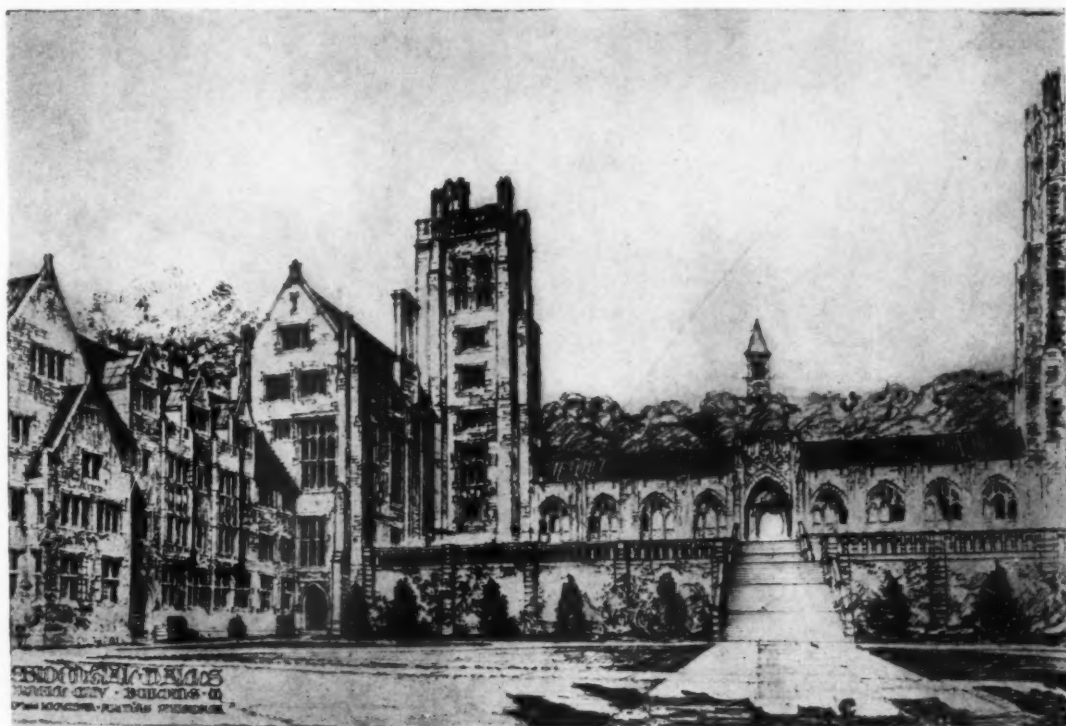
BAKER TOWER AND FLANKING UNITS FROM THE COURT
RESIDENTIAL HALLS, CORNELL UNIVERSITY, ITHACA, N. Y.

DAY & KLAUDER, ARCHITECTS

(See plan on back)



FIRST FLOOR PLAN, BOLDT HALL
RESIDENTIAL HALLS, CORNELL UNIVERSITY, ITHACA, N. Y.
DAY & KLAUDER, ARCHITECTS



WAR MEMORIAL TOWERS AND CLOISTER, COURT AND STREET ELEVATIONS
RESIDENTIAL HALLS, CORNELL UNIVERSITY, ITHACA, N. Y.
DAY & KLAUDER, ARCHITECTS



THE AMBASSADOR HOTEL AND ST. BARTHOLOMEW'S CHURCH, NEW YORK
FROM THE CRAYON SKETCH BY THEODORE DE POSTELS

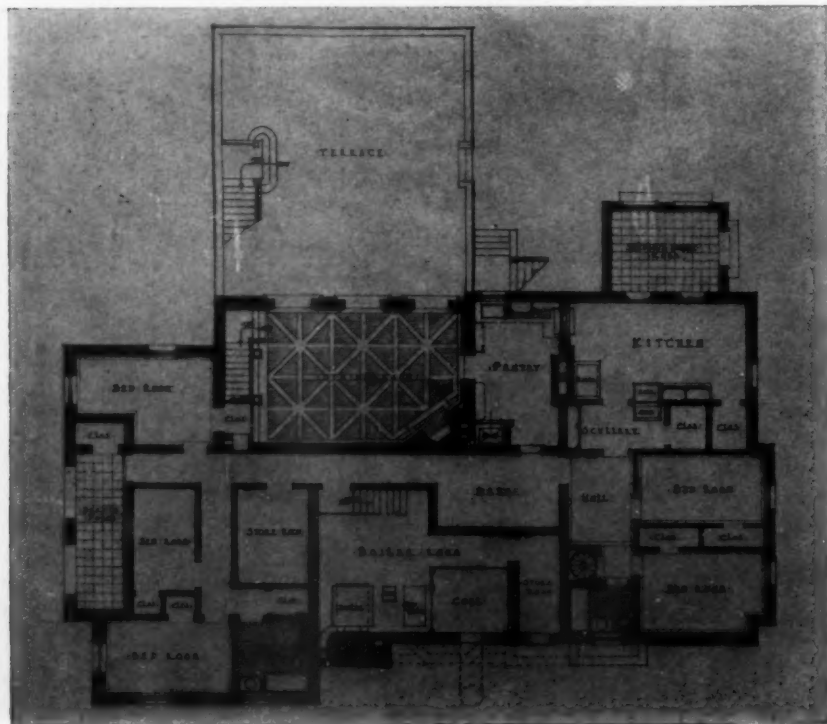
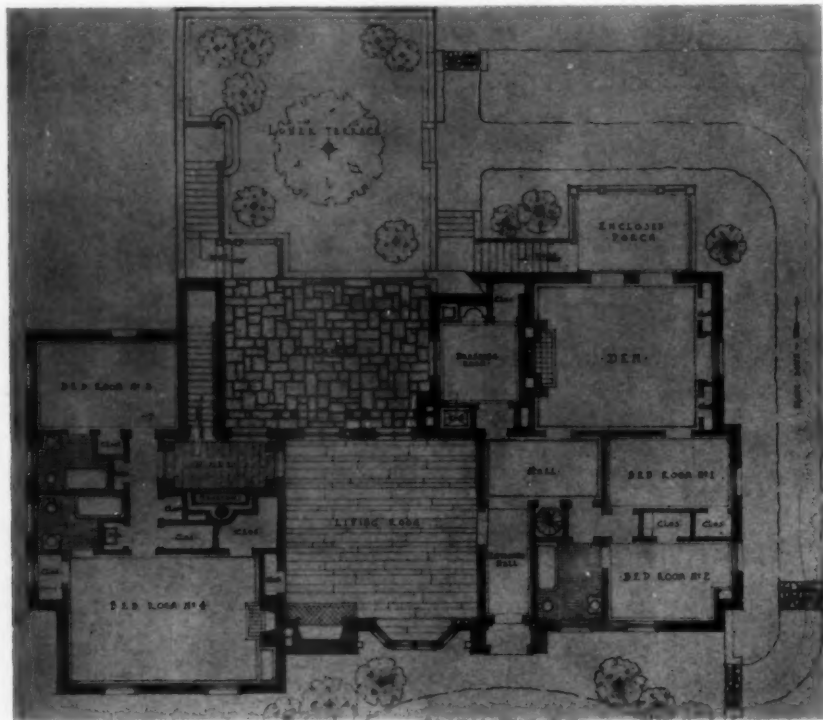


Photos by Duryea

HOUSE OF WILLIAM A. GREER, LOCUST VALLEY, L. I., N. Y.

NOEL & MILLER, ARCHITECTS

(See plans on back)



ABOVE: GROUND FLOOR PLAN. BELOW: BASEMENT FLOOR PLAN
 HOUSE OF WILLIAM A. GREER, LOCUST VALLEY, L. I., N. Y.
 NOEL & MILLER, ARCHITECTS



LIVING ROOM



TERRACE DETAIL

HOUSE OF WILLIAM A. GREER, LOCUST VALLEY, L. I., N. Y.

NOEL & MILLER, ARCHITECTS

Photos by Duryea

RECENT WORK OF W. K. OLTARJEVSKY, ARCHITECT

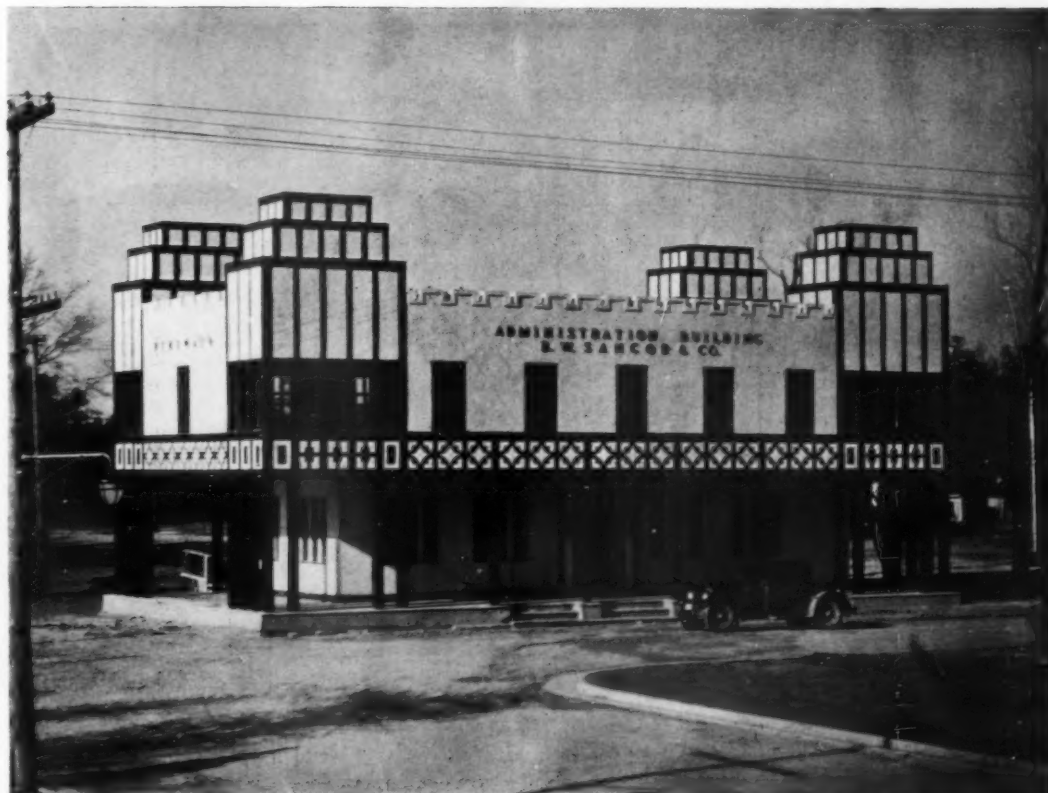
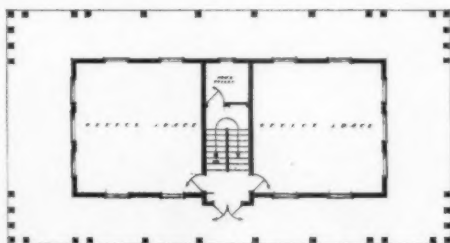
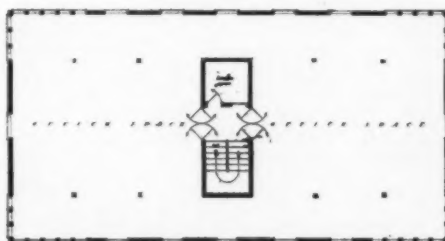


Photo by Brown Brothers

FIRST FLOOR PLAN



SECOND FLOOR PLAN



ADMINISTRATION BUILDING, B. W. SANGOR & COMPANY, PINEWALD, N. J.

W. K. OLTARJEVSKY, ARCHITECT



HOUSE OF A. SHAROFF, MOSCOW, RUSSIA

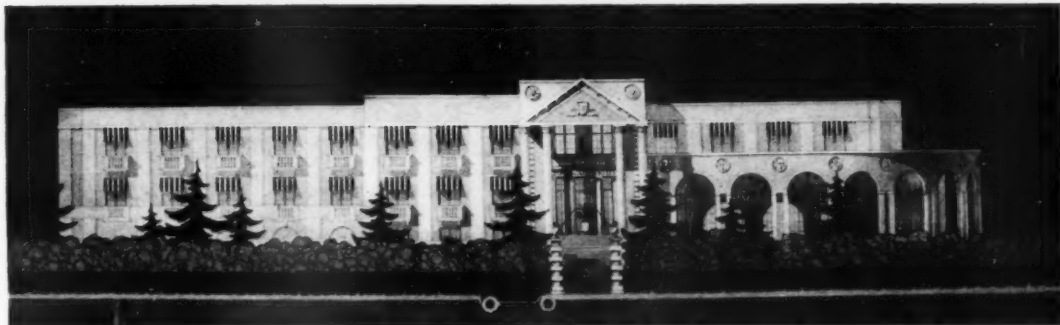


HOUSE OF B. W. SANGOR, PINEWALD, N. J.



HOUSE OF MRS. SONIA LEVIENNE, OYSTER BAY, L. I., N. Y.

W. K. OLTAR-JEVSKY, ARCHITECT



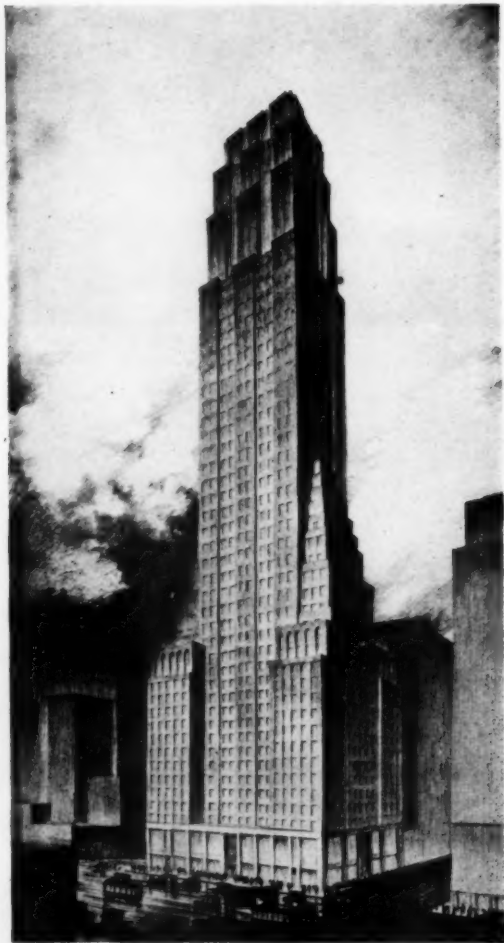
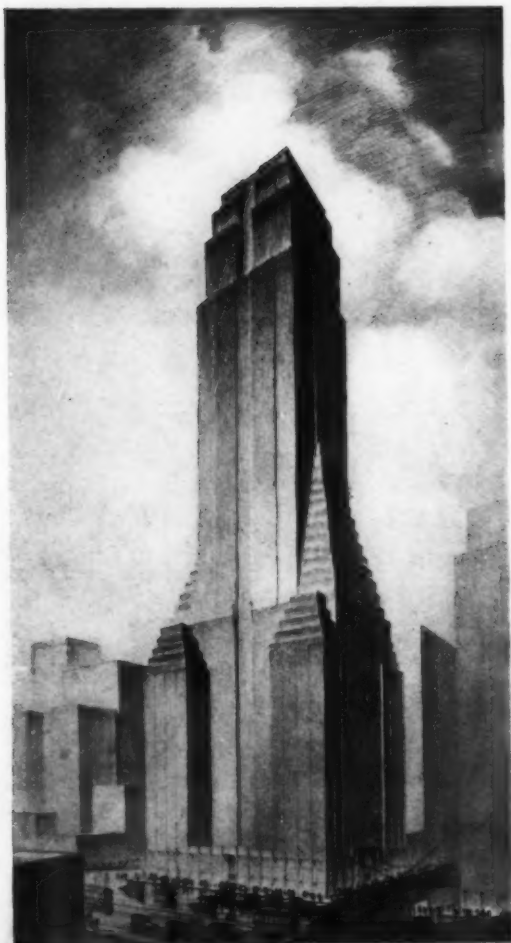
PINEWALD HOTEL, PINEWALD, N. J.



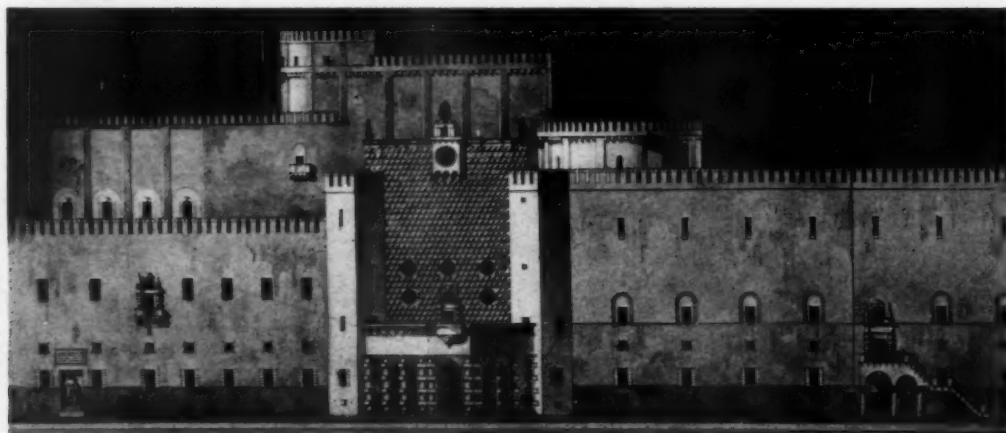
ROYAL PINE HOTEL, PINEWALD, N. J.



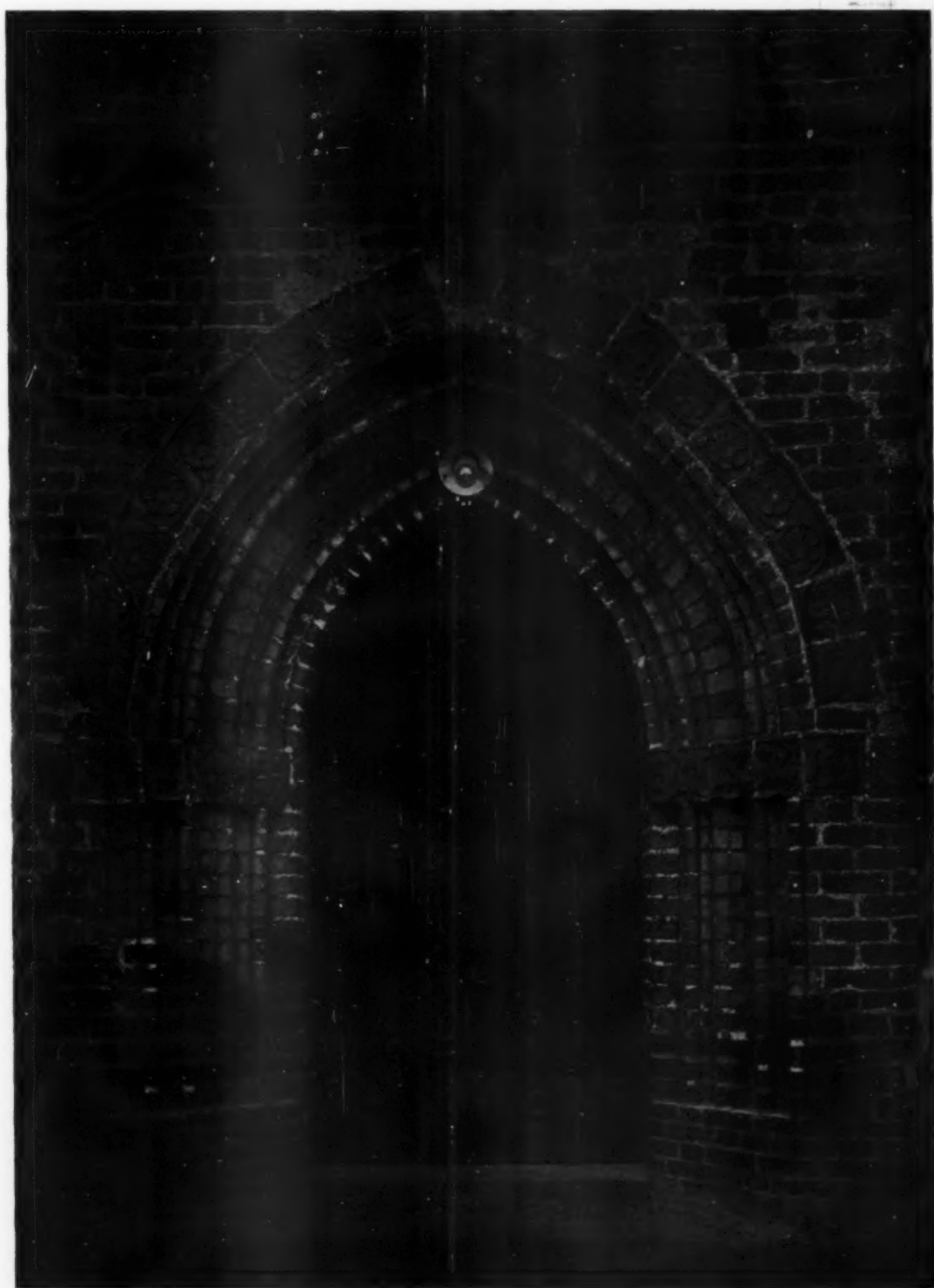
ROGERS ISLAND HOTEL, CATSKILL, N. Y.
W. K. OLTAR-JEVSKY, ARCHITECT



STUDIES FOR A PROPOSED OFFICE BUILDING, NEW YORK
HELMLE & CORBETT AND W. K. OLTAR-JEVSKY, ASSOCIATED ARCHITECTS



CENTRAL PORTION OF DESIGN FOR "PALACE OF LABOR" SUBMITTED IN RUSSIAN GOVERNMENT COMPETITION
W. K. OLTAR-JEVSKY, ARCHITECT



Courtesy Staatliche-Bildstelle

SOUTH PORTAL, PARISH CHURCH, DRAMBERG, GERMANY



Courtesy Staatliche-Bildstelle

ABOVE: DETAIL OF CHOIR COLUMNS, ST. PETER AND ST. PAUL CHURCH, STELLIN, GERMANY
BELOW: DETAIL OF SOUTH PORTAL, PARISH CHURCH, DRAMBERG, GERMANY

INTERIOR ARCHITECTURE

THE DESIGN OF BANK INTERIORS PRESENTS A PROBLEM IN ARCHITECTURE

THE term Interior Architecture, as it is used as a heading for this department, might be described as the means by which character and a decorative interest are given to the structure of the interior of a building. Interior architecture, as we interpret it, is not to be confused with so-called "interior decoration." In fact, they represent different steps in the progress of the design of a completely furnished room. The main distinction between the two terms lies in the fact that the architectural treatment has to do with the design of the permanent features of the interior, while decoration concerns more logic-

ally the furnishings of the room with necessary equipment for living, in order that the room may properly function. In many cases, especially in the design of private houses, the two steps are considered so distinct that the architecture is designed by one person and the decorations by another.

The furnishing of a bank, however, is so definitely related to the architectural treatment that the problem of the design of the complete interior is almost without exception vested in the hands of an architect. Thus does the design of a bank correctly come under the head of Interior Architecture.



Photo by Chicago Arch. Photo Co.

MID-CITY TRUST & SAVINGS BANK, CHICAGO, ILL.

HAMILTON, FELLOWS & WILKINSON, ARCHITECTS

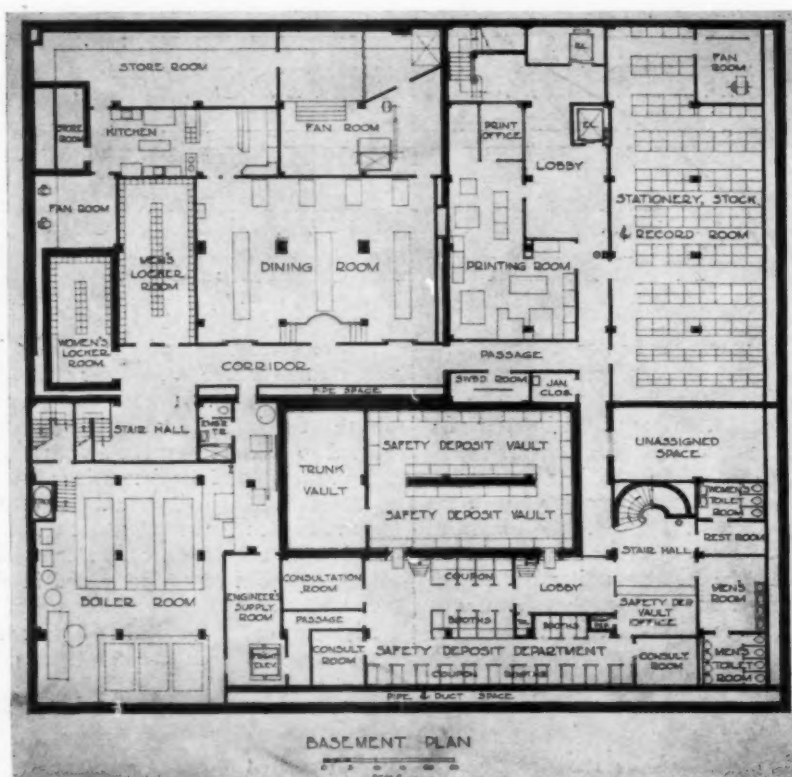
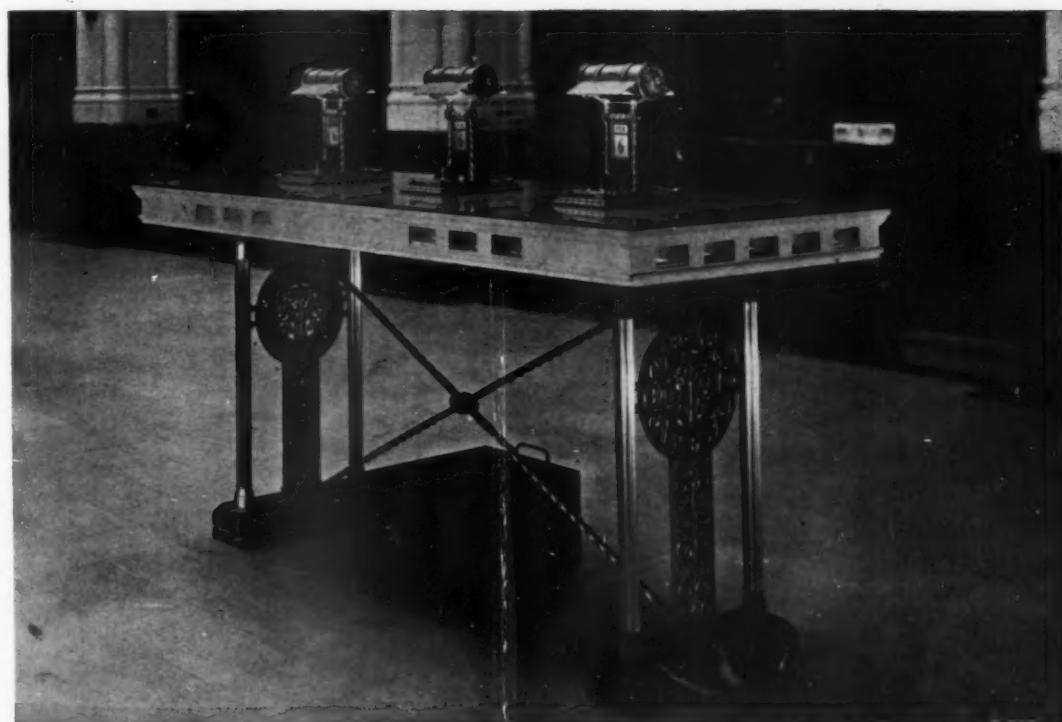


Photo by Chicago Arch. Photo Co.

MID-CITY TRUST & SAVINGS BANK, CHICAGO, ILL.

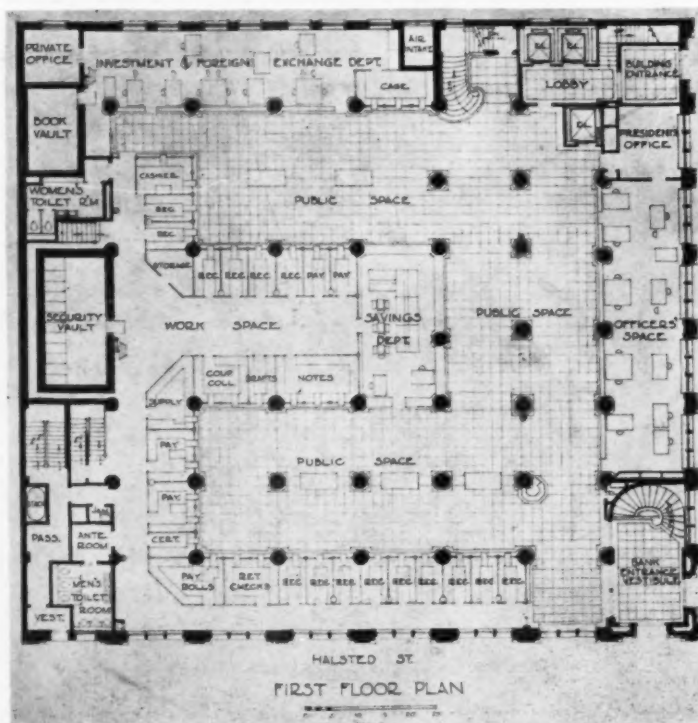
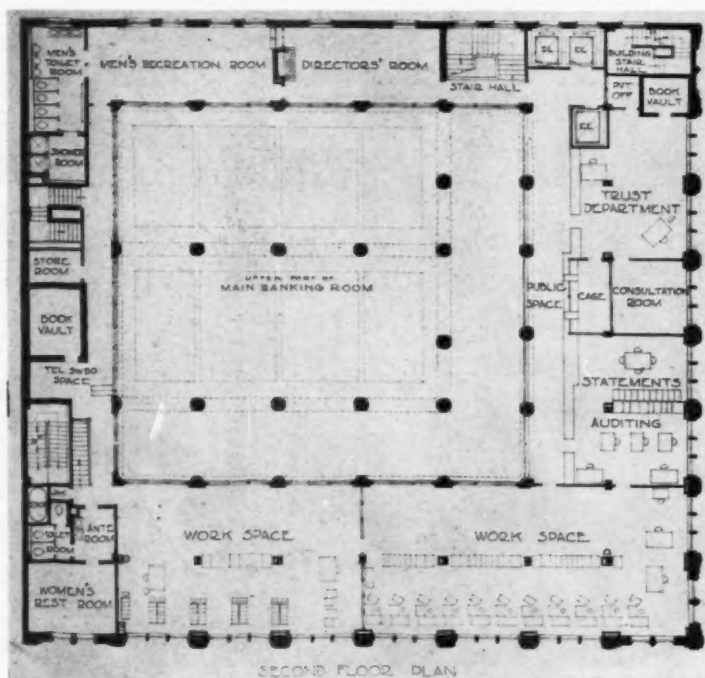
HAMILTON, FELLOWS & WILKINSON, ARCHITECTS



Photos by Chicago Arch. Photo Co.

MID-CITY TRUST & SAVINGS BANK, CHICAGO, ILL.

HAMILTON, FELLOWS & WILKINSON, ARCHITECTS

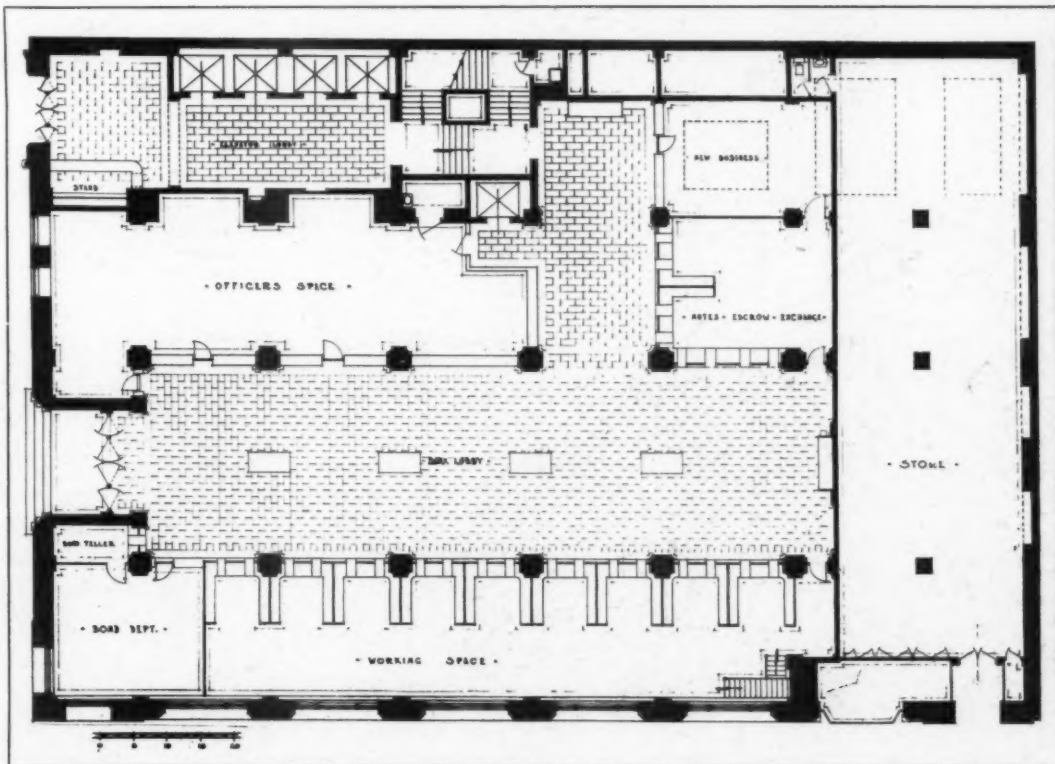


MID-CITY TRUST & SAVINGS BANK, CHICAGO, ILL.

HAMILTON, FELLOWS & WILKINSON, ARCHITECTS



Photos by Filch



SAN DIEGO TRUST & SAVINGS BANK, SAN DIEGO, CALIF.

WM. TEMPLETON JOHNSON, ARCHITECT



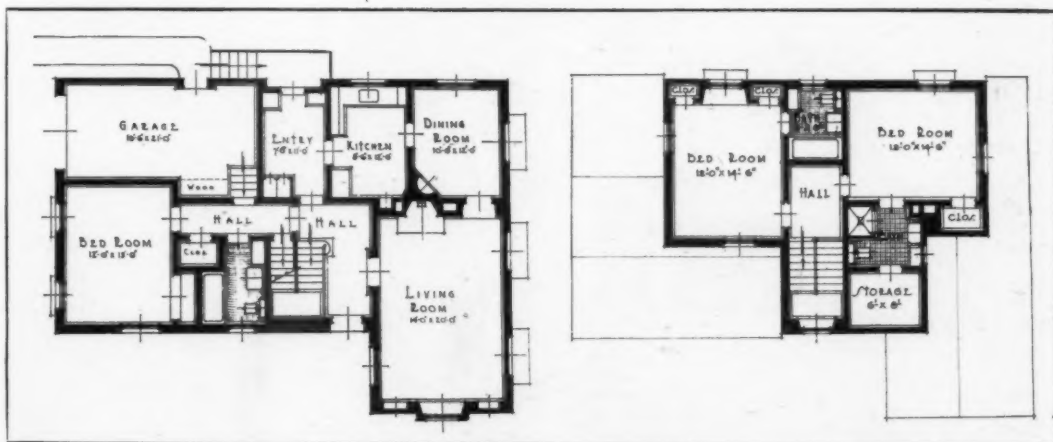
Photo by Fitch

SAN DIEGO TRUST & SAVINGS BANK, SAN DIEGO, CALIF.

WM. TEMPLETON JOHNSON, ARCHITECT



Photo by Berné

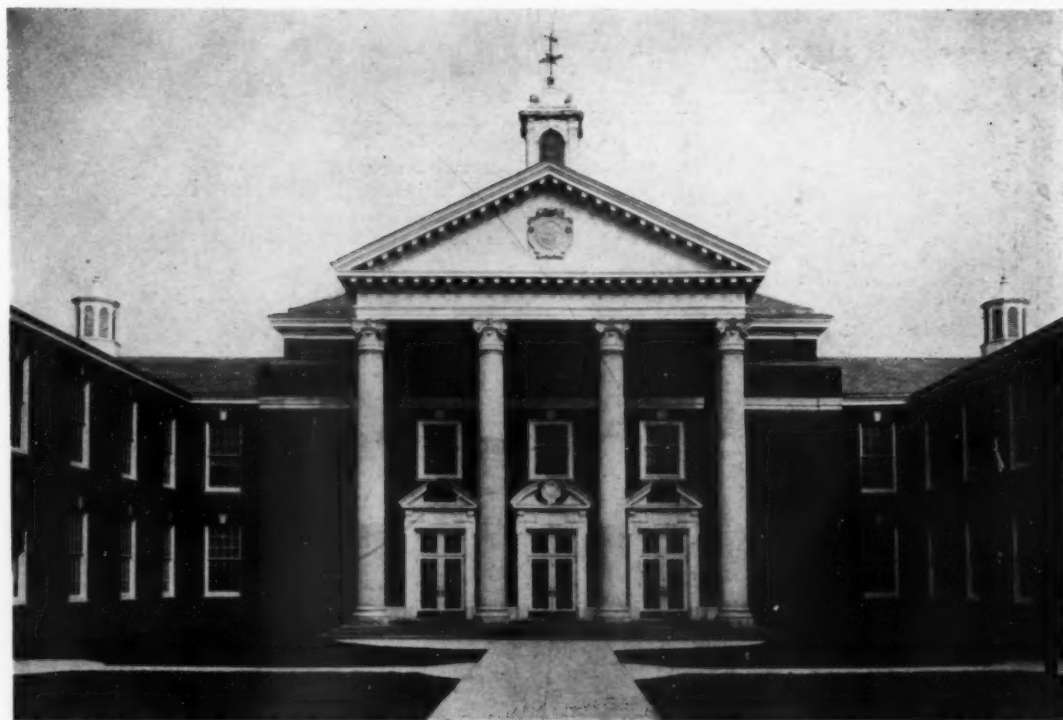


HOUSE OF MISS ADA C. BLACK, LA JOLLA, CALIF.
HERBERT J. MANN AND THOMAS L. SHEPHERD, ARCHITECTS



Photos by Berné

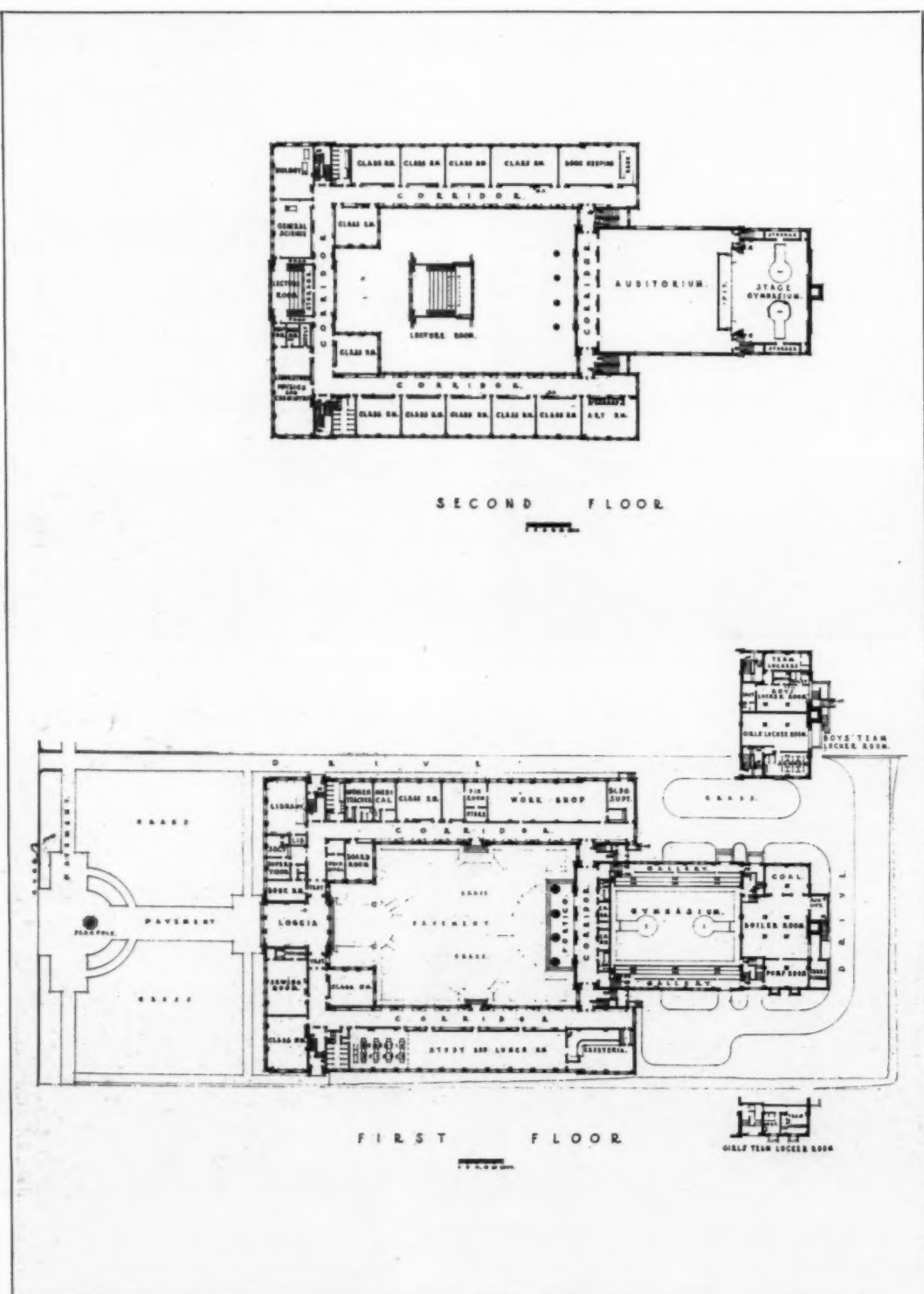
HOUSE OF MISS ADA C. BLACK, LA JOLLA, CALIF.—HERBERT J. MANN AND THOMAS L. SHEPHERD, ARCHITECTS



Photos by Wallace

MEMORIAL HIGH SCHOOL, HADDONFIELD, N. J.

SIMON & SIMON, ARCHITECTS



MEMORIAL HIGH SCHOOL, HADDONFIELD, N. J.

SIMON & SIMON, ARCHITECTS

A GROUP OF BUILDINGS REPRODUCED FROM A SERIES OF WORKING PHOTOGRAPHS

ORIGINAL NEGATIVES BY DWIGHT JAMES BAUM, A. I. A.

PHOTOGRAPHY to some is a business. To others it is a hobby and pastime, while to yet others it is a matter of a preservation of records or events. To architects it may well be a hobby, a matter of record, and an inspiration through what are sometimes called "working photographs." Dwight James Baum has not only taken a particular interest in photography as an art, but has also made good use of it in building up a file of negatives that are

invaluable for reference in connection with the work of the designer. These negatives form a record of interesting compositions, unusual details, craftsmanship, and textures. Other architects have found photography useful as an aid in a similar manner. It is, indeed, a privilege to be able to offer for the benefit of the readers of THE AMERICAN ARCHITECT the accompanying illustrations and others that from time to time appear in the pages of this journal.



OLD HOUSE NEAR PETERBOROUGH, N. H.



A STREET SCENE AT NEW PALTZ, N. Y.



OLD HOUSE NEAR PETERBOROUGH, N. H.

Working Photographs from the Original Negatives by Dwight James Baum, Architect



OLD HOUSE ON ROAD NEAR HYANNIS, CAPE COD, MASS.



OLD HOUSE AT HARWICHPORT, CAPE COD, MASS. CIRCA 1794

Working Photographs from the Original Negatives by Dwight James Baum, Architect



BOARD-ZABRISKIE HOUSE, ERECTED 1754. PARAMUS ROAD, HOHOKUS, N. J.



MODERN SHOPS, CAPE COD, MASS.

Working Photographs from the Original Negatives by Dwight James Baum, Architect

GLASS PAINTING AS ARCHITECTURE

By CHRISTEL KUBALL

WHILE stone is usually chosen as the basic material of construction in architectural work for its static qualities of strength and carrying capacity, the esthetic character of glass has a similar calling. Glass being a material substance, has an essential relation to the problem of formation of space. The crystal as a surface demands employment when a space is to be enclosed. While stone requires a treatment by color due to its roughness of formation and dullness of color, so also does glass, but for its opposite characteristics. The glass as such does not form a termination of space but leads only to a continuation of spatiality. Glass, when used in forming a space, offers the possibility of display due to its transparency. Looking at the subject from this point of view, the production of a colored glass window is not only a painting, but it is likewise construction to the full extent of the word.

If someone is building a part of a whole, not as a craftsman, but as an artist, he must consider the entire surroundings in the design of his particular contribution to the whole. The glass painting must be co-ordinated in accordance with its purpose in an invariability, which is the expression of necessary unity, to the space to which it gives light. The possibilities in the picturesque display of painted glass in the Gothic style may be considered as an example of the creative work of space in this particular branch of art.

It is surprising how difficult it is to attain artistic effects with colored glass which is unpainted and not overlaid with patina. The employment of purely transparent colors, which in theory appears to be convincing, becomes a failure in actual practice. The colored glass being only a passage for the light, becomes for this reason unsubstantial in itself.



THE ANNUNCIATION

HANDLED IN THE STYLE OF FOURTEENTH CENTURY GOTHIC, WITH CONSIDERATION IN REGARD TO STYLE OF DRAWING AND CHOICE OF COLOR IN THE ANTIQUE MANNER



THE RESURRECTION

A CONCEPTION OF OLD ART OF GLASS WORKING, BUT IN ACCORDANCE WITH MODERN SENTIMENT, CONSIDERATION HAS BEEN GIVEN TO THE HARMONY OF COLORS USED

and, being transparent and therefore not holding the rays of the light, is toneless. For this reason, it is essential to collect the light in the panes of glass and to kindle the inner fire of its color by the brilliancy of the daylight by means of the structure of the glass, in particular by the patina of the black lead, or by the opaque ground, or the colored surface film of the glass pieces.

The application of patina by black lead on colored glass has so far been looked upon as a means of artificial aging, which is, however, like any other delusion, not in accord with the seriousness and truth of artistic work. This opinion is based on a misconception of the problem. It is only the covering of patina which gives a new surface of picturesque animation to the glass and brings the irradiated colored glass to an inflamed fire. The space is no longer lighted from the outside rays which try

to enter through an opening in the walls of the space, but it is illuminated by the light which was kindled in the glass picture and which now in turn is throwing its brilliancy into the room.

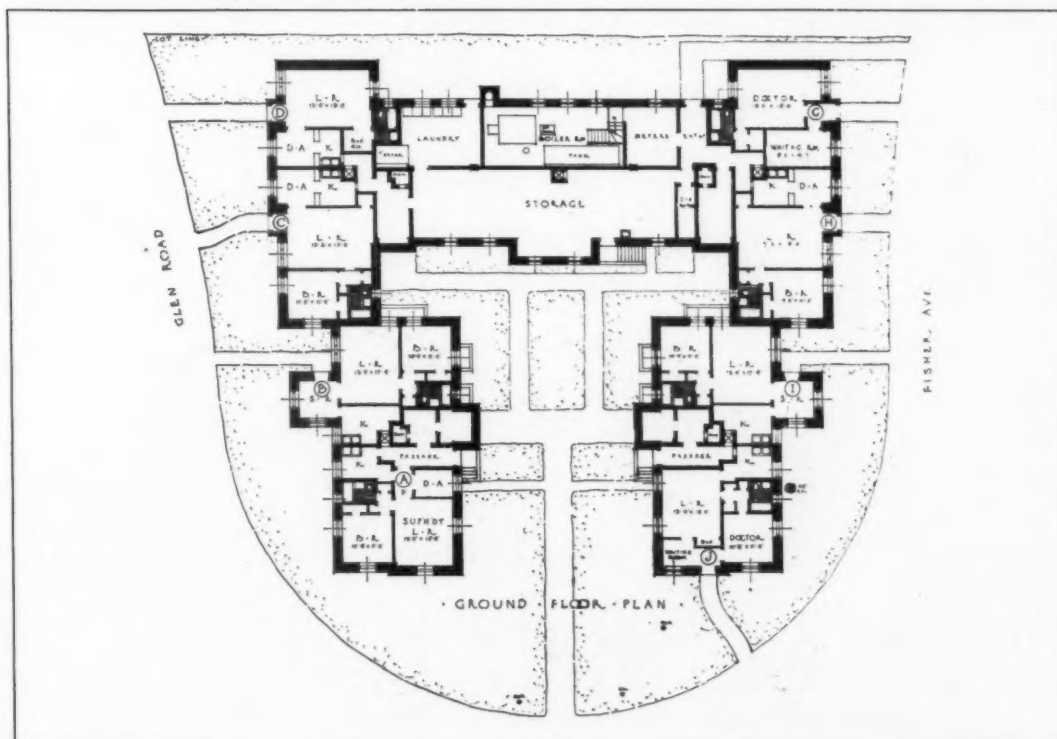
The glass wall, only by treatment and refinement, will present a space forming architectural impression. Only then will it be an instrumental connection with the architectural problem. By such specific transition of the window into its walls, the room becomes an entity and its enclosure the automatic boundaries of the architectural work.

The three stained glass windows illustrated, form a group of six windows designed by Christel Kuball as samples made upon the request of Cram & Ferguson, architects. The six windows are now on exhibition at the Art Centre, New York.—THE EDITORS.



THREE ANGELS APPEAR TO ABRAHAM

THE ACTION AS USED IN THE DESIGN FOLLOWS GOTHIC TRADITIONS OF THE THIRTEENTH CENTURY



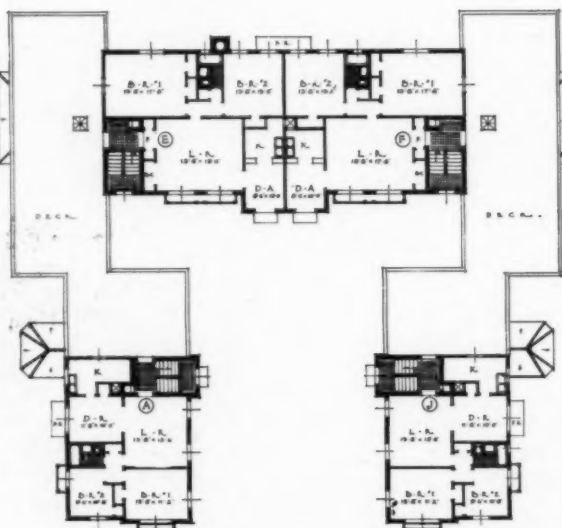
APARTMENT HOUSE AT EASTCHESTER, N. Y.

WILLIAM C. HALBERT, JR., ARCHITECT

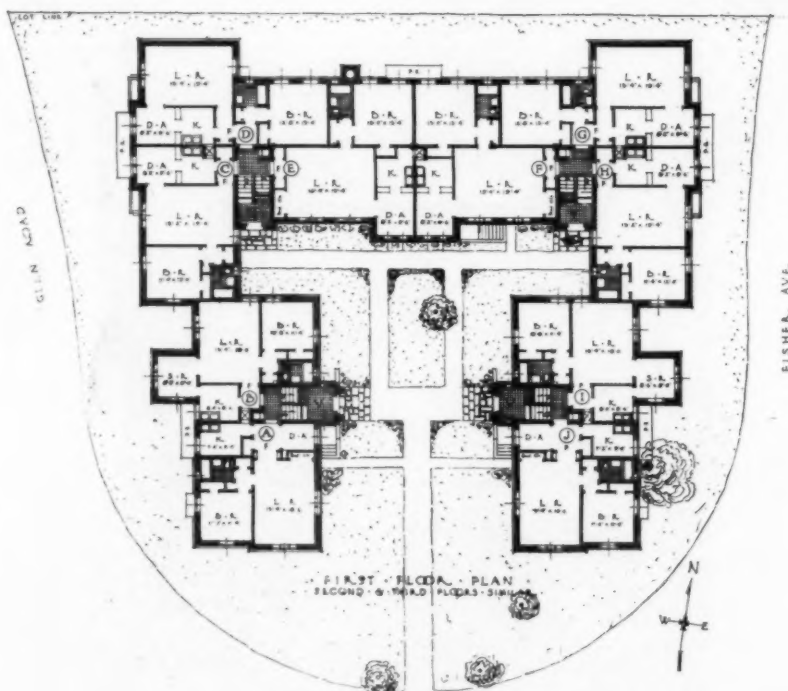
THERE is practically no basement as the building is built entirely above the ground level, the boiler room alone being sunk. There are no public corridors, the stair halls serving as entrances, with a maximum of only two apartments to one hall, the ground floor apartments each having a private entrance. Incinerators are provided for each group of apartments. Kitchens are arranged in pairs to simplify plumbing and one dumb-waiter serves two apartments on each floor. Each kitchen is equipped with an electric refrigerator. The boiler is equipped with an oil burner.

The foundations and the ground floor story are of rubble stone, 20" thick; all other exterior walls, and all stair towers, are of cinder concrete blocks, stuccoed on the outside. Apartments are separated by hollow tile walls. The balance of the construction is of wood.

The building was started in December, 1927, and was ready for occupancy about May 1, 1928. The size is about 400,000 cubic feet, the cost approximately 45c per cubic foot. There are 42 apartments, one of which is occupied by the superintendent.



FOURTH FLOOR PLAN



FIRST FLOOR PLAN

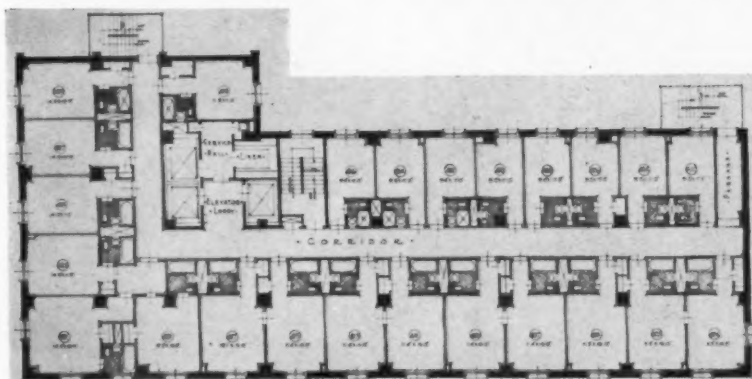
SECOND & THIRD FLOOR SIMILAR

APARTMENT HOUSE AT EASTCHESTER, N. Y.

WILLIAM C. HALBERT, JR., ARCHITECT

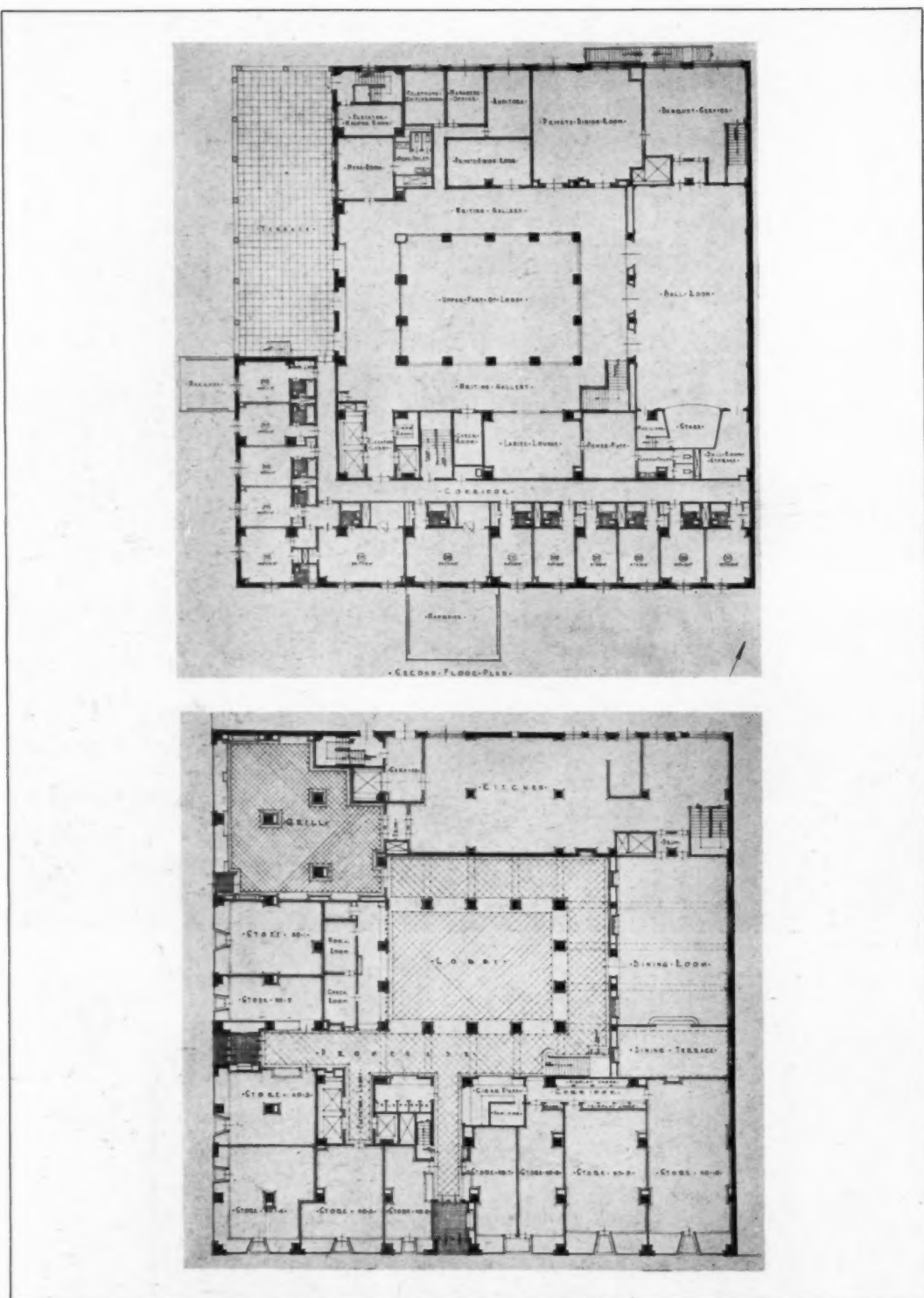


Photo by Moffett



EXTERIOR VIEW AND TYPICAL FLOOR PLAN, HOTEL ROOSEVELT, CEDAR RAPIDS, IOWA

EDWIN D. KRENN AND HERBERT B. BEIDLER, ARCHITECTS



FIRST AND SECOND FLOOR PLANS, HOTEL ROOSEVELT, CEDAR RAPIDS, IOWA
EDWIN D. KRENN AND HERBERT B. BEIDLER, ARCHITECTS



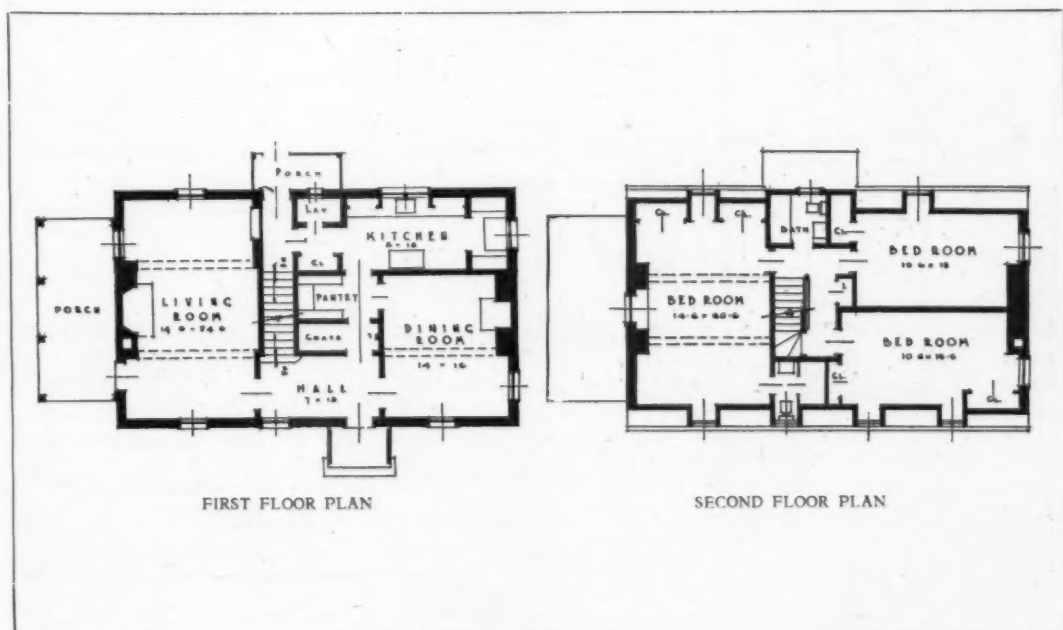
Photos by Moffett

HOTEL ROOSEVELT, CEDAR RAPIDS, IOWA
EDWIN D. KRENN AND HERBERT B. BEIDLER, ARCHITECTS



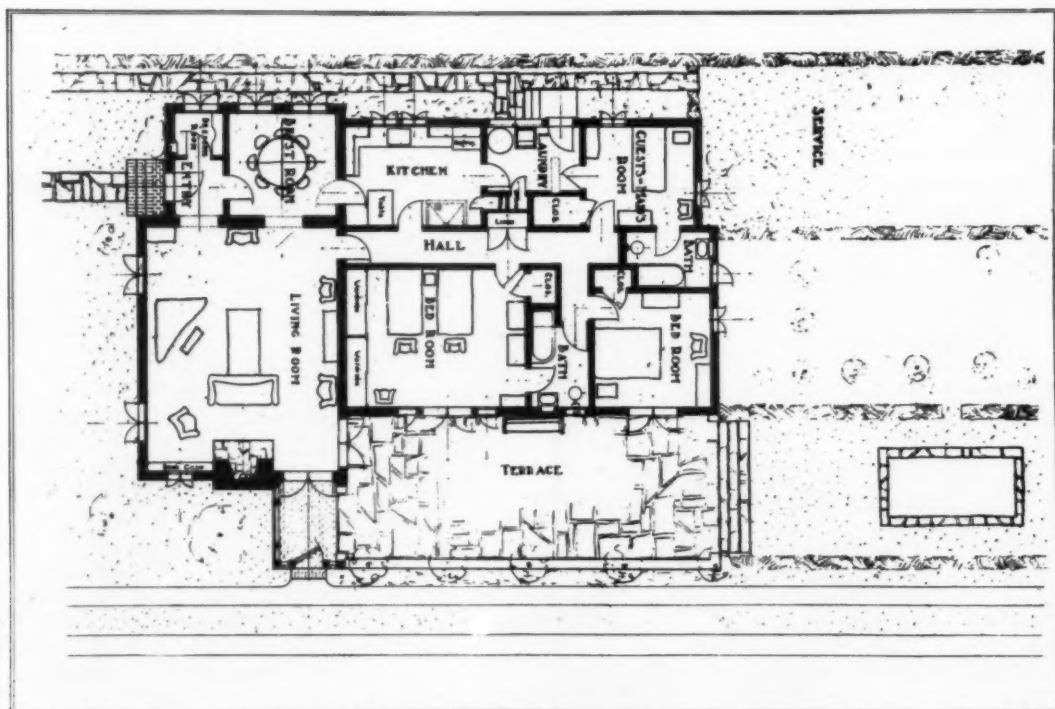
Photos by Moffett

HOTEL ROOSEVELT, CEDAR RAPIDS, IOWA
EDWIN D. KRENN AND HERBERT B. BEIDLER, ARCHITECTS



HOUSE OF THEODOR LEONHARD, HALEDON, N. J.

P. F. WATKEYS, ARCHITECT



HOUSE OF THOMAS BURKE, HOLLYWOOD, CALIF.
HENRY CARLTON NEWTON AND ROBERT DENNIS MURRAY, ARCHITECTS

ENGINEERING AND CONSTRUCTION

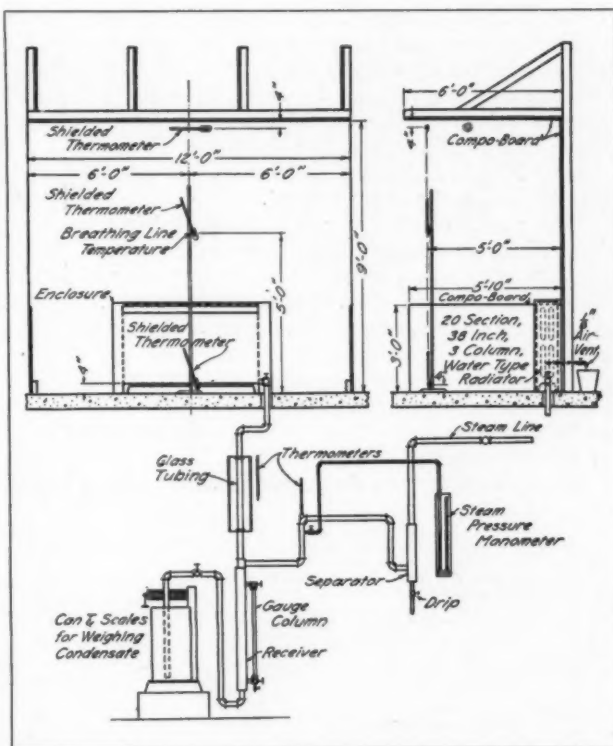
EFFECT OF ENCLOSURES ON DIRECT STEAM RADIATOR PERFORMANCE

By MAURICE K. FAHNESTOCK

THE following extracts from Bulletin 169 of the University of Illinois Engineering Experiment Station are published by permission of the Director of the Engineering Experiment Station. This bulletin is a report of the results of the first year's work under the terms of the co-operative agreement between the National Boiler and Radiator Manufacturers' Association, the Illinois Master Plumbers' Association, and the University of Illinois, providing for an investigation of steam and hot water heating systems. This investigation was conducted under the supervision of A. C. Willard, Head of the Department of Mechanical Engineering, and A. P. Kratz, Research Professor in the Department of Mechanical Engineering. The author, Maurice K. Fahnestock, is Special Research Assistant in Mechanical Engineering.—THE EDITORS.

THE immediate object of the series of tests reported was to determine the effect of various types of present-day commercial radiator enclosures, shields and covers on the steam condensing capacity of a direct cast iron radiator. The effect of an enclosure, shield or cover upon the steam condensing capacity of a radiator depends upon many factors. The tests, in the case of radiator enclosures, were planned to determine the influence of air inlets, air outlets, heights and grilles.

The radiator used for these tests was a standard 20-section, 38-inch, 3-column, cast iron water type radiator having a nominal area of 100 sq. ft. The surface was brushed and painted (not dipped) with two coats of flat black paint. The radiator stood on the main floor of the laboratory and was partly surrounded by the test booth. The back of the booth was placed $2\frac{1}{2}$ inches from the radiator, and, together with the sides, served to shield the latter from transverse air currents. The top of the booth served to deflect the vertical air currents in approximately the same manner as the ceiling of a room. The whole inside of the booth presented



LAYOUT OF TEST PLANT

surfaces similar to papered walls for receiving radiation. These conditions, while not exactly duplicating those of actual service, where the radiator is often set under the window, which is an exposed wall, did duplicate standard conditions under which practically all radiator tests have been conducted.

No commercial enclosures were used, but all enclosures were constructed so as to be adapted to limiting the effect to the particular factor being studied, and at the same time to avoid presenting features that were commercially impossible. All enclosures were painted inside and outside with two coats of flat black paint. In all cases, there was a clearance of $2\frac{1}{2}$ inches between the back of the radiator and the back of the enclosure, and of one

inch between the radiator and the enclosure at the front. The end clearances were 8 inches and 4 inches, the larger clearance being at the steam inlet end. The effects of height and of sizes and types of openings were determined with enclosures having the sides and ends made of solid sheet iron. The type and dimension of enclosures are shown in the illustrations and tables.

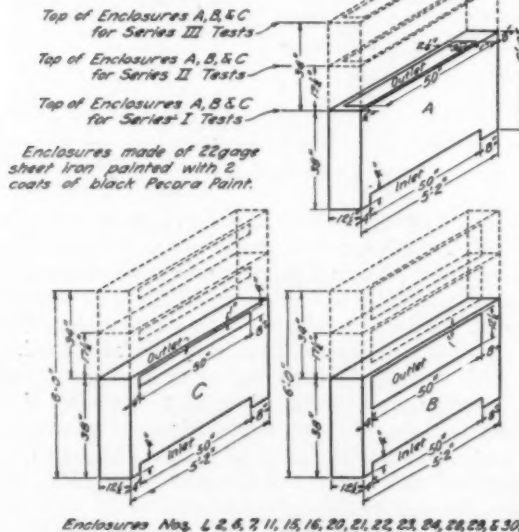
The shield tested was a metal shield of a common commercial type without a humidifier. The top was insulated and extended 2 inches in front of the radiator. The clearance between the shield and the top of the radiator was approximately $\frac{1}{2}$ inch, and the back, which extended to within $3\frac{1}{2}$ inches of the floor, was in contact with the radiator.

During every test the steam pressure was maintained constant by a combination of an automatic pressure reducing valve and a manually controlled throttle valve. In all cases the temperature of the steam in the radiator was 216 degrees F. The condensate left the radiator through the same connection by which the steam entered.

The results of all the tests are presented in the form of curves, using the temperature at the breathing line in deg. F. as abscissas, and net pounds of steam condensed in the radiator per hour as ordinates. For direct comparative purposes the result of each test for a breathing line temperature of 80 deg. F. is given in graphical tables. On each of the curves shown, the performance of the unenclosed radiator is shown as a base curve for the purpose of making comparisons.

The groups of tests designated as Series I were

The outlets in enclosures A and C were run open and grilled. The grille used had $\frac{1}{2}$ sq. holes, with a per cent free area = 44. The outlet in enclosure B was run open only.



Enclosures Nos. 4, 2, 6, 7, 11, 15, 16, 20, 21, 22, 23, 24, 25, 26, 27, 30.

ENCLOSURES USED IN SERIES I, II AND III TESTS.
SEE PAGES 204 AND 205

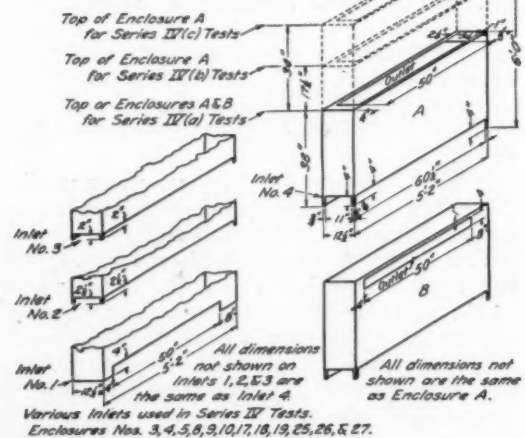
made for the purpose of determining the effect of the location, size, and type of the air outlet, using an enclosure of the same height as that of the radiator. In all cases the top of the enclosure practically touched the top of the radiator and the air inlet consisted of a 4-inch by 50-inch open slot at the bottom of the front of the enclosure. The best combination in this series was obtained with a $9\frac{1}{4}$ -inch by 50-inch horizontal opening in the top of the enclosure. The area of the outlet was 462.5 sq. in. compared with 200 sq. in. for the inlet. The relative capacity was 89.1 per cent, using the steam condensing capacity of the unenclosed radiator at the 80-deg. F. room temperature at the breathing line as 100 per cent. A grille having a ratio of free to gross area of 44 per cent, or a total free area of 209.4 sq. in., was then placed in the outlet. The relative capacity was reduced to 86.5 per cent.

The relative capacity of a combination using a $12\frac{1}{2}$ -inch by 50-inch vertical outlet having an area of 625.0 sq. in. was 83.5 per cent. When the area of this outlet was reduced to 4 inches by 50 inches, or 200 sq. in., the relative capacity was reduced to 77.0 per cent. The addition of a grille reduced the relative capacity to 69.2 per cent. From these results it is apparent that the use of an enclosure materially affects the steam condensing capacity of a radiator, and that the use of a front vertical outlet, even with a comparatively large area, is less advantageous than the use of a top outlet. A grille causes more serious reduction when used with a front outlet than with a top outlet.

Series IV(a)-Enclosures A and B tested with open outlets, using Inlets 1 and 4, and with punched metal grille outlets using Inlets 1, 3, and 4. The grille used had $\frac{1}{2}$ sq. holes with per cent Free Area = 44.

Series IV(b) and IV(c)-Enclosure A tested with open Outlet using Inlets 1, 2, 3, and 4.

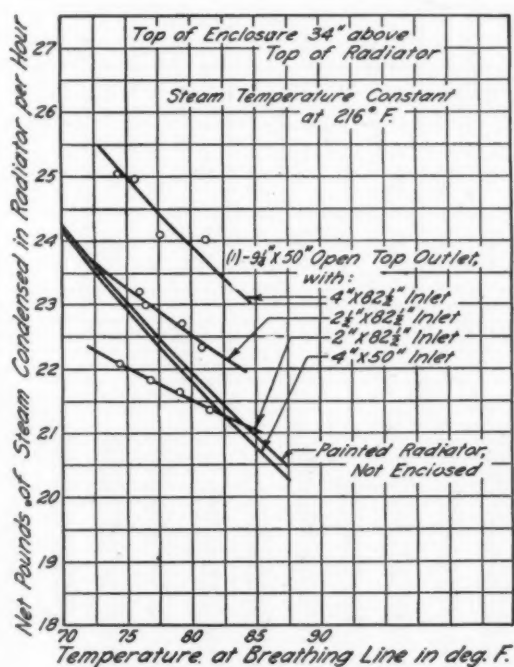
Enclosures made of 22 ga. sheet iron and painted with 2 coats Black Pecora Paint.



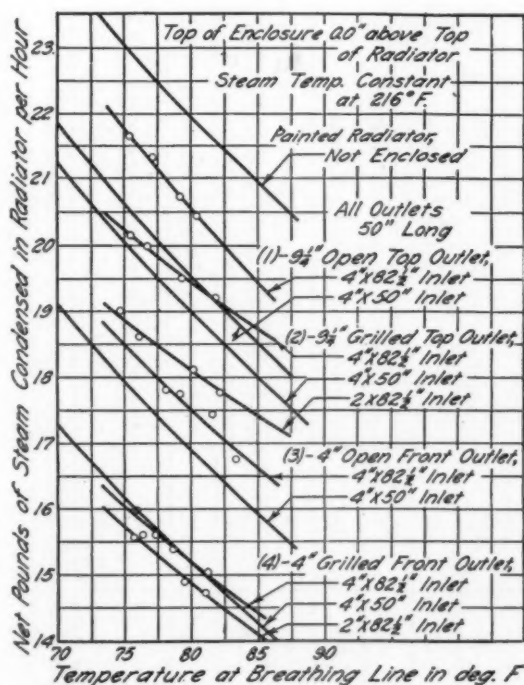
ENCLOSURES USED IN SERIES IV-A, IV-B AND IV-C TESTS.
SEE PAGES 204 AND 205

The two groups of tests made for the purpose of determining the effect of the height of the enclosure were known as Series II and III. This work was also continued under Series IV-a, IV-b, and IV-c tests, in connection with tests made for studying the effect of size of air inlet. In every case the enclosures had solid ends and front, and in the tests of Series I, II, and III a 4-inch by 50-inch open inlet at the bottom of the front. In the tests made under series IV-a, IV-b and IV-c the inlet was 4 inches by 82½ inches, extending across the entire bottom of the front and ends. With the exception of the increase in height to 55½ inches and 72 inches, these enclosures were exactly sim-

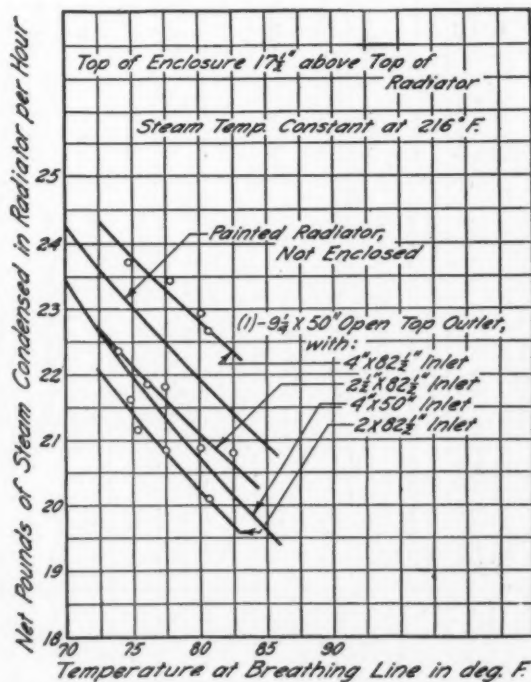
ilar in every respect to those used in Series I. The difference in relative capacity between the enclosures having similar inlet and outlet characteristics was, therefore, due directly to the variation in height. The results of six groups of tests show a consistent increase in capacity with height. The results of these tests are shown in curves to permit interpolation for heights other than the ones tested. These curves indicate that the steam condensing capacity of an enclosed radiator is appreciably increased by increasing the height of the enclosure, but that the height increases at a greater rate than the performance. The tests show that with the best combination of



PERFORMANCE CURVES OF VARIOUS INLETS
WITH MAXIMUM HEIGHT ENCLOSURE

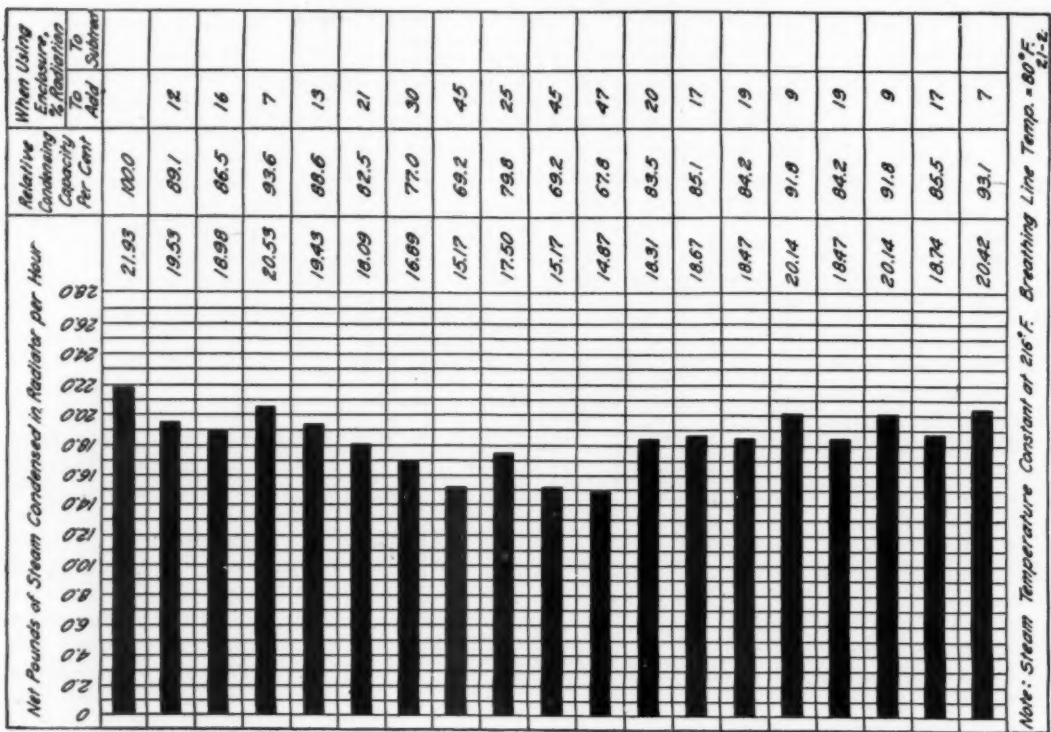


MINIMUM HEIGHT ENCLOSURE



MEDIUM HEIGHT ENCLOSURE

PERFORMANCE CURVES FOR VARIOUS INLETS

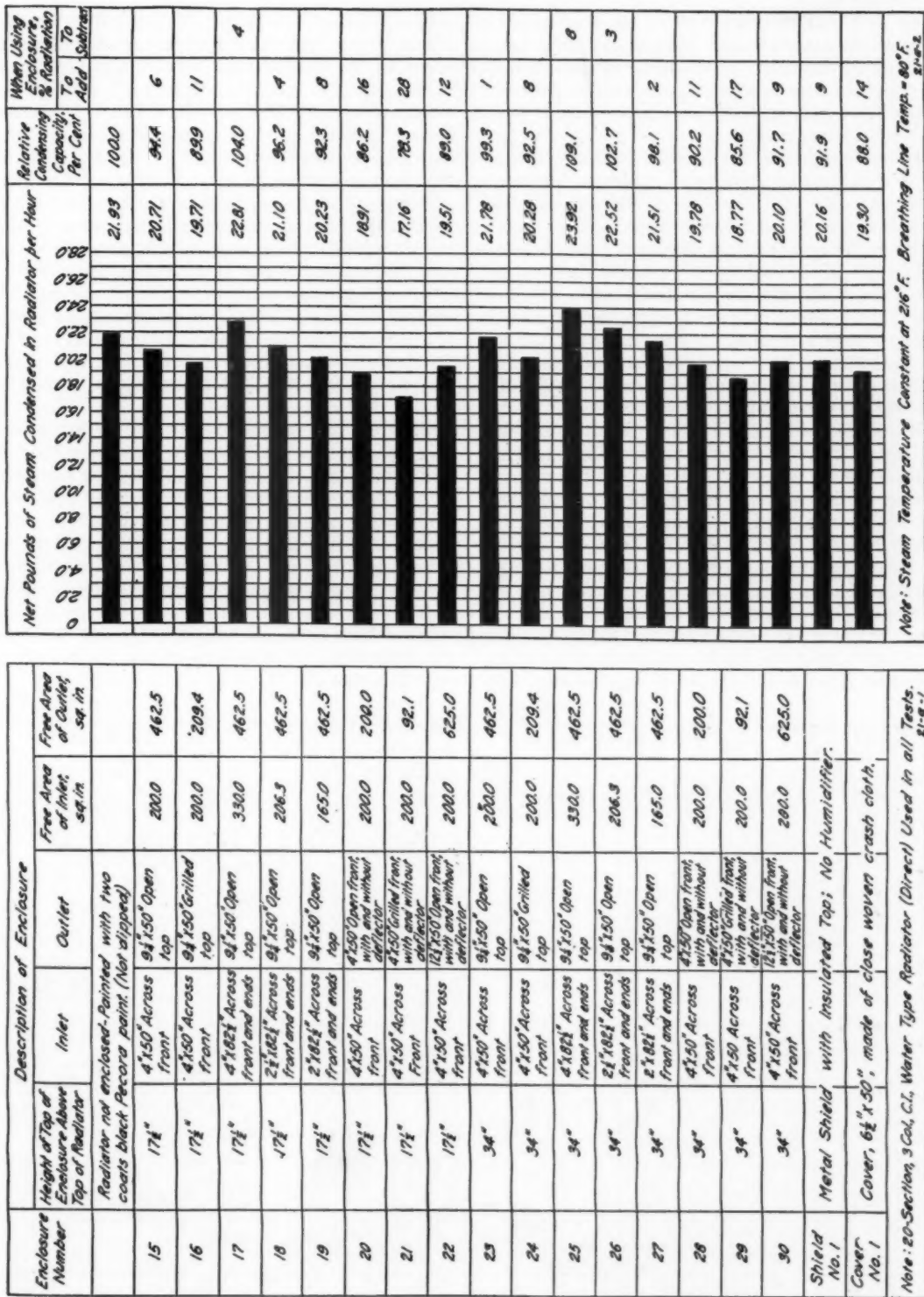


Note: Steam Temperature Constant at 216°F. Breathing Line Temp. = 80°F. 21-2.

Enclosure Number	Description of Enclosure			
	Height of Top of Enclosure Above Top of Radiator	Inlet	Outlet	Free Area of Inlet sq. in.
	Radiator not enclosed—Painted with two coats black Acrome paint (Not dipped)			
1	0.0"	4'x50" Across front	9 1/2'x50" Open top	462.5
2	0.0"	4'x50" Across front	9 1/2'x50" Grilled top	209.4
3	0.0"	4'x50" Across front and ends	9 1/2'x50" Open top	462.5
4	0.0"	4'x50" Across front and ends	9 1/2'x50" Grilled top	209.4
5	0.0"	2'x50" Across front and ends	9 1/2'x50" Grilled top	209.4
6	0.0"	4'x50" Across front	4'x50" Open front	200.0
7	0.0"	4'x50" Across front	4'x50" Grilled front	92.1
8	0.0"	4'x50" Across front and ends	4'x50" Open front	200.0
9	0.0"	4'x50" Across front and ends	4'x50" Grilled front	92.1
10	0.0"	2'x50" Across front and ends	4'x50" Grilled front	92.1
11	0.0"	4'x50" Across front	12 1/2'x50" Open front	625.0
12	0.0"	Punched grill front, solid ends and top. Grill-work beginning 4" above floor. Free area grill, 44 %. 1/2" sq. holes.		
12a	0.0"	Same as 12 with punched grill ends		
12b	0.0"	Same as 12a with 9 1/2'x50" grilled top outlet (1/2" sq. holes)		
13	0.0"	Woven metal grill front and ends, solid top. Grill-work beginning 4" above floor. Free area grill, 42 %.		
13a	0.0"	Same as 13 with 9 1/2'x50" grilled (1/2" sq. holes) top outlet		
14	0.0"	Woven metal grill front and ends, solid top. Grill-work beginning 4" above floor. Free area grill, 53 %.		
14a	0.0"	Same as 14 with 9 1/2'x50" grilled (1/2" sq. holes) top outlet		

Note: 20-Section, 3 Col. C.I. Water Type Radiator (Direct) Used in all Tests. 21-1

GRAPHICAL TABLE OF RESULTS. (CONTINUED ON PAGE 205)



GRAPHICAL TABLE OF RESULTS. (CONTINUED FROM PAGE 204)

Note: 20-Section, 3 Col. C.I., Water Type Radiator (Direct) Used in all Tests. 21-2-1

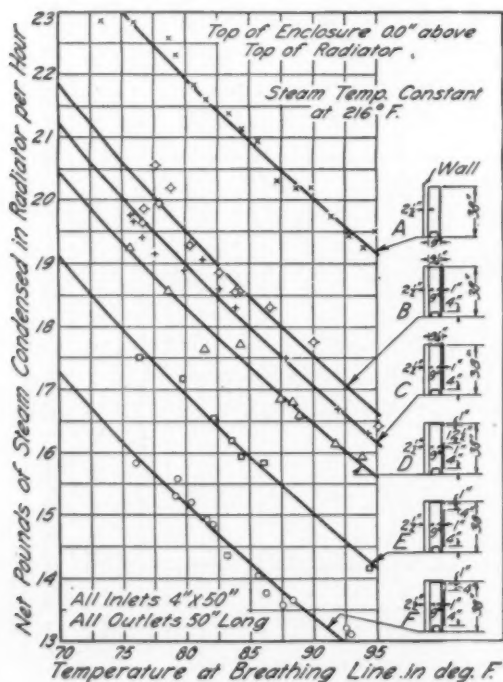
inlets and outlets the capacity of the enclosed radiator was greater than that of the unenclosed radiator for both the 55 1/2-inch and the 72-inch heights, and that disadvantageous outlets have less effect when used with high enclosures than when used with lower ones.

In conjunction with the tests in Series II and III, six groups of tests were made to determine whether a deflector in the top of the enclosure had any effect on the steam condensing capacity of the radiator. The same metal deflector, extending the full length of the enclosure, was used with each of the three front outlets. By the results obtained when the deflector was used with those obtained when it was not used, it may be seen that the deflector did not have any appreciable effect.

The greater portion of the work done for the purpose of determining the effect of size of air inlet was included in the tests of Series IV-a with enclosures 38 inches high, but some additional tests were also made in Series IV-b and IV-c in connection with the study of effect of height of enclosure. The enclosures used in Series IV-b were 55 1/2 inches high and those used in Series IV-c were 72 inches high. In all cases the enclosures with solid ends and fronts were used. Several different inlets were used in conjunction with four types of outlets. Two different inlets were used with 9 1/4-inch by 50-inch open top outlet and the 4-inch by 50-inch open front outlet. Three inlets were used with

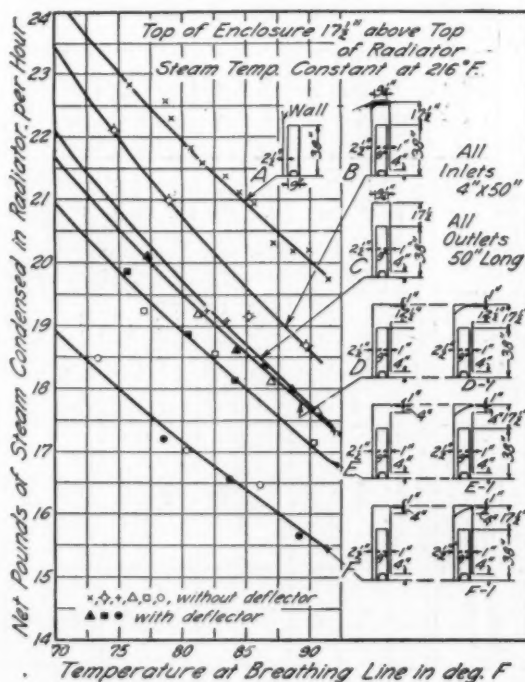
the 9 1/4-inch by 50-inch grilled top outlet and the 4-inch by 50-inch grilled front outlet. Since the slopes of the performance curves in Series IV-a, IV-b, and IV-c vary considerably, the relative capacities given are applicable only to the temperature ranges indicated, and in order to determine the capacities at other ranges, direct reference must be made to the original curves.

Referring to the performance curves for minimum height enclosures, and considering any group of curves for an enclosure with a given outlet, it may be noted that the relative positions and the slopes of the curves vary for different inlets. To point out and explain this fact, the second group of curves may be used as an example. In all of the three cases, the enclosure had a grilled top outlet 9 1/4 by 50 inches. This outlet had a total free area of 209.4 sq. in. Three types of inlets were used. Since the outlet was always the same, the inlet was the determining factor and the relative capacities obtained with a breathing line temperature of 80 deg. F., for enclosure 2, 4 and 5, were 86.5 per cent, 88.6 per cent, and 82.5 per cent, respectively. It may be noted that these relative capacities were in the order of the areas of inlet, with the maximum relative capacity corresponding to the maximum area. The results of these tests indicate that the air inlet is an important factor in the performance of an enclosure, and that it should extend across the entire front and ends. This is



PERFORMANCE CURVES FOR VARIOUS OUTLETS

MINIMUM HEIGHT ENCLOSURE



MEDIUM HEIGHT ENCLOSURE

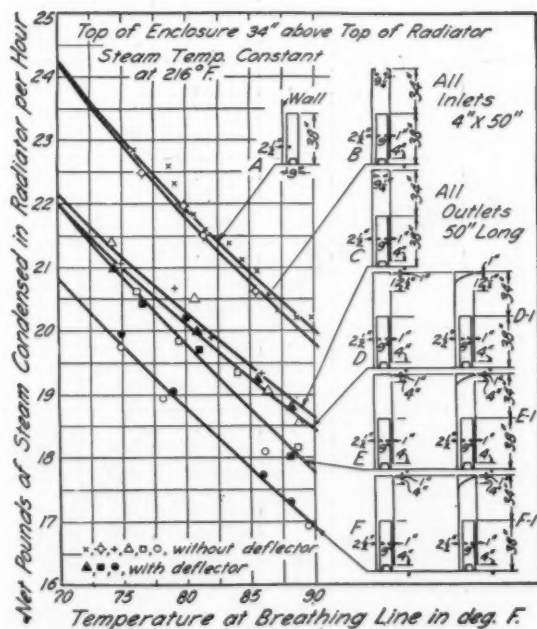
shown by comparing the performance of any one of the enclosures, using first a 4-inch by 50-inch inlet, and then a 4-inch by 82½-inch inlet, all other factors remaining the same. The ratio of the perimeter to the area is also of importance, and long narrow inlets are not desirable.

The group of tests made to show the effect of enclosing the radiator with enclosures having full gridded construction is designated as Series V. The grilles used were: a woven metal grille having a ratio of free area to gross area of 53 per cent, a woven metal grille having a free ratio of 42 per cent, and a punched metal grille having a free area of 44 per cent. In computing the free areas of the various grilles, all the openings, both large and small, were included in the total free areas. Each grille was tested on two types of enclosures. One type had a 9¼-inch by 50-inch gridded opening in the top, while the other type had a solid top. One enclosure was constructed with solid ends and top, with the punched metal grille covering the front. Both the sheet iron and the grille work extended to within 4 inches of the floor. On all other enclosures the grille work began 4 inches above the floor and extended over the entire front and ends.

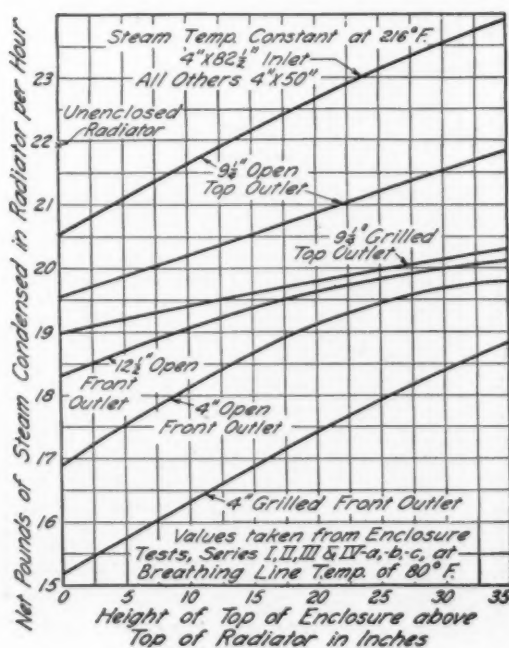
The enclosure with the outlet in the top, and covered with the woven metal grille having a free area ratio of 53 per cent, gave a relative capacity of 93.1 per cent for a room temperature at the breathing line of 80 deg. F. This same enclosure with a solid top gave a relative capacity of 85.5 per cent. Retaining the same general construction, a woven

metal grille with 42 per cent free area ratio was substituted in place of the metal woven grille with 53 per cent free area. In the case of the enclosure with the outlet in the top, a relative capacity of 91.8 per cent was obtained, and with the solid top, the relative capacity was 84.2 per cent. The third construction tested was similar to the first two, with the exception that a punched metal grille having a free area ratio of 44 per cent was used in place of the woven metal grilles. There was no appreciable difference between the performance of this enclosure and the one covered with the woven grille having a 42 per cent free area ratio. This was true of both the enclosure having an outlet in the top and the one with a solid top, and in each case the same curve served to represent the performance of the enclosure covered with either grille. The fourth construction tested was the one in which the enclosure had solid ends, with a punched, gridded front having a free area ratio of 44 per cent. This combination of front and ends was used with the solid top only and the results obtained indicate that for low motive heads, or small temperature differences between the radiator and the surrounding air, the enclosure with solid ends had a greater capacity than similar enclosures with ends of gridded construction. However, the results obtained over the whole temperature range at which the tests were made, show that for the motive heads found in common practice the gridded ends have a small advantage.

For a room temperature at the breathing line of



PERFORMANCE CURVES FOR VARIOUS OUTLETS
MAXIMUM HEIGHT ENCLOSURE



EFFECT OF HEIGHT OF ENCLOSURE
ON STEAM CONDENSED

80 deg. F. the relative capacity of the enclosure with the grilled construction having a 53 per cent free area ratio was 1.3 per cent more than it was with the grilles having either 42 or 44 per cent free area ratio. Although the difference in the free area ratios of the grilles used was 11 per cent, the difference in the relative capacities was only 1.3 per cent. This is very small in comparison with the effects of other factors, such as height, air outlets, and air inlets.

Tests of Series VI were made for the purpose of determining the effect of a common commercial type of metal radiator shield and a cloth radiator cover. With a room temperature at the breathing line of 80 deg. F., the relative capacity of the radiator with the shield was 91.9 per cent, comparing favorably with the relative capacities of 91.8, 91.8, and 93.1 per cent for the enclosures with grilled construction having grilled openings in the top. However, when this is compared with the relative capacities of 84.2, 84.2, and 85.5 per cent for the enclosures with grilled construction having solid tops, the effect of the shield is seen to be less disadvantageous than the effects of enclosures. The relative capacity of the radiator with a cloth cover for a room temperature at the breathing line of 80 deg. F. was 88.0 per cent.

CONCLUSIONS

As a result of this investigation the following conclusions were drawn:

- (1) The one-pipe connection to the radiator,

in which the steam enters and the condensate leaves through the same connection, gives very consistent and satisfactory results when used for the determination of the steam condensing capacity of radiators.

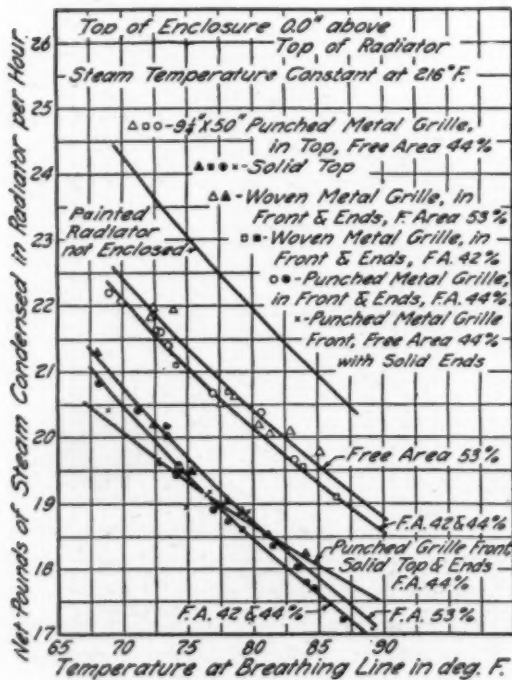
- (2) The coefficient of heat transmission K , or the heat transmission per sq. ft. of radiation per degree temperature difference per hour, may be corrected to terms of a temperature range deviating (within reasonable limits) from the standard range of 145 deg. F., either by the 0.2 per cent rule proposed by Charles A. Fuller* or by the exponential rule proposed by Dr. Dietz.†

- (3) The type of air outlet used materially affects the performance of a radiator enclosure, and a front outlet even with a comparatively large area, is less advantageous than a top outlet.

- (4) The capacity of an enclosed radiator is appreciably increased by increasing the height of the enclosure, but, for a given radiator, an increase in height with low enclosures results in a greater gain in steam condensing capacity than a corresponding increase in height with high enclosures.

- (5) By using the proper combination of inlets and outlets and increasing the height of the enclosure a sufficient amount, it is possible to increase the steam condensing capacity of the enclosed radiator above that of the unenclosed radiator.

*Harding, L. A., and Willard, A. C., "Mechanical Equipment of Buildings," Vol. I, First Edition, page 78.
†Brabbee, C. W., "Heating Effect of Radiation," Journal of the A. S. H. and V. E., Vol. 31, No. 11, November, 1925, page 502.

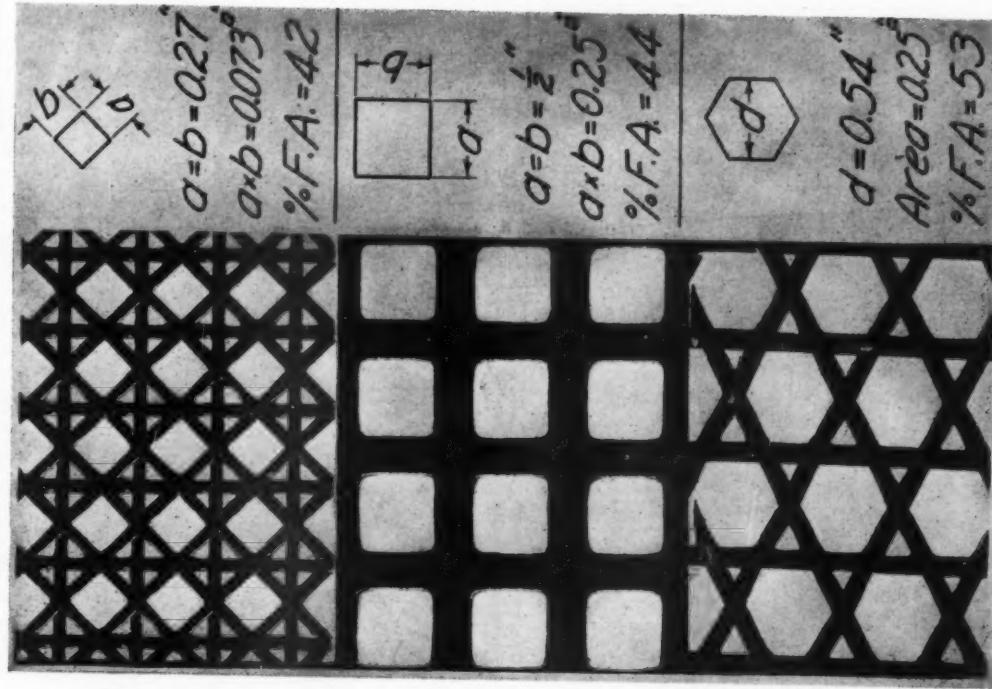


PERFORMANCE CURVES FOR ENCLOSURES WITH VARIOUS GRILLED CONSTRUCTIONS

Inlet	Outlet	Enclosure Number	Tests	Height of Enclosure in.	Relative Capacity per cent
4 in. x 50 in. at the bottom of the front	9 1/4 in. x 50 in. Open Top	1	Series I	38	80.1
		15	Series II	55 1/2	94.4
		23	Series III	72	99.3
	9 1/4 in. x 50 in. Grilled Top	2	Series I	38	86.5
		16	Series II	55 1/2	89.9
		24	Series III	72	92.5
	12 1/4 in. x 50 in. Open Front	11	Series I	38	83.5
		22	Series II	55 1/2	89.0
		30	Series III	72	91.7
	4 in. x 50 in. Open Front	6	Series I	38	77.0
		20	Series II	55 1/2	86.2
		28	Series III	72	90.2
	4 in. x 50 in. Grilled Front	7	Series I	38	69.2
		21	Series II	55 1/2	78.3
		29	Series III	72	85.6
4 in. x 82 1/2 in. across front and ends	9 1/4 in. x 50 in. Open Top	3	Series IV-a	38	93.6
		17	Series IV-b	35 1/2	104.0
		25	Series IV-c	72	109.1

RELATIVE STEAM CONDENSING CAPACITIES OF ENCLOSURES OF DIFFERENT HEIGHTS

ENCLOSURE NUMBERS REFER TO THOSE IN TABLES ON PAGES 204 AND 205



SECTION OF METAL GRILLES, APPROXIMATELY ACTUAL SIZE

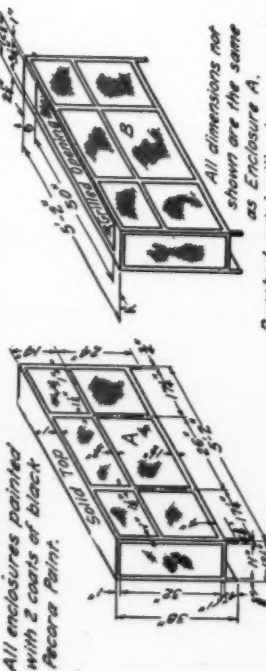
Enclosure A was tested:-
Using punched metal grille front and solid ends. Per Cent Free Area of Grille = 44, ($\frac{1}{2}$ sq. holes).

Enclosures A and B were tested:-
(1)-Using punched metal grille front and ends. Per Cent Free Area of Grille = 44, ($\frac{1}{2}$ sq. holes)

(2)-Using woven metal grille front and ends. Per Cent Free Area of Grille = 42.

(3)-Using woven metal grille front and ends. Per Cent Free Area of Grille = 53

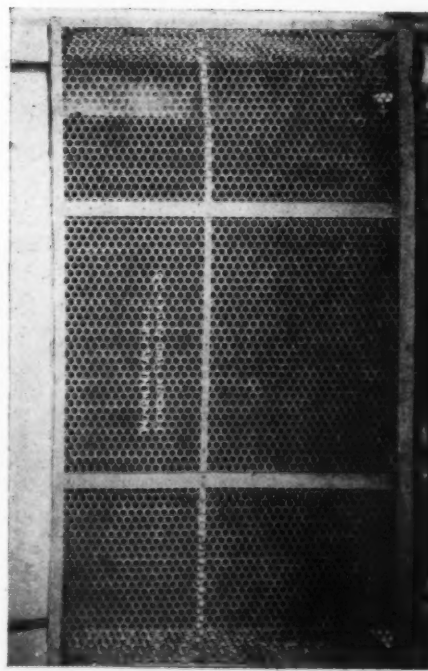
All enclosures painted with 2 coats of black Pecora Paint.



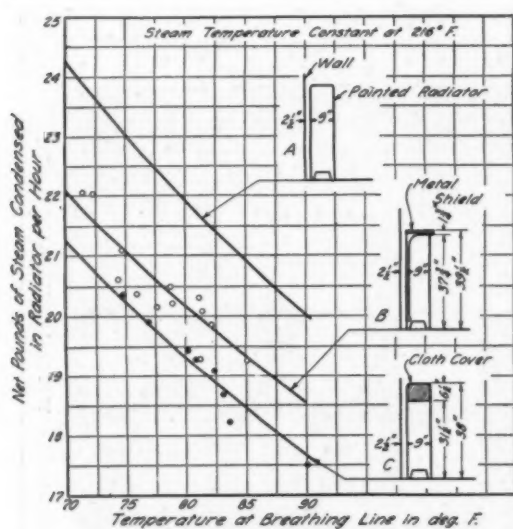
All dimensions not shown are the same as Enclosure A.

Punched metal grille always used in top opening, per cent Free Area = 44.

Enclosures Nos. 12, 12a, 12b, 13, 13a, 14, 14a.



ENCLOSURES USED IN SERIES V TESTS



PERFORMANCE CURVES FOR METAL SHIELD
AND CLOTH COVER

(6) Disadvantageous outlets have less effect when used with high enclosures than when used with lower ones.

(7) The frictional resistance in the air inlet is an important factor in the design of an enclosure, and long narrow inlets having large ratios of perimeter to area are undesirable.

(8) Enclosures which were very close approximations of common commercial types reduced the relative capacity of the radiator approximately 15 per cent.

(9) The common commercial shield tested reduced the relative capacity about 8 per cent.

(10) The cloth cover tested reduced the relative capacity about 12 per cent.



METAL RADIATOR SHIELD



RADIATOR SHIELD WITH CLOTH COVER

"BUILDING ECONOMY"

THE Common Brick Manufacturers' Association issues a monthly magazine called *Building Economy*. The issue for July, 1928, contains articles on the whitewashing of brickwork; workingmen's model houses; the New York Central Railroad Terminal tunnel walls; houses of brick, and other interesting features. This issue contains 24 pages. Copies may be obtained upon request to The Common Brick Manufacturers' Association, Guarantee Title Building, Cleveland, Ohio.

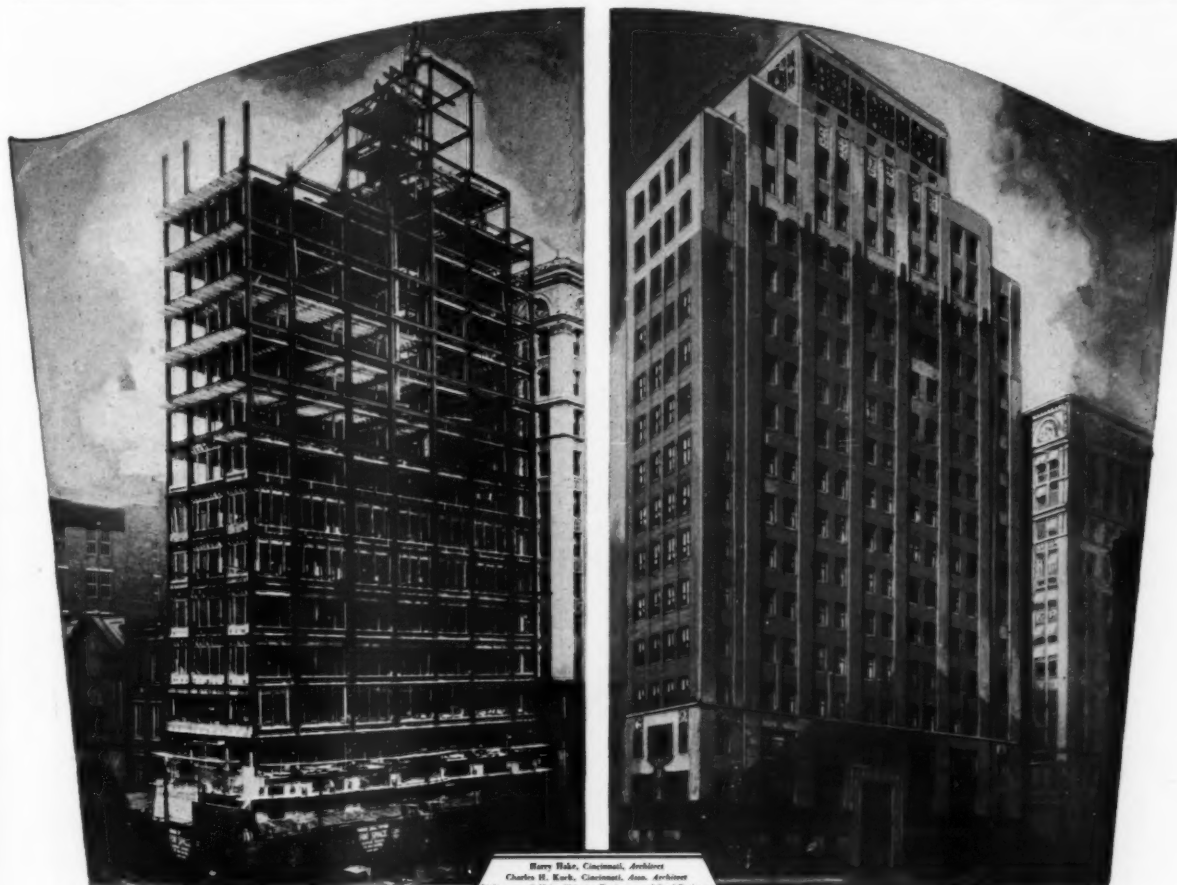
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BUILDING AND ENGINEERING CONSTRUCTION AHEAD OF THE SAME PERIOD IN 1927

F. M. FEIKER, Managing Director of The Associated Business Papers, recently stated, as follows:

"The building and construction industries are outstandingly booming. In dollar volume these industries are far ahead of 1927, which was the largest year on record. Building and engineering construction for the first five months of the current year is nearly 25 per cent ahead of that same period for last year, and operations are being carried on in practically all sections of the country. The largest gain as to class of work is in commercial building, and as to geographical region, the Middle Atlantic States. Home building, however, is below last year.

"Construction costs, instead of skyrocketing, are holding remarkably constant, and wholesale and retail stocks of building supplies are reported to be 30 per cent below what they were a year ago. The outlook for the building industry is that gradually it will return to a new normal annual volume, almost twice as great in dollars as the average year of the pre-war level."



Harry Hahn, Cincinnati, Architect
 Charles H. Korb, Cincinnati, Ass. Architect
 Lockwood & Hirt, Chicago, Engineers and Steel Designers
 The J. & F. Harg Co., Cincinnati, General Contractors

The Fountain Square Building-Cincinnati

Forming the skeleton of many of the splendid structures rising in our cities, are the new Carnegie Beam Sections. These beams impart to steel construction a new efficiency, a new simplicity, heretofore unknown. Their success has been almost spectacular. The series includes a complete range of 10" and 12" sections designed for column purposes in which the various weights have a constant depth. Architects and engineers are recognizing the many advantages of constant depth, and of the wide parallel flanges — both unique with these sections.

In tier buildings where typical floors exist, such as the one pictured above, constant depth is especially valuable. It permits the duplication of material in successive floors. Flange fillers under column splices are eliminated, and a greater uniformity in fireproofing and finish is made possible. In tall, narrow buildings, these new sections also simplify the difficult problem of proper wind bracing.

Copy of handbook—"Carnegie Beam Sections"—will be sent upon request. Profiles, properties and safe load tables are included with other valuable information.

CARNEGIE STEEL COMPANY
General Offices: PITTSBURGH, PENNA.

1928

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



BRONX-WESTCHESTER HEADQUARTERS BUILDING OF NEW YORK TELEPHONE COMPANY, NOW UNDER CONSTRUCTION AT GRAND CONCOURSE AND 175TH STREET, NEW YORK—VOORHEES, GMELIN & WALKER, ARCHITECTS

"CUBIST" HOUSES IN PARIS

WHAT probably will be the most curious street in Paris for many years to come, was opened recently by the French Minister of Commerce, the Prefect of the Seine and the Prefect of Police.

The street consists entirely of houses built on the most approved principles of hygiene and on plans which recall some ultra-modern exposition of decorative art rather than the staid, uniform apartment houses of Paris. Situated in a district of Auteuil, which has retained its century-old trees and still boasts of many open spaces, the new street has been named rue Mallet-Stevens, after the distinguished

French architect who designed this experiment in house construction.

Seen from the outside, the buildings present an entirely different aspect from those in the surrounding streets. Balconies, windows in rows and sloping roofs have disappeared. Stories are undefined, some being higher or lower than the adjoining ones. Windows are of huge size, and more like those of some modern factory than of a private home. The walls are in gray cement; the roofs have been replaced by terraces; and every block presents a complicated geometrical figure of parallel straight lines, from which curves have been banished.

The architect's idea was to make architecture

TERRA COTTA

for

BEAUTY

and

PERMANENCE

*I*N the trend of modern architecture Terra Cotta adapts itself as the medium of expression. A wide variety of beautiful colors and textures gives the final touch of charm and distinction. Our color chart which contains various suggestions will be sent free on request.

NATIONAL TERRA COTTA SOCIETY
19 WEST 44TH STREET
NEW YORK, N. Y.

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

subservient to comfort. The houses are, as it were, built from inside outward. When the rooms are large and airy, the windows are proportionally wide and high. But there is nothing hideous about these dwellings. The outer openings are painted in all colors blending harmoniously with the gray of the walls.

The terraces are like hanging gardens, and on the sidewalks and window ledges there is a profusion of flowers and dwarf trees, which give the rue Mallet-Stevens the appearance of a street in some doll city.

At first sight this new street of ten houses out in the Auteuil district, looks like geometric puzzles. It is all made of reinforced concrete, built in cubes and cylinders in the most fantastic manner. Enormous windows add to its queer very twentieth century look. It is only after the eye gets used to certain things that one begins to see elegance in the structure of these houses of the future. And once inside the houses of this queer street one realizes that the architect had some far better purpose than building an elegant frontage. He built his house from the inside out. He has tried to make a street of habitable dwellings, convenient, airy, full of light, easy to work in, comfortable and harmonious. The oddness of the outside does not appear at all indoors. The doors, windows and stairways are placed so as to give the maximum convenience.

These houses are built for living in, just as an automobile is built for running on the road, and because they fit their purpose they are elegant. There is nothing superfluous.

For the first time the flexibility of cement in place of stone as a construction material has been fully taken into account. Dwellers in these houses are not lodged in a square divided into more or less convenient parts. Around what they need in the way of living space a protective cover of cement has been built. Just as the house gives room for everything that is needed in a modern habitation, so it has no waste spaces.

In only one thing does this street resemble every other street in Paris, and that is that there is nothing in it for rent.—*Housing.*

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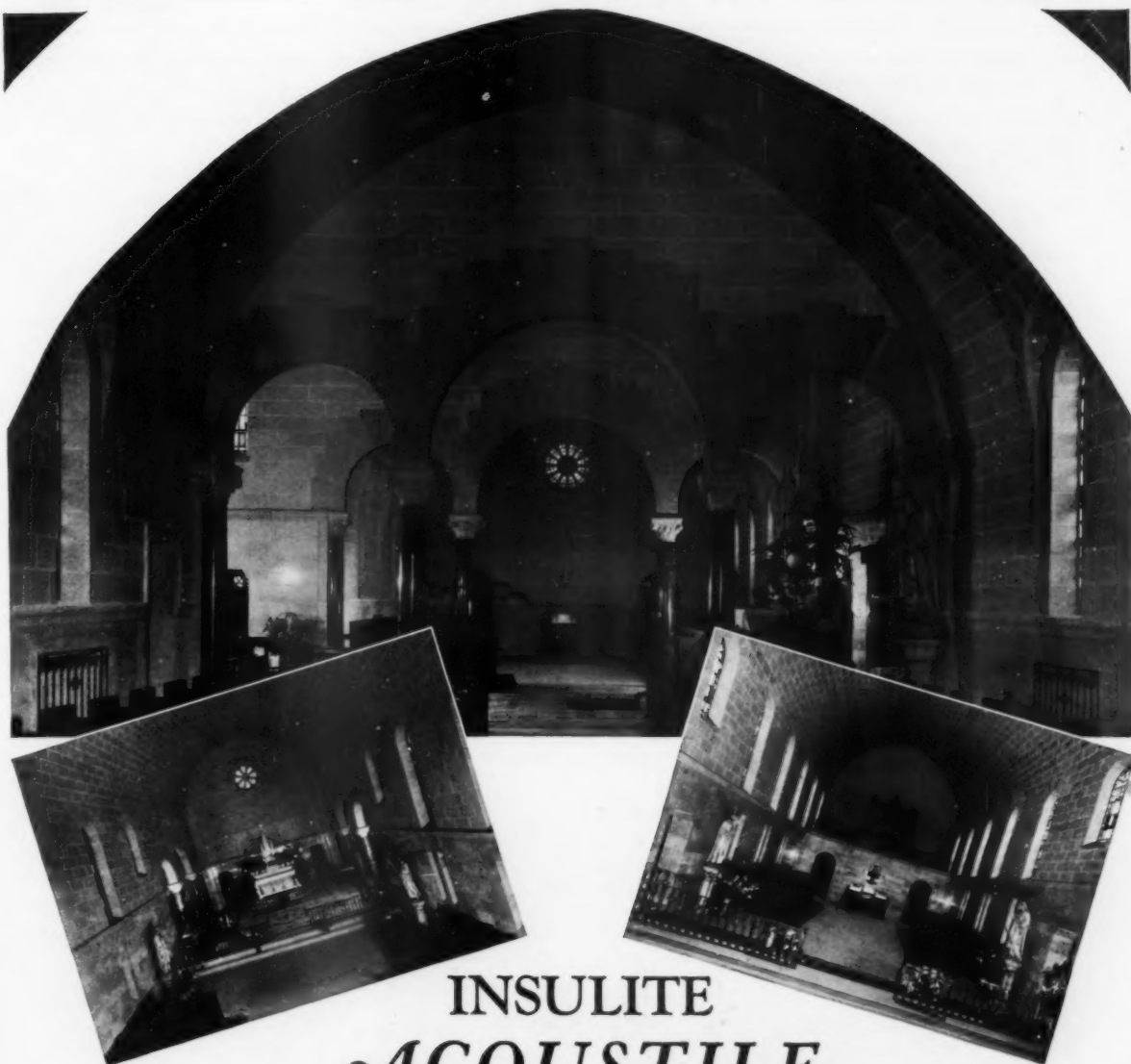
SAN JOSE MISSION SPIRE. BUILT IN 1730, NOW IN RUINS

THE famous tower of San Jose Mission at San Antonio, Texas, supposed to have been built in 1730 by Franciscan friars, collapsed recently, it is learned from news despatches.

The Mission has been a ruin for years, excavation of treasure hunters having undermined its walls. The tower and a small chapel were the only portions intact. One of the features of the tower was a spiral stairway hewn from one large tree.



LA JOLLA, CALIF., BRANCH, FIRST NATIONAL TRUST AND SAVINGS BANK OF SAN DIEGO
HERBERT J. MANN AND THOMAS L. SHEPHERD, ARCHITECTS



INSULITE ACOUSTILE

gives triple service in this beautiful church

The element of attractiveness is not the least of the three advantages made possible in the use of INSULITE ACOUSTILE in The House of Good Shepherd at Wauwatosa, Wis., three interior views of which are shown above.

The Acoustile, natural finish, lends real beauty.

Then there is the control and correction of acoustics, so well achieved with this material.

In addition to these, there is the great insulating value of INSULITE.

Note the fitting of the material around the windows—how smooth and neat it is.

Eschweiler & Eschweiler, Milwaukee, Architects.
Paul H. Cyriax, Contractor.

Is our new INSULITE portfolio—"Specifications and Details"—in your files? If not, it will be sent at once on request.

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NATIONAL COUNCIL OF ARCHITECTURAL REGISTRATION BOARDS ELECTS OFFICERS

AT its convention in St. Louis, held on May 15th last, the National Council of Architectural Registration Boards elected new officers, as follows:

George D. Mason, F.A.I.A., Detroit, Mich.—President

Charles Favrot, F.A.I.A., New Orleans, La.—1st Vice President

Myron Hunt, F.A.I.A., Los Angeles, Calif.—2nd Vice President

Delos H. Smith, A.I.A., Washington, D. C.—3rd Vice President

W. H. Lord, F.A.I.A., Asheville, N. C.—Past President, Member Executive Committee

Emery Stanford Hall, A.I.A., Chicago, Ill.—Secretary-Treasurer

Ex-president Lord automatically became a member of the Executive Committee. Secretary Hall has been elected to his office each year since the inception of the Council, whose aim, it is stated, is "to foster the enactment of uniform architectural laws, equality of standard in examinations of applicants for state registration or licensure, and the establishment and maintenance of reciprocal registration between states having registration laws."

UNITED STATES CIVIL SERVICE EXAMINATION

THE United States Civil Service Commission announces the following open competitive examinations:

Associate Architectural Engineer
Assistant Architectural Engineer
Associate Structural Engineer
Assistant Structural Engineer

Applications for associate and assistant architectural engineers, and associate and assistant structural engineers, must be on file with the Civil Service Commission at Washington, D. C., not later than August 15. Competitors will not be required to report for examination at any place, but will be rated on their education, training and experience.

The examinations are to fill vacancies in the Office of the Supervising Architect, Treasury Department, for duty in Washington, D. C., or in the field. The entrance salaries are \$2,600 a year for the assistant grade, and \$3,200 a year for the associate grade. Higher-salaried positions are filled through promotion.

Full information may be obtained from the United States Civil Service Commission at Washington, D. C., or from the secretary of the United States Civil Service Board of Examiners at the post office or custom house in any city.



ELKS' CLUB, KNOXVILLE, TENN.—BAUMANN & BAUMANN, ARCHITECTS

THE PUBLISHERS' PAGE

ACOUSTICS is an interesting subject that has received much attention in recent years, particularly in connection with the design of auditoriums. This journal has consistently published all worth while literature on the subject that has come to the attention of its editors. In the current issue there will be found another paper on the subject that treats the problem from a somewhat different angle than heretofore. It is entitled "The Effect of the Acoustics of an Auditorium on the Interpretation of Speech." The author, Mr. E. C. Wentz, is a member of the technical staff of the Bell Telephone Laboratories. The Bell Telephone Company through its laboratory conducts progressive research in the field of speech transmission that has been productive of many improvements in what has become a highly important development throughout the world. Mr. Wentz's article is published by permission of Mr. John Mills, Director of Publication of this Laboratory.

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Among other developments in architectural education in America, one that portends much for the future, is The Foundation for Architecture and Landscape Architecture at Lake Forest, Ill. Whether this will become an institution similar to the American Academy in Rome, or one of several units that may be established in centers throughout the United States in the future is now unknown. The idea is sound and has been fostered in all earnestness. In recognition of the efforts of Mr. Walter S. Brewster, President of the Foundation, the American Institute of Architects at its sixty-first annual convention held in St. Louis, Mo., elected him an honorary member. This issue of THE AMERICAN ARCHITECT contains among other features a description of the work and aims of the Foundation for Architecture and Landscape Architecture. The illustrations are taken from the sketch book of Franklin Scott, the first holder of the European Fellowship awarded by the Foundation, and from the work of other students.

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Color promises to play an important part in the design of our buildings in the future. The use of color in this way is not new and we believe that

we state the case correctly by terming this era the American Renaissance. The article by Harold Field Kellogg descriptive of the Public Service Building in Boston will, for this reason, be found of more than passing interest. Mr. Kellogg describes in an intimate manner the methods presented in the design of the Public Service Building and the practical handling of the problem during construction. The building is now under construction and will be fully illustrated after its completion.

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This is the season when interest in country clubs is at its peak. In this issue, under the Department of Interior Architecture, is an article on the design of country clubs, illustrated with plans and photographs of both the exterior and interior of the Elizabeth Town and Country Club, at Elizabeth, N. J., designed by C. C. Wendehack. Mr. Wendehack has an international reputation as a designer of country clubs. He is responsible for many of the finest clubs in this section of the country. The Elizabeth Town and Country Club presents its greatest appeal, perhaps, in its simple treatment. The design shows influence of the Colonial style, and yet old-time ideas have been adapted to meet modern requirements in such a way that the result is original and characteristic of today.

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In the days of the craftsman, the designer, who often was the craftsman himself, was sure that his ideas would be accurately realized in the finished work. In these days, when we deal with workmen rather than with craftsmen, it is often necessary that the architect actually show the mechanic how a thing is done in order to attain a certain result. Thus, it stands to reason that the architect should be a student in craftsmanship. To this end, there will appear in THE AMERICAN ARCHITECT from time to time articles intended to enlighten the reader on certain phases of craftsmanship. One article to appear in an early issue will be devoted to the application of plastic paint to attain textured walls; another will treat of the development of stained glass windows, illustrating in detail the various progressive steps by which a problem in stained glass is brought to a successful conclusion.

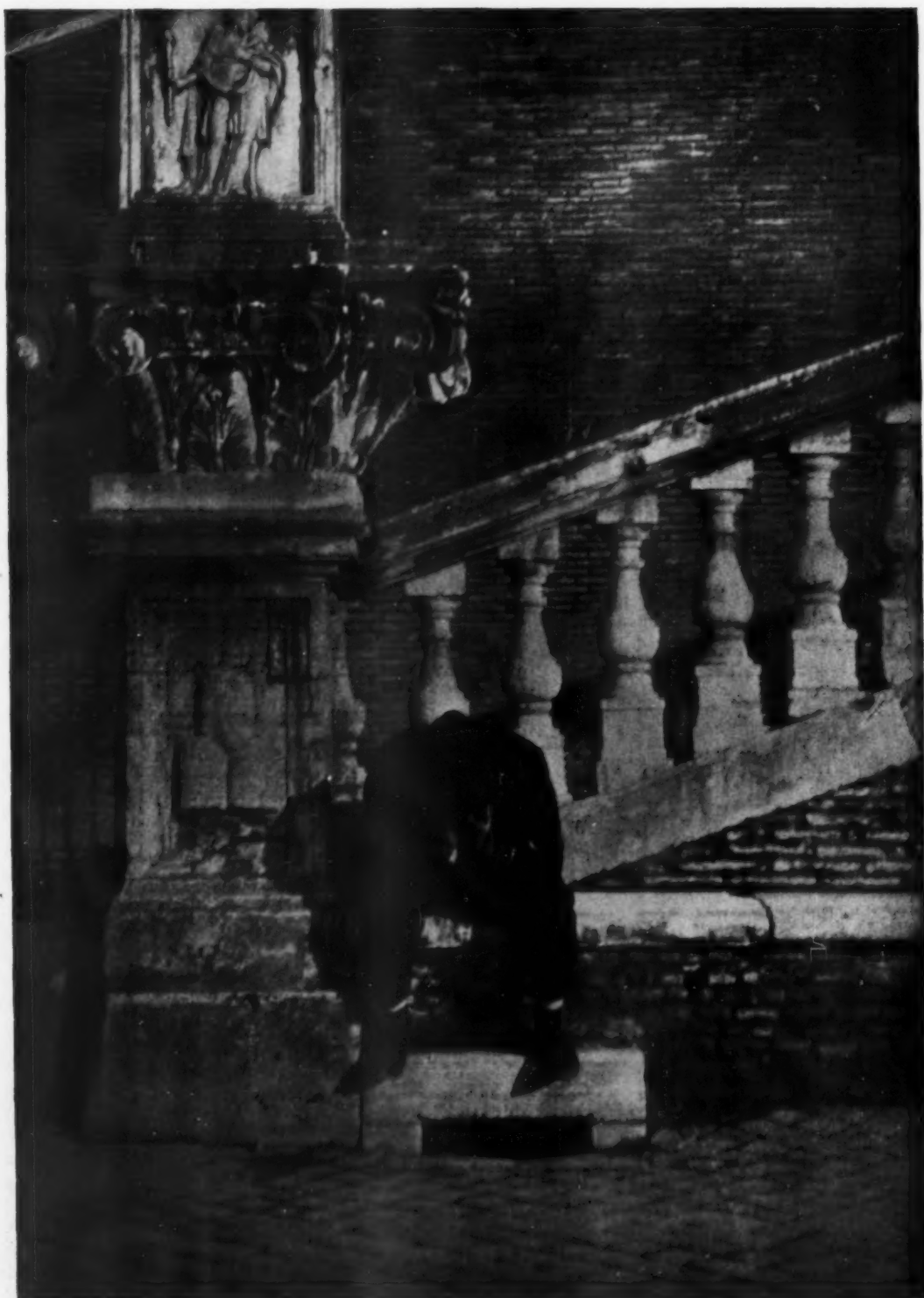


Photo by May Mott-Smith

THE SPANISH STEPS, ROME

THE AMERICAN ARCHITECT

August 20, 1928