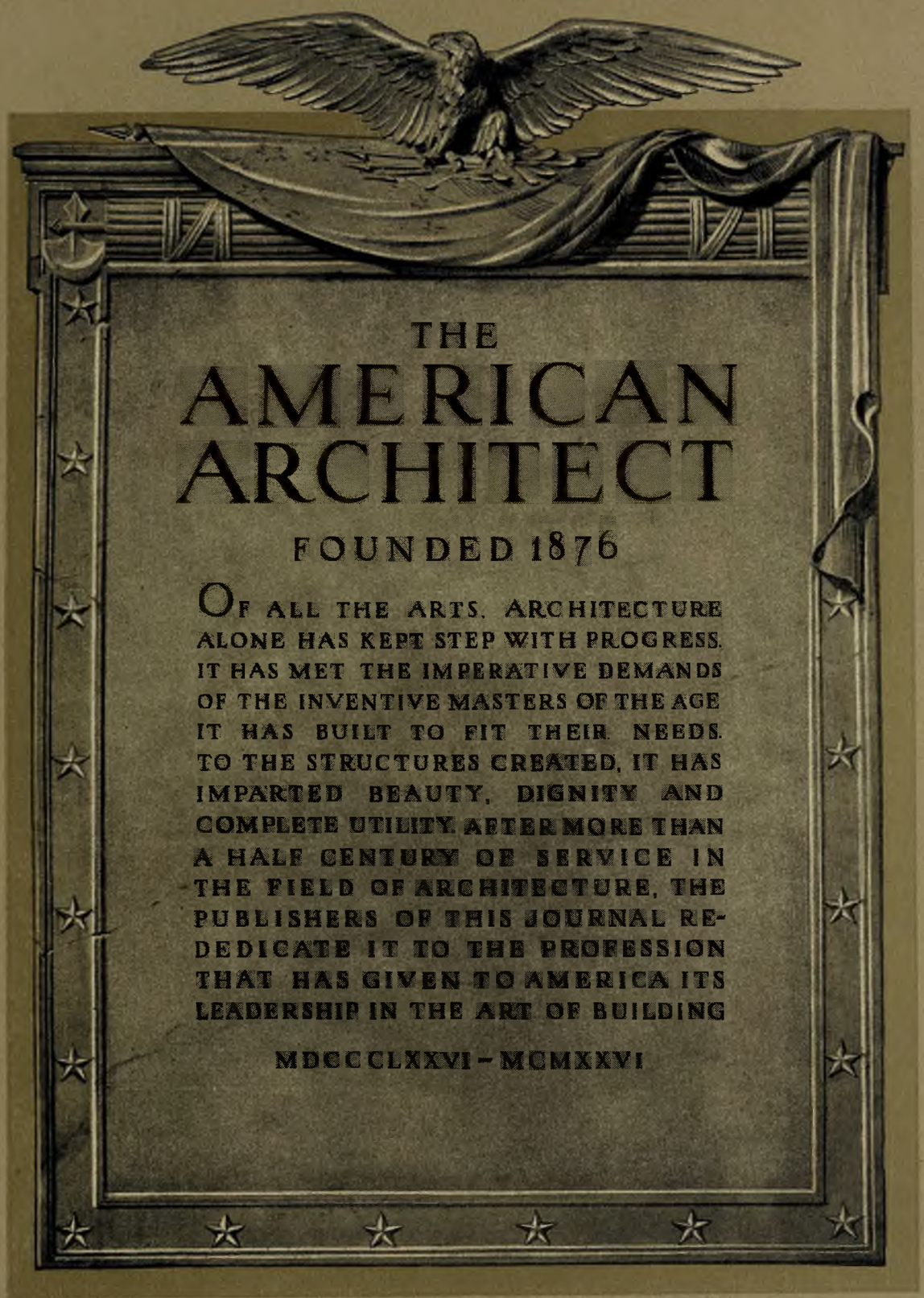

THE AMERICAN ARCHITECT

FOUNDED 1876

OF ALL THE ARTS, ARCHITECTURE ALONE HAS KEPT STEP WITH PROGRESS. IT HAS MET THE IMPERATIVE DEMANDS OF THE INVENTIVE MASTERS OF THE AGE IT HAS BUILT TO FIT THEIR NEEDS. TO THE STRUCTURES CREATED, IT HAS IMPARTED BEAUTY, DIGNITY AND COMPLETE UTILITY. AFTER MORE THAN A HALF CENTURY OF SERVICE IN THE FIELD OF ARCHITECTURE, THE PUBLISHERS OF THIS JOURNAL RE-DEDICATE IT TO THE PROFESSION THAT HAS GIVEN TO AMERICA ITS LEADERSHIP IN THE ART OF BUILDING

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NOVEMBER 20, 1926

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THE
AMERICAN ARCHITECT
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VOLUME CXXX · NOVEMBER 20, 1926 · NUMBER 2509

CONTENTS

PLATES

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"For Every Type of Permanent Building"

THE PUBLISHERS' PAGE

THE Barclay-Vesey Telephone Building, illustrated and described in this issue, is presented in a manner worthy of an outstanding architectural and engineering achievement. Every department of construction, every phase of decorative treatment and all the successive stages through which the design passed toward its final adaptation, are most exhaustively presented.

In presenting this architectural landmark to readers of this journal, there has been a disposition to accent as far as possible the splendid display of teamwork on the part of the architects and those in their employ associated with them on the work. Where enthusiasm exists to the degree that was everywhere noticeable to the editors of this journal during a long preparatory period, success is a certain result.

Mr. Samuel Chamberlain's monthly article, that would have in sequence appeared in this issue, is deferred until our issue of December 5th. Mr. Chamberlain has visited Vitre and Dinan, and has prepared a descriptive article of large architectural interest. His sketches are, of course, brilliant and suggestive, and convey the most perfect impressions of a section which he describes as "two architectural show places in Brittany."

Mr. Chamberlain will also have an article in issue of December 20th, and will, unless otherwise announced, appear in issues of the 20th of each month during 1927.

The series of five articles "Traveling with a Fountain Pen," by Irving K. Pond, past president, The American Institute of Architects, begun in issue of November 5th, will run serially into 1927. Mr. Pond has supplemented a clever series of quickly done pen and ink sketches by an accompanying text equally clever. Aside from the unusual literary and artistic character of Mr. Pond's articles, there is a decided educational value. They present to architects a ready means for quickly jotting down fleeting things. When done as well as Mr. Pond has made them, they are even more valuable than the usual "snapshot." They become records of outstanding things and even after the passage of years, serve to bring vividly before one the correct and lasting impression of things otherwise forgotten.

The "Roxy" Theatre in New York is one of the newer types of theatre buildings that are springing up in our large cities. Its planning is unique and its engineering features, particularly as to framing, are interesting and present good solutions as to the hanging balconies. Mr. Arthur T. North, long time associated with this journal as its Engineering Editor, has prepared an article that sets forth in text and illustration the steel balcony framing of the Roxy Theatre. This article will appear in issue of December 5th.

THE AMERICAN ARCHITECT Specification Manual, Volume 8 for 1926-1927, is now off the press and is being distributed as rapidly as possible. With each succeeding year, this invaluable help to specification writing has grown in size and increased in value. The present volume, now larger and better than ever before, is yours for the asking. One copy will be sent to any individual architect or firm writing on professional letterhead.

In this manual of standard specifications, prepared by makers of standard advertised goods, there has been compiled in convenient form the expert advice of America's representative producers. While some of these specifications have for a long time been available to architects, others are entirely new. In this manual, all these specifications have been brought together to facilitate the handiest reference.

Supplementing this manual is the Specification Service Department of THE AMERICAN ARCHITECT. This service, rendered without charge, has aided many architects in the solution of specification problems. It is through the extension of this service that the publishers believe they can be of great assistance to the architectural profession.

The Charette, which calls itself "A little journal of rejuvenation, published every month by the Pittsburgh Architectural Club," is a sprightly magazine, and presents in each issue reading matter and illustrations of current interest. In a recent issue *The Charette* publishes the following letter, which so lucidly presents the proper attitude of the material salesman toward the architect, that we print it in full. The letter states:

TO THE BUILDING MATERIAL SALESMAN

Dear Sir: Replying to your favor of the 3rd inst. asking me to tell you such experiences as I have had, coming in contact with architects, beg to offer the following which I feel certain is known to all, but practiced by few. The first thing I would do if I were a salesman would be to learn my material or product from every angle. I would defy any architect to corner me about the article I handled. My first call upon an architect would be for an appointment at his leisure. I would work on the theory that hand shaking be encouraged by the architect rather than the salesman. If reports of the architect's work were procurable, I would ascertain the possible installation of my material before calling on him. As an example: If I were selling elevators, I would keep away from the architect that is designing a $15,000.00 residence. I would work on the theory of striking while the iron was hot, but I would endeavor to catch the architect when he was cool, and I would try to leave him in the same condition. Last but not least, I would recognize the faults in my material or product the same as I would its merits. And I would never recommend the use of my product in instances where I knew results would be contrary to those required. Please, Mr. Salesman, get this: Practically every architect wants and needs the salesman to call on him, but at the right time, with the right material and with as little loss of time as possible.

Sincerely yours,—A Nut—

A VISION OF NEW YORK

FROM THE ORIGINAL OIL PAINTING BY N. C. WYETH

In Diedrich Knickerbocker's History of New York, Washington Irving tells of the vision that came to Oloffe Van Kortlandt. He was one of the Dutch pioneers who had reached New York harbor seeking a place to settle.

Stranded on what is now the Battery, Oloffe had a strange experience which Diedrich Knickerbocker describes as follows:

"And the sage Oloffe dreamed a dream, and lo! the good St. Nicholas came riding over the tops of the trees—and he lit his pipe by the fire and smoked, and the smoke spread like a cloud overhead. And Oloffe hastened and climbed up to the top of one of the tallest trees, and saw that the smoke spread over a great extent of country and assumed a variety of marvelous forms where in dim obscurity he saw shadowed out palaces and domes and lofty spires, all of which lasted but a moment and then faded away until nothing but the green woods were left."

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THE AMERICAN ARCHITECT

FOUNDED 1876

THE SITE OF THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY

THE BARCLAY-VESEY TELEPHONE BUILDING

McKenzie, Voorhees & Gmelin, *Architects*

By R. T. Walker, A. I. A.

To CONSIDER the architecture of the Telephone Building without giving attention to the intellectual and economic forces that came into the problem, is to regard external aspects only and to forget that harmony and unity are the assemblage of digested thoughts and reasons. A better appreciation of the result necessarily comes from knowing the mental steps in the process of the design.

The basis of all design is thought in which there should be no official or customary answer preoccupying the field. The design problem should be approached on its own merits. and our prejudices, our admirations, our distastes should be balanced in the logic of the solution.

Design in the Arts is governed by two distinct methods of approach. One—Handicraftsman-

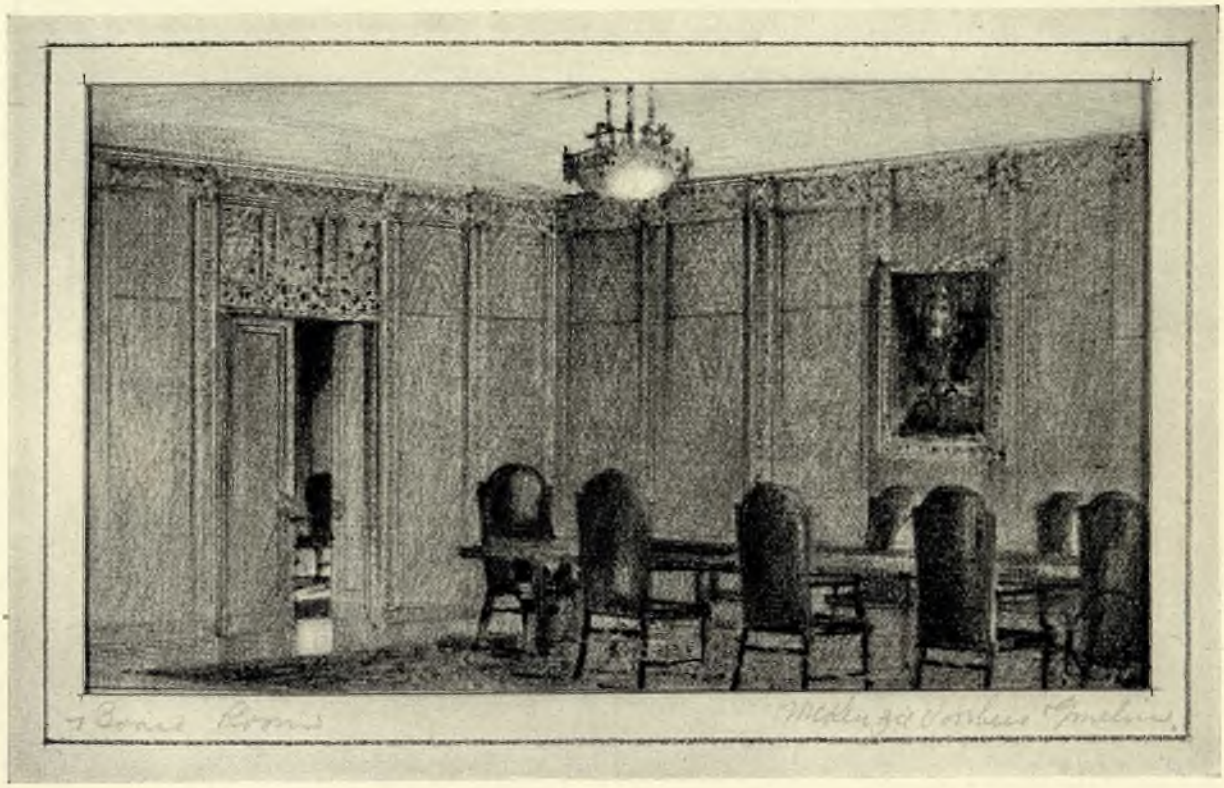
ship; the other—Machine craftsmanship. These methods develop two entirely different technologies that of necessity desire unlike results, and the great distinction between the architecture of the past and that of the future will lie in the wide differences of these results. It will be interesting to further consider these differences because they have a very noticeable bearing on the results that have been obtained in the development of the architecture of the skyscraper, and it is only in an understanding of the growth of these divergent methods of work that the future can be glimpsed. It is not difficult to look backward and sum up the results of the past methods, their reactions and their heritages to the present; it is not easy to try and balance the results of the newer ways and means.

It is commonly thought that under a handicraft culture, each craftsman is free to design and execute without hindrance—that he might say with Walt Whitman, "I am sufficient as I am." Nothing is further from the truth, however, for he is guided in his design and fabrication largely by the customary habits which not only exist within his own craft, but also those which are in force in the community in which he lives.

These habits are of a hereditary and group nature, being handed down from father to son, from master to pupil, and are so imbedded within narrow provincialisms as to beget self-satisfaction with the means and methods at hand. It has been very difficult for the craftsman to go far beyond that which was taught him by the master under whom he served his apprenticeship and he has been content to slowly reproduce with few added refinements that which he has slowly learned. The ordinary observer of the handicraft technology is impressed by the lack of inventiveness throughout the centuries, the ever-recurring use of the same design motifs and a real standardization of results.

This standardization produced that which we know as style and it is only through the momentary and generally forceful breaking down by wars of the provincial barriers, through an easier and more general means of travel and communication, that the style habits were changed, and the more widespread and reaching the effects of these disrupting influences, the more cosmopolitan for the time being was the architecture and the applied arts, and so spread such styles that are common in Europe.

In expressing these thoughts, there is no attempt in any way to belittle the arts of the handicraft eras, rather with a complete understanding of their beauty, but also with the realization that with the advent of machine craft, no matter how many methods of the former may still linger, a new technology is in evidence, a new directing force invades the field which must be considered and made use of unless we wish to become a pocket of archaic thought in the center of a world that progresses



FIRST STUDY OF DIRECTORS' ROOM

ever onward. It is only through the full use of the machine technology that there will develop not necessarily a national, but surely a modern type or style in architecture.

Contrastingly, machine technology easily breaks the limitations under which the handicraft labors, and contrary to most thought, produces great variety in both design and execution and rapidly changes and overthrows standards. It has within it a great discontent with methods—is constantly inventing new ones and because its large production must be disposed of, has a tendency to eliminate those habits and provincialisms we noted as existing before the advent of the machine.

The difference between the directing minds of the two technologies is obvious, for the craftsman hedged about with the limitations imposed by his craft is generally content within them, whereas the modern designer who is generally one of many working at the same problem is ever questing for new ideas, and because of the facility in obtaining them, new methods of fabrication. Through the many means of communicating and translating experience, not only has the designer at hand, the opportunity of observing what his near neighbor has accomplished, but also he may reach out without stirring from his work shop and take unto himself the ideas that have been produced the world over; not only those of his day but from historic time. This enables him to possess very early a fund of experience that heretofore it has not been possible to accumulate in a lifetime's study.

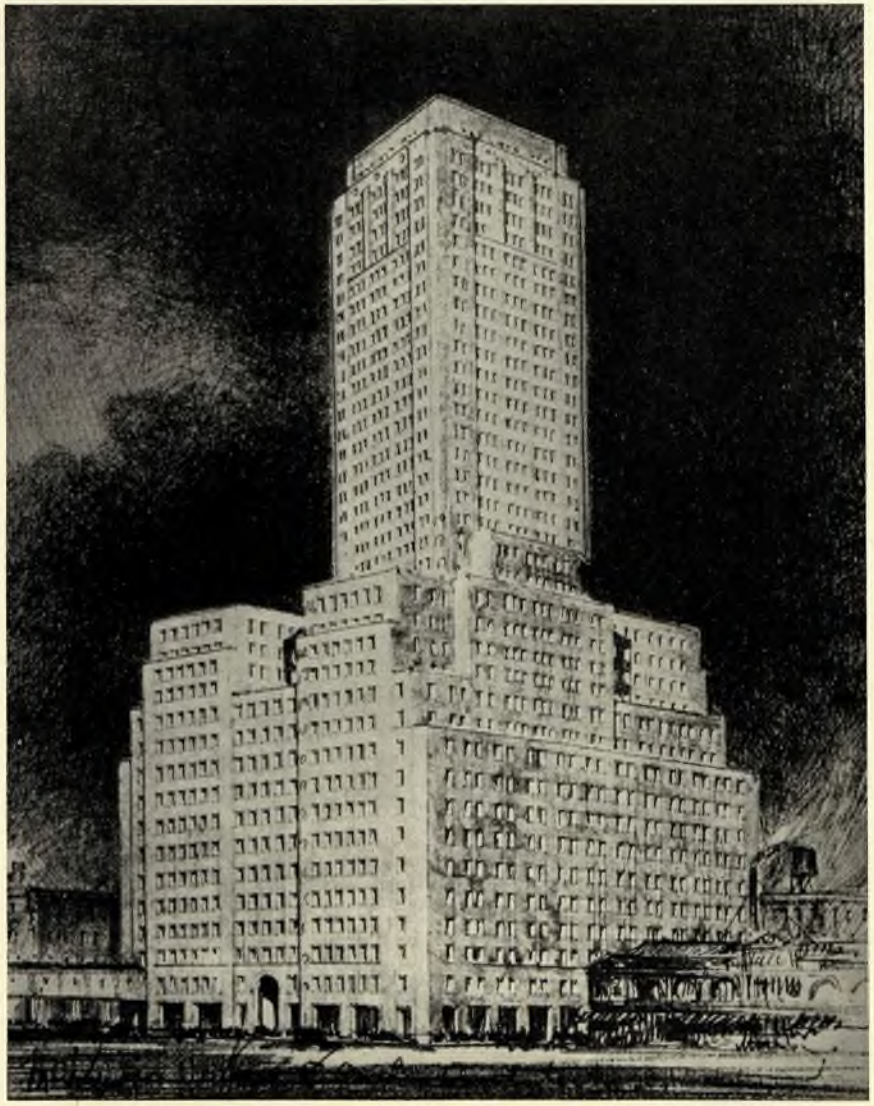
It is generally true that the older the machine industry, the greater variety there is in both design and methods.

Architecture is the one great industry in which the directing force, the designer who himself works under conditions resembling those of the machine technology has to be largely content with the methods of the handicraft stage for the execution of his ideas. This influence is noticeable in that the large majority of architects not having had the great facility that is evident in other industries in producing their ideas, have been content to conform to the reproduction of those of a more hereditary nature. They have always assumed the official answer and so have limited the growth in architectural design except in the direction of good taste.

The only evidences until recently of the machine craft in the building industry, are the great variety, the increasing number and the excellent quality of the materials which have been offered the architect for his use, in the steel skeleton construction, and the use of reinforced concrete, but as far as any relation of their use is concerned, the architect has been mainly interested in producing tortured walls and roofs, which are fondly heralded as what modern sophistication can accomplish with medieval naivete.

In general, the architect has been content to develop taste rather than to create, been prone to

FIRST STUDY OF OFFICE OF THE CHAIRMAN OF THE BOARD



THE MASS WITHOUT ANY THOUGHT OF ARCHITECTURAL TREATMENT, BARREN, UNINVITING; IT MIGHT EASILY, UNDER CERTAIN ATMOSPHERIC CONDITIONS, BE VERY IMPOSING; IT FILLS ALL THE HUMAN REQUIREMENTS SAVE UNITY AND BEAUTY

AN ATTEMPT AT MODERN GOTHIC, WITH DEEP WINDOW REVEALS. THE BREAKING UP OF THE HORIZONTAL MEMBERS SHOWS A VERTICAL UNITY THAT IS LACKING IN THE PREVIOUS SCHEME, ALTHOUGH THE WINDOW MOVEMENT IS DECIDEDLY HORIZONTAL

PRELIMINARY SKETCHES OF THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY

McKENZIE, VOORHEES & GMELIN, ARCHITECTS

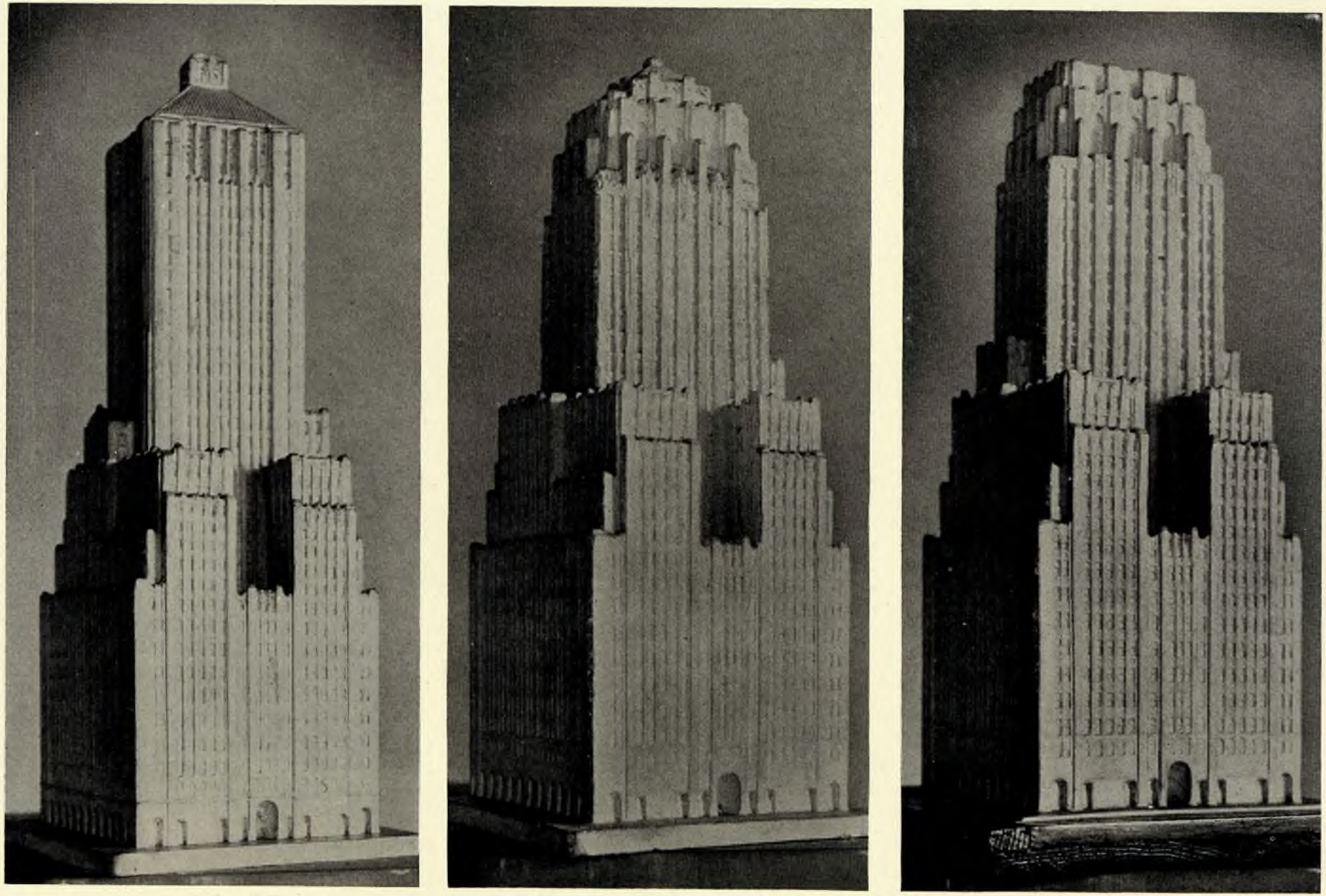
(From the original drawings by R. T. Walker)

AN ATTEMPT TO MAKE THE BOX-LIKE MASSES, BY MEANS OF BRICK MOTIFS, COME INTO SOME SORT OF UNITY. IT WAS DESIGNED TO BE OF LIGHT BRICK. THE HORIZONTAL LINES STILL PREDOMINATE. THE SURFACES ARE INTERESTING, BUT THE MASS AS A WHOLE LACKS INTEREST. FROM THIS SKETCH, WHICH WAS THE LAST OF A GROUP COMBINED WITH THE ECONOMIC STUDIES, THE DECISION WAS MADE TO TREAT THE WALLS VERTICALLY. UPON THIS DECISION THE UNDERLYING THOUGHT OF THE BUILDING, HOWEVER, WAS TOTALLY CHANGED AND AN HONEST ATTEMPT WAS MADE ON THE PART OF THE DESIGNER TO TREAT THE PROBLEM FOR ITS OWN SAKE; TO MAKE IT AS MODERN IN CONCEPTION AS THE TELEPHONE ACTIVITY IT HOUSES

PRELIMINARY SKETCH OF THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY

McKENZIE, VOORHEES & GMELIN, ARCHITECTS

(From the original drawing by R. T. Walker)



SKETCH MODELS SHOWING THE DEVELOPMENT OF THE FINAL SCHEME

THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY

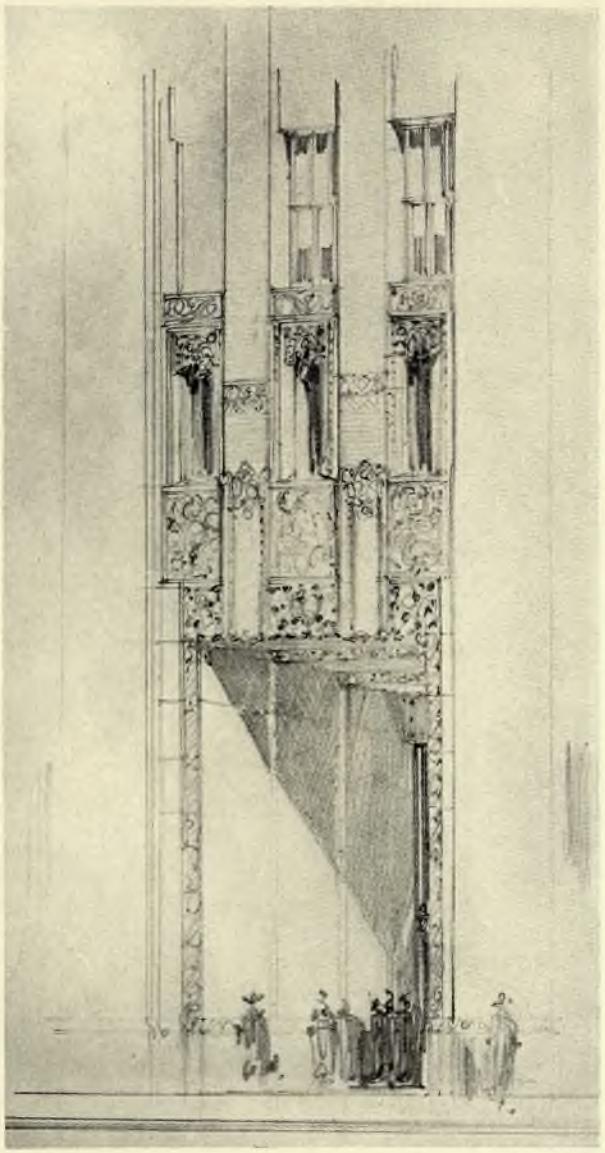
McKENZIE, VOORHEES & GMELIN, ARCHITECTS

thank whatever God it is that looks after architecture that buildings can still be covered with the Classic orders or Gothic detail.

PRELIMINARY STUDY OF ARCADE MOTIVE
FROM ORIGINAL SKETCH BY R. T. WALKER

But the skyscraper, whatever we may think of its social aspect, is not only in its design methods but also more and more in its fabrication, an expression of machine technology and in fact it would be utterly impossible were the machine eliminated, for the use and functions of the building are so tied to mechanistic necessity that its expression in architectural form should and has a character that is largely mechanical. But the user of this machine and for whom it is made is after all man, whose nature fundamentally lacks that rigidity, that almost untiring service we have come to expect from the machine, so that the architectural expression of this type of building must therefore superimpose upon and closely knit into the machine those qualities of humanity that make for culture.

The hard mechanical quality of the modern office building is, no matter how much the designer wishes to avoid it, in evidence in the very best of them. The Woolworth, the Bush and the Shelton Buildings, possess under a camouflage of traditional forms a certain brittleness, a true loss of an intimate nature. I feel that successful as they are, and they surely stand head and shoulders above their fellows, there is a lack of the controlling thought of the technology they should express, that it is not possible to take motifs and detail which have a definite scale to the provincial characteristics of Europe, increase them to Gargantuan proportions, and still have either the character they originally possessed, or have them bear any definite relation to the life and times which are ours.



PRELIMINARY STUDY OF ENTRANCE MOTIVE
FROM ORIGINAL SKETCH BY R. T. WALKER

It seems to me, therefore, that the architectural problem of the skyscraper, especially in New York City, is this: To express the efficiency of the mechanical parts made necessary by its size with the social requirements of its occupants, within these limitations—economy and those imposed by the zoning law. There has been a great deal written about expressing the steel skeleton of the sky-

scraper, and many attempts to do this by making walls that are mostly of glass with narrow piers and small spandrels. The trouble has been that the expression of the structure, generally faulty, as the beam and girder are as important as the column,

SKETCH OF ARCADE

FROM ORIGINAL DRAWING BY CHESTER B. PRICE

has as a stunt, always overlooked the purpose of the building and the physical comfort of the people who use it.

They forget that the steel structure is but part of the entire building, that it takes its place relatively with mechanical equipment, heating, ventilating, electric lighting and elevators, all of which are just as necessary as the steel skeleton in making possible the skyscraper: that from the heating and ventilating standpoint, the building would far more easily function if there were no windows at all, and from the standpoint of lighting, a more efficient working light less subject to change, would be possible were the windows eliminated.

Therefore the skyscraper from these viewpoints would be best expressed if it were a sheer mass of masonry absolutely lacking in any opening except the means of getting in and out.

Here is the designer upon the two horns of the

dilemma if he endeavors to express the structure and the mechanical plant.

What most people, who criticize the lack of that structural expression in the exterior of the skyscraper, seem not to appreciate, is that there are people more or less human who must work and live in these buildings and that the exterior must conform to their needs. The whole tendency in modern architecture, and this is especially true in Germany, has been to treat these humanly inhabited buildings with a lack of the humanities and to think of them in terms of the stark nakedness of silos and grain elevators.

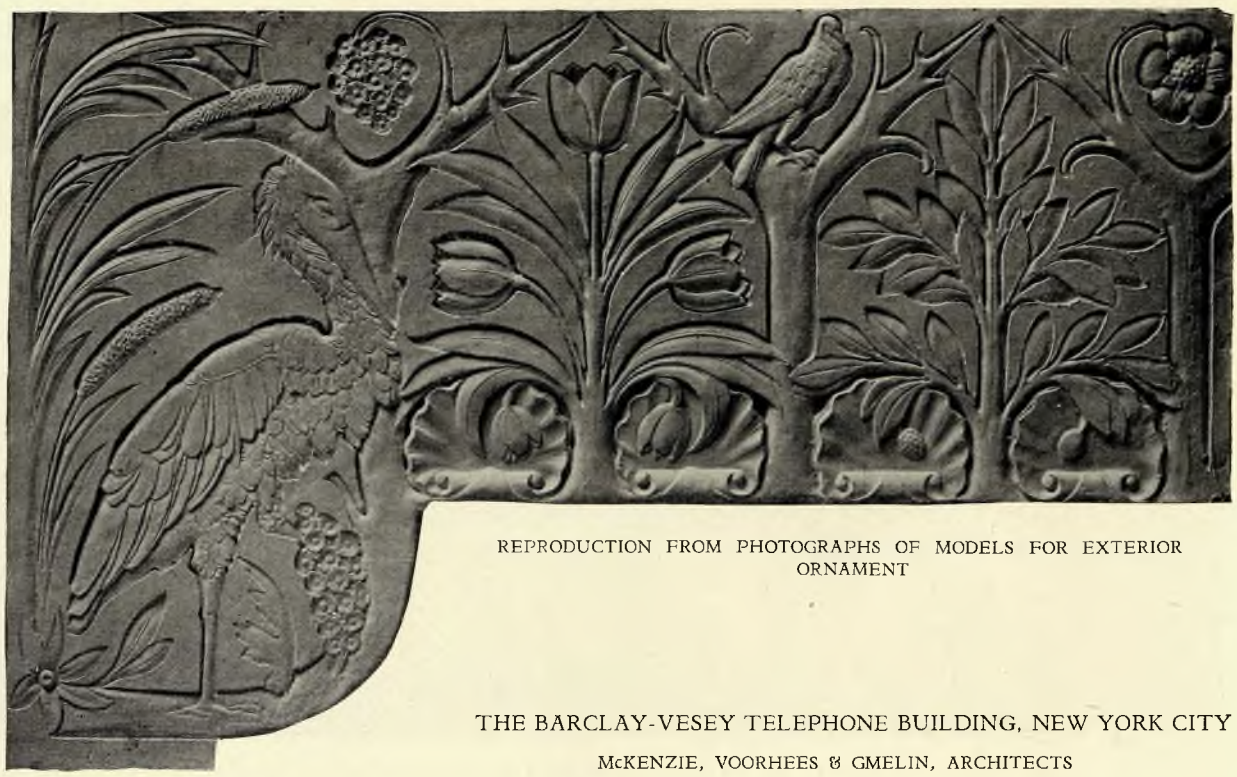
DETAIL OF EXTERIOR ORNAMENT AT 10TH FLOOR

It is easy to see why thought rebels against the machine age under such conditions as these.

The attitude is a false one. The terms as terms, the steel frame, heating and ventilating and all mechanical agents in the building must be eliminated from the thought of the problem except as a means, the most facile means that man has so far invented, enabling him to overcome what have been heretofore difficulties in housing himself in comfort. If we admit this to be logical, the design of the skyscraper should express primarily the comfort of its inhabitants, and if daylight is, as it should be, psychologically still used as a means of illumination, the most satisfactory and comfortable light should be striven for and the windows should be so placed as to give the maximum of light without glare. This is best attained by having approximately an equivalent amount of wall and window and, of course, it should be realized that daylight does not penetrate street canyons; that it is dependent upon the reflection from an uninterrupted skyzone, that without this reflection there is no daylight, at least not sufficient to penetrate very far from the window itself and that well considered artificial light is then absolutely necessary.

I have gone at length into a discussion of these thoughts as they had a large bearing upon the design of the Telephone Building. One of the most noticeable aspects of the building is the great amount of wall space in proportion to window

DETAIL OF EXTERIOR ORNAMENT AT 10TH FLOOR



REPRODUCTION FROM PHOTOGRAPHS OF MODELS FOR EXTERIOR ORNAMENT

THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY

McKENZIE, VOORHEES & GMELIN, ARCHITECTS

opening. This gives a solidarity that is rare in commercial buildings yet the natural light on the interior is more than excellent and penetrates over sixty feet from the exterior walls.

The Telephone Building was a problem conceived of as a machine, which had certain definite functions to perform and to perform economically for the benefit of its occupants; and economy, and not extravagance was perhaps the strongest influence exerted upon the entire design of the building, both internally and externally. It was clearly appreciated that its result was to be the product of many minds so that very early in its design the general aspects were thought of in terms of the machine technology.

The zoning law setbacks of New York brought into the design an element of many roofs which were necessarily flat to save loss of valuable space within the building. These setbacks had the tendency to give the building the appearance of a series of packing boxes or children's blocks placed one upon the other, giving the mass a lack of unity, and the more the lateral border lines of these boxes were emphasized, the greater that lack of unity and the greater was the disruption in the design. Therefore, it appeared that the horizontal lines, as lines, should be so broken up, that the vertical movement up through that series of packing boxes should be made the dominant motif, and if this reasoning seemed logical, the cornice which with a flat roof is no longer a practical necessity, but has been retained solely for its ornamental character, no longer fitted the problem and should be eliminated and some other means found of obtaining the ornamental interest which the cornice has furnished in the past.

The Telephone Building was designed with this thought in view, that a mass of blocks piled one upon the other might under certain conditions of both light and distance, be very effective, but if it was desirable for the building to have interest at all times, that it must achieve a unity and this result was obtained by the use of vertical piers which so pierced and broke the horizontal lines that each packing box melted into the other. It was felt that these horizontal lines must be further softened, that at the point of each setback the movement within these lines also should be vertical.

DETAIL OF SETBACK AT 17TH FLOOR

The building so designed had a vertical unity but a rigidity of line and mass. It was simple and straightforward and from a distance where a mass counts for most, seems a fair and happy solution, but on consideration that it must also bear a closer and more intimate inspection, it was felt that the hardness of line must be softened by the use of either a difference in texture or of ornamental surfaces; and as ornamentation is difference

in texture with larger possibilities in both shadow and movement than any other form permits, it should be used to give the softening, the refinement that was thought desirable, and keeping in mind the desired subordination of horizontal motifs, it was concluded that the ornamental interest was best contained within the surface of the walls to be decorated and that its general movement should also be vertical.

The function of ornament is to add texture and interest to the building which it embellishes. Its primary function is that of texture for it permits of relief from monotony; it enriches in such a manner as to soften otherwise severe surfaces; and it makes for easy transition from one material to another. Its secondary purpose is to afford a relief from the restlessness the mind cannot help but feel, if ornament is lacking. It creates a feeling of friendliness because of its interest to the passerby. In many ways, in the skyscraper it should afford to the eye a welcome rest from the gigantic power of mass and in so doing aid to bring down to a human scale, that which otherwise is too great for comfortable comprehension.

The ornament of the skyscraper should be designed then first to offer relief from the monotony its size is bound to present; again in such manner as not only to evoke interest once but many times.

Ornament is very much like language in that motifs, like words, have a tendency to become symbols. Just as there are many words which the educated man never consciously spells, so there are ornamental motifs which have become so symbolized to the average mind that it never sees them; such, for instance, are the egg and dart and most of the acanthus leaf motifs. They are as simple as the word cat, which once easily comprehended, never can arouse interest again.

Much of the hereditary ornament that is in use today is the product of simple and naive minds; it spells an interest in design similar to words of one syllable, and on the skyscrapers, buildings of complicated thought, has as little reason for being as the overhanging cornice and the pyramidal roof.

The ornament of the skyscraper should be so complicated in its structure as not to be readily comprehended; its framework should be as hidden as the steel structure is itself. It should repay repeated interest and study; it should endeavor to present as many different aspects under normal conditions as does the mass of the building under the varying light conditions.

It should have the relative scale of the materials of which the building is built and not of the building itself. Its units should never be greater than the smallest unit used in the wall of the building, otherwise a loss of structural unity follows. It should be evenly enriched so that there are no focal points on which the eye comes to a pause, because, contrary to most thought, ornamental unity does not necessarily follow from symmetry but is generally disrupted by it.

It should first be thought of as textural relief, then its underlying structure be noticed and lastly its detail. And the more ornament is designed on these principles, the more often will it present different aspects under continuous inspections. It should always be difficult to read and conprehend at a casual glance, for he who runs does not read, and ornament first and last is for the entertainment of the many who stand and wait.

In sharp contrast with the vertical rigidity of the buff brick piers of the Telephone Building the ornamental stonework is carved with a free and flowing ornament so designed to be an integral part of the wall it decorates. Its method of carving, a combination of engraving and both high and low relief, was designed with the thought that the dust and smoke that occurs in a great city would have the tendency to increase its effectiveness, and while in no way does it endeavor to express the telephone it does have a bearing on the traditions of the site

REPRODUCTION OF PHOTOGRAPH OF MODEL OF ORNAMENTAL WINDOW SILL

and the neighborhood in which the building stands.

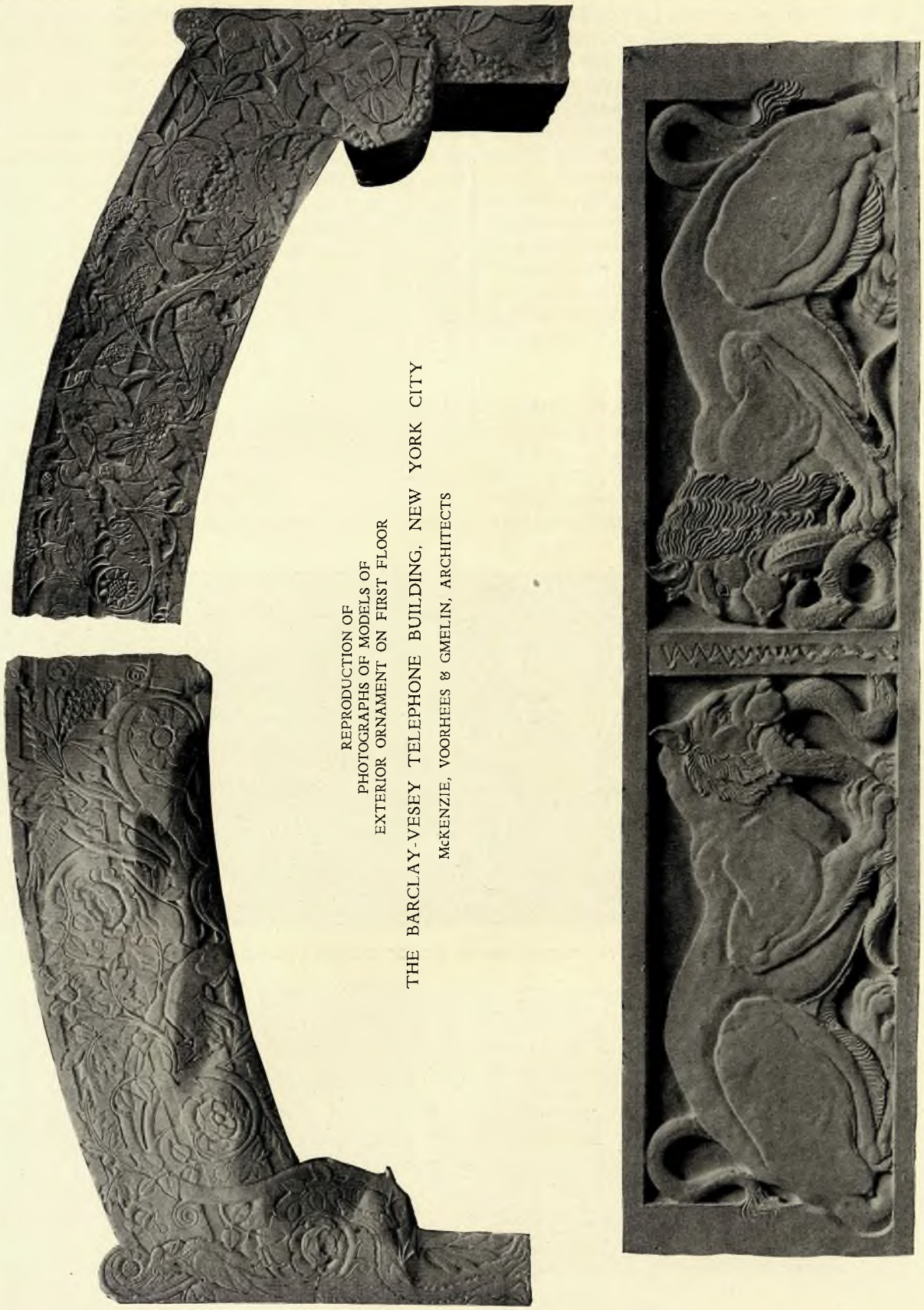
The interest of the passerby, whether he is a commuter, whose approach to the city is at the building's feet, or a user of the markets in the immediate vicinity, is caught by ornamentation that is not meaningless but by flowers, fruits, plants and game that are either in the gardens at home or in the neighboring market stalls.

The interiors of the building, where common use by its occupants suggested the need of a change from the efficiency of the departmental floor, were designed to give pleasant relief from the labors of the day. The main corridor on the first floor, the cafeteria and restaurant in the basement were planned to give the greatest let-down from the tension of modern business.

It is impossible in the design of such a great undertaking to give just recognition to all the designing minds that entered into the conception of the building and all its decorations. To a very great extent the success of the ornament is due to Ulysses Ricci of Ricci & Zari, and John DeCesare of Stifter and DeCesare. Their patience, ability and ready acceptance of the possibilities have given to vague ideas the realization of a new method of ornamentation. To the members of the firm of Mack, Jenney & Tyler and Edgar Williams is due the credit of the color decorations on the interiors. To the designers of the Edward F. Caldwell Company, the Sterling Bronze Company, the Cassidy Company is due the excellence in the design of the lighting fixtures. The designers in the firm of McKenzie, Voorhees & Gmelin,—David C. Comstock, Oliver Razor, Joseph Ballantyne, Chauncey Pierpont, and John Baker, were noted for their eagerness in forsaking the beaten path and solving the problem for its own sake whether it was of great importance or little.

To these men, willing to co-operate and giving expression to pent-up ideas together with the fine spirit of craftsmanship that pervaded all the firms who had the execution of the work, both principals and employees, is due any greatness the work might possess for otherwise the underlying and lifegiving idea were dead indeed.

REPRODUCTION OF PHOTOGRAPH OF MODEL OF ORNAMENTAL WINDOW SILL



REPRODUCTION OF
PHOTOGRAPHS OF MODELS OF
EXTERIOR ORNAMENT ON FIRST FLOOR

THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY

McKENZIE, VOORHEES & GMELIN, ARCHITECTS

RENDERING OF THE FINAL DESIGN

THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY

McKENZIE, VOORHEES & GMELIN, ARCHITECTS

(From the original drawing by Chester B. Price)

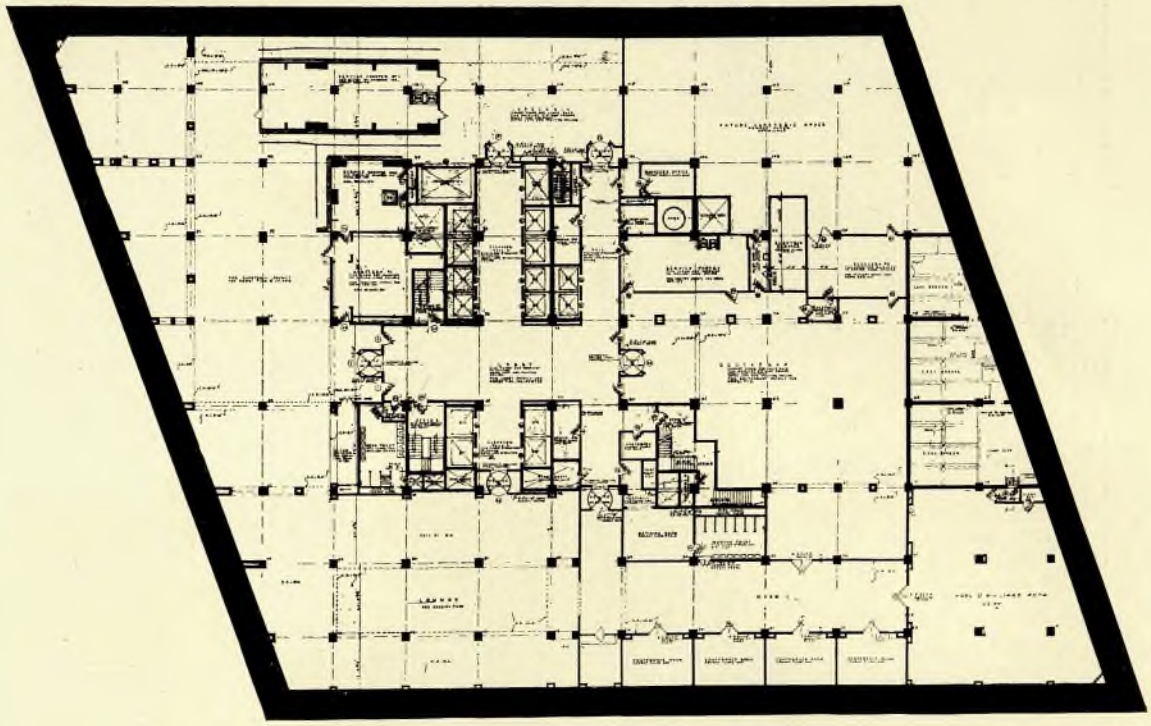
THE AMERICAN ARCHITECT
November 20, 1926 PLATE 281

VIEW OF BUILDING FROM THE HUDSON RIVER

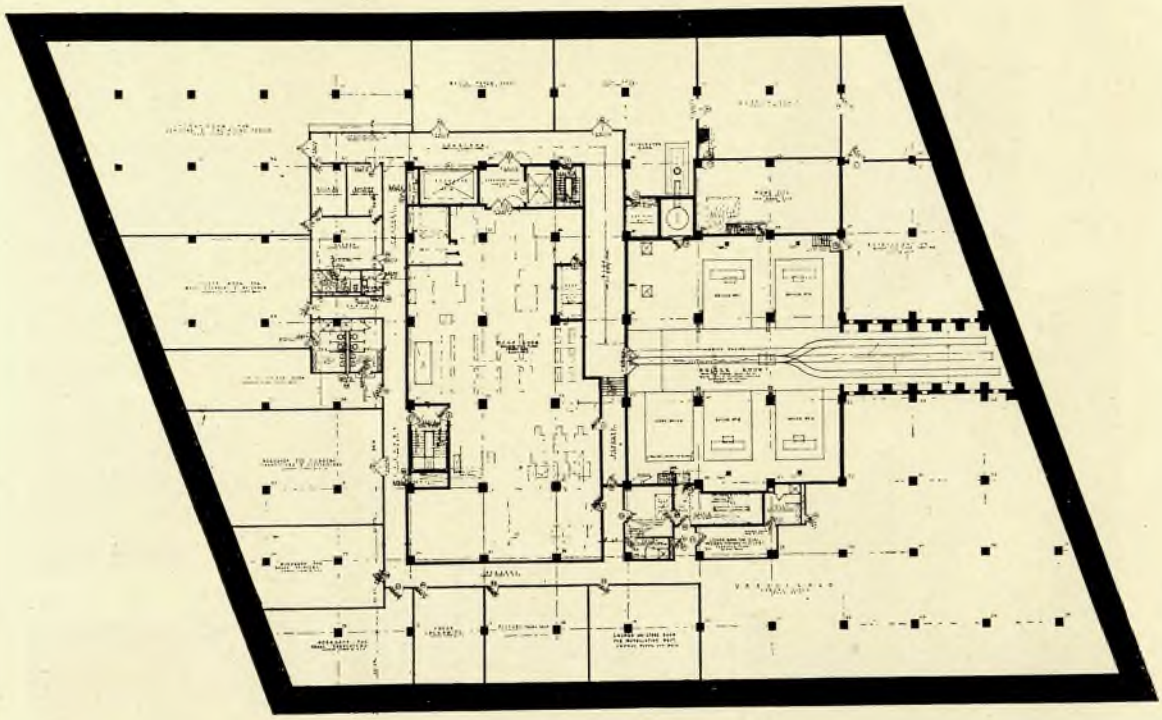
THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY

McKENZIE, VOORHEES & GMELIN, ARCHITECTS

(*See plans on back*)



BASEMENT B PLAN



BASEMENT D PLAN

THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY

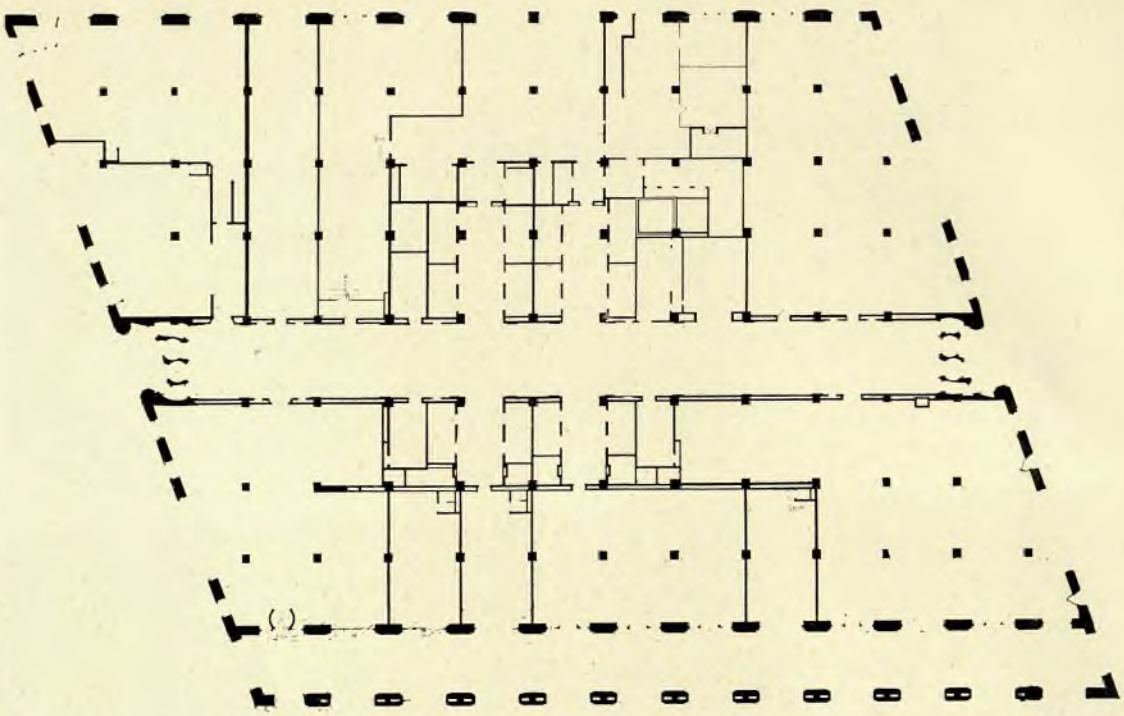
McKENZIE, VOORHEES & GMELIN, ARCHITECTS

VIEW OF BUILDING FROM VESEY STREET

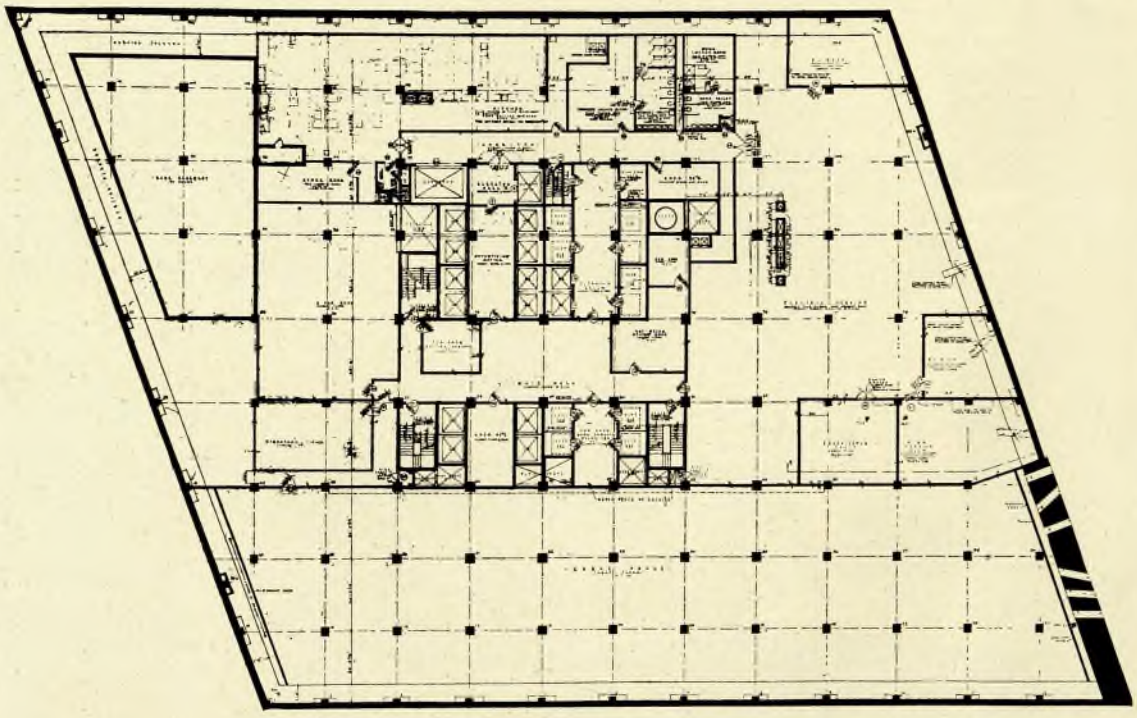
THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY

McKENZIE, VOORHEES & GMELIN, ARCHITECTS

(See plans on back)



FIRST FLOOR PLAN



BASEMENT A PLAN

THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY

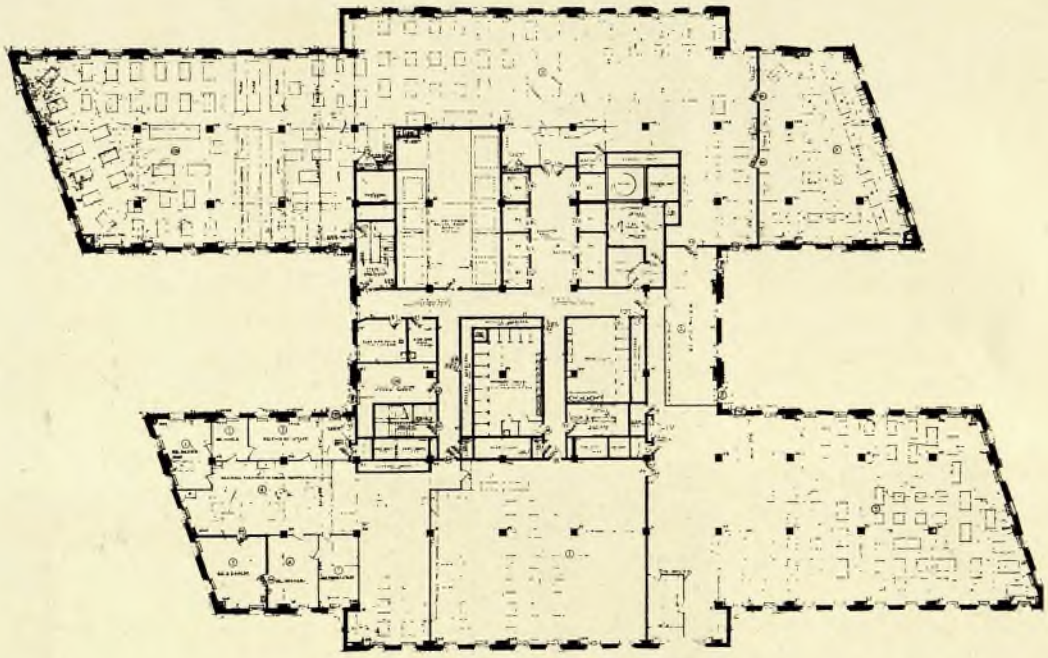
McKENZIE, VOORHEES & GMELIN, ARCHITECTS

VIEW OF BUILDING FROM THE SOUTHWEST

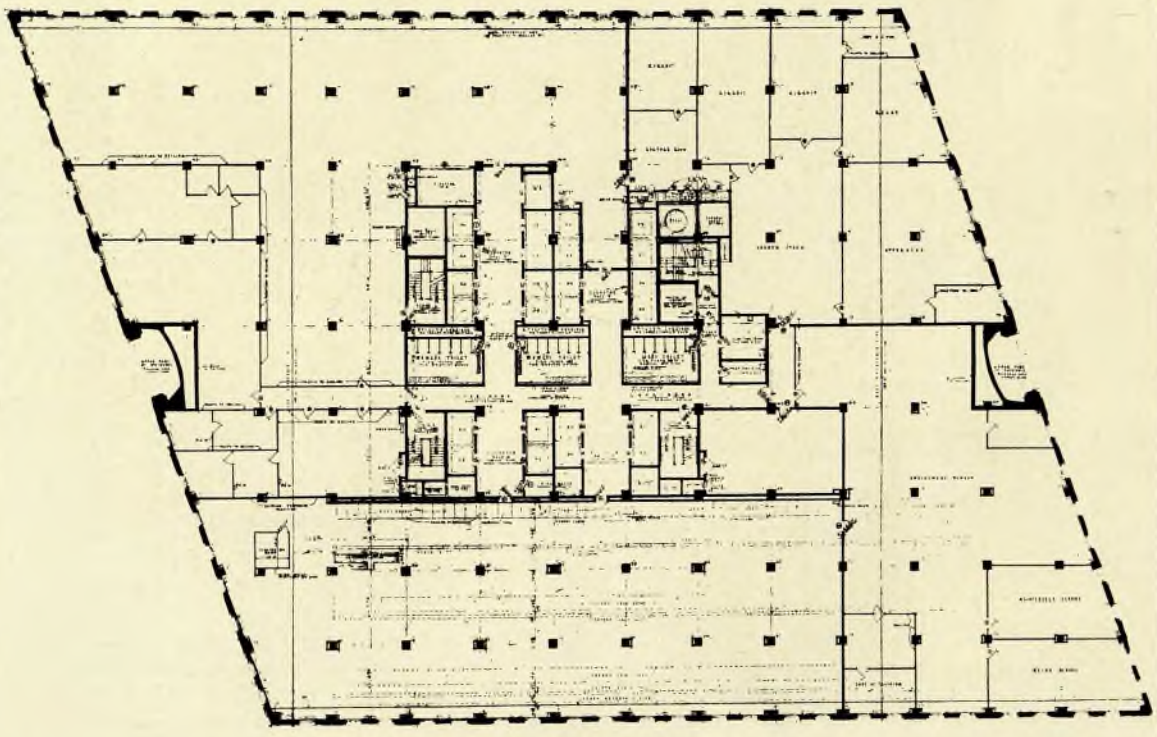
THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY

McKENZIE, VOORHEES & GMELIN, ARCHITECTS

(*See plans on back*)



SEVENTEENTH FLOOR PLAN



SECOND FLOOR PLAN

THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY

McKENZIE, VOORHEES & GMELIN, ARCHITECTS

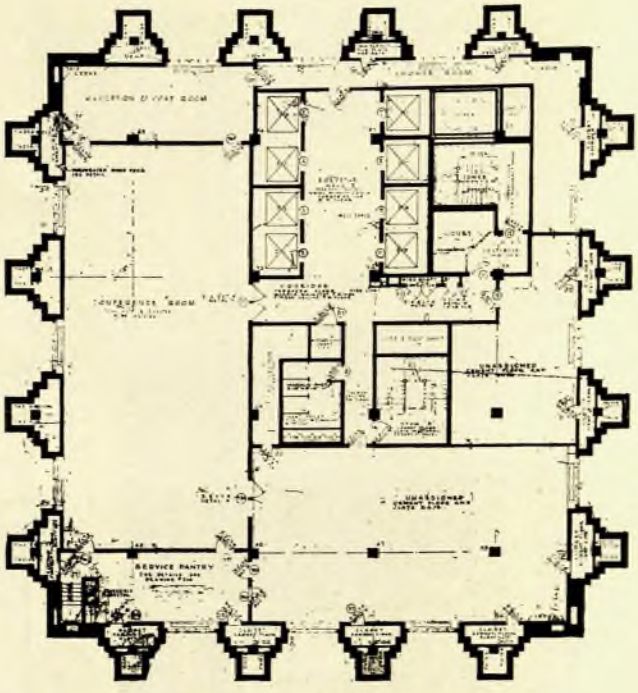
SKETCH OF ENTRANCE

THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY

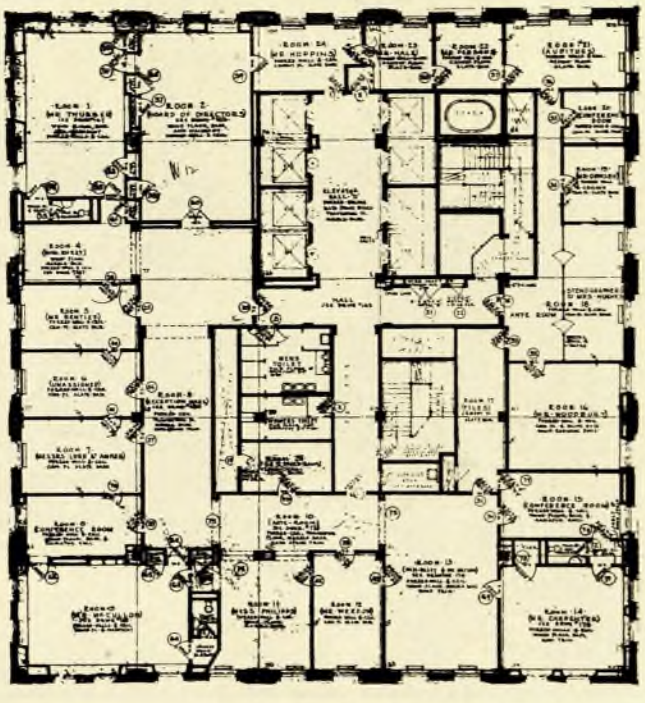
McKENZIE, VOORHEES & GMELIN, ARCHITECTS

(From the original drawing by Chester B. Price)

(See plans on back)



THIRTY-FIRST FLOOR PLAN



TWENTY-NINTH FLOOR PLAN

THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY

McKENZIE, VOORHEES & GMELIN, ARCHITECTS

DETAIL OF ENTRANCE

THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY

McKENZIE, VOORHEES & GMELIN, ARCHITECTS

(See details of ornament on back)

DETAILS OF EXTERIOR ORNAMENT ON ENTRANCE

THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY

McKENZIE, VOORHEES & GMELIN, ARCHITECTS

DETAIL OF BRONZE ENTRANCE

THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY

McKENZIE, VOORHEES & GMELIN, ARCHITECTS

MAIN CORRIDOR

THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY

McKENZIE, VOORHEES & GMELIN, ARCHITECTS

DETAIL IN MAIN CORRIDOR

THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY

McKENZIE, VOORHEES & GMELIN, ARCHITECTS

DETAIL OF ONE OF A SERIES OF DECORATIVE CEILING PANELS IN THE MAIN CORRIDOR,
BY MACK, JENNEY & TYLER

THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY

McKENZIE, VOORHEES & GMELIN, ARCHITECTS

DETAIL OF ELEVATOR DOORS AND LETTER BOX IN MAIN CORRIDOR

THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY

McKENZIE, VOORHEES & GMELIN, ARCHITECTS

DETAIL IN AUDITORIUM

THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY

McKENZIE, VOORHEES & GMELIN, ARCHITECTS

(See details on back)

AUDITORIUM

DETAIL OF RADIATOR GRILLE IN AUDITORIUM

THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY

McKENZIE, VOORHEES & GMELIN, ARCHITECTS

RECEPTION ROOM TO DIRECTORS' ROOM

THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY

McKENZIE, VOORHEES & GMELIN, ARCHITECTS

(See details on back)

DETAIL OF HARDWARE
THE WORK OF SAMUEL YELLIN, CRAFTSMAN

DETAIL OF OVERDOOR
ENTRANCE TO DIRECTORS' ROOM

THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY
McKENZIE, VOORHEES & GMELIN, ARCHITECTS

DETAILS IN DIRECTORS' ROOM

THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY

McKENZIE, VOORHEES & GMELIN, ARCHITECTS

EXTERIOR DETAIL OF ARCADE

THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY

McKENZIE, VOORHEES & GMELIN, ARCHITECTS

VIEW OF ARCADE

THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY

McKENZIE, VOORHEES & GMELIN, ARCHITECTS

EDITORIAL COMMENT

IN this day and age, size is the *sine qua non*. We think and talk in terms of millions, whether they be dollars, soldiers or cubic feet. The number of stories a building has arouses more interest and comment than the perfection of its detail or the rarity of the *objets d'art* it may shelter. It, therefore, follows that the larger a building is, the more important it is from the standpoint of arousing public curiosity in architecture; and public curiosity is the initial step in the development of public taste.

I do not say that this should be so; but it *is* so. By all right standards of judgment, the perfection of the proportions of a building, its adaptability to its environment and use, should be its claim to architectural immortality. Art should be qualitative not quantitative. A miniature may be as great a work of art as a mural painting. But in modern architecture, quantity is in a sense becoming more and more an inseparable adjunct to quality. A small building, at least in our tightly built city streets—McKim's Morgan Gallery on Thirty-sixth Street, for example—even though it be, as that building is, a perfect gem of architectural probity, is passed unnoticed, while the towering giant next to it, reflecting the glint of the setting sun on turrets and pinnacles, catches and holds the attention of the passerby.

We Americans are beginning to develop an architectural taste because we have begun to acquire architectural curiosity. What has produced these conditions? Surely not the glimmering glass shop windows on Fifth Avenue, nor the rows of brownstone fronts that we inherited from the closing years of the nineteenth century, nor the yellow brick elevator apartments of the still young twentieth century. We who worship size, have had our vision enlarged by the skyscraper. Every new skyscraper that stands conspicuously silhouetted against the blue sky, especially one which has a prominently discernible position in New York's elaborately serrated skyline, excites comment because of its bulk and mass, and it thereby becomes a new and important factor in the determination of public taste. Hence every new skyscraper demands the closest scrutiny and analysis to determine to what extent it may affect the trend of architectural ideas.

The New York Telephone Building on West Street between Barclay and Vesey Streets, stands half way between lower Manhattan, where money is gathered in, and mid Manhattan, where it is lavishly spent. This building is not only the latest and newest to appear in this rapidly moving town (the hour and date of writing are eight P. M., October 17), but it is also among the largest for it occupies an entire block and has 17,000,000 cubic feet of contents piled on approximately 51,000 square feet of ground.

What then is this great building's part in architectural development, and what will be its influence on the trend of good architectural design? Does it carry a message to every architect and if so, what is that message?

From the river or from the street, there is to be seen a building clean-limbed and sure-footed, rising with sheer cliff-like walls, and whose only architectural embellishment is long vertical lines. There are no projecting cornices to break the upward sweep of the eye. The setbacks, handled with the greatest skill, enrich and strengthen the vertical motifs until they culminate in a massive tower. The play of light and shade in this mass changes constantly; the silhouette against the sky is handsome from every angle. But this might be said of more than one recent example of the skyscraper. Wherein is the Telephone Building especially notable?

In the first place, one wonders what trick of plan, what practical disposition of interior arrangement made possible such a great depth of building. But on examination it is to be found that spaces for the central operating system of the telephone exchange, spaces which must be away from the noises of the street, and which must be artificially lighted in order to have light concentrated on the switchboards and unconfused by cross lights, have been placed in the core of the building. The offices which require natural light have, therefore, been placed in a band enveloping this core. This arrangement, which meets the exigencies of the practical situation perfectly, has given the entire structure a massiveness which would have been impossible had the customary light courts been necessary.

Furthermore, the building contains not one single archaeological motif which has been used simply because it was handed down from the past and perpetuated because it was found good in another age. It is one thing to copy a moulding out of a book; it is another to develop architectural embellishment which functions as embellishment, yet derives from this age and uses the materials and methods of this age. It seems to me that it is here that the architects of the Telephone Building have been particularly inspired. The materials are the simplest. The brick is no different from the brick employed in a hundred other buildings. Yet it is used in a way that makes it take on a distinction that few buildings of the period possess. Besides, every bit of detail is designed with reference to its manufacture by machinery. In a machine age it is passing strange that so many buildings should employ an immense amount of detail which has to be executed by hand labor. In large buildings, such detail, where it is not as in the majority of cases positively ineffectual, has to my mind a certain innate dishonesty which robs it of all appropriateness. But the detail of the Telephone Building, conceived as it is in relation to the machine and its function in modern life, is straightforward and appropriate and eminently right.

The Telephone Building will be and has been criticized, as what daring step forward has not? It is said by some captious critics that it is too simple, too stark. But let it not be forgotten that every new form in art is a shock until such time as the eye and mind can readjust themselves to the new conception. The Telephone Building is worth the careful study of every modern architect, and should receive the admiration of every layman. Let it be hoped that it stands at the dawn of a new day, both for architects that sin and the public that is sinned against.

HARVEY WILEY CORBETT, F.A.I.A.

ANDREW C. McKENZIE, A. I. A.

1861-1926

ANNOUNCEMENT was made in our issue of October 20 of the sudden death, at his home in Brooklyn on October 10, of Andrew C. McKenzie, senior member of the architectural firm of McKenzie, Voorhees & Gmelin.

It is pathetic that this useful man and fine architect was not spared to share with his associates the praise that is so justly due on the completion of the Telephone Building in New York. Mr. McKenzie's life work has been crowned by an achievement that places him and his firm in the forefront of the profession of architecture, and his sudden death is regretted throughout the entire profession, as marking the passing of a fine personality and an architect of distinction.

ANDREW C. McKENZIE, A.I.A.

Born in Dunkirk, N. Y., and educated in Buffalo, Mr. McKenzie came to New York in 1884, where he became associated with Babb, Cook & Willard. This connection continued until he later became associated with Cyrus L. W. Eidlitz, and became his partner in 1902. It was during this partnership that the Times Building on Times Square was designed and built. No building had up to the date of its erection excited more favorable comment, not alone for its architectural expression, but also for the engineering features of its foundation. Upon the retirement of Mr. Eidlitz from this partnership in 1910, the present partnership with Stephen F. Voorhees and Paul Gmelin was formed.

This partnership at once assumed large proportions among the architectural firms in New York. Many important buildings were designed and successfully completed. Successively such important buildings as the West Street Building of the New York Telephone Company, the telephone buildings in Albany and Buffalo, the building of the Brooklyn Edison Company, and the Municipal Building of Brooklyn were all designed by Mr. McKenzie's firm. Many other buildings of lesser mass but of equal architectural importance were completed before Mr. McKenzie's death. The culmination of this fine association is the Telephone Building which is very thoroughly presented in this issue.

Mr. McKenzie's activities were well spread along the fields of every endeavor that would attract a man who, trained as an artist architect, found interest in every worthy effort that was allied to his profession. His close affiliation with The American Institute of Architects and The Architectural League of New York, was valuable to those organizations. His social activities combined membership in the Union League Club, the St. Andrew's Society and the Canadian Club of New York. And to the civic activities of New York, at a time when the counsels of a man so well trained in the civic needs of that city would be of large value, Mr. McKenzie gave aid as a member of the City Planning and Survey Committee.

A review of a life marked by intensive effort, always in the right direction, leads to the direct conclusion that Mr. McKenzie s death is a distinct loss to the profession of architecture and to those various other activities that mark the lives of men of this country who are the nation builders.

INTERIOR ARCHITECTURE

THE INTERIOR OF THE BARCLAY-VESEY TELEPHONE BUILDING

McKenzie, Voorhees & Gmelin, *Architects*

THE interior design of the Barclay-Vesey Telephone Building affords additional proof that interior architecture is a vital thing, and not a purely decorative element, as, unfortunately, it is so often considered. Interior design throughout this entire building is based on the fundamental principles on which architecture itself is so firmly grounded. Structure is everywhere the root of design; decoration is introduced to add interest to the architecture to correlate it to the entire scheme, thus accentuating the architectural motives. By this method the design of ornament lends distinctive character to the architecture by emphasizing the purpose for which the building is intended—that of housing the New York Telephone Company. The architects have given the same thoughtful and conscientious attention to all the various elements that are today largely incorrectly called interior decoration, as is given to those larger and more pronounced elements that dignify the exterior of the building and proclaim its worth as an outstanding example of American architecture.

The design of the interior, carrying forward that of the exterior, is entirely free from any suggestion of historic periods and styles. Rather is it a simple, straightforward solution of a commercial building done in a style that is best suited to the purpose that the building is intended to serve. While the design of the ornament does not in any way endeavor exactly to express the telephone in its relation to our

ONE OF THE PRIVATE OFFICES ON THE TWENTY-NINTH FLOOR OF THE BUILDING

daily lives, it does have a bearing on the traditions of the site and the neighborhood in which the building stands. The character of the ornament embellishing the exterior, depicting certain forms of plant and animal life, is retained in the ornamentation of the interior. The emphasized vertical movement by which the design of the exterior is characterized is also peculiar to the interior design, to be discovered in the design of the lighting fixtures and even to a detail so comparatively unimportant as chair legs. In short, the building, without and within, has been considered by the architects as one composition and the unity and continuity from the exterior to the interior is its greatest appeal for architectural excellence.

The feature of the main corridor on the main floor—the entrance and exit of the day's work—is the sweep of murals down the entire length of the ceiling. There are ten panels painted in brilliant colors, which illustrate in design the advances of human communication from the earliest times of beating a drum or burning a fire, while the center panel represents the modern triumph in communications through the telephone, the radio and the telegraph. Two bronze chandeliers determine the focal points of the corridor—the elevators, the grand staircase of the skyscraper. In design, these lighting fixtures very cleverly conform also to the general silhouette of the building, with "setback" lines and emphasis on the vertical movement.

The executive suite on the twenty-ninth floor has

THE PLATFORM AND STAGE CURTAIN IN THE AUDITORIUM

SPECIALLY DESIGNED FURNITURE IN THE DIRECTORS' ROOM IN WHICH THE VERTICAL MOVEMENT IS EVIDENCED

THE DIRECTORS' ROOM WITH WALLS PANELED IN MAPLE AND FURNITURE IN BLACK WALNUT. THE RUG CARRIES THE GENERAL COLOR OF THE WOODWORK

THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY

McKENZIE, VOORHEES & GMELIN, ARCHITECTS

APPROPRIATELY DESIGNED PUBLIC TELEPHONE BOOTHS OFF THE MAIN CORRIDOR

AN ORIGINAL TREATMENT IN THE CAFETERIA OF A TILED WALL DRINKING FOUNTAIN

DETAIL OF OVERDOOR PANEL IN THE DIRECTORS' ROOM, IN THE DESIGN OF WHICH THE CHARACTER OF THE ORNAMENT IS SIMILAR TO THAT EMPLOYED ON THE EXTERIOR OF THE BUILDING

THE PRIVATE OFFICE OF THE PRESIDENT OF THE COMPANY, PANELED IN MAPLE WITH CARVED ORNAMENTS IN CHARACTER PECULIAR TO THE BUILDING

THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY

McKENZIE, VOORHEES & GMELIN, ARCHITECTS

been designed with an underlying tone expressing simplicity and dignity without ostentation. In several of these rooms a wainscoting of curly maple has been used. The maple panels in the board room are outlined by inlay strips of ebony. Besides serving a decorative purpose, these inlay strips take up the shrinkage that always occurs in veneer panels of any size. A similar treatment is applied to the walnut panels of the elevator cabs. Door heads, window and door trims and frames of built-in bookcases have been carved in ornament peculiar to the style of the building. The ceilings in every case are of hand-modeled plaster, and floors of straight-grained wide oak planks, for the use of which special permission was obtained from the Building Department. The vertical emphasis is again evidenced in the design of the furniture which is constructed of American black walnut and which was especially made for the directors' room.

In one of the basements is a large cafeteria and restaurant with recreation rooms adjacent. The architects contended that employees eating their luncheon in the same building in which they work during the balance of the day desire to forget their jobs for the time being. For that reason any suggestion of architectural or decorative design peculiar to the rest of the building has been purposely avoided. Such an environment affords recreation to employees during their noon hour and a complete change in the character of their surroundings without leaving the building. The rooms have been decorated with tiles and decorative paintings, a part of the wall being treated in fresco representing an imaginary scene on the Mediterranean as if one stood in a farmhouse in Spain looking through the loggia over the sunlit sea. The Spanish idea has been followed in every accessory, even in the design of the wall drinking fountain and the cigar counter. The adjoining recreation room is invitingly furnished in a cheerful and comfortable way with a color scheme that makes for restfulness.

Throughout the entire building there is a lack of projecting mouldings, as may be seen by reference to the illustrations. Even in the detail of the ornament the surfaces have been maintained. Economy, too, has been considered, discernible in the use

BRONZE PLACQUE INSERTED IN THE FLOOR OF THE MAIN CORRIDOR, SYMBOLIC OF THE SPIRIT OF THE TELEPHONE SERVICE

of marble, cut by machine methods, on the walls of the corridors.

The ornament, which is so definitely related to the architecture in both the interior and exterior design, by serving to accentuate architectural lines and proportions, is interesting on its own account. In its design it is intended to be of a character that will interest the majority of passersby, who, in this case, are commuters, many of whom cherish a love for their garden at home and the plant life which grows therein. Nationalism, and an absence of period ideas and European motives, are thus stimulated by the ornament and individuality emphasized in the architectural design. As already suggested, the character of the ornament of the exterior is retained in the design of the interior and unity between the one and the other becomes even more apparent. Particular attention is called to the illustrations of the ornamental overdoor panel in the directors' room, to details of the ornament in the main corridor, to the design of the auditorium and to the furniture in the directors' room.

Success throughout the interior design seems to lie in two things: individuality of purpose and painstaking consideration as to details. For it is not only in the larger and more important elements that this individuality of purpose is pronounced:—the design of the public telephone booths off the main corridor has been just as carefully studied as the details of the prominent bronze screens at the entrance doorways. It is, then, in the careful consideration to details, so often slighted, combined with a knowledge of interior architectural design, that the design of the interior of the Barclay-Vesey Telephone Building is among the best and most outstanding architectural performances on Manhattan Island. Wherever the eye rests, there is a motive of design, a suggestion of completeness, fitness, and an indication of a thoroughly sympathetic attitude. The entire building impresses one as a labor of love, guided by a strong sense of the fitness of things. It seems remarkable, too, that the architects were able to imbue every one associated in the work with the same enthusiasm and love for his task that dominated themselves.

ANOTHER OF THE BRONZE PLACQUES INLAID IN THE FLOOR OF THE MAIN CORRIDOR, CHARACTERISTICALLY DESIGNED

THE RECREATION ROOM, SHOWING WOODEN GRILLES AT ARCHED OPENINGS TO CAFETERIA

THE CAFETERIA, PORTRAYING THE ATMOSPHERE OF SPAIN BOTH IN COLOR AND DESIGN. THE TREATMENT OF THE WALLS INCLUDES A WAINSCOT OF WARM YELLOW TILE WHICH IS REPEATED ON THE COLUMNS. ABOVE THE WAINSCOT, CERTAIN WALLS ARE DECORATED IN FRESCO, THE DESIGN REPRESENTING AN IMAGINARY SCENE ON THE MEDITERRANEAN

THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY

McKENZIE, VOORHEES & GMELIN, ARCHITECTS

THE STRUCTURAL DESIGN OF THE BARCLAY-VESEY TELEPHONE BUILDING

McKenzie, Voorhees & Gmelin, *Architects*

In the design of the Barclay-Vesey Building, planned and built for the New York Telephone Company, the first serious problem placed before the architects by the owner was that of the "bigness" of the building. It was determined that the building should provide for the housing of a certain amount of telephone central office equipment, offices for headquarters departments and the storage of records.

Two definitions of the limit up to which it would be economical to produce yield area were established. These were first the point at which the annual cost per square foot is least, and second the point at which the annual cost is equal to the market value of like space. It was decided that if the limit of area was reached under the first definition and before the second was reached, the second consideration should be the determining factor.

The first definition took into account the fact that with a given cost of land, plus certain other constant factors in which size is not involved, the cost per square foot decreases as the quantity of space increases. Certain items of construction cost increase with the height which means that on a site of limited area, the cost increases with the quantity of space. When the limit is reached it becomes economical to select another site to produce the balance of the space desired.

MASONRY ENCLOSING WALLS CLOSELY FOLLOWED THE STEEL SKELETON FRAME SKYWARD

PROGRESS PHOTOGRAPH TAKEN FEBRUARY 28, 1925

The second definition recognized the value of having space in one building rather than two, and that office space is as valuable to the owner as like space is to other enterprises as shown by the rental rates current in the vicinity.

Designs were made for buildings of ten, sixteen, twenty-six, thirty-six and forty-two stories. Cost studies of each were prepared and all reduced to the annual cost per square foot of yield area. Results thus obtained became measures of height. The particular heights mentioned were selected after careful consideration of many factors, the most important being the New York Zoning Ordinance which required a major setback at the eighteenth story but permitted the tower portion to go skyward indefinitely.

A curve was plotted using the costs per square foot of the various buildings as the abscissa and the quantities of space as the ordinate. The curve indicated that the economical point under the first definition was reached at 16 stories, and under the second definition at 29 stories. The economic height of the tower was to some extent limited by the height and area that could be served by one

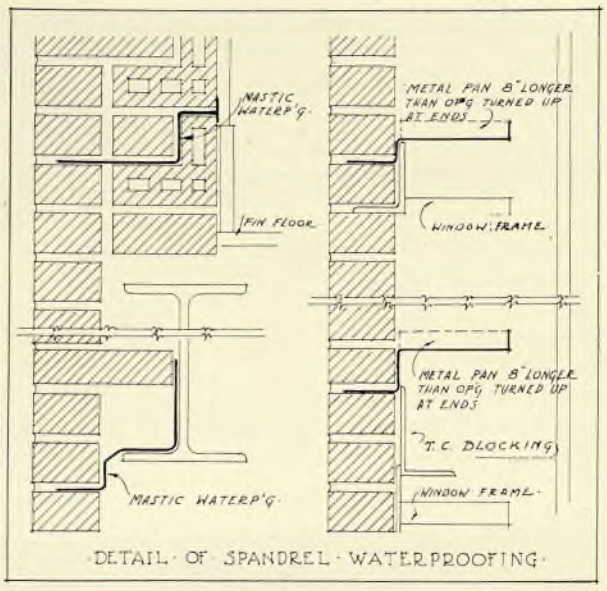


DIAGRAM SHOWING THE METHODS USED TO WATERPROOF THE OUTSIDE ENCLOSING WALLS

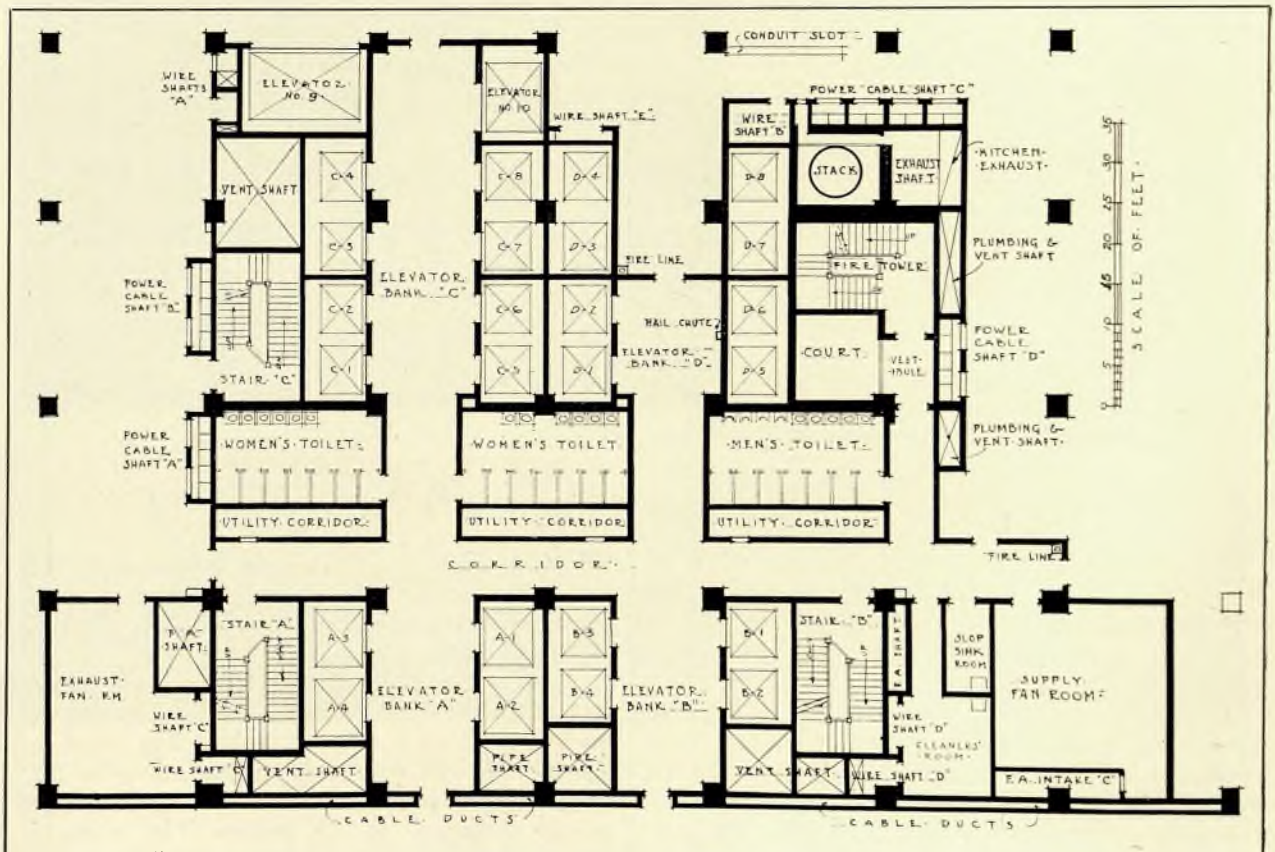
bank of elevators. When the height of the tower reached the point where two banks of elevators would be required, a decided rise in the cost per unit square foot was obtained, since the second bank materially reduced the rentable area.

The second big problem was that of service to the occupants of the building. Like a machine, a building is designed to perform necessary or desirable functions that may be described as the services of support, security, transportation, comfort and beauty.

The service of support includes the foundations, described elsewhere in this issue of THE AMERICAN ARCHITECT, and the steel skeleton frame and concrete floor structure.

The service of security against interferences from the outside such as man, fire and the weather, is performed by the walls, windows, roofs, fire protected stairways and certain mechanical equipment.

The exposed location of the building required complete protection of the outside walls against the penetration of rain under wind pressure. Several bricks possessing the color and texture required by architectural considerations were selected and tested. A brick having an absorptive value of less than 10% was determined upon. The brickwork was laid in Portland cement mortar in which a waterproofing compound was incorporated. Joints are approximately ½" thick, tooled slightly concaved, and rubbed to obtain a dense surface. Further to exclude the water likely to penetrate the walls, spandrel waterproofing consisting of mastic water-



THE "CORE" OF THE BARCLAY-VESEY TELEPHONE BUILDING, SHOWING THE LOCATION OF ELEVATORS, STAIRWAYS AND SHAFTS FOR PIPES, WIRES, CABLES AND DUCTS

proofing or metal pans were used over all window openings above the second story.

Windows are of the solid section metal, counterbalanced type with metal stools designed to support the radiators. The sash and frames were detailed for felt packing, to exclude wind and rain.

As security against lightning the pier caps are covered with sheet copper bonded to the steel frame. The copper sheets also serve to exclude water from the pier caps.

Interior security is provided by a fire resisting "core." This central area or core contains corridors, stairways, firetower, elevator shafts, boiler stack, toilet rooms, fan rooms, and shafts for pipes, wires, cables and ducts. This core comprises an area about one hundred feet square and is located approximately in the center of the building. This arrangement takes complete advantage of the exterior wall area to secure natural light for office space arranged around all sides of the core.

The Barclay-Vesey Building may be analyzed as a building of 17 stories and 2 mezzanines covering a parallelogram about 212 x 255 feet, surmounted by a tower 108 x 116 feet of 15 stories and 1 mezzanine. The 17th mezzanine story divides the entire building into two mechanically separate units that can be operated separately or together. This mezzanine is in reality a basement for the tower and contains, with the exception of boilers and pumps, all the equipment normally found in the basement of the average building. It also contains for the lower section of the building the equipment normally found on the roof.

Mechanical equipment is by-passed so that while under usual conditions the base and the tower are separately operated, in emergencies substantially all of the equipment can be combined or the equipment of the tower section can temporarily serve the lower section without interfering with the operation of the entire building. Basement A was developed as an extra high story to permit pipes and ducts to be run near the ceiling and still obtain adequate head room in the kitchen. There is a section in basement A about 4 feet deep between the first floor construction and the hung ceiling utilized entirely for pipes, ducts and electrical feeders.

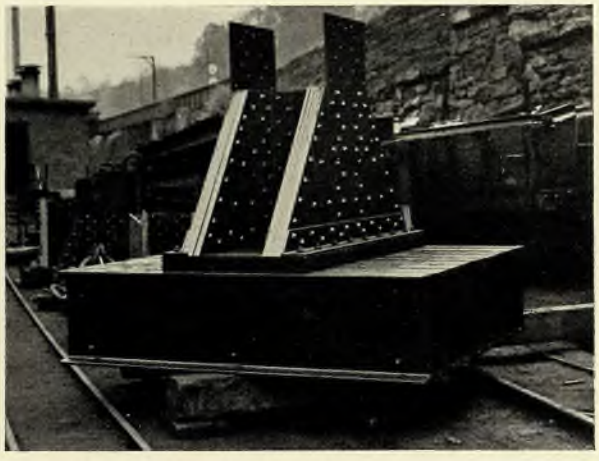
The services of transportation, comfort and security are described elsewhere in this journal. The service of comfort includes provisions for wet and dry cleaning, heating, lighting and ventilating. It also includes facilities for rest and recreation, and wholesome eating served in architecturally inviting and comfortable dining rooms.

A kitchen, completely equipped with all modern facilities, serves the large dining rooms operated with both waiter and cafeteria services. A feature of the kitchen and cafeteria is the use of hoods made of wire glass set in non-corrodable metal frames. Ventilators at the ranges terminate in flexible elbows that permit ready control of the direction and quantity of the air supply.

In the architectural design of this building it was necessary to give consideration to not only the limits which the mechanical design made upon the architectural possibilities but also to consider the limits which the architectural design imposed upon the mechanical equipment. The executed design indicates that a happy compromise was reached and demonstrates the value of carefully studying the location of equipment and the space required.

The Telephone Building contains 850,000 square feet of usable floor space. Demolition of buildings on the site was begun May 23rd, 1923. Foundation work was started June 20th, 1923. The building was ready for its first occupants February 19th, 1926, and completed on June 30th.

The consulting engineers were Moran, Maurice and Proctor; Meyer, Strong and Jones; Todd, Robertson and Todd; and H. G. Balcom. Marc Eidlitz and Son, Inc., were the general contractors.



AT LEFT: STEEL FRAMING OF A TYPICAL STORY. AT RIGHT: GRILLAGE AND COLUMN STUB SECTION FOR COLUMN 75. GRILLAGE CONSISTS OF NINE 24" I's 115# 8'-6" LONG. SLABS 40" X 4" X 6'-10". COLUMN STUB SECTION MADE UP OF FOUR ANGLES 8" X 8" X 1". TWO WEB PLATES 17" X 1". TEN 15/16" COVER PLATES AND TWO 3/8" COVER PLATES. TOTAL WEIGHT 11 TONS

FOUNDATIONS OF THE BARCLAY-VESEY TELEPHONE BUILDING

McKenzie, Voorhees & Gmelin, *Architects*

THE New York City block bounded by West, Washington, Vesey and Barclay Streets, now the site of the 32 story New York Telephone Company's building, was at one time outside of the original shore line of the Hudson River. The present West Street thoroughfare today throbbing with life, was never then in the wildest dream, the scene of a structure rising 500 feet above the surface, and extending more than 70 feet below ground.

Excavators brought to light many relics of New York's early history. Evidence of an old cedar swamp was disclosed. Pewter spoons, coins of *circa* 1790 and a sunken ship evidently the remains of an old whaling boat with its keel of oak still in a state of perfect preservation were unearthed, in addition to timber cribwork and other filling material such as is usually found in filled-in areas.

A preliminary survey by the engineers disclosed the physical difficulties which a site of this character imposes. Borings indicated that bed rock varied throughout the site from 55 to 75 feet below high water level with tide water level from 2 to 4 feet below the street curb. To float a high building of the type of the Telephone Building seemed impracticable, and foundations on rock of unquestioned bearing value, essential.

Conditions predetermined as unusual required special methods of foundation construction by the pneumatic caisson process. A continuous concrete cofferdam surrounding the entire site and resting on bed rock was determined to be desirable. The cofferdam was formed by a series of pneumatic caissons and was placed before the open excavation was begun. Calculations showed that caissons 8 feet thick would be required to resist the great exterior pressure due to adjacent street and building loads and hydrostatic pressure.

Twenty-two caissons each eight feet thick and about forty feet long were sunk to depths varying from 55 feet to 75 feet. A vertical space of about 20 inches left between caissons was filled, under air, with concrete and keyed into the ends of caissons.

PORTION OF HULL OF AN OLD WHALING BOAT UNCOVERED IN EXCAVATING FOR THE FOUNDATIONS. AMONG OTHER RELICS OF THE PAST A WOODEN WATER MAIN DATING BACK TO THE EARLY DUTCH SETTLERS WAS UNEARTHED SIX FEET BELOW THE SURFACE ON VESEY STREET

To conform to the shape of the site the corner caissons were beveled at the ends. Fill, silt, stone, boulders, peat and quicksand were successively encountered in sinking the caissons.

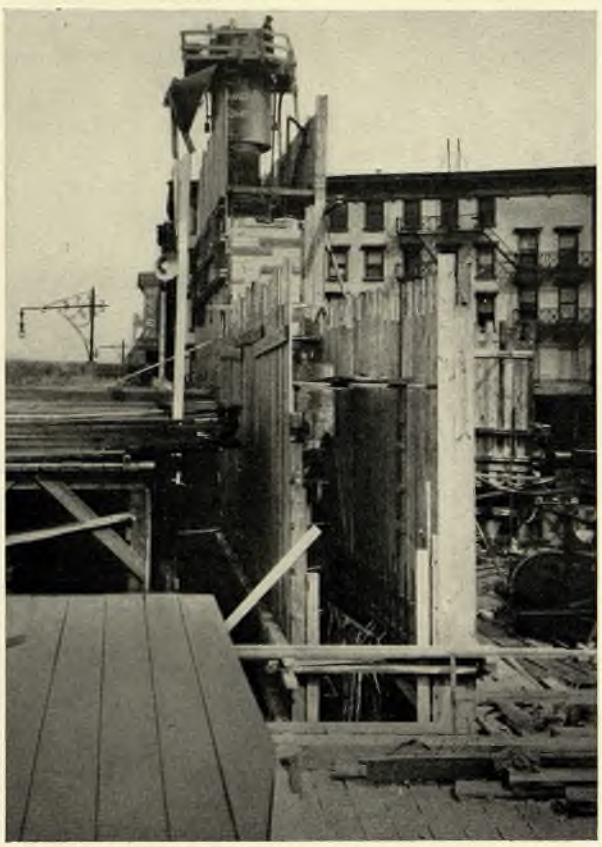
Enormous exterior pressure on the cofferdam required the use of heavy cross-lot bracing while the interior area was excavated. The Telephone Building is among the first to use permanent steel, cross-lot bracing at the level of average maximum pressure in combination with temporary cross-lot timber bracing.

The original plans contemplated four basement levels, A, B, C and D, with the boiler room located about eight feet below the D basement level. Studies made to develop economic comparison between various foundation designs and cost of cellar space produced, disclosed that the unit cost of cellar space decreased rapidly as the volume of space was increased. Since effective use could be made of all cellar area obtainable, it was decided to cofferdam the entire site and carry the cellar excavation to maximum depth without involving rock excavation except that required to level up.

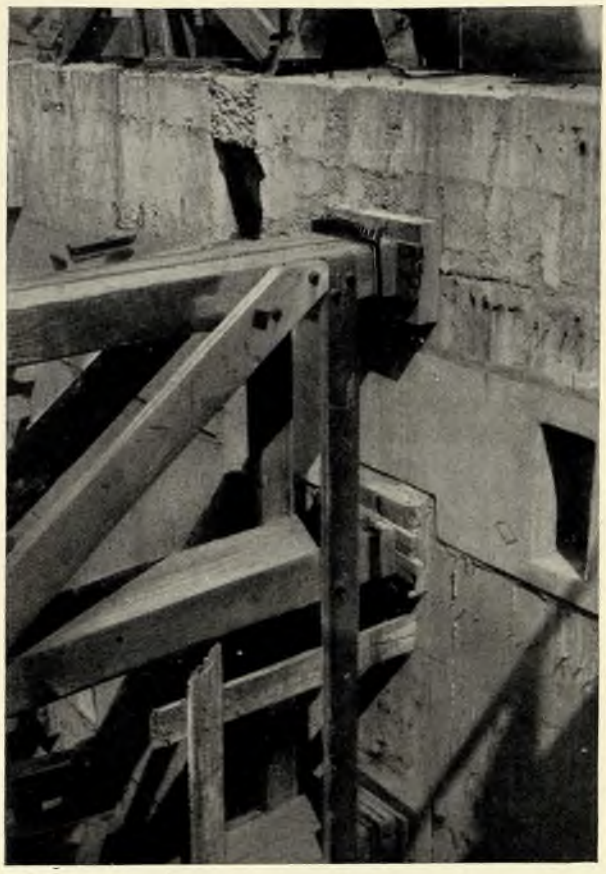
While factors determining the design of deep foundations can be determined within reasonable limits, a certain element of uncertainty is usually present. To limit the amount of reinforcement in the caissons it was decided to limit the final location of the caissons to within 4½ feet above or below the point determined upon when the plans were drawn.

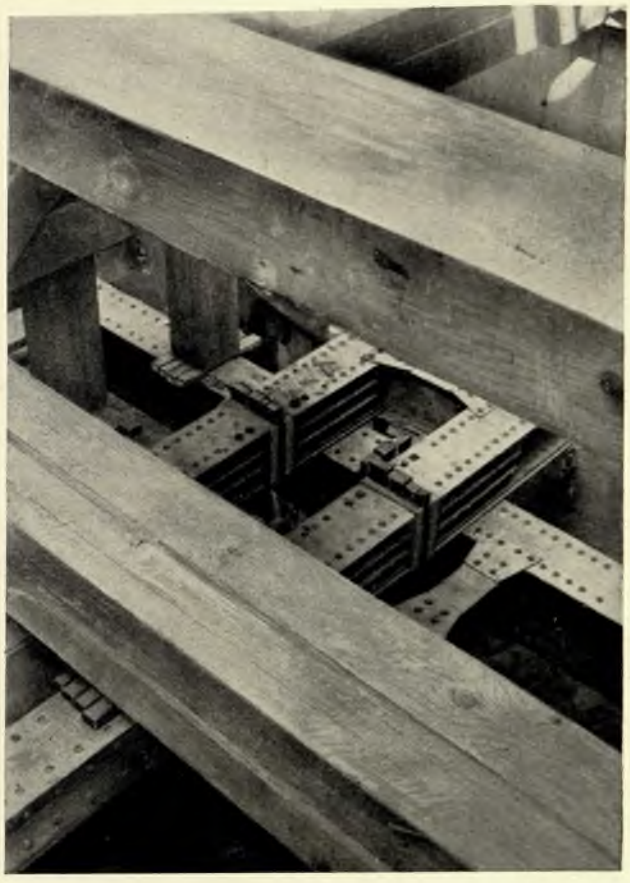
The concrete floors at basement A, B and D, were designed to resist the thrust of the caisson retaining walls and proportioned in thickness and reinforcement to the stresses involved. At the C basement level, the point of average maximum pressure, a tier of steel struts was used. This tier performed both the function of temporary and permanent cross-lot bracing. The struts were arranged in pairs in two levels, at right angles to each other. The East and West tiers were placed under and supported the tiers running North and South. The pairs were designed and spaced so that square openings at the intersections occurred at column locations. The steel columns were lowered through the openings thus provided to their individual pier foundations without interfering with the horizontal bracing.

The permanent steel bracing was placed as soon as excavation reached the C basement level. A series of bents built on square oak piles were used to support the steel cross-lot bracing until it could be riveted to the interior columns. By placing permanent struts at this level, to receive the largest portion of the load, it was estimated that about 50% of the usual timber bracing could be omitted.



FOUNDATIONS UNDER CONSTRUCTION BY THE PNEUMATIC CAISSON PROCESS. GENERAL VIEW SHOWING CAISSONS IN VARIOUS STAGES OF CONSTRUCTION AT LEFT. DETAIL OF CAISSON FORM SHOWING AIR LOCK AND STEEL REINFORCEMENT AT RIGHT. CAISSONS WERE 8 FEET THICK, 40 FEET LONG AND SUNK TO AN AVERAGE DEPTH OF 70 FEET





AT LEFT: WEDGING OF TEMPORARY CROSS-LOT TIMBER IN PLACE AGAINST THE FOUNDATION WALL. AT RIGHT: STEEL WEDGES IN PLACE BETWEEN THE MEMBERS OF PERMANENT STEEL CROSS-LOT BRACING AT BASEMENT C LEVEL

To prevent the possibility of overloading the supports at A and B floors through arch action of the caissons, steel wedges in C tier were first driven to the point that the struts took up about one-half the stress for which they were designed. After the interior columns were set the steel wedges were driven up until the struts developed the full designed stresses.

The original intention was to place the D basement floor on earth and sink piers supporting the interior columns to rock. Owing to the character of the ground encountered at D level, this was found to be impractical and greatly increased the difficulty of sinking the column piers. As a result, excavation was continued to bed rock which permitted an additional basement E at little additional cost. Column piers, however, had to be built in E basement as the steel columns were at that time being fabricated. This additional depth required additional timber bracing, and concrete buttresses were added to the cofferdam walls at the column points below D level to receive permanently the additional thrust due to the increased height of the basement wall.

Before pouring any column piers, holes four to five feet deep were drilled in the rock to determine the presence of mud seams along stratification and fault planes in the rock. Where seams were found, these were grouted with cement under pressure. A bearing on solid rock was thus assured under all column and foundation piers.

Reinforcement in the caissons was designed for points of support at the various floor levels. Since the location of bed rock was variable and not definitely known before the caissons were sunk, reinforcement was designed for horizontal supports 4½ feet above or below the assumed floor level. For this reason some caissons had to be stopped and underpinned before rock was reached. In most instances at least one end of the caisson was on rock.

The caissons were filled with concrete made with premixed aggregate. This aggregate, brought down the Hudson River on barges, was tested at the dock. Sample concrete cylinders were made from time to time and tested for uniformity and strength. These tests indicated that higher concrete strength values were being obtained than those used as the basis of design by the engineers.

The entire site is surrounded by a wall 8 feet thick which was plastered on the inside with a cement waterproofing coat. Assuming the adequacy of the waterproofing, the only way water from external sources could enter the building would be through crevices in the rock bottom and through

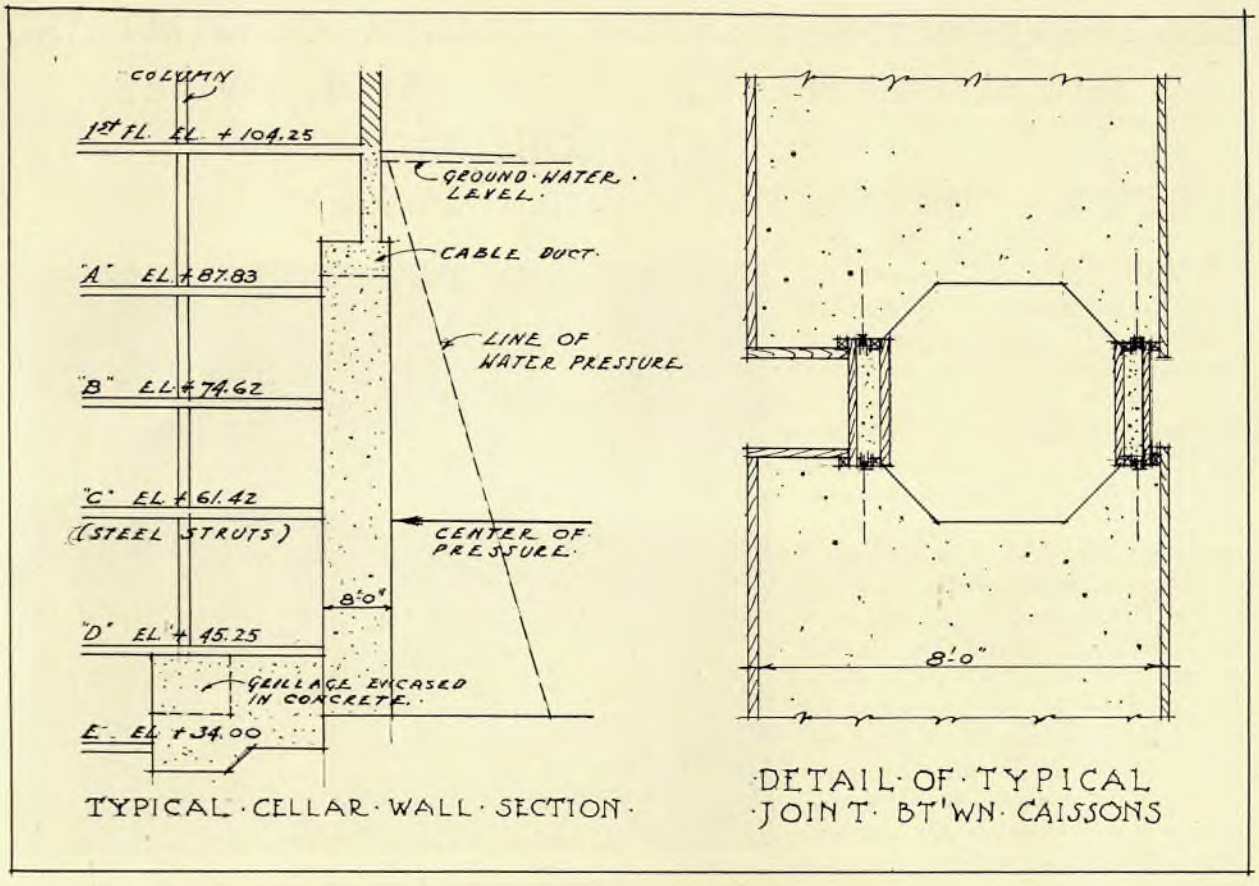


DIAGRAM ILLUSTRATING THE CONSTRUCTION OF THE FOUNDATION WALLS. GROUND WATER LEVEL IS MORE ACCURATELY REFERRED TO AS TIDE WATER LEVEL. UNUSUAL DEPTH OF THE EXCAVATION AS WELL AS UNUSUAL HYDROSTATIC PRESSURES REQUIRED THE USE OF A PRACTICALLY NEW TYPE OF VERTICAL JOINT BETWEEN CAISSONS

the key joints of the caissons. To relieve the pressure at the key joints, terra cotta drains were built in near the inner surface of the wall to carry ground water down below the bottom of E basement floor. The "joint drains" were connected with a drainage system located below the E floor level and lead to a sump pit about 30′ x 60′ x 6′ deep built in the center of the building. Water flows into the sump at the rate of 180 gallons per minute and is pumped out and used for purposes outside of the building.

A factor peculiar to telephone buildings, required provision for the entrance of 700 cable ducts to a maximum depth of 15 feet below the curb. Ground water practically up to curb level necessitated construction at the cable entrance by a method that would prevent water from flowing in and flooding the cellar. Tunnel sections at each separate group of cables were constructed through the top section of these caissons, where entrance is effected. Ledges, waterproofing laps and reinforcing steel ties were provided on the outside of the caissons for the connection of the duct tunnels at a later time. A thin reinforced concrete wall blanked off each tunnel on the inside face. This wall was removed after each duct tunnel had been brought through the cofferdam and waterproofed.

It is of interest to note that conditions peculiar to this building and its site introduced new features of caisson design. The foundation design took advantage of and further developed new methods required in the design of the New York Federal Reserve Bank substructure. This is noted particularly in the use of permanent steel cross-lot struts wedged up to a predetermined stress. Records of the wedging of the struts used at the Federal Reserve Bank proved invaluable in connection with the work on the Telephone Building.

The total excavation for the foundations amounted to 137,925 cubic yards. The caissons, piers, basement floors, and walls required 32,500 cubic yards of concrete and 1,056 tons of reinforcing steel. Timber for caissons, cross-lot bracing, forms and temporary platforms amounted to over 2,800,000 board feet. The space created in the substructure was in volume 3,175,000 cubic feet or 228,500 square feet of floor space.

In addition to pipe machines, blacksmith shop, the plant for building the foundations included six air compressors; fourteen derricks for handling caissons, eight derricks for general excavation, and three concrete plants.

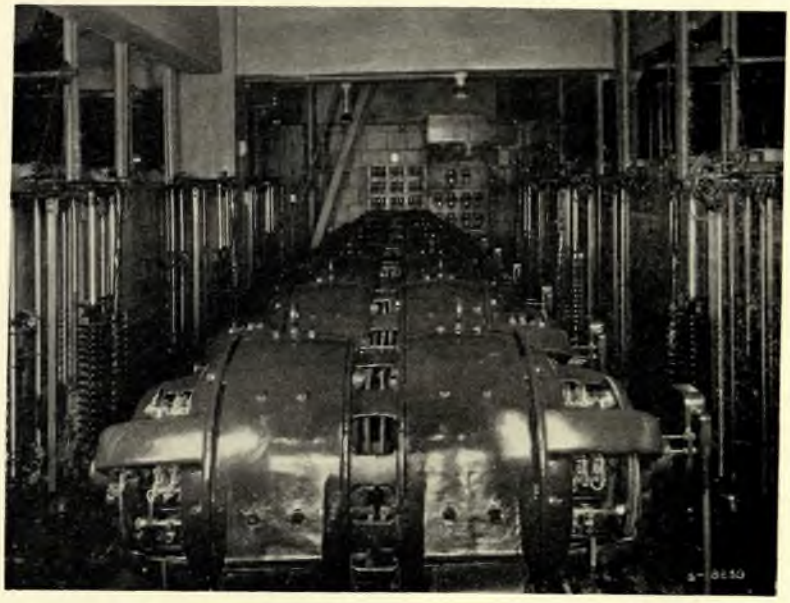
Moran, Maurice and Proctor were the consulting engineers for the foundations of the Barclay-Vesey Telephone Building.

SERVICES OF TRANSPORTATION, CLEANING, COMFORT AND SECURITY AS PROVIDED IN THE BARCLAY-VESEY TELEPHONE BUILDING

McKenzie, Voorhees & Gmelin, *Architects*

A STRUCTURE designed to house a population of more than 6,000 persons, necessarily requires an unusual quantity of pipes, ducts and transportation facilities. To describe in detail the many features contributing to the comfort, convenience and security of the inhabitants would possibly become a monotonous recital of confusing statistics. The editors, in co-operation with members of the staff of the architects' office, and with the enthusiastic approval of Stephen Voorhees, developed the accompanying plates that are intended to visualize the fundamentals of the mechanical and electrical equipment and their extent. The accompanying text contains reference to special features and description that could not be readily indicated on the plates.

—The Editors.



BANK C ELEVATOR MACHINE ROOM ON THE SEVENTEENTH FLOOR MEZZANINE. SELECTORS THAT INITIATE THE MOVEMENTS OF THE CARS ARE SEEN AT EITHER SIDE OF THE MOTOR-GENERATOR SETS

THE SERVICE OF TRANSPORTATION

THE problem of transporting a great number of people and distributing them through a large building with the minimum of delay, is analogous to the traffic problem of a railroad system, the difference being that one is vertical and the other is horizontal. The basic requirements of vertical transportation in the Telephone Building were, first, to handle the arrival and departure of the entire population of about 6,500 people, and all transients calling on the various departments; and, second, to handle the interfloor traffic as efficiently as possible. The elevator system is so arranged that at no time is it necessary for any passenger to make more than one transfer within the building regardless of which floors he may be traveling between.

From an economic and service viewpoint, the Telephone Building being a modern tower type, the type of elevator that will render the maximum service in the minimum floor space is justified. It was determined, therefore, that the high rise elevators should run at high speeds with rapid acceleration and retardation characteristics. These speeds and retardation characteristics are so high that manual stops would be difficult to make without loss of time. Two banks of eight cars each, running at 800 ft. per minute, with full automatic control of the machines and pneumatically operated hoistway and car doors serve the upper portion of the building. The only manual operation of these cars consists of pressing buttons that initiate the closing of doors and starting the cars. The lower portion of the building is served by two banks of four cars each, running at 700 ft. per minute, with manual operation of cars and doors. There is also a manual control service elevator running at 600 ft. per minute, a freight elevator lifting 7½ tons at 300 ft. per minute and a full automatic push button elevator running from the top floor to the roof and observation galleries.

All elevators in the Telephone Building have variable voltage direct current control from unit motor generator sets with direct current primary motors. To obtain the minimum acceleration and retardation time, starts and stops, of the full automatic high speed elevators are made from machine operated devices called selectors. These cars also have "micro-levelers" that level the car with the floor and maintain the car in this position as long as the doors are open.

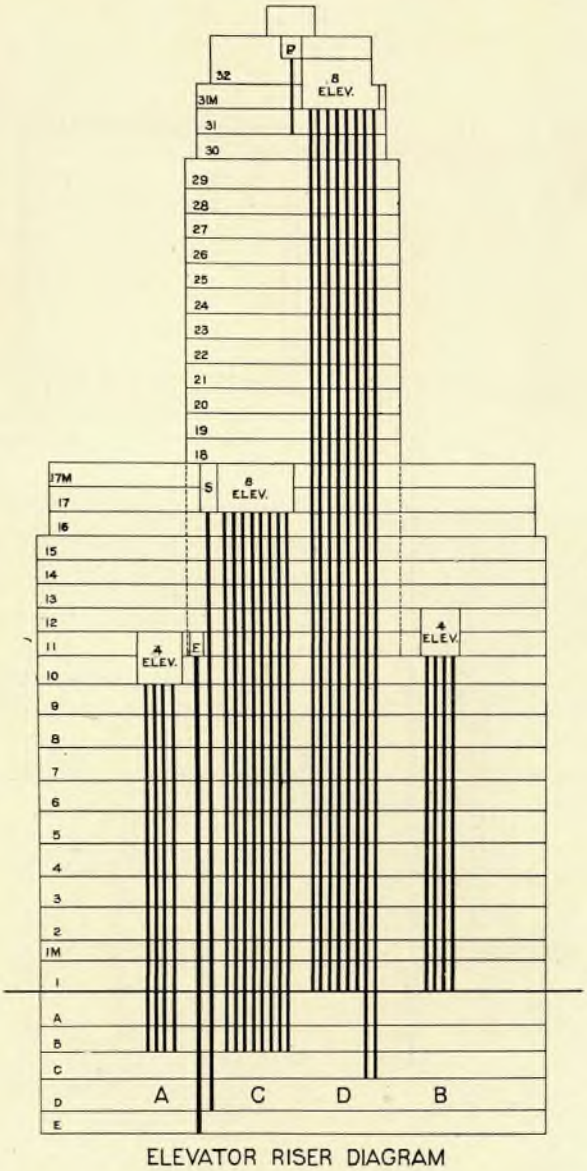
During the morning arrival peak each bank of elevators has a 20 second interval between cars leaving the first floor. During the maximum arrival

(*Continued on page* 425)

17 FLOOR PLAN
CORE AREA

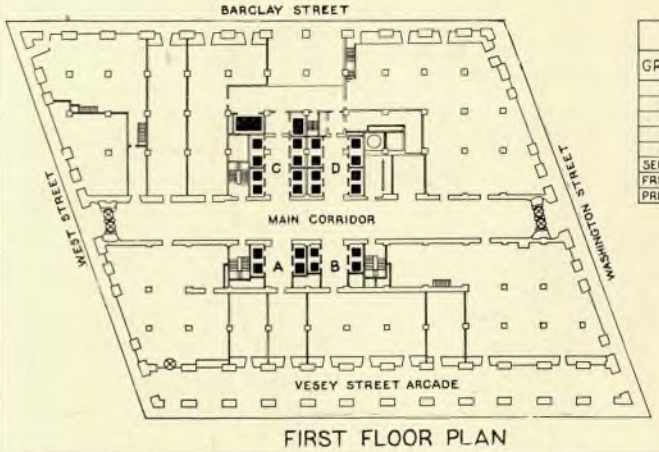
TOWER FLOOR PLAN

10 FLOOR PLAN
CORE AREA



ELEVATOR RISER DIAGRAM

11 FLOOR PLAN
CORE AREA



FIRST FLOOR PLAN

DATA					
GROUP	NUMBER	RISE	SPEED	CAPACITY	CHARACTERISTICS
A	4	B-9	700'	3000#	VARIABLE VOLTAGE - MANUAL CONTROL
B	4	1-10	700'	3000#	VARIABLE VOLTAGE - MANUAL CONTROL
C	8	B-16	800'	2500#	VARIABLE VOLTAGE - SIGNAL CONTROL
D	6	1-31	800'	2500#	VARIABLE VOLTAGE - SIGNAL CONTROL
D	2	C-31	800'	2500#	VARIABLE VOLTAGE - SIGNAL CONTROL
SERVICE	1	D-16	700'	3500#	VARIABLE VOLTAGE - MANUAL CONTROL
FREIGHT	1	E-10	150'	15000#	MANUAL RESISTANCE CONTROL
PRIVATE	1	31-32	75'	1800#	PUSH BUTTON RESISTANCE CONTROL

SYMBOLS	
A	DESIGNATES BANK A - ELEVATORS
B	DESIGNATES BANK B - ELEVATORS
C	DESIGNATES BANK C - ELEVATORS
D	DESIGNATES BANK D - ELEVATORS
F	DESIGNATES FREIGHT ELEVATOR
P	DESIGNATES PRIVATE ELEVATOR
S	DESIGNATES SERVICE ELEVATOR

DIAGRAM OF THE ELEVATOR SYSTEM
THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY
McKENZIE, VOORHEES & GMELIN, ARCHITECTS

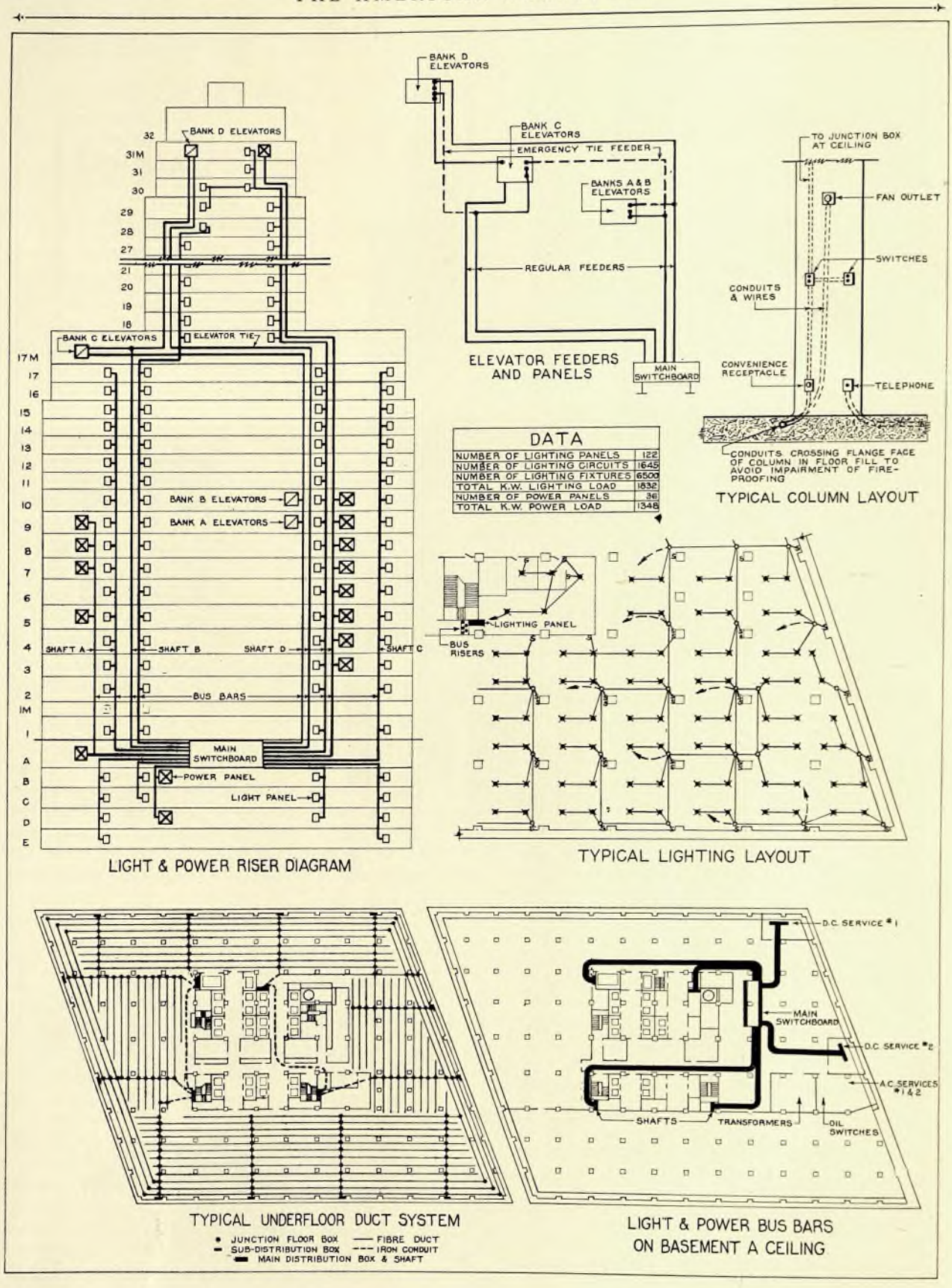


DIAGRAM OF THE ELECTRIC SYSTEM

THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY

McKENZIE, VOORHEES & GMELIN, ARCHITECTS

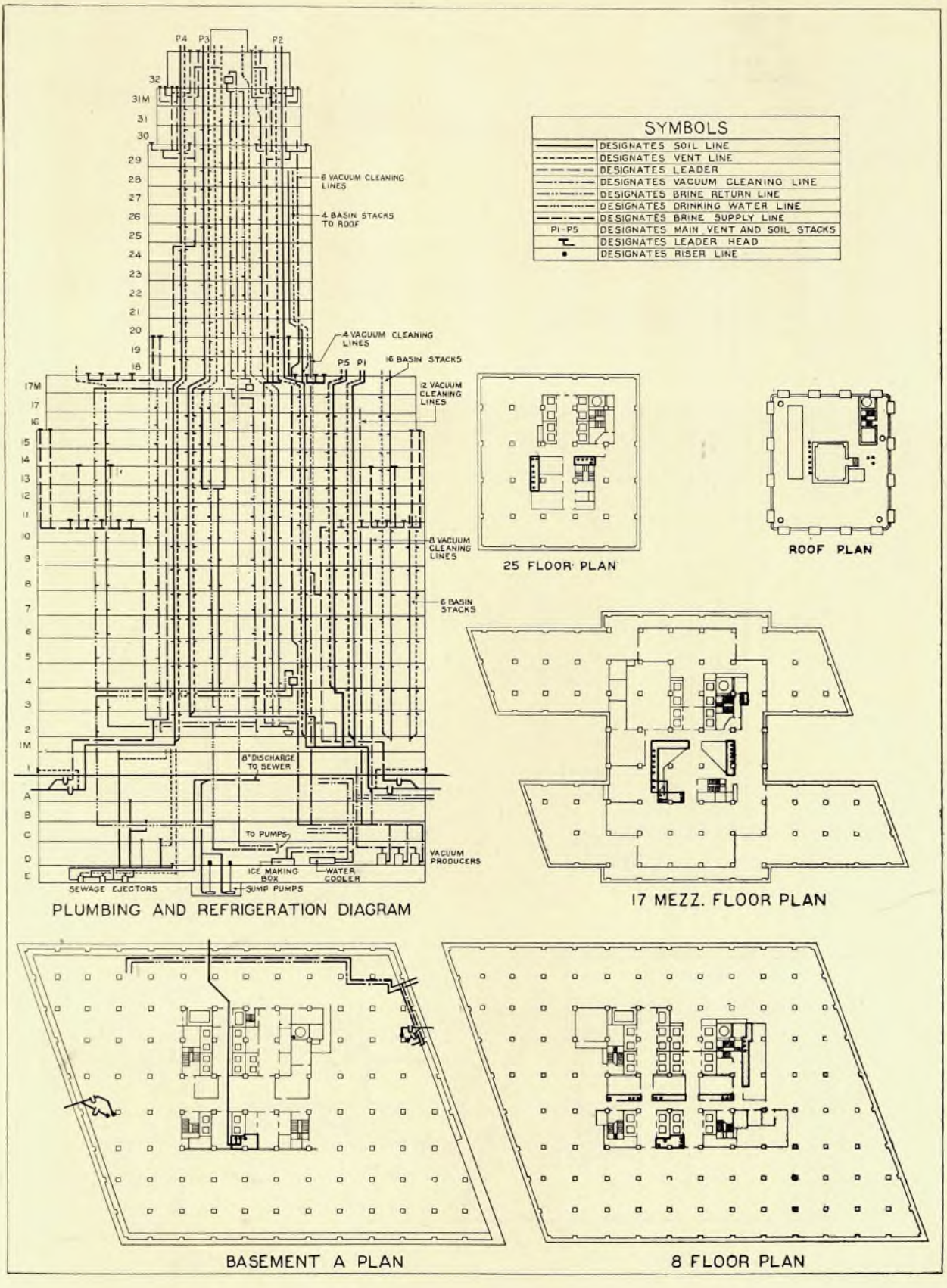
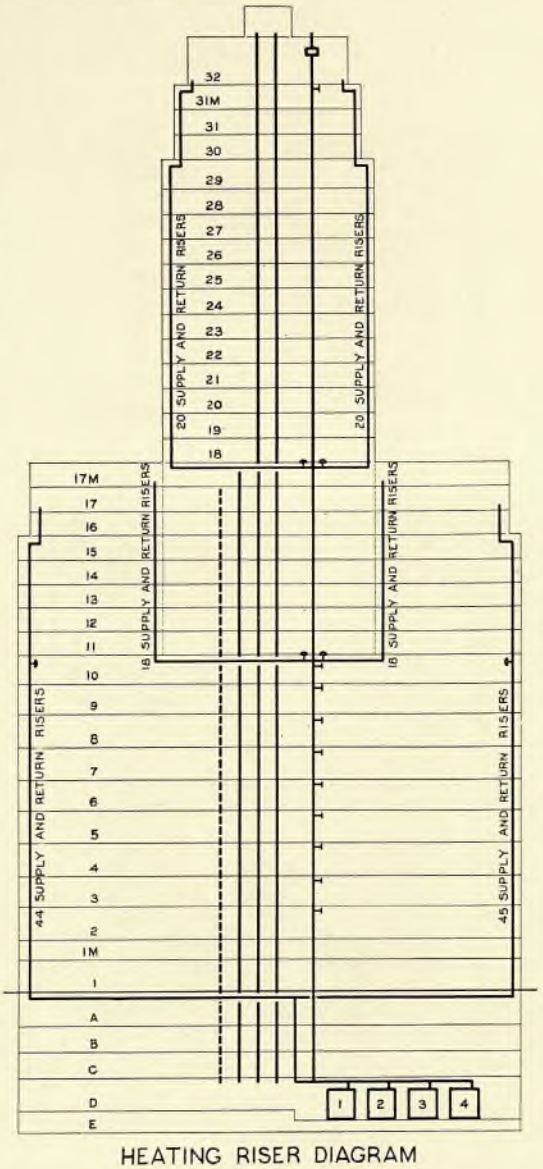


DIAGRAM OF PLUMBING, VACUUM CLEANING, AND REFRIGERATION SYSTEMS

THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY

McKENZIE, VOORHEES & GMELIN, ARCHITECTS



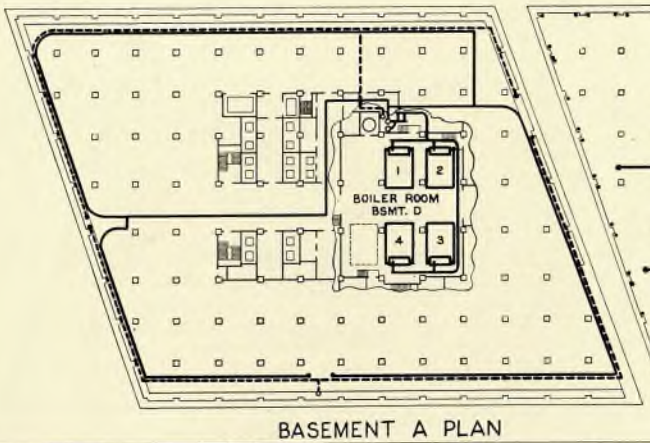
HEATING RISER DIAGRAM

DATA	
NUMBER OF RADIATORS	2100
SQUARE FEET OF RADIATION	82500
BOILER HORSEPOWER	1425
NUMBER OF HEATING RISERS	165
SIZE OF STEAM HEADER	24"

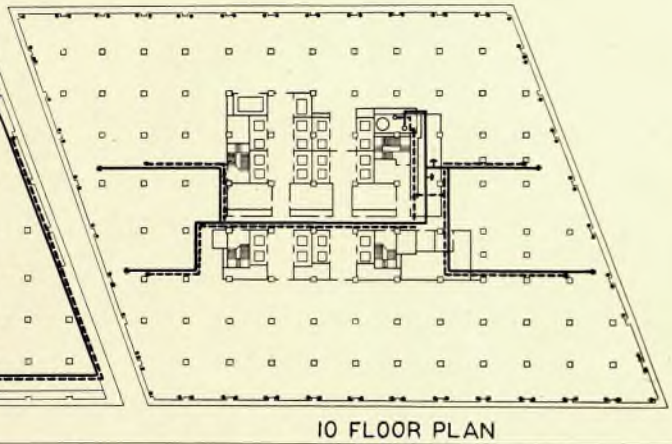
SYMBOLS	
	DESIGNATES SUPPLY MAIN
	DESIGNATES RETURN MAIN
•	DESIGNATES RISER
	DESIGNATES PNEUMATICALLY CONTROLLED VALVE
	DESIGNATES CONNECTION TO TEMPERING STACK

25 FLOOR PLAN

17 MEZZ. FLOOR PLAN



BASEMENT A PLAN

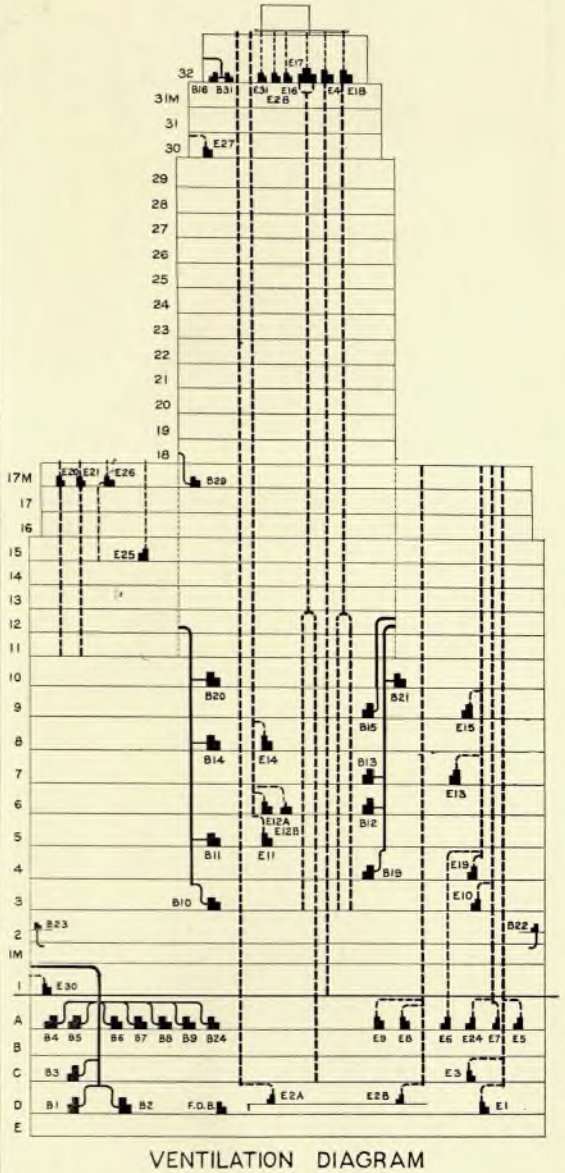


10 FLOOR PLAN

DIAGRAM OF THE HEATING SYSTEM

THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY

McKENZIE, VOORHEES & GMELIN, ARCHITECTS



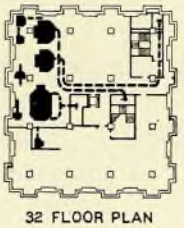
VENTILATION DIAGRAM

DATA

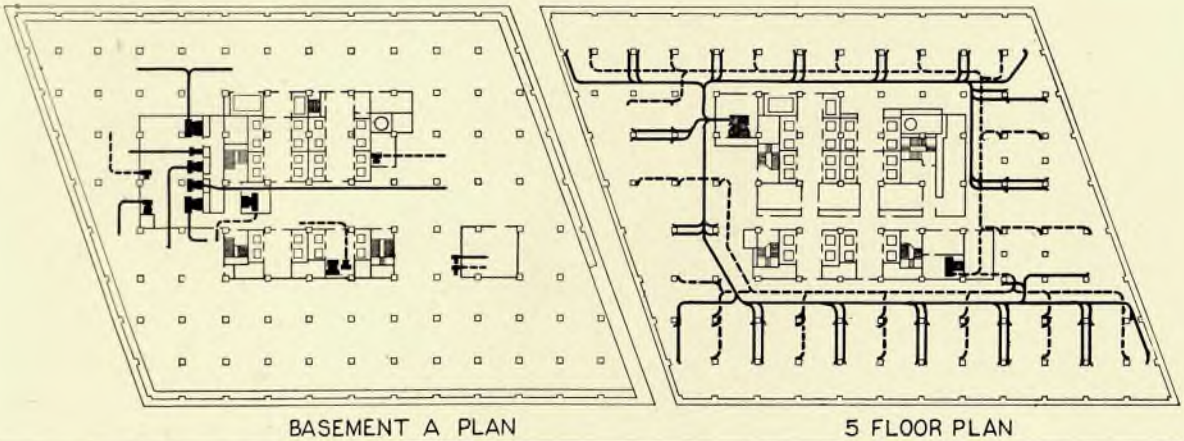
FAN NUMBER		SPACE VENTILATED	CAPACITY-C.F.M. SUPPLY	CAPACITY-C.F.M. EXHAUST
B1	E1	BASEMENTS D AND E GENERAL	35965	31225
B2	E2A	BOILER & MACHINERY ROOMS SUPPLY-BOILER ROOM EXHAUST	49588	10000
—	E2B	MACHINERY ROOM EXHAUST	——	21708
B3	E3	BASEMENT C GENERAL	13045	13045
B4	E4	KITCHEN IN BASEMENT	22816	31600
B5	E5	CAFETERIA	20485	20787
B6	E6	BANK VAULT	3500	3700
B7	E7	BASEMENTS A & B GENERAL	4668	3730
B8	E8	ELECTRIC SERVICE ROOM	9243	9243
B9	E9	TRANSFORMER ROOM	5000	5000
B10	E10	THIRD FLOOR	35036	27000
B11	E11	FIFTH FLOOR	40250	36210
B12	E12A	SIXTH FLOOR SUPPLY-SIXTH FLOOR EAST EXHAUST	30532	8946
—	E12B	SIXTH FLOOR WEST EXHAUST	——	17040
B13	E13	SEVENTH FLOOR	40250	36220
B14	E14	EIGHTH FLOOR	40250	36220
B15	E15	NINTH FLOOR	36894	33228
B16	E16	CONFERENCE ROOM-THIRTY FIRST FLOOR	11250	11250
—	E17	WEST TOILETS EXHAUST	——	96000
—	E18	EAST TOILETS EXHAUST	——	55000
B19	E19	FOURTH FLOOR	18342	15000
B20	E20	TENTH FLOOR SOUTH	19866	17892
B21	E21	TENTH FLOOR NORTH	20273	18314
B22	—	FIRST FLOOR CORRIDOR (EAST) RECIRCULATING	4350	——
B23	—	FIRST FLOOR CORRIDOR (WEST) RECIRCULATING	4350	——
B24	E24	BASEMENT A LOUNGE & LIBRARY	15173	11803
—	E25	FIFTEENTH FLOOR MEDICAL DEPARTMENT	——	1416
—	E26	FOURTEENTH FLOOR BLUE PRINT DEPARTMENT	——	6144
—	E27	THIRTIETH FLOOR CLASS ROOMS	——	1550
—	E28	THIRTY SECOND FLOOR KITCHEN	——	3942
B29	—	ELEVATOR MACHINERY ROOM	10000	——
—	E30	MAIL ROOM	——	4400
B31	E31	BOARD OF DIRECTORS ROOM-TWENTY NINTH FLOOR	1200	1000
F.D.B.		FORCED DRAFT FAN FOR BOILERS	——	——

SYMBOLS

B	DESIGNATES BLOWER SUPPLYING FRESH AIR
E	DESIGNATES EXHAUSTER REMOVING VITIATED AIR
F.D.B.	DESIGNATES FORCED DRAFT BLOWER FOR BOILERS
———	DESIGNATES FRESH AIR SUPPLY DUCTS AND SHAFTS
- - - -	DESIGNATES EXHAUST DUCTS AND SHAFTS



32 FLOOR PLAN



BASEMENT A PLAN

5 FLOOR PLAN

DIAGRAM OF THE VENTILATING SYSTEM

THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY

McKENZIE, VOORHEES & GMELIN, ARCHITECTS

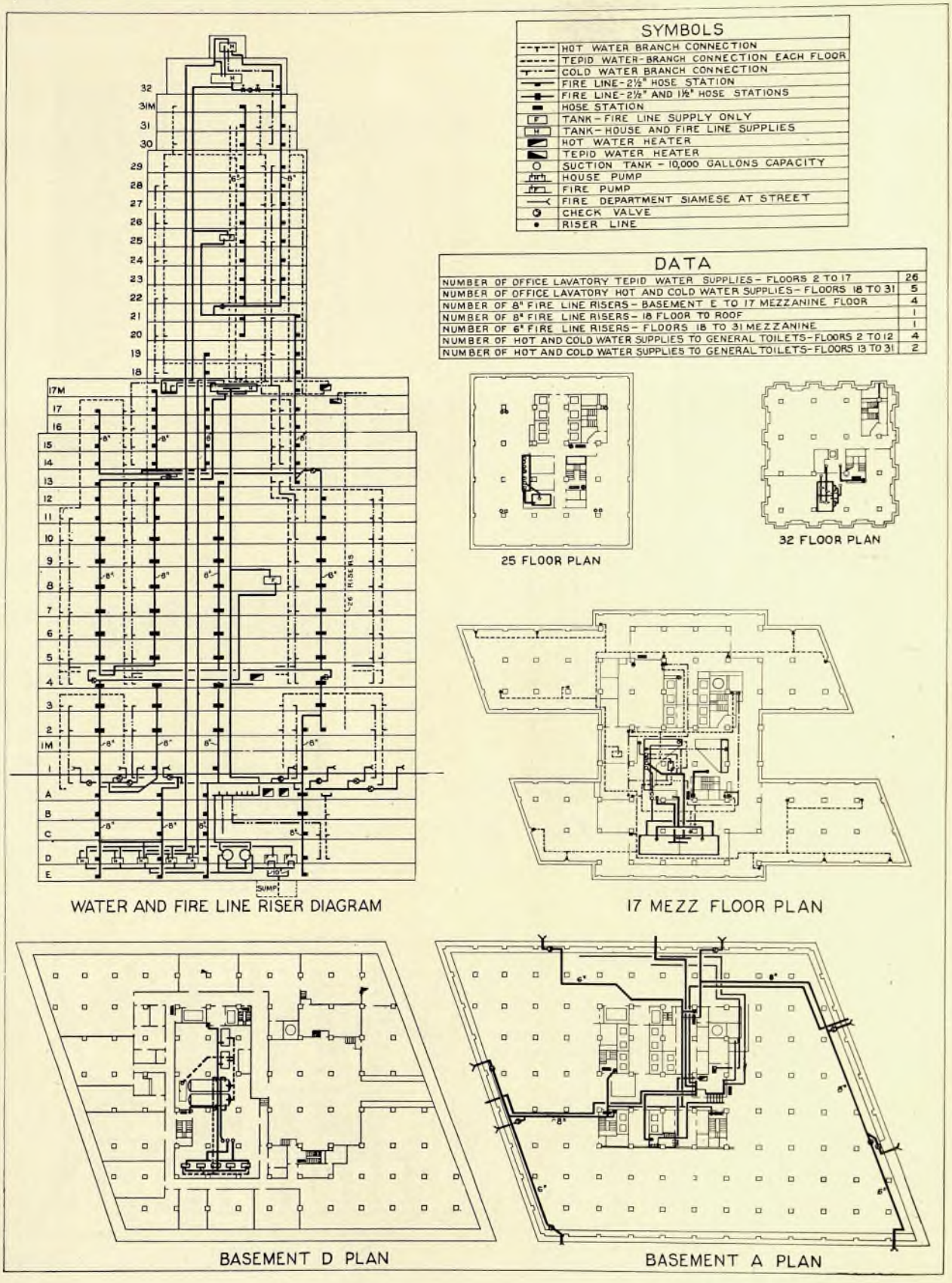


DIAGRAM OF THE WATER AND FIRE LINE SYSTEMS

THE BARCLAY-VESEY TELEPHONE BUILDING, NEW YORK CITY

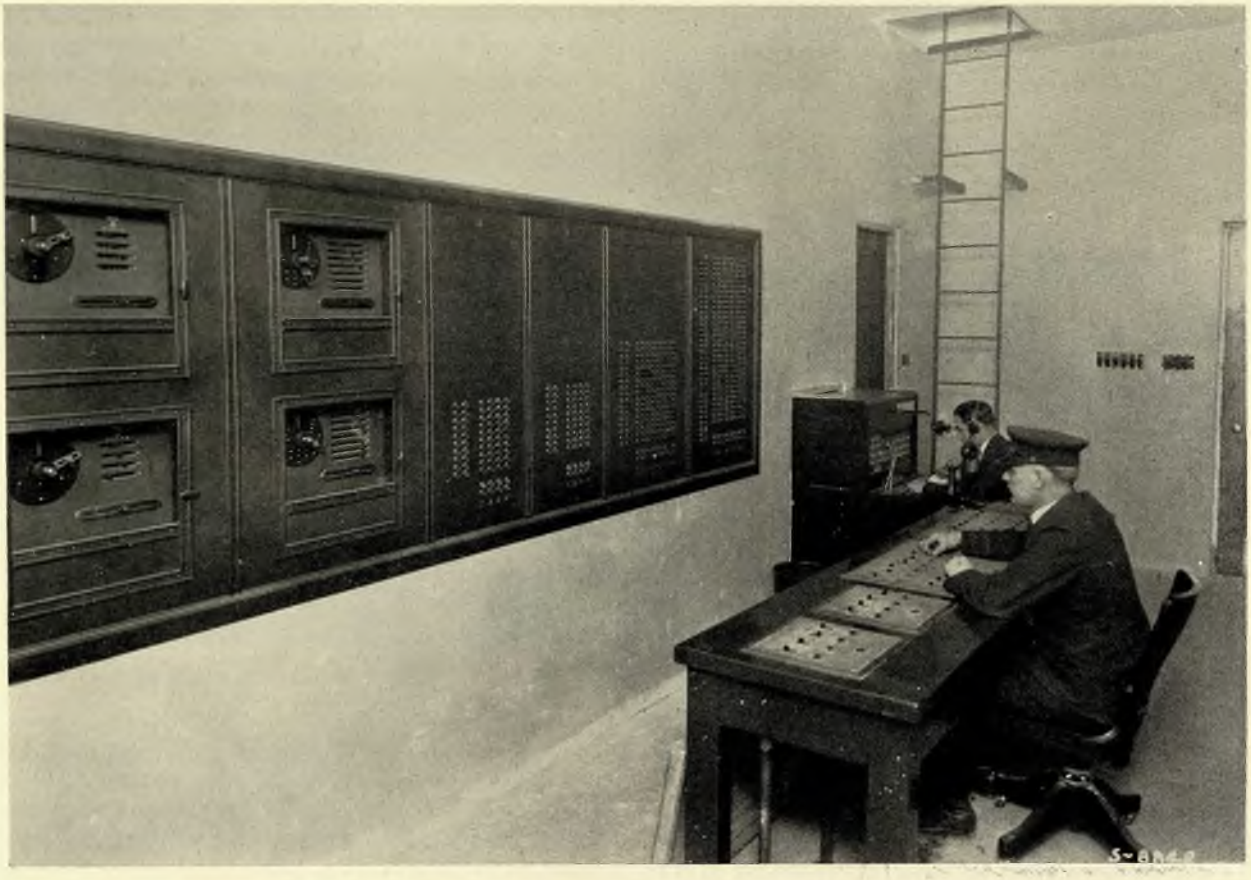
McKENZIE, VOORHEES & GMELIN, ARCHITECTS

(*Continued from page* 418)

period an elevator leaves the first floor every five seconds. More than 180 persons per minute are received and handled by the elevators during the peak of this period. The densities, direction and character of the traffic movements within the building change from hour to hour. The main traffic divisions are: the arrival period, 9 A.M.; transient and interfloor traffic, 10.00 to 12.00; restaurant and cafeteria traffic, 12.00 to 2.00; transient and interfloor traffic, 2:00 to 4:00; and departure, 5 P.M. These changes require different systems of elevator operation and bank grouping.

A transportation system of this magnitude and varying demands could not well be operated without an executive head or elevator dispatcher. The dispatcher's office is located adjacent to the main entrance corridor on the first floor. This room is provided with a complete control board with signals indicating at all times the various conditions of traffic and position of the elevators. There are devices which show the exact position and direction of travel of every elevator, as well as the banks as a whole; the position of waiting passengers and the direction they intend to go; the position of each car as to whether it is ahead or behind schedule; when any car has reached its capacity load; and the traffic schedule in operation at any time. The dispatcher has an assistant with direct telephone connection to every car, elevator machine rooms, operators' locker room, and other important contact points. The traffic system divisions based upon the fluctuating elevator demands can be changed by push buttons located in the dispatcher's office. The operation of any button not only alters the starting schedule but simultaneously changes the elevator sign wording throughout the building so as to follow the traffic load. The dispatcher can also transfer signals from car to car to maintain the schedule and elevator spacing; and place certain cars on special service such as express service to the medical or other departments. The dispatcher as head of the transportation system within the building has complete control of the elevators, with the exception of the actual starting or stopping of the cars which is, of course, initiated by the car operator through the control levers.

The elevator operator is kept advised of the position of the car in the hatchway by a system of vision panels in the cars located in front of the operator. Hatchway indicators are also located in the upper corner of the door opening.



ELEVATOR DISPATCHER'S OFFICE. WALL PANEL CONTAINS ON RIGHT SIGNAL LIGHTS INDICATING THE POSITION OF CARS IN EACH BANK AND DIRECTION OF PASSENGERS ON EACH FLOOR. APPARATUS ON LEFT OF PANEL ARE "TIMERS" THAT AUTOMATICALLY START CARS FROM THE FIRST FLOOR AT A PREDETERMINED INTERVAL. SWITCHES ON DISPATCHER'S TABLE ENABLE HIM TO CONTROL THE MOVEMENTS OF ALL ELEVATORS

The corridor elevator signals are of red and green Fresnal glass designed on the principle of a railroad lens. Illuminated elevator signs throughout the building indicate the bank or banks of elevators serving that particular floor as well as directions for reaching any other floor. These signs are so arranged that their legend changes automatically when any change is made in the bank ar-

INCINERATOR FOR BURNING WASTE MATERIAL

rangement or grouping of cars so that the signs synchronize with the existing schedule of elevator operation.

In conjunction with the elevator installation it is of interest to note that the elevator doors and frames were fabricated in the shop to a very small tolerance. These were completely assembled at the time the hatchway was enclosed and permited the hatchway to be completed and the elevator equipment installed more rapidly than is usually the case.

ELECTRIC SERVICE

Electric service has many ramifications interlocking with the services of transportation, comfort and security. Electrically operated equipment has made it possible to concentrate thousands of workers within single buildings. This equipment includes elevators, direction signs, light, ventilating fans, pumps, vacuum cleaners, heat control and communication systems. In addition, there is the various electrical office machinery for tabulating, bookkeeping and many other purposes besides specialty machines such as photographic equipment. Any modern office building should be so wired that electricty of the proper character may be available in the kind and quantity desired.

The extended use of electricity in the modern office building was recognized in the design of the wiring in the Telephone Building and the architectural plans were prepared to provide for adequate space to accommodate the conductors required for various purposes.

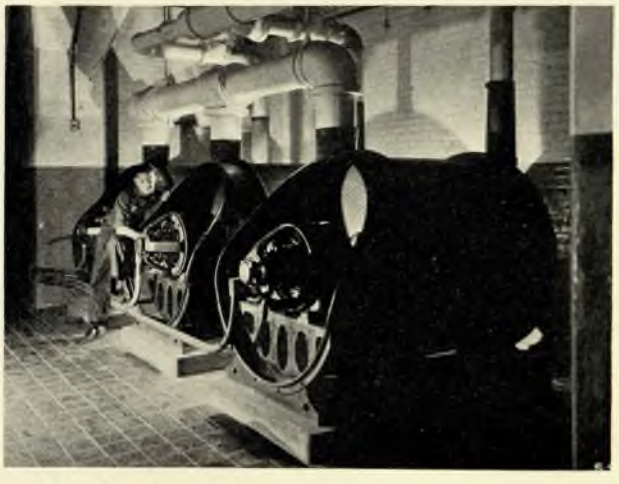
From the service entrance in basement A current for light and power passes through the necessary switches, fuses and meters to the top of the building through a bare copper bus system. The use of bus bars is economical and flexible and replaces the insulated cable in conduit that has been more commonly used.

Round bus bars originate at the main switchboard in basement A and extend through four shafts to the 32nd floor. The bus bars are suspended from the tops of their respective shafts and are thus free to expand downward when heated by the electric current. Slate barriers at each floor and at other levels prevent the bars from coming in contact with each other. Connections are made to the bars by special terminal clamps soldered on. Weatherproof solid wire extends from these terminals to the light or power distribution panels also located in the bus bar shafts.

The wiring layout for lighting, wall fans and machine outlets is generally uniform throughout the building without regard to particular office layouts. Outlets are located off the center of column faces in anticipation of future office partitions being located on the center of column faces.

The floors from the 2nd to the 10th will be used initially for office purposes, but will be gradually converted into telephone exchange use. Since an entirely different electric layout will be required for exchange purposes provision was made to facilitate future wiring changes in these stories and shafts for future telephone power feeders were installed.

Distributing telephones in a building of this character is a problem requiring serious study. It was estimated that one telephone would be required for every 60 square feet of rental area. A half round



TURBINE EXHAUSTORS OF THE CENTRAL VACUUM CLEANING SYSTEM

fibre duct system in the form of a gridiron was laid with the top about one inch below the finished floor. Outlets are installed in this system wherever required after the floors were laid. Wires are easily installed in these ducts as needed and can be brought to within two or three feet of any desired point. Telephone distribution boxes, centrally located to serve all areas, are connected by the underfloor duct

systems to main distribution boxes on each floor. Vertical shafts for telephone cables extend from the basement to the top floor.

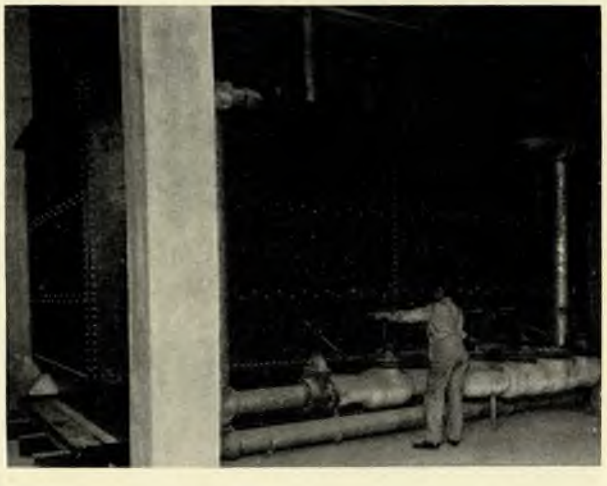
Two large direct current 110-220 volt services, each capable in an emergency, of supplying the total load on the building enter the building at widely separated points. For normal operation the electrical load is divided equally between the two services. Two large double circuit breaker units on the main switchboard automatically transfer the electrical load to the good service, should either service fail.

In addition to the direct current services, two 13,400 volt, 3 phase alternating current services, reduced to 220 volts by transformers in the building, will be installed to drive the motors on the machine switching equipment of the future telephone exchanges.

THE SERVICE OF CLEANING

The service of cleaning includes the plumbing, drainage and vacuum cleaning systems.

The site of the Telephone Building on the water front of the North River, where the street grade is at approximately maximum high water level, necessitated a plumbing design of a type that would prevent backflow through the sanitary lines and fixtures in the building in case at any time the street sewers should fail to discharge their contents. The height of the building and the confinement of all main stacks within the core area made it advisable to offset the main stacks at various levels to reduce the velocity of flow and possibility of high impact on the lowest fittings.



FIFTEEN THOUSAND GALLON HOUSE SUPPLY WATER TANK IN THE THIRTY-SECOND STORY

Sanitary and leader drainage were divided to serve approximately equal areas. Above the first story two main sanitary stacks were installed in order to allow each stack to serve alternate floors. The sanitary system below the second story discharges into air operated ejectors located in basement E. These ejectors discharge at 100 pounds air pressure into main house sewers beyond the house trap of the drainage system.

Roof drainage is separately connected with the street sewers to prevent possible backflow into the sanitary system due to the high pressures under which the leaders operate. Emergency drips, floor drains and subsoil water discharge into a sump of 70,000 gallons capacity located under the floor of basement E. The sump water is pumped out of the building by two 300 gallons per minute pumps.

TYPICAL GENERAL CLERICAL SPACE. NOTE VENTILATING SUPPLY OUTLET NEAR CEILING. AIR IS EXHAUSTED THROUGH DUCTS CUT OFF ONE FOOT ABOVE THE FLOOR. ONE OF THESE DUCTS CAN BE SEEN AT THE EXTREME RIGHT

The water supply system is divided into three horizontal sections to avoid excessive pressures in the lower section of the building. The portion of the building below the second story is supplied directly from the city street main. All stories from the second to the sixteenth are supplied from a tank of 33,500 gallons capacity located in the 17th floor mezzanine and served by two pumps of 300 gallons per minute capacity each. The tower portion of the building is supplied from a tank of 15,000 gallons capacity located in the 32nd story. This tank is served by two pumps of 200 gallons per minute capacity. A fifth or stand-by pump that can be operated on either service is provided for emergency use.

The hot water supply system is similarly divided into three sections. Instantaneous steam type water heaters are located in Basement A, fourth story and the 17th floor mezzanine. The kitchen and cafeteria are supplied by hot water at a higher temperature from an independent heater installed in basement A. All hot, cold and circulation water supplies for each section of the building are centrally controlled from leaders in the tank rooms. The water supply system is so arranged that in case of failure of any tank, street supply or water line, all tank water above any given story is available for use through a valve controlled bypass.

Water closets, lavatories and drinking fountains are of the wall hung type. All exposed metalwork and trimmings of plumbing fixtures are of solid

Benedict white metal. Plumbing pipes are located in convenient shafts that also serve as ventilating shafts for the various toilet rooms.

To avoid carrying pails of water for cleaning, mop tanks on trucks are employed. The cleaners' rooms contain a specially designed floor drain fixture over which the mop tanks can be filled or emptied.

COAL CHUTES FROM OVERHEAD BUNKERS CONVEY COAL TO CARS ON INDUSTRIAL TRACK AND THENCE TO THE BOILERS

Each lavatory in all toilet rooms is supplied with liquid soap through a special design combination soap dispensing and lift waste fixture. The soap dispensing system is supplied from three central storage tanks located in the 8th, 17th floor mezzanine, and 32nd stories.

All cleaning throughout the building is done by a central vacuum cleaning system. Provision has been made for the cleaning of central office equipment by the same method. Vacuum cleaning outlets are so located that a 75 foot hose is the maximum length required. The equipment is capable of operating 45 outlets simultaneously. Three vacuum producers of 30 H. P. turbine type, and dirt separators are located in basement D.

THE SERVICE OF COMFORT

Heating and ventilating are primarily services of comfort, although the item of security from freezing is also involved. To produce uniform heating throughout the various stories of the Telephone Building, cognizance was taken of the so-called chimney effect due to its height and size, and the increasing wind velocities at the higher levels.

The nature of the occupancy of the building made it advisable to divide the building into three horizontal zones, namely; basements to 10th floor; 11th to 17th floor; and 18th floor and above. The distribution to these three zones is controlled from an indicating control panel in basement D which operates pneumatic valves located in the 10th story and 17th floor mezzanine.

The heating system is of the two pipe vacuum type with steam driven vacuum pumps. There are four water-tube boilers operating at 80 pounds pressure with a total normal rating of 1424 H. P. Coal is supplied to the boilers from a 1500 ton capacity overhead coal bunker, and discharged through chutes to cars on industrial tracks and thence to the boilers. Provision has been made for future oil burning equipment. Instruments located in the boiler room analyze the flue gases and continuously record the load carried at all times by each boiler unit.

Complete supply and exhaust ventilating systems were installed for the 2nd to 10th floors for densities of clerical force of 50 sq. ft. per person. These systems are arranged so that part of the heating is provided by the ventilating system. The temperature of the air in the ventilating systems is controlled by pneumatically operated thermostats. All air for the basements is filtered before being distributed.

Toilets are ventilated by using the plumbing utility shafts as ventilating ducts. A main exhaust fan in the 32nd story discharges air from these shafts at the rate of more than 100,000 cubic feet per minute.

Two recirculating systems taking hot air from the ceiling and discharging it at the floor were installed in the main entrance corridor. This was determined as essential because of the great number of people passing through the entrance doors, and the large difference in air pressure resulting from the height of the building.

Cool drinking water is pumped to a supply tank in the 32nd story from which it "cascades" down through the supply risers and is cross connected to tanks in the 17th floor mezzanine, 8th story and basement D pump room. The tanks above basement D are employed to keep the pressure at the

AN AIR SUPPLY FAN UNIT

drinking fountains within satisfactory limits. The tank in basement D prevents the transmission of pulsations from the circulation pumps.

SERVICE OF SECURITY

Fire protection devices may properly be assumed as a branch of the service of security, and may be classified as fire prevention and fire extinguishing measures.

To eliminate from the building a possible fire hazard, a 3″ main gas riser extending from the basement to the roof is located in an open air shaft. The possible fire hazard of the pipe shafts has been reduced to the minimum practicable by jacketing all combustible pipe covering with two 1/16″ thick layers of asbestos board and covering all fittings with fireproof and waterproof cement.

Fire hazards both without and within the building were considered in designing the fire extinguishing equipment. Ferry ships and steamship docks on the opposite side of West Street, and buildings of great age not provided with modern fire protection devices, on the other three street fronts, create a potential fire hazard that required serious consideration. As a result, additional fire fighting equipment beyond that required by law was developed in conjunction with the municipal and underwriters' authorities.

The standpipe equipment, divided into four sections, fed from gravity tanks, are of sufficient capacity effectively to combat serious fires in any of the structures in the vicinity of the Telephone Building. Except in the topmost stories, the minimum tank pressure at the highest outlet of each section is twenty pounds and the maximum pressure does not exceed eighty pounds at any outlet.

Total tank capacity available for stand pipe use is 62,500 gallons distributed as follows: 32nd story, 22,000 gallons; 25th story, 3,500 gallons; 17th mezzanine story, 33,500 gallons and 8th story, 3,500 gallons. The arrangement of the piping makes the total tank capacity above any given section available for use in that section and sections below. The tanks are equipped with closed circuit electric high and low water alarms, and float switch controlled supply valves.

The system is so arranged that it is impossible to exhaust the fire line supply without draining the house water supply. Two electrically driven centrifugal fire pumps are directly connected to the stand pipe system. These pumps are normally supplied from two 10,000 gallon suction tanks in the pump room. These tanks are fed from three 6″ street main connections. An auxiliary supply of from 50,000 gallons to 70,000 gallons is provided by two suction lines connected with the sump pit under the floor of basement E.

The pumps are designed to deliver 1,000 gallons per minute with 50 pounds flowing pressure at the nozzles of three 100 foot lengths of hose above the tower roof, with street main pressure at the pump suctions. Should street supply fail and suction is taken from the sump, at least 750 gallons per minute can be discharged above the roof at the same pressure. Rheostat control and a manually operated by-pass from discharge to suction, make it possible to obtain any desired pressure from approximately one hundred pounds to maximum at any outlet from the first story to the roof.

Five house pumps, capable of delivering 1200 gallons per minute below the 17th floor mezzanine and 600 gallons per minute above this story, are also connected with the standpipe system.

Eight 3″ x 3″ x 6″ Siamese connections for the use of the city Fire Department are directly connected with the system.

The interior fire alarm system is connected with city fire headquarters and the pump room. In the pump room the location of the fire alarm station operated is indicated on "ticker tape" as well as by an audible alarm.

Stand pipe risers are 8″ in diameter with 2½″ hose outlets in each story. In the lower ten stories there are additional 1½″ hose outlets for fighting fires in telephone equipment.

The five basements are equipped with an automatic wet sprinkler system supplied from two 6″ city main connections. Above grade the only sprinkler equipment is that in the blueprint department in a portion of the 14th story. This system is supplied from the 17th floor mezzanine house tank.

REFRIGERATING EQUIPMENT

The refrigeration system is used for cooling drinking water, kitchen refrigerators, and to make ice for the restaurant and medical department. Brine between zero and 5 degrees F. is pumped to the building from a nearby refrigerating plant and circulated to the various refrigerator units and returned to its original source. Equipment has been so arranged that a refrigerating plant can be installed within the building if required in the future. The ice-making plant has a capacity of 2000 pounds every twenty-four hours.

KNOWING WHEN TO SAY "NO"

THE most valuable advice this House ever gave a prospective borrower — if we accept what he, himself, says — was when we said "No" to his proposal that we underwrite a certain bond issue, and, in fact, urged him to abandon the project altogether. Our refusal was based upon detailed study of the location, rental values and the type of structure proposed, backed by our 44 years of experience in passing upon properties offered as mortgage security. Subsequent developments verified the soundness of our judgment. Knowing when to say "No" was in that instance the most valuable service we had to offer.

We are always interested in making loans of $250,000 upward, either on completed buildings or structures to be built.

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44 YEARS WITHOUT LOSS TO ANY INVESTOR

THE LAW AS TO ARCHITECTURE

By CLINTON H. BLAKE, JR., *of the New York Bar*

THE following letter presents a rather interesting situation:

"Several weeks ago a man who contemplated building a small factory building in a town about seventy-five miles from ——— came in and secured our rates for making drawings and for superintendence. We spent an entire afternoon with him showing him some of our finished work, and he decided that he wanted to get an estimate on the building he contemplated. We suggested to him that the only way to do this would be for us to make a set of sketches and have his contractor make a preliminary estimate. However, since the money for the building was to be raised by local subscriptions, he was extremely anxious that the preliminary estimate be made rather accurate. Consequently, it was necessary for us to make our sketches in considerable more detail than is our practice. Incidentally, we told him there would be a nominal charge for the sketches, and when the work proceeded, we would credit this charge against our total commission. The sketches were delivered to him a few days later, and the letter of transmittal cautioned him not to use them as working drawings inasmuch as they were only preliminary; also the sketches were stamped as being the property of the architects with the additional caution that they were not to be used as working drawings. We heard nothing from this man for several weeks, and we then wrote him. In reply he stated that the development of the project was rather indefinite, and if we would render him a statement for the agreed price of the sketches, he would pay it. We rendered him a statement again, setting forth that this amount of money would be credited to his account when the building was built. In the last day or two it has come to our attention that the work has been started and we have reason to believe that our sketches are being used in the erection of the building."

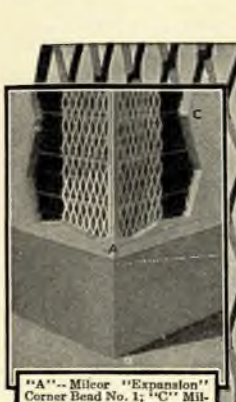
The rights of the architects against the client in the foregoing case must depend largely upon two factors—what action the client now takes with regard to the erection of the building and how definitely the architects may be able to prove their agreement with the client with respect to the use by him of the sketches which they gave him. If the architects can spell out from the conversations which they had with the client an agreement in substance that, in the event the building is proceeded with, the architects shall continue to act as such, they will be in a position to claim damages, if the client does not allow them to continue as architects. These damages should amount to the profit which the architects would have made on the job, had they been allowed to proceed with it.

On the facts given in the above letter, there would seem to be considerable basis for such a claim in this case. The understanding that, if the building were proceeded with, the nominal charge which was made would be applied merely as a credit against the architectural charges, indicates that it was contemplated by both parties that the architects who prepared the sketches should continue to act as architects for the building to completion, if it were erected. The standard contract of The American Institute of Architects contemplates, of course, the right of an owner to discontinue the services of the architect employed. In the present case, there was no such provision in the agreement under which the parties acted. In the absence of a specific agreement to this effect, the architect who was employed to prepare plans and to see the job through to completion is legally entitled, as damages, to the profit which he would have made, where he is not allowed to perform the services which he has undertaken to perform.

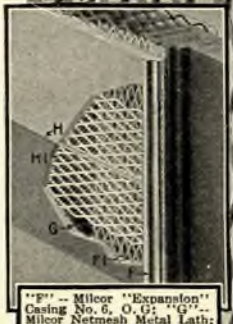
There is another consideration which strengthens the architect's claim. Entirely aside from a specific agreement that the architect shall perform the work, if an architect provides plans for a client and the client then proceeds with the work and has the building erected from those plans, the architect is entitled to be paid his proper fee for the use of the plans, since they have been thus adopted by the client and the client has received the benefit thereof. Even under the practice of the Institute and its recognition of the right of the client to terminate the architect's employment, the client cannot both terminate this employment and thereafter continue to make use of the architect's creations, without making proper compensation to him.

While the understanding in the case presented by the letter which I have quoted is necessarily somewhat vague and characteristic in this regard of the many cases where the architect fails to have a definite agreement with the client, it would appear reasonably clear that there was an agreement between the parties, that the sketches should not be used for any purpose other than the securing of the estimate and should not be translated into working drawings, without the architect's permission. This raises the interesting question of the rights of the architect where he has prepared full preliminary sketches under such conditions and the owner then undertakes to dispense with his services and to have working drawings prepared by others but based upon the sketches.

If the architect can show a definite agreement that the sketches shall not be used for other purposes, he should be entitled, I believe, to an injunction to prevent the client from proceeding to make improper use of them. An injunction will not ordinarily be granted where the damage can be measured in dollars and cents and relief secured by a money recovery. In a sense, this would be true in the present case, in that it might be urged that the architects could recover the value of their services, if the sketches were used by the client and the building erected from them. I think, however, that the courts would take into consideration the special character of professional services and the

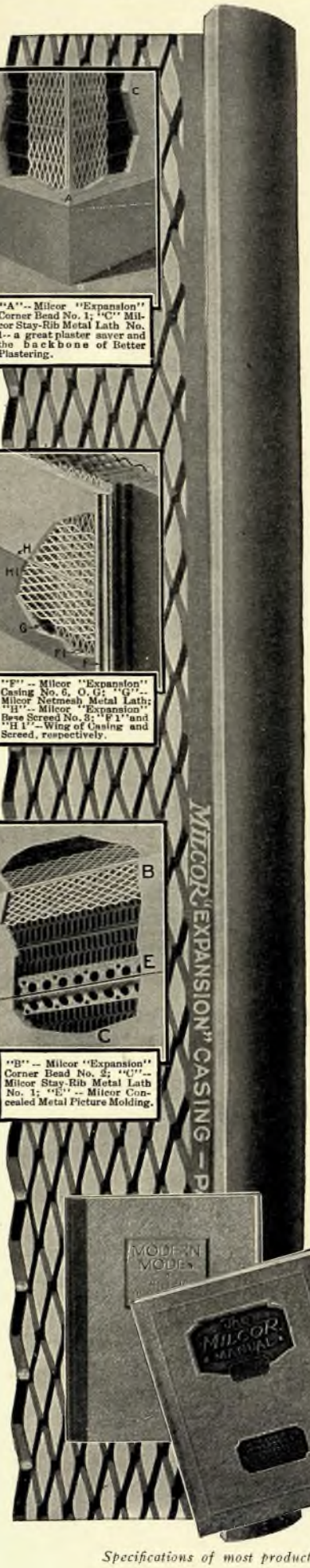


"A"—Milcor "Expansion" Corner Bead No. 1; "C" Milcor Stay-Rib Metal Lath No. 1—a great plaster saver and the backbone of Better Plastering.



"F"—Milcor "Expansion" Casing No. 6, O. G; "G"—Milcor Netmesh Metal Lath; "H"—Milcor "Expansion" Base Screed No. 8; "F 1" and "H 1"—Wing of Casing and Screed, respectively.

"B"—Milcor "Expansion" Corner Bead No. 2; "C"—Milcor Stay-Rib Metal Lath No. 1; "E"—Milcor Concealed Metal Picture Molding.



Residence of L. L. Dougan, Architect, Portland, Ore. Milcor "Expansion" Casings for interior and exterior door-and-window trim.

It Pays . . . . to build this way!

The foreman who superintended the installation of Milcor "Expansion" Casings in the home shown above, was surprised to find that this superior type of door-and-window-trim actually showed a big saving. He wrote us a mighty enthusiastic letter — here is part of it:

"Comparative costs of wood casings and Milcor "Expansion" Metal Casings showed that a considerable saving resulted wherever Milcor Casings are used. Wood here is very cheap (in Oregon). In other sections where wood is expensive, the saving would be still greater".

THE fine thing about these Milcor Products is that they not only improve the appearance of any home or building, but they also insure permanence and firesafety—all at a price that will satisfy the most conservative builder.

People are inclined to balk at much of this talk about quality construction. It may be very fine, they think, but they can't afford it! Here are products, however, that will save money not only in first cost but principally in maintenance expense. It is no longer a question of whether the builder can afford these modern Milcor products, but rather, *can he afford to build without them!*

By all means investigate Milcor "Expansion" Casings—get samples and prices; *install them* on one job; then you'll appreciate the reasons for their success and growing popularity.

Investigate also the many other products made by Milcor—Stay-Rib Metal Lath, Netmesh Metal Lath, "Expansion" Corner Bead, Base Screed, Concealed Metal Picture Molding, Metal Tile Roofing, Architectural Sheet Metal, etc. Getting acquainted will cost you nothing and will obligate you not one bit.

Would you like to have a copy of our now-famous book on "Modern Modes in Better Plastering" and "The Milcor Manual", a technical data book on Milcor Metal Lath and allied products? We'll gladly send you both. Yours for the asking. The coupon, a Post Card, or a letter will do.

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fact that the architects might well be damaged in their reputation, if the building were erected by the client from their sketches, but without their supervision or control of the work. If they could establish the fact that this would be so, the court would be quite justified in granting them injunctive relief.

In the case in question, the wise policy for the architects to follow will, I think, be to notify the client that the latter cannot have working drawings prepared by others from the sketches, that if the building is erected in accordance with these sketches the architects originally employed must be the architects to completion, that they are prepared to proceed with the work as architects, and that, if they are not employed as such and the work is done under their plan, they will hold the client liable for damages.

If the work is proceeded with, but under an entirely different scheme and plan and new drawings not based upon the sketches prepared by these original architects, the architects would not be entitled to recover anything beyond the nominal charge which they agreed to make for the sketches. On the facts set forth in the quoted letter, I believe that the architects would have difficulty in proving an agreement that under all conditions they should be retained as architects, as distinguished from an agreement that, if the work is carried out in accordance with the sketches which they prepared, they should be so employed.

There is one more possible variation of the situation—if the architects fail to prove an understanding that they shall have the job if it is proceeded with under their scheme but the work is, as a matter of fact, carried out essentially on the basis of their sketches and they fail for any reason to recover the full amount of damages based on the profit which they would have made on the total job, they may nevertheless be able to secure for the sketches alone a fee equal to the customary one-fifth of six per cent on the cost, as distinguished from the nominal charge which they agreed to make for the sketches. This nominal charge was made on the assumption that, if the building were proceeded with, they would be paid their fee as architects and the nominal charge would be credited on account. If the court were to take this view of the matter, the nominal fee already paid would, of course, be credited to the client on account of the one-fifth of six per cent allowance awarded to the architect.

LEGAL DECISIONS

THE laws of Connecticut provide that:

"If any person shall have a claim x x x for materials furnished or services rendered in the construction, raising, removal or repairs of any building, x x x such claim shall be a lien on such land, building and appurtenances."

Plaintiffs, architects, were employed to prepare and did prepare plans and specifications for the defendants' building. After the building was about one-third completed, the work was stopped and the architects filed a lien for their services in preparing the plans and supervising the work. The amount which they claimed was the total commission due them on the estimated cost of the completed building. The defendants, in opposing the lien, claimed that it was invalid because, in the first place, it was for an amount substantially in excess of that due and because, in the second place, it included a sum claimed as damages for breach of contract. The court found that the amount due to the architects at the time the certificate was filed was less than the full amount claimed, but that the overstatement of the amount in the lien claim was not wilful and did not invalidate the lien. The court further held that the question of the application of the Connecticut lien law in such a case was a new one, but that under the wording of the law as quoted above the architects were entitled to file a lien for their services in the preparation of the plans and specifications.

Marchetti v. Sleeper, 100 *Connecticut* 339.

A BUILDING contract provided that the architect should have charge of the work and should give interpretations of the writings. The contractor failed to perform the work to the extent of about $2,000. The owner occupied the building, but notified the contractor of the failure to perform and demanded performance. The architect disregarded this request of the owner and, without making an examination of the work, issued the final certificate, stating that the contract had been completed and that the contractors were entitled to the balance due as given in the contract. The contractor brought suit and contended that the certificate of the architect was final and constituted an acceptance of the work, that the owner accepted the work and cannot claim later that it was unsatisfactory, and that the failure to submit the case to arbitration is a waiver of any facts which could have been arbitrated.

The court held that the authority of the architect did not justify him in excusing the contractors from performing any part of their obligations; that the provision of the contract that the architect should have charge of the work and should interpret the writings did not give him the right to allow the contractor to vary the agreement; that the occupancy of the building by the owner did not constitute such an acceptance of the work as would waive the right of the owner to recover from the contractors for the latter's failure to complete the building; that the failure to arbitrate did not defeat the right of the owner to recover for the failure to complete the building, as the contract

"Regarding the use of Carney Cement for mortar on the Eastgate Hotel job, we are pleased to advise that your material was used on this structure with very excellent results, both as to quality and appearance of finished mortar.

All of the brickwork was done in freezing weather, but with no deleterious effect on the mortar.

On this particular job, your material was used throughout for all brick, tile partitions and terra cotta work.

We consider the assurance of obtaining a uniform mix with your mortar a very valuable asset inasmuch as it practically eliminates the necessity of constant supervision of mortar preparation."

SAMUEL S. OMAN,
OMAN & LILIENTHAL,
Chicago, Illinois.

—You, too, will like Carney Cement for Winter Construction

IF you have a winter project, you will be interested in the experience of Oman & Lilienthal, Architects, with Carney Cement Mortar in cold weather. Any man who has ever watched Carney Cement on a winter job will tell you virtually the same things. Carney Cement can freeze solid in the wall, yet produce an ideal bond.

In addition to this exceptional cold weather feature, the use of Carney Cement Mortar will save you the unpleasant task of close supervision at the mortar box and reduce masonry and mixing costs as well. In Carney Cement, there are no complicated details to watch. Water, sand and Carney Cement are all that are needed to produce a fine plastic mortar. This extremely simple mix makes errors decidedly improbable and at the same time enables you to show your client a distinct economy in labor and materials.

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Specifications:
1 part Carney Cement
to 4 parts sand.

*Architects—OMAN & LILIENTHAL,
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*Contractors—H. JANISCH & COMPANY,
Chicago, Illinois

simply provided for arbitration in case of a dispute as to the price of alterations or in case of an interference with the work, resulting in a claim for damages. Finally the court held that the giving by the architect of a final certificate under the conditions which existed in this case purporting to excuse the contractor from complete performance constituted in effect a fraud upon the owner and was void, inasmuch as it appeared that all parties, including the architect, knew that the work provided for in the contract had not been completely and properly performed.

Hurley v. School District, 124 *Washington* 537.

BOOK NOTES

THE HOUSE THAT LOVE BUILT*

AN ITALIAN RENAISSANCE TEMPLE TO ARTS AND LETTERS
BY W. FRANCKLYN PARIS

UNDER this title a very sympathetic and enthusiastic book has been published describing in very careful detail Cass Gilbert's Detroit Public Library. Somehow it seems as if a better title might have been chosen in describing so worthy a building. It was not love that built this structure at all, but it was the result of thorough training, of great artistic ability combined with hard, practical common sense and care in planning. All those go to make up a great work of architecture, and in so utilitarian a structure as a public library, their presence is even more essential than in the ordinary run of commercial work. Mr. Gilbert created a monument. Mr. Paris has described it fittingly, and while it is not a reference book, it is inspiring throughout and contains a good deal of the kind of information that does not appear in the ordinary description of such structures. It is a good inspiration for an architect rather than a guide book, and the love so-called which entered into this structure is the love which every great architect feels for all his creations.

C. H. BLACKALL.

*The Haddon Press, New York.

MEMOIRS OF THE AMERICAN ACADEMY IN ROME

AMERICAN architecture today is a curious compound of the extremely idealistic and the remorselessly practical elements. We send our young men abroad to get the first quality instilled into them. They come back and before they do real work they have to acquire somehow the latter, and we in practice here find it very difficult to share in the methods by which the enthusiasm and love of art is instilled into the minds of our young men by the influences they meet abroad. The American Academy at Rome sprang into full fledged life in 1905 and has been going vigorously ever since. We wish it were possible to know more of the real processes of this excellent educational institution. We cannot expect all of the work done in the Academy to be immediately productive, nor can we hope to trace all of the steps by which a young man acquires his education in Rome. We sometimes wonder whether the three years the architectural student is supposed to spend there is all too much—whether it does not mean that his first year will be usually given to getting ready and his third year to saying good-bye, and that all the work which he would really accomplish might be compressed into a year, or a year and a half. We do not know and we cannot ever know because each student is a new problem. We can only faintly judge of the real work of the School, and these reports, while painstaking and much in detail, absolutely fail to give us an insight into what the School really is as a live, vital, throbbing organization. We wish it were otherwise. In the practice of architecture we are too apt to forget the student, to leave him to himself and to think that somehow he will come out all right and we need not worry, but if all our very busy architects could get in closer contact with the School, I wonder if it would not be better for the architects, for the students and the schools, and whether in that case a measure of the reproach which has been made against the Academy would not be removed, the reproach, namely, that a student can easily cultivate the pink tea and social functions while in the Eternal City and that during his stay there he is very apt to lose touch with the real, vital architecture of his own country. It is no longer essential to architectural training that a student should go abroad. It is a good thing—a desirable thing. It enlarges his vision, enables him to measure past periods with our own, and enormously increases his architectural vocabulary, but, and there always is a but, we wish that somehow the Academy could be less academic, that the study of the past were interpreted a little more in terms of today, and that the accumulation even of vocabulary was made subordinate to the accumulation of architectural character. But perhaps we are asking too much. Certainly the American Academy has justified its existence. It has been a boon to many of our boys, and whatever it might be or have been, it is surely one of the great inspiring possibilities which are held out before our architectural students.

C. H. BLACKALL.

PERSONALS

John Hall Rankin and Thomas M. Kellogg, FF.A.I.A., announce that John Strubing Schwacke, A.I.A., has been admitted to membership in the firm heretofore practicing architecture under the name of Rankin, Kellogg & Crane. Mr. Crane being no longer connected with the organi-

zation, the practice will be continued as Rankin & Kellogg, the original name under which the partnership was established in 1891. The offices remain at 1805 Walnut Street, Philadelphia, Pa.

Franklin M. Small, architect, has moved his offices to 366 Broadway, New York City.

NATIONAL EXPOSITION OF POWER AND MECHANICAL ENGINEERING

THE fifth National Exposition of Power and Mechanical Engineering to be held in the Grand Central Palace, New York City, from December 6th to 11th, as indicated in an advance announcement, promises to be worthy of inspection. The exposition brings together leaders in engineering and the industries and also the general public. Many features of the exposition should prove of interest to members of the architectural profession.

Modern buildings are designed and built upon a high ideal of service to the owner and occupants. Power and mechanical equipment contributes to a very large degree to the ability of a structure to render its fullest service. Progress in the field of engineering advances rapidly and may be said to be in a constant state of evolution. It is difficult to keep abreast of the changes constantly taking place in the various branches of so large a field. An exposition of power and mechanical engineering by bringing numerous features together in one place, affords familiarity with the modern equipment available. Expositions have a large educational value and rightfully have an important function to perform in broadcasting information and providing for an exchange of ideas between diversified, and at the same time allied, interests.

THE ARCHITECTURAL LEAGUE OF NEW YORK

THERE appeared in a previous issue a preliminary announcement of the forthcoming exhibition of The Architectural League of New York. The program for the activities during this important exhibition is gradually taking form, and is already so attractive as to interest architects everywhere and to provide an opportunity for recreation and instruction.

We reprint below, in part, a communication received from Alexander B. Trowbridge, president of The Architectural League, setting forth certain details already decided on. Mr. Trowbridge writes:

The side of the life of The Architectural League of New York which the public sees will be shown effectively at the Grand Central Palace between February 14th and March 5th, 1927. In 1925, a similar exhibition was carried out at the "Palace." The exhibition of 1927, held in conjunction with an exhibition of allied arts, will not be so large as the one in 1925, as it was felt that the earlier effort was really too big to be seen satisfactorily in the limited period available. These annual exhibitions always attract a large body of men and women interested in architecture and the allied arts, and a certain number come to New York at that time solely to see this exposition. In order to increase the educational value of the effort, thereby inducing a still larger number of architects, decorators and craftsmen to come to New York at that time, it is definitely arranged that there will be a series of conferences during the mornings of the first week.

On Tuesday, February 22nd, the first conference, the subject will be Architectural Polychromy in Ancient Practice. Leon Solon, as Chairman of this day's program, will read a paper on Polychromy in Ancient Greek Practice. Milton Medary will cover color in Gothic Architecture. A third, not yet chosen, will deal with Oriental practice in older times.

The next morning, February 23rd, the subject will be The Architecture of Stage Scenery in Theatres and in Movie Studios. Howard Greenley will act as Chairman of this program and will be assisted by one or two others.

On Thursday morning, the subject will be Architecture in Form and Color. The Chairman, H. Van Buren Magonigle, will be assisted by James Monroe Hewlett and one or two others. It may be assumed that they will point out how the lessons of the past suggest to the modern architect novel ways of combining color with the new forms which are being evolved as a result of modern legislation affecting building heights and setbacks.

On the morning of the 25th, the topic will be The Value of the Skyscraper in Modern Business. Harvey Wiley Corbett will act as Chairman of this program and will be assisted by one other.

This abbreviated list of the speakers connected with this series of conferences is the best that can be secured at this early date. The idea of holding such symposiums is new and frankly experimental. It is essentially a plan full of potential value. When could be found a better time and a better place for the gathering together of hundreds of architects, painters, sculptors, decorators and landscape architects than during the annual League show and in close proximity to the exhibits?

WATER COLOR EXHIBITIONS

THE sixtieth annual exhibition of the American Water Color Society and the thirty-seventh annual exhibition of the New York Water Color Club will be held jointly in the galleries of the Fine Arts Society, 215 West Fifty-seventh Street, New York, from Tuesday, January 4, 1927, to Sunday, January 16, 1927, both inclusive. Exhibits will be received at 210 West Fifty-eighth Street on December 22 only. Monochromes and miniatures will not be accepted.

TRAFFIC REGULATION IN PRAGUE

FOR a new and democratic republic, it is the opinion of *The Builder* of London that Czecho-Slovakia has one or two surprising regulations in force. According to the Chief of Police, there is in Prague a special police force whose sole duty is to regulate the traffic, whom the public are forbidden to distract from their duties by asking questions. These traffic officers are empowered to inflict fines upon offenders of the traffic regulations without recourse to a magistrate, or any higher official. Whether they are able to vary the amount of the fine we are not told, but the report states that this arrangement, open to so many abuses, is working well and "saves the time of the administration as well as the individual." In Prague, also, the authorities have their own ideas on the rights of the pedestrian, for in some recommendations for facilitating the passage of traffic the report states that "Foot passengers should not imagine that they own the road, but should remember that above all the road belongs to the vehicles."

USE OF WATER IN UNITED STATES

THE quantity of water consumed in American cities is far in excess of the European supplies. Although London has an extensive system of water supply, the average daily consumption of water per capita is only about thirty-six gallons. In contrast to this, New York consumes more than 125 gallons and Chicago some 200 gallons per capita daily.

GROUP OF PROMINENT GERMAN ARCHITECTS, MEMBERS OF THE BUND DEUTSCHER ARCHITECKTEN, TOURING THE UNITED STATES UNDER THE AUSPICES OF THE DEPARTMENT OF COMMERCE

GERMAN ARCHITECTS VISIT THE PLANT OF THE CADILLAC MOTOR CAR COMPANY. FRONT ROW (LEFT TO RIGHT): OTTO KOHTZ, ENGINEER, BERLIN; KARL MORITZ, ARCHITECT, DRESDEN; DR. KARL KIESEL, JURIST AND EDITOR, BERLIN; DR. LINUS BIRCHLER, ART HISTORIAN OF EINSIEDELN, SWITZERLAND; WALTER KRAUSS, ARCHITECT, AUGSBURG; LYNN McNAUGHTON, CADILLAC VICE-PRESIDENT; EUGEN VON SEIDLEIN, STUDENT, MUENCHEN; DR. EDWARD KNORR, CITY ARCHITECT, MUNICH; ADOLPH GLATT, PROFESSOR IN ENGINEERING SCHOOL, AUGSBURG; THEODORE BULLING, AND WILLIAM VOLZ, ARCHITECTS, STUTTGART. BACK ROW: CONDUCTOR OF TOUR, E. PIEPER, AND CARL O. AHRENDT, DETROIT; TALMAGE C. HUGHES, SECRETARY, AND WILLIAM C. WESTON OF THE MICHIGAN SOCIETY OF ARCHITECTS; RICHARD STEPHENSON, UNITED STATES DEPARTMENT OF COMMERCE; RICHARD MILDNER, JOINT CHAIRMAN MICHIGAN SOCIETY OF ARCHITECTS AND DETROIT CHAPTER, A. I. A. ENTERTAINMENT COMMITTEES

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

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Some of the country's leading architects call on us regularly. Through our many service stations we are able to place expert refrigerating counsel at your disposal and we are glad to do so. Call on us freely.

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General Refrigeration Company

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GR CO.

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DooR-Ways *with ordinary hardware are a problem!*

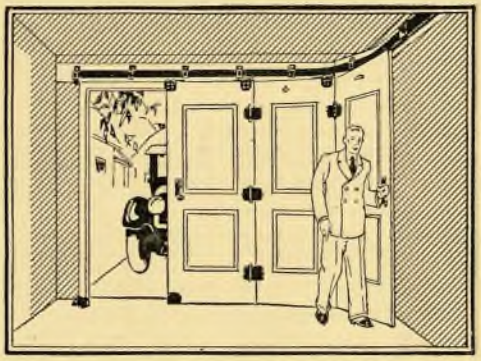
Slide the doors inside and you are through with trouble *for all time*

THE trouble with ordinary garage doors is: they shrink or swell, stick, sag and the hardware gets rusty. That's because the doors and the hardware are unprotected from weather—the equipment was not designed by experts who know garage door requirements.

All of these annoying, inconvenient features are impossible *when the doors are equipped with* **Slidetite** *hardware.*

By sliding and folding inside, ***Slidetite*** equipped doors leave a clear, unobstructed, full-width opening. Wind cannot blow them shut. Ice and snow cannot impede their operation. Simple adjustments insure doors that will always fit snug.

Slidetite equipped doors are ideal for any garage, 2 to 10 doors, openings up to 30 feet wide, and *no center post.*



When a garage is not deep enough to fold the doors inside—***Slidaside*** is the correct hardware. Doors so equipped slide around the corner, flat against the wall.

Slidaside can be used for two car garages by sliding doors to both walls, and is adaptable to any garage, regardless of distance from jamb to side wall.

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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, 239 West 39th 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

The Carney Co., Mankato, Minn.

1134. *Architects' and Engineers' Specifications* for use of Carney in brick, tile and terra cotta, mortar, A. I. A. File No. 3a4. Specifications for mortar and colored mortar and report of test. One page size, 8¼ x 10¼ in. Booklet "What twelve men said about Carney." Testimonials from architects and contractors who have used Carney in mortar. 20 pp. Illustrated. Size, 8½ x 11 in.

The General Fireproof Building Products, Youngstown, Ohio.

941. *Fireproofing 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.

694. *Brixment for Perfect Mortar.* A description of the chemical and physical properties of Brixment, advantages of its use in mortars for brick and stone masonry, tests of strength and directions for use. In cover for filing. 16 pp. Illustrated. Size, 8½ x 11 in.

The 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.

Concrete Steel Co., 42 Broadway, New York City.

1196. *Havemeyer Bars and Building Products.* Complete description of various products made by this company for use in all types of reinforced concrete construction and fireproof buildings. Specifications for the use of these materials are included. An informative booklet for filing. 40 pp. Illustrated. Size, 8½ x 11 in.

Mitchell-Tappen Company, 16 John St., New York, N. Y.

257. *Booklet 20 on Standardized Metal Caging.* Description of various ways of reinforcing the concrete fireproofing on structural steel work, with particular reference to Standardized Metal Caging.

Portland Cement Association, 347 Madison Ave., New York City.

595. *Concrete Floors—Proposed Standard Specifications of the American Concrete Institute.* Specifications with explanatory notes covering materials, proportions, mixing and curing. Plain and reinforced slabs are covered as well as one and two course floors and wearing courses. 18 pp. Size, 6 x 9 in.

636. *Concrete Data for Engineers and Architects.* A valuable booklet containing the reports of the Structural Materials Research Laboratories at Lewis Institute, Chicago, in abbreviated form. It is of great value to writers of specifications. 18 pp. Illustrated. Size, 8½ x 11 in.

Truscon Steel Company, 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.

United States Gypsum Company, 204 West Monroe St., Chicago, Ill.

819. *Sheetrock Pyrofill Construction.* A catalog describing a built-up construction for roofs and floors, consisting of sheetrock; a metal fabric and pyrofill. Details, designing data and specifications. 16 pp. Illustrated. Size, 8½ x 11 in.

5. BRICK WORK

American Face Brick Association, 1754 Peoples Life Bldg., Chicago, Ill.

1156. *Architectural Details in Brickwork.* Series One, two and three. Each series consists of an indexed folder case to fit standard letter file, containing between 30 and 40 halftones in brown ink on fine quality paper. These collections are inspiring aids to all designers. Sent free to architects who apply on their office stationery; to others, 50 cents for each series. Size, 8½ x 11 in.

1157. *English Precedent for Modern Brickwork.* A book of plates and measured drawings of Tudor and Gothic brickwork with a few recent variations of modern architects in the spirit of the old work. Price, $2.00. 100 pp. Illustrated. Size, 8½ x 11 in.

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. Sent postpaid upon receipt of $6.00. Half Morocco, $7.00. 298 pp. Size, 7½ x 10½ in.

"The last place where we would sacrifice quality"

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HARRY HAKE, *a leading architect of Cincinnati, Ohio. Buildings designed by Mr. Hake include many of the best known structures in Cincinnati and surrounding cities. Mr. Hake is a member of the A. I. A.*

"THE more experience we have in building," said Harry Hake, well-known architect of Cincinnati, "the more important do we consider the roof. In fact, the roof is about the last place where we would consider sacrificing quality.

"Our experience has led us to believe that a built-up membrane roofing will give the best results for flat roof decks.

"Hardly second in importance to the roofing itself is the flashing—for the value of a good roof may be practically offset by flashing which fails to keep out the water. Wherever conditions permit, we find it is better to bring the roof membrane up the parapet wall and under the coping, rather than resort to metal flashings. We have never yet had a case where this construction has proved in any way unsatisfactory."

Hotel Alms, Cincinnati, Ohio—designed by Harry Hake, and covered with a Carey Built-up Roof.

In view of Mr. Hake's opinion as to the importance of a good roof, it is significant that Carey Built-up Roofing is used extensively on buildings designed by him. The long, dependable service of Carey Built-up Roofs has been demonstrated on buildings all over the country—on hotels, office buildings, factories, schools, apartment houses. In fact, Carey roofs put on three decades and more ago are still giving splendid, weather-tight service. Carey-made felt, thick and tough-fibred—and asphalts specially refined and blended by Carey to meet exact standards in melting point, hardness, and ductility—these are the reasons why Carey Built-up Roofs last longer and give better service.

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Lockland, Cincinnati, Ohio

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BUILT-UP ROOFS

"A Roof for Every Building"

REFERENCE LIST OF BUSINESS LITERATURE—Continued

5. BRICK WORK—Continued

The Common Brick Manufacturers' Association of America, Guarantee Title Bldg., Cleveland, O.

1011. *Skintled Brickwork.* A valuable brochure illustrating the effects secured by skintled brickwork made of common brick. Close-up views showing working details and general illustrations. Price 15 cents. 16 pp. Illustrated. Size, 8½ x 11 in.

1012. *Hollow Walls of Brick.* A booklet containing general illustrations, detail methods and insulation qualities of hollow walls of brick. 24 pp. Illustrated. Size, 8½ x 11 in.

6. FOUNDATIONS

Raymond Concrete Pile Co., 140 Cedar St., New York, N. Y.

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. Size, 8½ x 11½. 60 pp.

7. WATERPROOFING AND DAMPPROOFING

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

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

A. C. Horn Company, Long Island City, N. Y.

972. *Waterproofings.* A folder containing loose leaf specifications for waterproofings and dampproofings for all places, materials and for all conditions. Also service bulletin. 32 pp. Illustrated. Size, 8½ x 11 in.

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

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

1164. *"R. I. W." Toxement.* Integral waterproofing for concrete, stucco and cement mortar. A. I. A. File No. 7a2. Booklet ready for filing contains data, details and specifications for the use of Toxement integral waterproofing. 12 pp. Illustrated. Size, 8½ x 11 in.

Truscon Laboratories, Detroit, Mich.

955. *Truscon Waterproofing Specifications, Book "A."* New and revised specifications for waterproofing mass concrete, cement stucco, brick masonry, also dampproofing paints, oil proofings and quick-set for concrete. How to use and quantity required. 26 pp. Illustrated. Size, 8½ x 11 in.

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

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

366. *Standard Specifications for Cut Stone Work.* This is Vol. III, Series "A-3," Service publications on Indiana Limestone, containing Specifications and Supplementary Data, relating to best methods of specifying and using this stone for all building purposes. This valuable work is not for general distribution. It can be obtained only from a Field Representative of the Association or through direct request from architect written on his letterhead. 56 pp. Illustrated. Size, 8½ x 11 in.

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.

9. ARCHITECTURAL TERRA COTTA

Atlantic Terra Cotta Co., 19 West 44th St., New York, N. Y.

903. *Chimney Pots.* A booklet containing details of chimney pots adapted to Colonial, English, Gothic, Tudor and Georgian houses, colored plates, dimensions and specifications. 12 pp. Illustrated. Size, 8½ x 11 in.

1166. *Atlantic Terra Cotta. Vol. VIII, No. 9.* June, 1926. Monograph of Architectural Terra Cotta manufactured by the Atlantic Terra Cotta Co., of Georgia, illustrating many excellent buildings in Texas, Tennessee, Mississippi, Georgia, South Carolina, Louisiana, and Florida. 16 pp. Size, 8½ x 11 in.

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

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.

668. *Better Banks.* Illustrating many banking buildings in terra cotta, with an article on its use in bank design by Alfred C. Bossom, architect. 32 pp. Illustrated. Size, 8½ x 11 in.

The Northwestern Terra Cotta Co., 2525 Clybourn 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. Size, 8½ x 11 in. 78 pp.

10. BLOCK CONSTRUCTION

11. PAVING

12. ROOFING, SHEET METAL AND SKYLIGHTS

American Sheet & Tin Plate Co., Frick Building, Pittsburgh, Pa.

452. *Reference Book. Pocket Edition.* Covers the complete line of Sheet and Tin Mill Products. 168 pp. Illustrated. Size, 2½ x 4½ in.

463. *Copper—Its Effects Upon Steel for Roofing Tin.* Describes the merits of high-grade roofing tin plates and the advantages of the copper-steel alloy. 28 pp. Illustrated. Size, 8½ x 11 in.

John Boyle & Co., Inc., 112-114 Duane St., New York City.

212. *Boyle's Bayonne Roof and Deck Cloth.* List B-93. A prepared roofing canvas guaranteed waterproof for decks and the roofs and floors of piazzas, sun-parlors, sleeping porches, etc.

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

378. *Architects' Specification Book on Built-up Roofing.* A manual for detailers and specification writers. Contains complete details and specifications for each type of Carey Asphalt Built-up Roof. 20 pp. Illustrated. Size, 8½ x 11 in.

The Edwards Manufacturing Company, Cincinnati, Ohio.

535. *Shingles and Spanish Style of Copper.* This book, illustrated in colors, describes the forms, sizes, weights and methods of application of roof coverings, gutters, downspouts, etc., of copper. 16 pp. Illustrated in special indexed folder for letter size vertical files.

Ludowici-Celadon Co., Chicago, Ill.

120. *Roofing Tile.* A detailed reference for architects' use. Sheets of detailed construction drawings to scale of tile sections of various types and dimensions, giving notes of their uses and positions for various conditions of architectural necessity. Size, 9½ x 13½ in. 106 plates.

1123. *The Roof.* Booklet illustrated in color and black and white containing historical outline of roofing tiles and description of Imperial Roofing Tiles. Imperial "Ancient" Tapered Mission tiles, Spanish tiles, closed shingle tiles, straight barrell mission tile and French tile are shown. Also folder containing details, data and specifications. 32 pp. Illustrated. Size, 8½ x 11 in.

Milwaukee Corrugating Co., Milwaukee, Wis.

815. *Milcor Architectural Sheet Metal Guide. Catalog No. 24.* A complete catalog of sheet metal ceilings and side walls, zinc and copper ornaments, cornices, skylights, ventilators, gutters, downspouts and roofing tiles. 64 pp. Illustrated. Size, 8½ x 11 in.

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

873. *The Roof Everlasting.* A booklet describing the advantages of the Mohawk tapered asbestos shingle with specifications for installation. 20 pp. Illustrated. Size, 3¾ x 6½ in.

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

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.

13. STRUCTURAL STEEL AND IRON

Bethlehem Steel Co., Bethlehem, Pa.

1173. *Bethlehem Structural Shapes. Catalog S-18.* 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. 216 pp. Illustrated. Size, 4½ x 7 in.

1082. *Bethlehem Rolled Steel Slabs for Column Bases.* Catalog S-17 revised to December, 1925, general information, instructions for ordering, tables of minimum and maximum rolling lengths for various widths and thicknesses and weights and dimensions of rolled steel slabs for column bases. 12 pp. Illustrated. Size, 4 x 6½ in.

1178. *Standard Structural Shapes, Shipbuilding Shapes and Car Building Shapes.* Condensed Catalog No. S-19, containing notes, dimensions, allowable variations and properties of American standard I-Beams, channels and angles; shipbuilding channels and bulb angles; car building shapes; rails and miscellaneous steel shapes. 84 pp. Illustrated. Size, 4 x 6½ in.

REFERENCE LIST OF BUSINESS LITERATURE—Continued

13. STRUCTURAL STEEL & IRON—Continued

Lally Column Co., Inc., 211-249 Lombardy St., Brooklyn, N. Y.

1125. *Lally Columns.* Handbook 1926 edition. Greatly increased safe load table. Construction details for various types of steel construction. The text describes advantages of endurance and economy of the Lally column. Various tests, tables of dimensions, weights, and data on other structural materials are given. 86 pp. Size, 4½ x 6½ in.

Toch Brothers, 443 Fourth Avenue, New York City.

1165. *"R. I. W." Steel Preservative Paints* for painting and protecting steel and iron against corrosion induced by acids, alkalis, moisture and other rust-producing agencies. A. I. A. File No. 13e. A book of information and specifications prepared for the convenient use of architects. Ready for file. 16 pp. Illustrated. Size, 8½ x 11 in.

14. MISCELLANEOUS STEEL AND IRON

Colonial Fireplace Co., 4619 Roosevelt Road, Chicago, Ill.

676. *Blue Print Details.* A valuable set of scale details of correct fireplace construction and examples of details to avoid. Instructions for setting the Colonial head throat and damper. Explanations of necessity for summer use of damper. Folder equivalent to 8 pp. Illustrated. Size, 8¼ x 10½ in.

Concrete Steel Co., 42 Broadway, New York City.

1177. *The Havermeyer Truss.* Information and designing data for the use of Havermeyer trusses as floor beams to support concrete slabs and metal lath ceilings in connection with structural steel or reinforced concrete structures. Booklet describes the trusses and construction methods. Tables of dimensions, spacing and total safe loads are given. 8 pp. Illustrated. Size, 8½ x 11 in.

H. W. Covert & Co., 137 East 46th 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 Donley Brothers Co., 13943 Miles Ave., Cleveland, Ohio.

912. *Donley Book of Fireplaces, 3rd Edition.* This book contains designs of fireplaces, valuable construction plans and data and catalog of dampers, grates and accessories. 24 pp. Illustrated. Size, 7½ x 10½ in.

Ferro Studio, Inc., 228 East 150th St., New York, N. Y.

991. *Craftsmanship in Wrought Iron.* A booklet illustrating wrought iron gates, doors, grilles, entrance gates, lanterns, railings, chandeliers, hardware and fireplace fittings. 48 pp. Illustrated. Size, 8 x 11 in.

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

171. Booklet showing general construction and size of chutes to receive coal. Two types are built into the foundation wall with glass panel in place of cellar window; another type is placed flush with the ground, and is placed adjacent to wall, or can be placed near the street curb. Size, 3½ x 6¼ in. 16 pp.

823. *Fireplace metal work,* including dampers, ashdumps, ashpit doors, andirons, firetools and spark screens giving dimensions and prices. 16 pp. Illustrated. Size, 8 x 11 in.

The Pole and Tube Works, Inc., Newark, N. J.

1126. *Steel Tubular Flag Poles.* A. I. A. File No. 14f. Booklet contains list of distributors, sizes and price list of Standard and Light pattern steel tubular flag poles, details of cleats, trucks, finials, vanes, braces, etc. Poles ground set or roof. 8 pp. Illustrated. Size, 8½ x 11 in. Circular contains details and dimensions of concrete foundations for ground set poles. 1 page. Illustrated. Size, 8½ x 11 in.

The Safety Stair Tread Co., Wooster, Ohio.

828. *The Wear on Stairs.* A catalog describing the properties of white brass, brass and black safety treads for stairs. 12 pp. Illustrated. Size, 3½ x 9¼ in.

829. *Wooster Safe Groove Tread.* Catalog describing safe groove treads and thresholds and security nosings, made of white brass, brass and black steel. 4 pp. Illustrated. Size, 8½ x 11 in.

Truscon Steel Co., Youngstown, Ohio.

641. *Truscon Steel Joist Data Book.* Complete data of steel joists giving properties, dimensions, safe loads, coefficients of deflection, details of connections, specifications, directions for installations. 32 pp. Illustrated. Size, 8½ x 11 in.

15. ORNAMENTAL METAL WORK AND PHYSICAL PROPERTIES OF METALS

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

138. *Price List and Data Book.* Illustrated. Looseleaf Catalog Covers entire line of Sheets, Wire, Rods, Tubes, etc., in various metals. Useful tables. Size, 3⅞ x 7 in. 168 pp.

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

Art Metal Construction Company, Jamestown, N. Y.

1170. *Hollow Metal Doors and Trim.* Portfolio containing indexed details of metal doors, trim, frames, partitions, elevator enclosures and dumbwaiter enclosures prepared for use in the draughting room, together with general catalog, showing general details, photographs of executed work and descriptive matter. This valuable portfolio is sent to practicing architects having hollow metal projects. 100 detail pp., general catalog, 160 pp. Illustrated. Size, 8½ x 11 in.

1171. *Hollow Metal Doors and Trim.* Catalog for general but limited distribution to practicing architects contains details of doors, trim, mouldings, partitions and enclosures, photographs of executed work, partial list of installations and specification data. 160 pp. Illustrated. Size, 8½ x 11 in.

Cornell Iron Works, Inc., Long Island City, N. Y.

1214. *Cornell Rolling Doors.* Catalog contains description and construction details of various types of steel rolling shutters and doors, including motor driven doors, Underwriters labelled automatic fire doors and photographs of fifty installations. The data and specifications included in this booklet are valuable. Booklet is sent only upon request. A. I. A. File No. 16d13. 32 pp. Illustrated. Size, 8½ x 11 in.

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.

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.

International Casement Co., Jamestown, N. Y.

834. *International Casements. Catalog No.* 7. A complete catalog, including working details, hardware, screen, specifications and fine illustrations of modern American installations as well as 16th Century Tudor and Jacobean residences in England. 224 pp. Illustrated. Size, 8½ x 11 in. Sent to practising architects on receipt of request on business letter-head.

1099. *Cotswold Casements, Catalog No.* 10. Steel casements with steel muntins or leaded lights in standard sizes and designs. Details of hardware, sash and suggested frame details. Schedule of standard sizes. Suggested specifications for the use of architects. 18 pp. Illustrated. Size, 8½ x 11 in.

Wm. H. Jackson Co., 335 Carroll St., Brooklyn, N. Y.

1018. *Jackson Windows of Bronze. Catalog No.* 21. Standard bronze solid section double-hung, casement and special windows, details of types, illustrations of installations. 16 pp. Illustrated. Size, 8½ x 11 in.

Jamestown Metal Desk Co., Inc., Jamestown, N. Y.

1077. *"Medesco" Hollow Metal Doors and Elevator Enclosures.* Catalog B. Metal door designs, combination buck and jambs, finished steel jambs and mouldings. Detail drawings and sections. A catalog for filing. 32 pp. Ill. Size 8½ x 11 inches.

The Kawneer Company, Niles, Michigan.

933. *Kawneer Windows.* Catalog describing double hung and casement windows made of solid nickel-silver heavy cold rolled mouldings with welded joints. Construction details and specifications. 18 pp. Illustrated. Size, 8½ x 11 in.

958. *Kawneer Solid Nickel Silver Windows.* A catalog describing the construction and installation of Kawneer Solid Nickel Silver Windows in both double hung and casement types. 18 pp. Illustrated. Size, 8½ x 11 in.

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

1131. *Lupton Projected Sash.* A. I. A. File No. 16e1. Details and descriptions of standard steel sash units, projected type for offices, schools and commercial buildings. 24 pp. Illustrated. 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.

The Sykes Company, 2300 W. 58th St., Chicago, Ill.

978. *Integral Steel Door Buck and Trim. Specification No.* 134 *and Folder No.* 234. Specifications and details for four types of steel door bucks and trim. Each 4 pp. Illustrated. Size, 8½ x 11 in.

979. *Sykes Steel Integral Door Buck and Trim. Booklet No.* 34. Describing an improved construction, method of installation and Sykes Hollow Metal Doors. 8 pp. Illustrated. Size, 6 x 9 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.

898. *The Donovan Awning Type Steel Window.* A catalog containing details, specifications and complete description of the working and advantages of the Truscon-built Donovan Awning Type Window especially adapted for schools, hospitals and other buildings. 12 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.

REFERENCE LIST OF BUSINESS LITERATURE—Continued

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.

The Kinnear Manufacturing Company, Columbus, Ohio.

455. *Steel Rolling and Folding Doors and Shutters. Catalog No.* 52. This catalog is devoted to service doors adaptable to building of all classes, piers, factories, warehouses, etc. Illustrates their uses and contains tables for designers and detailers. 96 pp. Illustrated. Size, 8 x 11 in.

18. VAULTS AND SAFES

American Abrasive Metals Co., 50 Church St., New York City.

1172. *Ferros, Drill and Torch* resistant vault plates. Folder describes the advantages and use of Ferrox for vault doors and walls, gives typical detail and partial list of installations. 4 pp. Illustrated. Size ,8½ x 11 in.

The Consolidated Expanded Metal Companies, Steelcrete Bldg., Wheeling, W. Va.

1187. *Steelcrete—Timetested Products.* A condensed catalog of steelcrete products—metal lath, corner beads, channels, wall ties, reinforcing mesh, industrial mesh and steelcrete armor mat vaults. Illustrations, description and specifications for use of products. Bound in cover with index tab for filing. 16 pp. Illustrated. Size, 8½ x 11 in.

The Rivet-Grip Steel Co., 2735 Prospect Ave., Cleveland, Ohio.

768. *The Rivet-Grip System of Bank Vault Reinforcement.* This handbook explains the fundamentals of bank vault design and the advantages of the Rivet-Grip System of Reinforcement. Details of vertical and horizontal types, specifications and installations. 34 pp. Illustrated. Size, 8½ x 11 in.

19. CARPENTRY

Andersen Lumber Co., Bayport, Minn.

1109. *Andersen Frames, Catalog No.* 300. A. I. A. File No. 19 e 13. A valuable book for architects' files. Complete description of Andersen standard door and window frames. Dimensions, details, installation details for different types of frames, special conversion details and working specifications. 48 pp. Illustrated. Size, 9¼ x 11¼ in.

Berriman Biltin Wardrob, 1618 Tribune Building, Chicago, Ill.

1116. *Berriman Biltin Wardrob Details and Specifications.* A space saving device which combines a closet and chiffonier in one unit built into the space ordinarily required for closet only. Complete unit requires a space 1 ft. 8 in. x 4 ft. Capacity equivalent to closet 3 x 4 ft. Folder illustrated. Size, 8½ x 10½ in.

The Bessler Disappearing Stairway Co., Akron, Ohio.

1184. *The Bessler Disappearing Stairway.* Series of eight photographs of wood and steel disappearing stairways with data sheet containing dimensions and price list. 9 pp. Illustrated. Size, 8½ x 11 in.

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

1083. *Oak Flooring Specification Manual.* A filing folder, A. I. A. File No. 19e9, containing grading rules; uses of different grades; Standard sizes; laying instructions; methods of scraping and suggested specification form. 16 pp. Size, 8½ x 11 in.

California White and Sugar Pine Manufacturers Association, 690 Call Building, San Francisco, Calif.

875. *Information Sheets.* These sheets, with folder, contain information, illustrations and data pertaining to the use of California White and Sugar Pine in building construction. Size, 8½ x 11 in. In folder.

1136. *"Cal" Pine.* Guardian of the grades. A simple and concise explanation of the grading rules for California Pines with examples of each grade illustrated. Standard sizes and shapes of drop siding, colonial and bevel siding, standard lumber sizes, standard mouldings and other valuable data for architects' files. 48 pp. Illustrated. Size, 7¾ x 10½ in.

Chamberlin Metal Weather Strip Co., 1644 Lafayette Boulevard, Detroit, Mich.

918. *Excluding Cold and Dust.* A booklet describing the dust and weather proofing of doors and windows. 16 pp. Illustrated. Size, 5 x 7½ in.

919. *Chamberlain Metal Weather Strip Details.* A catalog containing valuable details of the installations of Chamberlain Metal Weather Strips of all kinds of windows and doors. A draughting table book. 48 pp. Illustrated. In folder. Size, 8¼ x 10¾ in.

Curtis Companies Service Bureau, Clinton, Iowa.

663. *Keeping Down the Cost of Your Woodwork.* A book illustrating Curtis interior woodwork and built-in cabinets and fixtures designed by Trowbridge and Ackerman, Architects, New York. Colored illustrations and details. 16 pp. Illustrated. Size, 7 x 9¼ in.

926. *Curtis Woodwork.* A valuable booklet presenting the entire line of woodwork such as entrances, doors, windows, exterior mouldings, stairs and permanent furniture. Sent on request. 40 pp. Illustrated. Size, 9 x 12 in.

Dierks Lumber & Coal Co., Kansas City, Mo.

1059. *Interior Trim.* Booklet illustrating in color and describing the use of soft pine for interior mill-work throughout the house. 16 pp. Illustrated. Size, 8 x 10 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.

The Higgin Manufacturing Co., 5th and Washington Ave., Newport, Ky.

353. *Screen Your Home in the Higgin Way.* A description of Higgin door and window screens with practical data. 16 pp. Illustrated. Size, 8½ x 11½ 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.

The Long-Bell Lumber Co., R. A. Long Building, Kansas City, Mo.

204. *The Perfect Floor.* Tells how to lay finish and care for Oak Flooring. 16 pp. 14 illustrations. Size, 5½ x 7½ in.

McKeown Bros. Co., 21 East 40th St., New York City.

434. *Clear Floor Space.* A folder showing uses and advantages of McKeown "Lattis" and "Bowstring" long span wood roof trusses. 4 pp. Illustrated. Size, 8½ x 11 in.

Monarch Metal Products Co., 5020 Penrose Street, St. Louis, Mo.

820. *Monarch Metal Weather Strip Manual.* This new manual contains the latest data on the subject of air infiltration through doors and windows with details and specifications for the installation of Monarch Metal Weather Strips. 44 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 grilles. 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 Extension Bureau, 5562 F. Stuart Bldg., Seattle, Washington.

1168. *Durable Douglas Fir.* America's Permanent Lumber Supply. A treatise on the growth, marketing and use of Douglas fir lumber by Prof. B. L. Grondal, M. Sc. F., College of Forestry, University of Washington. This treatise is interesting, instructive and contains much data of value to the architectural profession. 32 pp. Illustrated. Size 7 x 11 in.

J. G. Wilson Corp., 11 East 38th St., New York City.

760. *Sectionfold and Rolling Partitions. Hygienic School Wardrobes Catalog* 37. This catalog illustrates the construction and details of the partitions and wardrobes with plans for and photographs of installations. 40 pp. Illustrated. Size, 8½ x 11 in.

20. FURRING AND LATHING

The Bostwick Steel Lath Co., Niles, Ohio.

916. *Bostwick Metal Lath.* Leaflets describing the various types of metal lath, metal grounds, invisible picture moulding, expanded metal, corner heads, wall plugs and wall ties. 8 leaflets, 2 and 4 pp. Illustrated. Size, 3¼ x 6¼ 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.

Concrete Steel Co., 42 Broadway, New York.

1207. *Havemeyer Fireproofing Products.* Booklets descriptive of materials and uses. Includes metal lath; furring channels, flats and angles; welded fabric; copper steel basement windows; curb bars; inserts; steel tiles and metal lumber. Architects' specifications for application of all types of metal lath are given. 40 pp. Illustrated. Sizes, 8½ x 11 in.

Milwaukee Corrugating Co., Milwaukee, Wis.

838. *The Milcor Manual. Catalog No.* 20. A data book for designing the use of expanded metal lath, expansion cornerheads and casings, steel floor domes and other fireproof building products. Specifications and details. 64 pp. Illustrated. 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

Palmer Lime & Cement Co., 103 Park Ave., New York City.

938. *French Imported Caen Stone Cement.* A catalog describing the material and its properties, illustrations of its application in important buildings, specifications and instructions. 20 pp. Illustrated. Size, 8½ x 11 in.

REFERENCE LIST OF BUSINESS LITERATURE—Continued

21. PLASTERING—Continued

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.

United States Gypsum Co., 205 West Monroe St., Chicago, Ill.

911. *Oriental Stucco.* A booklet describing the use of Oriental Stucco with specifications and especially embossed pages showing different surface textures in colors. 10 pp. and 10 plates. Illustrated. Size, 8½ x 11 in.

22. MARBLE, SLATE AND STRUCTURAL GLASS

The Georgia Marble Co., Tate, Pickens Co., Ga., New York Office, 1328 Broadway.

634. *Why Georgia Marble is Better.* Booklet, 3⅝ x 6 in. Gives analysis, physical qualities, comparison of absorption with granites, opinions of authorities, etc.

Ravenna Mosaics, Inc., 101 Park Avenue, New York City.

1202. *Ravenna Mosaic.* Folio of plates which reproduce some of the more important decorations in mosaic executed by this concern in Europe and America. The illustrations are preceded by an introductory article. 40 pp. Size, 8 x 10.

The Vitrolite Company, General Offices: 133 W. Washington St., Chicago; Factory: Parkersburg, W. Va.

1087. *Color Chart of Decorated Vitrolite.* Chart, in ten colors, of ornamental border, pilaster and spot designs, prepared by the Vitrolite Company Art Department and carried in stock for decorating Vitrolite installations in bathrooms, toilet rooms, lobbies, corridors, restaurants, kitchens, etc. 6 pp. Illustrated. Size, 8 x 11 in.

1093. *Vitrolite for Use in Eating Places.* Catalog describing use of Vitrolite for wainscoting and wall covering, plain and decorated, as well as for counters, tables and other fixturs in restaurants, cafeterias, lunchrooms, kitchens, etc. 8 pp. Illustrated. Size, 8 x 11 in.

23. FLOOR AND WALL TILE, LINOLEUM AND ACCESSORIES

Armstrong Cork Company, Lancaster, Pa.

881. *Armstrong's Linoleum Floors. Fourth Edition.* Complete specifications and details for the installation of linoleum floors in all kinds of buildings and for all uses, also plates showing designs in color. 86 pp. Illustrated. Size, 8½ x 11 in.

1194. *Enduring Floors of Good Taste.* Armstrong's linoleum for all types of buildings, description and illustrations 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.

Armstrong Cork and Insulation Co., Pittsburgh, Pa.

901. *Linotile Floors and Cork Tile Floors.* Catalog 07 describing Linotile floors for residences and Catalog 08 describing Linotile floors for public and semi-public buildings, both with colored charts; Catalog Q-4 describing Armstrong's Cork Tile floors for all purposes. 26, 36 and 30 pp. Illustrated. Size, 8½ x 11 in.

Bonded Floors Company, Inc., 1421 Chestnut St., Philadelphia, Pa.

A series of booklets, with full color inserts showing standard colors and designs. Each booklet describes a resilient floor material, as follows:

1159. *Battleship Linoleum.* Explains the advantages and uses of this durable, economical material.

1160. *Marble-ized Cork Composition Tile.* Complete information on cork-composition marble-ized tile and the many artistic effects obtainable with it.

1161. *Treadlite Tile.* Shows a variety of colors and patterns of this adaptable cork composition flooring.

1162. *Natural Cork Tile.* Description and color plates of this super-quiet, resilient floor.

1163. *Practical Working Specifications* for installing battleship linoleum, cork composition tile and cork tile.

United States Rubber Co., 1790 Broadway, New York City.

959. *Period Adaptations for Modern Floors.* This book illustrates the adaptability of "U. S." Tile floors to the different periods of architectural styles and also its use in a wide range of modern buildings. Price, $1.00. 60 pp. Illustrated. Size, 8½ x 11 in.

Zenitherm Company, Inc., 390 Frelinghuysen Ave., Newark, N. J.

1139. *Zenitherm, The Universal Building Material.* Booklet C contains the story of the development of Zenitherm, description of use of Zenitherm for wall surfaces and floors, exterior and interior. Specifications and partial list of installation details are given.

24. PLASTIC FLOORS

Franklyn 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. Size, 8½ x 11 in. Illustrated.

25. PAINT, PAINTING AND FINISHING

Aluminum Company of America, New Kensington, Pa.

1037. *Aluminum Paint.* A treatise on the physical properties of aluminum paint and its uses in modern industry. 20 pp. Illustrated. Size, 5¼ x 5¼ in.

1061. *Aluminum Paint Manual.* A booklet on selecting the proper paint, how to prepare it and how to use in on metal, wood or concrete. 14 pp. Size, 4 x 6¼ in.

Craftex Company, 146 Summer St., Boston, Mass.

1001. *Craftex.* A circular describing a textural wall finish applied with a brush. Large range of finishes and colors. 4 pp. Illustrated. Size, 8½ x 11 in.

1002. *Notes on Using Craftex.* Directions for preparing and using Craftex on various wall surfaces and finishes. 5 pp. Illustrated. Size, 8½ x 11 in.

Joseph Dixon Crucible Co., Jersey City, N. J.

324. *Dixon's Silica Graphite Paint.* A pamphlet describing the physical properties of silica-graphite paint and especially the wide difference between it and other protective paints. Contains also sample color card with specifications. 20 pp. and 6 pp. in color card. Illustrated. Size, 3¼ x 6¼ 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, concret , brick, and other surfaces, both interior and exterior, are included in this specification book.

A. C. Horn Co., Long Island City, N. Y.

971. *Horn's House Paints.* Catalogs and color cards of paints for exterior wood work, porch and deck paints, shingle and stucco paints and china flat oil paints. 18 pp. Illustrated. Size, 3½ x 6¼ in.

National Lead Company, 111 Broadway, New York City.

389. *"White-Lead Paint."* Color folder for gloss finish and flat finish together with useful notes on painting and a collection of approximate formulas for obtaining the colors shown on the color folder. 8 pp. Illustrated. Size, 3⅜ x 8½ in.

894. *Handy Book on Painting.* A handbook containing complete directions for the mixing and application of paints for all purposes. A most useful book. 124 pp. Size, 8¼ x 5½ in.

Peaslee-Gaulbert Company, Louisville, Ky.

909. *Architects' Specification Chart.* A series of 100 specifications for exterior and interior painting and finishing on all kinds of materials. 87 pp. Size, 8½ x 11½ in.

910. *Interior Decoration. Wood Finishing. House Painting.* Three catalogs containing colored combination charts for paints, stains and wall finishes. 20, 20 and 24 pp. Illustrated. Size, 9 x 12, 6½ x 8½, and 7 x 9 in.

Pratt & Lambert, Inc., Buffalo, N. Y.

759. *Specification Manual for Painting, Varnishing and Enameling.* Complete specifications for painting, varnishing and enameling interior and exterior wood, plaster and metal work. 38 pp. Size, 8½ x 11 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.

The Truscon Laboratories, Detroit, Mich.

921. *Assortment of Color Cards.* Information and specifications on the following materials: Bar-Ox Inhibitive Steel Paint—3½ x 6¼ in. 4 pp. Asepticote Interior Flat Wall Paint 8 pp. 3⅝ x 8¾ in. Stone-Tex Exterior Masonry Paint. 8 pp. 3½ x 6¼ in. Waterproof Enamels, 4 pp., 3½ x 6¼ in. Waterproof House Paint, 8 pp. 3¾ x 8¾ in. Waterproof Varnish. 8 pp. 3½ x 6¼ in. Illustrated.

26. GLASS AND GLAZING

Brasco Manufacturing Co., 5025-35 Wabash Ave., Chicago, Ill.

1053. *General Catalog including full size details.*

Detroit Show Case Co., Detroit, Mich.

77. *Designs. A Booklet.* Store fronts and display windows designs, giving plans and elevations and descriptions. Size, 9¼ x 12 in. 16 pp.

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. Size, 16 x 21½ in. 3 sheets.

The Kawneer Company, Niles, Mich.

956. *Kawneer Solid Copper Store Front Construction Catalog L. 1925 Edition.* A treatise on the installation of Kawneer solid copper store fronts, with sectional and detail views of sash, corner and division bars, jambs, sills and transom bars. 32 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.

1016. *Factrolited.* Circular showing tests of light distribution through "Factrolite" wire glass for industrial plants. Also fire resisting qualities. 4 pp. Illustrated. Size, 6 x 9 in.

27. HARDWARE

The Austral Window Co., 101 Park Ave., New York City.

961. *Austral Window Hardware, Catalog No. 26.* Illustrating the application of Austral window hardware to windows of different types by details and specifications; also illustrations of important installations. 48 pp. Illustrated. Size, 8½ x 11 in.

REFERENCE LIST OF BUSINESS LITERATURE—Continued

27. HARDWARE—Continued

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

540. *Automatic Exit Fixtures.* A catalog of fixtures that provide a ready exit at all times, as a child can operate them with ease. Doors to which they are applied can always be opened from the inside, even whem locked against entrance. 4 pp. Illustrated. Size, 8¾ x 11¾ in.

1193. *Early English and Colonial Hardware.* 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. 27b. 30 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.

Samson Cordage Works, Boston, Mass.

586. *Samson Sash Cord.* Specifications and condensed descriptions of Samson spot window sash cords, Samson mahogany wire center sash cord and accessories. 24 pp. Illustrated. Size, 3½ x 6¼ 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 Stanley Works, New Britain, Conn.

11. *Wrought Hardware.* This catalog describes additions to the Stanely line of Wrought Hardware, as well as the older well-known specialties and various styles of butts, hinges, bolts, etc. 376 pp. Illustrated. Size, 6½ x 9½ in.

12. *Garage Hardware, Booklet, illustrated.* Garages and their equipment, such as hinges, hasps, door holders, latch sets, chain and hand bolts, showing illustrations and text with dimensions of garages, describing the Stanley works product. Size, 6 x 9 in. 24 pp.

495. *Stanley Detail Manual.* A catalog in looseleaf binder, consisting of five sections on Butts, Bolts, Blinds and Shutter Hardware, Stanely 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.

Steffens Amberg Co., 262 Morris Ave., Newark, N. J., successors to Frank F. Smith Hardware Co.

851. *Panic Exit Locks, Catalog No.* 20. A catalog describing panic exit locks of the gravity, mortise and horizontal rim types. Details, dimensions, specifications and installation data. 32 pp. Illustrated. Size, 8½ x 11 in.

Vonegut 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.

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.

898. *School Furniture. Catalogs 255 and 56.* Catalogs illustrating school house seating (No. 255), and a complete line of school-house furniture and supplies (No. 56). 32 and 104 pp. Illustrated. Size, 8½ x 11 and 6 x 9 in.

The Baeck Wall Paper Co., 233 Thirty-seventh St., Brooklyn, N. Y.

1195. *The Simple Art of Wall Decoration,* by Lucy D. Taylor. Suggestions and information on the selection and use of wall paper. Patterns are shown by means of reduced illustrations of panels for general design and full size portions of panel for colors. Booklet includes 25 samples and 14 pages of text and illustrations. Size, 6 x 9 in.

Frederick Blank & Co., 40 East 34th St., New York City.

1137. *Salubra Wallpaper, Sample Portfolio.* Washable, non-staining, non-fading, wall paper in flat colors, stock and special designs. Samples. Size, 4¼ x 5⅜ in.

Hardwick & Magee Company, 1220 Market St., Philadelphia, Pa.

826. *Fine Carpets in Famous Places.* A beautifully illustrated catalog describing the varieties of the Hardwick and Magee Co.'s Wilton carpets and rugs for hotels, theatres, lodge halls, clubs, churches, hospitals and railroad cars. 24 pp. Illustrated. Size, 8 x 10½ in.

1098. *Cameo Wilton Rugs.* Color plates of unusual small rugs in round, oval and half-oval shapes. Excellent in design, shape and color. Ten plates in color. Size, 7¾ x 10½ in.

The Hart & Hutchinson Co., New Britain, Conn.

1038. *Veneer Steel.* A folder showing construction details typical groupings of standard Veneer-Steel Units for toilets, showers and dressing room compartments, screens and coupon booths, and suggested specifications. 6 pp. Illustrated. Size, 8½ x 10¾ in.

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 Linerusta-Walton Company, Hackensack, N. J.

519. *Linerusta-Walton.* This book gives directions for buying, caring for and applying Linerusta-Walton; together with color chart and many pages showing patterns. 67 pp. Size,8 ½ x 11 in. Illustrated. Bound in boards.

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

973. *Office Chairs, Catalog No.* 32. Revised and enlarged catalog of chairs for lodges, court rooms, directors' rooms, every kind of office chairs, costumers', waste boxes, settees and accessories. 88 pp. Illustrated. Size, 9¼ x 12 in.

Charles W. Poulson & Sons Carpet Co., 295 Fifth Ave., New York City.

1062. *Character in Carpet.* A booklet illustrated in color and descriptive of Claridge wide seamless carpet and "Hermitage" high pile Wiltons. 22 pp. Illustrated. Size, 9½ x 12¾ in.

Stewart Hartshorn Co., 250 Fifth Ave., New York City.

1188. *Window Shade Specifications.* A convenient filing catalog containing quality and color samples of shade cloths, specifications for window shades, awning and veranda spring rollers, and notes on installation. A folder illustrating shade roller brackets is included. A. I. A. File No. 28E, dated July, 1926. 8 pp. Illustrated. Size, 8½ x 11 in.

Wallpaper Manufacturers Association of the United States, 461 Eighth Ave., New York City.

913. *Wallpaper Magazine.* A monthly publication for architects, building contractors and wallpaper dealers to acquaint them with the many interesting and artistic uses for wallpaper. 32 pp. Illustrated. Size, 8 x 11 in.

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.

Henry Weis Manufacturing Co., Elkhart,Ind.

790. *WeiSteel Compartments. Catalog No.* 11. Plans, specifications and details of metal partitions and doors for toilet rooms, shower and dressing rooms, hospital cubicles and enclosures of all kinds. 32 pp. Illustrated. Size, 8 x 11 in.

["Linoleum" has been changed from file No. 28 to No. 23 in 1926. Revised edition of A. F. A. standard construction classifications.]

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.

The American Pin Co., Div. Scovill Mfg. Co., Waterbury, Conn.

1150. *Ampinco Showers and Bath Fixtures.* A. I. A. File No. 29h3. Loose leaf catalog. Secured in cover backs giving dimensions and roughing in measurements of M-VB Temperators, Ampinco showers of various types, valve parts, bath tub supplies and wastes and combination bath fixtures and showers. A booklet for the files. 56 pp. Illustrated. Size, 8½ x 11 in.

J. H. Balmer Co., 259 Plane St., Newark, N. J.

1028. *China Necessities.* Catalog of bath room accessories consisting of towel racks; shelves; tooth brush, tumbler and soap holders, hand rails, hooks and paper holder. 24 pp. Illustrated. Size, 5½ x 8½ 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.

Chase Companies Incorporated, Waterbury, Conn.

1132. *Alpha Brass Pipe.* Information on brass pipe, corrosive waters, the importance of the Alpha Crystal, and Alpha Brass Pipe. A booklet that will bear reading and filing. 14 pp. Illustrated. Size, 8 x 10½ in.

REFERENCE LIST OF BUSINESS LITERATURE—Continued

29. PLUMBING—Continued

Crampton Farley Brass Co., 221 Main St., Kansas City, Mo.

194. Several pamphlets describing various types of floor and areaway drains. Size, 3½ x 6¼ in.

W. S. Dickey Clay Mfg. Co., Kansas City, Mo.

1206. *Sanitary Sewers.* A comprehensive volume on the subject of sewers and their construction. A valuable collection of data and information. 160 pp. Illustrated. Size, 7¾ x 10½ in.

The Duriron Co., Dayton, Ohio.

758. *Duriron Acidproof Building Equipment. Bulletin No.* 134. An architect's handbook describing the advantages of Duriron material in contact with corrosive liquids and fumes. Details and dimensions of drainage pipes and fittings and acid-proof exhaust fans and ducts. 24 pp. Illustrated. Size, 8½ x 11 in.

1008. *Duriron Drain Pipe and Fittings. Bulletin No.* 134-*A.* 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, 8½ x 11 in.

Excelso Specialty Works, 119 Clinton St., Buffalo, N. Y.

843. *Excelso Quality Water Heaters.* Catalog describing a complete line of water heaters to be attached to furnaces, steam and hot water heating boilers. 8 pp. Illustrated. Size, 3¼ x 6¼ 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.

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.

The Kennedy Valve Mfg. Co., Elmira, N. Y.

801. *Kennedy Valves. Catalog No.* 45. A catalog illustrating a complete line of gate, globe and angle, check, back-water and sewer-gas valves for every purpose. Dimensions, details and specifications. 142 pp. Illustrated. Size, 5 x 8 in.

802. *Kennedy Pipe Fittings. Catalog No.* 45. A catalog describing a complete line of malleable iron and cast-iron flanged pipe fittings, reducers and cast-iron flanges for every purpose. Details, dimensions and drilling templates. 142 pp. Illustrated. Size, 5 x 8 in.

803. *Kennedy Fire Hydrants. Catalog No.* 45. A catalog describing a complete line of fire hydrants and accessories. Details, dimensions and installation directions. 142 pp. Illustrated. Size, 5 x 8 in.

Kohler Company, Kohler, Wis.

209. "*Kohler of Kohler.*" A booklet on enameled plumbing ware describing processes of manufacture and cataloging staple baths, lavatories, kitchen sinks, slop sinks, laundry trays, closet combinations. 48 pp. Illustrated. Size, 5½ x 8 in. Roughing-in measurement sheets, 5 x 8 in.

531. *Catalog F.* This is a complete catalog of Kohler enameled ware for plumbing installations, together with high-grade fittings. There is also a brief and interesting description of the manufacture of high-grade enameled ware and a statement of the facts about Kohler village, one of the discussed experiments in modern industrial town building. 215 pp. Cloth bound. Illustrated. Size, 7½ x 10⅜ in.

756. *Kohler Automatic Power and Light.* A catalog illustrating a complete line of isolated automatic electric plants of 800 to 2,500 watts capacity, operated by gas or gasolene. Specifications. 48 pp. Illustrated. Size, 6 x 8½ in.

Thomas Maddock's Sons Company, Trenton, N. J.

696. *Vitreous China Plumbing Fixtures.* A valuable and complete catalog of vitreous china lavatories, drinking fountains, bidets, water closets, urinals, slop sinks, bathtubs, kitchen sink accessories. Completely illustrated with roughing-in diagrams. 242 pp. Illustrated. Size, 8 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. Size, 8½ x 11 in. 32 pp.

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.

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

427. *Ideal-Arcola Heating Outfit.* A book describing a system of hot water heating for small and medium size houses. The boiler is placed in a room and resembles a stove. No cellar required. The ash carrying reduced to a minimum. 24 pp. Illustrated. Size, 6 x 8½ 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 Co., 490 Broadway, Buffalo, N. Y.

976. *Fan Engineering.* An engineering handbook in three parts: Physical properties of air, heat and humidity; air movement for heating, ventilation, forced draft, etc.; performance tables and general information concerning standard apparatus for fan work; appendix, tables. 610 pp. Illustrated. Size, 4¼ x 7 in. Price, $4.00.

1189. *Niagara Conoidal Fans, Catalog No.* 421. Describes, illustrates and gives various sizes and types of ventilating fans. A valuable booklet of interest to architects and engineers designing ventilating systems. 52 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. 34 pp. Size, 7 x 10 in.

C. A. Dunham Co., Dunham Bldg., 450 East Ohio St., Chicago, Ill.

831. *The Dunham Heating Service Bulletins.* Bulletin 101, Radiator Traps; 102, The Dunham Blast Trap; 103, Medium Pressure Traps; 104, Packless Radiator Valves; 105, Oil Separators and Suction Strainers; 106, Reducing Pressure Valves and Vacuum Pump Governors: 107, Air Line Valves; 108, Home Heating Systems; 109, The Dunham Return Heating System; 110, Vacuum Heating System; 111, Installing House Heating System. Illustrated. Size, 8½ x 11 in.

993. *The Dunham Hand Book, No.* 314. Revised edition of valuable book devoted to steam heating installations for all purposes. Describes apparatus, piping plans, engineering data. 190 pp. Illustrated. Size, 3¾ x 6½ in.

1010. *Dunham Return Heating System. Bulletin No.* 109. Showing the application of the Dunham Return Trap and Radiator Trap to secure positive circulation of steam and correct disposal of return water. Complete details of installation, dimensions, specifications and design data. 16 pp. Illustrated. Size, 8 x 11 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.

The Frost Manufacturing Co., Galesburg, Ill.

1143. *Ross Steel Boilers, Catalog* 4*A.* 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 sq. ft. 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.

General Boilers Co., Waukegan, Ill.

1071. *Bulletin SC-26.* Descriptive illustrations and specifications. Pacific Direct Draft and Up Draft Smokeless Boilers; Bulletin OF-26 covers Pacific Oil Fired Boilers; Bulletin RT-26 Pacific Steel Residence Boilers; and DD-26 Pacific Down Draft Boilers.

General Electric Co., Schenectady, N. Y.

1128. *Visual Supervision for Ventilation Control.* Bulletin GEB-11 on the advantages of remote indicating control to the owner. 4 pp. Illustrated. Size, 5¼ x 7¾ in.

Gillis & Geoghegan, 545 West Broadway, New York City.

969. *The G & G Telescopic Hoist.* A catalog containing specifications in two forms: (1) using manufacturer's name, and (2) without using manufacturer's name. Detail in ¼-inch scale for each telescopic model and special material handling section. Fully illustrated with photographs of actual installations and descriptive matter of same. 24 pp. 2 colors. Illustrated. Size, 8½ x 11 in.

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

1065. *Wrought Grilles. Folder No.* 8. Bulletin containing examples of the best methods of installing grilles under conditions most commonly encountered, details and specifications. 6 pp. Illustrated. Size, 8½ x 11 in.

Heggie Simplex Boiler Co., Joliet, Ill.

1070. *Catalog No.* 26. Heggis-Simplex Electric Welded Steel Heating Boilers. Descriptive illustrations and detailed data on size, ratings, etc. 22 pp. Illustrated. Size, 8½ x 10¼ 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 operation, dimensions, register designs, pipes and fittings. Size, 6 x 9½ in. 48 pp.

International Heater Co., Utica, N. Y.

1105. *International Warm Air Furnaces.* The Carton Self-Cleaning Furnace and the Economy Blue Front Furnace. Both types for hard or soft coal. Separate catalogs describe each type. Details, dimensions, capacities and designing data. 16-24 pp. Illustrated. Size, 7½ x 10½ in.

1106. *International Economy Boilers.* Catalogs of cast iron. Sectional and round, steam and hot water boilers; hot water supply boilers; and economy smokeless boilers. Separate catalogs giving sizes, capacities, details, designing data and partial list of installations. 36–8–40 pp. Illustrated. Size, 7½ x 10½ in.

REFERENCE LIST OF BUSINESS LITERATURE—Continued

30. HEATING AND VENTILATING—Continued

Jenkins Bros., 80 White Street, New York,

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 number 30-C-2. 4 pp. Illustrated. Size 8½ x 11 inches.

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 Co., Kewanee, Ill.

840. *Kewanee Boilers.* Catalog 78, Firebox Boilers; Catalog 79, Power Boilers; Kewanee Boilers in Omaha Schools. Complete details, dimensions, setting diagrams, designing data, specifications and accessories. 52, 34 and 16 pp. Illustrated. Size, 6 x 9 in.

841. *Kewanee Radiators and Equipment.* Catalog No. 77, Radiators. Catalog 75, Water Heating Garbage Burners. Tobasco Water Heaters and Tanks of all kinds; Selecting the Heating Boiler. Complete details, dimensions, setting diagrams. Designing data and specifications. 24, 30 and 16 pp. Illustrated. Size, 6 x 9 in. and 5 x 8 in.

Knowles Mushroom Ventilator Co., 204 Franklin St., New York City.

906. *Ventilation for Auditoriums.* A catalog describing fresh air diffusers used in connection with mechanical systems of ventilation in auditoriums, schools, churches, and public buildings. Complete details and design data. 8 pp. Illustrated. Size, 8½ x 11 in.

Midwest Air Filters, Inc., Bradford, Pa.

924. *Midwest Air Filters—Baffle Impingement Type.* Bulletins, specifications, folders and catalogs covering the applications of these filters in the ventilation of schools, hotels, office buildings, theatres, museums, and other buildings, as well as the various uses in industrial plants, central stations, etc. Illustrated. Size, 8½ x 11 in.

Modine Manufacturing Co., Racine, Wis.

1057. *Bulletin A.* Modine Unit heater for steam or hot water heating systems. Bulletin describes general and mechanical advantages of Modine Unit Heaters. 8 pp. Illustrated. Size, 8½ x 11 in.

National Tube Co., Frick Bldg., Pittsburgh, Pa.

670. *National Bulletin No. 25B. Third Edition.* Devoted to the installation of steel pipe in large buildings, architectural anti-corrosion engineering, gas piping, specifications and tables of strength and properties. 74 pp. Illustrated. Size, 8½ x 10¾ 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 steel 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, sq. ft., radiation equivalent, etc., of the Invisible Radiator for steam, vacuum and vapor systems. 24 pp. Illustrated. Size, 6 x 9¼ in.

The Wm. H. Page Boiler Co., 200 Madison Ave., New York City.

1138. *Page Boilers, Catalog No. 52.* Containing detailed specifications and description of Page "Volunteer" round and "Monarch" square sectional Water Tube and Smokeless boilers, for vapor, steam and hot water heating, with any available fuel. 16 pp. Illustrated. Size, 8½ x 11 in.

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

1048. *PeerVent Heating and Ventilating Units.* 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. 62 pp. Illustrated. Size, 8¼ x 10¾ in.

Richardson & Boynton Co., New York, N. Y., Chicago, Ill., Philadelphia, Pa., Providence, R. I., Boston, Mass.

290. *The Richardson Vapor Vacuum-Pressure Heating System.* An interesting book which presents in clear non-technical language the principles of Vapor-Vacuum-Pressure heating; the economy over ordinary steam heating, steam and hot-water systems may be altered to use the principle with views of buildings where the V-V-P system is installed. 14 pp. Illustrated. Size, 8 x 11 in.

291. *Perfect Warm Air Furnaces.* No. 203. Contains a full description of various types of warm air furnaces and parts, with dimensions and necessary data. 24 pp. Illustrated. Size, 8 x 10½ in.

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

1085. *Silentvane Fans. Catalog No. 290.* Illustrates and describes fans as installed in ventilating systems of buildings shown. Catalog includes Designs 1 and 2 with performance tables, dimension sheets and specifications. A-IA File No. 30-d1. 92 pp. Illustrated. Size, 8½ x 11 in.

1086. *Multivane Fans. Catalog No. 271.* A-IA File No. 30-d1. Catalog gives dimensions, capacities, horse-powers, performance tables, specifications and detail description of Multivane fans. Design No. 3. 96 pp. Illustrated. Size, 8½ x 11 in.

Thatcher Co., 131-135 West 35th St., New York City.

748. *Thatcher Boilers and Thatcher Furnaces.* Catalog describing a series of cast-iron steam and hot water heating boilers and also one describing a series of cast-iron warm air heaters. Accessories, details and dimensions. 80 pp. and 24 pp. Illustrated. Sizes, 4½ x 7½ and 8½ x 11 in.

Young Pump Co., 450 East Ohio St., Chicago, Ill.

965. *Young Centrifugal Vacuum and Boiler Feed Pump Bulletin No. 5.* Describes electrically driven centrifugal vacuum and boiler food pumps, and receiving or accumulator tanks. Capacities, dimensions and specifications. 12 pp. Illustrated. Size, 8 x 10½ in.

31. ELECTRICAL WORK

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

629. *The Control of Lighting in Theatres.* A book describing means for complete control of lighting the stage, auditorium and other parts of the theatres with distribution schedules and specifications. Also specifications of control to Masonic buildings, schools and colleges. 32 pp. Illustrated. Size, 8 x 11 in.

741. *Panel Board Catalog No. 32.* A complete catalog of standard panel boards, steel cabinets, switches and accessories. 48 pp. Illustrated. Size, 7¾ x 10¾ in.

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

1149. *Electric Wires and Cables.* Catalog and handbook of systems of wiring. Booklet illustrates and gives detail information on different types of wires from copper trolley wire and insulated copper wire to lead covered cables. Tables of wire gauges and useful data on electric wiring are also included. 134 pp. Illustrated. Size, 6 x 9 in.

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

1185. *Guth Lighting Equipment.* Catalog No. 15, in either bound or loose leaf form, illustrating lighting fixtures suitable for public buildings, hotels, banks, hospitals, schools, residences, etc. A. I. A. File No. 31f23. 96 pp. Illustrated. Size, 8½ x 11 in.

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.

Enameled Metals Co., Pittsburgh, Pa.

584. *Pittsburgh Standard Rigid Conduit.* A catalog describing patented thread protected enameled conduit and galvanized conduit with specifications and useful wiring data. 31 pp. Illustrated. Size, 6¼ x 9½ in.

L. Erikson Electric Co., 6 Portland St., Boston, Mass.

1005. *Erikson Reflectors. Catalog No. 91.* A catalog covering Erikson Reflectors and special lighting equipment for Banks, Theatres, Stores, Churches and Hospitals; shows cuts of reflectors, illustrations of representative installations, and also gives valuable engineering data as to the application of this type of equipment. 73 pp. Illustrated. Size, 8 x 11 in.

I. P. Frink, 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. Size, 7 x 10 in. 12 pp.

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.

General Electric Co., Schenectady, N. Y.

1129. *General Electric Catalog 6001B.* A complete catalog of electrical material, equipment and appliances made by G. E. catalog is conveniently thumb-indexed and bound in boards. A valuable volume for all who specify, buy or install electrical equipment. 1104 pp. Illustrated. Size, 8 x 10½ in.

Graybar Electric Co., 100 East 42nd St., New York City.

1052. *Electrical Supply Year Book,* 1926-27. A complete catalog of electrical supplies made by the Western Electric Company. The 1925 edition of the "National Electric Code" of the National Board of Fire Underwriters is included as well as valuable electrical data. 1012 pp. Illustrated. Size, 8 x 11 in.

1108. *Fan Catalog,* 1926, for A. C. and D. C. circuits, non-oscillating, oscillating, ceiling and ventilating (exhaust) fans. Descriptive specifications and details. 48 pp. Illustrated. Size, 3½ x 6 in.

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

1209. *Electric wiring devices, Catalogue S* contains complete information on "H & H" switches, sockets, receptacles and wiring devices. A valuable reference book for the architects' building materials library. 123 pp. Ill. Size 8½ x 10 inches.

REFERENCE LIST OF BUSINESS LITERATURE—Continued

31. ELECTRICAL WORK—Continued

Harvey Hubbell, Inc., Bridgeport, Conn.

297. *Electrical Specialties. Catalog No.* 17, 1921. This catalog contains descriptions with prices of the thousand and one items connected with electric light, electric alarm and small electric appliance installations in modern buildings. 104 pp. Illustrated. Size, 8 x 10 ½ in.

401. *Hubbell Flush Door Receptacles.* Description of a safe, convenient and practical wall outlet de luxe for fine residences, clubs, hotels, public buildings and offices. 4 pp. Illustrated. Size, 8 x 10 in.

Holophane Glass Co., 342 Madison Ave., New York City.

1191. *The Holophane Catalog.* A complete catalog of Holophane products, with illuminating engineering data and instructions for proper application. Various types of fixtures and reflectors are shown. 40 pp. Illustrated. Size, 8½ x 11 in.

1192. *Modern Retailing Success.* A booklet on store and show-window lighting with diagrams showing correct spacing and location of outlets for various fixtures and reflectors. 16 pp. Illustrated. Size, 8½ x 11 in.

Ivori Craft Corp., 290 Chestnut St., Newark, N. J.

1040. *Ivori-craft Flush Plates.* Folder describing Ivori-craft composition flush cover plates for convenience outlets and switches. Standard and special shapes, colors and price list. 4 pp. Illustrated. Size, 8½ x 11 in.

Kliegl Bros., 321 West 50th Street, New York City.

1084. *Kliegl Theatrical, Decorative and Spectacular Lighting. Catalog M.* Description of complete line of lighting specialties and lighting effects for stages, etc. Catalog includes stage equipment, exit signs, aisle and step lights, dimmers, switchboards and other special lighting apparatus. 128 pp. Illustrated. Size, 7¾ x 10½ in.

Pittsburgh Reflector Co., Pittsburgh, Pa.

1101. *Show Window Lighting.* A. I. A. File No. 31 f 14. Booklet illustrating and describing various types of reflectors, conduit, spot lights, flood lights, and color lights used for show windows. Book contains valuable technical data and details of space required for reflectors, etc. 28 pp. Illustrated. Size, 8½ x 11 in.

1102. *Cove Lighting.* A. I. A. File No. 31 f 17. Descriptive and apparent candle power distribution diagrams of various types of reflectors used for indirect or cove lighting. Book includes "easy-to-install" conduit, and details of typical cove lighting installations. 24 pp. Illustrated. Size, 8½ x 11 in.

Stromberg-Carlson Telephone Mfg. Co., Rochester, New York, N. Y.

304. *Inter-Communicating Telephone Systems. Bulletin No.* 1017. A pamphlet giving just the information required for the installation of intercommunicating systems from 2 to 32 stations capacity. 15 pp. Illustrated. Size, 7¾ x 10 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

Baker Ice Machine Co., Inc., Omaha, Neb.

661. *Baker System Refrigeration.* A catalog explaining the application of refrigeration for hotels, hospitals, institutions and restaurants requiring up to 50 tons daily capacity including mechanical details and specifications. 20 pp. Illustrated. Size, 9 x 12 in.

Coldak Corporation, 8 West 40th St., New York City.

1210. *Automatic Electric Refrigeration* for Apartment Houses with Coldak, a new kind of control plant in the basement. Booklet discusses the advantages of automatic electric refrigeration and describes the Coldak system. A partial list of installations is included. Booklet is enclosed in a filing folder indexed with A. I. A. File No. 32c. 8 pp. Illustrated. Size, 8½ x 11 in.

Frick Company, Waynesboro, Pa.

950. *F-P Raw Water Ice-Making Systems. F-P Bulletin No.* 4. This bulletin explain a method of raw water ice-making by the F-P low pressure systems and the economies effected. 24 pp. Illustrated. Size, 6 x 9 in.

Frigidaire, Dayton, Ohio.

962. *Frigidaire.* Booklet describing installations and details of automatic refrigerating equipment for residential hotels and apartment buildings. 50 pp. Illustrated. Size, 8½ x 11 in.

Jamison Cold Storage Door Co., Hagerstown, Md.

69. *Heavy Duty Cold Storage Doors. Catalog No.* 10. Complete description of both hinged and sliding cold storage doors for every equipment. Also description of cold storage windows and ice chutes. 79 pp. Illustrated. Size, 5¾ x 9 in.

The Jewett Refrigerator Company, 27 Chandler Street, Buffalo, N. Y.

655. *Manual of Refrigerators.* This manual completely describes the construction of refrigerators for use in hotels, clubs, hospitals, institutions and residences, with specifications. Numerous plans showing size and arrangement of refrigerators in kitchens, service and lunch rooms are included. 30 pp. Illustrated. Size, 8½ x 11 in.

L. Mundet & Son, Inc., 461 Eighth Ave., New York City.

1104. *Insulation for Refrigerating Systems.* Folder describing jointile pure baked cork board and its application to general cold storage construction. 12 pp. Illustrated. Size, 3½ x 8 in.

33. ELEVATORS AND ACCESSORIES

General Electric Co., Schenectady, N. Y.

1127. *Elevator Equipment Bulletins.* GEA-184. Electric Elevator Equipment in the Equitable Life Assurance Society Building, New York City. No. 61311 multi-speed induction motors for elevator service. No. 61308 varying speed induction motors for elevator service. GEA-63 Type GTE Gearless Traction Motors for elevator service. No. 61310 Double Motor Type, multi-speed induction motors for elevator service. Bulletins illustrate and describe motors and give all over dimensions. Each Bulletin, 4 pp. Illustrated. Size, 8 x 10½ in.

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.

652. *Escalators and Inclined Elevators.* A comprehensive catalog illustrating the use of escalators for transporting people in stores, subways, railroad stations, theatres and mills; also inclined freight elevators for stores, factories, warehouses and docks adjustable to tide levels. 22 pp. Illustrated. Size, 8½ 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.

60. *Hand Power Elevator and Dumbwaiters in Modern Architectural Construction.* Illustrated catalog. Size, 4¼ x 8¼ in. 80 pp.

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.

34. POWER PLANT

B. Franklin Hart, Jr., and Co., 15 Park Row, New York.

1205. *Water Cooling Towers.* Loose leaf catalog including description, specifications and typical installations of the Hart Cooling Tower. 10 sheets. Illustrated. Size, 8½ x 11 in.

35. EQUIPMENT, STATIONARY

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.

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

1178. *Safe Road to Increase Profits.* Illustrated catalog which points out proven ways in which hotels and restaurants can save through application of modern equipment. Specifications for each Champion Model are given. (Blue prints covering each machine showing sizes and location of connections, etc., are also available.) 34 pp. Illustrated. Size, 7 x 10 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.

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

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.

764. *Kitchen Equipment for Hotels and Institutions.* Several catalogs covering a complete line of cooking apparatus.

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

983. *G & G Atlas Pneumatic Tube Systems.* A circular explaining the advantages of pneumatic tube systems for department stores, banks, hotels, office buildings, hospitals and industrial plants. Illustrations of installations and details. 12 pp. Illustrated. Size, 8½ x 11 in.

Edwin A. Jackson & Bro., Inc., 50 Beekman St., New York City.

170. Booklet showing general construction and sizes of garbage receivers to be placed underground for suburban use; also types to be built into the walls of city homes and apartments; also types for the suburban wall with opening on inside for the maid and outside for the garbage man. Size, 3½ x 6¼ in. 16 pp.

REFERENCE LIST OF BUSINESS LITERATURE—Continued

35. EQUIPMENT, STATIONARY—Continued

Kerner Incinerator Co., 641 East Water St., Milwaukee, Wis.

1198. *Sanitary Elimination of Household Waste.* Booklet illustrated. Gives complete information on the Kernerator for residences. 16 pp. Illustrated. Size, 4 x 9 in.

1208. *Incinerators (Chimney-Fed)—The Kernerator.* Booklet contains installation details and sizes of built-in incinerators for apartment houses, hospitals, schools, clubs and other buildings. This is an informative booklet with a filing folder indexed. A. I. A. File No. 35j41. 16 pp. Illustrated. Size, 8½ x 11 in.

Reliable Stove Company, Division of American Stove Co. Cleveland, Ohio.

460. *Reliable Angleiron Gas Ranges.* A pamphlet illustrating hot plates, laundry stoves and a complete line of gas cooking stoves and ranges equipped with the Lorain Oven Heat Regulator. 8 pp. Illustrated. Size, 8 x 11 in.

Richardson & Boynton Co., New York, N. Y., Chicago, Ill. Philadelphia, Pa., Providence, R. I., Boston, Mass.

292. *Perfect Cooking Ranges.* Description and dimensions of the complete line of the new high enamel finish Richardson Perfect ranges with charts and information regarding combination coal and gas cooking ranges. 40 pp. Illustrated. Size, 8½ x 11 in.

36. CONSTRUCTION PLANT

37. INSULATION

Armstrong Cork & Insulation Co., Pittsburgh, Pa.

918. *Nonpareil Cork Covering.* A treatise describing the production and manufacturing of cork pipe covering for steam and refrigerating systems. Designing data, specifications and installation directions 48 pp. Illustrated. Size, 8½ x 11 in.

1122. *The Cork Lined House Makes a Comfortable Home.* Booklet describing the use and advantages of cork board for the insulation of residences from heat and cold. Includes tables of relative conductivity of various materials and types of construction. 32 pp. Illustrated. Size, 5 x 7½ in.

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

639. *Heat Insulation.* A treatise on the methods of securing insulation for various kinds of buildings and conditions by using different insulating quilts. 25 pp. Illustrated. Size, 7½ x 10½ in.

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

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

The Celotex Co., 645 North Michigan Ave., Chicago, Ill.

1063. *Celotex Specifications.* Specifications and details for Celotex insulating lumber. Arranged for Architects' files. 12 pp. Illustrated. Size, 8½ x 11 in.

Flax-li-num Insulating Co., St. Paul, Minn.

930. *Heat Insulation for Houses.* A scientific bulletin summarizing and condensing the data or research laboratories, explaining the theory of heat insulation and correct methods of bringing all wall or roof types within a standard heat transmission at lowest cost by use of Flax-li-num. Gives properties, uses and history of Flax-li-num. 24 pp. Illustrated. Size, 8½ x 11 in.

931. *For Comfort and Economy.* The non-technical story of heat and sound insulation, its theory, praetice and history. Contains one-half inch sample of Flax-li-num and shows advantages of its use in all types of house and apartment construction. 32 pp. Illustrated. Size, 5 x 7 in.

The Insulite Co., Builders Exchange Building, Minneapolis, Minn.

1180. *The Insulation of Roofs with Insulite.* Containing a chart for the calculation of the saving in coal and radiation from the insulation of any type roof. In standard A. I. A. folder. Size, 8½ x 11 in.

1181. *Prevention of Condensation.* A folder describing methods in the prevention of condensation and a chart from which the necessary insulation may be calculated. In standard A. I. A. folder. Size, 8½ x 11 in.

38. LANDSCAPE.

39. ACOUSTICS

The Celotex Co., 645 North Michigan Ave., Chicago, Ill.

1063. *Acousti-Celotex Specifications.* Specifications and details for the application and decoration of Acousti-Celotex for acoustical treatment. 12 pp. Illustrated. Size, 8½ x 11 in.

Johns-Manville, Inc., 294 Madison Ave., New York City.

710. *Architectural Acoustics.* A treatise on the correction of architectural acoustics in churches, schools, hospitals, office buildings and other places. 24 pp. Illustrated. Size, 6 x 9 in.

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.

The American Pin Company, Waterbury, Conn.

985. *American Renderers.* A series illustrating the work of American Renderers of which five of twelve are issued. A monthly publication free to architects. Each 4 pp. Illustrated. Size, 9 x 12 in.

California White and Sugar Pine Manufacturers Association, 690 Call Building, San Francisco, Calif.

874. *Pine Homes.* A valuable booklet containing details of frame building construction and the manufactured products of the association and illustrations of constructed buildings. 48 pp. Illustrated. Size, 7 x 10 in.

The Long Bell Lumber Co., R. A. Long Building, Kansas City, Mo.

1175. *The Book of Lawn Furniture.* Contains about 100 designs for lawn and garden furniture. Sent free to architects who apply on their office stationery; to others, 10 cents a copy. 36 pp. Illustrated. Size, 6¼ x 9¾ in.

Ramp Buildings Corporation, 21 East 40th St., New York City

1021. *D'Humy Motoramps. Catalog No.* 25. Describes a type of construction for multi-floor garages with comparative data of other types, investment, cost and capacity data. 15 pp. Illustrated. Size, 8½ x 11 in.

1022. *Garage Design Data.* Service bulletins to architects containing garage design data. Ask for preceding bulletins. 2 pp. Illustrated. Size, 8½ x 11 in.

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.

638. *Daylighting Schools.* A treatise on the daylighting and window ventilation of school buildings quoting eminent authorities, illustrated with diagrams of lighting data and details of suitable windows. 28 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.* And interesting illustrated booklet showing the possibilities of the Venus Drawing Pencil for drafting. Size, 6 x 9 in.

H. W. Covert & Co., 137 East 46th St., New York City.

775. *Fireplace Fittings in Iron and Brass.* A catalog of andirons, fire sets, fire screens, fenders, woodholders, willow wood baskets, hearth brooms, grates, candlesticks, lanterns and other accessories made in iron and brass. 36 pp. Illustrated. Size, 5½ x 8½ in.

Joseph Dixon Crucible Company, Pencil Department, Jersey City, N. J.

325. *Finding Your Pencil.* A book explaining the various degrees of hardness of the Eldorado pencil and the grade most suitable for every man, who uses a pencil, be he business or professional man, clerk or draftsman. Accompanied by a color chart of Dixon colored crayons. 16 pp. and 4 pp. in color chart. Illustrated. In colors. Size, 3¼ x 6 in.

Johns-Manville, Inc., 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.

Truscon Steel Company, Youngstown, Ohio.

319. *Truscon Building Products. Form D-*376. Contains a brief description of each of the Truscon Products. 112 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, 6 x 9 in.

III FINANCING OF ENTERPRISES

The F. H. Smith Co., Washington, D. C.

1107. *Fifty-three years of Proven Safety.* Booklet relative to Smith First Mortgage Bonds, their safety, how they are safeguarded and how to invest in them. Offices in New York, Philadelphia, Pittsburgh and Minneapolis. 16 pp. Illustrated. Size, 8 x 10½ in.

S. W. Straus & Co., 565 Fifth Ave., New York City.

183R. *The Straus Plan of Finance.* A book describing the methods of S. W. Straus & Co., in helping to finance the erection of the larger class of properties such as office and apartment buildings, hotels, loft buildings and similar structures. A book valuable to the architect who desires to study the business side of the profession. 24 pp. Illustrated. Size, 7¼ x 10½ in.

Wherein we *"View with Alarm"*

IT takes a deal of landscaping, and many a bank of flowers, to offset the messy, untidy, malodorous garbage can! Not to mention the drudgery of those never-ending daily trips to dispose of the household refuse! And almost always, the distressed owner's plaint is, "If I had only known in time that the Kernerator must be built in, or passed up forever!"

Those beautiful homes you plan and build deserve something better than the antiquated method of garbage and waste disposal pictured above. They deserve the perpetual convenience of the time-tried Kernerator, with its handy hopper door right there in the kitchen, waiting to receive all garbage, sweepings, tin cans, crockery, papers, trash of every description.

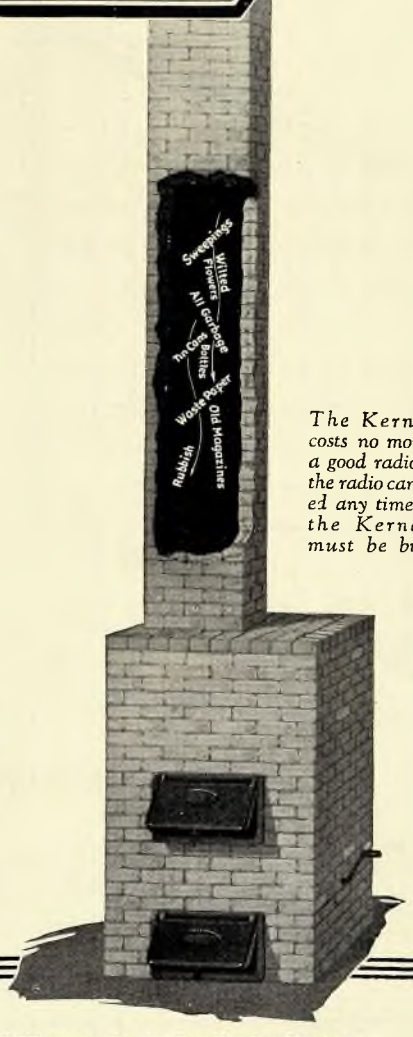
The Kernerator costs nothing to operate (the waste itself being fuel for its own destruction). It requires but a few minutes' attention weekly. It handles *all* waste—not only garbage, but tin cans, crockery, papers, sweepings and the like. Metallic objects are flame-sterilized for removal with the ashes. It is the original, flue-fed incinerator, built by the pioneers of the industry.

See Sweet's (1926) pages C 3054-55. For additional information phone your local Kernerator representative (25 of whom are listed in the telephone directories of that number of principal cities) or write—

KERNER INCINERATOR CO., 719 East Water St., MILWAUKEE, WIS.

KERNERATOR
Built-in-the-Chimney

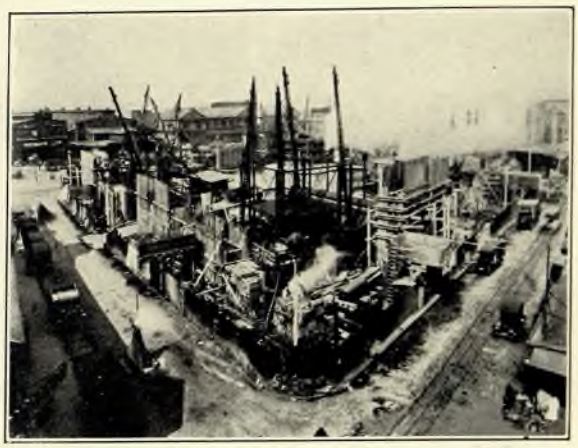
Garbage and Waste Disposal without Leaving the Kitchen



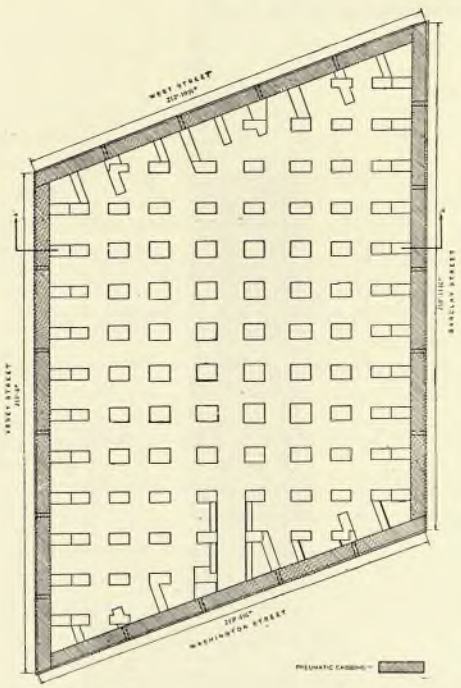
The Kernerator costs no more than a good radio—and the radio can be added any time, while the Kernerator must be built in.

THE NEW YORK TELEPHONE COMPANY BUILDING

PLANT LAYOUT *July, 1923*



SINKING CAISSONS *October, 1923*



LAYOUT OF CAISSONS AND PIERS

CONSTRUCTION

Unusual conditions found at the site—located outside the original shore line of the Hudson River—rendered difficult the construction of the Telephone Building foundations.

Material of almost every character was encountered between the surface and bedrock lying 75 feet below high water, and ground water was found at 2 feet below curb.

The unusual conditions required the use of the pneumatic method. A continuous concrete cofferdam of 22 caissons, surrounding the site and sunk to rock, permitted interior open excavation and pier construction, and with the piers formed the foundations.

To resist the great exterior pressure, including the unusual hydrostatic load, the caissons were held in place during construction by very heavy cross-lot timber bracing.

The Foundation Company completed its difficult portion of the work on the Telephone Building in record time, aiding in its early occupancy.

THE FOUNDATION COMPANY

CITY OF NEW YORK

Office Buildings
Industrial Plants
Warehouses
Railroads and Terminals
Foundations and Underpinning
Filtration and Sewage Plants

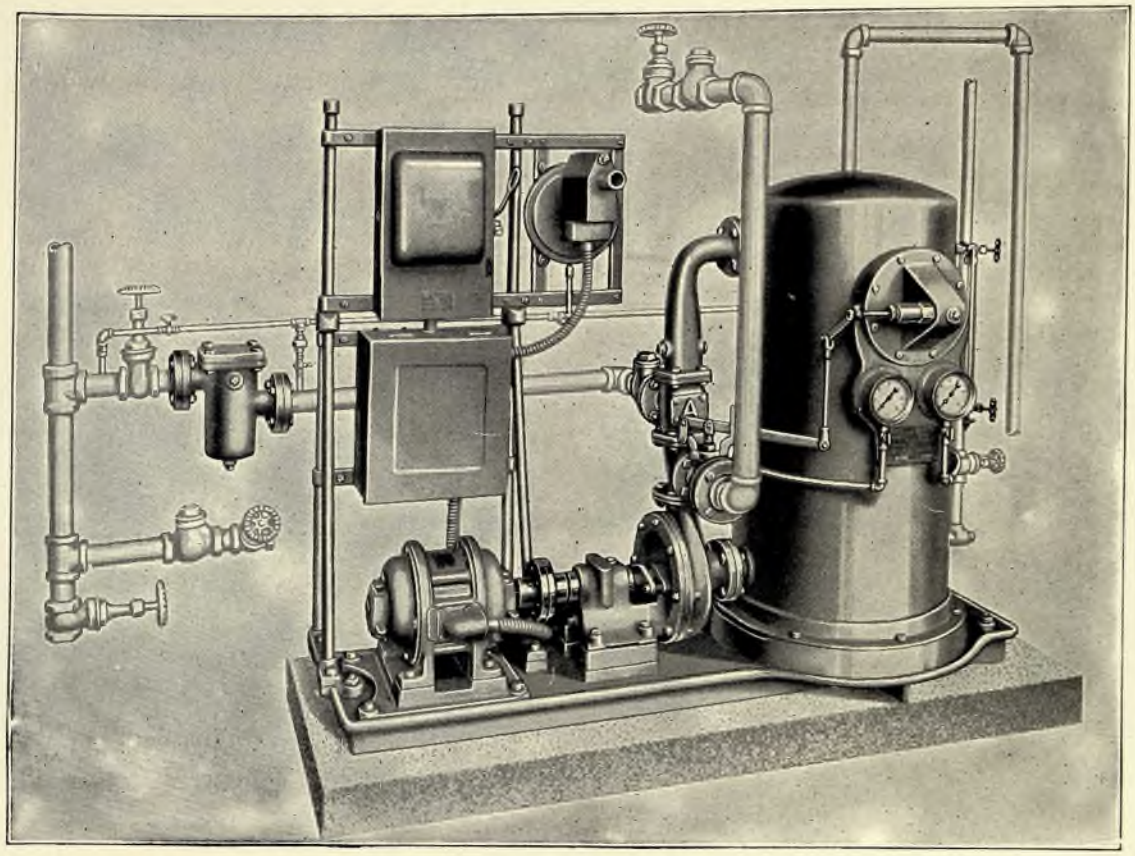
ATLANTA
PITTSBURGH
CHICAGO
SAN FRANCISCO

LOS ANGELES
MEXICO CITY
CARTAGENA, COLOMBIA
LIMA, PERU

MONTREAL
LONDON, ENGLAND
BRUSSELS, BELGIUM
TOKYO, JAPAN

Hydro-Electric Developments
Power Houses
Highways
River and Harbor Developments
Bridges and Bridge Piers
Mine Shafts and Tunnels

BUILDERS OF SUPERSTRUCTURES AS WELL AS SUBSTRUCTURES



VI unit equipped for automatic vacuum control, showing piping connections. Suction strainer and check valve at inlet of pump are furnished with unit, as well as companion flanges, bolts and gaskets.

YOUNG
CENTRIFUGAL VACUUM AND BOILER FEED
PUMPS

They are Quickly and Easily Installed

Young Pumps are installed with the least amount of labor and expense because they are shipped from the factory as completely assembled units. The electrical equipment is already mounted ready for connection to the supply lines.

When setting up the pump there are only two principal piping connections to be made and the electrician's only work is to connect the feed wires to the pump switch. The unit is then ready to operate.

Supplied in Standard Units of Seven Capacities

Before being shipped each Young Pump is connected and run for hours under rigid working conditions. Every part must be correct and every bearing perfectly aligned. This careful test insures proper operation the first time the switch is pulled.

Because of their simple, rugged construction Young Pumps may be depended upon to deliver constant uninterrupted service in the hands of the average janitor or boiler fireman.

YOUNG PUMP COMPANY

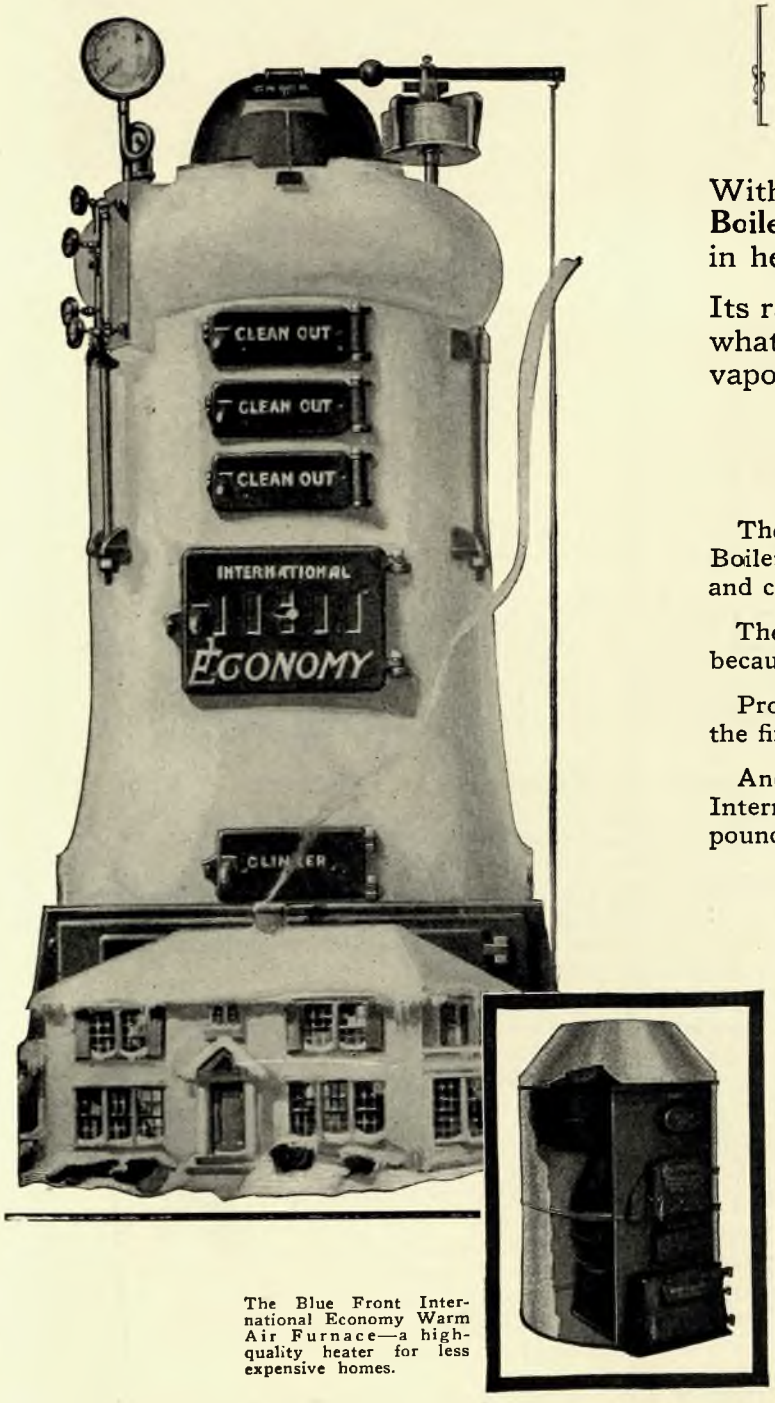
DUNHAM BUILDING
450 East Ohio Street, Chicago
Factory: Michigan City, Indiana

In Canada: C. A. DUNHAM CO., Ltd.
1523-41 Davenport Road, Toronto

Young Pumps Have Large Reserve Capacity

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

Depend on this Boiler to Deliver Heat Satisfaction



International Guaranteed Ratings cut out all guess work as to proper size

With the **International Economy Round Boiler** you can safely promise the utmost in heating efficiency to your clients.

Its ratings are *guaranteed.* You *know* just what size boiler is required for steam, vapor, or hot-water heat.

Its Heating Efficiency Delights the Owner

The way the International Economy Round Boiler delivers heat at a minimum of expense and care, pleases the owner of the house.

The ample coal capacity means fuel economy because of slower, even burning.

Proper combustion is insured by the shape of the firepot and the air control.

And the high heat absorption power of the International Economy turns every possible pound of fuel into heat for the house itself.

Easy to Care for

Because the ample fuel carrying capacity, for any kind of fuel, permits long firing periods, and because every part of the boiler sections is accessible for easy cleaning, the International Economy is the perfect round boiler for home installations.

Economy boilers have been endorsed by leading engineers in the oil burner industry as being unusually efficient with oil burners because of their large combustion space and long flue travel.

Architects and heating engineers are invited to send for Catalog 1746-X, which describes the various models in detail.

The Blue Front International Economy Warm Air Furnace—a high-quality heater for less expensive homes.

INTERNATIONAL HEATER CO.
Utica, N. Y.

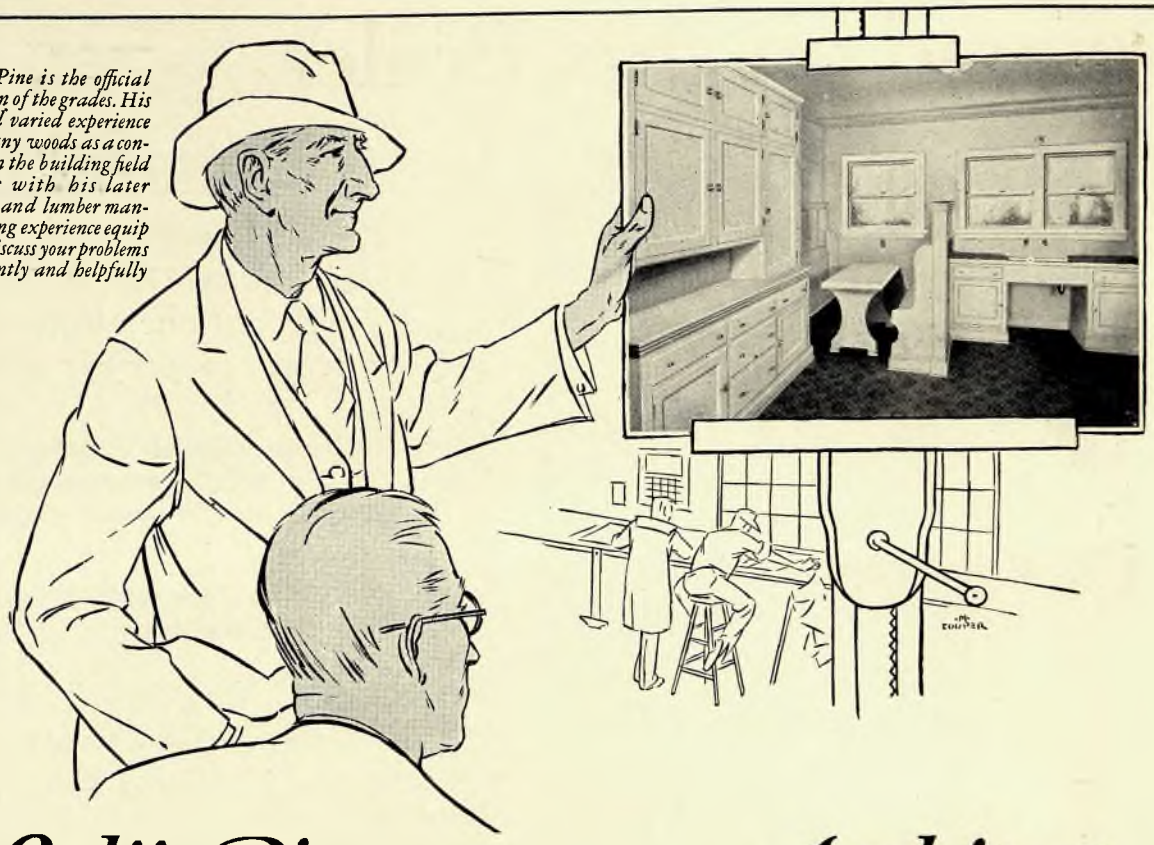
Cleveland Chicago Detroit
New York City Philadelphia
Nashua, N. Y.

INTERNATIONAL

STEAM AND HOT WATER BOILERS, WARM AIR FURNACES AND ONEPIPE HEATERS

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

"Cal" Pine is the official guardian of the grades. His long and varied experience with many woods as a contractor in the building field together with his later grading and lumber manufacturing experience equip him to discuss your problems intelligently and helpfully



"Cal" Pine and the Architect

Discuss Cabinets and Built-in Conveniences

"WHAT are the chief merits, 'Cal' Pine, of California White Pine and Sugar Pine for built-in cabinets, bookcases, and kitchen and laundry conveniences?"

"Well, you as an architect, like to see your designs carried out accurately. You can depend upon the most delicate lines and contours being reproduced as drawn when California Pine is specified. The uniformly soft texture and close, even grain of this wood assures easy planing, chiseling and sawing without splintering; precise fitting with joints that 'stay put' whether nailed or glued; remarkable freedom from warping and shrinking; no splitting even when nails and screws are driven right up to the edges, saving time and material. You can always expect, and get, a neat, craftsman-like job where California Pine is used. Doors will hold their shape, fit snugly and open and close easily. Manufacturers specializing in standard types of built-in cabinets and conveniences favor California Pine and use large quantities of it."

"How about the painting and enameling qualities of California Pine?"

"Easier, quicker work for the painter, cheaper for the owner. That's because California Pine has a natural light color which requires fewer coats for a fine job and because the smooth, satiny surface offers little resistance to the brush. Both of these qualities save time and money in painting. Paint and enamel hold their original beauty and smoothness, they don't show discoloration, crack or streak because California Pine is so free from pitch and the grain of the wood does not 'raise' and cause ridges in the enamel."

"What grades of California Pine are used for cabinets and built-in conveniences?"

"For cabinet work constructed on the job, use either 'No. 1 and 2 Clear', 'C Select' or 'D Select'. These are all select board grades for fine paint or enamel finish. My illustrated book gives full data on sizes, grades and uses. A postcard will bring you a free copy."

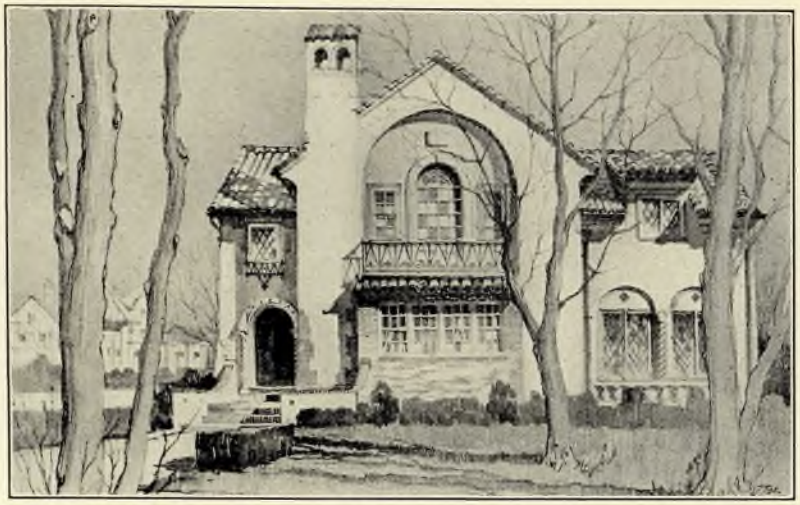
CALIFORNIA WHITE AND SUGAR PINE MANUFACTURERS ASSOCIATION

Also producers of CALIFORNIA WHITE FIR · CALIFORNIA DOUGLAS FIR · CALIFORNIA INCENSE CEDAR

655 CALL BUILDING, SAN FRANCISCO

california PINE

California White Pine (trade name) California Sugar Pine



Rendering by Samuel Chamberlain of a Manhattan Beach, N. Y., Residence. Slee and Bryson, Brooklyn, Architects. Dietrich Construction Co., Inc., Builders.

Ampinco SHOWERS

A PRACTICAL and economical shower fixture to harmonize with the Bathroom equipped with built-in fixtures.

Used in combination with bathtub, it is economical in space consumption, economical to install, and provides a complete, practical bathing unit for any bathroom. It is also ideal for use in shower stalls. It is a most luxurious body needle shower.

No curtains are required, because of the Kenney converging stream principle. The angle of the arms which support the six heads, adjustable vertically upon ball joints, directs the many needle streams inward and downward, enveloping the body of the bather from the shoulders down, and preventing wet walls and floor.

The Congress Concealed Model, Ampinco-Kenney Shower, *Equipped* with hot and cold valve control.

The hot and cold valves, with china index handles, provide the simple means of temperature and pressure control. All Kenney shower valves have renewable seat. All working parts are easily accessible from the front. A special control governor is a part of the fixture. It checks excess pressure at all times.

This fixture is of all-brass construction — bone-white china trimmed, and exposed brass parts, nickel-plated.

Assembled complete, subjected to 150 lb. water pressure test, and packed one to the case.

The lasting brilliance of Crodon Plate now enhances the beauty of Ampinco Showers. Crodon is the Chrome Alloy Plate with a hardness of surface of plate glass and a luster of polished platinum.

CRODON
The Chrome Plate
Applied Only to Quality Products

It does not tarnish and remains forever free from verdigris. Architects who insist upon the last word in beauty and wearing quality are specifying Ampinco Showers with this permanent finish.

THE AMERICAN PIN COMPANY DIVISION
SCOVILL MANUFACTURING COMPANY
WATERBURY, CONNECTICUT

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

Lincrusta-Walton
TRADE MARK REGISTERED

FOR friezes, panels and other special positions Lincrusta-Walton lacquered and decorated reproductions of Japanese Hand Tooled Leather are very effective. The rich coloring adds charm to any room whether in the Jacobean or Spanish spirit.

Lincrusta-Walton is a combination of lithopone, cement and linseed oil on waterproof backing. It is hung like wall paper and soon becomes a permanent structural material which withstands wear and is easily cleaned.

The line includes not only reproductions of hand tooled leather, such as the one shown, but also many other patterns.

Samples and portfolio will gladly be sent for your files.

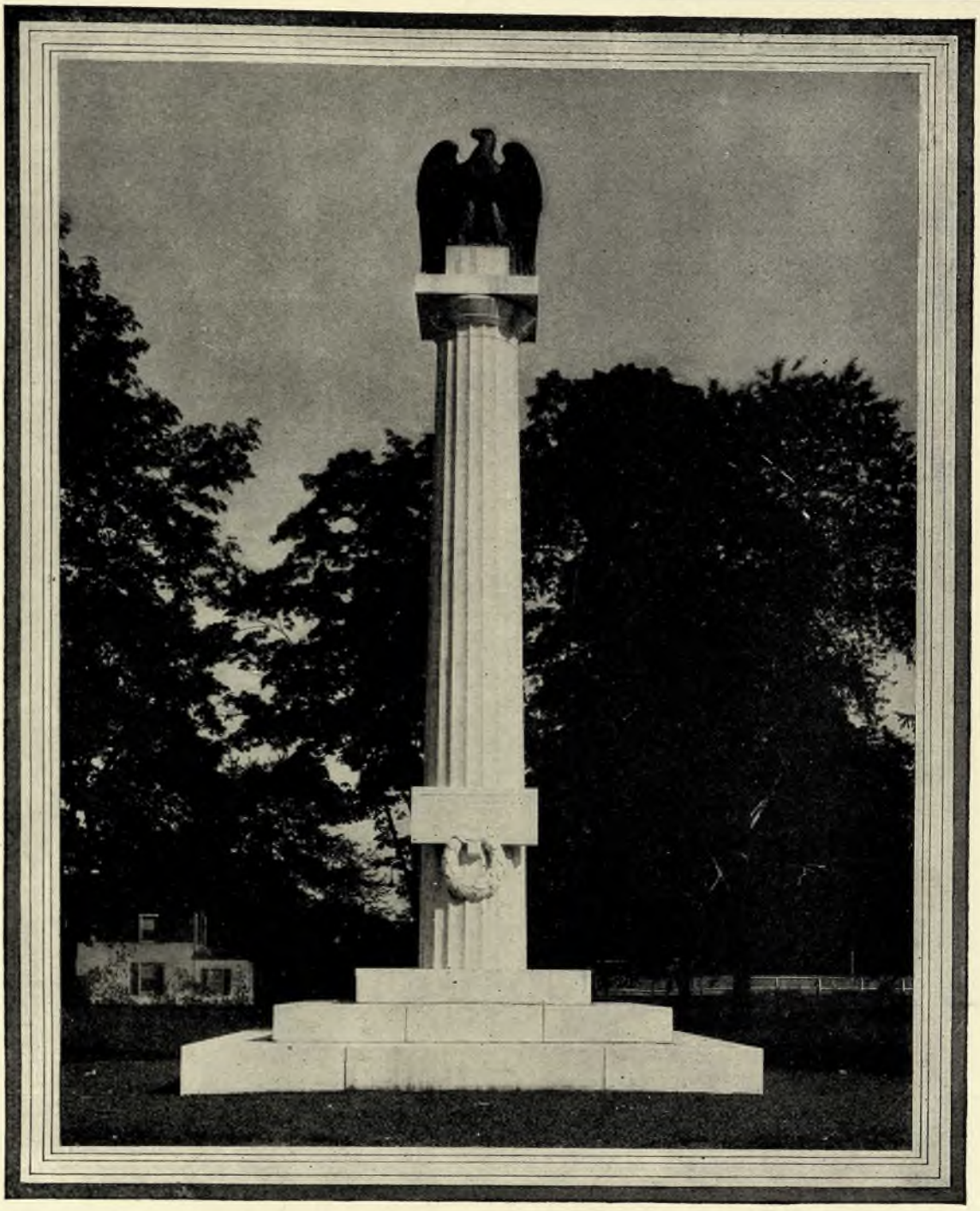
LINCRUSTA-WALTON COMPANY,

Division of The Tait Paper and Color Industries, Inc.
Plant and Head Office: HACKENSACK, NEW JERSEY

Branch Offices: 3801 South Ashland Avenue, Chicago, Ill. 350 Madison Avenue, New York City

Associated Companies:
IMPERIAL WALL PAPER CO. Glen Falls, N. Y.
IMPERIAL CAMPBELL BRANCH Chicago, Ill.
WM. CAMPBELL WALL PAPER CO. Hackensack, N. J.
HOBBS WALL PAPER CO. Hackensack, N. J.
PLATTSBURG WALL PAPER CO. Plattsburg, N. Y.

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



WORLD WAR MEMORIAL, RIDGEWOOD, N. J.
HENRY BACON, ARCHITECT ERECTED BY PICCIRILLI BROTHERS

A LASTING TOKEN

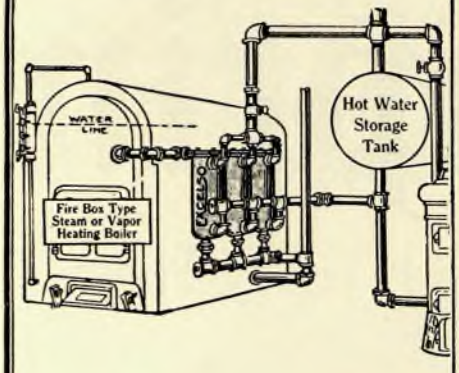
This shaft is erected in honor of the sons of Ridgewood who died in the World War. Being of Georgia Marble, it will stand for generations. This is believed to be the last memorial designed by Henry Bacon.

The Georgia Marble Company, Tate, Georgia; New York, 1328 Broadway; Atlanta, 511 Bona Allen Bldg.; Chicago, 456 Monadnock Bldg.

GEORGIA MARBLE

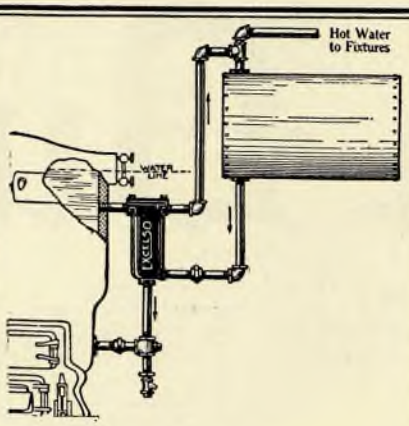
Specifications of most products advertised in THE AMERICAN ARCHITECT appear in the Specification Manual

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



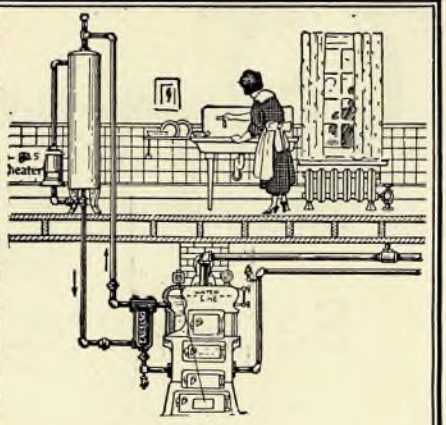
Battery of Excelso Water Heaters Connected to Steel Type Heating Boiler

Typical installation for large apartment houses and other larger types of buildings where large amounts of hot water are required



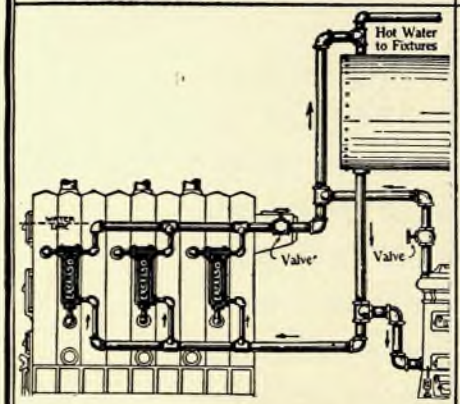
Excelso Water Heater Connected to Square Type of Heating Boiler

Storage tank can be installed in a horizontal or vertical position either in the basement or floor above



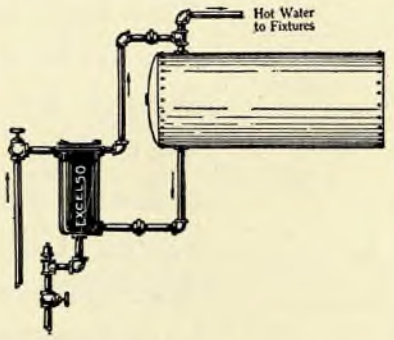
Excelso Water Heater Connected to Heating Boiler in Basement with Storage Tank in Kitchen

Gas heater shown for summer use. Storage tank may be placed in kitchen or basement, as preferred



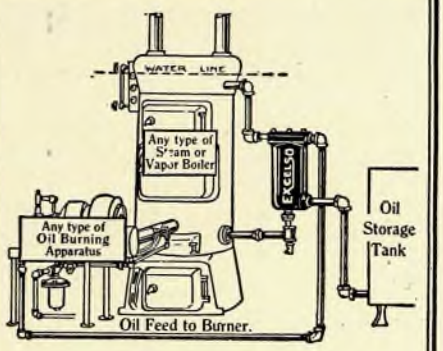
Battery of Excelso Water Heaters Connected Up for Larger Requirements

The Excelso Water Heaters are shown cross connected with coal water heater so that either or both may be used



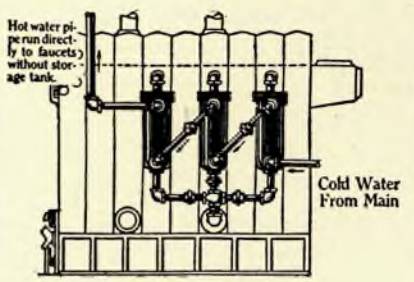
Heating Water with Live Steam

The Excelso Water Heater is used very extensively for heating water and other liquids by means of steam either with or without thermostatic control. Connect steam into the shell and circulate water through the copper coil. Suitable for steam pressure up to 50 lb. Reducing valve is used where pressure is higher



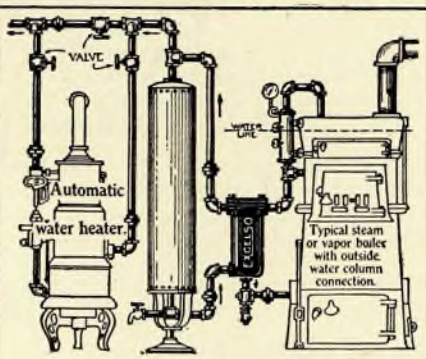
Excelso Heater Used to Pre-heat Fuel Oil

Typical installation for oil burning apparatus. Reduces carbon and noise, and assures better combustion



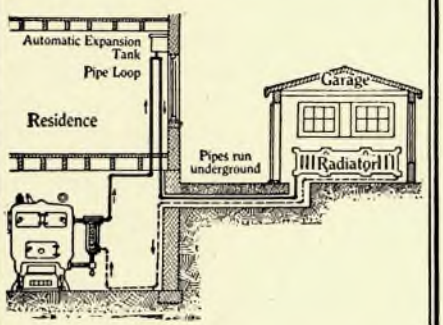
Three No. 15 Excelso Water Heaters Connected in Series to Heating Boiler without Storage Tank

This method affords instantaneous heating of domestic water without the use of a storage tank. Cold water passes through the coil of the first heater, then through the coil of the second heater and finally through the coil of the third heater



Excelso Water Heater Cross Connected with an Automatic Gas Water Heater

Gas heater for summer use; Excelso Water Heater for winter use



Installation for Heating a Garage by Means of Hot Water from a Steam or Vapor Boiler Located in Residence

This method of heating a radiator in a garage or other place is very successful. Consult us on any special installation and send complete details

Typical Installations

Tear this page out for your file

EXCELSO WATER HEATERS

Excelso Specialty Works, Inc.

63 Clyde Ave., Buffalo, N. Y.

Steel Costs Less Initially —BUT

Figures furnished by E. B. Clarke, Chief Engineer, Fisher Building, Chicago—Based on installing a 22-ft. length of pipe.

Annual Cost of using Steel Pipe

Material 22 ft. x $1.194 per ft.	$26.27
Labor	57.60
	83.87
Depreciation 83.87÷16 year life	5.24
Average interest at 6%	2.67
Cost per year	7.91

Annual Cost of using Genuine Wrought Iron

Material 22 ft. x $2.27 per ft.	$49.94
Labor	57.60
	107.54
Depreciation 107.54÷30 year life	3.59
Average interest at 6%	3.34
Cost per year	6.93

HOW did Mr. Clarke know that the life of steel pipe was only 16 years as against 30 for READING Genuine Wrought Iron? Let Mr. Clarke tell you:

"In the entire 30 years (since the erection of the Fisher Building) not a piece of READING wrought iron pipe has been removed because of its failure to resist corrosion or to carry out its function in any way.

"The steel pipe (installed 1907) has already given us much trouble and a great deal of it has been replaced. Two years ago we took out a horizontal run of 6" steel pipe connecting a down spout to a gravel tank. It had corroded to such an extent it had to be renewed."

Considering that Mr. Clarke's wrought iron is *still* in condition for many more years of service, his estimate of 30 years life is, to say the least, conservative.

READING IRON COMPANY

READING, PA.

World's Largest Manufacturers of Genuine Wrought Iron Pipe

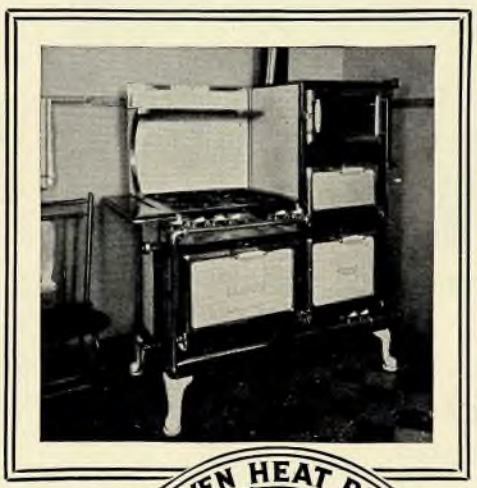
Boston, Philadelphia, Pittsburgh, Chicago, Detroit, St. Louis, Cleveland, Buffalo, New York, Baltimore, Tulsa, Cincinnati, Seattle, Los Angeles, Dallas

READING PIPE

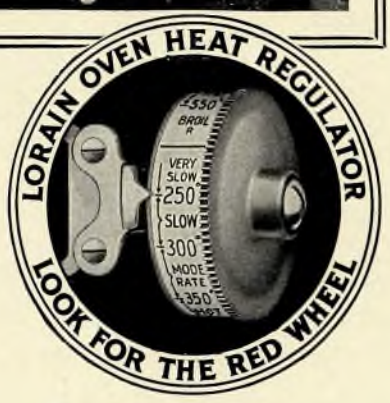
GENUINE WROUGHT IRON

Make Room for Kitchen Progress

Illustration above shows residence of Mr. J. Paul Zens, 2891 Paxton Road, Shaker Heights, Ohio. Architect, Philip Lindsley Small, Cleveland, Ohio. Below: Interior view of kitchen with Lorain-equipped Dangler Gas Range.



One easy turn of the Lorain Red Wheel gives the housewife a choice of any measured and controlled oven heat for any kind of oven cooking or baking.



Unless the Regulator has a RED WHEEL it is NOT a LORAIN

THE provision of adequate space for a Lorain-equipped Gas Range of cooking capacity in proportion to the size of the household should be a major consideration in planning the kitchen.

Women examining new homes look for the Red Wheel that identifies the Lorain Self-regulating Oven, because it means perfect cooking, easy canning and leisure.

More than 1900 school and university domestic science departments use Lorain Red Wheel Ovens. Millions of women see the Red Wheel advertisements that appear continually in their favorite magazines.

Lorain Red Wheel Ovens are built only in the following famous makes of Gas Ranges: **Reliable, Clark Jewel, Dangler, Direct Action, New Process** and **Quick Meal.** For specific data see Sweet's Catalog, 20th Edition, Pages 2769-2778 or send for our *Handbook on Gas Ranges for Architects and Builders.*

AMERICAN STOVE COMPANY

Largest Makers of Gas Ranges in the World

333 Chouteau Avenue ∴ St. Louis, Mo.

LORAIN OVEN HEAT REGULATOR

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

MONOLITHIC CONCRETE

St. John's Episcopal Church, Los Angeles. Both exterior and interior are monolithic exposed concrete—except the facade, which is Tufa. Architectural ornaments were cast in place. Architects: Pierpont and Walter S. Davis, Los Angeles. Contractors: Clinton Construction Co., San Francisco. New, illustrated booklet, "The Concrete of the Architect and Sculptor," will be sent promptly on request. In writing, please address the nearest office listed below.

Concrete for Permanence—and for Beauty

PORTLAND CEMENT ASSOCIATION

A National Organization to Improve and Extend the Uses of Concrete

Atlanta, Birmingham, Boston, Chicago, Columbus, Dallas, Denver, Des Moines, Detroit, Indianapolis, Jacksonville, Kansas City, Lincoln, Nebr., Los Angeles, Milwaukee, Minneapolis, Nashville, New Orleans, New York, Oklahoma City, Parkersburg, Philadelphia, Pittsburgh, Portland, Oreg., Richmond, Va., Salt Lake City, San Francisco, Seattle, St. Louis, Vancouver, B. C., Washington, D. C.

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

Permanently Beautiful Home Interiors

—their attraction depends largely upon the plastering

PLASTERING plays the most important part in creating beauty in the home. It is 90% of all that shows. All furniture, rugs, draperies, etc., depend upon it to accentuate their attractiveness.

That's why the careful selection of plastering material is so important, for no matter how attractive a home may be otherwise its beauty depends upon freedom from plastering defects. Ohio White Finishing Lime is not only beautiful when applied in any variety of textures or finishes but once applied is free from pitting, popping, chipping, checking and blistering. Its use assures easy and speedy application with greatest adhesiveness. Especially recommended for obtaining any of the effects realized from brush, cork float, stippler, sponge, cloth or small trowel and for greater beauty in cornice execution, paneling, moulding, etc.

Made in four brands—Buckeye, Ohio, Woodville, and Hawk Spread White Finishes. See our catalog in the "American Architect's Specification Manual" or "Sweet's" for complete information on the use of Ohio White Finishing Lime.

The Ohio Hydrate & Supply Co.
Woodville, Ohio
"The Lime Center of the World"

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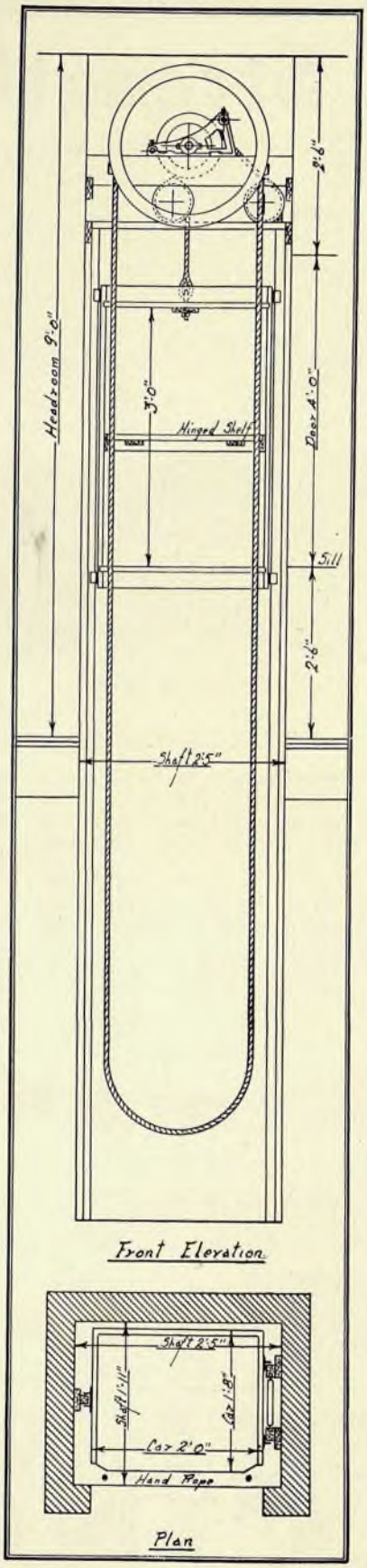
Specifications of most products advertised in THE AMERICAN ARCHITECT appear in the Specification Manual



Apartment House, New Rochelle, N. Y. Laurence M. Loeb, *Architect*
Sedgwick Automatic Brake Dumb Waiters Installed

Apartment House Dumb Waiters

Convenience of apartment house tenants is largely dependent on the equipment with which the building is serviced.

Sedgwick Dumb Waiters provide a safe, rapid and reliable means of transporting small freight and removing garbage.

Inspections of a number of apartment house installations recently revealed that many Sedgwick Dumb Waiters are still giving satisfactory service after twenty years of use.

The Sedgwick Architects Service Department is maintained to assist you in the proper selection and writing of specifications for hand power dumb waiter and elevator equipment.

SEDGWICK MACHINE WORKS

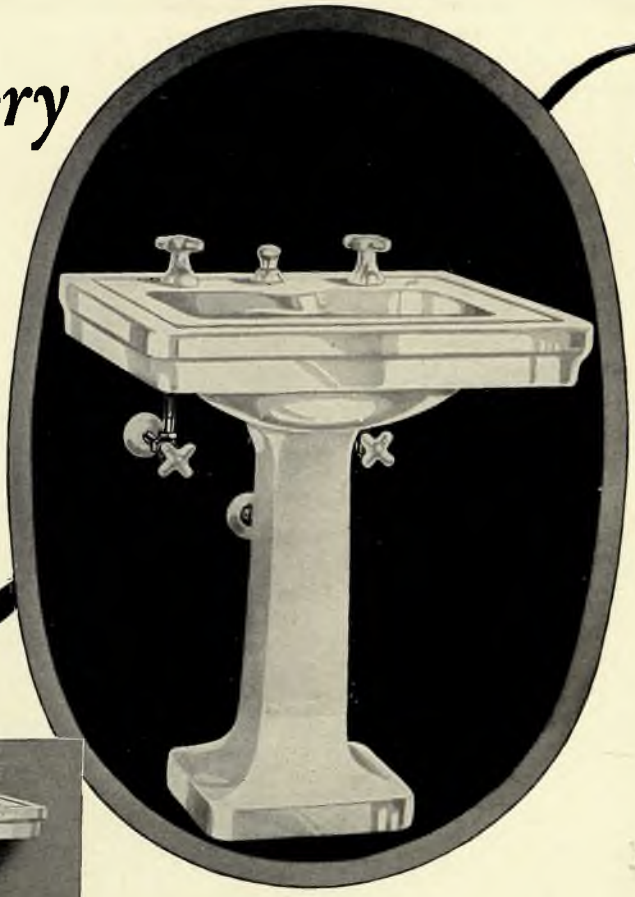
159 WEST 15TH STREET - NEW YORK

Manufacturers of "The Invalid Elevator."

The Madbury Lavatory

—a type for each particular bathroom

Self-cleansing overflow, by which overflow drain may be flushed under pressure. It is only necessary to hold a finger over the inlet opening and turn on the water. The water is diverted into the drain, cleansing it automatically.



THE Maddock "Madbury" Lavatory of Durock is the last word in beauty, convenience, cleanliness and durability.

The larger illustration shows the pedestal style; the smaller, the leg style. Both are identical in every detail except the method of support.

Because the leg style costs less to manufacture, it may be furnished at a somewhat lower price than the pedestal style; also it may be supplied, if desired, in a smaller size.

Both styles are made of all white Durock, including trimmings. Durock will not chip, crack, craze nor discolor.

The "Madbury" is the only lavatory made with a self-cleansing overflow, insuring complete sanitation. Hot and cold water, mixed to any desired temperature, is directed to the center of bowl in a single stream. There is a large square bowl with anti-splash rim.

Durock lavatories remain new indefinitely. They can always be kept spotlessly clean by merely wiping with a damp cloth.

Write us for as many copies as you can use of our booklet, "Maddock Bathrooms". They will help you "sell" clients on quality fixtures, and make them more appreciative of such fixtures when recommended. There will be no charge for the booklets.

THOMAS MADDOCK'S SONS COMPANY

Oldest Sanitary Potters in America

Trenton, N. J.

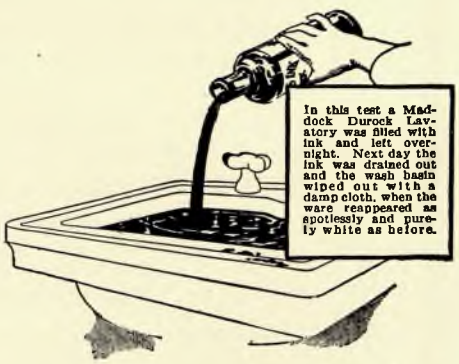
MADDOCK

DUROCK Bathroom Equipment

DUROCK

the perfect material for bathroom equipment

will not discolor



In this test a Maddock Durock Lavatory was filled with ink and left overnight. Next day the ink was drained out and the wash basin wiped out with a damp cloth, when the ware reappeared as spotlessly and purely white as before.

DUROCK is so hard and glass-like that nothing can penetrate it. The surface sheds liquids that would sink in and discolor other sorts of ware.

If ink, iodine, or acid is accidentally spilled on a Maddock Lavatory there is no damage done whatever. A damp cloth will always wipe the surface spotless and glistening as new. Maddock Lavatories never grow old and dingy, grey, or brown.

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Brick and Stone *were not enough!*

© Irving Underhill

Raymond F. Almirall
New York, Architect

So the architects of this bank advised a coat of this remarkable waterproofing to insure dry interiors

DAMP buildings are unhealthy places in which to work. In order to insure the Emigrant Industrial Savings Bank dry interiors, the Everready Service Company of New York applied Hydrocide Colorless to the exterior walls.

This material keeps the interior of this building dry in even the dampest weather. In addition it preserves the natural beauty of the brick and stonework. It prevents the walls from becoming streaked and discolored.

Hydrocide Colorless penetrates the exterior walls and forms a non-conductive protective layer. It contains no paraffin; hence it will never run in hot weather. It will not collect dust. It can be painted. When applied it is absolutely invisible.

Many leading architects are recommending Hydrocide Colorless today. They have found that it gives them dry, beautiful buildings. If you would like more complete information about this product, send for literature and a free demonstration sample.

Hydrocide Colorless
Waterproofing

Other Sonneborn Products

Lapidolith—The original concrete floor hardener. A liquid chemical that changes the floor surface to a fine dense crystalline structure of flint-like hardness. Hundreds of millions of feet of concrete floor have been Lapidolized in the leading industrial plants of the country.

Cemcoat—A paint that stays white longer than any similar paint; can be washed again and again; sticks to brick or concrete as easily as to wood; and usually requires one less coat. Made for both interiors and exteriors, in white and colors, and in gloss, eggshell, or flat enamel finish.

Lignophol—A preservative dressing for wood floors that penetrates and restores the natural oil and gum of the wood. Lignophol prevents rotting, drying out, and splintering; it is not sticky; it can easily be washed; and does away with ordinary floor oils.

Stormtight—The famous semi-liquid compound for mending and preserving roofs. The thick, adhesive rubber-like material can be applied by anyone, over any kind of roof, and gives a tight new surface that lasts for years. Made in four beautiful colors. Mends a single leak or makes an entire roof watertight.

Send for free samples of these products

L. Sonneborn Sons, Inc.

114 Fifth Avenue, New York City

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Refrigeration –a key to home management

Architects are much concerned with the utility and permanency of household equipment. Therefore, the vital question is: "Has the electric refrigerator come to stay?"

THE improved methods, which the electric refrigerator brings into the kitchen, mean the further emancipation of the housewife.

They help in kitchen routing; preparation, cooking and serving. They make marketing simpler. They make food cheaper, because one can buy in larger quantities; and the constant low temperature, automatically controlled, will preserve food for long periods.

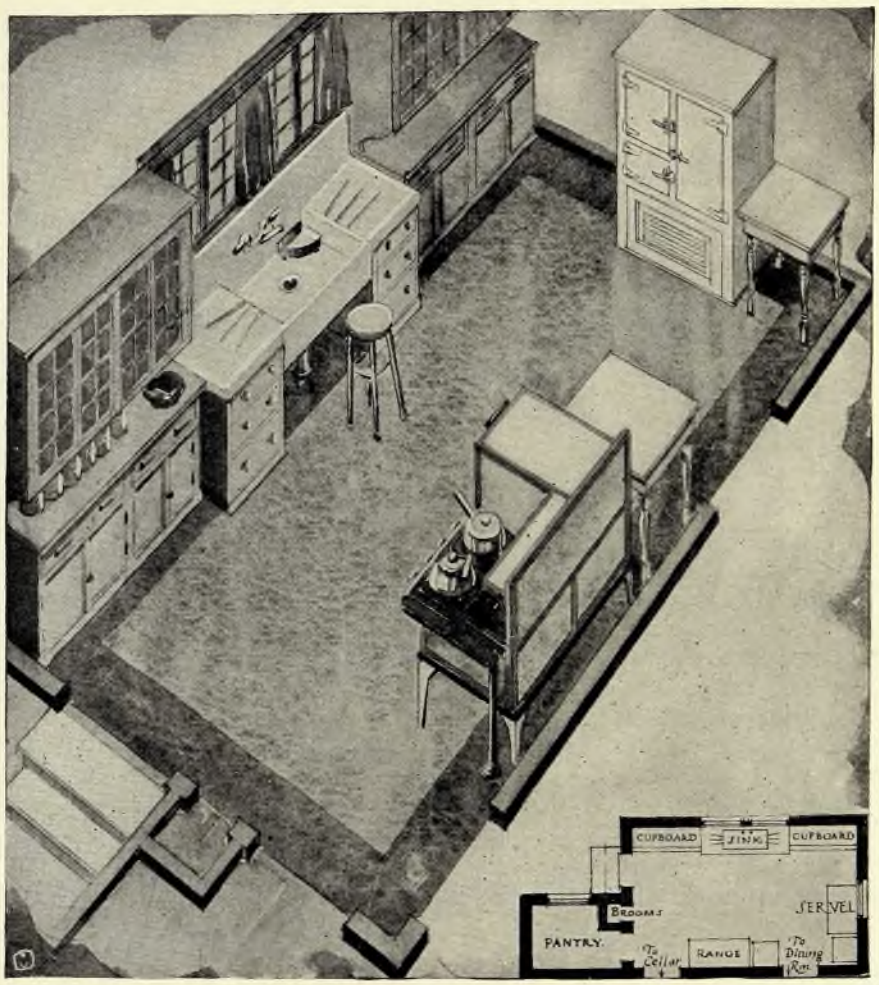
Any appliance which does these things is here to stay.

Another factor is this: The electric refrigerator can be put into any kitchen and it is available for most purses. Finally, the best ones are beautifully contrived; they endure and they do not give mechanical trouble. Electric refrigeration is a permanent investment.

Electric refrigeration has been long in appearing, but now it has definitely arrived—a proven, permanent household aid. It is a key to the smoother home management for which we all are striving.

Obviously, the kitchen plan which assures electric refrigeration, assures as well the approval and gratitude of the architect's women clients.

Why Servel? (1) Servel uses the coldest domestic refrigerant. (2) Its motor starts and stops less frequently. (3) Its operating costs are low. (4) Its service is remarkably enduring. (5) It is sold by more electric light and power companies than any other electric refrigerator, also by leading specialty dealers everywhere.



It is easy to see how Servel, placed as it is, saves hundreds of steps and waste-motions. Its steady, quiet, automatic refrigeration makes such a placement possible.

The Engineering Department is organized to assist architects with all problems of domestic and commercial refrigeration. Please address the Servel Corporation, 51 East 42nd Street, New York. Branches in principal cities in the United States. In London, England, Servel, Ltd.

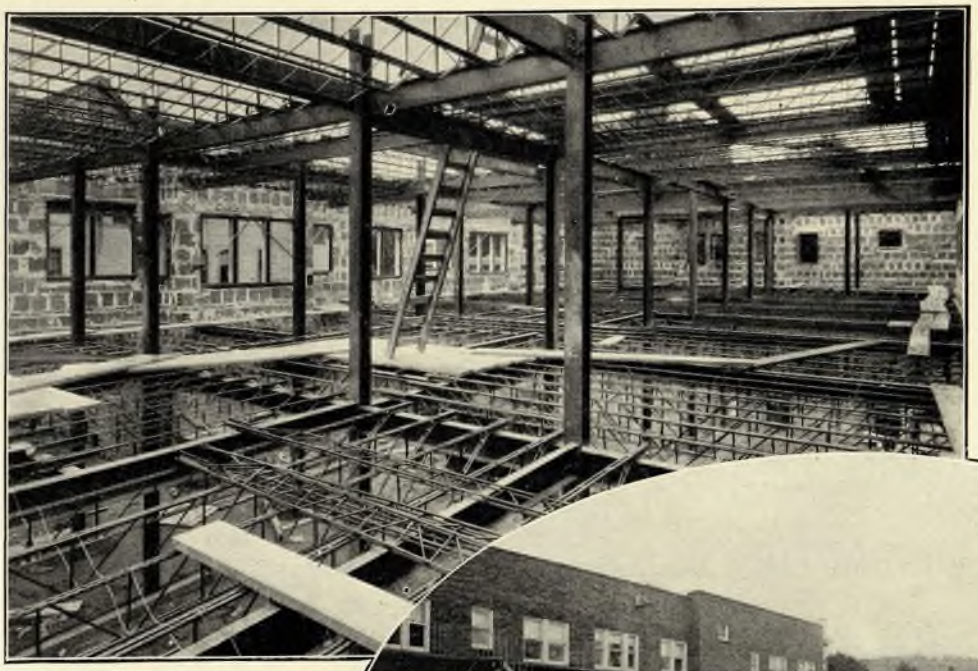
Trade Marks Reg.
SERVEL
U. S. Pat. Off.

6131-37

SERVEL AUTOMATIC refrigeration

Sold and recommended by more Electric Light and Power Companies than any other electric refrigerator — also by franchised dealers everywhere.

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



Monroe Apartments,
Rochester, N. Y.
Genesee Bridge Co.,
Steel Contractors.
Wm. J. Fucherer,
Architect.

Above — Havemeyer Trusses in place ready for lath.

Right — Lath attached to Havemeyer Trusses ready for concrete and finished floors.

The Havemeyer Truss

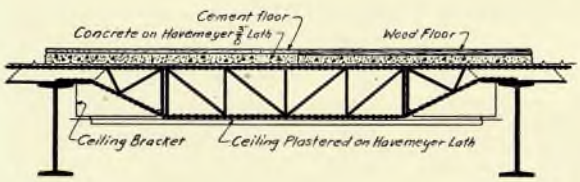


Diagram of Havemeyer Truss in place. Truss can be used on either steel beam or masonry.

—a quick economical fireproof construction for floors and ceilings

—for all types of buildings designed for light loads. Electrically arc-welded units, Pratt type truss. All welds rigidly inspected. Span up to 31 ft. Large stock for immediate shipment.

Send for details

Concrete Steel Company

42 Broadway, New York

Sales Offices & Warehouses in all principal cities **Truss Plant, Akron, Ohio**

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100 million feet of Southern Pine

in Concrete Forms at Muscle Shoals

FOR nine-tenths of a mile across the valley of the Tennessee, the dam at Muscle Shoals towers more than a hundred feet above the workman in the river bed below.

Into forms constructed entirely of Southern Pine, have been poured a million and a quarter cubic yards of concrete.

Here, where millions of dollars are involved, where perfection only would mean future efficiency, every foot of the concrete forms was built of Southern Pine—5000 car loads of Southern Pine.

No chances could be taken with the wood that might yield under the load, that might buckle or warp in the moisture, that could not be fabricated into forms sometimes approaching the accuracy of pattern work. Thus once again, in its hundred years of dominance as the supreme structural wood of the world, Southern Pine proved its right to that title.

In centuries to come this dominance will be unthreatened. Millions upon millions of trees grow bigger and stronger every year in the wonderful climate of the south.

The finest Southern Pine our mills ever produced is now available at any lumber yard east of the Rockies. You can tell Southern Pine by its trade-mark. You can judge it by its grade-mark.

Whether you plan factory, power plant or home, you should have a copy of the booklet,

Southern Pine—What It Is—What It Is Used For

This book discusses the stresses and strains to which the wood in your structure may be subjected. It recommends correct uses of Southern Pine. It is a recent publication and it is free. Send for it. Build right—and know you are right.

Special Notice—For engineers, contractors, architects and others especially interested in Southern Pine for concrete forms, a new booklet is being prepared. It will be sent, when completed, to those who ask for it.

* These letters at the right of "SPA" identify the grade. The designation here is one of 18 grade-marks appearing on lumber from Southern Pine Association mills.

Southern Pine Association
154 Interstate Building
NEW ORLEANS, LOUISIANA

Southern Pine—The *Supreme Structural Wood* of the World

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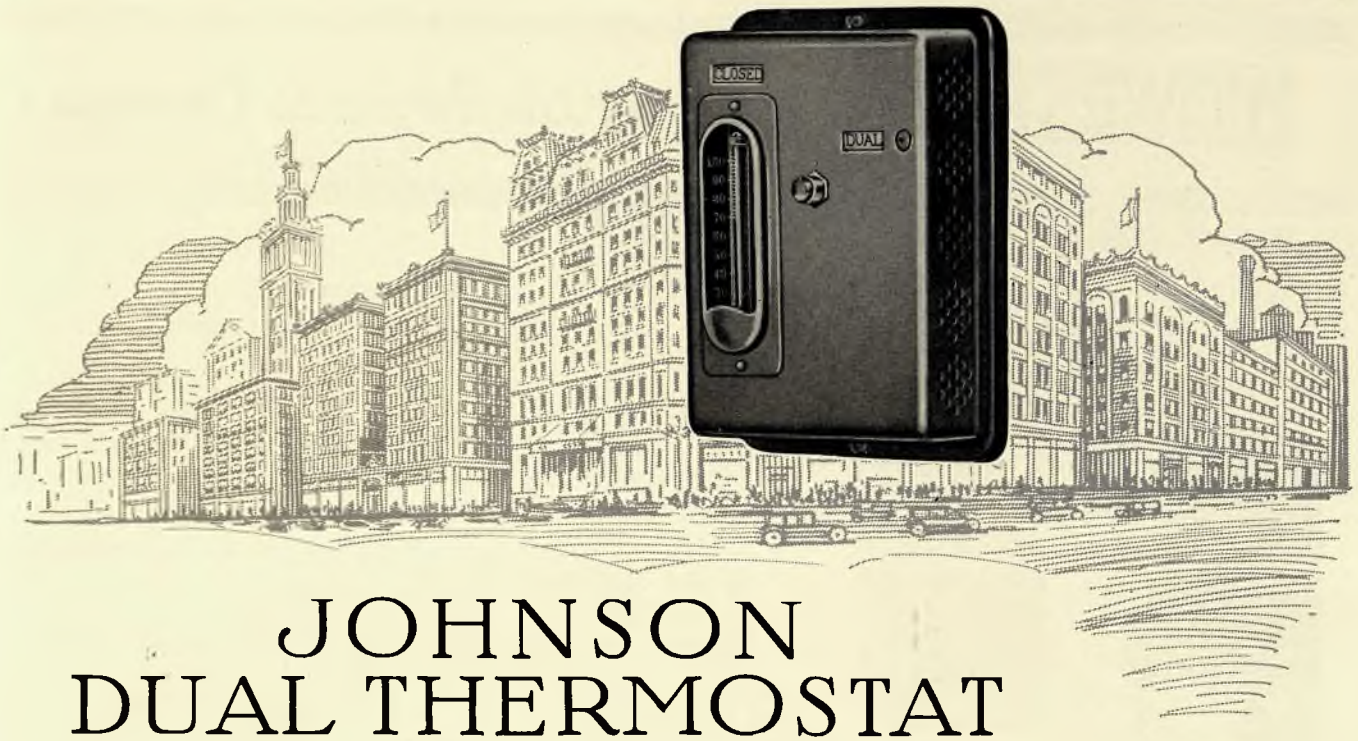

JOHNSON DUAL THERMOSTAT

When Building After Building Specifies Johnson Dual Thermostat Temperature Control, There is Indeed Cause To Stop, and Consider

THE great success of The Johnson DUAL THERMOSTAT System of Temperature And Humidity Control is expressed by the increasing number of buildings acquiring it, and the impressive results those buildings are obtaining from it. And that strongly recommends that you find out fully about Johnson DUAL THERMOSTAT Temperature Control: before you decide not to include automatic regulation in your building; or before you finally decide which regulation to install.

Exclusively a Johnson Perfection and Further Johnson Advancement

The heat of all rooms, floors or sections of a building not in use is turned off by a single switch control, leaving the heat on or available only in rooms, sections and on floors used. And, when desired, the heat in the entire building is turned on again by the same simple, convenient switch. A valuable night-time fuel economy convenience for all classes of buildings, and now accepted as the totally complete fuel saving, temperature control.

JOHNSON SERVICE COMPANY
Factory & Main Office - MILWAUKEE, WIS.

Now Comes

The Barclay Vesey Building, New York

New Home of The New York Telephone Company
McKenzie, Voorhees & Gmelin, *Architects*

Equipped with JOHNSON Dual Thermostat Temperature Control

JOHNSON
SYSTEM OF TEMPERATURE AND HUMIDITY CONTROL

AUTOMATIC TEMPERATURE REGULATION SINCE 1885

JSC

TWENTY-NINE BRANCHES UNITED STATES & CANADA

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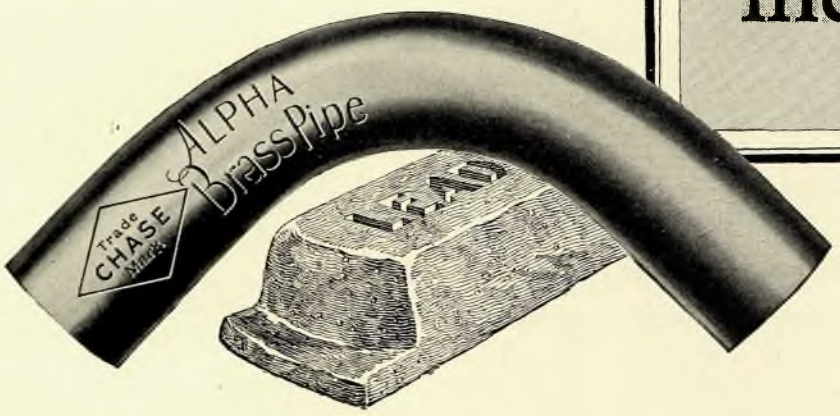
Why ALPHA Brass Pipe has "more lead"



LEAD in brass acts as a lubricant for cutting tools. It exists as fine particles distributed throughout the brass alloy, and with just the proper amount of lead, brass becomes what is known as "free-cutting."

Free-cutting pipe is free-threading pipe, which means that clean sharp threads can be made, and perfect leak-proof connections.

Because of the method by which ordinary brass pipe is made it does not contain as much lead as Alpha Brass Pipe. Therefore, in addition to the 10% more copper found in Alpha Brass Pipe an additional quantity of lead is also found which gives particularly favorable threading qualities to this pipe.

ALPHA has more copper and more lead than the usual brass pipe. More copper raises its resistance to corrosion and makes it more ductile and tough. More lead makes it easier to cut the clean and perfect threads so essential to leak-proof connections.

Alpha has a superior surface finish and can be bent cold without collapsing. Every foot of every length is trade-marked and we guarantee it against season cracking.

CHASE COMPANIES
INCORPORATED
WATERBURY, CONNECTICUT
Chase Metal Works — Chase Rolling Mills

STOCKS
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Chase Companies of New Jersey, Newark.
The Ohio Chase Company, Cleveland.
Chase Companies of California, San Francisco, Los Angeles

OFFICES
Boston New York Philadelphia Rochester
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Members Copper and Brass Research Association

Chase Companies, Inc., Waterbury, Conn. 1-6131-18

Please send me free of charge a copy of your book on Alpha Brass.

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Firm.....

Position.....

Address.....

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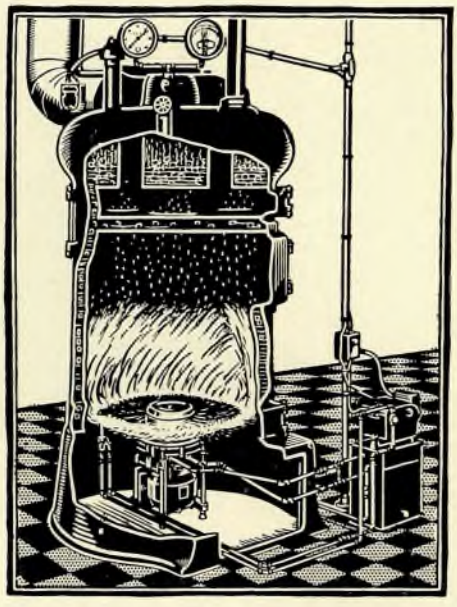
The Roar has been Conquered *by* the Radiant Shell of Silent Flame



Silent Automatic exclusive method of Direct Heating is equally efficient in round, sectional or steel boilers.

No roar. No dust. No ashes. No dirt. No soot. No smoke. No disagreeable odors or fumes. Just *clean, silent* and *automatic* heat. In place of a roaring blast projected by a noisy blower, Silent Automatic produces a *radiant shell of silent flame.*

This radiant shell swings around and around the fire box, hugging the heating surfaces—bathing them with lively heat. *No heat is wasted.*

This exclusive method of direct heating gives Silent Automatic a new high efficiency rating, and makes *economy an immediate certainty,* not a remote probability. *Write now for complete details.*

Listed as Standard by the Underwriters' Laboratories

SILENT AUTOMATIC CORPORATION
255 MELDRUM AVENUE - DETROIT, MICHIGAN

$350

Installed with complete automatic safety and operating control equipment heretofore found only on the highest priced machines. Tankage extra.

SILENT AUTOMATIC

THE NOISELESS OIL BURNER

(188)

"Fronts That Blend"

No matter what the type of building, Desco fronts blend into the picture so that there's no doubt but that they "belong."

For instance, there's the Stanley Anderson Arcade, in Beverly Hills, Los Angeles, California, pictured above.

Here is an interesting blend of the old and the new. And here is effective use of Desco, by Asa Hudson, architect, and C. L. Peck, the contractor.

Specify Desco Fronts and be assured of outward evidence of the quality that you put into your structure.

Your request will bring complete working details and a price-list, without obligation. Sweet's Catalogue also contains further information. There is a distributor near you. A complete stock of "Desco" construction materials is carried in our New York City warehouse, 562 West 52nd Street.

DETROIT SHOW CASE COMPANY, 1670 Fort Street, West DETROIT, MICH.

Desco METAL

(273)

STORE FRONTS

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From TUDOR *Times*

IN the days of good Queen 'Beth wood paneling was a favorite finish for interior walls, and so highly was such paneling prized that often when a householder moved from one home to another he took his wall paneling with him. Genuine Tudor paneling is charming because of its carefully worked-out proportions — a quality not always found in much paneling that purports to be of Tudor design.

Here in this Curtis door C-305, which is designed especially for the room with Tudor paneling, these proportions are faithfully carried out. The horizontal rails line up exactly with the panels on the walls. Being of English origin, this door also fits perfectly into the interior where the walls have a sand plaster or rough finish, and it appears at its best when stained or waxed so as to bring out the natural beauty of the grain of the wood (oak). Door C-305 is furnished by Curtis in sizes 1⅜" thick.

Note the trim around this door. Its surface has beautifully rounded moldings, rather large in profile, so as to produce definite lights and shadows when the wood is stained or waxed. It is mitered at the corners, being of one piece, and is easy to cut and fit.

A short plinth block below is suited to a relatively narrow baseboard, such as the narrow bottom rail of the door requires. This trim is Curtis Standard Trim C-1660, one of the most distinctive of the many Curtis trim families. All Curtis trim patterns were detailed by Trowbridge & Ackerman, New York City.

Woodwork with Soft, Rounded Lines *and* Rich, Warm Texture

HERE are shown a few examples of Curtis Woodwork designs suitable for homes in the various English styles.

The fine craftsmanship that distinguished English woodwork is reflected in Curtis workmanship and construction methods today. Yet Curtis Woodwork costs no more than other millwork, often less—because of large scale production and wide distribution.

English of the QUEEN ANNE *Period*

VISITORS to the new American Wing of the Metropolitan Museum of Art, in New York City, stop to admire the original china closet of which this Curtis design is a replica. It is in a room restored from an old farmhouse built in the Connecticut River Valley in the second quarter of the eighteenth century. The Museum booklet says that the arches are "strongly reminiscent of a treatment usual in work of the reigns of Queen Anne and George I." The crossed rails and raised beveled panels in the lower door form a design peculiar to the Connecticut River towns.

This Curtis design C-703 is 7'0⅜" high, 3'3¾" wide, including trim; and 1'6" deep overall. The case is made to set across a corner of the room. As illustrated, in unselected birch, it is supplied by Curtis dealers for less than $70.00. Also furnished in white pine and oak.

1866 CURTIS WOODWORK

These and many other Curtis designs (for English and other types of houses) are produced in standard sizes and woods and are available for immediate delivery.

The leading dealer in woodwork in your town (if your practice is east of the Rockies) is probably a Curtis dealer. See him and select from his stock or the Curtis Catalog, the proper designs, sizes and woods to suit your plans. He will be glad to explain in detail all the construction features of every Curtis article; or write us for further information.

The Curtis Companies Service Bureau, 486 Curtis Bldg., Clinton, Iowa

Representing—Curtis Detroit Co., Detroit, Michigan; Curtis-Yale-Holland Co., Minneapolis, Minnesota; Curtis Bros. & Co., Clinton, Iowa; Curtis & Yale Co., Wausau, Wisconsin; Curtis Sash & Door Co., Sioux City, Iowa; Curtis, Towle & Paine Co., Lincoln, Nebraska; Curtis, Towle & Paine Co., Topeka, Kansas; Curtis Door & Sash Co., Chicago, Illinois; Curtis Companies Inc., Eastern Sales Office: 25 West 44th Street, New York City, *Curtis Companies, Incorporated, Clinton, Iowa.*

For Homes Too

Men and women are placing increasing emphasis upon fire safety as a necessary element in the modern home. Consequently GF Steel Joists have won high favor with architects, for home design. Architects recognize that GF Steel Joists in home construction mean more adequate fire protection, greater rigidity, and sound proofness as well. They recognize further that the cost item to their clients for this better construction, is very little more than is required for building with ordinary combustible material. Write for Handbook and Data on GF Steel Joists.

GF Steel Joists
for Light Occupancy Buildings

Other GF Products

GF Steel Tile, GF Duplex Steel Bridging, GF Steel Channels, GF Peds, GF Key Lath, GF Self-Sentering, GF Corner Beads, GF Trussit, GF Expanded Metal, GF Diamond Rib Lath, GF Steel Sash, Basement and Casement Windows, GF Lintels, GF Industrial Steel Doors, GF Wire Mesh, GF Concrete Reinforcement, GF Waterproofing Compounds.

THE GENERAL FIREPROOFING BUILDING PRODUCTS
YOUNGSTOWN, OHIO

Branches in all Principal Cities. Dealers Everywhere.

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The American Architect is a member of The A. B. P.

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

Operation does not interfere with screens

Weather-proof, rattle-proof and rust-proof.

Furnished in wood or steel.

Eliminates outside window washing.

Ventilates without draft.

Completely weatherstripped.

Regardless *of* Weather Conditions

The top and bottom sashes of the Sykes Ventilating Window may be raised, lowered or inclined inwardly — a feature that assures absolute ventilation control without draft and eliminates outside window washing equipment, outside window washing hazards and outside window washing insurance.

The Sykes Ventilating Window is as simple in operation as a double hung window. Its operation does not interfere with screens or storm windows.

Made to specification in steel or wood sash, completely weatherstripped with pure zinc, copper, bronze or Sykolite rust-proof steel, it merits consideration in your plans and specifications. Write us for details.

THE SYKES COMPANY

2300 West 58th Street, :: :: CHICAGO

REPRESENTATIVES IN NEW YORK, DETROIT, CLEVELAND, CINCINNATI, WICHITA, ATLANTA, NEW ORLEANS, MINNEAPOLIS AND PHILADELPHIA

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Clean Threads for a RIGID-conduit installation

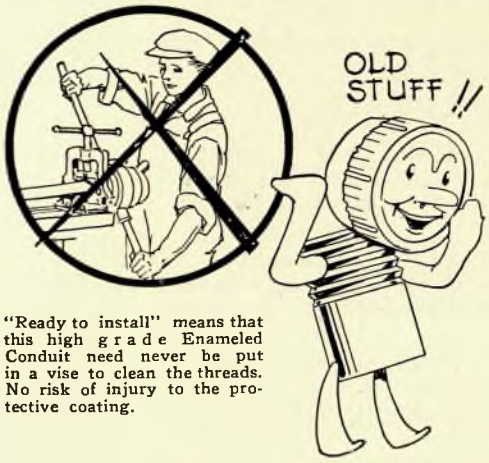
Threads Protected — a Quick Job — and a Better One!

THERE is satisfaction for you and your clients with this highest grade of Enameled Conduit and its new improved Thread Protector. The clean, sharp, true threads allow pipe ends to butt solidly together inside every coupling—the first essential for a substantial job.

To assure its flexibility and high quality, the enamel for the coating is a product of our own shop. We take no chances with open market enamels. Our enamel is of Gilsonite and pure Linseed Oil, dries hard and elastic, baked on—tough as the coating on your automobile fenders. Its smoothness speeds wire fishing on the job. This special Black Enamel is obtainable only on Pittsburgh Standard Conduit.

The new reinforced Thread Protector assures sharp, true, clean threads—coated with just enough enamel to protect from rust.

For a secure, substantial rigid conduit installation you will gain satisfaction complete with Pittsburgh Standard. Costs no more than ordinary enameled Conduit. Reaches the job ready to install.



"Ready to install" means that this high grade Enameled Conduit need never be put in a vise to clean the threads. No risk of injury to the protective coating.

Enameled Metals Company

Pittsburgh, Pa.

PITTSBURGH STANDARD
Galvanized Conduit

PIPE thoroughly cleaned, then given a heavy zinc coating. Inside coated with our special Black Enamel, baked on. A conduit that is standard in fact as well as in name.

PITTSBURGH STANDARD
THREAD PROTECTED
ENAMELED CONDUIT
PATENTED

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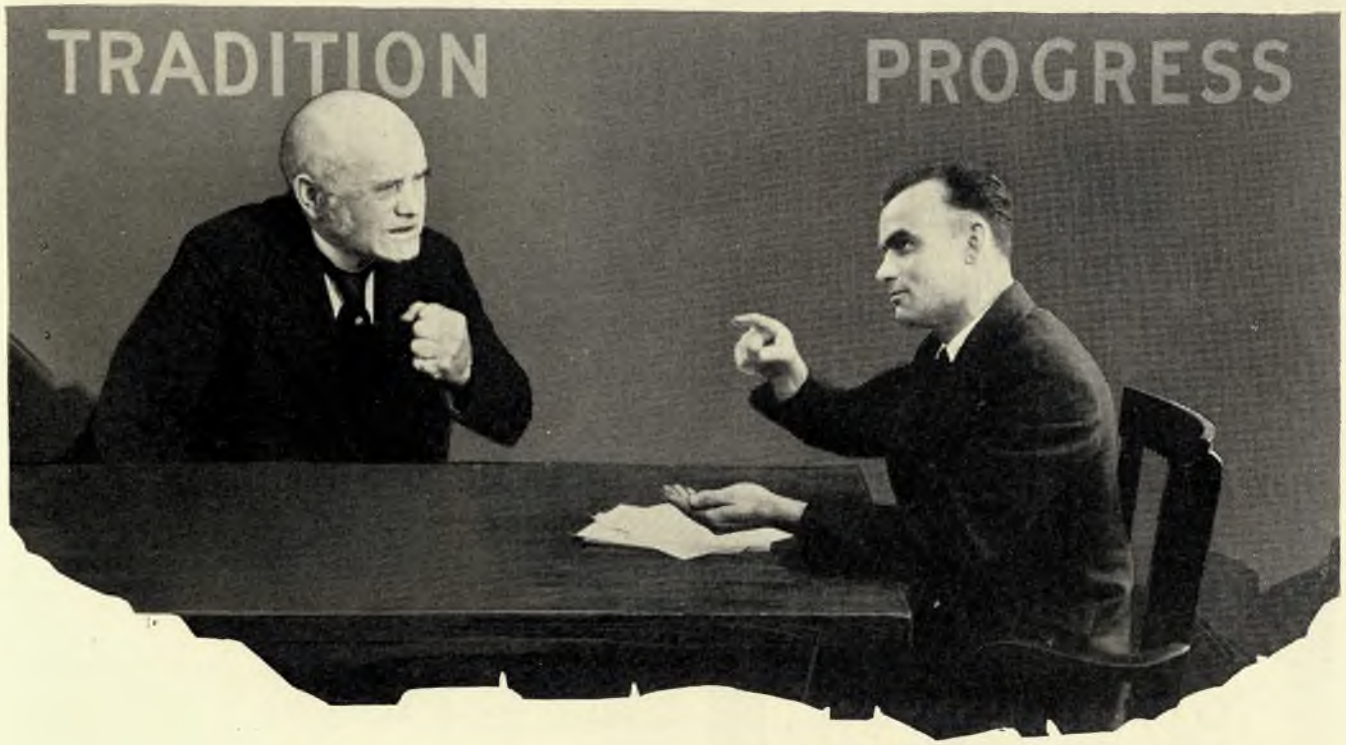
LAD GIVES POP A MODERN PEEK



"Listen, lad—

it's preposterous for you to expect me to listen to you in the matter of using A.C. motors in the new building.

Why, the whole history of electric elevators has been written by D.C.

Our new building must reflect only the best practice."

"Yes, pop—

that's why I recommend A.C. I've taken it up with several architects' engineers and they tell me that here's what you get with A.C.—and it's *some* get:

Absolute quietness—smooth operation—very moderate first cost—much lower maintainance cost—entire freedom from brush and commutator troubles—and elimination of separate motor generator sets because A.C. motors will take current right from our power lines.

You're fighting A.C. motors with just the words you fought concrete construction a few years ago. If D.C. wrote elevator history, it did it with a quill—A.C. now continues the story in shorthand.

Why not get the whole story from Dept. No. 11-11."

The Lincoln Electric Company, Cleveland, Ohio

MB-1

"Linc-Weld"

LINCOLN MOTOR

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"Sully" the Chemist says—

Specify a Freezeproofing—

—KONSET quickens the set in all weathers.

Bring the contract through on time, regardless of freezing weather. Specify KONSET. This Sulco Product shortens the set of cement in all weathers and climates, increases tensile strength, waterproofs and freezeproofs in the one operation. Identified with noteworthy architecture throughout America.

Depend upon Sulco Products for protecting wood, metal and concrete surfaces. There are preservatives for walls, floors, roofs and mechanical equipment and compounds to beautify, repair and lengthen the life of buildings of every type. Just a few can be illustrated here. Others are: Mastic Flooring; Metallic Hardener; White Lead and Zinc; Plaster Bond; Wood Cement; Iron Cement; Oilproof Coating; Plastic White Cement; E.Z. Cement Patch; Canvas Preservative; Wood Preservative; Stucco; Nailing Concrete; Floor Wax; Concrete floor paints, hardeners and dustproofing; Glazing and Caulking Compound; Rustproofing Compound; Aluminum Paint; Boiler Compounds; and Technical Paints and Varnishes. See Sweet's Catalogs.

The attached coupon will enable you to post yourself on any or all of the SULCO Products and will bring samples specified. Write for jobbers' proposition.

CONSTRUCTION

Quick setting Compound for cement. Saves time, labor and money. Hardens and Waterproofs in same operation. Freezeproof. Made in colorless liquid or all colors used on 2359 different cement contracts.

WALLS

A Waterproof Portland Cement Paint that sticks to Stucco, Cement, Brick, Plaster and all masonry surfaces. Mixed with water instead of oil. 14 colors.

ROOFS

Asbestos Fibre Cement. Liquid or Plastic, all colors. For repairing or renewing roofs, caulking or glazing glass, chimneys, skylights, etc.

FLOORS

Crystals or Liquid. Hardens cement surfaces new or old. Stops Dusting. Oilproof. Acidproof. Applied overnight. Makes Concrete floors wear longer. 2,180,000 sq. ft. used.

Concentrated paste waterproofing, full strength, that accelerates and waterproofs in the same operation, to be mixed with the gauging water.

Permanent colors that harden, accelerate and waterproof in the same operation. Made in all colors paste or powder.

The SULLIVAN Co.

Memphis, U. S. A. Montreal, Can.

The Sullivan Co., Memphis, Tenn. *AA No. 3*

Send me, without obligation, data, on the following Sulco Products .....

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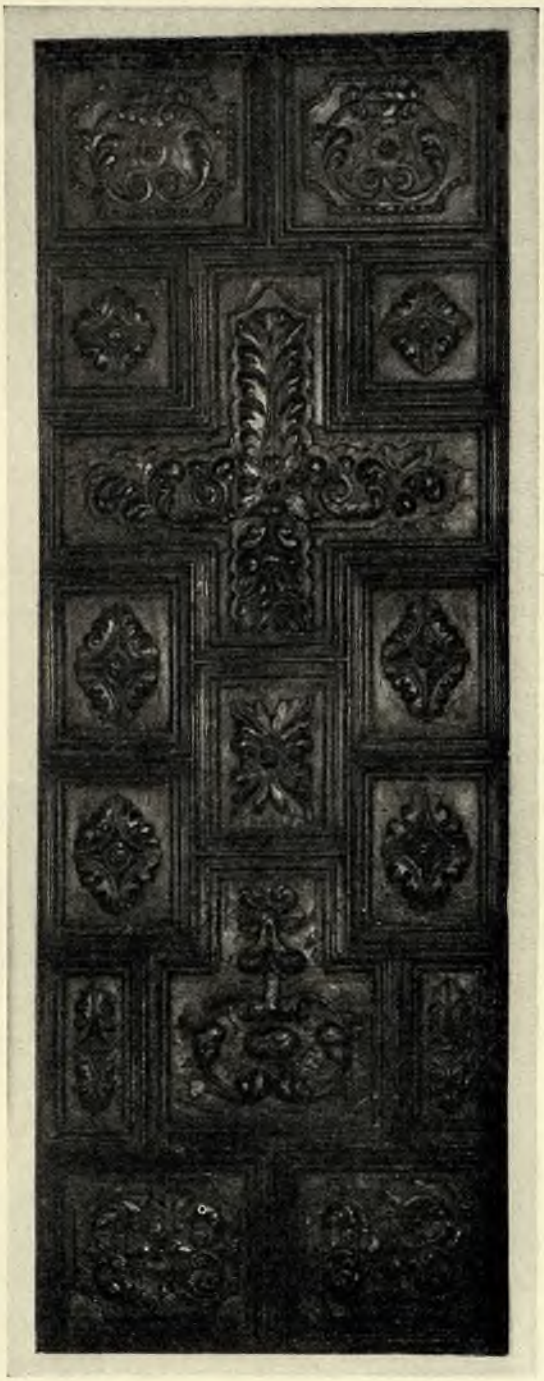
Send samples of: .....

Name ..... *Address* .....

City ..... *State* .....

SULCO PRODUCTS

Constructive and Protective Compounds



"Duretta" reproduction of 17th Century Spanish door

DURETTA

A fireproof, durable, non-warping, non-shrinking substitute for wood or metal

DURETTA panelled doors possess the feeling, grain and tool marks of hand carved wood, while still retaining its fireproof quality.

Send for illustrated booklet

G. E. WALTER

157 EAST 44th STREET-NEW YORK

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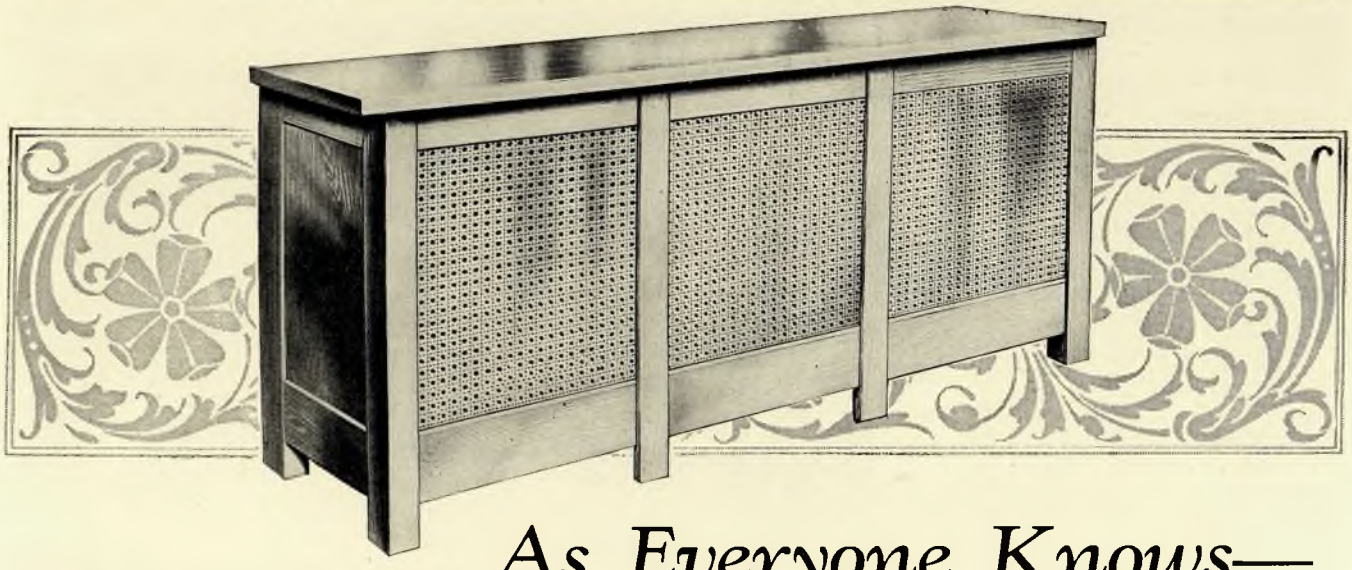

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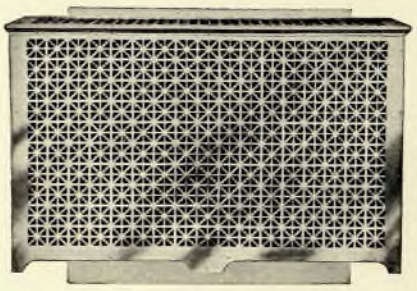

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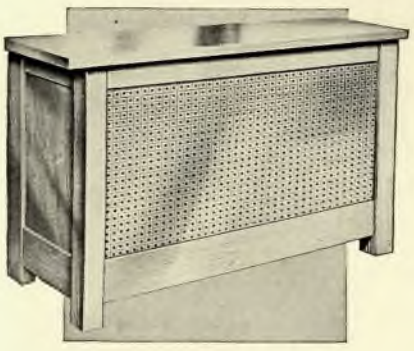

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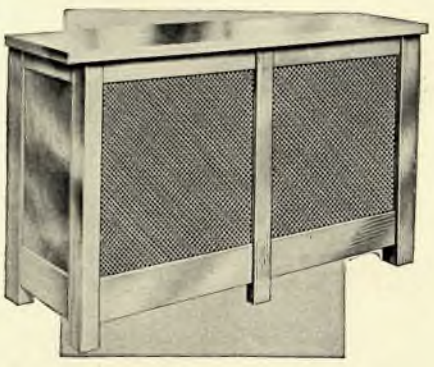

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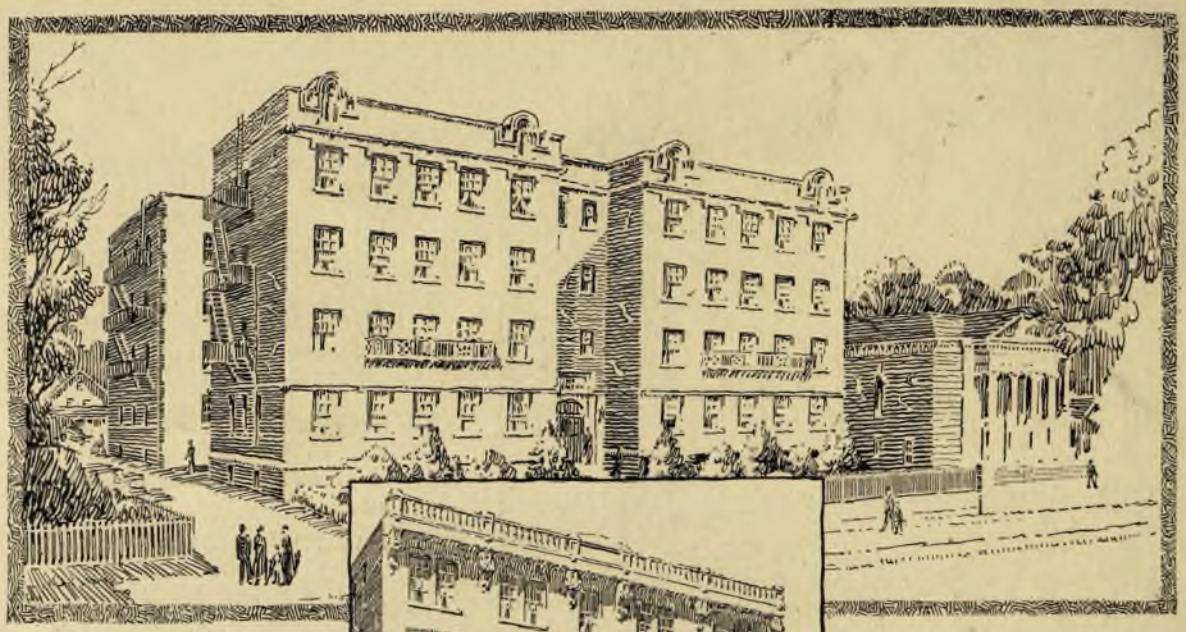

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